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<u>Errata</u>Academic

Mac OS X: The Missing Manual, Panther Edition

#### By **David Pogue**

Publisher: O'Reilly

Pub Date: December 2003

ISBN: 0-596-00615-2

Pages: 782

With new material on practically every page, the latest update of David Pogue's best-selling title offers a wealth of detail on the all of the changes in Apple's Mac OS X 10.3, aka "Panther". Written with humor and technical insight characteristic of the Missing Manual series, the new edition covers everything from the all-new Finder to iChat AV--Apple's exciting tool for video conferencing. The book also deals with features under the hood, such as the Terminal and networking tools. Pogue, the renowned New York Times computer columnist, tackles his subject with scrupulous objectivity--revealing which new features work well and which do not. An authoritative book that will appeal to novices and experienced users alike.







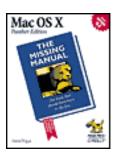


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**The Missing Credits** 

About the Author

**About the Creative Team** 

Acknowledgments

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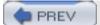
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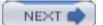
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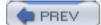
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# **The Missing Credits**

About the Author

About the Creative Team

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PREV





### **About the Author**



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PREV



## **Acknowledgments**

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And introducing...Adam Goldstein! is what movie credits would say about the gifted 15-year-old who met me at a book signing one day...and eventually became my right-hand man. He wrote this book's discussions of FileVault, journaling, and the new Disk Restore feature; revised the Mail chapter; and polished many other discussions to a shine. You'll be hearing a lot more from this guy.

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—David Pogue

#### The Missing Manual Series

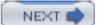
Missing Manual books are designed to be superbly written guides to computer products that don't come with printed manuals (which is just about all of them). Each book features a handcrafted index; cross-references to specific page numbers (not just "See Chapter 14"); and a promise never to use an apostrophe in the possessive word *its*. Current and upcoming titles include:

- iPhoto 2: The Missing Manual by David Pogue, Joseph Schorr, & Derrick Story
- *iMovie 3 & iDVD: The Missing Manual* by David Pogue
- iPod: The Missing Manual by J.D. Biersdorfer (covering iTunes, MusicMatch, and the iTunes Music Store)
- Google: The Missing Manual by Sarah Milstein
- Switching to the Mac: The Missing Manual by David Pogue
- Mac OS X Hints, Panther Edition by Rob Griffiths
- FileMaker Pro: The Missing Manual by Geoff Coffey
- Dreamweaver MX 2004: The Missing Manual by David Sawyer McFarland
- Office X for Macintosh: The Missing Manual by Nan Barber, Tonya Engst, & David Reynolds
- AppleWorks 6: The Missing Manual by Jim Elferdink & David Reynolds
- Windows XP Home Edition: The Missing Manual by David Pogue
- Windows XP Pro: The Missing Manual by David Pogue, Craig Zacker, & L. J. Zacker









## Introduction

Without a doubt, Mac OS X is a stunning technical achievement. In fact, many tech reviewers and experts have called it the best personal-computer operating system on earth. But beware its name.

The X is meant to be a Roman numeral, pronounced "ten." Unfortunately, many people see "Mac OS X" and say "Mac O.S. ex." That's a sure way to get funny looks in public.

Then there's the "Mac OS" part—what a misnomer! Mac OS X is not, in fact, what millions of people think of as the Mac OS. Apple designed Mac OS X to *look* something like the old Mac system software, and certain features have been written to *work* like they used to. But all of that is just an elaborate fake-out. Mac OS X is an utterly new creation. It's not so much Mac OS X, in other words, as Steve Jobs 1.0.

If you've never used a computer before, none of this matters. You have nothing to unlearn. You'll find an extremely simple, beautifully designed desktop waiting for you.

But if you're one of the millions of people who have grown accustomed to Windows or the traditional Mac OS, Mac OS X may come as a bit of a shock. Hundreds of features you thought you knew have been removed, replaced, or relocated. (If you ever find yourself groping for an old, favorite feature, see <a href="Appendix C">Appendix C</a> and <a href="Appendix D">Appendix D</a>—the "Where'd it go?" dictionaries for Mac OS 9 and Windows refugees.)

Why did Apple throw out the operating system that made it famous to begin with? Well, through the years, as Apple piled new features onto a software foundation originally poured in 1984, performing nips and tucks to the ancient software to make it resemble something modern, the original foundation was beginning to creak. Programmers (and some users) complained of the "spaghetti code" that the Mac OS had become.

Apple felt that there wasn't much point in undertaking a dramatic system-software overhaul if they couldn't master every key feature of modern computer technology in the process, especially crash-proofness. Starting from scratch—and jettisoning the system software we'd come to know over the years—was the only way to do it.

The result is an operating system that provides a liberating sense of freedom and stability—but one that, for existing computer fans, requires a good deal of learning (and forgetting).









#### What's New in Panther

The main thing you gain by adopting Mac OS X is stability. You and your Mac may go for years without ever witnessing a system crash. Oh, it's technically possible for Mac OS X to crash, but that's an extremely rare event. Rumors of such crashes circulate on the Internet like Bigfoot sightings. (If it happens to you, chances are good you've got a flaky hardware add-on. Turn promptly to <a href="Appendix B">Appendix B</a> And by the way: Your *programs* may crash, too, but that doesn't affect the Mac overall. You just reopen the program and carry on.)

Underneath the gorgeous, translucent desktop of Mac OS X is Unix, the industrial-strength, rock-solid OS that drives many a Web site and university. It's not new by any means; in fact, it's decades old, and has been polished by generations of programmers. That's the very reason Steve Jobs and his team chose it as the basis for the NeXT operating system (which Jobs worked on during his twelve years away from Apple), which Apple bought in 1997 to turn into Mac OS X.

But crash resistance is only the big-ticket item. The list below identifies a few of the key enhancements in Panther. (Apple says it added 150 new features to Mac OS X 10.3. The truth is, Apple undercounted.)

# FREQUENTLY ASKED QUESTION All About "Panther"

What's this business about Panther?

Most software companies develop their wares in secret, using code names to refer to new products to throw outsiders off the scent. Apple's code names for Mac OS X and its descendants have been named after big cats: Mac OS X was Cheetah, 10.1 was Puma, and 10.2 was Jaguar.

Usually, the code name is dropped as soon as the product is complete, whereupon the marketing department gives it a new name. In Mac OS X 10.3's case, though, Apple thought that its cat names was cool enough to retain for the finished product. It even seems to suggest the new system's speed and power.

You do have to wonder what Apple plans to call future versions. Apple increases only the decimal point with each major upgrade, which means it has six big cats to go before it hits Mac OS XI.

Let's see: Bobcat, Cougar, Leopard, Lion...Tiger...um... Ocelot?

• **Desktop features.** Mac OS X in general makes navigating disks and folders extremely easy, thanks to features like the Dock, the Finder-window toolbar, and column view, which lets you burrow deeply into nested folders without leaving a trail of open windows.

In version 10.3, the Finder achieves maturity, turning from a squeaky-voiced teenager to a star college athlete. It's faster than previous versions of Mac OS X, for starters. The new Sidebar is a *huge* idea. It eliminates much folder navigation altogether, because one click reveals the contents of any frequently used folder or disk you park there.

Other new touches include color labels that you can use to categorize your icons, a brushed-metal look for all disk and folder windows, and an Action pop-up menu (shaped like a gear) that brings the power of contextual (Control-

- key) menus to people who didn't even know they existed.
- **Security.** In an age when viruses and hackers are taking all the fun out of PCs, it's great to be on Mac OS X. To date, not a single Mac OS X virus has emerged—partly because the Mac represents a smaller "audience" for virus writers, and partly because the Mac's technical plumbing is more difficult to penetrate.

In Panther, Apple has capitalized on Mac OS X's reputation for security by adding Secure Empty Trash (which deletes files you've put into the Trash, then scrubs the spot on the hard disk seven times with random gibberish to prevent recovery); FileVault (which encrypts your Home folder when you log out, so that nobody can access your files by restarting from another disk); and a new feature that closes down your account after a specified period of inactivity (so that the guy in the next cubicle can't rifle through your stuff when you step away to the bathroom).

• **Timesavers.** You no longer have to close out your account if somebody else in your family, school, or business wants to duck in to check their own email. Thanks to Fast User Switching, you can keep your programs and documents open in the background, even while somebody else logs in.

# UP TO SPEED Extremely Quartz

When you use Fast User Switching to change accounts, your entire screen appears to rotate off the monitor to the left, as though it's on the face of a giant cube.

You're witnessing Mac OS X's powerful graphics technologies at work—*Quartz Extreme* (for two-dimensional graphics) and *OpenGL* (for three-dimensional graphics). These are the same technologies that give you smooth-looking (*antialiased*) lettering everywhere on the screen, translucence (of open menus, the Dock, and other onscreen elements), smoothly crossfading slideshows in iPhoto and the screen saver, and the ability to turn any document on the screen into an Adobe Acrobat (PDF) file (Section 13.6).

Quartz Extreme works by offloading graphics calculations to your Mac's video card to make them even faster.

Note, though, that not all Macs benefit from Quartz Extreme. Your Mac's video card must be on The List: GeForce2 MX, GeForce3, GeForce4 MX, and GeForce4 Ti cards, or any "AGP-based ATI Radeon" card. Unfortunately, this list excludes colored iBook models, the white iBooks sold in 2001 and 2002, G3 desktops, early G4 desktops, some fruitcolored iMac models, and older PowerBooks.

Exposé is another important advance in navigating today's cluttered screens. It provides a single keystroke that shrinks and arranges *all* windows in *all* programs, so that you can click the thumbnail miniature you want and bring it to the front. (As you'll find out in <u>Section 4.3</u>, it's nothing like the Tile command in Windows.) Another Exposé keystroke shoves *all* open windows off to the edges of the screen for a moment, so that you can duck back to your Finder desktop to create a folder, burn a CD, locate a file, and so on.

#### **UP TO SPEED**

### Mac OS X: The Buzzword-Compliant Operating System

You can't read an article about Mac OS X without hearing certain technical buzzwords that were once exclusively the domain of computer engineers. Apple is understandably proud that Mac OS X offers all of these sophisticated, state-of-the-art operating system features. Unfortunately, publicizing them means exposing the rest of us to a lot of fairly unnecessary geek terms. Here's what they mean:

**Preemptive multitasking.** Most people know that multitasking means "doing more than one thing at once." The Mac has always been capable of making a printout, downloading a file, and letting you type away in a word processor, all at the same time.

Unfortunately, the Mac OS 7/8/9 (and Windows 95/98/Me) version of multitasking works by the rule of the playground: the bully gets what he wants. If one of your programs insists on hogging the attention of your Mac's processor (because it's crashing, for example), it leaves the other programs gasping for breath. This arrangement is called *cooperative* multitasking. Clearly, it works only if your programs are in fact cooperating with each other.

Mac OS X's *preemptive* multitasking system brings a teacher to the playground to make sure that every program gets a fair amount of time from the Mac's processor. The result is that the programs get along much better, and a poorly written or crashing program isn't permitted to send the other ones home crying.

**Multithreading.** Multithreading means "doing more than one thing at once," too, but in this case it's referring to a single program. Even while iMovie is rendering (processing) a special effect, for example, it lets you continue editing at the same time. Not all Mac OS 9 programs offered this feature, but all programs written especially for Mac OS X do. (Note, however, that programs that are simply adapted for Mac OS X—"Carbonized" software, as described in <a href="Section 4.8">Section 4.8</a>—don't necessarily offer this feature.)

**Symmetrical multiprocessing.** Macs containing more than one processor chip are nothing new. But before Mac OS X, only specially written software—Adobe Photoshop filters, for example—benefited from the speed boost.

No more. Mac OS X automatically capitalizes on multiple processors, sharing the workload of multiple programs (or even multithreaded tasks within a single program), meaning that every Mac OS X program gets accelerated. Mac OS X is smart enough to dole out processing tasks evenly, so that both (or all) of your processors are being put to productive use.

**Dynamic memory allocation.** Mac OS X programs don't have fixed RAM allotments. The operating system giveth and taketh away your programs' memory in real time, so that no RAM is wasted. For you, this system means better stability, less hassle.

**Memory protection.** In Mac OS X, every program runs in its own indestructible memory bubble—another reason Mac OS X is so much more stable than its predecessors. If one program crashes, it isn't allowed to poison the well of RAM that other programs might want to use. Programs may still freeze or quit unexpectedly; the world will never be entirely free of sloppy programmers. But instead of a message that says, "Save open documents and restart," you'll be delighted to find that you can go right on working. You can even open up the program that just died and pick up right where you left off.

You can now send and receive faxes right from the Mac, too, using Apple's first homegrown, fully integrated faxing software.

• Networking. When it comes to hooking up your Mac to other computers, including those on the Internet, few operating systems can match Mac OS X. It offers advanced features like *multihoming*, which keeps all networking connections (via Ethernet cable, AirPort wireless card, dial-up modem, Bluetooth cellphone, and even Firewire cable) open simultaneously. For laptop lovers, that means that your laptop can switch automatically and invisibly from its cable modem settings to its dial-up modem settings when you take it on the road.

In Mac OS X 10.3, you can still connect to another networked computer using the Go—Connect to Server command. But there's a far easier way now: Just click the Network icon in the Sidebar. It reveals all of the Macs and PCs on your home, school, or office network, without your having to configure anything or know their addresses.

 Accessory programs. Perhaps the least publicized new Panther feature is the set of upgrades Apple made to the 50 accessory programs that come with the Mac.

For example, iChat AV (ordinarily \$30) comes with Panther, making it possible for you to conduct free long-distance phone calls and even video calls over the Internet. A new program called Font Book acts like a junior version of Font Reserve or Suitcase; it reveals all of your fonts, makes it simple to install or remove them, and lets you switch off sets of fonts at will.

The TextEdit word processor now offers style sheets, and it can create and open full-fledged, true-blue Microsoft Word documents. Preview, which began life as a humble graphics viewer/converter, is now a fast, powerful PDF reader like Adobe Acrobat Reader (which no longer comes with Mac OS X).

Image Capture can operate Epson scanners and many others—and it offers a mind-blowing new spycam feature using an ordinary digital camera. The Mail email program and Safari Web browser have been beefed up, too. And the humble Calculator now has a graphing mode, although you have to unlock it yourself, as described in <a href="#">Chapter</a>9.

The complete list of changes in Mac OS X 10.3 would fill a book—in fact, you're holding it. But some of the nicest changes aren't so much new features as renewals. Panther comes with an even more full-blown collection of printer drivers, for example, and the latest versions of its underlying Unix security and Internet software.









#### **About This Book**

By way of a printed guide to Mac OS X, Apple provides only a flimsy "getting started" booklet. To find your way around, you're expected to use Apple's online help system. And as you'll quickly discover, these help pages are tersely written, offer very little technical depth, lack useful examples, provide no tutorials whatsoever, and aren't accessible at all unless you're online. You can't even mark your place, underline, or read it in the bathroom.

# NOSTALGIA CORNER What Mac OS X Takes Away

If you're coming to Mac OS X from Mac OS 9, you don't just have to learn about new features; you also have to *unlearn* a good deal of what you worked so hard to master in the older system.

Fortunately, most of the obsolete practices are troubleshooting rituals. For example:

**Extension conflicts.** The number one destabilizing factor of the traditional Macintosh has been banished forever: Mac OS X doesn't use system extensions and control panels. You will never again perform an extension conflict test, trying to figure out which extension is making your Mac freeze. None of those habitual routines has any meaning in Mac OS X.

Software companies can still add new features to your Mac, just as they once did using extensions. But most do it now by writing startup applications, which is a much safer, more organized method that doesn't destabilize your Mac.

**Memory controls.** There's no Memory control panel in Mac OS X. Nor does the Get Info window for Mac OS X programs include a place to change its memory allotment. This is *great* news.

Mac OS X manages memory quickly, intelligently, and constantly. The reason you don't allot a certain amount of your Mac's memory to a program, as you had to do in Mac OS 9, is that Mac OS X simply gives each running program as much memory as it needs. And if you undertake some task that requires more memory, Mac OS X instantly gives that program more memory on the fly.

So what happens if you're running 125 programs at once? Mac OS X uses *virtual memory*, a scheme by which it lays down pieces of the programs running in the background onto your hard drive, so that it may devote your actual RAM to the programs in front. However, this virtual memory scheme bears very little relationship to the relatively crude, slow virtual memory of the old Mac OS. In Mac OS X, this shuffling happens almost instantaneously, and virtual memory is called in only to park *pieces* of applications as necessary.

The bottom line: You can forget everything you knew about concepts like virtual memory, the Disk Cache, the Get Info window's memory boxes for applications, and the panic of getting out-of-memory messages. For the most part, they're gone forever.

**Rebuilding the desktop.** Mac OS X doesn't have the unfortunate habit of holding onto the icons (in its internal database) of programs long since deleted from your hard drive. As a result, you never have to rebuild that desktop, and you'll never see the symptoms that suggest that it's time for desktop rebuilding (a general slowdown and generic icons replacing the usual custom ones).

The a menu and Application menu. The menus at the upper corners of the screen, which used to anchor the Mac desktop experience, have been eliminated or changed in Mac OS X. The Dock takes on their functions.

You'll still find an a menu in Mac OS X, but it's no longer a place to store aliases of your favorite files and folders. Instead, it lists commands like Restart and Shut Down, which are relevant no matter what program you're using.

**The Control Strip.** This handy floating strip of tiles is gone, too. Its replacement is the set of *menulets* in the upper-right corner of the screen, on the menu bar. This is now where you make quick control panel settings, like adjusting the volume, checking your laptop battery charge, and so on.

Finally, remember that some features aren't actually gone—they've just been moved. Before you panic, consult <u>Appendix C</u> for a neat, alphabetical list of every traditional Mac feature and its status in the new operating system.

The purpose of this book, then, is to serve as the manual that should have accompanied Mac OS X—version 10.3 in particular.

You won't find a single page that hasn't changed since the last edition. Not only are the new Panther features covered in depth, but you'll also find a great deal of refinement in the discussions of original Mac OS X features: more tips and tricks, clever uses for old ideas, and greater context borne of the passage of time.

Thousands of email suggestions have resulted in these changes, too:

- Writing for a wider audience. These days, not everyone who uses Mac OS X has a background in Mac OS 9. More and more people come from Windows or a previous version of Mac OS X, or have never even used a computer before. This book, therefore, tones down the "Mac OS 9 did it this way, Mac OS X does it this way" language of previous editions. (Where comparisons are necessary, look for detailed discussions in shaded boxes labeled Nostalgia Corner.)
- **Mini-manuals.** Some of the programs that come with Mac OS X, like iMovie, iDVD, and iTunes, are subjects of their own Missing Manual books.

It annoyed some readers of this book's previous editions, though, that *Mac OS X: The Missing Manual* didn't cover those programs at all. In this edition, therefore, you'll find new mini-manuals that provide crash courses in iMovie, iDVD, iPhoto, and Safari (not to mention updated coverage of the other 45 freebie Mac OS X programs).

Mac OS X: The Missing Manual is designed to accommodate readers at every technical level. The primary discussions are written for advanced-beginner or intermediate Mac users. But if you're a first-time Mac user, miniature sidebar articles called Up to Speed provide the introductory information you need to understand the topic at hand. If you're an advanced Mac user, on the other hand, keep your eye out for similar shaded boxes called Power Users' Clinic. They offer more technical tips, tricks, and shortcuts for the more experienced Mac fan.

#### 0.2.1 About the Outline

Mac OS X: The Missing Manual is divided into six parts, each containing several chapters:

- Part I, The Mac OS X Desktop, covers everything you see on the screen when you turn on a Mac OS X computer:
   the Dock, the sidebar, Exposé, icons, windows, menus, scroll bars, the Trash, aliases, the menu, and so on.
- Part II, Applications in Mac OS X, is dedicated to the proposition that an operating system is little more than a launch pad for *programs*—the actual applications you use in your everyday work, such as email programs, Web browsers, word processors, graphics suites, and so on. These chapters describe how to work with applications in Mac OS X: how to launch them, switch among them, swap data between them, use them to create and open files, and control them using the AppleScript automation software. This is also where you can find out about using your old, pre-Mac OS X programs in the Classic program.
- Part III, The Components of Mac OS X, is an item-by-item discussion of the individual software nuggets that make
  up this operating system—the 24 panels of System Preferences, and the 50 programs in your Applications and
  Utilities folders.
- Part IV, The Technologies of Mac OS X, treads in more advanced topics. Networking, dialing into your Mac from the road, security, and setting up private accounts for people who share a single Mac are, of course, tasks Mac OS X was born to do. These chapters cover all of the above, plus the prodigious visual talents of Mac OS X (fonts, printing, graphics, handwriting recognition), its multimedia gifts (sound, speech, movies), and the Unix beneath.
- Part V, Mac OS X Online, covers all the special Internet-related features of Mac OS X, including the built-in Mail email program and the Safari Web browser; the Sherlock Web-searching program; iChat for instant-messaging and audio or video chats; iCal for keeping and sharing your calendar; iSync for keeping your phone book and address book synchronized across Macs, cellphones, iPods, and PalmPilots; Web sharing; Internet sharing; the firewall; and Apple's online .Mac services (which include email accounts, secure file-backup features, Web hosting, and so on). If you're feeling particularly advanced, you'll also find instructions on using Mac OS X's Unix underpinnings for connecting to, and controlling, your Mac from across the wires—FTP, SSH, VPN, and so on.

At the end of the book, you'll find several appendixes. They include two "Where'd it go?" listings, one for traditional Mac features and another for Windows features (to help you find their new locations in Mac OS X); guidance in installing this operating system; a troubleshooting handbook; and a list of resources for further study.









#### About → These → Arrows

Throughout this book, and throughout the Missing Manual series, you'll find sentences like this one: "Open the System folder Libraries Fonts folder." That's shorthand for a much longer instruction that directs you to open three nested folders in sequence, like this: "On your hard drive, you'll find a folder called System. Open that. Inside the System folder window is a folder called Libraries; double-click it to open it. Inside that folder is yet another one called Fonts. Double-click to open it, too."

Similarly, this kind of arrow shorthand helps to simplify the business of choosing commands in menus, such as a Dock Position on Left, as shown in Figure I-1.

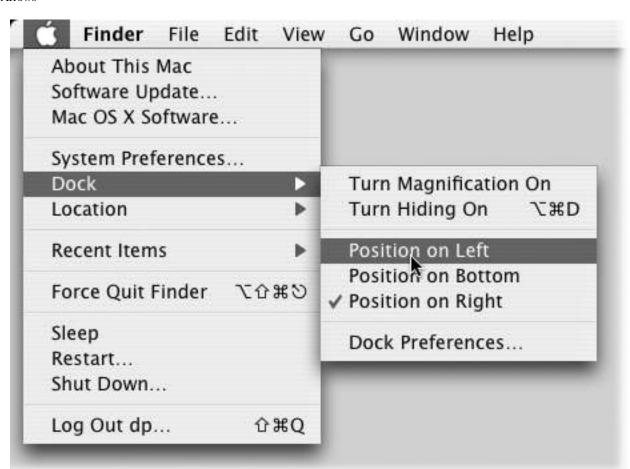
#### 0.3.1 About MissingManuals.com

To get the most out of this book, visit <u>www.missingmanuals.com</u>. Click the "Missing CD-ROM" link to reveal a neat, organized, chapter-by-chapter list of the shareware and freeware mentioned in this book. (As noted on the inside back cover, having the software online instead of on a CD-ROM saved you \$5 on the cost of the book.)

But the Web site also offers corrections and updates to the book (to see them, click the book's title, then click Errata). In fact, you're invited and encouraged to submit such corrections and updates yourself. In an effort to keep the book as up-to-date and accurate as possible, each time we print more copies of this book, we'll make any confirmed corrections you've suggested. We'll also note such changes on the Web site, so that you can mark important corrections into your own copy of the book, if you like. And we'll keep the book current as Apple releases more Mac OS X 10.3 updates.

In the meantime, we'd love to hear your own suggestions for new books in the Missing Manual line. There's a place for that on the Web site, too, as well as a place to sign up for free email notification of new titles in the series.

In this book, arrow notations help to simplify folder and menu instructions. For example, "Choose a Dock Position on Left" is a more compact way of saying, "From the a menu, choose Dock; from the submenu that than appears, choose Position on Left," as shown here.









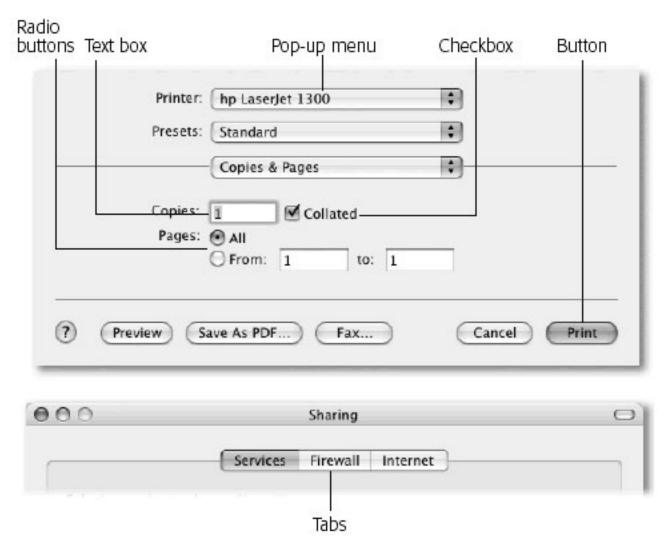
## The Very Basics

To use this book, and indeed to use a Macintosh computer, you need to know a few basics. This book assumes that you're familiar with a few terms and concepts:

- Clicking. This book gives you three kinds of instructions that require you to use the mouse that's attached to your Mac. To click means to point the arrow cursor at something on the screen and then—without moving the cursor at all—press and release the clicker button on the mouse (or your laptop trackpad). To doubleclick, of course, means to click twice in rapid succession, again without moving the cursor at all. And to drag means to move the cursor while holding down the button.
  - When you're told to **#**-click something, you click while pressing the **#** key (which is next to the Space bar). Such related procedures as *Shift-clicking*, *Option-clicking*, and *Control-clicking* work the same way—just click while pressing the corresponding key at the bottom of your keyboard.
- Menus. The *menus* are the words at the top of your screen: File, Edit, and so on. (The at the top left corner of your screen is a menu, too.) Click one to make a list of commands appear, as though they're written on a window shade you've just pulled down.
  - Some people click and release the mouse button to open a menu and then, after reading the menu command choices, click again on the one they want. Other people like to press the mouse button continuously after the initial click on the menu title, drag down the list to the desired command, and only then release the mouse button. Either method works fine.
- **Keyboard shortcuts.** If you're typing along in a burst of creative energy, it's sometimes disruptive to have to take your hand off the keyboard, grab the mouse, and then use a menu (for example, to use the Bold command). That's why many experienced Mac fans prefer to trigger menu commands by pressing certain combinations on the keyboard. For example, in most word processors, you can press ##-B to produce a **boldface** word. When you read an instruction like "press ##-B," start by pressing the ## key, then, while it's down, type the letter B, and finally release both keys.
- Icons. The colorful inch-tall pictures that appear in your various desktop folders are the graphic symbols that
  represent each program, disk, and document on your computer. If you click an icon one time, it darkens indicating
  that you've just highlighted or selected. Now you're ready to manipulate it by using, for example, a menu command.

Mastering Mac OS X involves knowing what things are called, especially the kinds of controls you find in dialog boxes.

Note, by the way, that as part of Panther's visual redesign, the dialog-box subdivisions called tabs are still called tabs, even though they now resemble adjacent buttons.



• Checkboxes, radio buttons, tabs. See <u>Figure I-2</u> for a quick visual reference to the onscreen controls you're most often asked to use.

If you've mastered this much information, you have all the technical background you need to enjoy *Mac OS X: The Missing Manual*.

# NOSTALGIA CORNER Version 10.3.1 and Beyond

Only a few weeks after the debut of Mac OS X 10.3, Apple began its traditional flood of system updates. These multimegabyte installers patch holes, fix bugs, improve compatibility with external gadgets, and make the whole system work more smoothly.

Version 10.3.1, for example, introduced a long list of bug fixes in several broad categories, most notably a serious problem with FileVault that could corrupt your files. There were also fixes in printing and connecting to external FireWire 800 drives

Only a few weeks later, 10.3.2 came out, offering faster and more refined file sharing, font management, USB, and text and graphics display, with even more attention to fixing FileVault problems.

### Software Update



#### New software is available for your computer.

If you're not ready to install now, you can use the Software Update preference to check for updates later.

	Install	Name	Version	Size
0		AirPort Software	3.2	8.8 MB
	V	iPod Software	2.1	16.8 MB
	V	iSync	1.3	6.4 MB
0	✓	Mac OS X Update	10.3.1	1.3 MB
	<b>~</b>	Power Mac SuperDrive Update	1.0	2.7 MB

The 10.3.1 Update delivers enhanced functionality and improved reliability for the following applications, services and technologies: FileVault, Printing, WebDav, and FireWire 800 drives. This update also includes the latest Security Updates.

Important Note: Apple has identified an issue with external FireWire hard drives using the Oxford 922 bridge chip-set with firmware version 1.02 that can result in the loss of data stored on the disk drive. Even with the improvements available in this update, Apple recommends you update the firmware on your FireWire drive. Please contact your drive manufacturer for more information.

Mac OS X Update: Downloaded at /Library/Packages.

Restart will be required.

Quit

Install 4 Items

You don't have to go out of your way to get these updates: One day you'll be online with your Mac, and a Software Update dialog box will appear before you, offering you the chance to download and install the patch. Almost always, doing so is a good idea.

As for the differences between the "first decimal point" versions of Mac OS X: You'll find this book useful no matter which version you have, but it describes and illustrates version 10.3 and later. If you're still working with 10.1 or 10.2, you'll probably feel most comfortable if you seek out the first or second edition of this book.

Or, better yet, upgrade to Panther.



NEXT 📫



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# Part I: The Mac OS X Desktop

**Chapter 1**: Folders and Windows

**Chapter 2**: Organizing Your Stuff

Chapter 3: Dock, Desktop, and Toolbar



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# **Chapter 1. Folders and Windows**

Section 1.1. Getting into Mac OS X

Section 1.2. Windows and How to Work Them

Section 1.3. The Three Window Views

Section 1.4. Icon View

Section 1.5. List View

Section 1.6. Column View

Section 1.7. Logging Out, Shutting Down

Section 1.8. Getting Help in Mac OS X



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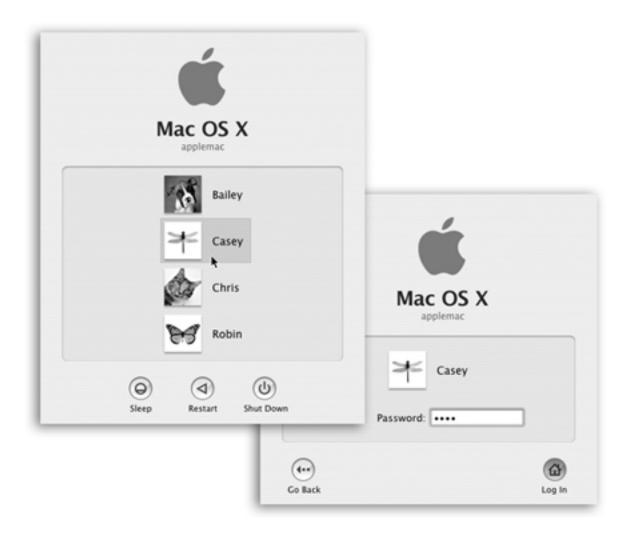


# 1.1 Getting into Mac OS X

When you first turn on a Mac that's running Mac OS X 10.3, an Apple logo greets you, soon followed by an animated, liquidy blue progress bar.

Left: On Macs configured to accommodate different people at different times, this is one of the first things you see upon turning on the computer. Click your name. (If the list is long, you may have to scroll to find your name—or just type the first couple letters of it.)

Right: At this point, you're asked to type in your password. Type it and then click Log In (or press Return or Enter; pressing these keys usually "clicks" any blue, pulsing button in a dialog box). If you've typed the wrong password, the entire dialog box vibrates, in effect shaking its little dialog-box head, suggesting that you guess again. (See Chapter 11.)



## 1.1.1 Logging In

What happens next depends on whether you're the Mac's sole proprietor or have to share it with other people in an office, school, or household.

- If it's your own Mac, and you've already been through the Mac OS X setup process described in Appendix A, no big deal. You arrive at the Mac OS X desktop.
- If it's a shared Mac, you may encounter the Login dialog box, shown in <u>Figure 1-1</u>. Click your name in the list (or type it, if there's no list).

If the Mac asks for your password, type it and then click Log In (or press Return). You arrive at the desktop. Chapter 11 offers much more on this business of user accounts and logging in.

# 1.1.2 The Elements of the Mac OS X Desktop

The *desktop* is the shimmering, three-dimensional Mac OS X landscape shown in <u>Figure 1-2</u>. If you're coming to Panther from Mac OS 9 or Windows, don't panic. Most of the objects on your screen are nothing more than updated versions of familiar elements. Here's a quick tour.

## **NOTE**

If your desktop looks even barer than this—no menus, no icons, almost nothing on the Dock—then somebody in charge of your Mac has turned on *Simple Finder mode* for you. Details in <u>Section 11.3.4.3</u>.

The Mac OS X landscape looks like a futuristic version of Windows or the Mac OS. This is just a starting point, however. You can dress it up with a different background picture, adjust your windows in a million ways, and of course fill the Dock with only the programs, disks, folders, and files you need.



## 1.1.2.1 Disk icons

Here they are, just where they've always been: the icons of your hard drive and any other disks attached to your Mac. Double-click to open one, as always.

You may notice that icons in Mac OS X are much larger than they were in previous operating systems. You can make them almost any size you like, but Apple made them bigger for two reasons. First, in this era of monitors with ever larger resolution, the icons on our screens have been getting ever smaller and harder to see.

Second, Apple thinks its Mac OS X icons look really cool.

## 1.1.2.2 The Dock

This ribbon of translucent, almost photographic icons is a launcher for the programs, files, folders, and disks you use often—and an indicator to let you know which programs are already open.

In principle, the Dock is very simple:

- **Programs go on the left side.** Everything else goes on the right, including documents, folders, and disks. (Figure 1-2 shows the dividing line.)
- You can add a new icon to the Dock by dragging it there. Rearrange Dock icons by dragging them like tiles on a puzzle. Remove a Dock icon by dragging it away from the Dock, and enjoy the animated puff of smoke that appears when you release the mouse button. (You can't remove the icon of a program that's currently open, however.)
- Click something once to open it. A tiny triangle underneath a program's icon lets you know that it's open.
- Each Dock icon sprouts a pop-up menu. For example, a folder's icon can show you what's inside it. To see the
  menu, hold the mouse button down on a Dock icon, or Control-click it, or right-click it (if you have a two-button
  mouse).

Because the Dock is such a critical component of Mac OS X, Apple has decked it out with enough customization controls to keep you busy experimenting for months. You can change its size, move it to the sides of your screen, hide it entirely, and so on. Chapter 3 contains complete instructions for using and understanding the Dock.

# 1.1.2.3 The menu

The menu houses important Mac-wide commands like Sleep, Restart, and Shut Down. In Mac OS X, this menu never changes; it looks the same on every Mac OS X computer in the world. That's *why* Mac-wide commands like Sleep, Restart, and Shut Down are here: so that they'll always be available, no matter which program you're using.

## 1.1.2.4 The menu bar

Every popular operating system saves space by concealing its most important commands in *menus* that drop down. Mac OS X's menus are especially refined:

- They're translucent. You can actually see through an open menu to whatever window is beneath. This feature doesn't particularly help you—in fact, critics claim that it makes the commands in the menu harder to read. But only an operating system with graphics software as powerful as Mac OS X's could even pull off such a sophisticated graphics treat. Consider translucent menus a bit of showoff-ware.
- **They stay down.** For years, Macintosh menus remained open for only 15 seconds before snapping closed again. That's because when a menu was open, all other Macintosh activity stopped.
  - Mac OS X, however, is *multithreaded*, which means that it's perfectly capable of carrying on with its background activities while you study its open, translucent menus. Therefore, Mac OS X menus stay open until you click the mouse, press a key, or buy a new computer, whichever comes first.
- **They've been rearranged.** The first menu in every program, which appears in bold lettering, tells you at a glance what program you're in. The commands in this *Application menu* include About (which indicates what version of the program you're using), Preferences, Quit, and commands like Hide Others and Show All (which help control window clutter, as described in <u>Section 4.4</u>).

In short, all of the Application menu's commands actually pertain to the application you're using.

The File and Edit menus come next. As in the past, the File menu contains commands for opening, saving, and closing *files* (see the logic?). The Edit menu contains the Cut, Copy, and Paste commands.

The last menu is almost always Help. It opens a miniature Web browser that lets you search the online Mac Help files for explanatory text (Section 1.8).

You can operate them from the keyboard. Once you've clicked open a menu, you can highlight any command in

## 1.1 Getting into Mac OS X

it just by typing the first letter (*g* for Get Info, for example)—a nifty and unheralded enhancement in Mac OS X 10.3. (It's especially great for "Your country" pop-up menus on Web sites, where "United States" is about 200 countries down in the list. Now you can type *united s* to jump right to it.)

You can also press Tab to open the next menu, Shift-Tab to open the previous one, and Enter to "click" the highlighted command.

All that's left is figuring out a way to *open* the menu from the keyboard to start the process (details in Section 4.6).

Otherwise, aside from the new typeface (Lucida Grande), the menu bar looks and works much as it has in operating systems past.







## 1.2 Windows and How to Work Them

In designing Mac OS X, one of Apple's key goals was to address the window-proliferation problem. As you create more files, stash them in more folders, and launch more programs, it's easy to wind up paralyzed before a screen awash with cluttered, overlapping rectangles.

Mac OS X 10.3 takes a giant leap into the realm of tidiness by introducing Exposé, an innovative and useful feature that's probably worth at least \$34 of Mac OS X's \$130 price. It's described in detail in Section 4.3

There are some handy clutter and navigation controls on the windows themselves, too. For example:

## 1.2.1 The Sidebar

Man, if this new Panther feature didn't hit you in the first 30 seconds, then your monitor must not be on.

The Sidebar is the pane at the left side of every Finder window (and, as you'll find out in <u>Chapter 4</u>, also at the left side of every full-sized Save and Open dialog box). It lists *places* where you might look for files and folders—that is, disks, folders, and network disks. Above the horizontal divider, you get the icons for your hard drives, iPods, memory cards, CDs, and other removable goodies. Below the divider, you can stick the icons of anything else: files, programs, folders, or whatever.

The Sidebar makes navigation very quick, because you can jump back and forth between distant corners of your Mac with a single click.

In column view, the Sidebar is especially handy because it eliminates all of the columns to the left of the one you want, all the way back to your hard-drive level. You've just folded up your desktop!

Good things to put here: Favorite programs; disks on the network to which you often connect; a document you're working on every day; and so on.

Folder and disk icons here work just like normal ones. You can drag a document onto a folder icon to file it there, drag a downloaded .sit file onto the Stufflt Expander icon there, and so on.

In fact, the disks and folders here are even spring-loaded (Section 2.4.3).



Drag this divider to hide, shrink, or widen the Sidebar

Each icon is a shortcut. For example, click the Applications icon to view the contents of your Applications folder in the main part of the window (Figure 1-3). And if you click the icon of a file or program, it opens.

## 1.2.1.1 Fine-tuning the Sidebar

The beauty of this parking lot for containers is that it's so easy to set up with your favorite places. For example:

• **Remove** an icon by dragging it out of the window entirely. It vanishes with a puff of smoke (and even a little *whoof* sound effect). Needless to say, you haven't actually removed anything from your *Mac*; you've just unhitched its alias from the Sidebar.



Don't be in a hurry to remove the Network icon. True, in previous versions of Mac OS X, it revealed nothing, even if you had set up a home or small-office network. (It was intended only for big corporations.) But in Panther, clicking this icon reveals the icons of all other Macs and Windows PCs on the network. See Chapter 12.

- Rearrange the icons by dragging them up or down in the list.
- **Install a new icon** by dragging it off of your desktop (or out of a window) into any spot in the appropriate half of the Sidebar: disks above the divider bar, everything else below.

You can also highlight an icon wherever it happens to be and then choose File Add to Sidebar, or just press **1**-T.

• Adjust the width of the Sidebar by dragging the vertical divider bar (marked by the dot in its center) right or left. You'll "feel" a snap when the divider hits the spot where you're seeing all of the icon names but not wasting any extra white space to their right.



If you drag carefully, you can position the divider bar *just* to the right of the disk and folder icons, thereby hiding their names. Some people find it a tidier look; others miss seeing the text labels.

 Hide the Sidebar entirely by double-clicking the vertical divider. The main fileand- folder-icons part of the window expands to exploit the freed-up space. (To bring the Sidebar back, double-click the left edge of the window; the telltale dot is still there to remind you.)

It's also OK to hide the Sidebar by dragging its divider bar all the way to the left edge of the window, and bring it back by dragging the left edge of the window to the right—but these are slower, fussier, and less satisfying than a good old double-click.

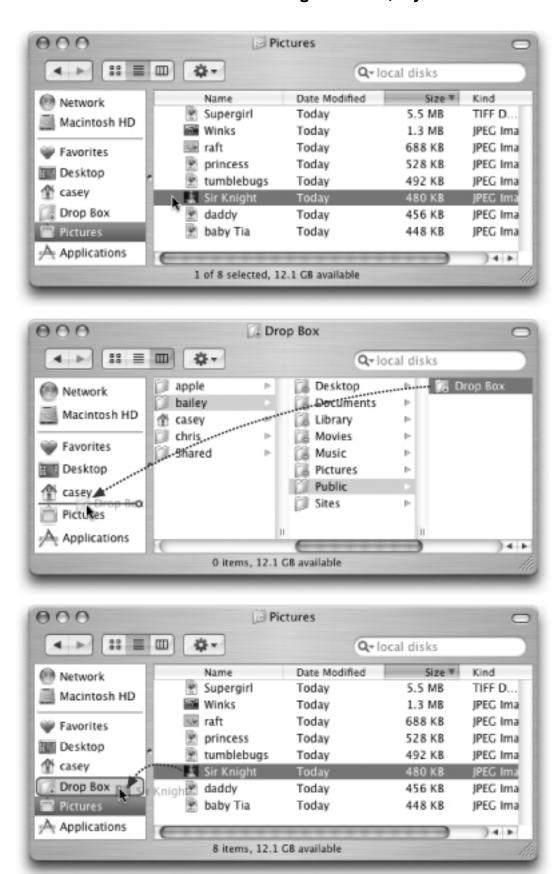
Then again, why would you ever want to hide the Sidebar? It's one of the handiest navigation aids since the invention of the steering wheel. For example:

- It takes a lot of pressure off the Dock. Instead of filling up your Dock with folder icons (all of which are
  frustratingly alike and unlabeled anyway), use the Sidebar to store them. You leave the Dock that much more room
  for programs and documents.
- It's better than the Dock. In some ways, the Sidebar is a lot *like* the Dock, in that you can stash favorite icons there of any sort. But one big difference is that the Sidebar reveals the *names* of these icons, and the Dock doesn't.

Top: How are you supposed to drag the Sir Knight file (in your Home Pictures folder) into a folder that's not visible at the moment—a folder that requires navigating down a totally different path? You could use spring-loaded folder-dragging (Section 2.4.3), but if the two folders are distant, the following trick is faster.

Middle: Start by dragging the destination folder into the Sidebar (in this case, the Public Drop Box folder in Bailey's home folder).

Bottom: Drag the Sir Knight file onto the folder to complete the transition. Drag the Drop Box folder out of the Sidebar to get rid of it, if you wish.



- It makes disk-ejecting easy. Just click the \_\_\_ button next to any removable disk to make it pop out. (You can "eject" network disks the same way.) After 18 years, the Mac finally beats the "It's illogical to eject a disk by dragging it to the Trash!" (Of course, you can still eject disks in several other ways; see Section 10.1.2.)
- It makes disc-burning easy. When you've inserted a blank CD or DVD and loaded it up with stuff you want to copy, click the button next to its name. The Finder dutifully begins burning that disc.
- You can drag onto its folders and disks. That is, you can still drag icons onto Places icons, exactly as though they were the "real" disks, folders, and programs that they represent.
- It simplifies connecting to networked disks. Park your other computers' hard drive icons here, as described in <a href="Chapter 12">Chapter 12</a>, and you shave several steps off the usual connecting-via-network ritual.
- It lets you drag between distant folders. See Figure 1-4 for details on this sneaky, yet highly efficient trick.

## 1.2.2 Title Bar

The title bar has several functions. First, when several windows are open, the darkened window name, mini-icon, and left-corner buttons tell you which window is *active* (in front); in background windows, these elements appear dimmed. Second, the title bar—newly designed to resemble brushed aluminum in Mac OS X 10.3—acts as a *handle* that lets you move the entire window around on the screen.

Of course, that tool isn't quite so critical in Mac OS X 10.3, because you can now move Finder windows by dragging *any* "brushed-metal" edge. But it's still good to know about the title bar as a handle, because not all windows *are* brushed metal. (The Find window, for example, still bears the old, faintly pinstriped "Aqua" look—and therefore you can't drag it by its edges.)

# TROUBLESHOOTING MOMENT Fixing the Sidebar

If you've read the preceding paragraphs and gone on a squealing delete-fest just to see how much damage you could inflict on your Sidebar, it's time for a splash of cold water: Once you drag the Macintosh HD, Network, or Computer icon out of the top of the Sidebar, you can't drag them back in. Suddenly you're stuck with the orphaned horizontal divider, with nothing to divide. The top half of your list is *empty*.



That's why Apple gives you a quick way to restore the Sidebar to the way it came from the factory.

If you choose Finder Preferences and then click the Sidebar button, you'll discover the checkboxes shown here. They let you put back the Apple-installed icons that you may have removed in haste. Just turn on a checkbox to restore its icon to your Sidebar.



Here's a nifty keyboard shortcut: You can cycle through the different open windows in one program without using the mouse. Just press #-~ (that is, the tilde key, to the left of the number 1 key). With each press, you bring a different window forward within the current program. It works both in the Finder and in your everyday programs, and it beats the pants off using the mouse to choose a name from the Window menu.

After you've opened one folder that's inside another, the title bar's secret *folder hierarchy menu* is an efficient way to backtrack—to return to the enclosing window. Get in the habit of pressing the key as you click the name of the window to access the menu shown in Figure 1-5. (You can release the key immediately after clicking.)

Press ## and click a window's title bar (top) to summon the hidden folder hierarchy menu (bottom). The Finder isn't the only program that offers this trick, by the way. It also works in

## most other Mac OS X-compatible programs, and even many Mac OS 9 programs.





By choosing the name of a folder from this menu, you open the corresponding window. When browsing the contents of the Users folder, for example, you can return to the main hard drive window by #-clicking the folder name Users and choosing Macintosh HD from the menu.



Keyboard lovers, take note. Instead of using this title bar menu, you can also jump to the enclosing window by pressing **#**-up arrow, which is the shortcut for the new

Go Enclosing Folder command. Add the Option key if you want to switch into "Old Finder Mode" in the process (see Section 1.2.8).

Pressing #-down arrow takes you back into the folder you started in, assuming that it's still highlighted. (This makes more sense when you try it than when you read it.)

Once you've mastered dragging, you're ready for these three terrific title bar tips:

Pressing the key lets you drag the title bar area of an inactive window—one that's partly covered by a window in front—without bringing it to the front.

As a matter of fact, depending on the program you're clicking into, you can operate *any* control—resize box, buttons, pop-up menus, and even scroll bars—in a background window without bringing it to the front. In fact, you can even *drag through text* without bringing a window forward. In every case, just keeping pressed as you click or drag is the secret.

# POWER USERS' CLINIC The Go to Folder Command

Sometimes a Unix tentacle pokes through the user-friendly Mac OS X interface. Every now and then, you find a place where you can use Unix shortcuts instead of the mouse.

One classic example is the Go Go to Folder command (Shift-#-G). It brings up a box like the one shown here.

The purpose of this box is to let you jump to a certain folder on your Mac directly by typing its Unix *folder path*. Depending on your point of view, this special box is either a shortcut or a detour.

For example, if you want to see what's in the Documents folder of your Home folder, you could choose Go Go to Folder, type this:

/Users/chris/Documents

Then click Go or press Return. (In this example, of course, chris is your short account name.)



In other words, you're telling the Mac to open the Users folder in your main hard drive window, then your Home folder inside that, and then the Documents folder inside that. Each slash means, "and then open." (You can leave off the name of your hard drive if your path begins with a slash.) When you press Enter, the folder you specified pops open immediately.

Of course, if you really wanted to jump to your Documents folder, you'd be wasting your time by typing all that. Unix (and therefore Mac OS X) offers a handy shortcut that means, "home folder." It's the tilde character (~) at the upper-left corner of your keyboard.

To see what's in your Home folder, then, you could type just that ~ symbol into the Go To Folder box and then press Return. Or you could add some slashes to it to specify a folder inside your Home

folder, like this:

#### ~/Documents

You can even jump to someone *else's* Home folder by typing a name after the symbol, like this:

#### ~chris

If you get into this sort of thing, here's another shortcut worth noting: If you type nothing but a slash (/) and then press Return, you jump immediately to the Computer window, which provides an overview of all your disks.

Note, too, that you don't have to type out the full path—only the part that drills down from the *window you're in*. If your Home folder window is already open, for example, you can open the Pictures folder just by typing *Pictures*.

But the Go to Folder trick *really* turns into a high-octane timesaver if you use *auto completion*. Here's how it works: After each slash, you can type only enough letters of a folder's name to give Mac OS X the idea—*de* instead of *desktop*, for example—and then wait a fraction of a second (or, if you're late for a plane, press the Tab key). Mac OS X instantly and automatically fills in the rest of the folder's name. It even auto-capitalizes the folder names for you (in Unix, capitalization matters).

For example, instead of typing /applications/Microsoft Office X/clipart/standard, you could type nothing more than /ap/mi/cl/st, remembering to press Tab after each pair of letters. Now that's a way to feel like a Unix programmer.

#### NOTE

Only *Cocoa* programs, as described in <u>Section 4.8</u>, offer the full range of **#**-clickable controls. In general, programs that have simply been *Carbonized* respond only to **#**-clicking title-bar elements.

By the way, you can always close, minimize, or zoom a background window without the help of the **#** key. Just click its title bar buttons normally. Mac OS X does its thing without taking you out of your current window or program.

- One more title bar trick: By double-clicking the title bar area, you minimize the window, making it collapse into the
  Dock exactly as though you had clicked the minimize button (assuming you haven't turned off this feature in
  System Preferences, of course).
- The Option key means "apply this action to all windows." For example, Optiondouble- clicking any title bar minimizes *all* desktop windows, sending them flying to the Dock.

## 1.2.3 Close Button

As the tip of your cursor crosses the three buttons at the upper-left corner of a window, tiny symbols appear inside them: x, -, and +. Ignore the gossip that these symbols were added to help color-blind people who can't distinguish the colors red, yellow, and green; color-blind people are perfectly capable of distinguishing the buttons by their positions, just as they do

with traffic lights.

Instead, these cues appear to distinguish the buttons when all three are identical shades of *gray*, as they are when you use Graphite mode (Section 8.4). They also signal you when it's time to click. For example, as described in the previous section, you can use these three buttons even when the window is not frontmost. You know the buttons are ripe for the clicking when you see the little symbols appear under your cursor.

The most important window gadget is the close button, the red, droplet-like button in the upper-left corner (see <u>Figure 1-6</u>). Clicking it closes the window, which collapses back into the icon from which it came.



If, while working on a document, you see a tiny dot in the center of the close button, Mac OS X is trying to tell you that you haven't yet saved your work. The dot goes away when you save the document.

The universal keyboard equivalent of the close button is **#**-W (for *window*)—a keystroke well worth memorizing. If you get into the habit of dismissing windows with that deft flex of your left hand, you'll find it far easier to close several windows in a row, because you don't have to aim for successive close buttons.

In many programs, something special happens if you're pressing the Option key when using the close button or its #-W equivalent: You close *all* open windows. This trick is especially useful in the Finder, where a quest for a particular document may have left your screen plastered with open windows for which you have no further use. Option-clicking the close button of any *one* window (or pressing Option-#-W) closes all of them.

When Steve Jobs unveiled Mac OS X at a Macworld Expo in 1999, he said that his goal was to oversee the creation of an interface so attractive, "you just want to lick it." Desktop windows, with their juicy, fruit-flavored controls, are a good starting point.



On the other hand, the Option-key trick doesn't close all windows in every program —only those in the current program. Option-closing an AppleWorks document closes all *AppleWorks* windows, but your Finder windows remain open.

Moreover, Option-closing works only in enlightened applications, such as AppleWorks, Quicken, and the Finder. (In this department, Microsoft is not yet enlightened.)

## 1.2.4 Minimize Button

Click this yellow drop of gel to *minimize* any Mac window, sending it shrinking, with a genie-like animated effect, into the right end of the Dock, where it then appears as an icon. The window isn't gone, and it hasn't even closed. It's just out of your way for the moment, as though you've set it down on a shelf. To bring it back, click the newly created Dock icon (see Figure 1-7, as well as Chapter 3 for more on the Dock).

Minimizing a window in this way is a great window management tool. In the Finder, minimizing a window lets you see whatever icons were hiding behind it. In a word processor, this technique lets you type a memo that requires frequent consultation of a spreadsheet behind it.



If you enjoy the ability to roll up your windows in this way, remember that you actually have a bigger target than the tiny minimize button. The entire title bar becomes a giant minimize button when you double-click anywhere on it. (That's an option in the Appearance panel of System Preferences, described in <a href="Chapter 8">Chapter 8</a>.)

Better yet, you can also minimize the frontmost window of almost any program (including the Finder) from the keyboard by pressing #-M. That's a keystroke worth memorizing on Day One.

Clicking the minimize button sends a window scurrying down to the Dock, collapsing in on itself as though being forced through a tiny, invisible funnel. A tiny icon appears on the lower-right corner of its minimized image to identify the program it's running in.



# GEM IN THE ROUGH Adjusting the Genie Speed

Apple has a name for the animation you see when you minimize, open, or close a window: the *genie effect*, because it so closely resembles the way Barbara Eden, Robin Williams, and other TV and movie genies entered and exited their magic lamps and bottles.

But you don't have to watch the "genie" animation precisely the same way, day in and day out. You can slow it down or speed it up like this:

**Slow it down.** Whenever Steve Jobs does a Mac OS X demo, one of his favorite bits is slowing down the animation so that we can see it in all its graceful, slow motion. How does he do that?

If you Shift-click a window's minimize button, it collapses into the Dock at about one-fifth its usual speed—an effect sure to produce gasps from the onlookers. The Shift key also slows the un-minimizing animation, the one you see when you click a window icon in the dock to restore it to full size.

**Speed it up.** There's no keystroke for making the animation go faster. You can, however, substitute a faster *style* of minimizing animation.

To do so, choose Dock Dock Preferences. From the "Minimize using" pop-up menu, choose Scale Effect, and then close the window. Now, instead of collapsing through an invisible funnel, minimized windows simply shrink as they fly down to the dock, remaining rectangular, requiring less computing by Mac OS X and therefore taking less than a second to disappear.

(Actually, there's a third animation style, too, but you need the freeware in <u>Section 17.1</u> to unleash it.)

The minimize button harbors only one hidden feature, but it's very entertaining. If you Option-click it, *all* windows in the current program shrink away simultaneously —great when you've got several Web browser windows open, for example, or an abundance of word processor documents.

Unfortunately, there's no one-click method for *un*-minimizing all of the windows in a program. You have to click them one at a time on the Dock.



Mac OS X can even change menu commands as you press modifier keys. For example, open a couple of Finder windows and then click the Window menu. Focus your eyes on the Minimize Window command. Now press Option and watch both the wording and the listed keyboard equivalent change instantly to Minimize All Windows (Option-##-M).

## 1.2.5 Zoom Button

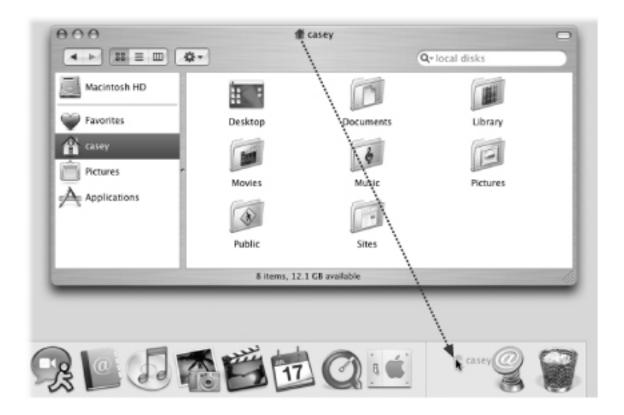
A click on this green geltab (see Figure 1-6) makes a desktop window just large enough to reveal all of the icons inside it. If

your monitor isn't big enough to show all the icons in a window, the zoom box resizes the window to show as many as possible. In either case, a second click on the zoom button restores the window to its previous size. (The Window Zoom Window command does the same thing.)

# 1.2.6 The Folder Proxy Icon

Each Finder-window title bar features a small icon next to the window's name (<u>Figure 1-8</u>), representing the open window's actual folder or disk icon. It's a stand-in—a *proxy*—for the folder itself.

When you find yourself confronting a Finder window that contains useful stuff, consider dragging its proxy icon to the Dock. You wind up installing its folder or disk icon there for future use. That's not the same as minimizing the window, which puts the window icon into the Dock, and only temporarily at that. (Note: Most Mac OS X document windows also offer a proxyicon feature, but produce only an alias when you drag it to a different folder or disk.)



By dragging this tiny icon, you can move or copy the folder into a different folder or disk, into the Trash, or into the Dock without having to first close the window. (If this feature strikes you as unimpressive, you probably never witnessed a hapless Mac novice repeatedly attempting to drag an *open window* into the Trash in, say, System 7.5.)



You have to hold down the mouse button on the folder proxy icon until the icon darkens before dragging, which takes only a fraction of a second.

When dragging this proxy icon to a different place on the same disk, the usual folderdragging rules apply: Hold down the

Option key if you want to *copy* the original disk or folder; ignore the Option key to *move* the original folder. (You'll find details on moving and copying icons in the next chapter.)

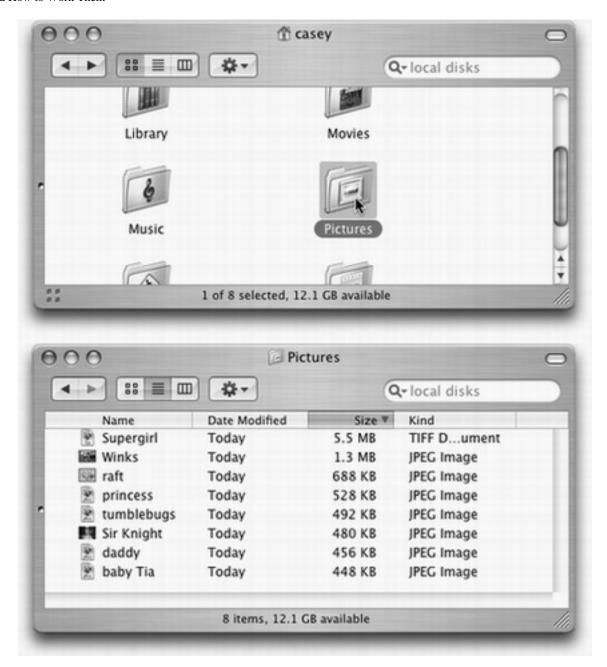
## 1.2.7 The Finder Toolbar

<u>Chapter 3</u> describes this fascinating desktop-window element in great detail.

# 1.2.8 "Old Finder Mode" (Hiding the Toolbar)

In Mac OS X, double-clicking a folder in a window doesn't leave you with *two* open windows. Instead, double-clicking a folder makes the original window disappear (<u>Figure 1-9</u>).

In an effort to help you avoid window clutter, Apple has designed Mac OS X windows so that double-clicking a folder in a window (top) doesn't actually open another window (bottom). Every time you double-click a folder in an open window, its contents replace whatever was previously in the window. If you double-click three folders in succession, you still wind up with just one open window.





If you *Option*-double-click a folder, you don't simply replace the contents of a fixed window that remains on the screen; you actually *switch* windows, as evidenced by their changing sizes and shapes.

So what if you've now opened inner folder B, and you want to backtrack to outer folder A? In that case, just click the tiny left-arrow button labeled Back, shown in <u>Figure 1-9</u>, or use one of these alternatives:

- Choose Go Back.
- Press ##-[ (left bracket).
- Press #-up arrow.
- Choose Go Enclosing Folder.

None of that will help you, however, if you want to copy a file from one folder into another or compare the contents of two windows. In that case, you'll probably want to see both windows open at the same time.

You can open a second window using any of these techniques:

Choose File New Finder Window (#-N).



What "new" window appears when you use this command? On a fresh Mac OS X installation, it's likely to be the Computer window, which isn't where you keep the folders you work with. Changing this setting should be one of your first bits of business in Mac OS X.

To make the change, choose Finder Preferences. Click the General icon. Change the "New Finder windows open" pop-up menu to whatever folder you'd like to use as the starting point for your computing life. Your Home folder is a good choice, but (new in 10.3) you're also free to choose your Documents folder, your iDisk, or any folder at all. Now every new Finder window shows you that specified folder, which is a much more useful arrangement.

# **POWER USERS' CLINIC** Multiple Views, Same Folder

If you've read this section carefully, you may have discovered a peculiar quirk of the Mac OS X Finder: By choosing File New Finder Window (or #-double-clicking a disk or folder icon), you open a second, completely independent Finder window. If you stop to think about it, therefore, there's nothing to stop you from opening a third, fourth, or fifth copy of the same folder window. Once they're open, you can even switch them into different views.

Try this, for example: Choose Go Applications. Choose File New Finder Window (H-N), and then choose Go Applications again. Using the View menu or the controls in the toolbar, put one of these windows into list view, and the other into icon view.

This phenomenon has its advantages. For example, you might decide to open the same window twice while doing some hard drive housekeeping. By keeping a list view open, you can check the Size column as you move your files into different folders (so you can make sure the folders fit onto a blank CD, for example)—but by keeping a column view open, you gain quicker navigational access to the stuff on your drive.

- double-click a disk or folder icon.

  Double-click a folder or disk icon on your desktop.
- Choose Finder Preferences and turn on "Always open folders in a new window." Now when double-clicked, all folders open into their own new windows. (This is the option for veteran Mac fans who don't care for the new behavior.)
- Switch to Old Finder Mode, described next.

"Old Finder Mode," of course, isn't the technical Apple term, but it should be. Here's how it works.

## 1.2.8.1 The Toolbar Disclosure button

The upper-right corner of every Finder window contains a little button that looks like a half-inch squirt of Crest toothpaste. When you click it, you enter Old Finder Mode.



Tip: You can also enter Old Finder Mode by pressing Option-#-T, the equivalent for the View—Hide Toolbar command. Beware: This keystroke changed in Mac OS X 10.3. The old one, #-B, now does nothing at all in the Finder.

This mode was designed for people who come to Mac OS X from an earlier version of the Mac OS, like Mac OS 9, and lose half their hair when they discover how different things are in Mac OS X.

In this mode, three of the biggest behavioral differences between Mac OS X and its predecessor disappear:

- The Sidebar and the Finder-window toolbar (<u>Figure 1-6</u>) slide out of sight.
- Double-clicking a folder now works like it used to. Every time you double-click a folder, you open a new corresponding window.
- You can add a Mac OS 9-style information strip at the top of the window, which tells you how many icons are in it ("14 items," for example) and the amount of free space remaining on the disk. Just choose View Show Status Bar—a command that's dimmed at all times *except* when you're in Old Finder Mode.

(In Mac OS X 10.3, this information strip appears at the bottom of every Finder window, as shown in Figure 1-6.)

# 1.2.8.2 Leaving Old Finder Mode

When you've had enough of Old Finder Mode, you can return to regular Mac OS X mode by clicking the Toolbar Disclosure button again, by pressing Option-#-T again, or by choosing View Show Toolbar.

#### NOTE

You'll find this little white toolbar-control nubbin in a number of toolbar-endowed programs, including Mail, Safari, System Preferences, and others. Clicking it always makes the toolbar go away.

## 1.2.9 Scroll Bars

Scroll bars appear automatically in any window that isn't big enough to show all of its contents. Without scroll bars in word processors, for example, you'd never be able to write a letter that's longer than your screen is tall. You can manipulate a scroll bar in three ways, as shown in Figure 1-10.

Three ways to control a scroll. The scroll bar arrows (lower right) appear nestled together when

you first install Mac OS X, as shown here. If you, an old-time Windows or Mac OS 9 fan, prefer these arrows to appear on opposite ends of the scroll bar, visit the Appearance panel of System Preferences, described in Section 8.4.



Mac OS X offers an intriguing scroll bar option called "Scroll to here." Ordinarily, when you click in the scroll bar track above or below the gelatinous handle, the window scrolls by one screenful. But your other option is to turn on "Scroll to here" mode in the Appearance panel of System Preferences (see Section 8.4). Now when you click in the scroll bar track, the Mac considers the entire scroll bar a proportional map of the document, and jumps precisely to the spot you clicked. That is, if you click at the very bottom of the scroll bar track, you see the very last page.



No matter which scrolling option you choose in the Appearance panel, you can always override your decision on a case-by-case basis by *Option*-clicking in the scroll bar track. In other words, if you've selected the "Scroll to here" option, you can produce a "Jump to the next page" scroll by Option-clicking in the scroll bar track.

It's worth noting, however, that the true speed expert eschews scroll bars altogether. Your Page Up and Page Down keys let you scroll up and down, one screen at a time, without having to take your hands off the keyboard to grab the mouse. The Home and End keys, meanwhile, are generally useful for jumping directly to the top or bottom of your document (or Finder window). And if you've bought a non-Apple mouse that has a scroll wheel on the top, you can use it to scroll windows, too, without pressing any keys at all.

At first glance, you might assume that scroll bars are an extremely inefficient mechanism when you want to scroll a window

diagonally—and you'd be right. Fortunately, Mac OS X includes an alternate scrolling system for such situations. Position your mouse inside a Finder window; while pressing ## and Option, you can drag—and scroll—in any direction, as shown in Figure 1-11.

Position your mouse inside a Finder window (column views not included) or even an Internet Explorer window. While pressing ## and Option, you can drag and scroll in any direction. As you drag, the cursor changes shape, becoming a white-gloved butler's hand. Where can you get that kind of service these days?



## 1.2.10 Resize Handle

The lower-right corner of every standard Mac OS X window is ribbed, a design that's meant to imply that you can grip it by dragging. Doing so lets you resize and reshape the window (see Figure 1-6).

## 1.2.11 Status Bar

This information strip tells you how many icons are in the window ("14 items," for example) and the amount of free space remaining on the disk. (If you miss seeing the status bar at the *top* of every window—what are you, some kind of radical?—see <u>Section 1.2.8.</u>)

## WORKAROUND WORKSHOP

# How Much Is That Doggie in the Window?

The status bar shows you disk-space information for the entire disk, but not how much disk space *this* particular window's contents occupy.

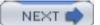
To find out *that* piece of information, make sure that no icon in the window is highlighted. Then choose File Get Info (or press H-I). The resulting Info window, which is described in more detail at the end of the next chapter, shows the size of the folder or disk whose window you're browsing, along with other useful statistics.



< Day Day Up:







# 1.3 The Three Window Views

You can view the files and folders in a desktop window in any of three ways: as icons; as a single, tidy list; or in a series of neat columns. Figure 1-12 shows the three different views.

Every window remembers its view settings independently. You might prefer to look over your Applications folder in list view (because it's crammed with files and folders), but you may prefer to view the less populated Users folder in icon view, where the larger icons are easier to double-click.

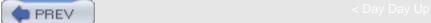
To switch a window from one view to another, just click one of the three corresponding icons in the window's toolbar, as shown in Figure 1-12.

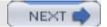
From top: The same window in icon view, list view, and column view. Very full folders are best navigated in list or column views, but you may prefer to view emptier folders in icon view, because larger icons are easier to click.

Remember that in any view (icon, list, or column), you can highlight an icon by typing the first couple letters of its name. In icon or list view, you can also press Tab to highlight the next icon (in alphabetical order), or Shift-Tab to highlight the previous one.



You can also switch views by choosing View as Icons (or View as Columns, or View as List), which can be handy if you've hidden the toolbar. Or, for less mousing and more hardbodied efficiency, press 1-1, 1-2, or 1-3 for icon, list, or column view, respectively.









# 1.4 Icon View

In an icon view, every file, folder, and disk is represented by a small picture—an *icon*. This humble image, a visual representation of electronic bits and bytes, is the cornerstone of the entire Macintosh religion. (Maybe that's why it's called an icon.)

# 1.4.1 Icon View Options

Mac OS X offers a number of useful icon view options, all of which are worth exploring. Start by opening any icon view window, and then choose View Show View Options (#-J).

# 1.4.1.1 Choosing icon sizes

Mac OS X draws the little pictures that represent your icons using sophisticated graphics software. As a result, you (or the Mac) can scale them to almost any size without losing any quality or clarity. You can specify a new icon size either for a single window or for every icon view window on your machine (Figure 1-13).

In the View Options window (<u>Figure 1-14</u>), click one of the buttons at the top of the window—either "This window only" or "All windows"—to indicate whether you want to change the icon sizes in just the frontmost window or everywhere on the Mac.

Mac OS X lets you choose an icon size to suit your personality. For picture folders, it can often be very handy to pick a jumbo size, in effect creating a slide-sorter "light table" effect. Just use the slider in the View Options dialog box, shown in Figure 1-14.



Finally, drag the Icon Size slider back and forth until you find a size you like. (For added fun, make little cartoon sounds with your mouth.)

## 1.4.1.2 Text size

Ring the bells! Fire the cannons! At last, Mac OS X fans can control the type size of icon names in the Finder!

In fact, if you choose "This window only" at the top of the palette, you can actually specify a different type size for *every window* on your machine. Neither Windows nor the Mac OS has ever offered *that* level of control before. (Why would you want to adjust the point size independently in different windows? Well, because you might want smaller type to fit more into a crammed list view without scrolling, while you can afford larger type in less densely populated windows.)

Your choices range only from 10 to 16 points, and you still can't choose a different font. But for people with especially big or especially small screens—or people with aging retinas—this feature is much better than nothing.

## 1.4.1.3 Windows XP-style labeling

In its own quiet way, this tiny, unheralded feature represents one of the most radical changes to the Finder since the invention of the Mac. As shown in <u>Figure 1-14</u>, it lets you create, in effect, a *multiple-column* list view in a single window.

Thanks to the secret powers of the View Options palette (right), Mac OS X can display icon names on the right—and even show a second line of file info—in any icon view. You now have

all the handy, freely draggable convenience of an icon view, along with the compact spacing of a list view.



## 1.4.1.4 "Show item info"

While you've got the View Options palette open, try turning on "Show item info." Suddenly you get a new line of information (in tiny blue type) for certain icons saving you the effort of opening up the folder or file to find out what's in it. For example:

- **Folders.** The info line lets you know how many icons are inside each without having to open it up. Now you can spot empties at a glance.
- Graphics files. Certain other kinds of files may show a helpful info line, too. For example, graphics in most file
  formats display their dimensions in pixels. (Even JPEG graphics display their own pixel resolutions—a welcome
  improvement from Mac OS X 10.2.)
- **Sounds and QuickTime movies.** The light-blue bonus line tells you how long the sound or movie takes to play. For example, the highlighted MP3 file in <u>Figure 1-14</u> says "00'34," which means zero minutes, 34 seconds.

You can see these effects illustrated in Figure 1-14.

## 1.4.1.5 "Show icon preview"

This option pertains primarily to graphics, which Mac OS X often displays only with a generic icon (stamped JPEG, TIFF, or PDF). But if you turn on "Show icon preview," Mac OS X turns each icon into a miniature display of the image itself, as shown in Figures 1-14 and 1-15. It's ideal for working with folders full of digital photos.

# 1.4.1.6 Window backgrounds

Here's another Mac OS X luxury that other operating-system fans can only dream about: You can fill the background of any

icon view window on your Mac with a certain color—or even a photo.

Color-coordinating or "wallpapering" certain windows is more than just a gimmick. On the contrary, it can serve as a timesaving psychological cue. Once you've gotten used to the fact that your main Documents folder has a sky-blue background, you can pick it out like a sharpshooter from a screen filled with open windows. Colorcoded Finder windows are also especially easy to distinguish at a glance when you've minimized them to the Dock.

#### NOTE

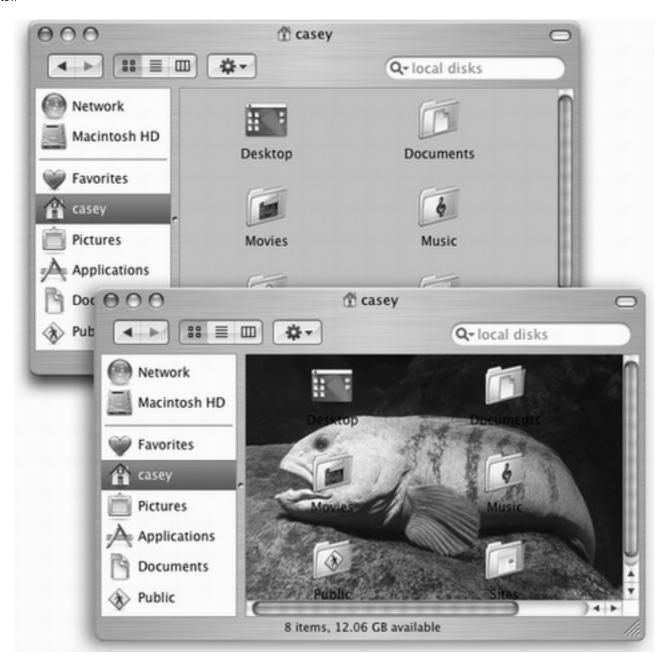
Background colors and pictures disappear in list or column view, and in windows that "belong" to Mac OS X itself, such as the hard drive window and the Users folder.

Once a window is open, choose View View Options (#-J). The bottom of the resulting dialog box offers three choices, whose results are shown in Figure 1-15:

- White. This is the standard option.
- Color. When you click this button, you see a small rectangular button beside the word Color. Click it to open the Color Picker (Section 4.10.4), which you can use to choose a new background color for the window. (Unless it's April Fool's day, pick a light color. If you choose a dark one—like black—you won't be able to make out the lettering of the icons' names.)
- **Picture.** If you choose this option, a Select button appears. Click it to open the Select a Picture dialog box, already open to your Library Desktop Pictures folder. Now choose a graphics file—one of Apple's in the Desktop Pictures folder—or one of your own. When you click Select, you'll see that Mac OS X has superimposed the window's icons on the photo. As you can see in <u>Figure 1-15</u>, low-contrast or light-background photos work best for legibility.

Incidentally, the Mac has no idea what sizes and shapes your window may assume in its lifetime. Therefore, Mac OS X makes no attempt to scale down a selected photo to fit neatly into the window. If you have a high-res digital camera, therefore, you'll see only the upper-left corner of a photo as the window background. Use a graphics program to scale the picture down to something smaller than your screen resolution for better results.

The View Options dialog box for an icon view window offers the chance to create colored backgrounds for certain windows (top) or even to use photos as window wallpaper (bottom). Using a photo may have a soothing, annoying, or comic effect—like making the icon names completely unreadable.



# 1.4.2 Keeping Icons Neat and Sorted

In general, you can drag icons anywhere within a window. For example, some people like to keep current project icons at the top of the window and move older stuff to the bottom.

If you'd like Mac OS X to impose a little discipline on you, however, it's easy enough to request a visit from an electronic housekeeper who tidies up your icons by aligning them neatly to an invisible grid.

## NOTE

You can't specify how tight or loose this invisible grid is.

Mac OS X offers an enormous number of variations on the "snap icons to the underlying grid" theme:

- Aligning individual icons to the grid. Press the key while dragging an icon or several highlighted icons.
   (Don't press the key down until after you begin to drag.) When you release the mouse, the icons you've moved all jump into neatly aligned positions.
- Aligning all icons to the grid. Choose View Clean Up (if nothing is selected) or View Clean Up Selection (if some icons are highlighted). Now all icons in the window (or those you've selected) jump to the closest positions on the invisible underlying grid.



If you press Option, you swap the wording of the command. Clean Up changes to read Clean Up Selection, and vice versa.

This is a temporary status, however—as soon as you drag icons around, or add more icons to the window, the newly moved icons wind up just as sloppily positioned as before you used the command.

If you'd rather have icons snap to the nearest underlying grid positions *whenever* you move them, choose View Show View Options. In the resulting dialog box, make sure the proper button is selected at the top of the window ("This window only" or "All windows"), and then turn on "Snap to grid."

If your status bar is showing in the window, as described earlier, a small, subtle grid icon appears at its left edge to remind you why your icons are all so neatly aligned.

## NOTE

You can override the grid setting by pressing the #key when you drag. In other words, when gridsnapping is turned *off*, and makes your icons snap into position; when grid-snapping is turned *on*, tels you drag an icon freely.

Note, by the way, that neither of these grid-snapping commands—View—Clean Up and the "Snap to grid" option—moves icons into the most compact possible arrangement. If one or two icons have wandered off from the herd to a far corner of the window, they're merely nudged to the closest grid points to their current locations. They aren't moved all the way back to the group of icons elsewhere in the window.

To make them jump back to the primary cluster, read on.

• Sorting all icons for the moment. If you choose View Arrange by Name, all icons in the window snap to the invisible grid and sort themselves alphabetically. Use this method to place the icons as close as possible to each other within the window, rounding up any strays. The other subcommands in the View Arrange menu, such as by Size, by Date Modified, and so on, work similarly, but sort the icons according to different criteria.

As with the Clean Up command, View Arrange serves only to reorganize the icons in the window at this moment. Moving or adding icons in the window means you'll wind up with icons out of order. If you'd rather have all icons remain sorted *and* clustered, try this:

Sorting all icons permanently. This arrangement is the ideal solution for neat freaks who can't stand seeing icons
out of place. It maintains the sorting and alignment of all icons in the window, present and future. Now if you add
more icons to the window, they jump into correct alphabetical position; if you remove icons, the remaining ones
slide over to fill in the resulting gap.

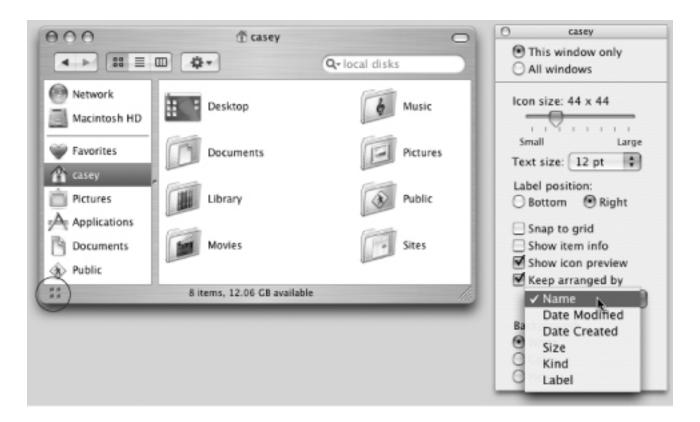
To make it happen, choose View Show View Options. In the resulting dialog box, turn on the "Keep arranged by" checkbox. From the pop-up menu, specify what order you want your icons to snap into. Close the window. As shown at left in Figure 1-16, your icons are now locked into sorted position, as compactly as possible.

Although it doesn't occur to most Mac users, you can also apply any of the commands described in this section—Clean Up, Arrange, Keep Arranged, and so on—to icons lying loose on your *desktop*. Even though they don't seem to be in any window at all, you can specify small or large icons, automatic alphabetical arrangement, and so on. Just click the desktop before using the commands in the View menu.

## NOTE

There's only one View Options dialog box. Once it's open on the screen, you can adjust the icon sizes or arrangement options of other windows just by clicking them. Each time you click inside a window, the View Options dialog box remains in front, changing to reflect the settings of the window you just clicked.

Use the View Options dialog box (right) to turn on permanent- cleanliness mode (left). A tiny four-square icon (circled) appears to remind you that you've turned on the Mac's spatial lockjaw feature, so that you don't get frustrated when you try to drag an icon into a new position and then discover that it won't budge.











# 1.5 List View

In windows that contain a lot of icons, the list view is a powerful weapon in the battle against chaos. It shows you a tidy table of your files' names, dates, sizes, and so on.

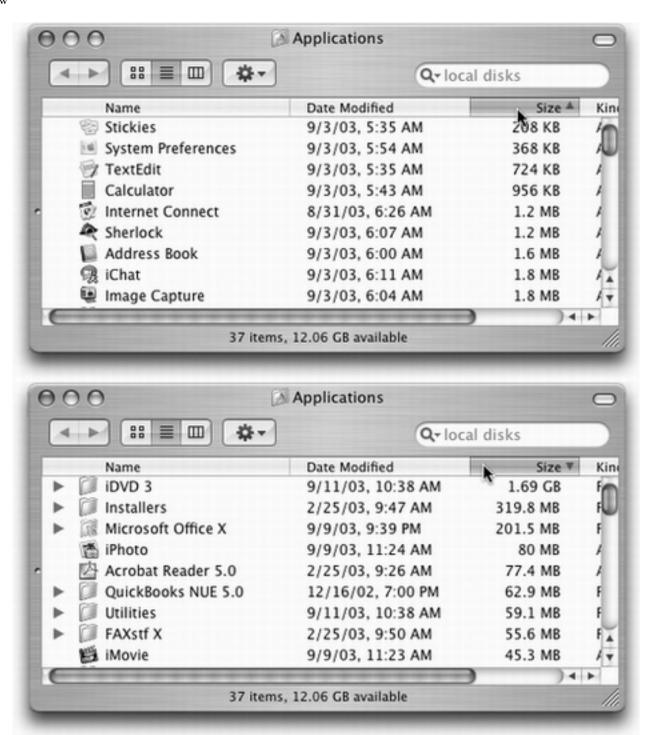
You have complete control over your columns, in that you get to decide how wide they should be, which of them should appear, and in what order (except that Name is always the first column). Here's how to master these columns:

# 1.5.1 Sorting the List

Most of the world's list view fans like their files listed alphabetically. It's occasionally useful, however, to view the newest files first, largest first, or whatever.

When a desktop window displays its icons in a list view, a convenient new strip of column headings appears (<u>Figure 1-17</u>). These column headings aren't just signposts; they're buttons, too. Click Name for alphabetical order, Date Modified to view newest first, Size to view largest files at the top, and so on.

You control the sorting order of a list view by clicking the column headings (top). Click a second time to reverse the sorting order (bottom). You'll find the identical triangle—indicating the identical information —in email programs, in Sherlock (Chapter 20), and anywhere else where reversing the sorting order of the list can be useful.



It's especially important to note the tiny, dark gray triangle that appears in the column you've most recently clicked. It shows you which way the list is being sorted.

When the triangle points upward, oldest files, smallest files, or files beginning with numbers (or the letter A) appear at the top of the list, depending on which sorting criterion you have selected.



It may help you to remember that when the *smallest* portion of the triangle is at the top, the *smallest* files are listed first when viewed in size order.

To reverse the sorting order, just click the column heading a second time. Now newest files, largest files, or files beginning with the letter Z appear at the top of the list. The tiny triangle turns upside-down.

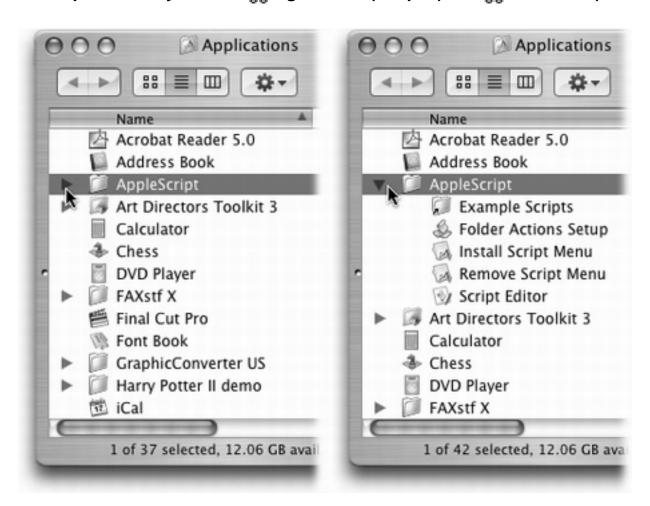


You can also change the sorting order from the keyboard. Just press Control-Tab to highlight each successive column heading, sorting the list by that criterion in the process. Add the Shift key to move *leftward* through the column headings.

## 1.5.2 Flippy Triangles

One of the Mac's most attractive features is the tiny triangle that appears to the left of a folder's name in a list view. In its official documents, Apple calls these buttons *disclosure triangles*; internally, the programmers call them *flippy triangles*.

Click a "flippy triangle" (left) to see the list of the folders and files inside that folder (right). Or press the equivalent keystrokes: #-right arrow (to open) and #-left arrow (to close).



Either way, these triangles are very useful: When you click one, the list view turns into an outline, which displays the contents of the folder in an indented list, as shown in <u>Figure 1-18</u>. Click the triangle again to collapse the folder listing. You're saved the trouble and clutter of opening a new window just to view the folder's contents.

By selectively clicking flippy triangles, you can, in effect, peer inside two or more folders simultaneously, all within a single list view window. You can move files around by dragging them onto the tiny folder icons.



Once you've expanded a folder by clicking its flippy triangle, you can even drag a file icon out of its folder so that it's loose in the list view window. To do so, drag it directly upward onto the *column headings* area (where it says Name, for example). When you release the mouse, you'll see that the file is no longer inside the expanded folder.

# 1.5.3 Which Columns Appear

Choose View——Show View Options. In the palette that appears, you're offered on/off checkboxes for the different columns of information Mac OS X can show you, as illustrated in <u>Figure 1-19</u>.

• **Date Modified.** This date-and-time stamp indicates when a document was last saved. Its accuracy, of course, depends on the accuracy of your Mac's built-in clock (see Section 8.6).

# POWER USERS' CLINIC Flippy Triangle Keystrokes

The keystrokes that let you open and close flippy triangles in a list view are worth committing to memory.

First, pressing the Option key when you click a flippy triangle lets you view a folder's contents *and* the contents of any folders inside it. The result, in other words, is a longer list that may involve several levels of indentation.

If you prefer to use the keyboard, substitute the right-arrow key (to expand a selected folder's flippy triangle) or left-arrow key (to collapse the folder listing again). Here again, adding the Option key expands all levels of folders within the selected one.

Suppose, for example, that you want to find out how many files are in your Pictures folder. The trouble is, you have organized your graphics files within that folder in several category folders. And you realize that the "how many items" statistic in the status bar shows you how many icons are *visible* in the window. In other words, you won't know your total photo count until you've *expanded* all the folders within the Pictures folder.

You could perform the entire routine from the keyboard like this: Get to your Home folder (see Section 2.1) by pressing Shift-#-H. Select the Pictures folder by typing the letter P. Open it by pressing ##-O (the shortcut for File Open) or ##-down arrow. Highlight the entire contents by pressing ##-A (the shortcut for Edit Select All).

Now that all folders are highlighted, press Option-right arrow. You may have to wait a moment for the Mac to open every subfolder of every subfolder. But eventually, the massive list appears, complete with many levels of indentation. At last, the "items" statistic in the status bar (see <u>Section 1.2.11</u>) gives you a complete, updated tally of how many files are in all of those folders combined.

#### NOTE

Many an up-to-date file has been lost because a Mac user spotted a very old date on a folder and assumed that the files inside were equally old. That's because the modification date shown for a folder doesn't reflect the age of its *contents*. Instead, the date on a folder indicates only when items were last *moved* into or out of that folder. The actual files inside may be much older, or much more recent.

The checkboxes you turn on in the View Options dialog box determine which columns of information appear in a list view window.

Most people live full and satisfying lives with only the three default columns—Date Modified, Kind, and Size—turned on. But the other columns can be helpful in special circumstances; the trick is knowing what information appears there.



- Date Created. This date-and-time stamp shows you when a document was *first* saved.
- Size. With a glance, you can tell from this column how much disk space each of your files and folders is taking up in kilobytes, megabytes, or gigabytes—whichever the Mac thinks you'll find most helpful. (There are 1,024 kilobytes in a megabyte.)



For disks and folders, you see only a dash—at first. You can, however, instruct the Mac to reveal their sizes, as described in Section 1.5.4.

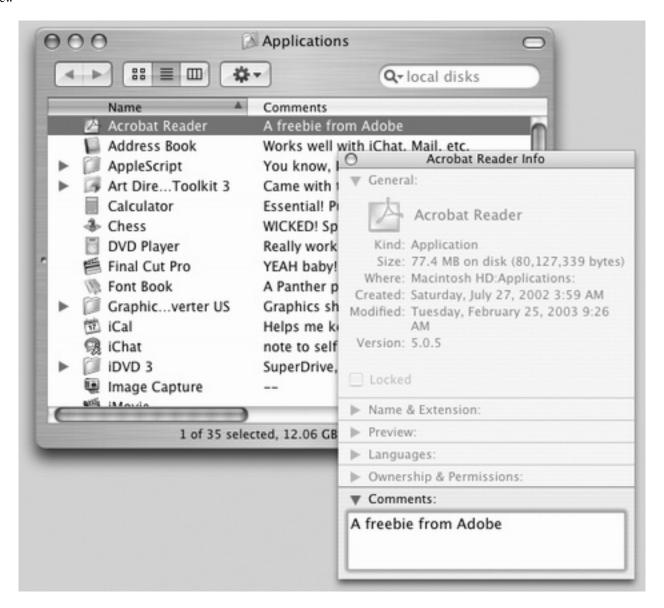
- **Kind.** In this column, you can read what *kind* of icon each item represents. You may see, for example, Folder, JPEG Image, Application, and so on.
- **Version.** This column displays the version numbers of your programs. For folders and documents, you just see a dash.
- **Comments.** This rarely seen column can actually be among the most useful. Suppose that you're a person who uses the Comments feature (highlight an icon, choose File Get Info, type notes about that item into the Comments box). The option to view the first line of comments about each icon can be very helpful, especially when tracking multiple versions of your documents, as shown in Figure 1-20.

#### **NOTE**

Unfortunately, the systems for storing comments are different in Mac OS 9 and Mac OS X. When you run Mac OS X, you won't see the icon comments you added in Mac OS 9, and vice versa.

Left: The Comments column is often worth turning on. If your monitor is big enough, you can make the Comments column wide enough to show several paragraphs of text, all in a single line—enough to reveal the full life history of each icon.

Right: You enter these comments in the Get Info window for each file.



• Label. This Macintosh perk, missing since Mac OS 9, has returned in 10.3 to the cheers of Mac veterans. Labels are colors and identifying phrases that you can slap onto icons, wherever they appear, to help you categorize and group them. For details, see Section 2.6.

Even with this column turned off, you can still see an icon's *color*, of course. But only by turning on this column do you get to see the *text phrase* that you've associated with each label.

# 1.5.4 Other View Options

The View Options for a list view include several other useful settings (choose View Show View Options, or press 3.). As always, be sure to click either "All windows" or "This window only" before closing the window, so that your changes will have the scope of effect that you intended.

• **Icon Size.** These two buttons offer you a choice of icon size for the current window: either standard size or tiny size. Unlike icon view, list view doesn't give you a size slider.

Thanks to Mac OS X's powerful graphics software, even the tiny icons aren't so small that they show up blank. You still get a general idea of what they're supposed to look like.

- **Text size.** As described in <u>Section 1.5.3</u>, you can change the type size for your icon labels, either globally or one window at a time.
- **Show columns.** Turn on the columns you'd like to appear in the current window's list view, as described in the previous section.
- Use relative dates. In a list view, the Date Modified and Date Created columns generally display information in a format like this: "Tuesday, March 9, 2004." (As noted below, the Mac uses shorter date formats as the column gets narrower.) But when the "Use relative dates" option is turned on, the Mac substitutes the word "Yesterday" or "Today" where appropriate, making recent files easier to spot.
- Calculate all sizes. See the box below.

# FREQUENTLY ASKED QUESTION Calculate All Sizes

When I sort my list view by size, I see only dashes for folder sizes. What am I doing wrong?

Nothing at all; that's normal. When viewing a Finder window, you see a Size statistic for each *file*. For *folders* and disks, however, you're shown only an uninformative dash.

Most Mac fans study this anomaly only momentarily, scratch their chins, and then get back to their work. Former Windows users don't even scratch their chins; Windows PCs *never* show folder-size or disk-size information in list views.

Here's what's going on: It can take a computer a long time to add up the sizes of all files inside a folder. Your System Library folder alone, for example, contains more than 1,500 files. Instead of making you wait while the Mac does all of this addition, Mac OS X simply shows you a dash in the Size column for a folder.

On occasion, however, you really *do* want to see how big your folders are. In such cases, choose View Show View Options and turn on "Calculate all sizes." You'll see the folder sizes slowly begin to pop onto the screen, from the top of the window down, as the Mac crunches the numbers of the files within.

In fact, you can even turn on the "Calculate all sizes" option globally—that is, for all windows. In the Mac operating systems of days gone by, this act would have caused a massive slowdown of the entire computer. But remember that Mac OS X is *multithreaded*—that is, it has the opposite of a one-track mind. It's perfectly capable of devoting all of its attention to calculating your folder sizes *and* all of its attention to whatever work you're doing in the foreground.

But now consider this anomaly: Suppose you've opted to sort a particular window by folder size—in other words, you've clicked the word Size at the top of the column. Turning on "Calculate all sizes" bewilders the unprepared, as folders arbitrarily begin leaping out of order, forcing the list to rearrange itself a couple of times per second.

What's happening, of course, is that all folders *begin* at the bottom of the list, showing only dashes in the Size column. Then, as the Mac computes the size of your folders' contents, they jump into their correct sorted order at what may seem to be random intervals.

# 1.5.5 Rearranging Columns

You're stuck with the Name column at the far left of a window. But you can rearrange the other columns just by dragging their gray column headers horizontally. If the Mac thinks you intend to drop a column to, say, the left of the column it overlaps, you'll actually see an animated movement—indicating a column reshuffling—even before you release the mouse button.

## 1.5.6 Adjusting Column Widths

Place your cursor carefully on the dividing line between two column headings. When the cursor sprouts horizontal arrows from each side, you can drag horizontally. Doing so makes the column to the *left* of your cursor wider or narrower.

What's delightful about this activity is watching Mac OS X scramble to rewrite its information to fit the space you give it. For example, as you make the Date Modified (or Created) column narrower, "Tuesday, March 9, 2004, 2:22 PM" shrinks first to "Tue, Mar 9, 2004, 2:22 PM," then to "3/9/04, 2:22 PM," and finally to a terse "3/9/04."

If you make a column too narrow, Mac OS X shortens the file names, dates, or whatever by removing text from the *middle*. An ellipsis (...) appears to show you where the missing text would have appeared. (Apple reasoned that truncating the *ends* of file names, as in previous versions of the Mac OS, would hide useful information like the number at the end of "Letter to Marge 1," "Letter to Marge 2," and so on. It would also hide the three-letter *extensions*, such as Thesis. *doc*, that may appear on file names in Mac OS X.)

# NOSTALGIA CORNER Pop-Up Windows

Help! How do I make pop-up windows in Mac OS X? You know, those little folder tabs that peek up from the bottom of the screen?

Apple figured you wouldn't need them. After all, you can achieve the same effect by dragging folders into the Dock (<u>Chapter 3</u>). Once there, you can click a folder icon to open it, or view a pop-up list of its contents by Control-clicking it, right-clicking it (if you have a two-button mouse), or just holding the mouse button down on it.

But that's not the real thing. If you *do* want the real thing, just drag any window to the bottom of the screen, so that only its title bar is showing. (First make the window narrow, if you like, so that its title bar turns into a little tab.) Put a whole row of window "tabs" down there, if you like.

Now you can make one of these tabs pop up in either of two ways. First, drag any file or folder icon off of your desktop, across the title bar, and down. Presto! After a short pause, the window pops open to receive your drag, just like the pop-up windows of Mac OS 9. It even recedes back to the screen edge if you move your mouse away without dropping what you're dragging. (Unfortunately, it doesn't collapse again if you release the mouse inside the window boundaries.)

If you'd rather have it pop up and stay up unaided, just click its green zoom button. The window springs upward and open so you can access its contents—and then collapses again when you click the green button a second time.

It's not a real pop-up window, but it's close. In the meantime, this trick does "real" pop-up windows one better: You can park your windows off *any edge* of the screen, not just the bottom. You haven't lived until you've watched a window "drawer" slide open from the *top* or *side* of your monitor.

For example, suppose you've named a Word document "Madonna—A Major Force for Humanization and Cure for Depression, Acne, and Migraine Headache." (Yes, file names can really be that long.) If the Name column is too narrow, you might see only "Madonna—A Major...Migraine Headache."



You don't have to make the column mega-wide just to read the full text of a file whose name has been shortened. Just point to the icon's name without clicking. After a moment, a yellow, floating balloon appears—something like a tooltip in Microsoft programs—to identify the full name.

And if you don't feel like waiting, hold down the Option key. As you whip your mouse over truncated file names, their tooltip balloons appear instantaneously. (Both of these tricks work in either list or column view—and in Save and Open dialog boxes, for that matter.)



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#### 1.6 Column View

Icon view and list view should certainly be familiar to anyone who's used a personal computer before. But for many computer fans, *column* view is something new—and welcome.

The goal is simple: to create a means of burrowing down through nested folders without leaving a trail of messy, overlapping windows in your wake.

The solution is shown in <u>Figure 1-21</u>. It's a list view that's divided into several vertical panes. The first pane (not counting the Sidebar) shows all the icons of your disks, including your main hard drive.

If the rightmost folder contains pictures, sounds, or movies, Mac OS X even lets you look at them or play them, right there in the Finder. If it's a certain kind of text document (AppleWorks or PDF, for example), you actually see a tiny image of the first page. If it's any other kind of document, you see a blowup of its icon and a few file statistics. You can drag this jumbo icon anywhere—into another folder, for example.



When you click a disk (once), the second pane shows a list of all the folders in it. Each time you click a folder in one pane, the pane to its right shows what's inside. The other panes slide to the left, sometimes out of view. (Use the horizontal scroll bar to bring them back.) You can keep clicking until you're actually looking at the file icons inside the most deeply nested folder.

If you discover that your hunt for a particular file has taken you down a blind alley, it's not a big deal to backtrack, since the trail of folders you've followed to get here is still sitting before you on the screen. As soon as you click a different folder in one of the earlier panes, the panes to its right suddenly change, so that you can burrow down a different rabbit hole.

Furthermore, Panther's Sidebar is always at the ready to help you jump to a new track; just click any disk or folder icon there to select a new first-column listing for column view.

The beauty of column view is, first of all, that it keeps your screen tidy. It effectively shows you several simultaneous folder levels, but contains them within a single window. With a quick ##-W, you can close the entire window, panes and all. Second, column view provides an excellent sense of where you are. Because your trail is visible at all times, it's much harder to get lost, wondering what folder you're in and how you got there, than in any other window view.

#### NOTE

Column view is always alphabetical. There's no way to sort the lists by date, for example, as you can in list view.

### 1.6.1 Column View by Keyboard

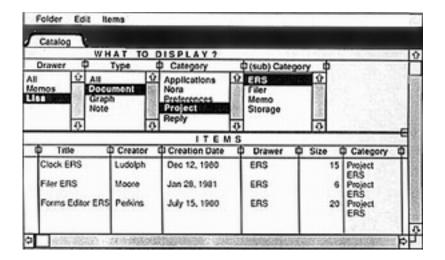
Efficiency fans can operate this entire process by keyboard alone. For example:

 You can jump from one pane to the next by pressing the right or left arrow keys. Each press highlights the first icon in the next or previous pane.

# NOSTALGIA CORNER Everything Old Is New Again

To many observers, Mac OS X's column view was one of the most radical new features of the operating system. The truth is, however, that it's not new at all.

In fact, column view's most recent ancestor appeared in the NeXT operating system, which Apple bought (along with Steve Jobs, its CEO) in 1997. But column view is even older than that.



As you can see in this sketch from May 1980, the idea of a single-window, multiple-column view has been kicking around at Apple long before the Macintosh debuted.

In the end, this view was deemed too complex for the original Mac, which finally appeared (with only list and icon views) in 1984. It took 17 more years to find its way into the standard Mac OS.

- You can use any of the commands in the Go menu, or their keyboard equivalents, or the icons in the Sidebar, to fill
  your columns with the contents of the corresponding folder—Home, Favorites, Applications, and so on.
- The Back command (clicking the Back button on the toolbar, pressing #-[, or choosing Go Back) works as it does in a Web browser: it retraces your steps backward. You can repeat this command until you return to the column setup that first appeared when you switched to column view. Once you've gone back, in fact, you can then go forward again (choose Go Forward, or press #-]).
- Within a highlighted pane, press the up or down arrow keys to highlight successive icons in the list. Or type the first couple of letters of an icon's name to jump directly to it.
- When you finally highlight the icon you've been looking for, press #-O or #-down arrow to open it (or double-click it, of course). You can open anything in any column; you don't have to wait until you've reached the rightmost column.

### 1.6.2 Manipulating the Columns

The number of columns you can see without scrolling depends on the width of the window. In no other view are the zoom and resize controls (Section 1.2.3) so important.

That's not to say, however, that you're limited to four columns (or whatever fits on your monitor). You can make the columns wider or narrower—either individually or all at once—to suit the situation, according to this scheme:

- To make a single column wider or narrower, drag its right-side handle (circled in Figure 1-22).
- To make *all* the columns wider or narrower simultaneously, hold down the Option key as you drag that right-side handle.
- And here's the tip of the week: Double-click one of the right-side handles to make the column precisely as wide as
  necessary to reveal all the names of its contents.

In Panther, the functions of dragging and Option-dragging have been reversed since Mac OS X 10.2. It finally dawned on Apple that what you want to do most of the time is adjust one column, and that the special keystroke override should apply to the less frequent case: adjusting all columns at once.



• Option-double-click any column's right-side handle to make all columns just as wide as necessary.

# 1.6.3 View Options

Just as in icon and list view, you can choose View Show View Options to open a dialog box—a Spartan one, in this case—offering additional control over your column views.

#### NOTE

Oddly enough, there's no "This window only" or "All windows" option here. Any changes you make here affect *all* column views.

- Text size. Whatever point size you choose here affects the type used for icons in all column views.
- **Show icon.** For maximum speed, turn off this option. Now you see only file names—not the tiny icons next to them —in all column views.
- **Show preview column.** The far-right Preview column can be handy when you're browsing graphics, sounds, or movie files. The rest of the time, it can get in the way, slightly slowing down the works and pushing other, more useful columns off to the left side of the window. If you turn off this checkbox, the Preview column doesn't appear.



No matter what view you're in, remember this if you ever start dragging an icon and then change your mind: Press the Esc key or #-period, even while the mouse button is still down. The icon flies back to its precise starting place. (Too bad real life doesn't have a similar feature.)



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# 1.7 Logging Out, Shutting Down

If you're the only person who uses your Mac, finishing up a work session is simple. You can either turn off the machine or simply let it go to sleep, in any of several ways.

#### 1.7.1 Sleep Mode

If you're still shutting down your Mac after each use, you may be doing a lot more sitting around and waiting than necessary. Sleep mode consumes very little power, keeps everything you were doing open and available, and wakes up almost immediately when you press a key or click the mouse. To make your machine sleep:

- Press Control-Eject (or Control-F12, if you don't have an Eject key). In the dialog box shown in <u>Figure 1-23</u>, click Sleep (or type S).
- Press the Power button on your machine. On many desktop models, doing so makes it sleep immediately; on laptops, you get the dialog box shown in <u>Figure 1-23</u>. (Then again, if you have a laptop, just closing the lid is a much quicker way to send it to bed.)
- Just walk away, confident that the Energy Saver setting described in <u>Section 8.12</u> will send the machine off to dreamland automatically at the specified time.

#### 1.7.2 Restart

You shouldn't have to restart the Mac very often—only in times of severe troubleshooting mystification, in fact. Here are a few ways to do it:

Once the Shut Down dialog box appears, you can press the S key instead of clicking Sleep, R for Restart, Esc for Cancel, or Enter for Shut Down.



Choose Restart. A confirmation dialog box appears; click Restart (or press Enter).



If you press Option as you release the mouse on the be bothered by an "Are you sure?" confirmation box.



- Press Control-# -Eject. (If you don't have an Eject key, substitute F12.)
- Press Control-Eject to summon the dialog box shown in Figure 1-23; click Restart (or type R).

#### 1.7.3 Shut Down

To shut down your machine completely (when you don't plan to use it for more than a couple of days, when you plan to transport it, and so on), do one of the following:

• Choose Shut Down. A simple confirmation dialog box appears; click Shut Down (or press Enter).



Once again, if you press Option as you release the mouse, no confirmation box will appear.

- Press Control-Option-#-Eject. (It's not as complex as it looks—the first three keys are all in a tidy row to the left of the Space bar.)
- Press Control-Eject (or Control-F12) to summon the dialog box shown in <u>Figure 1-23</u>. Click Shut Down (or press Enter).
- Wait. If you've set up the Energy Saver preferences (<u>Section 8.12</u>) to shut down the Mac automatically at a specified time, you don't have to do anything.

# 1.7.4 Log Out

If you share your Mac, you should *log out* when you're done. Doing so ensures that your stuff is safe from the evil and the clueless even when you're out of the room. To do it, choose Log Out Chris (or whatever your name is). Or, if you're in a hurry, press Shift-Log.

When the confirmation dialog box appears, click Log Out (or press Enter), or just wait for two minutes. The Mac hides your world from view and displays the Log In dialog box, ready for the next victim.



Last time: If you press Option as you release the mouse on the Log Out command, you squelch the "Are you sure?" box.

Logging out is described in much more detail in Chapter 11.







# 1.8 Getting Help in Mac OS X

It's a good thing you've got a book about Mac OS X in your hands, because you certainly won't get much help from Apple. The only user manual you get with Mac OS X is the Help Mac Help command, which you can also summon by pressing #-?. You get a Web browser-like program that reads a set of help files that reside in your System Libraries folder (see Figure 1-24).

The Mac OS X Help system no longer bunches together the help pages from every program on your Mac, as it did in previous versions. When you're in the Finder, you get the general Macintosh help screens. When you're in iPhoto, you get only iPhoto help screens. And so on.

(To which most Mac fans would add: "Amen!")

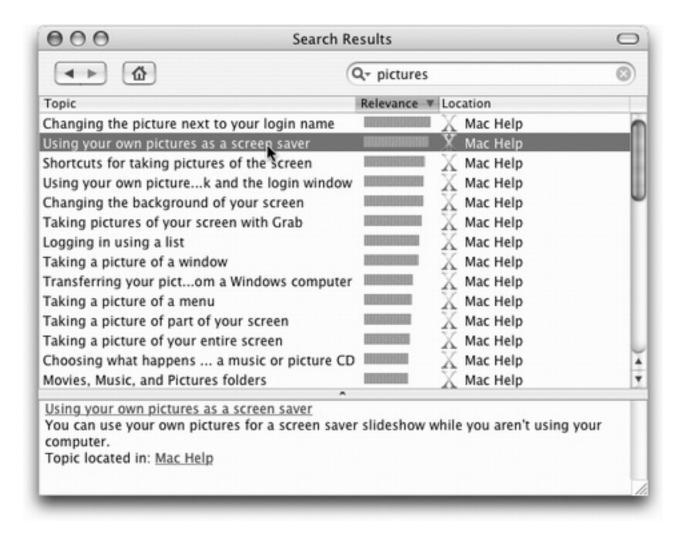


You're expected to find the topic you want in one of these two ways:

• Use the "Ask a Question" blank. Type the phrase you want, such as *printing* or *switching applications*, into the blank at the top of the window, and then press Return.

The Mac responds by showing you a list of help-screen topics that may pertain to what you need (see Figure 1-25).

The bars indicate the Mac's "relevance" rating—how well it thinks each help page matches your search. Click one to read a short description of the topic at the bottom of the window, or double-click to open the help page. If it isn't as helpful as you hoped, click the Back button (the leftpointing arrow) at the top of the window to return to the list of relevant topics. Click the little Home button to return to the Help Center's welcome screen.



• **Drill down.** The starting screen offers several "quick click" topics that may interest you. If so, keep clicking text headings (which are actually links) until you find a topic that you want to read.

As with the Search method, you can backtrack by clicking the Back (left-pointing arrow) button at the top of the "browser" window.







# **Chapter 2. Organizing Your Stuff**

Section 2.1. The Mac OS X Folder Structure

Section 2.2. Icon Names

Section 2.3. Selecting Icons

Section 2.4. Moving and Copying Icons

Section 2.5. Aliases: Icons in Two Places at Once

Section 2.6. Color Labels

Section 2.7. The Trash

Section 2.8. Get Info

Section 2.9. Finding Files 1: The Search Bar

Section 2.10. Finding Files 2: The Find Window



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## 2.1 The Mac OS X Folder Structure

The icon for your hard drive (usually called Macintosh HD) may appear in the upper-right corner of your screen. But if you begin each morning by double-clicking it, like millions of other people who'd grown used to older versions of the Mac OS, you're in for a shock: *Your stuff* isn't there.

All you'll find in the Macintosh HD window is a set of folders called Applications, Library, and Users—folders *you* didn't put there. (If you upgraded an existing Mac to Mac OS X 10.3, you'll also see all your original hard drive folders nestled among them.)

Most of these folders aren't very useful to you, the Mac's human companion. They're there for Mac OS X's own use. Think of your main hard drive window as storage for the operating system itself, which you'll access only for occasional administrative purposes.

#### 2.1.1 Your Home Folder

Instead of setting up your nest—your files, folders, aliases, and so on—in the hard drive window, Mac OS X keeps all of it in your *Home folder*. That's a folder bearing your name (or whatever name you typed when you installed Mac OS X).

One way to find it is to double-click the Users folder, and then double-click the folder inside it that bears your name and looks like a house (see <u>Figure 2-1</u>). Here, at last, is the window that you'll eventually fill with new folders, organize, back up, and so on.

Mac OS X is rife with shortcuts for opening this all-important folder:

- Choose Go Home, or press Shift-#-H.
- Click the Home icon (the little house) in the Sidebar (Section 1.2.1).
- Click the Home icon on the Dock. (If you don't see one, consult <u>Section 3.2</u> for instructions on how to put one there.)
- Press #-N, or choose File New Finder Window. (If your Home folder doesn't open when you do that, see Section 1.2.8.)

All of these steps open your Home folder directly.

So why has Apple demoted your files to a folder three levels deep? The answer may send you through the five stages of grief—Denial, Anger, Bargaining, Depression, and finally Acceptance—but if you're willing to go through it, much of the mystery surrounding Mac OS X will fade away.

Mac OS X has been designed from the ground up for *computer sharing*. It's ideal for any situation where different family members, students, or workers share the same Mac.

Each person who uses the computer will turn on the machine to find his own separate desktop picture, set of files, Web bookmarks, font collection, and preference settings. (You'll find much more about this feature in Chapter 11.)

Like it or not, Mac OS X considers you one of these people. If you're the only one who uses this Mac, fine—simply ignore

the sharing features. (You can also ignore all that business at the beginning of <u>Chapter 1</u> about logging in.) But in its little software head, Mac OS X still considers you an account holder, and stands ready to accommodate any others who should come along.

#### NOTE

Some Mac fans have noted with dismay that Mac OS X lacks an Encrypt command for protecting individual files. In part, that's because the need for file-by-file privacy isn't quite as critical now that Panther can encrypt *your entire machine environment* (Chapter 12). Still, if you miss the ability to password-protect individual folders or files, you can use Mac OS X's Disk Utility to do it, as described in Section 9.25.13.2.

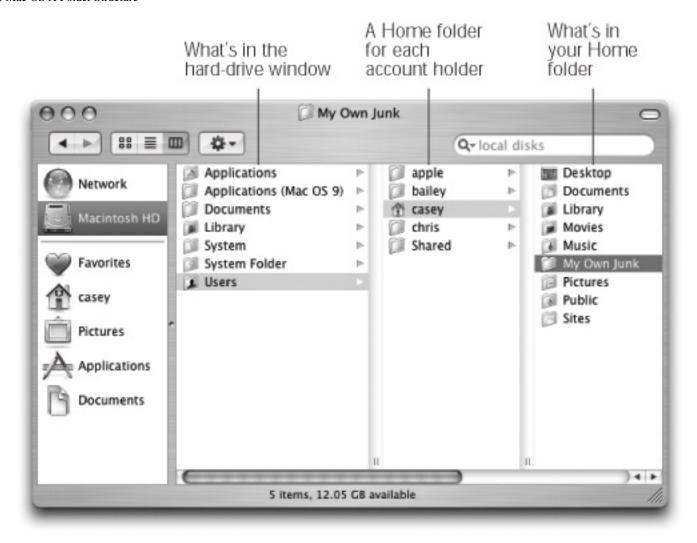
In any case, now you should see the importance of the Users folder in the main hard drive window. Inside are folders—the Home folders—named for the different people who use this Mac. In general, nobody is allowed to touch what's inside anybody else's folder.

If you're the sole proprietor of the machine, of course, there's only one Home folder in the Users folder—named for you. (You can ignore the Shared folder, which is described in <u>Section 11.5.3</u>.)

This is only the first of many examples in which Mac OS X imposes a fairly rigid folder structure. Still, the approach has its advantages. By keeping such tight control over which files go where, Mac OS X keeps itself pure—and very, very stable. (Other operating systems known for their stability, such as Windows 2000 and Windows XP, work the same way.)

Furthermore, keeping all of your stuff in a single folder makes it very easy for you to back up your work. It also makes life easier when you try to connect to your machine from elsewhere in the office (over the network) or elsewhere in the world (over the Internet), as described in <a href="Chapter 21">Chapter 21</a>.

This is it: the folder structure of Mac OS X. It's not so bad, really. For the most part, what you care about are the Applications folder in the main hard drive window and your own Home folder. You're welcome to save your documents and park your icons almost anywhere on your Mac (except inside the System folder or other people's Home folders). But keeping your work in your Home folder makes backing up and file sharing easier.



#### 2.1.2 What's in Your Hard Drive Window

When you first run Mac OS X, you'll find the following folders in the main hard drive window:

- Applications. The Applications folder, of course, contains the complete collection of Mac OS X programs on your Mac. Even so, you'll rarely launch programs by opening this folder. (The Dock is a far more efficient launcher, as described in the next chapter.)
- **Library.** This folder bears more than a passing resemblance to the System Folder subfolders of Mac OSes gone by, or the Windows folder on PCs. It stores components for the operating system and your programs (sounds, fonts, preferences, help files, printer drivers, modem scripts, and so on).
- **System.** This is Unix, baby. These are the actual files that turns on your Mac and controls its operations. You'll rarely have any business messing with this folder, which is why Apple made almost all of its contents invisible.
- Users. As noted earlier, this folder stores the Home folders for everyone who uses this machine.

Depending on how you installed Mac OS X, you may also find:

- **Developer.** You'll find this folder only if you, a software programmer, bothered to install the XCode Tools CD. (To find out where you get it, see <u>Section 9.25.23</u>.)
- Applications (Mac OS 9). If you upgraded your Mac from Mac OS 9, all of your old, pre-Mac OS X programs wind
  up in this folder (or rather, those that you kept in your old Applications folder).
- System Folder. Here's another folder you'll find if you upgraded from Mac OS 9. It contains Mac OS 9 itself. (Don't confuse the Mac OS 9 folder, called System Folder, with the one that's just called System: that one contains Mac

OS X.)

• Your old junk. If you upgraded your Mac from Mac OS 9, your main hard drive window also lists whatever folders you kept there.

#### 2.1.3 What's in Your Home Folder

Within the folder that bears your name, you'll find another set of standard Mac OS X folders. Except as noted, you're free to rename or delete them; Mac OS X creates the following folders solely as a convenience:

- **Desktop.** When you drag an icon out of a folder or disk window and onto your Mac OS X desktop, it may *appear* to show up on the desktop. But that's just an optical illusion, a visual convenience. In truth, nothing in Mac OS X is ever *really* on the desktop. It's actually in this Desktop *folder*, and mirrored on the desktop area.
- The reason is simple enough: Remember that everyone who shares your machine will, upon logging in, see her own stuff sitting out on the desktop. Now you know

# UP TO SPEED

# The Computer Window

In your explorations of the Finder's Go menu, you may have wondered about the command called Computer (Shift-\(\frac{1}{34}\)- C). ("Go to my Computer? Jeez, I thought I was already at my computer...")

As in Microsoft Windows, the Computer window holds the icons for all the disks connected to your machine—the hard drive, a CD that you've inserted, an iPod, another external hard drive, and so on—as well as an icon called Network. (The Network icon appears even if you're not, in fact, on a network.) This is the topmost level of your Mac. This is the stuff that can't be put into any folder at all.

So what's it for? In some ways, the Computer window is redundant. After all, Mac OS X automatically displays your disk icons on the desktop *and* in the Sidebar.

But some people, particularly Windows refugees, don't care for that icons-on-the-desktop feature. In the interest of creating a neater, cleaner desktop, they turn it off, in fact (by choosing Finder Preferences and turning off the three checkboxes under "Show these items on the Desktop"). Furthermore, in the interest of creating neater, narrower windows, they may also *hide* the Sidebar.

In that case, the Computer window still provides access to all of your disks.

Otherwise, the Computer window really doesn't serve much purpose except as a familiar landmark to Windows veterans and Mac fans who grew used to it in the era before the Sidebar came along.

how Mac OS X does it: There's a separate Desktop folder in every person's Home folder.

You can entertain yourself for hours by proving this to yourself. If you drag something out of your Desktop folder, it
also disappears from the actual desktop. And vice versa. (You're not allowed to delete or rename this folder.)



The desktop is actually a folder in your Home folder. That's handy, because it gives you a quick and sneaky way to jump to your Home folder from anywhere. Simply click the desktop background and then press #-up arrow (which is the keystroke for Go Enclosing Folder; pay no attention to the fact that that command is dimmed at the moment).

Because that keystroke always means "open whatever folder *contains* the one I'm examining," it instantly opens your Home folder. (Your Home folder is, of course, the "parent" of your Desktop folder.)

• **Documents.** Apple suggests that you keep your actual work files in this folder. Sure enough, whenever you save a new document (when you're working in AppleWorks or Word, for example), the Save As box proposes storing the new file in this folder, as described in <a href="Chapter 4">Chapter 4</a>.

Your programs may also create folders of their own here. For example, you may find a Microsoft User Data folder for your Entourage email, a Palm folder for your palmtop's calendar and phone book data, a AppleWorks User Data folder for certain preferences, and so on.

• **Library.** As noted earlier, the *main* Library folder (the one in your main hard drive window) contains folders for fonts, preferences, help files, and so on.

But you have your own Library folder, too, right there in your Home folder. It stores the same kinds of things—but they're *your* fonts, *your* preferences, and so on.

Once again, this setup may seem redundant if you're the only person who uses your Mac. But it makes perfect sense in the context of families, schools, or offices where numerous people share a single machine. Because you have your own Library folder, you can have a font collection that's "installed" on the Mac only when *you're* using it. Each person's program preference files are stored independently, too (the files that determine where Photoshop's palettes appear, and so on). And each person, of course, sees his own email when launching Mac OS X's Mail program (Chapter 19)—because your mail, too, is generally stored in your own Library folder.

Other Library folders store your Favorites, Internet search sites, Web browser plugins and cached Web pages, keyboard layouts, sound files, and so on. (It's best not to move or rename this folder.)

- Movies, Music, Pictures. These folders, of course, are designed to store multimedia files. The various Mac OS X programs that deal with movies, music, and pictures will propose these specialized folders as storage locations. For example, when you plug a digital camera into a Mac OS X computer, the iPhoto program automatically begins to download the photos on it—and stores them in the Pictures folder. Similarly, iMovie is programmed to look for the Movies folder when saving its files, and iTunes stores its MP3 files in the Music folder.
- **Public.** If you're on a network, or if others use the same Mac when you're not around, this folder can be handy: It's the "Any of you guys can look at these files" folder. Other people on your network, as well as other people who sit down at this machine, are allowed to see whatever you've put in here, even if they don't have your password. (If your Mac isn't on an office network and isn't shared, you can throw away this folder.) Details on sharing the Mac are in <a href="Chapter 11">Chapter 11</a>, and those on networking are in <a href="Chapter 12">Chapter 12</a>.
- **Sites.** Mac OS X has a built-in *Web server:* software that turns your Mac into a Web site that people on your network—or, via the Internet, all over the world—can connect to. This Mac OS X feature relies on a program called the Apache Web server, which is so highly regarded in the Unix community that programmers lower their voices when they mention it.

Details are in <u>Chapter 21</u>. For now, though, note that this is the folder where you will put the actual Web pages you want to make available to the Internet at large.









#### 2.2 Icon Names

Every document, program, folder, and disk on your Mac is represented by an *icon*: a colorful little picture that you can move, copy, or double-click to open. In Mac OS X, icons look more like photos than cartoons, and you can scale them to practically any size.

A Mac OS X icon's name can have up to 255 letters and spaces. If you're accustomed to the 31-character limit of Mac OS 9, that's quite a luxurious ceiling.

# NOSTALGIA CORNER Printing a Window—or a List of Files

Hey, in Mac OS 9, I could print a Finder window. I'd get a neat list of the files, which I could use as a label for a CD I was going to burn, or whatever. How do I print a Finder window in Mac OS X?

It's easy enough to make a list of files for printing. Once the window is open on your screen, choose Edit Select All. Choose Edit Copy. Now switch to a word processor (or TextEdit) and paste. You get a tidy list of all the files in that window, ready to format and print.

This simple file name list still isn't the same as printing a window, that's true; you don't get the status bar showing how many items are on the disk, and how full the disk is. For that purpose, you can always make a screenshot of the window (Section 13.11), and print that.

Of course, that technique's no good if the list of files is taller than the window itself.

Really, what you want is Print Window, a handy shareware program dedicated to printing out your Finder windows, without any of these workarounds or limitations. You can download it from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>

If you're used to Windows, you may be delighted to discover that in Mac OS X, you can name your files using letters, numbers, punctuation—in fact, any symbol except for the colon (:), which the Mac uses behind the scenes for its own folder-hierarchy designation purposes. And you can't use a period to *begin* a file's name.

To rename a file, click its icon (to highlight it) and then press Return or Enter. (In icon view, you can use a shortcut: just click the icon's *name*. You can skip the Returnkey bit.)

In any case, a rectangle now appears around the name (see <u>Figure 2-2</u>). At this point, the existing name is highlighted; just begin typing to replace it. If you type a very long name, the rectangle grows vertically to accommodate new lines of text.



If you simply want to add letters to the beginning or end of the file's existing name, press the left or right arrow key immediately after pressing Return or Enter. The insertion point jumps to the corresponding end of the file name.

Click an icon's name (top left) to produce the renaming rectangle (top right), in which you can edit the file's name. At this point, the existing name is highlighted; just begin typing to replace it (bottom left). When you're finished typing, press Return, Enter, or Tab to seal the deal, or just click somewhere else.









When you're finished typing, press Return, Enter, or Tab—or just click somewhere else—to make the renaming rectangle

disappear.

You can give more than one file or folder the same name, as long as they're not in the same folder. For example, you can have as many files named "Chocolate Cake Recipe" as you like, provided each is in a different folder. And, of course, files called Recipe. doc and Recipe.xls can co-exist in a folder, too.

As you edit a file's name, remember that you can use the Cut, Copy, and Paste commands in the Edit menu to move selected bits of text around, just as though you're word processing. The Paste command can be useful when, for instance, you're renaming many icons in sequence (*Quarterly Estimate 1*, *Quarterly Estimate 2*, and so on).

And now, a few tips about renaming icons:

- When the Finder sorts files, a space is considered alphabetically *before* the letter A. To force a particular folder to appear at the top of a list view window, insert a space before its name.
- Older operating systems sort files so that 10 and 100 come before 2, the numbers 30 and 300 come before 4, and so on. You wind up with alphabetically sorted files like this: "1. Big Day," "10. Long Song," "2. Floppy Hat," "20. Dog Bone," "3. Weird Sort," and so on. Generations of computer users have learned to put zeros in front of their single-digit numbers just to make the sorting look right.

In Mac OS X, though, you get exactly the numerical list you'd hope for: "1. Big Day," "2. Floppy Hat," "3. Weird Sort," "10. Long Song," and "20. Dog Bone." At long last, you can get out of the habit of putting zeros in front of file names to make them sort properly.

In addition to the letters and numbers, Mac OS X Panther also assigns punctuation marks an "alphabetical order," like this: ' (the accent mark above the Tab key), ^, \_, -, space, short and long dashes, comma, semicolon, !, ?, ', ", (, ), [, ], {, }, @, \*, /, &, #, %, +, <, =, -/, >, |, ~, and \$.

Numbers come after punctuation; letters come next; and bringing up the rear are these characters:  $\mu$  (Option-M);  $\pi$  (Option-P);  $\Omega$ (Option-Z), and  $\stackrel{\bullet}{\blacksquare}$  (Shift-Option- K).

• When it comes time to rename files en masse, add-on shareware can help you. A Better Finder Rename, for example, lets you manipulate file names in a batch— numbering them, for example, correcting a spelling in dozens of files at once, deleting a certain phrase from their names, and so on. You can download it from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>.

# FREQUENTLY ASKED QUESTION Long and Short File Names

Hey, what's the deal with long file names? I thought this was the big deal in Mac OS X! But I tried saving a Word document, and it didn't let me use more than 31 letters!

It's true that you can assign a very long name to a file in the Finder. But you may soon discover that pre-Mac OS X programs, and even programs that have been rewritten (*Carbonized*) to run in Mac OS X, still limit you to 31 characters when naming a new document in the Save As dialog box.

Over time, software companies may get with the program and rejigger their software to overcome this anachronistic glitch. For now, though, all is not lost.

Even though you can use only 31 characters when saving a new document from, say, AppleWorks, Word, or Internet Explorer, you're welcome to rename the file in the Finder, using all 255 characters Mac OS X permits. When you reopen the document in the original program, you'll see an abbreviated name in the title bar (a file

that, at the desktop, is called *My Visit to Bill Gates's House and Why I'll Take the Apple Bumper Sticker Off my Car Next Time* opens into AppleWorks as something like *My Visit to Bill Gates's H#B6C5*).

The good news is that behind the scenes, Mac OS X still remembers its long name. Even if you edit and resave the document, you'll still find its long file name intact when you view its icon on the desktop.



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# 2.3 Selecting Icons

To highlight a single icon in preparation for printing, opening, duplicating, or deleting, click the icon once with the mouse. (In a list or column view, as described in <a href="Chapter 1">Chapter 1</a>, you can also click on any visible piece of information about that file—its size, kind, date modified, and so on.) Both the icon and the name darken in a uniquely Pantherish way.



You can change the color of the oval highlighting that appears around the name of a selected icon. Choose System Preferences, click Appearance, and use the Highlight Color pop-up menu.)

That much may seem obvious. But most first-time Mac users have no idea how to manipulate *more* than one icon at a time —an essential survival skill in a graphic interface like the Mac's.

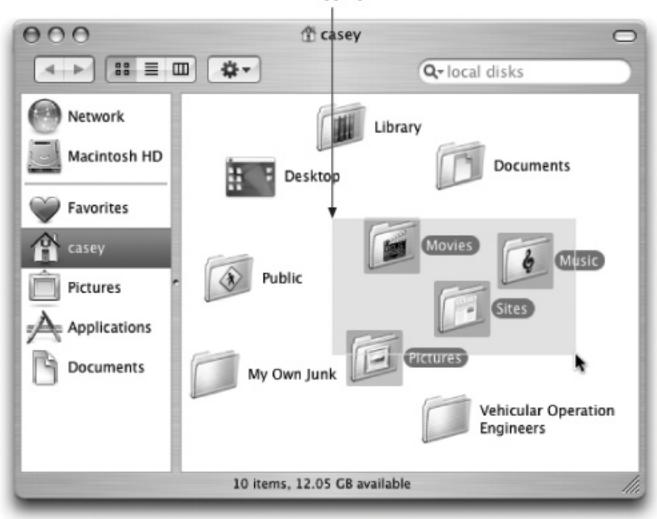
### 2.3.1 Selecting by Clicking

To highlight multiple files in preparation for moving or copying, use one of these techniques:

- To highlight all the icons. To select all the icons in a window, press #-A (the equivalent of the Edit ——) Select All command).
- To highlight several icons by dragging. You can drag diagonally to highlight a group of nearby icons, as shown in <u>Figure 2-3</u>. In a list view, in fact, you don't even have to drag over the icons themselves—your cursor can touch any part of any file's row, like its modification date or file size.

You can highlight several icons simultaneously by dragging a box around them. To do so, drag from outside of the target icons diagonally across them (right), creating a transparent gray rectangle as you go. Any icons or icon names touched by this rectangle are selected when you release the mouse. If you press the Shift or # key as you do this, any previously highlighted icons remain selected.

# Start dragging here





If you include a particular icon in your diagonally dragged group by mistake, ##-click it to remove it from the selected cluster.

• To highlight consecutive icons in a list. If you're looking at the contents of a window in list view or column view, you can drag vertically over the file and folder names to highlight a group of consecutive icons, as described above. (Begin the drag in a blank spot.)

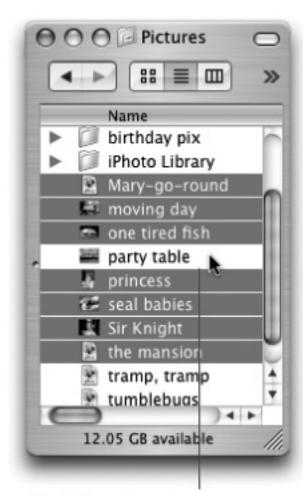
But there's a faster way to do the same thing: Click the first icon you want to highlight, and then Shift-click the last file. All the files in between are automatically selected, along with the two icons you clicked. Figure 2-4 illustrates the idea.

Left: To select a block of files in list view, click the first one. While pressing Shift, click the last one. Mac OS X highlights all the files in between your clicks. This technique mirrors the way Shift-clicking works in a word processor and in many other kinds of programs.

# Right: To remove one of the icons from your selection, \(\mathbb{H}\)-click it.

Click first icon...





...and then Shift-click the last one.

3€-click to omit one from the group.

• To highlight random icons. If you want to highlight only the first, third, and seventh icons in a window, for example, start by clicking icon No. 1. Then #-click each of the others (or #-drag new rectangles around them). Each icon darkens to show that you've selected it.

If you're highlighting a long string of icons and then click one by mistake, you don't have to start over. Instead, just click it again, so that the dark highlighting disappears. (If you do want to start over from the beginning, you can deselect all selected icons by clicking any empty part of the window—or by pressing the Esc key.)

The **#** key trick is especially handy if you want to select *almost* all the icons in a window. Press **#**-A to select everything in the folder, then **#**-click any unwanted icons to deselect them.



In icon views, you can either Shift-click *or* \*\* -click to select multiple individual icons. But you may as well just learn to use the \*\* key when selecting individual icons. That way, you won't have to use a different key in each view.

Once you've highlighted multiple icons, you can manipulate them all at once. For example, you can drag them en masse to another folder or disk by dragging any *one* of the highlighted icons. All other highlighted icons go along for the ride. This technique is especially useful when you want to back up a bunch of files by dragging them onto a different disk, delete them all by dragging them to the Trash, and so on.

When multiple icons are selected, the commands in the File and Edit menus—such as Duplicate, Open, and Make Alias—apply to all of them simultaneously.



Don't forget that you can instantly highlight all the files in a window (or on the desktop) by choosing Edit Select All (#-A)—no icon clicking required.

# GEM IN THE ROUGH Contextual Menus, Action Menus

It's part of the Mac's user-friendly heritage: You can do practically everything using only the mouse. Everything is out front, unhidden, and clickable, whether it's an icon, button, or menu.

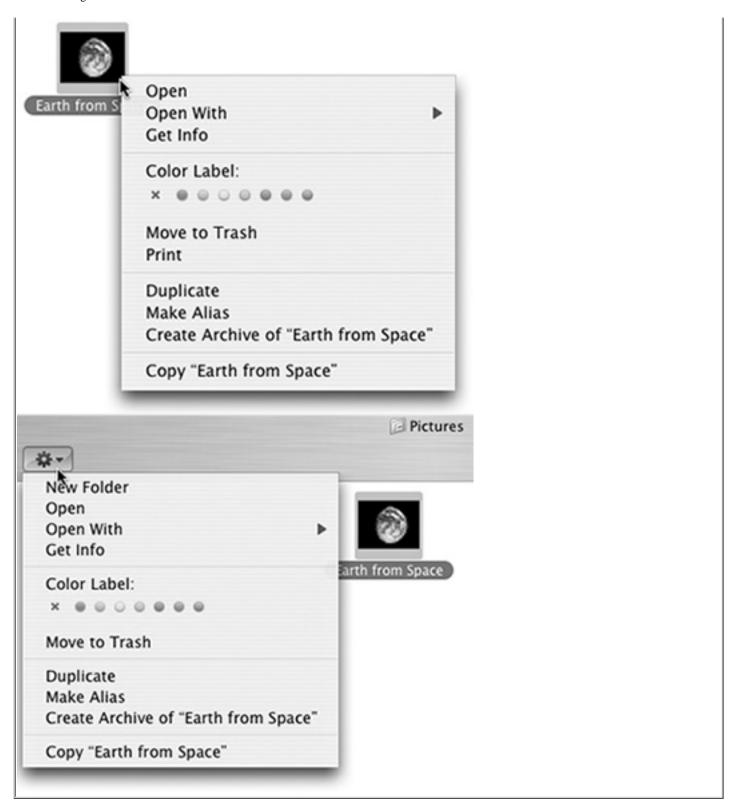
But as in rival operating systems, you can shave seconds and steps off of your workload if you master *contextual menus:* short menus that appear right on things you click and offer commands that the software thinks you might want to invoke at the moment, as shown here at top.

To summon a contextual menu (called a "shortcut menu" in Windows—and, by the way, in Panther's help screens for the first time), you click something —an icon, the desktop, inside a window, a link in Safari, text in a word processor—while pressing the Control key. (If you've bought a two-button mouse, right-clicking does the same thing.) A menu drops down listing relevant commands: Get Info, Move to Trash, Copy, and so on. You can either click the command you want, or type the first couple letters of it and then tap the Space bar.

These menus become more and more useful the more you get to know them. The trouble is, millions of Mac fans never even knew they existed.

That's why, in Mac OS X 10.3, Apple introduced a second way to access them. At the top of every Finder window, you'll find a sprocket-logoed pop-up menu that's technically called the *Action menu* (shown here at bottom).

It lists the same sorts of commands you'd find in the contextual menus, but offers two advantages. First, it's *visible*, so novices stand a better chance of stumbling onto it. Second, you don't need two hands to open it (one on the Control key, one on the mouse)—a distinct perk for anyone whose nondominant hand is already occupied with a refreshing beverage.



# 2.3.2 Selecting Icons from the Keyboard

For the speed fanatic, using the mouse to click an icon is a hopeless waste of time. Fortunately, you can also select an icon by typing the first couple letters of its name.

When looking at your Home window, for example, you can type M to highlight the Movies folder. And if you actually intended to highlight the Music folder instead, press the Tab key to highlight the next icon in the window alphabetically. Shift-

Tab highlights the previous icon alphabetically. Or use the arrow keys to highlight a neighboring icon.

(The Tab-key trick works only in icon and list views—not column view, alas. You can always use the right and left arrow keys to highlight adjacent columns, however.)

After highlighting an icon in this way, you can manipulate it using the commands in the File menu or their keyboard equivalents: open (##-O), put it into the Trash (##-Delete), Get Info (##-I), duplicate (##-D), or make an alias, as described later in this chapter (##-L). By turning on the special disability features described in Section 8.25.4, you can even *move* the highlighted icon using only the keyboard.

If you're a first-time Mac user, you may find it excessively nerdy to memorize keystrokes for functions the mouse performs perfectly well. If you make your living using the Mac, however, the speed and efficiency of these keystrokes will reward you immeasurably for memorizing them.



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# 2.4 Moving and Copying Icons

In Mac OS X, there are two ways to move or copy icons from one place to another: by dragging them, or by using the Copy and Paste commands.

## 2.4.1 Copying by Dragging

You can drag icons from one folder to another, from one drive to another, from a drive to a folder on another drive, and so on. (When you've selected several icons, drag any *one* of them; the others tag along.) While the Mac is copying, you can tell that the process is still under way even if the progress bar is hidden behind a window, because the icon of the copied material shows up *dimmed* in its new home, darkening only when the copying process is over. You can cancel the process by pressing either #-period or the Esc key.



If you're copying files into a disk or folder that already contains items with the same names, Mac OS X asks you individually about each one. ("An older item named 'Fiddlesticks' with extension '.doc' already exists in this location.") Note that, thank heaven, Mac OS X tells you whether or not the version you're replacing is *older* or *newer* than the one you're moving.

Click Replace or Don't Replace, as you see fit, or Stop to halt the whole copying business.

Understanding when the Mac copies a dragged icon and when it just *moves* the icon bewilders many a beginner. However, the scheme is fairly simple (see <u>Figure 2-5</u>) when you consider the following:

- Dragging from one folder to another on the same disk moves the icon.
- Dragging from one disk (or disk partition) to another *copies* the folder or file. (You can drag icons either into an open window or directly onto a disk or folder *icon*.)
- If you press the Option key as you release an icon you've dragged, you *copy* the icon instead of moving it. Doing so within a single folder produces a duplicate of the file called "[Whatever its name was] copy."
- If you press the #key as you release an icon you've dragged from one disk to another, you *move* the file or folder, in the process deleting it from the original disk.

This last trick is a dramatic change from the Mac OS 9 era, where you could never *move* an icon to a different disk. You had no choice but to manually delete the original from your hard drive after dragging it to the second disk.

Mac OS X frees you forever from this kind of housekeeping task.



This business of pressing Option or *after* you begin dragging is a tad awkward, but it has its charms. For example, it means that you can change your mind about the purpose of your drag in mid-movement, without having to drag back and start over.

## 2.4.2 Copying by Using Copy and Paste

Dragging icons to copy or move them probably feels good because it's so direct: You actually see your arrow cursor pushing the icons into the new location.

But you pay a price for this satisfying illusion. You may have to spend a moment or two fiddling with your windows to create a clear "line of drag" between the icon to be moved and the destination folder. (A background window will courteously pop to the foreground to accept your drag. But if it wasn't even open to begin with, you're out of luck.)

There's a better way. Use the Copy and Paste commands to move icons from one window into another (just as you can in Windows, by the way—except you can only copy, not cut, Mac icons). The routine goes like this:

#### 1. Highlight the icon or icons you want to move.

Use any of the techniques described in Section 2.3.

### 2. Choose Edit Copy.

Or press the keyboard shortcut: ## -C.



You can combine steps 1 and 2 by Control-clicking an icon and choosing the Copy command from the contextual menu that appears—or by using the Action menu (Section 2.3.1). If you've selected several icons, say five, the command will say "Copy 5 items."

# 3. Open the window where you want to put the icons. Choose Edit Paste.

Once again, you may prefer to use the keyboard equivalent: # -V. And once again, you can also Control-click inside the window and then choose Paste from the contextual menu that appears, or you can use the Action menu.

A progress bar may appear as Mac OS X copies the files or folders; press Esc or ## -period to interrupt the process. When the progress bar goes away, it means you've successfully transferred the icons, which now appear in the new window.

# 2.4.3 Spring-Loaded Folders: Dragging Icons into Closed Folders

Here's a common dilemma: you want to drag an icon not just into a folder, but into a folder nested *inside* that folder. This awkward challenge would ordinarily require you to open the folder, open the inner folder, drag the icon in, and then close both of the windows you opened. As you can imagine, the process is even messier if you want to drag an icon into a subsubfolder or even a *sub*-sub-subfolder.

Instead of fiddling around with all those windows, you can instead use the springloaded folders feature (see Figure 2-5).

It works like this: With a single drag, drag the icon onto the first folder—but keep your mouse button pressed. After a few seconds, the folder window opens automatically, centered on your cursor:

• In icon view, the new window instantly *replaces* the original.

- In column view, you get a new column that shows the target folder's contents.
- In list view, a second window appears.

Still keeping the button down, drag onto the inner folder; its window opens, too. Now drag onto the *inner* inner folder—and so on. (If the inner folder you intend to open isn't visible in the window, you can scroll by dragging your cursor close to any edge of the window.)

# NOSTALGIA CORNER Dragging to Copy a Disk

Help! I'm trying to copy a CD onto my hard drive. But when I drag it onto the hard drive icon, I get only an alias—not a copy of the CD. I used to do this all the time in Mac OS 9, but I can't make it work now.

Apple switched some things around in Mac OS X. Sure enough, dragging a disk onto a disk creates an alias now. But producing a copy of the dragged icon is easy enough: Just press Option or ## as you drag.

Honestly, though: Why are you trying to copy a disc this way? Using Disk Utility (Section 9.25.13) saves space, lets you assign a password, and usually fools whatever software was on the CD into thinking that it's still on the original CD.



You can even drag icons onto disks or folders whose icons appear in the Sidebar (<u>Chapter 1</u>). When you do so, the main part of the window flashes to reveal the contents of the disk or folder you've dragged onto. When you let go of the mouse, the main window changes back to reveal the contents of the disk or folder where you *started* dragging.

In short, Sidebar combined with spring-loaded folders make a terrific drag-and-drop way to file a desktop icon from anywhere to anywhere—without having to open or close any windows at all.

Top: To make spring-loaded folders work, start by dragging an icon onto a folder or disk icon. Don't release the mouse button. Wait for the window to open automatically around your cursor.

Bottom: Now you can either let go of the mouse button to release the file in its new window or drag onto yet another, inner folder. It, too, will open. As long as you don't release the mouse button, you can continue until you've reached your folderwithin- a-folder destination.





When you finally release the mouse, you're left facing the final window. All the previous windows closed on the way (a change from previous versions of the Mac OS). You've neatly placed the icon into the core of the nested folders.

#### NOTE

Longtime Mac fans should note that the second half of the old spring-loaded folder feature, the *click-and-a-half*, doesn't work in Mac OS X 10.3. That is, you can't open a folder within a folder by double-clicking and then holding down the button as you point to one folder after another, just to see what's inside. You must drag an icon.

## 2.4.4 Making Spring-Loaded Folders Work

That spring-loaded folder technique sounds good in theory, but can be disconcerting in practice. For most people, the long wait before the first folder opens is almost enough wasted time to negate the value of the feature altogether. Furthermore, when the first window finally does open, you're often caught by surprise. Suddenly your cursor—mouse button still down—is inside a window, sometimes directly on top of another folder you never intended to open. But before you can react, its window, too, has opened, and you find yourself out of control.

Fortunately, you can regain control of spring-loaded folders using these tricks:

- Choose Finder Preferences. On the General pane, adjust the "Spring-loaded folders and windows" slider to a setting that drives you less crazy. For example, if you find yourself waiting too long before the first folder opens, drag the slider toward the Short setting.
- You can turn off this feature entirely by choosing Finder Preferences and turning off the "Spring-loaded folders and windows" checkbox.
- Tap the Space bar to make the folder spring open at your command. That is, even with the Finder Preferences slider set to the Long delay setting, you can force each folder to spring open when *you* are ready by tapping the Space bar as you

# POWER USERS' CLINIC Designing Your Own Icons

You don't have to be content with the icons provided by Microsoft, Apple, or whoever else wrote your software. You can paste new icons onto your file, disk, and folder icons to help you pick them out at a glance.

The easiest way to replace an icon is to copy it from another icon. To do so, highlight the icon, hold down the Option key, choose File Show Inspector (see Section 2.8.1), click the existing icon in the resulting window, and then choose Edit Copy.

Now click the icon to which you want to transfer the copied picture. Its icon now appears in the Info dialog box that's still open on the screen. Click the icon in the dialog box, and this time choose Edit Paste.

If you'd rather introduce all-new icons, you're welcome to steal some of the beautifully designed ones at <u>www.iconfactory.com</u> and the icon sites linked to it. Once you've downloaded these special icon files, you can copy their images from the Get Info window as you would any icon.

To design a Mac OS X icon from scratch, you could, of course, use a graphics program like Photoshop, the painting module of AppleWorks, or shareware like GraphicConverter. (Remember to make your new icons 128 pixels square.) But sooner or later, you'll want to finish up in Iconographer (available from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a> format required by Mac OS X.

Once you've saved your icon file, select it, choose File Get Info, and then copy and paste its icon as described above.

Note that you can't change certain folder icons that Mac OS X considers important, such as Applications or System (at least not without CandyBar, described in <u>Section 17.3</u>). You can, however, change the special

Mac OS X folder icons in your Home folder—Pictures, Documents, and so on, and your hard drive icon. You're also not allowed to change icons that belong to other people who share your Mac and sign in under a different name (Chapter 11).

hold down the mouse button. True, you need two hands to master this one, but the control you regain is immeasurable.



The Space bar trick works even when "Spring-loaded folders and windows" checkbox (in Finder Preferences) is turned *off.* That's a handy arrangement, because it means that folder windows will *never* pop open accidentally.

Whenever a folder springs open into a window, twitch your mouse cursor up to the newly opened window's title bar
or information strip. Doing so ensures that your cursor won't wind up hovering on, and accidentally opening up an
inner folder. With the cursor parked on the info strip, you can take your time to survey the newly opened window's
contents, and plunge into an inner folder only after gaining your bearings.



Mail programs like Entourage and Mail have spring-loaded folders, too. You can drag a message out of the list and onto one of your filing folders, wait for the folder to spring open and reveal its subfolders, and then drag directly into one of them.



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## 2.5 Aliases: Icons in Two Places at Once

Highlighting an icon and then choosing File Make Alias (or pressing £ -L), generates an *alias*, a specially branded duplicate of the original icon (see <u>Figure 2-6</u>). It's not a duplicate of the *file*—just of the *icon*; therefore it requires negligible storage space. When you double-click the alias, the original file opens. (A Macintosh *alias* is essentially the same as a Windows *shortcut*.)

Because you can create as many aliases as you want of a single file, aliases let you, in effect, stash that file in many different folder locations simultaneously. Double-click any one of them, and you open the original icon, wherever it may be on your system.

Top: You can identify an alias by the tiny arrow badge on the lower-left corner. (Longtime Mac fans should note that the name no longer appears in italics.)

Bottom: If the alias can't find the original file, you're offered the chance to hook it up with a different file.







You can also create an alias of an icon by Option-#-dragging it out of its window. (Aliases you create this way lack the word *alias* on the file name—a distinct delight to those who find the suffix redundant and annoying.) You can also create an alias by Control-clicking a normal icon and choosing Make Alias from the contextual menu that appears, or by highlighting an icon and then choosing Make Alias from the Action menu.

#### 2.5.1 What's Good about Aliases

An alias takes up almost no disk space, even if the original file is enormous. Aliases are smart, too: Even if you rename the alias, rename the original file, move the alias, and move the original around on the disk, double-clicking the alias still opens the original icon.

And that's just the beginning of alias intelligence. Suppose you make an alias of a file that's on a removable disc, like a CD. When you double-click the alias on your hard drive, the Mac requests that particular disc by name. And if you double-click the alias of a file on a different machine on the network, your Mac attempts to connect to the appropriate machine, prompting you for a password (see <a href="Chapter 12">Chapter 12</a>)—even if the other machine is thousands of miles away and your Mac must dial the modem to connect.

Here are a few ways you can put aliases to work:

- You may want to file a document you're working on in several different folders, or place a particular folder in several different locations.
- You can use the alias feature to save you some of the steps required to access another hard drive on the network. (Details on this trick in Chapter 12.)
- It's useful to put aliases of your *Mac OS 9* programs, if you're still using any, into the Applications folder, so that they appear listed among the Mac OS X programs. Now all your programs are, in effect, in one place.



Mac OS X makes it easy to find the file to which an alias "points" without actually having to open it. Just highlight the alias and then choose File Show Original (#£-R), or choose Show Original from the Action menu. Mac OS X immediately displays the actual, original file, sitting patiently in its folder, wherever that may be.

#### 2.5.2 Broken Aliases

An alias doesn't contain any of the information you've typed or composed in the original. Don't burn an *alias* of your slide show onto a CD and then depart for the airport, hoping to give the presentation upon your arrival in Tokyo. When you double-click the alias, now separated from its original, you'll be shown the dialog box at bottom in <u>Figure 2-6</u>.

If you're on a plane 3,000 miles away from the hard drive on which the original file resides, click Delete Alias (to delete the orphan alias you just double-clicked) or OK (to do nothing, leaving the orphaned alias where it is).

In certain circumstances, however, the third button—Fix Alias—is the most useful of all. Click it to summon the Fix Alias dialog box, which you can use to navigate your entire Mac. When you click a new icon and then click Choose, you

associate the orphaned alias with a different original icon.

Such techniques become handy when, for example, you click your book manuscript's alias on the desktop, forgetting that you recently saved it under a new name and deleted the older draft. Instead of simply showing you an error message that says "'Enron Corporate Ethics Handbook' can't be found," the Mac displays the box that contains the Fix Alias button. By clicking it, thus reassociating it with the new document, you can save yourself the trouble of creating a new alias. From now on, double-clicking your manuscript's alias on the desktop opens the new draft.



You don't have to wait until the original file no longer exists before choosing a new original for an alias. You can perform alias reassignment surgery any time you like. Just highlight the alias icon and then choose File Get Info. In the Get Info dialog box, click Select New Original. In the resulting window, find and double-click the file you'd now like to open whenever you double-click the alias.



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## 2.6 Color Labels

Mac OS X 10.3 introduces—or, rather, reintroduces—a welcome blast from the Macintosh past: icon labels. This feature lets you tag selected icons with one of seven different labels, each of which has both a text label and a color associated with it.

## **NOSTALGIA CORNER Favorites Reborn**

Hey! Where the heck are my Favorites?

In previous versions of Mac OS X, the File Add to Favorites command placed the names of icons you've highlighted into a submenu of the Go -> Favorites command. The Favorites scheme, in other words, was yet another mechanism of listing your favorite files, folders, programs, disks, and even network-accessible folders for quick access.

Trouble was, Mac OS X already had a number of different methods for stashing favorite icons for convenient access, like the Dock, the Finder toolbar, and the Sidebar. So Apple decided that enough was enough.

There is, however, still a Favorites *folder.* It's sitting right there in your Home ——Library folder.

If you miss this feature—maybe you upgraded from Mac OS X 10.2 and you've got a bunch of stuff already listed in your Favorites—you'll find the new 10.3 scheme to be much simpler.

First drag the Favorites folder into your Sidebar (Section 1.2.1).

From now on, whenever you want to designate an icon as a Favorite, drag it onto the Favorites folder icon in your Sidebar. (Or Option- drag it to create an alias.)

Thereafter, to view your collection of faves, just click the Favorites icon.

This new system is both simpler and easier to understand than the previous mechanism. In fact, this feature may become one of your...favorites.

To do so, highlight the icons. Open the File menu (or the Action menu, or the contextual menu that appears when you Control-click the icons). There, under the heading Color Label, you'll see seven colored dots, which represent the seven different labels you can use. Figure 2-7 shows the routine.

Top: Use the File menu, Action menu, or contextual menu to apply label tags to highlighted icons.

Bottom: Instantly, the icon's icon and name take on the selected shade. In a list or column view, the entire row takes on that shade, as shown in <u>Figure 2-8</u>. (If you choose the little X, you're removing any labels that you may have applied.)





#### 2.6.1 What Labels Are Good For

After you've applied labels to icons, you can perform some unique file-management tasks—in some cases, on all of them simultaneously, even if they're scattered across multiple hard drives. For example:

- Round up files with Find. Using the Find command described later in this chapter, you can round up all icons with a particular label. Thereafter, moving these icons en masse is a piece of cake—choose Edit—Select All, and then drag any one of the highlighted icons out of the results window and into the target folder or disk.
  - Using labels in conjunction with Find in this way is one of the most useful and inexpensive backup schemes ever devised—whenever you finish working on a document that you'd like to back up, Control-click it and apply a label called, for example, Backup. At the end of each day, use the Find command to round up all files with the Backup label—and then drag them as a group onto your backup disk.
- **Sort a list view by label.** No other Mac sorting method lets you create an arbitrary order for the icons in a window. When you sort by label, the Mac creates alphabetical clusters *within* each label grouping, as shown in Figure 2-8.

This technique might be useful when, for example, your job is to process several different folders of documents; for each folder, you're supposed to convert graphics files, throw out old files, or whatever. As soon as you finish working your way through one folder, flag it with a label called Done. The folder jumps to the top or bottom) of the window, safely marked for your reference pleasure, leaving the next unprocessed folder at your fingertips, ready to go.

Sorting by label lets you create several different alphabetical groups within a single list. (The ability to sort by label is available only if you first make the label column visible. Do so by choosing View—Show View Options and turning on the Label checkbox.)



• Track progress. Use different color labels to track the status of files in a certain project. The first drafts have no labels at all. Once they've been edited and approved, make them blue. Once they've been sent to the home office, they turn purple. (Heck, you could have all kinds of fun with this: money-losing projects get red tints; profitable ones get green; things that make you sad are blue. Or maybe not.)

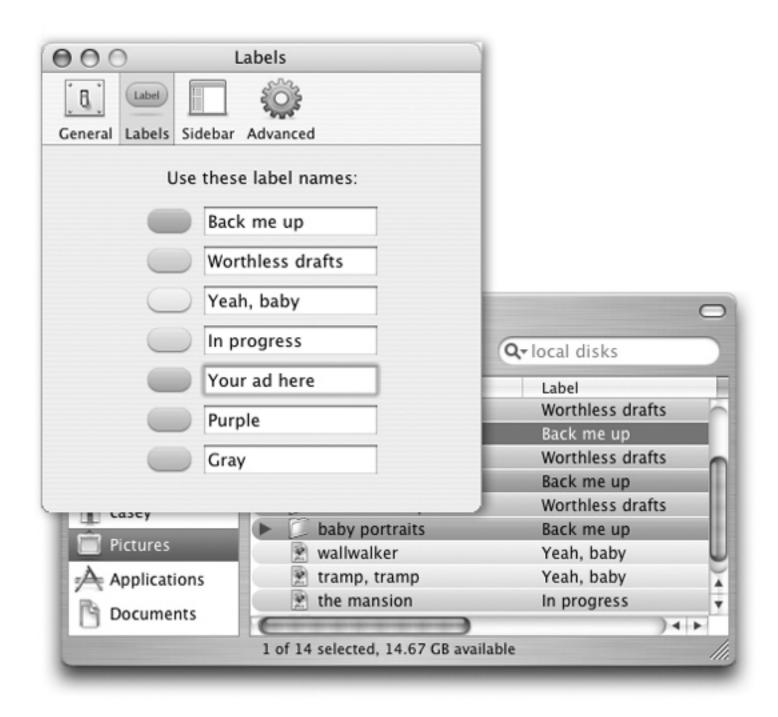
## 2.6.2 Changing Labels

When you first install Mac OS X, the seven labels in the File menu are named for the colors they show: Red, Orange, Yellow, and so on. Clearly, the label feature would be much more useful if you could rewrite these labels, tailoring them to your purposes.

Doing so is easy: choose Finder Preferences. Click the Labels button. Now you see the dialog box shown in <u>Figure 2-9</u>, where you can edit the text of each label.

Top left: In the Labels tab of the Preferences dialog box, you can change the predefined label text. Each label can be up to 31 letters and spaces long.

Bottom right: Now your list and column views reveal meaningful text tags instead of color names.









## 2.7 The Trash

No single element of the Macintosh interface is as recognizable or famous as the Trash can, which now appears at the end of the Dock.

You can discard almost any icon by dragging it onto the Trash icon (which actually resembles a wastebasket, not a trash can, but let's not quibble). When the tip of your arrow cursor touches the Trash icon, the little wastebasket turns black. When you release the mouse, you're well on your way to discarding whatever it was you dragged. As a convenience, Mac OS X even replaces the empty-wastebasket icon with a wastebasket-filled-with-crumpled-up-papers icon, to let you know there's something in there.



Learn the keyboard alternative to dragging something to the Trash: highlight the icon and then press #-Delete. This technique is not only far faster than dragging, but requires far less precision, especially if you have a large screen. Mac OS X does all the Trash-targeting for you.

## 2.7.1 Rescuing Files and Folders from the Trash

File and folder icons sit in the Trash forever—or until you choose Finder——Empty Trash, whichever comes first.

If you haven't yet emptied the Trash, you can open its window by clicking the wastebasket icon once. Now you can review its contents: icons that you've placed on the waiting list for extinction. If you change your mind, you can rescue any of these items by dragging them out of the Trash window.



If dragging something to the Trash was the last thing you did, you can press #-Z—the keyboard shortcut of the Edit—Undo command. This not only removes it from the Trash, but also returns it to the folder from whence it came. This trick works even if the Trash window isn't open.

## 2.7.2 Emptying the Trash I: Quick and Easy

If you're confident that the items in the Trash window are worth deleting, use any of these three options:

- Choose Finder 

  Empty Trash.
- Press Shift-#-Delete. Or, if you'd just as soon not bother with the "Are you sure?" message, throw the Option key in there, too.
- Control-click the wastebasket icon (or just click it and hold the mouse button down for a moment); choose Empty Trash from the contextual menu.

Top: Your last warning. Mac OS X doesn't tell you how many items are in the Trash or how much disk space they take up.

Bottom: The Get Info window for a locked file. Locking a file in this way isn't military-level security by any stretch—any passing evildoer can unlock the file in the same way. But it does trigger an "operation cannot be completed" warning when you try to put it into the Trash—or indeed when you try to drag it into any other folder—providing at least one layer of protection against mistakes.







This last method has two advantages. First, the Mac doesn't bother asking "Are you sure?" (If you're clicking right on the Trash and choosing Empty Trash from the pop-up menu, it's pretty darned obvious you *are* sure.) Second, this method nukes any locked files without making you unlock them first.

If you use either of the first two methods, the Macintosh asks you to confirm your decision (see Figure 2-10). Click OK.

Either way, Mac OS X now deletes those files from your hard drive.

## 2.7.3 Emptying the Trash II: Secure and Forever

When you empty the Trash as described above, each Trashed icon sure looks like it disappears. The truth is, though, that the data *in* each file is still on the hard drive. Yes, the space occupied by the dearly departed is now marked with an internal "This space available" message, and in time, new files that you save may overwrite that spot. But in the meantime, some future eBay buyer of your Mac—or, more imminently, a savvy family member or office mate—could use a program like Norton Utilities to resurrect those deleted files. (In even more dire cases, companies like DriveSavers. com can use sophisticated clean-room techniques to recover crucial information—for several hundred dollars, of course.)

That notion doesn't sit well with certain groups, like government agencies, international spies, and the paranoid. As far as they're concerned, deleting a file should *really*, *really* delete it, irrevocably, irretrievably, and forever.

Mac OS X 10.3 introduces a new command, therefore, called *Secure* Empty Trash. When you choose this command from the Finder menu, the Mac doesn't just obliterate the parking spaces around the dead file. It actually records *new* information over the old—random 0's and 1's. Pure static gibberish.

The process takes longer than the normal Empty Trash command, of course. But when it absolutely, positively has to be gone from this earth for good (and you're absolutely, positively sure you'll never need that file again), Secure Empty Trash is secure indeed.

# GEM IN THE ROUGH Opening Things in the Trash

Now and then, it's very useful to see what some document in the Trash *is* before committing it to oblivion—and the only way to do that is to open it.

Trouble is, you can't open it by double-clicking; you'll get nothing but an error message.

Or at least that's what Apple wants you to think.

There is, of course, a workaround: Drag the document onto the icon of a program that can open it. That is, if a file called Don't Read Me.txt is in the Trash, you can drag it onto, say, the Word or TextEdit icon in your Dock.

The document dutifully pops open on the screen. Inspect, close, and *then* empty the Trash (or rescue the document).

#### 2.7.4 Locked Files: The Next Generation

By highlighting a file or folder, choosing File Get Info, and turning on the Locked checkbox, you protect that file or folder from accidental deletion (see <u>Figure 2-10</u> at bottom). A little padlock icon appears on the corner of the full-size icon, also shown in <u>Figure 2-10</u>.

Mac OS X doesn't even let you put a locked icon *into* the Trash—or *any* other folder. You can't put the icon of an open program into the Trash, either.

If something that's already *in* the Trash turns out to be locked, click and hold on the Trash itself. Now, when you choose Empty Trash from its contextual pop-up menu, Mac OS X empties the Trash without warnings, locked files and all.

Of course, the other alternative is to unlock what's in the Trash. Fortunately, there's a quick way to do so. Click the Trash icon to open its window, then highlight the icons you want to unlock (or choose Edit Select All).

Now press # -I (or choose File Get Info). Turn off the Locked checkbox in the resulting Info window. (Yes, you can lock or unlock a mass of files at once.) Now you can send the newly unprotected files to data heaven without any fancy tricks.

(If you're still having trouble emptying the Trash, see Chapter 16 for some helpful Unix commands.)







#### 2.8 Get Info

By clicking an icon and then choosing File Get Info, you open an important window like the one shown in Figure 2-11. It's a collapsible, multi-panel screen that provides a wealth of information about a highlighted icon. For example:

- For a disk icon, you get statistics about its capacity and how much of it is full.
- For a document icon, you see when it was created and modified, and what programs it "belongs" to.
- For an alias, you learn the location of the actual icon it refers to.
- If you open the Get Info window when *nothing* is selected, you get information about the desktop itself (or the open window), including the amount of disk space consumed by everything sitting on or in it.
- If you highlight a gaggle of icons all at once, the Get Info window shows you how many you highlighted, breaks it down by type ("23 documents, 3 folders," for example), and adds up the total of their file sizes. This is a great opportunity to change certain file characteristics on numerous files simultaneously, such as locking or unlocking them, hiding or showing their file name extensions (Section 4.5.2), changing their ownership or permissions (Section 12.2.10), and so on.

#### 2.8.1 Uni-window vs. Multi-window

In Mac OS X versions 10.0 and 10.1, a single Info window remained on the screen all the time as you clicked one icon after another. (Furthermore, the command was called Show Info instead of Get Info. Evidently "Show Info" sounded too much like it was the playbill for a Broadway musical.)

Top: The Get Info window can be as small as this, with all of its information panels "collapsed."

Bottom: Or it can be as huge as this (it's shown here split in two because the book isn't tall enough to show the whole thing)—if you click each flippy triangle to open its corresponding panel of information. The resulting dialog box can easily grow taller than your screen, which is a good argument for either (a) closing the panels you don't need at any given moment or (b) running out to buy a really gigantic monitor.







The single info window was great for reducing clutter, but it didn't let you compare the statistics for the Get Info windows of two or three folders side by side.

In 10.2 and 10.3, Apple returned to the old way of doing Get Info: A new dialog box appears each time you get info on an icon.

But the uni-window approach is still available for those occasions when you don't need side-by-side Get Info windows—if you know the secret. Highlight the icon and then press Option-#-I (or hold down Option and choose Show Inspector from the File menu). The Get Info window that appears looks slightly different (it lacks Minimize and Zoom buttons), and it changes to reflect whatever icon you now click.

#### 2.8.2 The Get Info Panels

Apple built the Get Info window out of a series of collapsed "flippy triangles," as shown in <u>Figure 2-11</u>. Click a triangle to expand a corresponding information panel.

Depending on whether you clicked a document, program, disk, alias, or whatever, the various panels may include the following:

- **General**. Here's where you can view (and edit) the name of the icon, and also see its size, creation date, most recent change date, Locked status, and so on.
  - If you click a disk, this info window shows you its capacity and how full it is. If you click the Trash, you see how much stuff is in it. If you click an alias, this panel shows you a Select New Original button and reveals where the original file is. The General panel always opens the first time you summon the Get Info window.
- Name & Extension. On this panel, you can read and edit the name of the icon in question. The "Hide extension" checkbox refers to the suffix on Mac OS X file names (the last three letters of *Letter to Congress.doc*, for example).
  - As described in <u>Section 4.5.2</u>, many Mac OS X documents, behind the scenes, have file name extensions of this kind—but Mac OS X comes factory-set to hide them. By turning off this checkbox, you can make the suffix reappear for an individual file. (Conversely, if you've elected to have Mac OS X *show* all file name suffixes, this checkbox lets you hide file name extensions on individual icons.)
- Content index. As noted at the end of this Chapter, Mac OS X's Find program can locate files based on the words inside them, regardless of the actual names of the files. It can perform this magic only in folders that have been indexed (Section 2.10.2.2), however. This panel (visible for folders only) lets you know when a folder was last indexed, and allows you to index the folder manually or to delete the existing index file to save disk space.
- Memory. You'll see this option only when showing info for Classic programs (those that haven't been updated for Mac OS X). There are three different memory statistics: Suggested Size (the software company's official recommendation), Minimum Size (below which the program won't even run—a number you shouldn't change), and Preferred Size. This final number is the one you should feel free to adjust, arming the program with more memory if it seems unstable or slow in your Classic world (Chapter 5).
- **Open with.** This chapter is available for documents only. Use the controls on this screen to specify which program will open when you double-click this document, or all documents of its type. (Details in Section 4.5.2.)
- **Preview.** On this panel, you see a handsome, very large thumbnail image. In the case of spreadsheets, word processing documents, HTML documents, and so on, this is nothing to write home about—you see only a magnified version of the generic document icon.
  - But when you're examining pictures, text files, PDF files, sounds, clippings, and movies, this feature can be extremely useful. As you click each icon, you see a magnified thumbnail version of what's actually *in* that document. A controller lets you play sounds and movies, where appropriate.
- Languages. The menus and dialog boxes of well-written Mac OS X programs (iMovie and iPhoto, for example) appear by magic in whatever language you choose. The trouble is, your hard drive carries a lot of baggage as a result; it must store the wording for every menu and dialog box in every language.
  - If you're pretty sure you do most of your computing in just one language, expand the Languages tab, select all of the languages you *don't* speak, and click Remove. You'll save disk space and clutter.
- Ownership & Permissions. This is available for all kinds of icons. If other people have access to your Mac (either from across the network or when logging in, in person), this panel lets you specify who is allowed to open or change this particular icon. See Chapter 12 for a complete discussion of this hairy topic.
- **Comments.** Here, you can type in random comments for your own reference. Later, you can view these remarks in any list view, as illustrated in Section 1.5.4.

Here and there, you may even see other panels in the Get Info window, especially when you get info on application icons. For example, iPhoto, iMovie, and iDVD each offer a Plugins panel that lets you manage add-on software modules.



< Day Day Up >







# 2.9 Finding Files 1: The Search Bar

In Panther, you have two different search tools for rounding up files and folders you're looking for.

The first one, the Search bar (<u>Figure 2-12</u>), is especially convenient because you can opt to have it appear at the top of every Finder window, all the time, ever ready to help you ferret out a stray icon. After 20 years, the Finder's name is finally justified.

In Mac OS X 10.3, moreover, it's a much more flexible tool. It's no longer limited to searching the window you're in.

On the other hand, it's only good for finding icons whose *names* you know. If you want to search for a file you created on a certain date, or to search for words *inside* your files, see <u>Section 2.10</u>.

#### 2.9.1 The Search Bar

If you don't see the little round-ended box at the top of every Find window, then check these conditions, all of which are described in the Finder toolbar discussion beginning in Section 3.3.4:

- Your Finder toolbar must, in fact, be visible (see <u>Section 3.4.1</u>).
- The window must be wide enough to reveal the Search bar.
- The Search bar must be on the toolbar to begin with (Section 3.4.2.2).

## 2.9.2 Performing the Search

If all is well, and the Search bar is staring you in the face, here's how to use it.

## **2.9.2.1 Step 1: Where to look**

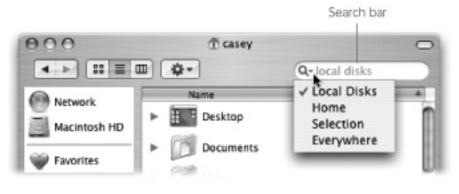
First, click the magnifying-glass icon inside the Search bar. From the pop-up menu (at top in <u>Figure 2-12</u>), specify *where* you want Find to do its searching. Your choices are:

The Search bar is a kind of software sieve that lets you screen out the rabble in a folder window filled with files.

Top: Before you search, specify where you want to search, using the tiny pop-up menu.

Middle: The upper half of the results window lists the files that Mac OS X found. The lower part offers the path, or map, that shows you where the highlighted found icon is filed. You can drag the horizontal divider between the halves of this window upward or downward to adjust the relative sizes of the panes.

Bottom: If the bottom half of the window isn't tall enough to display the ladder-like folder path, it shows you this compressed form.





• **Everywhere.** Not much ambiguity here. You want to round up *every* file with certain text in its name, wherever it may be on your Mac, your iDisk (Section 18.9.1), or even on your network.

Compressed folder "map" Click to repeat search -

- Local disks. You're saying, "I just want to search my own machine. I don't care about the network, Internet-based disks, or whatever."
- **Home.** Home refers to your own Home folder (<u>Section 2.1</u>). Now you're rooting through only *your own* stuff. As a result, the search is much faster, since you're not wasting time searching through, for example, your software programs and Mac OS X's own system files.
- **Selection.** If you know that the file you're trying to find is in a certain folder, or on a certain disk, click that folder or disk's icon, wherever it may be on your screen. (You can also select a batch of them.) Mac OS X will confine its search to these items.



If you choose Selection and then *don't* highlight any disk or folder icons, Mac OS X searches only the window you're *in* (and all folders inside it). It works, in other words, just as Mac OS X 10.2 did.

It's also *really* fast; the files generally appear in the list in real time, as you type.

## 2.9.2.2 Step 2: What to find

Once you've set up the boundaries of your search, start typing the name of the file or folder name you're seeking. For example, if you're trying to find a file called *Pokémon Fantasy League.doc*, typing just *pok* or *leag* would probably suffice.

As you type—or, more realistically, a second or two after you type each letter—the window changes to reveal, item by item, a list of the files and folders whose names contain what you typed (at middle in Figure 2-12).

While the searching is going on, various controls spring to life:

- A sprocket icon whirls away in the lower-right corner of the window. If a search is taking a long time, you're free to switch into another program while the Search bar keeps working in the background.
- To pause or cancel the search in progress, click the X button next to the sprocket. (The other X button, the one next to the search word you typed, means "clear this box so I can type a different word.")
  - Once you've halted the search in this way, you can click the circular-arrow button (identified in <u>Figure 2-12</u>) to resume the original search.
- The Parent column, new in 10.3, tells you at a glance where each found file is—that is, which folder contains it. Yes, sure, the lower pane tells you the *full* folder path. But often, just knowing whether this is the Neiman Marcus Cookies recipe in your *Pictures* folder or the one in your *Documents* folder is all you really need to know.

#### NOTE

If you share your Mac with other people, as described in <u>Chapter 11</u>, you'll generally see only the files that belong to you. The Search bar doesn't show you anything in folders that are off-limits to you, like the Documents and Pictures folders of other people.

There are exceptions, however. For instance, you'll be able to find files and folders that have been explicitly put into the Public or Shared folders, as described in <u>Chapter 12</u>. You may also be able to see icons that are sitting in other people's Home folders that haven't been further filed into inner folders (like the Documents folder).

#### 2.9.3 What to Do with Search Results

You can manipulate the list of search results much the way you'd approach a list of files in a standard Finder list view window. You can move up or down the list by pressing the arrow keys, scroll a "page" at a time with the Page Up and Page Down keys, and so on. You can also highlight multiple icons simultaneously, the same way you would in a Finder list view:

Highlight all of them by choosing Edit Select All, highlight individual items by Clicking them, drag diagonally to enclose a cluster of found items, and so on.

Or you can proceed in any of these ways:

#### 2.9.3.1 Find out where something is

If you click *once* on any item in the results list, the bottom half of the window becomes a folder map that shows you where that item is. Depending on how tall the window is, you may see either of the two notations illustrated in <u>Figure 2-12</u> (a ladder-like display or an arrow notation like the one in this book, as in "Users—Chris").

For example, in <u>Figure 2-12</u>, the notation in the bottom half of the window (read from bottom to top) means: "The About AppleScript Studio.pdf icon you found is in the Developer Tools folder, which is in the Installers folder, which is in the Applications folder, which is on the hard drive called Macintosh HD."

To get your hands on the actual icon, choose File Open Enclosing Folder (H-R). The Search Results window retreats to the background, as Mac OS X highlights the actual icon in question, sitting there in its window wherever it happens to be on your hard drive.

#### 2.9.3.2 Go back where you began

Go back where you began If you're content with the results of the search, but don't actually want to *act* on it (by opening the file you found, for example), just hit the Back button at the top of the window (or press #-[). You return to the window you were viewing before your search began.

## 2.9.3.3 Open the file (or open one of the folders it's in)

If one of the found files is the one you were looking for, double-click it to open it (or highlight it and press #-O). In many cases, you'll never even know or care *where* the file was—you just want to get into it.

You can also double-click to open any of the folders that appear in the folder map in the bottom half of the window. For example, in <u>Figure 2-12</u>, you could double-click the selected PDF icon to open it, or the Developer Tools folder to open *it*, and so on.

#### 2.9.3.4 Move or delete the file

You can drag an item directly out of the found-files list and into a different folder, window, or disk—or straight to the Trash. The folder map at the bottom of the window updates itself to reflect the file's new location.

#### 2.9.3.5 Rename the file

You can even rename a highlighted file in the Search Results window, just as though it's sitting in a Finder list view window. Click its name once, wait for the renaming rectangle to appear, and then type over the old name.

#### 2.9.3.6 File-menu commands

After highlighting an icon (or icons) in the list of found files, you can use the commands in the File menu, including Get Info and Move to Trash.

## 2.9.3.7 Adjust the list

By clicking the column headings (make the window wider if necessary to see them), you can sort the list of found files in various ways: by parent folder, name, size, date, and so on. (You can reverse the order by clicking the same heading a second time.) You can also make the window bigger by dragging the lower-right corner handle, adjusting the relative widths of the columns by dragging the column-name dividers, or rearranging the columns horizontally by dragging their names. All of this works exactly as it does in a Finder list view window.

## 2.9.3.8 Copy a file

To copy a file, Option-drag it out of the Search Results window and onto the desktop, into a different window, or onto a disk or folder icon. Alternatively, highlight the file and then choose Edit Copy "Bunion Treatments.doc" (or whatever the file's name is). Then click inside a folder window, or click a folder itself, before choosing Edit Paste.

#### 2.9.3.9 Make an alias

You can make an alias for one of the found items exactly the way you would in a Finder window: drag it out of the window while pressing **#**-Option. The alias appears wherever you release the mouse (on the desktop, for example).

#### 2.9.3.10 Start over

If you'd like to repeat the search using a different search phrase, just edit the text in the Search bar. The results pane updates itself as you type.

## 2.9.3.11 Give up

If none of these avenues suits your fancy, you can simply close the Search window as you would any other (\mathbb{H}-W).









# 2.10 Finding Files 2: The Find Window

The Search bar is simple, fast, and above all, convenient. It's always there, happy to serve you, no matter what Finder window you're in.

It's not, however, the most powerful search program on earth. It searches only for icons' names, not their sizes, dates, and so on. And it can't look for words *inside* your files.

There is a feature that can perform these more complex searches, though; in fact, no modern self-respecting operating system would be without it. But here's a bit of news that may shock veteran Mac and Windows users: In Mac OS X 10.3, you *don't* search your own machine using the same program you use to search the Web. (Heresy! Scandal! Sacrilege!)

Actually, it's a move to be applauded. Over the years, be-all, end-all search programs like Apple's Sherlock and Microsoft's Search Assistant had become slow, sluggish, ungainly creatures that didn't do either job especially well. In Mac OS X 10.3 (as in 10.2), you use one program just for finding *files on your Mac*, and a different one (Sherlock) to *search the Internet*. (More on Sherlock in Chapter 20.)

To meet the new file-finding tool, choose File—Find (or press #-F). The shockingly simple dialog box shown in <u>Figure</u> 2-13 appears next.

As you'll soon discover, the Find window can hunt down icons using extremely specific criteria. If you spent enough time setting up the search, you could use this program to find a document whose name begins with the letters *Cro*, is over one megabyte in size, was created after 10/1/03 but before the end of the year, was changed within the last week, has the file name suffix *.doc*, and contains the phrase "attitude adjustment." (Of course, if you knew *that* much about a file, you'd probably know where it is, too, without having to use the Find window. But you get the picture.)

To use the Find window, you need to feed it two pieces of information: *where* you want it to search, and *what* to look for. You can make both of these criteria as simple or complex as you like.

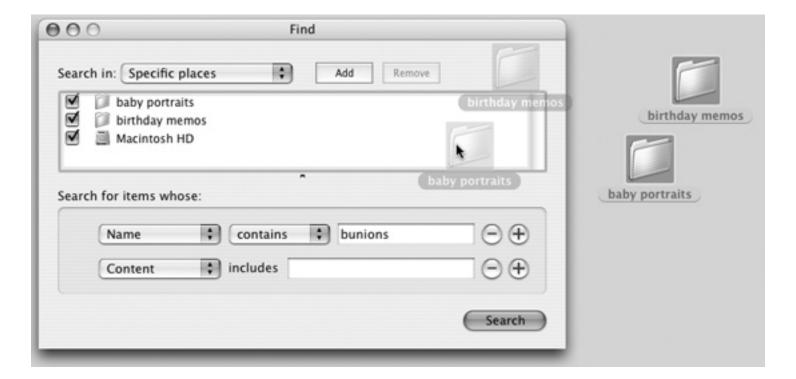
The first time you use it, the new Find program opens up ready to search by file name and file content, as shown here, because those are the most common kinds of search. But don't settle—Find has many more tricks up its software sleeve.



#### 2.10.1 Where to Look

The pop-up menu at the top of the window lets you specify where you want Find to do its searching. Your choices are Everywhere, Local Disks, Home—which correspond with the options described in <u>Section 2.9.2.2</u>—and one called Specific Places, which lets you limit your search to certain disks or folders (see Figure 2-14).

To limit (and thereby speed up) a search, choose Speci fic Places from the pop-up menu and then drag a disk, a folder, or a set of folders directly off the desktop and into the list of folders and disks. (To ditch them, click Remove.)



#### 2.10.2 What to Look For

The first time you open the Find window after turning on your Mac OS X 10.3 machine, two boxes appear that need filling in: Name and Content (that is, words inside the files).

But those are only starting points. In all, Find lets you define a search using up to 11 different criteria (date modified, file size, and so on). Figure 2-15 illustrates how detailed this kind of search can be.

To add a criterion to the list, click one of the + buttons at the right end of the dialog box. A new row appears in the Find window, whose pop-up menus you can use to specify *what* date, *what* file size, and so on.

To delete a row from the Find window, click the - button at its right end.

Here's a rundown of the eight kinds of information you can search for, as they appear in the first pop-up menu of a row.

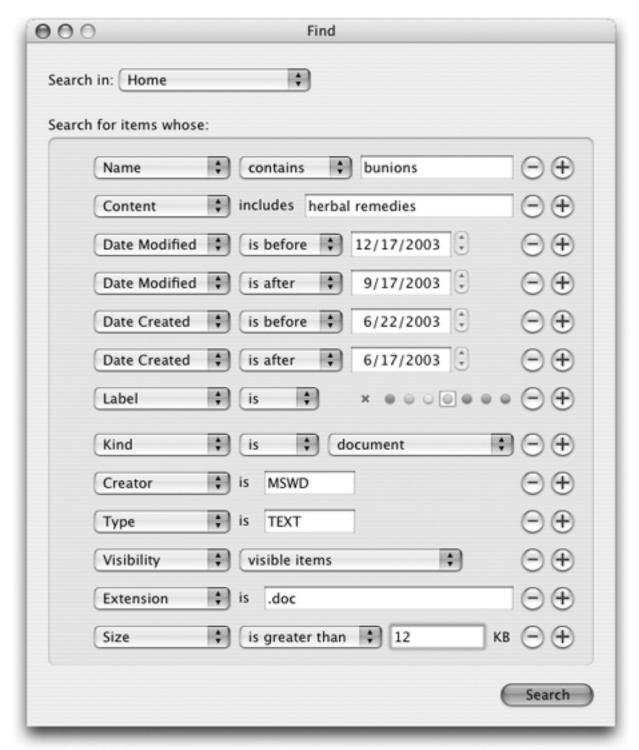
#### 2.10.2.1 Name

To find a file whose name you know, just type a few letters of its name into the blank. (Capitalization doesn't matter.)

Of course, if all you want to do is find files whose names include *Sales*, you may as well save yourself all of this reading and use the Search bar described in the previous section. But using the Find program instead offers you far more control, thanks to the pop-up menu that offers you these options:

- Contains. The position of the letters you type doesn't matter. If you type *then*, you'll find files with names like "Then and Now," "Authentic Cajun Recipes," and "Lovable Heathen."
- Starts with. The Find program will find only files *beginning* with the letters you type. If you type *then*, you'll find "Then and Now," but not "Authentic Cajun Recipes" or "Lovable Heathen."

By repeatedly clicking the + button at the right end of the search criteria rows, you can limit your search to files that were created before or after a certain date, that are larger or smaller than a certain size, that were created by a specific program, and so forth. Turn on as many criteria as you'd like; each additional row further narrows the search.



- Ends with. If you type *then*, you'll find "Lovable Heathen," but not files called "Then and Now" or "Authentic Cajun Recipes."
- **Is.** This option finds only files named *precisely* what you type (except that capitalization still doesn't matter). Typing *then* won't find any of the file names in the previous examples. It would unearth only a file called simply "Then." (In fact, a file with a file name suffix, like "Then.doc," doesn't even qualify.)



If you listen closely, you can hear the cheers of propeller-heads worldwide over this development: Mac OS X 10.3 lets you perform "and" searches. That is, you can add Name rows to your Find setup *more than once*, for even more specific searches.

For example, if you create one Name row to look for *apple*, a second Name row to seek out *corp*, and a third Name row to hunt down *memo*, you'll round up only files whose names include *all three* of those terms ("Apple Corporate Memo.doc," "Memo to Apple Corps of Dallas").

#### 2.10.2.2 Content

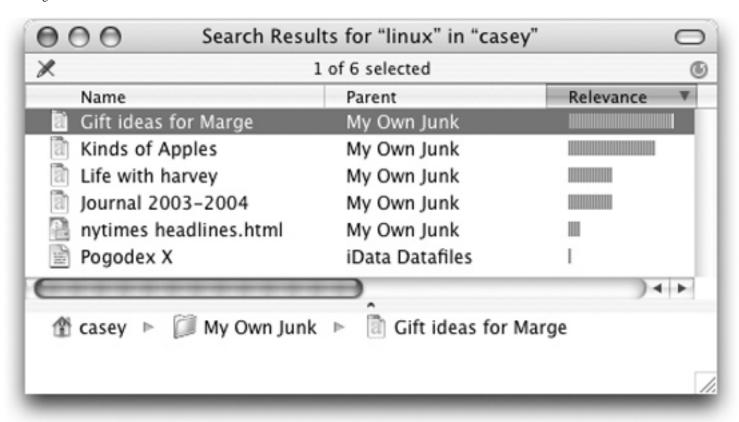
Sooner or later, it happens to everyone: a file's name doesn't match what's inside it. Maybe a marauding toddler pressed the keys while playing KidPix, inadvertently renaming your doctoral thesis "xggrjpO#\$5%////." Maybe, in a Saturday afternoon organizing binge, your spouse helpfully changed the name of your "ATM Instructions" document to "Cash Machine Info," little realizing that it was a help file for Adobe Type Manager. Or maybe you just can't remember what you called something.

For this purpose, Find can search for words *inside* your files, regardless of their names (see <u>Figure 2-16</u>). It performs this kind of search with amazing speed, and has saved thousands of Mac fans hours of frustrated searching by hand; just type the word or phrase you seek into the "content includes" box.



If a Content search doesn't unearth a file you think it should have, consider the possibility that Mac OS X hasn't yet caught up *indexing your files*, as described in the box on the next page.

In the Relevance column, longer bars indicate more relevance; relevance is defined as "how many times the search term appears relative to the whole document's length." So a four-word file containing the search term "lizard" twice has higher relevance than one containing "lizard" three times in a 500- word essay. (Proximity also counts. If you search for Apple Corp, a document with "Apple Corporation" gets higher relevance than one containing, "She gave an apple to the Marine Corps.")



### 2.10.2.3 Date created, date modified

These options let you search for files according to when you first created them or when you last saved them.

Some of the fuzzy-logic commands on the pop-up menus are particularly useful. For example, setting up the pop-up menus so that they say, "is within" and "1 month" may be just what you need when you only vaguely remember when you last worked with the file.



You're allowed to add *two* Date rows—a great trick that lets you round up files that you created or edited *between* two dates. Set up the first Date row to say "is after," and the second one to say "is before," as illustrated in Figure 2-15.

# TROUBLESHOOTING MOMENT The Indexing Catch

The "content" search, which finds words inside your files, is a terrific help when you can't remember what you named a certain file. Left unaided, the Mac would take almost as long as you would to search your files for a particular phrase.

To eliminate that delay, Apple programmed the Find program to do something ingenious: Like a kid cramming for an exam, it reads, takes notes on, and memorizes the contents of all of your files. Once it has indexed your hard drive in this way, Find can produce search results in seconds.

The indexing process occurs automatically and continuously—in the background —in the microseconds between your keystrokes and clicks in other programs. Most people can ignore the whole concept.

Every now and then, however, you may find it useful to know more about the indexing process. For example:

**Manual indexing.** If a search doesn't unearth a file you're pretty sure exists, maybe Mac OS X hasn't yet gotten around to indexing the disk or folder that contains it. In that situation, you can index it manually: Just highlight the disk or folder, choose File Get Info, expand the Content Index panel, and then click Index Now (shown here). Once the Status line says "Indexed," try the search again.

**Deleting an index.** The index files (the card catalogs of your stuff) may be invisible, but they take up real disk space. If you're ever pinched for space, consider deleting the index files for folders you never search. (You may also want to delete the index files if certain folders full of irrelevant stuff keep coming up in your content searches.) To do so, highlight the disk or folder, choose File Get Info, expand the Content Index panel, and then click Delete Index.

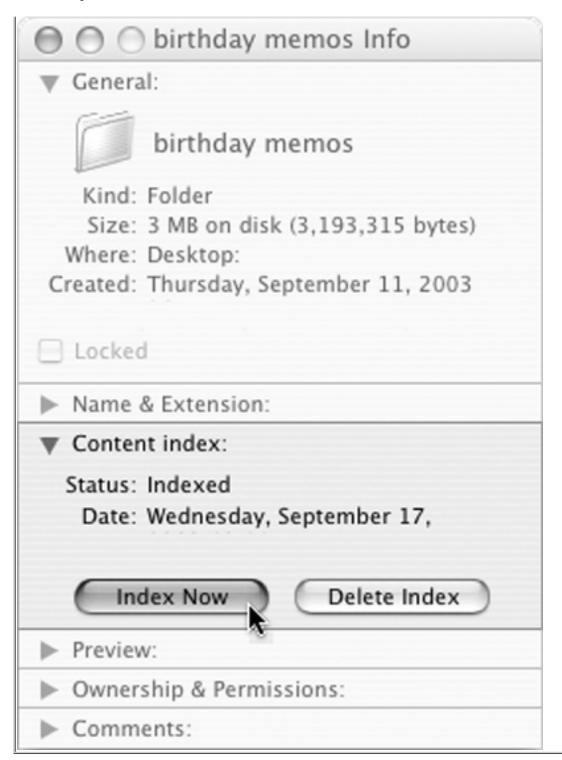
What the index includes. Mac OS X is smart enough to ignore files on your hard drive that don't actually contain words, such as applications, pictures, movies, system files, and so on. What it *does* index includes word processing files, text files, clipping files, HTML (Web page) documents, Acrobat (.pdf) files, and sometimes email, depending on the program you use.

Other disks. Mac OS X can't index CDs or other hard drives on the network.

**Saving time and space.** In an effort to be world-friendly and painfully complete, Apple wrote the Find program to index words in every possible language— Afrikaans, Norwegian, and so on. Unless you're some kind of freaky Harvard polyglot, this list is probably more inclusive than you actually need. By turning off the languages you don't speak, you can accelerate the indexing (and make the index files smaller).

To do so, in the Finder, choose Finder Preferences. Click the Advanced button, and then click the Select button at the bottom of the dialog box. In the Languages dialog box, turn off the checkboxes of every language except the ones you use in your documents.

Where the index files are. In Mac OS X, there's no central, massive, invisible index file on the hard drive. Instead, every folder has its own invisible index file called . FBCIndex. The beauty of this system is that folders remain indexed even when copied to other disks—because the invisible index travels along with them.



#### 2.10.2.4 Kind

These two pop-up menus let you search for everything that is, or isn't, a certain kind of file—an alias, folder, image, and so on. For example, when you're trying to free up some space on your drive, you could round up all your gigantic movie (.mov) files.

#### 2.10.2.5 Label

Mac OS X Panther lets you not only tag certain icons with text-and-color labels, but—perhaps even more importantly—lets

2.10 Finding Files 2: The Find Window

you round them up later, for backing up, deleting, or burning to a CD en masse, for example.

<u>Section 2.6</u> describes how to flag icons with labels. Now the other shoe drops: This is how you specify which label you want to use for finding them all, wherever they may be hiding.

#### 2.10.2.6 Size

Using this control, and its "is less than"/ "is greater than" pop-up menu, you can restrict your search to files of a certain size. (Remember that there are 1,024 K per megabyte; this field requires a number in KB, or kilobytes.)

#### **2.10.2.7 Extension**

Here's the option you need when rounding up all files of a certain type, using their file name extensions as a "handle." You'd type .doc here to find all Word files, .jpg to find all JPEG graphics, and so on. (Fortunately, the Find program will find them even if the suffixes are hidden as described in Section 4.5.2.)

### **2.10.2.8 Visibility**

Your hard drive is absolutely *teeming* with invisible files, including the thousands of Unix files that make up Mac OS X. Using this command, you can take a look at them. (It's not wise to move or throw away invisible files, however. In fact, Apple made them invisible expressly so you wouldn't tamper with them.)

#### **UP TO SPEED**

## The Wacky Keystrokes of Panther

Mac OS X offers a glorious assortment of predefined keystrokes for jumping to the most important locations on your Mac: your Home folder, the Applications folder, the Utilities folder, the Computer window, your iDisk, the Network window, and so on.

Better yet, the keystrokes are incredibly simple to memorize: Just press Shift- and the first letter of the location you want. Shift- -H opens your Home folder, Shift- -A opens the Applications folder, and so on. You learn one, you've learned 'em all.

The point here is that Shift- $m{ff x}$ , in Panther, means  $\emph{places}$ .

The other system-wide key combo, Option-#, means functions. For example, Option-#-D hides or shows the Dock, Option-#-H is the Hide Others command, Option-#-+ magnifies the screen (if you've turned on this feature), Option-#-Esc brings up the Force Quit dialog box, and so on. Consistency is always nice.

## 2.10.2.9 Type, Creator

Type and Creator codes are four-letter tags that help the Mac OS identify which program to use for opening which documents. See Section 4.5.1 for a full description of this soon-to-be-obsolete system. In the meantime, these options, new

to Mac OS X 10.3, can be useful indeed. They let you hunt down all files of a type (all text files, for example, even ones whose names don't end in .txt) or all files that "belong" to a certain program (Photoshop, for example).

The only catch is that you have to *know* their Type or Creator codes, which are ordinarily invisible. See <u>Figure 4-8</u> for details.

## 2.10.3 Step 3: Find the Files, and Use Them

Once you've set up your search—a process that, in extreme cases, can take all afternoon—click the Search button, or press Return or Enter, to set the search in motion.

A new window, called Search Results, opens up immediately, although it may take some time for any files to appear in the list. If you let the search proceed, eventually you're shown a list of files whose names contain what you typed in the blank.

At this point, you should proceed exactly as described in <u>Section 2.9.3</u>; as it turns out, the Search bar and the Find program produce the same Search Results window. Doubleclick a found file to open it, drag it to the desktop to move it, and so on.

# POWER USERS' CLINIC Secrets of the Non-Apple Mouse

Apple still includes a one-button mouse with every desktop Macintosh. But millions of people—not only Windows PC users—prefer a two-button mouse, preferably with a little scroll wheel on top.

Feel free to get one. They're cheap. Companies like Macally, Logitech, and Microsoft sell them specifically for the Macintosh, or you can try a generic mouse from some random PC-mouse company. Most of the time, PC mice work just fine on the Mac, even without having to install any software drivers. (And when a driver is necessary, you'll have good luck with a shareware driver like USB Overdrive, found at <a href="https://www.usboverdrive.com">www.usboverdrive.com</a>)

Most of the time, right-clicking something on the screen is the same as Control-clicking it—that is, it makes a contextual menu appear.

If your mouse has a little scroll wheel on the top, a world of shortcuts and conveniences awaits you. For example, you can pick menu items from an open menu just by spinning the scroll wheel to move up or down the commands.

In the Finder, pressing Option while you scroll accelerates the scrolling; that is, you can jump half a page at a time, instead of a few lines at a time.

If you press Shift as you twirl the wheel, many programs let you scroll the window *horizontally* instead of vertically. This surprising trick works in, for example, the Finder, Microsoft Excel, the Desktop panel of System Preferences, and the Open or Save dialog boxes for certain programs.



Actually, there's one thing you can do after using the Find program that you can't do using the Search bar: leave the Search Results window open. Then start a new search by pressing #-F or choosing File Find.

Adjust the search parameters and perform your second search. Now you've got two Search Results windows, each containing a different list of found files, which you're welcome to compare and study.

# GEM IN THE ROUGH Stuffing, Zipping, and Archiving

For the first time in Mac history, Panther comes with a built-in command that compresses a file or folder down to a single, smaller icon—an *archive*— for storing or emailing.

It's just like using Stufflt in previous Mac OS versions, except for two big changes. First, Mac OS X 10.3 creates .zip files, the same compression format used in Windows. That means that you can now send .zip files back and forth to PC owners without worrying that they won't be able to open them. (Non-Panther Mac owners can open .zip files, too. They just use the free Stufflt Expander as usual.)

Second, the software that does the compressing is built right in. Control-click a file or folder, and choose "Create Archive of [the icon's name]" from the contextual menu. (Of course, you can use the Action menu instead.)

Mac OS X thoughtfully creates a .zip archive, but leaves the original behind so you can continue working with it.

Opening a .zip file somebody sends you is equally easy: Just double-click it. Zip!—it opens.



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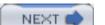
# Chapter 3. Dock, Desktop, and Toolbar

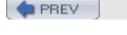
You can't help reacting, one way or another, to the futuristic, sleek, cool looks of Mac OS X the first time you arrive at its desktop. When you stop to think about it, the environment owes most of its distinctive, photo-realistic looks to only three key elements: the Dock at the bottom edge of the screen; the toolbar at the top of every Finder window; and the shimmering, sometimes animated backdrop of the desktop itself. This chapter shows you how to use and control these most dramatic elements of Mac OS X.



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#### 3.1 The Dock

Most operating systems maintain two different lists of programs. One of them-like the Start menu (Windows) or the Launcher (Mac OS 9)-lists *unopened* programs until you need them. The other list-like the taskbar (Windows) or the Application menu (Mac OS 9)-keeps track of which programs are *open* at the moment, so that you can easily switch among them.

In Mac OS X, Apple combined both functions into a single strip of icons called the *Dock*.

Apple's thinking goes like this: Why must you know whether or not a program is already running? That's the computer's problem, not yours. In an ideal world, this distinction should be irrelevant. A program should appear when you click its icon, whether it's open or not-just as on a PalmPilot, for example.

"Which programs are open" already approaches unimportance in Mac OS X, where sophisticated memory-management features make it hard to run out of memory. You can open dozens of programs at once in Mac OS X.

And *that*'s why the Dock combines the launcher and status functions of a modern operating system. Only a tiny triangle beneath a program's icon tells you that it's open.

In any case, the Dock is a core element of Mac OS X, and it's here to stay. Whether or not you agree with Apple's philosophy (and there's been plenty of controversy), Apple has made it as easy as possible to learn to like the Dock. You can customize the thing to within an inch of its life, or even get rid of it completely. This section explains everything you need to know.



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# 3.2 Setting Up the Dock

Apple starts the Dock off with a few icons it thinks you'll enjoy: QuickTime Player, iTunes, iPhoto, iChat, Mail, the Safari Web browser, and so on. But using your Mac without putting your *own* favorite icons on the Dock is like buying an expensive suit and turning down the free alteration service. At the first opportunity, you should make the Dock your own.

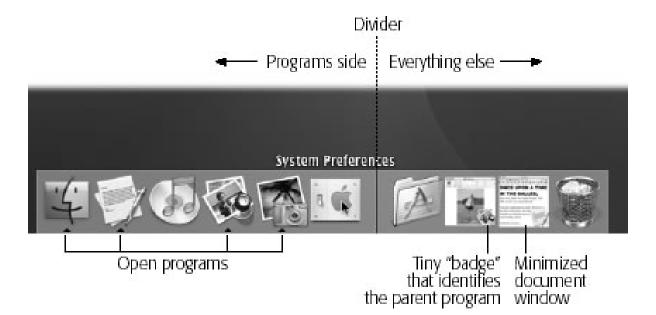
The concept of the Dock is simple: Any icon you drag onto it (<u>Figure 3-1</u>) is installed there as a button. (You can even drag an *open* window onto the Dock-a Microsoft Word document you're editing, say-using its folder proxy icon [<u>Section 1.2.4</u>] as a handle.)

A single click, not a double-click, opens the corresponding icon. In other words, the Dock is an ideal parking lot for the icons of disks, folders, documents, programs, and Internet bookmarks that you access frequently.



You can install batches of icons onto the Dock all at once-just drag them as a group. That's something you can't do with the *other* parking places for favorite icons, like the Sidebar and the Finder toolbar.

To add an icon to the Dock, just drag it there. You haven't moved the original file; when you release the mouse, it remains exactly where it was. You've just installed a pointer-like a Macintosh alias or Windows shortcut, you might say.



Here are a few aspects of the Dock that may throw you at first:

• It has two sides. See the fine dark line running down the Dock in <u>Figure 3-1</u>? That's the divider. Everything on the left side is an application-a program. Everything else goes on the right side: files, documents, folders, and disks.

It's important to understand this division. If you try to drag an application to the right of the line, for example, Mac OS X will teasingly refuse to accept it. (Even aliases observe that distinction. Aliases of *applications* can go only on the left side, for example.)

• Its icon names are hidden. To see the name of a Dock icon, just point to it without clicking. You'll see the name appear just above the icon.

When you're trying to find a certain icon on the Dock, run your cursor slowly across the icons without clicking; the icon labels appear as you go. Better yet, you can usually tell documents apart by looking solely at their icons, as shown in the box in Section 3.2.1.

• Folders and disks are hierarchical. If you retain nothing else in this chapter, remember this: If you click a folder or disk icon on the right side of the Dock and *hold down* the mouse button, a list of its contents sprouts from the icon. It's a hierarchical list, meaning that you can burrow into folders within folders this way. See (Figure 3-2) for an illustration.



If you'd rather not spend that half-second waiting for the pop-up menu to appear, just Controlclick the Dock icon, or right-click it (if you have a two-button mouse). The pop-up menu snaps up faster.

As long as you keep the mouse button pressed, you can burrow into folders within folderseither with the intention of opening a file or folder (by releasing the mouse button as you point), or just to see what's inside.



• **Programs appear there unsolicited.** Nobody but you can put icons on the *right* side of the Dock. But program icons appear on the left side of the Dock automatically whenever you open a program (even one that's not listed in the Dock). Its icon remains there for as long as it's running.



The Dock is already extremely cool looking, but you haven't seen the end of its tricks. Using TinkerTool, you can make the Dock translucent (see-through) to a degree that you specify-a great way to show off at user-group meetings. See (Section 17.1) for details.

## 3.2.1 Organizing and Removing Dock Icons

You can move the tiles of the Dock around by dragging them horizontally. As you drag, the other icons scoot aside to make room. When you're satisfied with its new position, drop the icon you've just dragged.



If you *don't* want the other icons to scoot away-for example, if you're trying to drop a document into a *folder* on the Dock, rather than adding the document *to* the Dock-then **#**-drag it. In that case, the existing Dock icons freeze in place.

To remove a Dock icon, just drag it away. Once your cursor has cleared the Dock, release the mouse button. The icon disappears, its passing marked by a charming little puff of animated cartoon smoke. The other Dock icons slide together to close the gap. (Mac OS X won't let you remove the Finder, the Trash, the Dock icon of an open program, or any minimized document window.)



You can replace the "puff of smoke" animation with one of your own, as described in (<u>Section</u> 17.2.)

# GEM IN THE ROUGH Living Icons

Mac OS X brings to life a terrific idea, a new concept in mainstream operating systems: icons that tell you something. As shown here, for example, you can often tell documents apart just by looking at their icons.

Furthermore, some program icons actually change over time. Activity Monitor (in your Utilities folder; see <a href="Section 9.25.1">Section 9.25.1</a>), for example, can be a living icon that actually graphs your Mac's stats, right there in the Dock. The Mail icon (see <a href="Chapter 19">Chapter 19</a>) displays a live counter that indicates how many new email messages are waiting for you. (After all, why should you switch into the Mail program if you'll only be disappointed?) The America Online icon sprouts a flag to let you know if an instant message is waiting. Toast illustrates the progress of a disc you're burning. And if you minimize a QuickTime movie while it's playing, it shrinks down and continues playing right there in the Dock.

Think of the possibilities. At this rate, one day the Safari icon could change to let you know when interesting new Web pages have appeared, the Quicken icon could display your current bank balance, and the Microsoft Word icon could change every time Microsoft posts a bug fix.



Weirdly enough, this technique (removing a Dock program's icon by dragging it away) works even while a program is still running. Granted, you won't see any change immediately, because the program is still open. But when you ultimately quit the program, you'll see that its previously installed icon is no longer in the Dock.

### 3.2.2 Three Ways to Get the Dock out of Your Hair

The bottom of the screen isn't necessarily the ideal location for the Dock. Because most screens are wider than they are tall, the Dock eats into your limited vertical screen space. In these situations, you have three ways out: Hide the Dock, shrink it, or rotate it 90 degrees.

#### 3.2.2.1 Auto-hiding the Dock

To turn on the Dock's auto-hiding feature, choose —Dock—Turn Hiding On (or press Option-#-D).



You also find this on/off switch when you choose Dock Preferences (Figure 3-4), or when you click the System Preferences icon on the Dock, and then the Dock icon. (Chapter 8 contains much more about the System Preferences program.)

When the Dock is hidden, it doesn't slide into view until you move the cursor to the Dock's edge of the screen. When you move the cursor back to the middle of the screen, the Dock slithers out of view once again. (Individual Dock icons may occasionally shoot upward into Desktop territory when a program needs your attention-cute, very cute-but otherwise, the Dock lies low until you call for it.)

On paper, an auto-hiding Dock is ideal-it's there only when you summon it. In practice, however, you may find that the extra half-second the Dock takes to appear and disappear makes this feature slightly less appealing.

For many Mac fans, then, the solution is to hide and show the Dock at will by pressing the hide/show keystroke, Option-#-D. This method makes the Dock pop on and off the screen without requiring you to move the cursor.

## 3.2.2.2 Shrinking and enlarging the Dock

Depending on your screen's size, you may prefer smaller or larger Dock buttons. The official way to resize them goes like this: Choose Dock Preferences. In the resulting dialog box, drag the Dock Size slider, as shown in

#### Figure 3-4.

There's a much faster way to resize the Dock, however: Just position your cursor carefully on the Dock's divider line, so that it turns into a double-headed arrow (shown in <u>Figure 3-3)</u>. Now drag up or down to shrink or enlarge the Dock.



If you press Option as you drag, the Dock snaps to certain canned icon sizes-those that the programmer actually drew. (You won't see the in-between sizes that Mac OS X generally calculates on the fly.)

As noted in <u>Figure 3-3</u>, you may not be able to *enlarge* the Dock, especially if it contains a lot of icons. But you can make it almost infinitely *smaller*. Which makes you wonder: How can you distinguish between icons if they're the size of molecules?

The answer lies in the Dock Turn Magnification On command. What you've just done is trigger the swelling effect shown in Figure 3-4. Now your Dock icons balloon to a much larger size as your cursor passes over them. It's a weird, rippling, magnetic sort of animated effect that takes some getting used to. But it's yet another spectacular demonstration of the graphics technology in Mac OS X, and it can actually come in handy when you find your icons otherwise shrinking away to nothing.

Look closely-you can see the secret cursor that resizes the Dock. If you don't see any change in the Dock size as you drag upward, you've reached the size limit. The Dock's edges are already approaching your screen sides.



To find a comfortable setting for the Magnification slider, choose Dock Preferences. Leave the Dock Preferences window open on the screen, as shown here. After each adjustment of the Dock Size slider, try out the Dock (which still works when the Dock Preferences window is open) to test your new settings.



## 3.2.2.3 Moving the Dock to the sides of the screen

Yet another approach to getting the Dock out of your way is to rotate it, so that it sits vertically against a side of your screen. You can rotate it in either of two ways:

- The menu way. From the Dock submenu, choose "Position on Left," "Position on Right," or "Position on Bottom," as you see fit.
- The mouse way. While pressing Shift, drag the Dock's divider line, like a handle, directly to the side of the screen you want.

You'll probably find that the right side of your screen works better than the left. Most Mac OS X programs put their document windows against the left edge of the screen, where the Dock and its labels might get in the way.

#### **NOTE**

When you position your Dock vertically, the "right" side of the Dock becomes the bottom. In other words, the Trash now appears at the bottom of the vertical Dock. So as you read references to the Dock in this book, mentally substitute the phrase "bottom part of the Dock" when you read references to the "right side of the Dock."



NEXT 📫





# 3.3 Using the Dock

Most of the time, you'll use the Dock as either a launcher (you click an icon once to open the corresponding program, file, folder, or disk) or as a status indicator (the tiny black triangles, identified in Figure 3-1, indicate which programs are running).

But the Dock has more tricks than that up its sleeve. You can use it, for example, to pull off any of the following stunts.

## 3.3.1 Switch Applications

The Dock isn't just a launcher; it's also a switcher. For example, it lets you:

- Jump among your open programs by clicking their icons.
- Drag a document (such as a text file) onto a Dock application button (such as the Microsoft Word icon) to open the former with the latter. (If the program balks at opening the document, yet you're sure the program should be able to open the document, add the and Option keys as you drag.)

# TROUBLESHOOTING MOMENT Recovering from a MicroDock

What is a MicroDock? It's what you get when you try to store 355 JPEG files by dragging them onto a folder in the Dock, but you just miss the folder (thanks to its tendency to scoot aside). As a result, you drop all of the graphics directly into the Dock. They dutifully appear as shown here, all in an endless row, at the size of subatomic particles.

Now you have a problem. How do you get the Dock back to normal? If you dragged the icons off the Dock one at a time, you'd spend two presidential administrations doing it.

The easiest way to return to a normal Dock is to delete the Dock preferences file from your Home Library Preferences folder. The file is named com.apple. Dock.plist, and you can just drag it into the Trash. (If you're *really* obsessive about your Dock setup, you can create a backup of this file now, while everything is working properly. In the event of a MicroDock, you can just replace the messed-up preferences file with the backup.)



• Hide all windows of the program you're in by Option-clicking another Dock icon.

This is just a quick summary of the Dock's application-management functions; you'll find the full details in Chapter 4.

## 3.3.2 Operate the Dock by Keyboard Control

If you turn on full keyboard access, you can operate the Dock entirely from the keyboard; see Section 4.6.

#### 3.3.3 Secret Menus

Don't get so enamored of single-clicking the Dock icons that you miss this one. It turns out that if you Control-click a Dock icon-or, if you're in no hurry, hold down the mouse button on it-a hidden menu sprouts out of it (Figure 3-5).

If you've clicked a minimized window icon, this shortcut menu says only the name of the window. If you've clicked the icon of an application that's not running at the moment (or an alias), the menu says only Show In Finder.

Top: Control-click a Dock icon, or click and hold on it, to open the secret menu. The names at the top of this shortcut menu are the names of the windows currently open in that program. The checkmark next to a window's name indicates that it's the frontmost window of that program (even if that program is in the background).

Bottom: Here's a bonus secret. If you Control-click the divider bar that separates the two sides of the Dock, another hidden menu appears, this time listing a bunch of useful Dock commands, including the ones listed in the Dock submenu.





But if you've clicked the icon of a *running* application, you get some very useful hidden commands. For example:

• [Window names.] At the top of the shortcut menu, you'll often find at least one tiny, neatly labeled window icon, like those shown in <u>Figure 3-5</u>. This useful Mac OS X feature means that you can jump directly not just to a certain program, but to a certain *open window* in that program.

For example, suppose you've been using Word to edit three different chapters. You can use Word's Dock icon as a Window menu to pull forward one particular chapter, or (if it's been minimized) to pull it up-even from within a different program.



The Finder tile that's always at the beginning of the Dock is, in effect, its own Window menu. By holding the mouse down on this icon for a moment, you produce a menu that lists all open desktop windows.

Of course, the Window menu at the top of the Finder screen does the same thing. But the Dock is available no matter what program you're using.

• **Keep In Dock.** Whenever you launch a program, Mac OS X puts its icon in the Dock-marked with a little black triangle-even if you don't normally keep its icon there. As soon as you quit the program, its icon disappears again from the Dock.

If you understand that much, then the Keep In Dock command makes a lot of sense. It means, "Hello, I'm this program's icon. I know you don't normally keep me in your Dock, but I'd be happy to stay here even after you quit my program. Just say the word." If you find that you've been using, for example, Terminal (Chapter 15) a lot more often than you thought you would, this command may be just the ticket.



Actually, there's a faster way to tell a running application to remain on the Dock from now on: Just drag its icon off the Dock and then right back onto it-yes, while the program is running. You have to try it to believe it.

• Show In Finder. Choose this command to highlight the actual icon (in whatever folder window it happens to sit) of the application, alias, folder, or document you've clicked. You might want to do this when, for example, you're using a program that you can't quite figure out, and you want to jump to its desktop folder in hopes of finding a Read Me file there.



If you really want to reveal an icon in the Finder, there's a much faster way: ##-click its Dock icon. (You can even ##-click a document window that's listed in one of the Dock's pop-up menus, illustrated in Figure 3-5, to highlight *its* corresponding icon.)

- **Hide.** Apple's theme for Mac OS X 10.3 seems to have been, "Cut the clutter," because this operating system is crawling with ways to hide or reveal selected batches of windows. Here's a case in point: You can hide all traces of the program you're using by choosing Hide from its Dock icon. (You could accomplish the same thing in many other ways, of course; see Section 4.4)
  - What's kind of cool here is that (a) you can even hide the Finder and all *its* windows, and (b) if you press Option, the command changes to say Hide Others. This, in its way, is a much more powerful command. It tells all of the programs you're *not* using-the ones in the background-to get out of your face. They hide themselves instantly.
- Quit. You can quit any program directly from its Dock menu. (Troubleshoot moment: If you get nothing but a beep when you use this Quit command, it's because you've hidden the windows of that program, and one of them has unsaved changes. Click the program's icon, save your document, and then try to quit again.)

You might be thankful for this quick-quitting feature when your boss is coming down the hallway and the Dilbert Web site is on your screen where a spreadsheet is supposed to be.



If you hold down the Option key-even after you've opened the pop-up menu-the Quit command changes to say Force Quit. That's your emergency hatch for jettisoning a locked-up program.

• Conduct speed tests. When you click an application on the Dock, its icon jumps up and down a few times as the program launches, as though with excitement at having been selected. The longer a program takes to start up, the more bounces you see. This has given birth to a hilarious phenomenon: the counting of these bounces as a casual speed benchmark for application-launching times. "Internet Explorer took twelve bouncemarks to open in Mac OS X 10.2," you might read online, "but only three bouncemarks in 10.3."



If you find the icon bouncing a bit over the top, try this: Choose Dock Dock Preferences. In the Dock dialog box (shown in Figure 3-4), turn off "Animate opening applications." From now on, your icons won't actually bounce-instead, the little triangle underneath it will simply *pulse* as the application opens.

 Do your filing. Once you've tried stashing a few important folders on the right side of your Dock, there's no going back. You can mostly forget all the other navigation tricks you've learned in Mac OS X. After all, the folders you care about are always there, ready for opening with a single click.

Better yet, they're easily accessible for *putting away* files; you can drag them directly into the Dock's folder icons as though they're regular folders. In fact, if you press it just before releasing the mouse, docked folder icons don't scoot out of the way, as they usually do to accommodate something you're adding to the Dock.

# 3.3.4 Great Things to Put on Your Dock

Now that you know what the Dock's about, it's time to set up shop. Install the programs, folders, and disks you'll be using most often.

They can be whatever you want, of course, but don't miss these opportunities:

- Your Home folder. Many Mac fans immediately drag their hard drive icons onto the right side of the Dock-or, perhaps more practically, their Home folders (see <u>Section 2.1</u>). Now they have quick access to every single file in every single folder they'll ever use.
- **The Applications folder.** Here's a no-brainer: Stash the Applications folder here, so you'll have quick pop-up menu access to any program on your machine.



If you click and hold on the Applications folder's icon, a list of its contents pops up. That much you already knew.

But remember that in Panther, you can highlight a command in an open menu just by typing the first couple letters of its name-and that goes for Dock pop-up menus, too. In other words, once you've popped open your Applications menu, you can open any program inside it just by typing *sa* for Safari (for example), without having to scroll through a hundred programs with the mouse.

- Your Applications folder. As an even more efficient corollary, create a new folder of your own. Fill it with the
  aliases of just the programs you use most often and park it on the Dock. Now you've got an even more useful
  Applications folder.
- The Documents folder. The Documents folder in your Home folder is another primary center for your Mac activity. Stash it here for quick access.
- The Shared folder. If you're using the Mac's *accounts* feature (<u>Chapter 11</u>), this is your wormhole between all accounts-the one place you can put files where everybody can access them (Section 11.5.2).



Ordinarily, dragging an icon off the Dock takes it off the Dock.

But if you press ## as you drag, you drag the actual item *represented* by the Dock icon, from wherever it happens to be on the hard drive! This new Panther trick is great when, for example, you want to email a document whose icon is on the Dock; just ##-drag it into your outgoing message. (Option-##-drag, meanwhile, creates an alias of the Dock item.)



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#### 3.4 The Finder Toolbar

At the top of every Finder window is a small set of function icons, all in a brushedaluminum row (Figure 3-6). If you're used to Mac OS X 10.2, a glance at this new, emaciated toolbar may make you wonder if Apple put it on some kind of crazy nocarb diet. Gone are the icons for Home, Computer, Applications, and other folders that used to appear here-because these now appear in the Sidebar (Section 1.2.1).

Instead, the first time you run Mac OS X 10.3, you'll find only these icons on the toolbar:

 Back, Forward. As you've probably noticed, the Mac OS X Finder works something like a Web browser. Only a single window remains open as you navigate the various folders on your hard drive.

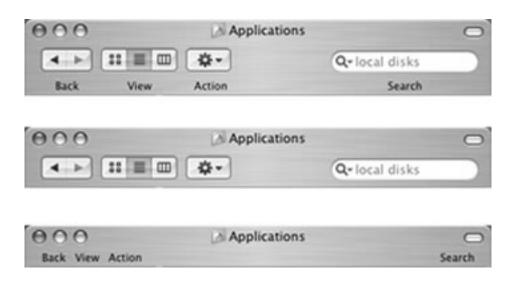
The Back button returns you to whichever folder you were just looking at. (Instead of clicking Back, you can also press #-[, or choose Go Back-particularly handy if the toolbar is *hidden*, as described below.)

The Forward button springs to life only *after* you've used the Back button. Clicking it (or pressing **#**-]) returns you to the window you just backed out of.

- View controls. The three tiny buttons next to the Forward button switch the current window into icon, list, or column view, respectively (Section 1.3). And remember, if the toolbar is hidden, you can get by with the equivalent commands in the View menu at the top of the screen-or by pressing #-1, #-2, or #-3 (for Icon, List, and Columns view, respectively).
- Action. You can read all about this context-sensitive pop-up menu, new in Panther, in Section 2.3.1.
- **Search bar.** This is your Find command. As described in detail in <u>Section 2.9</u>, it lets you pinpoint a certain icon within the open window, or anywhere on your system.

If you #-click the upper-right toolbar button repeatedly, you cycle through six combinations of large and small icons and text labels (three examples are shown here).

Tip: This same #-clicking business cycles through the same toolbar variations in Mail, System Preferences, and many other programs that have toolbars.



### 3.4.1 Removing or Shrinking the Toolbar

Between the toolbar, the Dock, the Sidebar, and the unusually large icons of Mac OS X, it almost seems like there's an Apple conspiracy to sell big screens.

Fortunately, the toolbar doesn't have to contribute to that impression. You can hide it with one click-on the white, oval "Old Finder Mode" button (see Section 1.2.7). You can also hide the toolbar by choosing View Hide Toolbar or pressing Option-#-T. (The same keystroke, or choosing View Show Toolbar, brings it back.)



Why did Apple change the Hide Toolbar keystroke after millions of Mac fans just got finished memorizing #-B in Mac OS X 10.2?

Answer: Because Panther is more consistent. Remember that the Option-£combo is the universal pair for *system-wide on/off switches*, like Option-£-D for hiding the Dock, Option-£-H for Hide Others, Option-£-Esc for Force Quit, and so on.

But you don't have to do without the toolbar altogether. If its consumption of screen space is your main concern, you may prefer to simply collapse it-to delete the pictures but preserve the text buttons.

The trick is to **#**-click the Old Finder Mode button. With each click, you make the toolbar take up less vertical space, cycling through six variations of shrinking icons, shrinking text labels, and finally labels without any icons at all (see <u>Figure 3-6</u>).

There's a long way to adjust the icon and label sizes, too: Choose View—Customize Toolbar (or Option- click the Old Finder Mode button). As shown in <u>Figure 3-7</u>, the dialog box that appears offers a Show pop-up menu at the bottom. It lets you choose picture-buttons, with Icon Only, or, for the greatest space conservation, Text Only. You can see the results without even closing the dialog box.

Click Done or press Enter to make your changes stick.

#### NOTE

In Text Only mode, the three View buttons become a little pop-up menu. Furthermore, the Search bar (Section 2.9) turns into a one-word button called Search. Clicking it brings up the Find dialog box (Section 2.10), which is actually much more powerful than the Search bar itself.

While this window is open, you can add icons to the toolbar by dragging them into place from the gallery before you. You can also remove icons from the toolbar by dragging them up or down off the toolbar. Rearrange the icons by dragging them horizontally.



# 3.4.2 Adding Your Own Icons to the Toolbar

Mac OS X not only offers a collection of beautifully designed icons for alternate (or additional) toolbar buttons, but makes it easy for you to add *anything* to the toolbar,turning it into a supplementary Dock or Sidebar. This is great news for people who miss having their Home and Applications folder icons at the *top* of the window, as it was in Mac OS X versions past, or for anyone who has run out of space for stashing favorite icons on the Dock or the Sidebar. (Of course, if *that's* your problem, you need a bigger monitor.)

#### 3.4.2.1 Apple's toolbar-icon collection

To see the optional toolbar icons that Apple has prepared for you, choose View Customize Toolbar. The window shown in Figure 3-7 appears.



There's a great secret shortcut for opening the Customize Toolbar window: *Option-*# *-click* the toolbar button (the white capsule in the upper-right corner of every Finder window). The keys to hold down may have changed from Mac OS X 10.2, but the result is equally satisfying.

This is your chance to rearrange the existing toolbar icons or delete the ones you don't use. You can also add any of Apple's buttons to the toolbar simply by dragging them from the "gallery" upward onto the toolbar itself. The existing icons scoot out of your cursor's way, if necessary.

Most of the options listed in the gallery duplicate the functions of menu commands. Here are a few of the options that don't appear on the standard toolbar:

- Path. Most of the gallery elements are buttons, but this one creates a *pop-up menu* on the toolbar. When clicked, it reveals (and lets you navigate) the hierarchy-the *path*-of folders that you open to reach whichever window is open. (*Equivalent:* \*\* clicking a window's title, as described in Section 1.2.2.)
- **Eject.** This button ejects whichever disk or disk image is currently highlighted. (*Equivalent:* The File Eject command, or holding down the Eject key on your keyboard.)
- **Burn.** This button burns a blank CD or DVD with the folders and files you've dragged onto it. (*Equivalent:* The File Burn Disc command.)
- Customize. This option opens this toolbar-customizing window. (Equivalent: The View Customize Toolbar command.)
- **Separator.** This gallery icon doesn't actually do anything when clicked. It's designed to set apart *groups* of toolbar icons. (For example, you might want to segregate your *folder* buttons, such as Documents and Applications, from your *function* buttons, such as Delete and Connect.) Drag this dotted line between two existing icons on the toolbar.
- **Space.** By dragging this mysterious-looking item-new in Panther-into the toolbar, you add a gap between it and whatever icon is to its left. It's about as wide as one icon. (The fine, dark, rectangular outline that appears when you drag it won't actually show up once you click Done.)
- Flexible Space. This icon, too, creates a gap between the toolbar buttons. The difference is that this time, the gap will expand as you make the window wider. Now you know how Apple got the Search bar, for example, to appear off to the right of the standard toolbar, a long way from its clustered comrades to the left.
- New Folder. Clicking this button creates a new folder in whichever window you're viewing. (*Equivalent:* the File New Folder command, or the Shift-#-N keystroke. Millions of Mac fans, however, spend their first weeks with Mac OS X hitting the old keystroke, #-N, when they want a new folder, little realizing that #-N now triggers the New Finder Window command. Adding the New Folder command to the toolbar is a quick solution.)
- **Delete.** This option puts the highlighted file or folder icons into the Trash. (*Equivalent:* the File Move to Trash command, or the **#**-Delete keystroke.)



The New Folder and Delete icons are among the most valuable ones to put on your toolbar. They represent functions you'll probably use often.

- Connect. If you're on a home or office network, this opens the Connect to Server dialog box (see Section 12.2.2) so that you can tap into another computer. (Equivalent: The Go—Connect to Server command, or the #-K keystroke.)
- **Find.** This option opens the Find dialog box (<u>Chapter 2</u>), which you can use to search your hard drive for files or folders.
- Get Info. This button opens the Get Info window (Section 2.8) for the icon you've highlighted.
- **iDisk.** The iDisk is your own personal 100 MB virtual hard drive on the Internet. It's your private backup disk, stashed at Apple, safe from whatever fire, flood, or locusts may destroy your office. Of course, you already know this, because you're paying \$100 per year for the privilege (see Section 18.9.2).

In any case, you can connect to the Internet and bring your iDisk's icon onto the screen just by clicking this toolbar icon.

- Search. This item represents the Search bar described in <u>Section 2.9</u>.
- **Default set.** If you've made a mess of your toolbar, you can always reinstate its original, factory-installed arrangement just by dragging this rectangular strip directly upward onto your toolbar.

#### NOTE

If a window is too narrow to show all the icons on the toolbar, you will see, at the right end of the toolbar, a >> symbol. Click it for a pop-up menu that names whichever icons don't fit at the moment. (You'll find this toolbar behavior in many Mac OS X programs-System Preferences, Mail, Address Book, and so on-not just the Finder.)

#### 3.4.2.2 Adding your own stuff

Millions of Panther fans will probably trudge forward through life, using the toolbar to hold the suggested Apple function buttons, and the Sidebar to hold the icons of favorite folders, files, and programs. They may never realize that you can drag any icons at all onto the toolbar-files, folders, disks, programs, or whatever-to turn them into one-click buttons, just as in Mac OS X 10.2.

In short, you can think of the Finder toolbar as yet another Dock or Sidebar (Figure 3-8).

You don't need to choose View —Customize Toolbar to add your own icons to the toolbar. Just drag them from the desktop or any folder window directly onto the toolbar, at any time. Pause with your cursor on the toolbar for a moment before releasing the icon.)



# 3.4.3 Rearranging or Removing Toolbar Icons

You can drag toolbar icons around, rearranging them horizontally, by pressing **#** as you drag. Taking an icon off the toolbar is equally easy: While pressing the **#** key, just drag the icon clear away from the toolbar. It vanishes in a puff of cartoon smoke.

(If the Customize Toolbar sheet is open, you can perform either step without the # key.)

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# 3.5 Designing Your Desktop

In some ways, just buying a Macintosh was a renegade act of self-expression. But that's only the beginning. Now it's time to fashion the computer screen itself according to your personal sense of design and fashion.

# FREQUENTLY ASKED QUESTION Desktop Fonts

How do I change the fonts used by the Mac OS X Finder?

In Mac OS versions gone by, you could choose any font you liked for your icon labels. You even had a choice of several fonts for use in your menus.

In Mac OS X 10.3, that flexibility is gone. You get Lucida Grande in your menus and as icon labels, love it or leave it. In the View Options window, you can change the type size-just not the font.

For now, Apple intends to remain conservative with the look of Mac OS X-both for "branding" reasons (to make Mac OS X instantly recognizable) and for technical ones (to make sure that it doesn't open a Pandora's box of interface hacks that wind up destabilizing the machine).

## 3.5.1 System Preferences

Cosmetically speaking, Mac OS X offers two dramatic full-screen features: desktop backgrounds and screen savers. (That's not counting the pictures and colors you can apply to individual folder windows, as described in Section 1.4.1.6.)

The command center for both of these functions is the System Preferences program (which longtime Mac and Windows fans may recognize as the former Control Panels). Open it by clicking the System Preferences icon on the Dock, or by choosing its name from the menu.

When the System Preferences program opens, you can choose a desktop picture or screen saver by clicking the Desktop & Screen Saver button. For further details on these System Preferences modules, see Chapter 8.

# 3.5.2 Graphic Designers' Corner: The Gray Look

One of the earliest objections to the lively, brightly colored look of Mac OS X came from Apple's core constituency: artists and graphic designers. Some complained that Mac OS X's bright blues (of scroll bar handles, progress bars, the menu, pulsing OK buttons, highlighted menu names and commands), along with the red, green, and yellow window-corner buttons, threw off their color judgment.

Truth is, these features have been greatly toned down since the original version of Mac OS X. The pulsing effects are subtler, the three-dimensional effects are less drastic, and the button colors are less intense.

But just in case they still bother artists, Apple created what it calls the Graphite look for Mac OS X, which turns all of those interface elements gray instead of blue. To try out this look, click the System Preferences icon on the Dock (or choose System Preferences from the menu); click Show All; click Appearance; and then choose Graphite from the Appearance pop-up menu.



The Highlight Color pop-up menu lets you choose a different accent color for your little Mac world. For example, this is the background color of highlighted text, the colored oval that appears around highlighted icon names, and window "lining" as you drag an icon into it.

## 3.5.3 Desktop Sounds

Desktop sounds are the tiny sound effects that accompany certain mouse drags. And we're talking tiny-they're so subdued and sparse, you might not even have noticed them. But you'll hear a little plink/crunch when you drop an icon onto the Trash, and a little whoof! when you drag something off the Dock and into oblivion.v

If all that racket is keeping you awake, however, it's easy enough to turn them off. Open System Preferences, click the Sound icon, and turn off "Play user interface sound effects."

And if you decide to leave them turned on, please-use discretion when working in a library, neurosurgical operating room, or church.



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# 3.6 Menulets: The Missing Manual

See the little menu-bar icons in <u>Figure 3-9</u>? Apple calls them Menu Extras, but Mac fans on the Internet have named *menulets*. Each is both an indicator and a menu that provides direct access to certain settings in System Preferences. One lets you adjust your Mac's speaker volume; another lets you change the screen resolution; another shows you the remaining power in your laptop battery; and so on.

These little guys are the direct descendants of the controls once found on the Mac OS 9 Control Strip or the Windows system tray. Menulets from left: Eject, VPN, Text Input, Remote Desktop, PPP, Ink, iChat, Classic, Bluetooth, AirPort, Volume, Battery, and Date & Time.



To summon the various menulets, you generally visit a certain pane of System Preferences (<u>Chapter 8</u>) and turn on a checkbox called, for example, "Show volume in menu bar." Here's a rundown of the various Apple menulets that you may encounter, complete instructions on where to find this magic on/off checkbox for each:.

- AirPort status lets you turn your AirPort card on or off, join existing AirPort wireless networks, and create your own private ones. *To find the "Show" checkbox:* Open System Preferences Network. From the Show pop-up menu, choose AirPort. (It's available only if you've installed Apple's AirPort software.)
- Apple Remote Desktop is a program, sold separately, that lets teachers or system administrators tap into your Mac from across the network. In fact, they can actually see what's on your screen, move the cursor around, and so on. The menulet lets you turn remote control on and off, send a message to the administrator, and so on. To find the "Show" checkbox: Open System Preferences Sharing, and click Apple Remote Desktop.
- Battery status shows how much power remains in your laptop's battery (laptops only). *To find the "Show" checkbox:*: Open System Preferences Energy Saver.

- Bluetooth status (for connecting to Bluetooth devices, "pairing" your Mac with a cellphone, and so on). To find the "Show" checkbox: Open System Preferences—Network. From the Show pop-up menu, choose Bluetooth. (It's available only if you've installed Apple's Bluetooth software.) Finally, click the Bluetooth Modem tab button. The "Show Bluetooth status in menu bar" checkbox appears at the bottom of the dialog box.
- Classic. Using this menulet, you can start or stop Classic (which is Mac OS X's "Mac OS 9 simulator," as described in <u>Chapter 5</u>), open the Classic pane of System Preferences, or-this is weird-view the contents of the Mac OS 9 menu. To find the "Show" checkbox: Open System Preferences Classic. Look near the middle of the Start/Stop pane.
- **Dial-up modem (PPP) status** lets you connect or disconnect from the Internet. *To find the "Show" checkbox:*Open System Preferences Network. From the Show pop-up menu, choose Internal Modem. Click the Modem tab button.
- **Displays** adjusts screen resolution. *To find the "Show" checkbox:* Open System Preferences Displays.
- **Eject disc.** This one's the oddball: There's no checkbox in System Preferences to make it appear. The fact that it even exists is something of a secret.

To make it appear, open your System Library CoreServices Menu Extras folder, and double-click the Eject.menu icon. That's it! The Eject menulet appears.

You'll discover that its wording changes: "Open Combo Drive," "Close DVD-RAM Drive," "Eject [Name of Disc]," or whatever, to reflect your particular drive type and what's in it at the moment.

- iChat. Here's a quick way to let the world know, via iChat and the Internet (Chapter 21), that you're away from your keyboard, or available and ready to chat. Via the Buddy List command, it's also a quick way to open iChat itself. To find the "Show" checkbox: Open iChat (it's in your Applications folder). Choose iChat Preferences, click the General button, and turn on "Show status in menu bar."
- Ink. If you have a graphics tablet, you can use this menulet to turn Write Anywhere on and off. (That may not mean much to you until you've read about the Ink feature, beginning in <u>Section 14.6</u>.) To find the "Show" checkbox: Open the Ink panel of System Preferences.
- **Menu-bar clock** tells the time, in analog or digital form (choose your preference from the menulet itself). *To find the "Show" checkbox:* Open System Preferences Date & Time Clock tab button.
- **PC Card.** You can use this little item to eject a PC card that you've inserted into the slot in your PowerBook, if it has such a slot. To make it appear, open your System Library CoreServices Menu Extras folder, and double-click the PCCard.menu folder.
- **PPPoE status** (PPP over Ethernet) lets you control certain kinds of DSL connection. *To find the "Show" checkbox:*Open System Preferences Network From the Show pop-up menu, choose Built-in Ethernet. Click the PPoE tab button.
- **Script menu** lists a variety of useful, ready-to-run AppleScript programs (see <u>Section 7.1</u>). To make it appear, open your Applications AppleScript folder and doubleclick Install Script Menu.
- Speaker volume, of course, adjusts your Mac's speaker or headphones volume. *To find the "Show" checkbox:*Open System Preferences Sound.
- **Text Input** makes it easy for you to switch among different *text input modes*. You're probably most familiar with the normal keyboard. But what if your language, like Japanese Kanji, has hundreds of symbols in it? How will a 26-letter keyboard help you then? You'll need a floating palette of all of these symbols, and this menulet summons and dismisses such palettes. Details in <u>Section 8.14.1</u>. To *find the "Show" checkbox:* Open System

  Preferences International. Click the Input Menu tab button.
- **User** identifies the account holder (<u>Chapter 12</u>) who's logged in at the moment. To make this menulet appear (in bold, at the far right end of the menu bar), turn on *fast user switching*, which is described in <u>Section 11.7</u>.
- VPN stands for virtual private networking, which is a system of letting you tap into a corporation's network so you can, for example, check your email from home. You can use the menulet to connect and disconnect, for example.
   *To find the "Show" checkbox:* Open the program called Internet Connect (it's in your Applications folder). Click the VPN button.

To remove a menulet, just **#** -drag it off your menu bar (or turn off the corresponding checkbox in System Preferences). You can also rearrange them by **#** -dragging them horizontally.

These little guys are useful, good-looking, and respectful of your screen space. The world could use more inventions like menulets.





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# Part II: Applications in Mac OS X

**Chapter 4**: Programs and Documents

Chapter 5: Back to Mac OS 9

**Chapter 6**: Moving Data

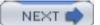
Chapter 7: An Introduction to AppleScript



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# **Chapter 4. Programs and Documents**

From the day Apple first announced Mac OS X, the company made clear that Mac OS X offered a lot of advantages, particularly in stability—but that you would need all-new versions of your programs to realize these benefits. Most software companies announced that they would get to work Mac OS X-izing their programs, but Mac fans still kept reading the same advice: Don't switch to Mac OS X until most or all of the programs you use every day have been adapted to run on it.

For most people, that time is here. One by one, the Mac OS X versions of big-name programs became ready: QuarkXPress, AppleWorks, iMovie, iTunes, Illustrator, Freehand, Quicken, FileMaker, Internet Explorer, America Online, and thousands of others. In fact, many of the latest Mac versions run *only* in Mac OS X (Microsoft Office, InDesign 3, iMovie 3, Photoshop CS, and so on).

The time has also come, therefore, to grow accustomed to the way programs and documents relate in Mac OS X.

#### **NOTE**

There are two chief kinds of Mac OS X-compatible programs, known by the geeks as *Carbon* and *Cocoa* programs (see <u>Section 4.8</u>). This chapter describes how Carbon and Cocoa programs work.

You can also run older, Mac OS 9-compatible programs that haven't yet been updated for Mac OS X—but when you launch one of these, your Mac automatically opens a Mac OS 9 simulator called Classic. For details on running the older, Mac OS 9-specific programs in this way, see Chapter 5.



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# 4.1 Launching Mac OS X Programs

You can launch (open) a program in any of several ways.

- Double-click an application's icon in the Finder.
- Click a program's icon on the Dock, Sidebar, or the Finder toolbar.
- If you've added the Applications folder to your Dock (and you should!), hold the mouse button down on it until the list of its contents springs open. Then click the program you want (or even type the first couple letters of its name and then press Return).
- Highlight an application icon and then press #-O (short for File --> Open) or #-down arrow.
- Use the submenus of the menu's Recent Items Applications command. (You control how many programs this feature tracks using the System Preferences panel described in Section 8.4.3.)

#### NOTE

Mac OS X stores a list of your recently used programs in a text file called *com.apple.recentitems.plist*,located in your Home folder Preferences folder. And with about \$1.00, that information will buy you a cup of coffee in most restaurants.

• Open a *document* icon in any of these ways, or drag a document onto the icon of a program that can open it (whether in the Dock, the Finder toolbar, the Sidebar, or in a folder window).



If you press Option as you open an application (or anything else) in the Finder, you automatically close the window that contains its icon. Later, when you return to the Finder, you'll find a neat, clean desktop—no loitering windows.

When you launch a program, the Mac reads its computer code, which lies on your hard drive's surface, and feeds it quickly into RAM (memory). During this brief interval, the icon of the opening program jumps up and down eagerly in your Dock. (You can turn off this bouncing in Finder Preferences.)



Want to see *multithreading* in action? Launch a program that takes a long time to open—that is, whose icon on the Dock does a lot of bouncing.

You don't have to wait for the application to finish bouncing—you're wasting perfectly good computing time. Just switch to another program and get to work; the newly opened program keeps right on launching in the background. Multithreading simply means that Mac OS X can crunch more than one process at a time.

What happens next depends on the program you're using. Most present you with a new, blank, untitled document. Some, like iMovie and iDVD, automatically open the last file you worked on. Some, like FileMaker and PowerPoint, ask you: Do you want to open an existing document or create a new one? And a few oddball programs don't open any window at all when first launched.

## 4.1.1 The Application Menu

In each case, however, the very first menu after the appears with bold lettering and identifies the program you're using. It might say iTunes, or Microsoft Word, or Stickies.

# NOSTALGIA CORNER Virtual Memory and Memory Allotments

I'm completely at sea when it comes to using memory in Mac OS X. There's no Memory control panel. There's no box to set the memory allotment in the Get Info dialog box of any program. There's no on/off switch for virtual memory. There's no RAM disk option. There isn't even an About This Macintosh box that shows where all my RAM (electronic memory) is going. What on earth is going on?

Mac OS X handles memory with light-years more sophistication and skill than anything Mac fans have used before—so much so, in fact, that these controls no longer even exist.

In the old days, each program claimed a fixed amount of RAM for itself as soon as you launched it. You could view and adjust this number in the program's Get Info box. (That panel is still there, in fact, when you Get Info on a Mac OS 9 program.) When you launched a program, it instantly claimed 20 MB of memory (or whatever its programmers thought it might need).

But in Mac OS X, memory allotments are *dynamic*. They adjust themselves as needed, on the fly. When you launch a program, it might not use very much RAM at all. But when you then use that program to open a huge, complex document, the system supplies more memory automatically. Then, when you close that document, Mac OS X automatically returns the RAM it was using to the "pot," so that it's available for use by other programs and functions.

It's true that the About This Mac command no longer opens a little graph depicting how much RAM each program is using, as it did in Mac OS 9. There's no longer much point. The answer is always, "exactly as much memory as it needs, and it's changing minute by minute."

Still, if you're desperate to know how much memory each of your running programs is using at this instant, open your Applications Utilities folder. Open the program called Activity Viewer. It presents a little table showing what percentage of your Mac's memory each running program is using (see Section 9.25.1).

Then there's the matter of virtual memory, which helps you open more programs simultaneously than should fit into the amount of RAM your computer has. This feature works by using a chunk of hard drive space as temporary overflow RAM when necessary. Of course, real memory delivers information to your Mac's brain many times faster than the hard drive, which is why virtual memory gained a reputation in the old Mac OS for slowing down your machine.

In Mac OS X, virtual memory is turned on all the time. But these days, virtual memory is far less likely to slow down your machine for a couple reasons. First, each program uses only as much RAM as it needs to begin with, so far less is wasted. Second, virtual memory in Mac OS X puts only *pieces* of your programs onto the

hard drive, minimizing the slowdown effect. In any case, even if you have 50 programs open, Mac OS X devotes much of your Mac's actual RAM to whatever program is frontmost, so the active program doesn't grow sluggish. You'll notice the sluggishness kicking in only when switching programs or when working on an absolutely huge document that overwhelms your installed RAM. (Want to see how much virtual memory has kicked in? Mac OS X can show you. See Section 16.4 for instructions.)

Therefore, if you find yourself receiving "out of memory" messages, which are otherwise unheard of in Mac OS X, it's probably because your hard drive is running out of space, thereby thwarting the efforts of Mac OS X's virtual memory scheme. Make more room—or install more RAM.

This Application menu (Figure 4-1) offers a number of commands pertaining to the entire program and its windows, including About, Quit, and Hide.

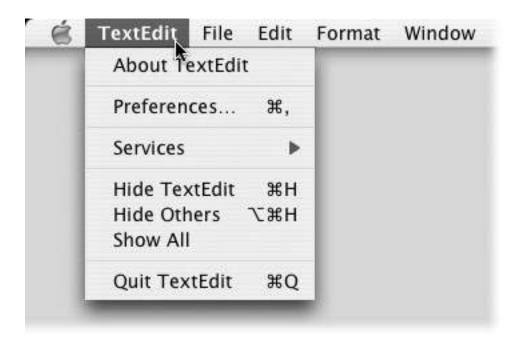
### 4.1.2 Quitting Programs

You quit a program in Mac OS X by pressing **#**-Q, which is the keyboard equivalent of the Quit command. For Macintosh and Windows veterans, the only tricky part here is that the Quit command is no longer in the File menu—it's now at the bottom of the Application menu.

But Mac OS X offers two much more fun ways to quit a program:

- Control-click a program's Dock icon and choose Quit from the pop-up menu.
- When you've pressed ##-Tab to summon Panther's "heads-up display" of open programs (Section 4.2), type the letter Q without releasing the ## key. The highlighted program quits instantly.

The first menu in every program lets you know, at a glance, which program you're actually in. It also offers overall program commands like Quit and Hide.



### 4.1.3 Force Quitting Programs

Everybody knows that Mac OS X is a rock-solid operating system, but that doesn't mean that *programs* never screw up. Individual programs are as likely as ever to freeze—or, rather, to *hang* (to lock up and display the "spinning beach ball of death" cursor). In such cases, you have no choice but to *force quit* the program—the computer equivalent of terminating it with a blunt instrument.

The big Mac OS X difference is that doing so doesn't destabilize your Mac, meaning you don't have to restart it. In fact, you can usually reopen the very same program and get on with your life.

You can force guit a stuck program in any of several ways:

- Control-click its Dock icon (or just hold your mouse down on it). Once the popup menu appears, press Option so that the Quit command now says Force Quit (see Figure 4-2). Bingo—that program is outta here.
- Press Option-#-Esc, the traditional Mac force quit keystroke.
- Choose Force Quit.

Either way, proceed as shown in Figure 4-2.

Again, force quitting is not bad for your Mac. Dire warnings don't appear. The only downside to force quitting a program is that you lose any unsaved changes to your open documents, along with any preference settings you may have changed while the program was open.



Panther introduces a very handy new key combination: Shift-Option-#-Escape. It force quits *the frontmost program*, no questions asked.

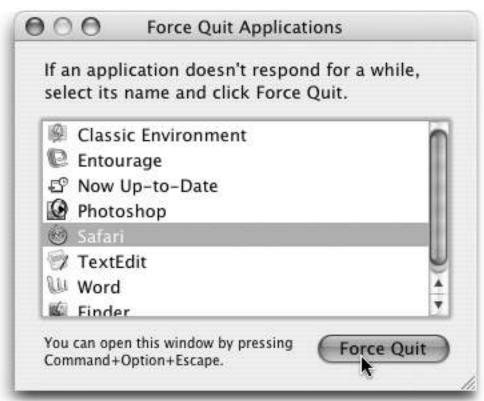
That's good to know when, for example, you can't *get* to the Dock or the menu (because, for example, the locked-up program covers the entire screen, like Keynote).

In other situations, you can achieve the same purpose by pressing Shift as you choose Force Quit.

Top: You can force quit a program from the Dock, thanks to the Option key.

Bottom: When you press Option-#-Esc or choose Force Quit from the menu, a tidy box listing all open programs appears. Just click the one you want to abort, click Force Quit, and click Force Quit again in the confirmation box. (Using more technical tools like the Unix kill command, there are other ways to jettison programs. But this is often the most convenient.)







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# 4.2 The "Heads-Up" Program Switcher

Only one program can be in front, or active, at a time.

To make a different program active, you could simply repeat the technique you used to launch the program initially. Click its Dock icon, double-click a document icon, or whatever.

You can also switch to a different program by clicking its icon on the Dock. Doing so makes the program, along with any of its open windows and toolbars, pop to the front.

But Panther introduces a faster, more direct program-switching feature—faster, because you perform it entirely from the keyboard. Just hold down the key and begin tapping the Tab key (Figure 4-3).

In fact, you can use this feature in three different ways, all of which are well worth learning:

# POWER USERS' CLINIC When Programs Are Actually Folders

You may have noticed that Mac OS X programs don't seem to have 50,000 support files strewn across your hard drive. To open AOL, you no longer need to first open an America Online *folder*, you can just double-click the AOL icon itself. That's a much better arrangement than in Mac OS 9 or Windows, where many programs must remain in special folders, surrounded by libraries, dictionaries, foreign language components, and other support files and folders.

The question is: Where did all those support files go?

Mac OS X features something called *packages* or *bundles*, which are *folders that behave like single files*. Every properly written Mac OS X program looks like a single, doubleclickable application icon. Yet to the Mac, it's actually a folder that contains both the actual application icon *and* all of its hidden support files. (Even documents can be packages, including iDVD project files and some TextEdit documents.)

If you'd like to prove this to yourself, try this experiment. Choose Go Applications. See the Calculator program? Control-click it. From the contextual menu, choose Show Package Contents. You're asking Mac OS X to show you what's inside the Calculator "application icon" folder.

The Calculator package window opens, revealing a Contents folder that you've never seen before. If you open this folder, you'll find a handful of strange-looking, Unix-named folders and files that are, behind the scenes, pieces of the Calculator program itself.

The application-as-folder trick is convenient for you, of course, because it means that you're generally free to move the application to a different window—or uninstall the program by dragging this single icon to the Trash—without worrying that you're leaving behind its entourage of support files. It's also convenient for programmers, because they can update certain aspects of their applications just by replacing one of these component files, without having to rewrite the entire program.

You can even try out this programmery benefit for yourself. In the case of the Calculator and many other Mac

OS X programs, the Resources folder contains individual graphics file—PDF or TIFF files— that serve as the graphic elements that you see when using the program. For example, the file *lcd.tiff* in the calculator's Resources folder contains the image of the calculator's screen (where the numbers appear as you punch the calculator number buttons).

Using a graphics program, you can change the background of this light-yellow calculator screen to, say, light blue. The next time you double-click the Calculator—which you now realize is actually a folder behind the scenes—you'll see your modified calculator design.



• If you keep the #key pressed, each press of the Tab key highlights the Dock icon of another program, in left-to-right Dock order. Release both keys when you reach the one you want. Mac OS X brings the corresponding program to the front. (To move *backward* through the open programs, press *Shift*-#-Tab.)

Apple calls this Windowslike row of open program icons a "heads-up display," partly because it's translucent (like the projected "heads-up display" data screens on a Navy jet windshield) and partly because you don't have to look down to the Dock to see what you're doing. (Shown here superimposed on another window to illustrate its translucence.)



- If you leave the # key pressed, you can choose a program by clicking its icon with your mouse.
- A single press of \*\*-Tab takes you to the program you used most recently, and another press returns you to the program you started in.

Imagine that, for example, you're doing a lot of switching between two programs—your Web browser and your email program, for example. If you have five other programs open, you don't waste your time #-Tabbing your way through all open programs just to "get back" to your Web browser.



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# 4.3 Exposé: Death to Window Clutter

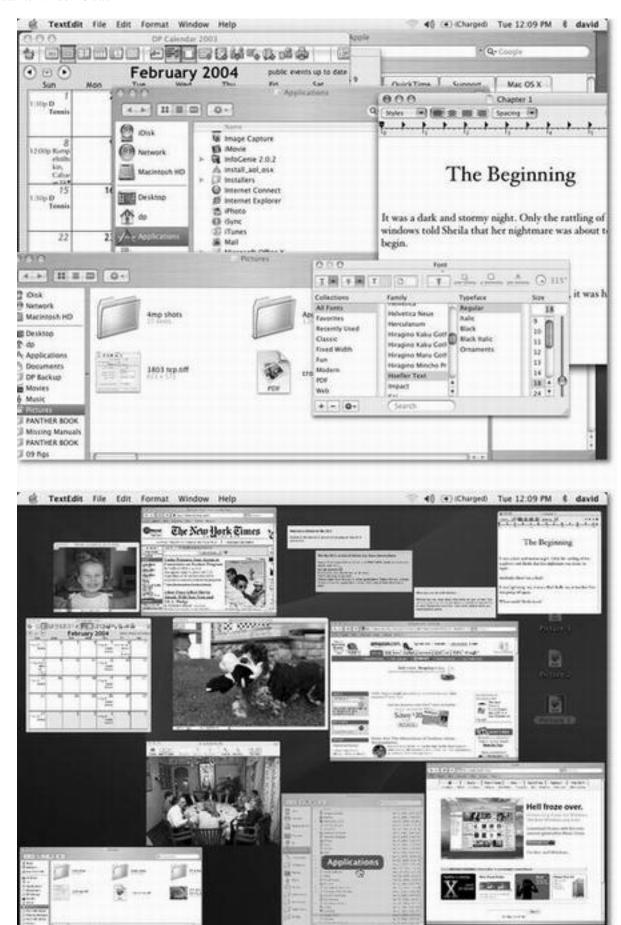
In its day, the concept of overlapping windows on the screen was brilliant, innovative, and extremely effective. (Apple borrowed this idea from a research lab called Xerox PARC.) In that era before digital cameras, MP3 files, and the Internet, managing your windows was easy this way; after all, you had only about three of them.

These days, however, managing all the open windows in all the open programs can be like herding cats. Off you go, burrowing through the microscopic pop-up menus of your taskbar buttons (Windows XP) or the Dock (Mac OS X 10.2), trying to find the window you want. And heaven help you if you need to duck back to the desktop—to find a newly downloaded file, for example, or eject a disc. You'll have to fight your way through 50,000 other windows on your way to the bottom of the "deck."

Exposé, a new feature in Panther (for some, *the* new feature), represents the first fresh look at this problem in decades. The concept is delicious: With the press of the F9 key, Mac OS X shrinks *all windows in all programs* to a size that fits on the screen (<u>Figure 4-4</u>), like index cards on a bulletin board. You click the one you want, and you're there. It's fast, efficient, animated, and a lot of fun.

#### Top: Quick? Where's the Apple Web page in all this mess?

Bottom: With one tap of the F9 key, you can spot that window, shrunken but unencumbered and un-overlapped. As your cursor passes over each thumbnail, the window darkens and identifies itself, courtesy of the floating label that appears in its center. What's especially cool is that these aren't static snapshots of the windows at the moment you Exposé'd them. They're live, still-updating windows, as you'll discover if one of them contains a QuickTime movie during playback or a Web page that's still loading. If you're not pointing to a window, tapping F9 again turns off Exposé without changing anything; if you're pointing to a window, tapping F9 again brings it forward. (As for programs running in Classic: They get out of the way when you Exposé them, but they don't appear in thumbnail form like Mac OS X program windows do.)



## 4.3.1 Three Ways to Exposé

That business about finding a buried window on your screen is probably the way you'll use Exposé the most often. But it's actually only one of three Exposé functions; the other two are described on the following pages.

## 4.3.1.1 Find one window in the current program

A second Exposé keystroke is designed to help you find a certain window only in the *program you're using*—a feature you'll probably find the most useful when you're Web browsing or word processing. When you tap F10 (the factory setting), all of the windows in the frontmost program spread out and shrink, if necessary, so that you can see all of them simultaneously, in full—and so that you can click the one you want (see <u>Figure 4-5</u>, top).

And now, tips:

Top: When you press the F10 key, you get a clear shot at any window in the current program (Safari, in this example). In the meantime, the rest of your screen attractively dims, as though someone has just shined a floodlight onto the windows of the program in question. It's a stunning effect.

Bottom: Tap the F11 key when you need to duck back to the desktop for a quick administrative chore. Here's your chance to find a file, throw something away, eject a disc, or whatever, without having to disturb your application windows. In either case, tap the same function key again to turn off Exposé. Or click one of the window edges, which you can see peeking out from all four edges of the screen.





• While your application windows are arrayed before you, tap the Tab key to switch to the *next* running program. All

- of *its* windows spring to the fore, and all of the *other* programs' windows grow dim. (Shift-Tab, as usual, cycles through the programs in the opposite direction.)
- Suppose you pressed F9 to shrink all programs' windows, but you decide that what you really meant to do was
  press F10 to see only one program's windows. The solution is to press the Tab key, which switches you into F10
  mode, dimming (and restoring to full size) all programs' windows but one. At this point, you can press Tab or ShiftTab to cycle through the open programs as described in the preceding paragraph.
- Here's another way to change programs once you've "F10'ed" your windows: Press # -Tab to bring up the "heads-up display" (yes, even while your windows are shrunken). Tab your way through the program icons ( Figure 4-3) until the one you want is selected, and then release the keys. That program's windows spring to the front, still miniaturized and arrayed for your selection pleasure.
- Press Shift as you tap the F-key to view the Exposé animation in slow motion.
- Press F10 quickly twice to bring all of a program's windows to the front.

## 4.3.1.2 Return to the desktop

The third keystroke (F11 is the factory setting) may be the stealth breakthrough of Panther. It sends *all* windows in *all* programs cowering to the edges of your screen, revealing the desktop beneath in all its uncluttered splendor (<u>Figure 4-5</u>, bottom). There they remain—forever, or until you tap F11 again, click a visible window edge, double-click an icon, or take some other window-selection step.

This is a spectacular opportunity to save hassle in situations like these:

- You're writing an email message, and you want to attach a file. Tap F11, root around in the Finder until you locate
  the file you want. Begin to drag it, and then tap F9 to make it easier to find your email window. Move your cursor,
  with the file in mid-drag, directly over the outgoing message window; press F10 again to turn off Exposé; and
  release the cursor to create the attachment.
- You want to open a different document. For many people, having access to the entire Finder beats the pants off
  having to use the Open dialog box. Double-clicking the icon you want automatically opens it and turns off Exposé.
- You're on the Web, and you want to see if some file has finished downloading. Tap F11 to survey the situation on your desktop.
- You're in Dreamweaver designing a Web page. You want to insert a graphic that's on your hard drive. But first you
  want to be sure it's in the proper local site folder. Press F11, do your housekeeping, then tap F11 again to pop
  straight back into what you were doing.

In essence, Apple has finally realized that the desktop really *isn't* "just another program." If the layer of open programs is the atmosphere, the Finder is the earth below.



You can switch among the three Exposé modes (F9, F10, or F11), even after you've triggered one. For example, if you press F10 to shrink only *one* program's windows, you can then press F11 to see the desktop, and then press F9 to shrink *all* programs' windows.

# 4.3.1.3 Another way to Exposé

Most of the time, you'll probably use Exposé in two steps. You'll tap the function key once to get the windows out of the way, and tap it again to bring them back (if, indeed, you haven't *clicked* a window to bring them back).

In some cases, though, you may find it easier to hold down the relevant key. For example, hold down F11 to see if a file is

finished downloading to the desktop, then release the key to bring back all of the windows. For quick window-clearing situations, that method saves you the step of having to press the key a second time to turn off Exposé.

## 4.3.2 Three Triggers for Exposé

Exposé is wonderful and all, but the standard keys for triggering its three functions—F9 to expose all windows, F10 for current-application windows, F11 for show-me-thedesktop— may leave something to be desired. For one thing, they may already be "taken" by other functions in your programs (like Microsoft Word) or even by your computer (like certain PowerBook G4 models, whose F9 and F10 keys adjust the keyboard illumination). For another thing, those keys are at the top of the keyboard where your typing fingers aren't used to going, and you may have to hunt to make sure you're pressing the right one.

Fortunately, you can reassign the Exposé functions to a huge range of other keys, with or without modifiers like Shift, Control, and Option. To view your options, choose System Preferences and then click the Exposé icon (Figure 4-6).

Here, you'll discover that you can trigger Exposé's functions in any of three ways:

#### 4.3.2.1 Screen corners

The four pop-up menus (<u>Figure 4-6</u>) represent the four corners of your screen. Using these menus, you can assign an Exposé trigger to each corner; for example, if you choose Desktop from the first pop-up menu, when your pointer hits the upper-left corner of the screen, you'll hide all windows and expose the desktop. (To make the windows come back, click any visible edge of a window, or twitch the cursor back into the same corner.)

Depending on the size of your screen, this option can feel awkward at first. But if you've run out of keystrokes that aren't assigned to other functions, be glad that Apple offers you this alternative.

#### **NOTE**

In previous versions of Mac OS X, of course, whipping the pointer into a corner was one good way to turn on your *screen saver*. Apple hasn't forgotten about that, which is why you'll also find commands called Start Screen Saver and Disable Screen Saver in the pop-up menus. Apple wanted to make sure that you don't get confused and assign two different functions to the same corner.

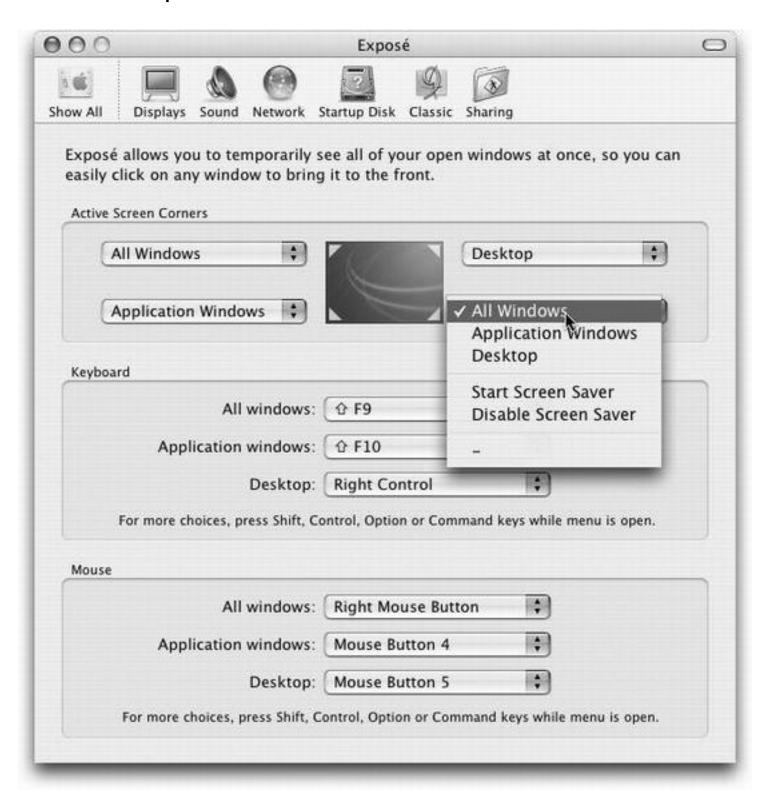
#### 4.3.2.2 Keystrokes

Also in the Exposé preferences, you'll find three pop-up menus—"All windows," "Application windows," and "Desktop"—that correspond to the three functions of Exposé as described earlier. You can't assign *any* old keystroke to Exposé, but you have far more options than the puny F9, F10, and F11 keys.

Within each pop-up menu, for example, you'll discover that all of your F-keys are available as triggers: F1, F2, F3, and so on. If, while the pop-up menu is open, you press one or more of your modifier keys (Shift, Option, Control, or #), all of these F-key choices *change* to reflect the key you're pressing; now the pop-up menu says Shift-F1, Shift-F2, Shift-F3, and so on. That's how you can make *Shift*-F1 trigger the hide-all-windows function, for example.

You can trigger Exposé in any of three ways: by twitching your cursor into a certain corner of the screen (top), pressing a key (middle), or clicking the extra buttons on a non-Apple mouse

(bottom). Of course, there's nothing to stop you from setting up all three ways, so you can press in some situations and twitch or click in others.



These pop-up menus also contain choices like Left Shift, which refers to the Shift key on the left side of your keyboard. That is, instead of pressing F9 to make all your windows shrink, you could simply tap the Shift key. (This is only an example. Repeat: This is only an example. Actually using the Shift key to shrink all your windows is a terrible, terrible idea, as you'll quickly discover the next time you try to type a capital letter. This feature is intended exclusively for hunt-and-peck typists who never use the Shift key on one side.)

If you have a laptop, you'll also find out that the Fn key (the neglected key in the lower-left corner of your keyboard) is also available for Exposé—and this time, it's a *great* choice, because Fn otherwise has very little direction in life.

## 4.3.2.3 Multiple-button mouse clicks

If you've equipped your Mac with a replacement mouse, one with more than one button, you see a third panel in System Preferences, labeled Mouse. Use these pop-up menus to assign the three Exposé modes to the various clickers on your mouse: rightclick to hide *all* windows, left-side click to reveal the desktop, and so on.







# 4.4 Hiding Programs the Old-Fashioned Way

When it comes to getting windows out of your way, nothing can touch Exposé for speed, efficiency, and entertainment value. Once you've mastered it, the traditional rituals of hiding windows will surely seem charmingly quaint. "When I was your age," you'll tell your grandchildren, "we used to have to hold down the Option key to hide windows!"

But you know the drill at software companies: They addeth, but they never taketh away. All of the old techniques are still around for the benefit of Mac fans who use them by force of habit.

## 4.4.1 Hiding the Program You're Using

When a program is hidden, all of its windows, tool palettes, and button bars disappear. You can bring them back only by bringing the program to the front again (by clicking its Dock icon again, for example).

If your aim is to hide only the program you're currently using, Mac OS X offers a whole raft of approaches to the same problem. Many of them involve the Option key, as listed here:

- Option-click any visible portion of the desktop. The program you were in vanishes, along with all of its windows.
- Option-click any other program's icon on the Dock. You open that program (or bring all of its windows to the front) and hide all the windows of the one you were using.
- Option-click any visible portion of another program's windows. Once again, you switch programs, hiding the one you were using at the time.
- From the Application menu—the boldfaced menu that bears the program's name—choose Hide iPhoto (or whatever the program is).
- When you've highlighted a Dock icon by pressing #-Tab to rotate through the running programs, press the letter H key. The program hides itself instantly. Leave the # key down the whole time, and after pressing the H, press Tab again to move on to the next program. If you release the keys while "stopped" on the program instead, you'll bring it forward rather than hiding it.
- Press #-H. This may be the easiest and most useful trick of all (although it doesn't work in every program). Doing so hides the program you're in; you then "fall down" into the next running program.



Consider this radical, timesaving proposal: *Never quit* the programs you use frequently. Instead, simply hit **#**-H whenever you're finished working in a program. That way, the next time you need it, the program launches with zero wait time.

There's a limit to this principle; if you have only 256 megabytes of memory and you keep ten programs open (and one of them is Photoshop), you'll incur a speed penalty. In more moderate situations, though, Mac OS X's virtual-memory scheme is so good, there's almost no downside to leaving your programs open *all the time*.

To un-hide a program and its windows, click its Dock icon again, choose the Show All command in the Application menu, or press #-Tab to summon the heads-up application display.



The Dock continues to display the icons of all running programs without any indication that you've hidden them. Fortunately, that's easy enough to fix. All you need is the shareware program TinkerTool, which is described in <u>Section 17.1</u>. It offers a simple checkbox that makes hidden programs appear with transparent Dock icons.

## 4.4.2 Hiding All Other Programs

Choosing Hide Others from your program's Application menu means, of course, "hide the windows of every program but this one." It even hides your Finder (desktop) windows, although desktop icons remain visible.

Better yet, there's a keystroke for this command: Option-#-H. That's one small step for keystrokes, one giant leap for productivity geeks.

If this trick interests you, you might also enjoy its Mac OS X-only corollary, described next.

## 4.4.3 The Bring-Forward, Hide-All-Others Trick

Here's a Mac OS X secret that has no precursor in Mac OS 9 or Windows. It's a terrific technique that lets you bring one program to the front (along with all of its open windows), and hide all other windows of all *other* open programs—all with one click. You might think of it as Hero mode, or Front-and-Center mode, or Clear My Calendar mode.

In any case, the trick is to Option-#-click the lucky program's icon on the Dock. As it jumps to the fore, all other windows on your Mac are instantly hidden. (You can bring them back, of course, by clicking the appropriate Dock icons.)

# 4.4.4 Hiding (Minimizing) Individual Windows

In Mac OS X, there's more to managing your window clutter than simply hiding entire programs. You can also hide or show *individual windows* of a single program. In fact, Apple must believe that hiding a window will become one of your favorite activities, because it offers at least four ways to do so, including:

- Choose Window Minimize Window, if your program offers such a command, or press **#**-M.
- Click the Minimize button on the window's title bar, as shown in Figure 4-7.
- Double-click the window's title bar.



If you press the Option key as you perform the latter two techniques (and, in some programs, even the first one), you minimize *all* of your program's open windows to the Dock. (If you had several document windows open, they turn into side-by-side document icons on the Dock.) This isn't the same thing as hiding the entire program, as described previously—you remain in the same program, but now all of its windows are hidden.

Before Panther, alas, there was no way to bring them all back at once. You had to click their Dock icons one by one. But in Mac OS X 10.3—rejoice!—Option-clicking any one of a Cocoa program's minimized Dock windows restores *all* of that program's windows to full prominence.

When you click the center button on a window title bar, or double-click the title bar, or press #-M, you minimize that window, getting it out of your way and off your screen. It's now represented by a window icon on your Dock—which you can click to reopen the window. (All of this should sound familiar if you've used Windows—all, that is, except for the cool genie animation shown here.)



In any case, the affected window shrinks down until it becomes a new icon on the right side of the Dock. Click that icon to bring the window back.







## 4.5 How Documents Know Their Parents

Every operating system needs a mechanism to associate documents with the applications that created them. When you double-click a Microsoft Word document icon, for example, it's clear that you want Microsoft Word to launch and open the document.

In Windows, every document bears a three-letter file name suffix. If you double-click something called *memo.doc*, it opens in Microsoft Word. If you double-click *memo. wri*, it opens in Microsoft Write, and so on.

Mac OS 9 uses a similar system, except that you never see the identifying codes. Instead, it relies on invisible, four-letter creator codes and type codes. Apple carefully monitors and tracks these four-letter codes, in conjunction with the various Mac software companies, so that no two codes are alike.

# NOSTALGIC CORNER Window Layering

In Mac OS 9, bringing a program to the foreground also brought *all of its windows* to the foreground. If you were working in Internet Explorer, but Word was running in the background with six open documents, all six windows would pop to the front when you switched to Word.

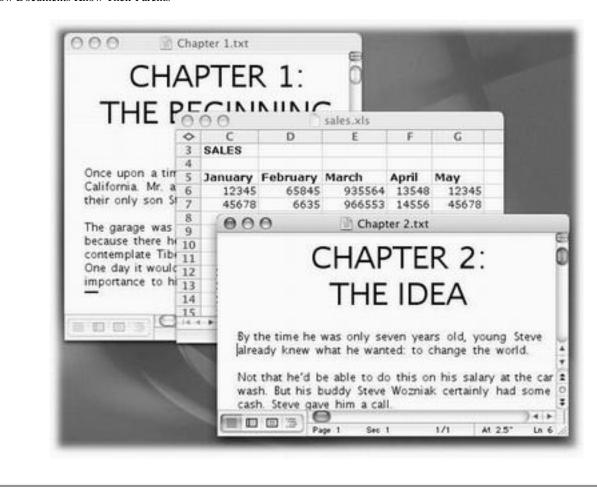
As shown here, however, Mac OS X takes a much more layered approach. It's entirely possible to wind up with the windows of different programs sandwiched and layered, front to back.

Suppose, for example, that you have Microsoft Excel in the foreground, but Word in the background. If you click within a visible portion of a background window, you bring only that window of Word to the front—a sandwiched effect that never would have been possible in Mac OS 9.

The remedy for this situation, if it bothers you, is the Window Bring All to Front command, which appears in the Finder and many other programs. It brings all of a program's windows to the front. (You can do the same thing by simply clicking the program's Dock icon, or using the #-Tab "heads-up" display.)

In the Finder, if you prefer, you can also use the new Window—Arrange in Front command. To reveal it, press Option as you open the Window menu. (What used to say "Bring All to Front" changes to say "Arrange in Front.") Mac OS X responds by *cascading* all open Finder windows, stacking them diagonally, overlapping them so that only their title bars are visible.

Layered windows really shine when you're comparing two documents in two different programs, because it frees you of the window clutter of other open documents. But the time will come when you're ready to bring all of a background program's windows to the front. Get into the habit of clicking its Dock *icon*, or pressing #-Tab to select its icon, rather than clicking inside one window. When you do that, all open windows in that application come forward, from wherever they may be.



As a Macintosh/Unix hybrid, Mac OS X uses both creator codes (like Mac OS 9) and file name suffixes (like Windows).

It's possible to live a long and happy life without knowing anything about these codes and suffixes. Indeed, the vast majority of Mac fans may never even encounter them. But if you're prepared for a little bit of technical bushwhacking, you may discover that understanding creator/type codes and file name suffixes can be useful in troubleshooting, keeping your files private, and appreciating how Mac OS X works.

# 4.5.1 Type and Creator Codes

A Macintosh document's four-letter creator code identifies the program that will open it.

If you're curious to see these codes (which are usually invisible), download a program like Type and Creator Changer (available from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>), and drag the icon in question onto its icon (<a href="https://www.missingmanuals.com">Figure 4.8</a>).

As a little experimentation will soon show you, the creator code for a program and the documents it creates are identical—MSWD for Microsoft Word, FMP3 for FileMaker Pro, and so on. That's the entire point: The creator code tells the Mac which program to open when you double-click a particular document.

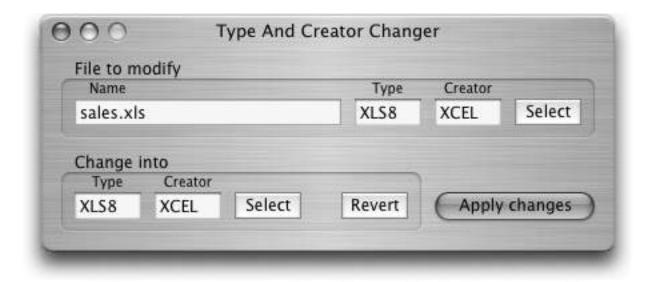
Type and Creator Changer also reveals the *second* four-letter code in the DNA of most Macintosh icons: the *type code*. This code specifies the document's file format. Photoshop, for example, can create graphics in a multitude of different formats: GIF, JPEG, TIFF, and so on. If you inspect your Photoshop documents, you'll discover that they all share the same creator code, but have a wide variety of type codes.



If the type code is supposed to identify the file format of a document, does a standard application have a type code?

It does: APPL.

Drag any icon from the desktop directly onto Type and Creator Changer's icon to view the icon's type and creator codes. Capitalization and spaces count, so if you see a creator code that appears to have only three letters, then a space at the end is also part of the code.



When you double-click a document, Mac OS X checks to see if it has a creator code. If so, it then consults an invisible database of icons and codes. This database is the master index that lists the correspondence between creator codes and the applications that generate them. Together, the type and creator codes also specify which *picture* appears on a particular icon.

If the desktop file discovers a match—if, say, you double-clicked a document with creator code BOBO, which corresponds to the AppleWorks entry in your desktop database—then the corresponding program opens the document, which now appears on your screen.

#### 4.5.2 File Name Extensions

In Mac OS X, plenty of documents don't have type and creator codes. Documents created by Cocoa applications (<u>Section</u> 4.8), for example, generally don't.

That's because Mac OS X is a Unix operating system. In Unix, type and creator codes are unheard of. Instead, what determines which program opens when you doubleclick a document is its *file name extension*, just as in Windows. A file name extension is identifiable by a suffix following a period in the file's name, as in *Letter to Mom.doc*.

(Actually, the file name extension can be much longer than three letters. It can even identify the name of the program that will open when you double-click something. The file called Registration.setup, when double-clicked, launches the Mac OS X

Setup application.)

The bottom line is that Mac OS X offers *two different* mechanisms that associate documents with the programs that created them. Mac OS X looks for type and creator codes first. Where they're absent, the file name suffixes kick in.

## 4.5.3 Hiding and Showing File Name Extensions

Mac OS X comes set to hide most file name extensions on the premise that they make the operating system look more technical and threatening. If you'd like to see them, however, choose Finder Preferences, click the Advanced button, and turn on "Show all file name extensions." Now examine a few of your documents; you'll see that their names now display the previously hidden suffixes.

You can hide or show these suffixes on an icon-at-a-time basis, too (or a clump-at-atime basis). Just highlight the icon or icons you want to affect and then choose File Get Info. In the resulting Info window, proceed as shown in Figure 4-9.

## 4.5.4 Reassigning Documents to Programs

Unfortunately, type and creator codes aren't of much use when you encounter a document created by a program that you don't have. If I email you a MIDI file (a file-exchange format for music) that I exported from my Finale sheet music program, you won't be able to open it simply by double-clicking, unless you, too, have Finale installed. Even if you have a different sheet music program on your hard drive, just double-clicking the MIDI file won't, by itself, open it.

The file name extension system, meanwhile, has problems of its own. File name extensions are even less likely to pinpoint which parent program should open a particular document. Suppose you've downloaded a graphic called Sunset.JPG. Well, almost any program these days can open a JPEG graphic—AppleWorks, Word, Preview, Safari, and so on. How does Mac OS X know which of these programs to open when you double-click the file?

The answer is simple. You can *reassign* a document to a specific program (or all documents of its kind).

Top: In the Info window, open the Name & Extension pane. Now you can see what Mac OS X really thinks your file is called. Turn "Hide extension" on if you'd rather not see the file name suffix in the Finder.

Bottom: If you try to add a suffix of your own, Mac OS X objects, in effect saying, "Hey—I've already got a file name extension for this, even if you can't see it. Are you sure you know what you're doing?"



Here's the rundown:

## 4.5.4.1 Reassigning a certain document—just once

Double-clicking a graphics file generally opens it in Preview, the graphics viewer included with Mac OS X (see <u>Section 9.18</u>). Most of the time, that's a perfectly good arrangement. But Preview can only *display* graphics—it can't edit them. What if you decide to edit a graphics file? You'd want it to open, just this once, into a different program—Photoshop Elements, for example.

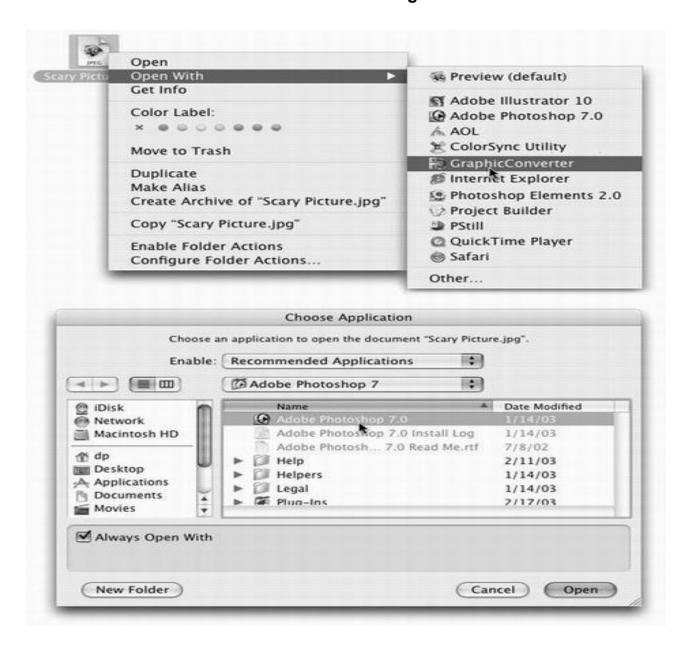
To do so, you must access the Open With command. You can find it in two places:

- Highlight the icon, and then choose File Open With.
- Control-click the file's icon. (Or right-click it, if your mouse has two buttons. Or, in a Finder window, highlight the icon and then open the Action menu.) From the resulting contextual menu, choose Open With.

In any case, study the submenu for a moment (<u>Figure 4-10</u>, top). The program whose name says "(default)" indicates which program *usually* opens this kind of document. From this pop-up menu, choose the name of the program you'd *rather* open this particular file, right now, just this once.

Top: The contextual menu offers a list of programs capable of opening an icon. If you were to press the Option key right now, the words Open With would suddenly change to say Always Open With.

Bottom: If you choose Other, you'll be prompted to choose a different program. Turn on Always Open With if you'll always want this document to open in the new parent program. Otherwise, this is a onetime reassignment.



## 4.5.4.2 Reassigning a certain document—permanently

After opening a TIFF file in, say, Photoshop Elements for editing, you haven't really made any changes in the fabric of your Mac universe. The next time you double-click that file, it will open once again in Preview.

If you wish this particular file would *always* open in GraphicConverter, the steps are slightly different. In fact, there are three different ways:

- In the Choose an Application dialog box, turn on "Always Open With" (shown at bottom in <u>Figure 4-10</u>).
- Start out with one of the techniques described previously (File Open With, or Control-click the file's icon and choose Open With)—but after you see the menu, press the Option key, too. Before your very eyes, the Open With command changes to say *Always* Open With.
- Highlight the icon, and then choose File Get Info. Open the "Open with" panel. Choose a new "parent" program's name from the pop-up menu. You'll see that the word "(default)" changes position, now tacking itself onto the name of the new program you've chosen.



You can use the Get Info method to reassign the parenthood of a whole *flock* of selected icons at once. Once you've selected them, just choose File Get Info, open the "Open with" panel, and choose a new program from the pop-up menu. The message at the top of the window—"22 items," for example—reminds you that you're changing the whole batch at once.

## 4.5.4.3 Reassigning all documents of this type

So much for reassigning one document (or group of documents) at a time. What if you're writing, say, a book about Mac OS X, and you've been taking a lot of screenshots? Mac OS X saves each captured screen illustration as a graphics file in PDF format. That's all fine, except that every time you double-click one of these, it opens into Preview, where you can't edit—you can only look.

Sure, you could reassign all of these files, one at a time, to a different program, but your grandchildren would have grandchildren by the time you finish. In this case, you want to tell Mac OS X, "For heaven's sake, make *all* PDF files open in Photoshop from now on!"

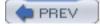
To make it happen, use the Get Info method described previously. (You can't do it using the File Open With command, nor by Control-clicking the icon, nor by using the Action menu.)

Start by highlighting any PDF file. Choose File Get Info. Open the "Open with" panel.

From its pop-up menu, choose the program you want to open this kind of document from now on. (If the one you prefer isn't listed, use the Other option, which opens the Choose an Application dialog box so that you can navigate to the one you want. Find, and double-click, the program.)

This time, however, follow up by clicking Change All beneath the pop-up menu. (This button is dimmed until you've actually selected a different program from the pop-up menu.) Mac OS X asks you to confirm by clicking Continue or pressing Enter.

From now on, double-clicking any similar kind of document opens it in the newly selected program.



< Day Day Up >







# 4.6 Keyboard Control

Mac OS X offers a fantastic feature for anyone who believes that life is too short: keyboard-controllable menus, dialog boxes, popup menus, and even Dock pop-up menus. You can operate every menu in every program without the mouse or add-on software.

Panther, in fact, takes this concept to a new extreme. You can now operate every control in every *dialog box* from the keyboard, including pop-up menus and checkboxes. And you can even *redefine* many of the built-in Mac OS X keystrokes, like Shift-#-3 to capture the screen as a graphic.

In fact, Mac OS X 10.3 even lets you add or change *any* menu command in any program. If you're a keyboard-shortcut lover, your cup runneth over.

# GEM IN THE ROUGH Using the Dock or Sidebar for Drag-and-Drop

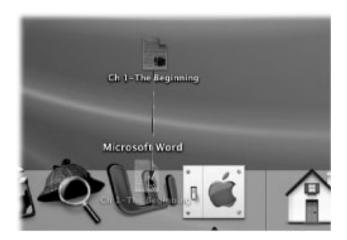
The Mac is smart about the relationship between documents and applications. If you double-click an AppleWorks document icon, for example, AppleWorks launches automatically and shows you the document.

But these days, it's occasionally useful to open a document using a program *other* than the one that created it. Perhaps, as is often the case with downloaded Internet graphics, you don't *have* the program that created it, or you don't know which one was used. This technique is also useful when opening a Read Me file into your word processor, such as Word, instead of the usual TextEdit program.

In such cases, the Dock is handy: Just drag the mystery document onto one of the Dock's tiles, as shown here. Doing so forces the program to open the document—if it can. (Dragging onto a program's icon in the Sidebar or even the Finder toolbar works just as well.)

Incidentally, only the Dock icons of programs that can, in fact, open the file you're dragging become highlighted. The others just shrug indifferently or even scoot aside, thinking you're trying to drag the file *into* the dock.

Pressing Option- as you drag forces them to be more tolerant. Now all Dock program icons "light up" as your document touches them, indicating that they'll at least try to open your file. Even so, a "could not be opened" error message may result. As they say in Cupertino, sometimes what a can really needs is a can opener.



Here are some of the ways you can control your Mac mouselessly. In the following descriptions, you'll encounter the factory settings for the keystrokes that do the magic—but as you'll note in a moment, you can change these key combos to anything you like. (That's fortunate, since many of them, out of the box, conflict with canned brightness and volume keystrokes for PowerBooks and iBooks.)

#### 4.6.1 Control the Menus

When you press Control-F2, the — menu drops down. At this point, you can highlight individual commands on that menu by pressing the up or down arrow keys, or even typing the first couple letters of the command you want.

You move to a different menu by pressing the right and left arrow keys (or Tab and Shift-Tab). And you can "click" a menu command by pressing Enter, Return, or the Space bar.

You can also close the menu without making a selection by pressing Esc or period.

#### 4.6.2 Control the Dock

Once you've pressed Control-F3, you can move to highlight *any* icon on the Dock by pressing the appropriate arrow keys (or, once again, Tab and Shift-Tab).

Then, once you've highlighted a Dock icon, you "click it" by pressing Enter or the Space bar. Again, if you change your mind, press Esc or #-period.



Once you've highlighted a disk or folder icon, you can press the up or down arrow to make the list of its contents appear. (If you've positioned the Dock vertically, use the left or right arrow instead!)

Using the arrow keys, you can now highlight and open virtually anything in any disk or folder on the Dock. Similarly, once you've highlighted the icon of an application that has several windows open, you can press the up and down arrows to highlight the name of an individual window. When you press Enter, that window pops to the front.

# 4.6.3 Cycle Through Your Windows

Every time you press Control-F4, you bring the next window forward, eventually cycling through *every window in every open program*. Add the Shift key to cycle through them in the opposite order.

Of course, you may remember from Chapter 1 that Mac OS X offers a different keystroke for cycling through the different windows in your *current* program (it's ---, the tilde symbol at the upper-left of your keyboard). This keystroke, on the other hand, tours all windows in *all* programs. Both keystrokes are useful in different situations.

#### 4.6.4 Control the Toolbar

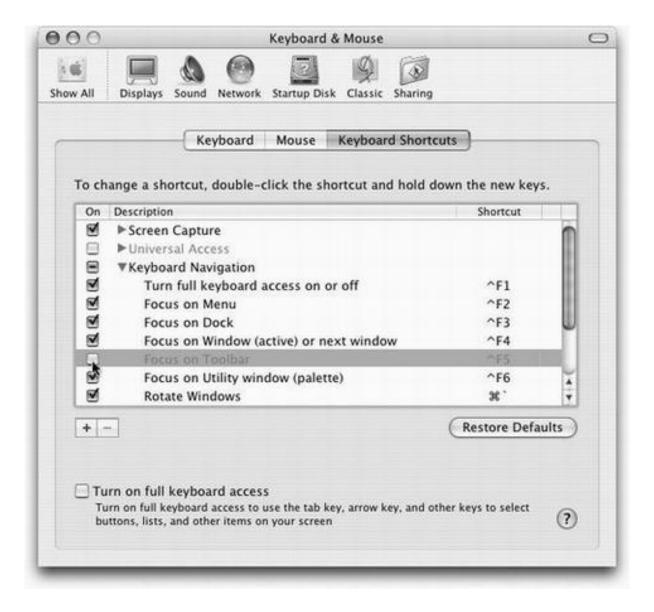
This one is on the unpredictable side, but it more-or-less works in most programs that display a Mac OS X-style toolbar: the Finder, System Preferences, Sherlock, the iPhoto editing window, and so on.

When you press Control-F5, you highlight the first button on that toolbar. Move the "focus" by pressing the arrow keys or Tab and Shift-Tab. Then tap Enter or the Space bar to "click" the highlighted button.

#### 4.6.5 Control Tool Palettes

In a few programs that feature floating tool palettes, you can highlight the frontmost palette by pressing Control-F6. At this point, use the arrow keys to highlight the various buttons on the palette. You can see the effect when, for example, you're editing text in TextEdit and you've also opened the Font palette. Pressing Control-F6 highlights the Font palette, taking the "focus" off your document.

Turn off any checkboxes for keystrokes that you never use—especially if they seem to conflict with identical keyboard shortcuts in your programs. In fact, there's even a keystroke that turns off all of the "full keyboard access" keystrokes (the ones that let you control menus, Dock, toolbars, palettes, and so on) all at once: Control-F1. (Don't mean to hurt your brain, but you can actually turn off even that keystroke.)



## 4.6.6 Control Dialog Boxes

Mac OS X 10.3 also lets you navigate and manipulate any dialog box from the keyboard. When this feature is turned on, pressing

the Tab key highlights the next control of any type, whatever it may be—radio button, pop-up menu, and so on. Press the Space bar to "click" a button or open a pop-up menu. Once a menu is open, use the arrow keys (or type letter keys) to highlight commands on it, and the Space bar to "click" your choice.

At the bottom of the Keyboard & Mouse panel of System Preferences, you'll see a checkbox called, "Turn on full keyboard access." When that checkbox is *off*, pressing the Tab key works only to move among *text boxes* in the dialog box. It skips over radio buttons, pop-up menus, and checkboxes.

## 4.6.7 Changing a Menu Command

Suppose you love iPhoto (and who doesn't?). But one thing drives you crazy: The Revert to Original command, which discards all the changes you've ever made since taking the photo, has no keyboard equivalent. You must trek up to the menu bar every time you need that command.

Or maybe it drives you crazy that the Hide command is **#** -H in most programs, but not, for some nutty reason, in Photoshop.

This is why Panther lets you add keyboard shortcuts to menu commands that lack them—or change the command in programs whose key assignments break with tradition. (It works in any program that uses the standard Mac OS X menu software, which rules out Microsoft Word.) Here's the routine:

1. Choose System Preferences. Click the Keyboard & Mouse button. Click the Keyboard Shortcuts tab button.

You arrive at the dialog box shown in Figure 4-11.

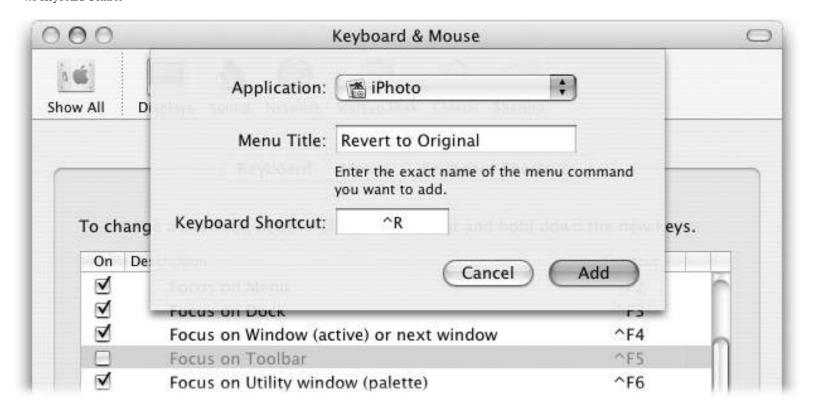
2. Click the + button just beneath the list.

The dialog box shown in <u>Figure 4-12</u>appears.

3. Indicate which program needs behavior modification.

In this example, you'd choose iPhoto from the Application pop-up menu. (If the program's name doesn't appear in the pop-up menu, choose Other; navigate to, and double-click, the program you want.)

If you choose All Applications from the top pop-up menu, you can change the keyboard combo for a certain combo command wherever it appears. You could, for example, change the keystroke for Page Setup, in every program at once.



4. Carefully type in the name of the menu command whose keyboard shortcut you want to change or add.

Type it *exactly* as it appears in the menu, complete with capitalization and the little ellipsis (...) that may follow it. (You make the ellipsis character by pressing Option-semicolon.)

5. Click in the Keyboard Shortcut box. Press the new or revised key combo you want.

For example, press Control-R (for iPhoto's Revert to Original command). You'll see the Mac's notation of your keystroke appear in the Keyboard Shortcut box—unless, of course, the combo you selected is already in use within that program. In that case, you hear only an error sound that means, "Try again."

#### 6. Click Add.

The dialog box closes. By scrolling down in your Keyboard Shortcuts list, you'll see that the keystroke you selected has now been written down for posterity under the appropriate program's flippy triangle. (To get rid of it, click its name and then click the - button beneath the list.)

The next time you open the program you edited, you'll see that the new keystroke is in place.







## 4.7 The Save and Open Dialog Boxes

When you choose File Save, you're asked where you want the new document stored on your hard drive. In Panther, the resulting dialog box is crystal-clear—more than ever, it's a miniature Finder. All of the skills you've picked up working at the desktop come into play here.

To give it a try, launch any included Mac OS X program that has a Save or Export command—TextEdit, for example. (Not all programs from other software companies have yet updated their Save dialog boxes.) Type a couple of words and then choose File Save. The Save sheet appears (Figure 4-13).



In Mac OS X, a quick glance at the Close button in the upper-left corner of a document window tells you whether it's been saved. When a small dot appears in the red button, it means you've made changes to the document that you haven't yet saved (time to press #-S!). The dot disappears as soon as you save your work.

#### **4.7.1 Sheets**

In the days of antique operating systems like Mac OS 9 and Windows, the Save dialog box appeared dead center on the screen, where it commandeered your entire operation. You weren't allowed to switch to any other document until you clicked Save or Cancel to close the dialog box. Moreover, because it seemed stuck to your *screen* rather than to a particular *document*, you couldn't actually tell which document you were saving—a real problem when you quit out of a program that had three unsaved documents open.

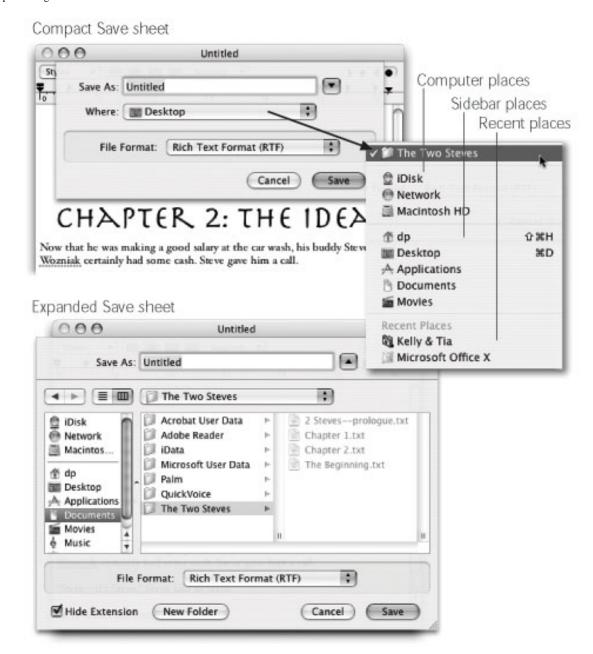
All of this struck Mac OS X's designers as user-hostile and unnecessarily rigid.

In most Mac OS X programs, there's no mystery regarding which document you're saving, because a little Save dialog box called a *sheet* slides directly out of the document's title bar. Now there's no mistaking which document you're saving.

Better still, you can think of this little Save box as a sticky note attached to the document. It will stay there, neatly attached and waiting, even if you switch to another program, another document within the same program, the desktop, or wherever. When you finally return to the document, the Save sheet will still be there, waiting for you to type a file name and save the document.

Top: The Save dialog box, or sheet, initially appears in a compact view. Right (inset): If you open the Where pop-up menu, you'll find that Mac OS X neatly lists all the places it thinks you might want to save your new document: on the hard drive or iDisk, in a folder that you've put into your Sidebar (Section 1.2.1), or into a folder you've recently opened.

Bottom: If you want to choose a different folder or create a new folder, click the downpointing triangle to expand the dialog box. Here, you see the equivalent of the Finder—with a choice of list or column view. (In this view, the Where pop-up menu now reveals the folder hierarchy—the folder path—that you've descended to reach the folder location before you.)



#### 4.7.2 Simplified Navigation

Of course, *you*, O savvy reader, have probably never saved a document into some deeply nested folder by accident, never to see it again. But millions of novices (and even a few experts) have fallen into this trap.

When the Save sheet appears, however, a pop-up menu shows you precisely where Mac OS X proposes putting your newly created document: usually in the Documents folder of your own Home folder. For many people, this is an excellent suggestion. If you keep everything in your Documents folder, it will be extremely easy to find, and you'll be able to back up your work just by dragging that single folder to a backup disk.

But as described in <u>Figure 4-13</u>, the Where pop-up menu gives you direct access to some other places you might want to save a newly created file. (The keystrokes for the most important folders work here, too—Shift-#-H for your Home folder, for example.)



The Save box always displays whatever places you've put in your Sidebar. (In compact view, the Where popup menu lists them; in expanded view, you see the Sidebar itself.)

The bottom line: If, on some project, you find yourself wanting to save new documents into the same deeply buried folder all the time, press F11 to duck back to the Finder, and add it to your Sidebar. From now on, you'll have quick access to it from the Save dialog box.

## 4.7.3 Column View/List View Navigation

When you save a file, the options in the Where pop-up menu have you covered 90 percent of the time. Most people work with a limited set of folders for active documents.

But when you want to save a new document into a new folder, or when you want to navigate to a folder that isn't listed in the Where pop-up menu, all is not lost. Click the large black triangle shown in Figure 4-13.

After a moment, a familiar scene appears: a compact version of a Finder window. You should be on reassuring turf here: There's your Sidebar (Section 1.2.1), there's your toggle switch between list and column views (although no icon view), there's the Back button, and so on. No other operating system on earth makes it so easy to navigate your folders from within the Save dialog box.



In column view, your first instinct should be to widen this window, making more columns available. Do so by carefully dragging the lower-right corner of the dialog box. Mac OS X will remember the size you like for this Save sheet independently in each program.

Most of the familiar Finder-navigation shortcuts work here, too. For example, press the right and left arrow keys to navigate the columns, or the up and down arrow keys to highlight the disk and folder names *within* a column. Once you've highlighted a column, you can also type to select the first letters of disk or folder names.

Highlight the name of the folder in which you want to save your newly created document. Alternatively, you can click the New Folder button to create a new folder *inside* whatever folder is highlighted in the column view. (The usual New Folder keystroke works here, too: Shift-\(\frac{1}{2}\)-\(\frac{1}\)-\(\frac{1}{2}\)-\(\frac{1}{2}\)-\(\frac{1}{2}\)-\(\frac{1}{2

The next time you save a new document, the Save sheet will reappear in whatever condition you left it. That is, if you used column view the last time, it will still be in column view. At any time, you can collapse it into simplified view, shown at top in <u>Figure 4-12</u>, by again clicking the fat black triangle to the right of the Where pop-up menu.

#### 4.7.4 Insta-Jumping to a Folder Location

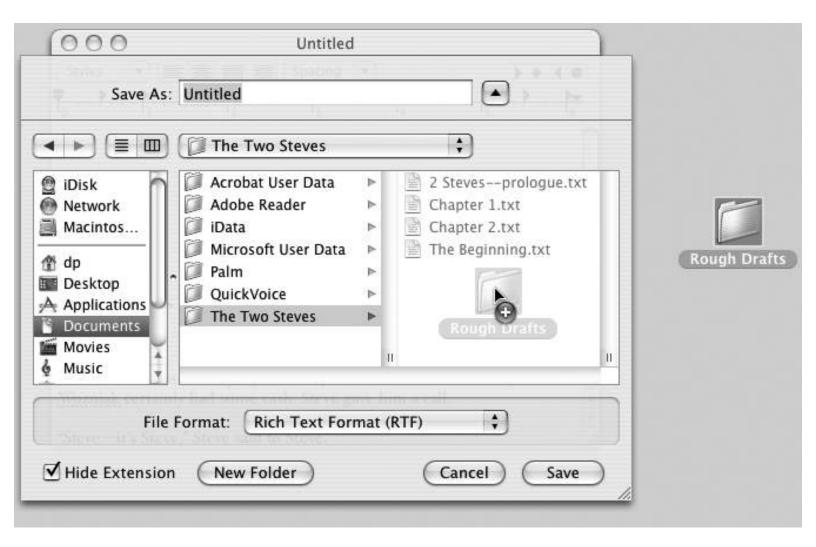
Whether you're using the mini-sheet or the expanded view, you can save yourself some folder-burrowing time by following the tip shown in Figure 4-14. This feature is totally undocumented—but well worth learning.



If, when the Save box in its expanded condition, you click the name of an existing file, Mac OS X thoughtfully copies the *name* of the clicked file into the Save As: text box (which otherwise said "Untitled" or was blank).

This trick can save you time when you're saving a second document with a slightly modified name (*Oprah and Me: The Inside Story, Chapter 1* and then *Oprah and Me: The Inside Story, Chapter 2*). It's also useful if you want to *replace* the original file with the new one you're saving. Instead of having to type out the entire name of the file, you can just click it.

The quickest way to specify a folder location is to drag the icon of any folder or disk from your desktop directly into the Save or Open sheet. Mac OS X instantly displays the contents of that folder or disk. You'll see by the Where pop-up menu that Mac OS X has indeed understood your intention.



#### 4.7.5 The File Format Pop-up Menu

The Save dialog box in many programs offers a pop-up menu of file formats below the Save As box. Use this menu when preparing a document for use by somebody else—somebody whose computer doesn't have the same software. For example, if you've used a graphics program to prepare a photograph for use on the Web, this menu is where you specify JPEG format (the standard Web format for photos).

## 4.7.6 The Open File Dialog Box

The dialog box that appears when you choose File Open is almost identical to the expanded Save File sheet (see Figure 4-15). Because

you encounter it only when you're opening an existing file, this dialog box lacks the New Folder button, Save button, file name field, and so on

Most of the other Save File dialog box controls, however, are equally useful here. Once again, you can begin your navigation by seeing what's on the desktop (press #-D) or in your Home folder (press Shift-#-H). Once again, you can find a folder or disk by beginning your quest with the Sidebar, and then navigate using either list or column view. And once again, you can drag a folder or disk off your desktop directly into the dialog box to specify where you want to look.

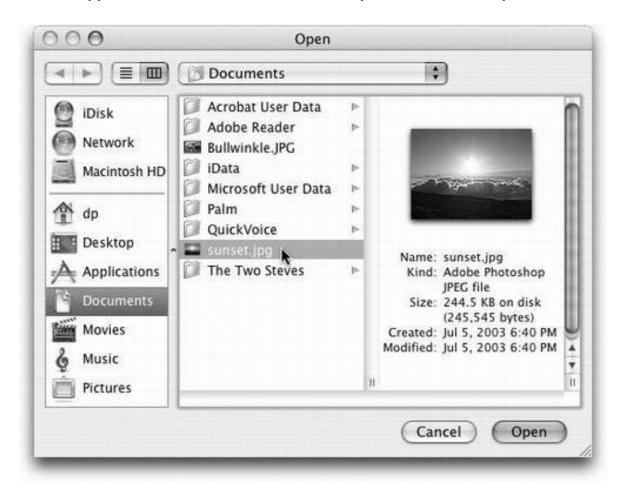
When you've finally located the file you want to open, do so by double-clicking it or highlighting it (which you can do from the keyboard), and then pressing Return, Enter, or #-O.

In general, most people don't encounter the Open File dialog box nearly as often as the Save File dialog box. That's because the Mac offers many more convenient ways to *open* a file—double-clicking its icon in the Finder, choosing its name from the Recent Items command, and so on—but only a single way to *save* a new file.

#### NOTE

In Panther, Apple removed the Go To box from the bottom of the Open sheet. That is, you can no longer type a folder path (such as ~/pictures or ~/pi and a Tab) right into the blank—or at least that's what you're supposed to think. In fact, though, you can still summon that old friendly "Go To" dialog box by pressing Shift-#-G.

Mac OS X's Open dialog box shows you only icons for disks, folders, and documents that you can actually open at this moment. For example, when using Preview as shown here, Word and TextEdit documents appear dimmed and unavailable, while picture files show up fine.

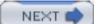




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# 4.8 Three Kinds of Programs: Cocoa, Carbon, Classic

Mac OS X was supposed to make life simpler. It was supposed to eliminate the confusion and complexity that the old Mac OS had accumulated over the years—and replace it with a smooth, simple, solid system.

In a few years, that's exactly what Mac OS X will be. For the moment, however, you're stuck with running three different kinds of programs, each with different characteristics: *Cocoa, Carbon*, and *Classic*.

The explanation involves a little bit of history and a little bit of logic. To take full advantage of Mac OS X's considerable technical benefits, software companies must write new programs for it from scratch. So what should Apple do—send out an email to the authors of the 18,000 existing Mac programs, suggesting that they throw out their programs and rewrite them from the bottom up?

At big companies like Microsoft and Adobe, such a suggestion would wind up on the Joke of the Week bulletin board.

Instead, Apple gave software companies a break. It wrote Mac OS X to let programmers and software companies choose precisely how much work they wanted to put into compatibility with the new system. The various levels include:

• **Do nothing at all (Classic).** Let's face it: Software companies go out of business, unprofitable product lines are dropped, and shareware authors go off to law school. All of them leave behind orphaned programs that run only on the old Mac OS.

Your Mac OS X machine can still run this entire library of older software. When you *try to* open one of these older programs, Mac OS X launches a Mac OS 9 *simulator* called the Classic environment. Suddenly your screen is taken over by the ghost of Mac OS 9. Sure, you leave behind all the trappings (and benefits) of Mac OS X—its new look, crash protection, and so on—but at least you're still running your favorite programs.

The point here is that Mac OS X doesn't necessarily relieve you of having to know something about Mac OS 9. Like it or not, until a huge library of Mac OS X programs is available, most people wind up having to master *both* Mac OS X and certain elements of Mac OS 9.

See Chapter 5 for much more detail on the Classic environment.

• Update the existing programs (Carbon). If software companies and programmers are willing to put some effort into getting with the Mac OS X program, they can simply adapt, or update, their existing software so that it works with Mac OS X. The resulting software looks and feels almost every bit like a true Mac OS X program—you get the crash protection, the good looks, the cool-looking graphics, the Save sheets, and so on—but behind the scenes, the bulk of the computer programming is the same as it was in Mac OS 9. These are what Apple calls Carbonized programs, named for the technology (Carbon) that permits them to run on Mac OS X.

Most Carbonized programs don't offer all of the features available to Mac OS X, however. In the following pages, you'll discover which Mac OS X goodies you sacrifice when using programs adapted in this way.

On the other hand, such software offers a spectacular feature that software companies like *a lot*: the ability of a single Carbonized program to run on *both* Mac OS 9 and Mac OS X. (Not all do—Microsoft Office X doesn't run on Mac OS 9, for example.) For the next few years, most of the big-name software companies will produce nothing but Carbonized programs.

- Other examples of Carbonized programs include AppleWorks, iMovie 2, iTunes, Photoshop, FileMaker, Internet Explorer, and, believe it or not, the Finder itself.
- Write new programs from scratch (Cocoa). As Mac OS X becomes a bigger and bigger hit, more and more programmers and software companies create new programs exclusively for it. The geeks call such programs *Cocoa* applications. Although they look exactly like Carbonized programs, they feel a little bit more smooth and solid. They may run slightly slower than Carbonized programs (witness iMovie 2 vs. iMovie 3), but they offer a number of special features not offered by Carbonized programs.

Many of the programs that come with Mac OS X are true Cocoa applications, including iMovie 3, iDVD, Safari, iChat AV, iPhoto, TextEdit, Stickies, Mail, Address Book, and so on.



Having trouble keeping the definitions of Carbon and Cocoa straight? You wouldn't be alone; it's like reading a novel where two characters' names start with the same letter. Here's one way to remember: *Carbon* programs are generally the *older* ones, those that might require carbon dating techniques to calculate their ages.



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## 4.9 The Cocoa Difference

Here are some of the advantages offered by Cocoa programs. It's worth reading—not to make you drool about a future when *all* Mac programs will fall into this category, but to help clear up any confusion you may have about why certain features seem to be present only occasionally.

#### **NOTE**

The following features appear in almost all Cocoa programs. That's not to say that you'll *never* see these features in Carbonized programs; the occasional Carbon program may offer one of these features or another. That's because programmers have to do quite a bit of work to bring them into Carbon applications—and almost none to include them in Cocoa ones.

#### 4.9.1 The Font Panel

The Mac has always been the designer's preferred computer, and Mac OS X only strengthens its position. For one thing, Mac OS X comes with about 100 absolutely beautiful fonts that Apple licensed from commercial type companies—about \$1,000 worth, according to Apple.

When you use a Carbon program, you usually access these fonts the same way as always: using a Font menu. But when you use a Cocoa program, you get the Fonts panel, which makes it far easier to organize, search, and use your font collection. Chapter 13 describes fonts, and the Font panel, in more detail.

#### 4.9.2 Title Bar Tricks

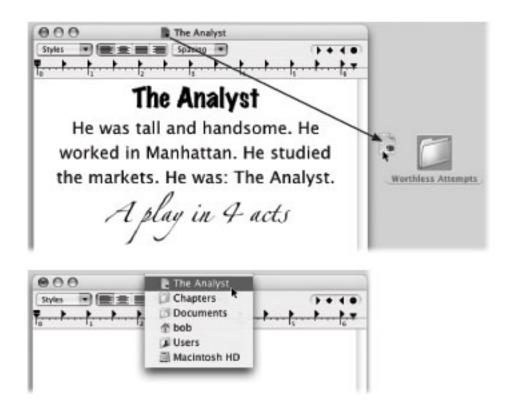
You may remember from Chapter 1 that the title bar of every Finder window harbors a secret pop-up menu. When you click it, you're shown a little folder ladder that delineates your current position in your folder hierarchy. You may also remember that the tiny icon just to the left of the window's name is actually a handle that you can drag to move a folder into a different window.

In Cocoa programs, you get the same features in *document* windows, as shown in <u>Figure 4-16</u>. (This feature is available in many Carbonized programs, but it isn't a sure thing.) By dragging the tiny document icon next to the document's name, you can perform these two interesting stunts:

- **Drag to the desktop.** By dragging this icon to the desktop, or onto a folder or disk icon, you create an instant alias of the document you're working on. This is a useful feature when, for example, you're about to knock off for the night, and you want easy access to whatever you've been working on when you return the next day.
- **Drag to the Dock.** By dragging this title-bar icon onto the *Dock* icon of an appropriate program, you open your document in that other program. For example, if you're in TextEdit working on a memo, and you decide that you'll need the full strength of Microsoft Word to dress it up, you can drag its title-bar icon directly onto the Word icon in the Dock. Word then launches and opens up the TextEdit document, ready for editing.

Top: By dragging the document- window proxy icon, you can create an alias of your document on the desktop or anywhere else. Bottom: If you #-click the name of the document in its title bar, you get to see exactly where this document sits on your hard drive. (Choosing the name of

## one of these folders opens that folder and switches you to the Finder.)



Unfortunately, you can't drag an open document directly into the Trash—a technique that could come in handy for writers who struggle with first drafts.

#### 4.9.3 Services

Apple has always dreamed of a software architecture that would let you mix and match features from different programs—using the AppleWorks spelling checker in Microsoft Word, the drawing tools of PowerPoint in your email program, and so on. (Remember Apple's OpenDoc software project? Neither does anybody else.)

In Mac OS X, Apple's dream has finally become a reality. Nestled in the Application menu of almost every Mac OS X program is a command called Services. Its submenu lists several functions that technically belong to other programs, as described below (Figure 4-17).

Unfortunately, these commands are dimmed when you use most Carbonized programs (like AppleWorks, Microsoft Office, and Internet Explorer). They become available only when you use Cocoa programs like iChat, TextEdit, Mail, OmniWeb—and the Finder. (Yes, the Finder is a Carbon program. But remember that programmers can add Cocoa features to their older, Carbonized programs; it just takes a lot of work.)

Here's a rundown of what they do.

#### NOTE

Not all of these Services work in all programs—even Cocoa programs. Implementing them is left to programmers' discretion. In these early days of Mac OS X, a little unpredictability along these lines is par for the course.

#### 4.9.3.1 Finder

The three commands listed in this submenu work only in one situation: When you've highlighted some text that precisely matches the name and folder path of any icon, such as ~/Documents/Marge.jpg). (Details on path notation in Section 1.2.2)

At that point, you can choose any of these commands from the Services Finder submenu:

- **Open.** Opens the icon. This command, in effect, lets you open any file on your hard drive, from within any Cocoa program, without having to switch to the Finder. For example, you could keep a list of your favorite files and programs in a TextEdit document, ready for opening without having to leave the program.
- Reveal. Takes you to the Finder, where the specified icon is highlighted and its enclosing folder opened into a window.
- **Show Info.** Switches to the Finder, where the Get Info window for the specified file opens, for your inspection pleasure.

If what you've highlighted isn't the name and path of a document, you'll get only an error message.

#### 4.9.3.2 Grab

Grab is a screen-capture program in your Applications—Utilities folder. You use it to turn what you see onscreen into graphics files. *It's* especially handy when writing computer books or training manuals.

The Grab service, in theory, lets you take your software snapshot from within any Cocoa application, without having to go find and launch Grab separately. Unfortunately, it's available *only* in programs that can accept pasted graphics. You'll find details on Grab's submenu commands (Screen, Selection, Timed Screen) in Section 9.25.14.

## 4.9.3.3 Import Image

This option, new in Panther, lets you import a digital photo from a scanner or digital camera, if one is attached and ready to roll. Like Grab, it works only in Cocoa programs that accept pasted graphics, and like Image Capture (on which it's based), it can operate only Webcammable digital cameras and compatible scanners (see <u>Section 9.10</u>).

#### 4.9.3.4 Mail

This handy command springs to life only after you've highlighted some text in a Cocoa program—or a file in the Finder.

- **Send Selection.** In one step, the Mail Text command launches the Mail program and pastes the highlighted text into the body of a new, outgoing email message. You're saved the trouble of copying, launching Mail, creating a new message, and pasting. You might use this feature when, for example, you find something interesting on a Web page, and you'd like to email it to someone.
- **Send To.** This command is useful only if you've highlighted an email *address* in a text document. This command, too, switches to Mail and creates a new, outgoing message—but this time, Mac OS X pastes the text you've highlighted into the "To:" field.

# 4.9.3.5 Make New Sticky Note

This command copies whatever text you've got highlighted, switches to your Stickies program (Section 9.22), creates a new sticky note, and pastes your selected material in it. If you're the kind of person who keeps your life—lists, passwords, favorite URLs, to do list, notes, and so on—in Stickies, this one can save you considerable hassle. No wonder Apple endowed it with its own keyboard shortcut: Shift-#-Y.

## 4.9.3.6 Open URL

When you highlight a Web address in any program, choosing this command fires up your Web browser and takes you to the indicated page.

## 4.9.3.7 Script Editor

For AppleScript fans only.

- **Get Result of AppleScript.** This command processes whatever text you've highlighted as an AppleScript—and then *replaces* the selected text by the result of your script.
- Make New AppleScript. This item works just like Make New Sticky Note, except that it copies your text into Script Editor rather than Stickies.
- Run as AppleScript. This one runs a selected blot of text as if it were an AppleScript, much like Get Result of AppleScript. The only difference: It doesn't replace the selected text with the result of your script.

None of these Script Editor services do any error checking. If you forget a quotation mark in your script, it simply won't run.



If you know how to use the *do shell script* command, you can run Unix commands directly from your service-enabled programs (see <u>Chapters 7</u> and <u>15</u>).

# 4.9.3.8 Search with Google

Never let it be said that inspiration is dead in the post-tech-bubble era. This unassuming command, new in Panther, adds a powerful research assistant to every program where you can type. Highlight a phrase— *Picasso, electric curtains, Yankees game*—and hit this command. In seconds, you're online, in your Web browser, facing a list of Web pages from a Google search for that topic. It's a dictionary, thesaurus, news service, and stock ticker all in one.

The gang at Apple loves this one, too. They blessed it with its own keyboard shortcut: Shift-#-L (for lookup).

## 4.9.3.9 Send File to Bluetooth Device

Bluetooth is a short-range, wireless, cable-elimination technology. It's great for tossing files between two Macs (or a Mac and a Windows laptop, for that matter), on the fly, on a plane, without any cables or setup. (Your Mac must have a Bluetooth transmitter, of course. All current PowerBooks do, for example.)

If you've highlighted the path of a file (see the tip below), this command grabs the file and hands it off to Bluetooth File Exchange, which begins the process of transmitting it to a nearby Bluetooth computer. (Section 6.2.6 describes this ritual.)

## 4.9.3.10 Speech

As detailed in Chapter 14, Mac OS X doesn't just display text onscreen—it can actually read it out loud.

- Start Speaking Text. Start by highlighting some text in a Cocoa program. Then choose this command, and presto: The Mac actually reads the text out loud, using the character voice you've chosen in System Preferences (Section 14.5).
- Stop Speaking. This command makes the Mac shut up.



If you highlight an icon in the Finder, the Start Speaking Text command reads its *path* to you. For example, for a Flowers.tiff file in your Home Pictures folder, whose path is *Users/chris/Pictures/Flowers*. tiff, the Mac says, "Users, Chris, Pictures, Flowers dot tiff."

#### 4.9.3.11 Summarize

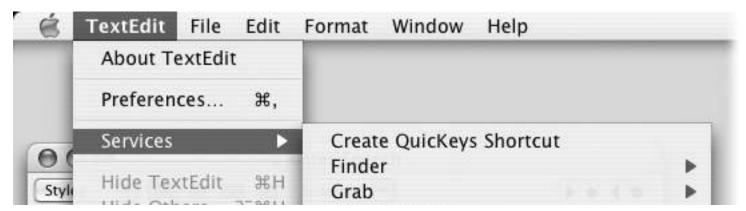
Talk about intriguing: When you choose this command after highlighting some text, the Mac analyzes the sentences you've highlighted and, after a moment, launches Summary Service. This little program, which you probably never even knew you had, displays a greatly shortened version of the original text. Figure 4-17 offers details.



To save the summarized document as a TextEdit document, choose File Save As.

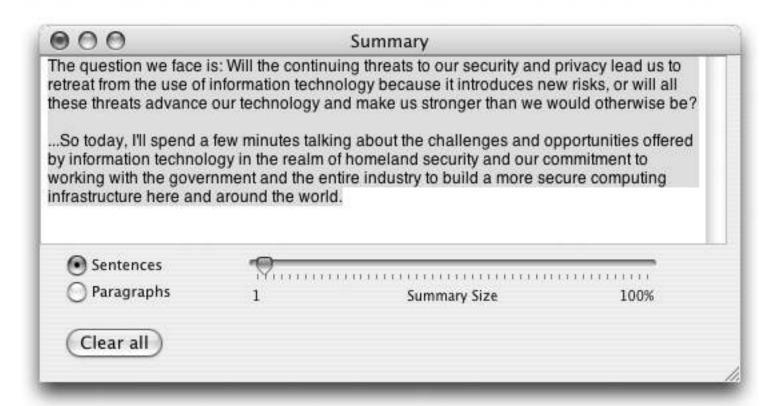
Use the Summarize command to create a one-paragraph summary (bottom) of a longer passage (top). Once the summary appears in the Summary Service program, you can make the summary more or less concise by dragging the Summary Size slider. You can also ask it to display the most statistically relevant paragraphs instead of sentences, just by clicking the appropriate radio button at the lower left.

(Note: Bear in mind that Summary Service doesn't actually do any creative rewriting; even Mac OS X can't come up with something coherent if the original wasn't. Instead, Summary Service chooses the most statistically significant sentences to include in the summary.)



file:///Users/crazymonkey/Desktop/Mac%20OS%20X%20Th...0Edition/0596006152/macxmmpanther-CHP-4-SECT-9.html (5 of 9)5/3/2004 4:49:58 AM





#### 4.9.3.12 TextEdit

This pair of commands also requires you to first highlight some text.

- New Window Containing Selection. If you've highlighted some blob of text—on a Web page, say—this command
  automatically launches TextEdit, creates a new untitled document, and pastes the highlighted text.
- Open Selected File. This command works only if you've highlighted some text that matches the name and folder path of a TextEdit document (including its *folder path*, like ~/Documents/essay.txt). If so, you can choose Services TextEdit Open Selected File to find and open that document in TextEdit. (If what you've highlighted *isn't* the name of a document, you'll get only an error message.)

Although these are the commands that come built into a fresh installation of Mac OS X, that's not the end of the versatility. The real beauty of Services is that as new, clever applications come along, they can add their own commands to this menu for your data-manipulation pleasure.



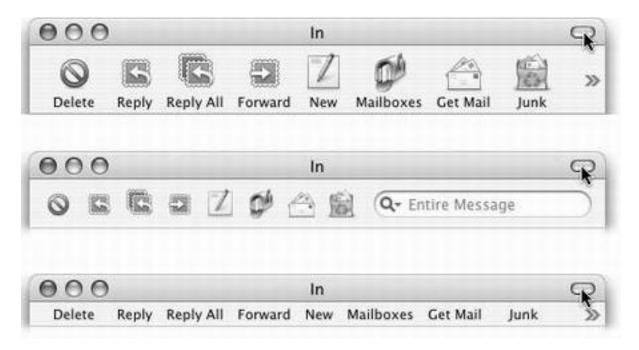
InstantLinks, a piece of \$5 shareware from Subsume Technologies, offers a useful look ahead to the future of Services. It adds to your Services menu commands that send your highlighted text to various services on the Web.

For example, you can choose Dictionary Lookup (looks up the selected text in an online dictionary), Map Location (looks up the selected address at MapQuest.com—great when somebody emails you an invitation), Open URL, Search Web, and Thesaurus Lookup. You can download it from the "Missing CD" page of <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>.

#### 4.9.4 Toolbar Tricks

The toolbar is an increasingly common sight at the top of modern application windows. In any thoughtfully written program, the Customize Toolbar command lets you determine how you want this toolbar to show up—with icons, icons with text labels beneath them, with text labels alone to save window space, and so on.

By #-clicking the toolbar button repeatedly, you can cycle among various toolbar styles. This technique works in most toolbar-equipped Cocoa programs (and even the Finder, although it's technically a Carbonized program). In Mail, for example, you can cycle between six different toolbar styles: with icons and labels (large and small); with icons only (large and small); and with text labels only (large and small).



But in many Cocoa programs—including OmniWeb, Mail, Address Book, and XCode—there's a much faster way to switch among these toolbar styles: Just \*\*Colick the white button shown in Figure 4.18.

## 4.9.5 Secret Keyboard Shortcuts

For the most part, it's possible to ignore the Unix that beats within the heart of Mac OS X. But every now and then, a refreshing reminder pokes its head up through the fields of brushed metal—and here's one of them.

Although you'll never see it mentioned in the user manuals for Cocoa applications (if there even were such thing as user manuals anymore), all of them respond to certain keystrokes left over from the NeXT operating system (Mac OS X's ancestor). If you're a card-carrying number of KIAFTMA (the Keyboard Is Always Faster Than the Mouse Association), you'll love these additional keyboard navigation strokes:

- **Control-A.** Moves your insertion point to the beginning of the paragraph. (*Mnemonic:* A = beginning of the Alphabet.)
- Control-E. Deposits your insertion point at the end of the paragraph. (*Mnemonic:* E = End.)
- **Control-D.** Forward delete (deletes the letter to the *right* of the insertion point).
- Control-K. Instantly deletes all text from the insertion point to the right end of the line. (*Mnemonic:* K = Kills the rest of the line.)
- **Control-O.** Inserts a paragraph break, much like Return, but leaves the insertion point where it was, above the break. This is the ideal trick for breaking a paragraph in half when you've just thought of a better ending for the first part.
- **Control-T.** Moves the insertion point one letter to the right—and along with it, drags whichever letter was to its left. (*Mnemonic:* T = Transpose letters.)
- Option-Delete. Deletes the entire word to the left of the insertion point. When you're typing along in a hurry, and you discover that you've just made a typo, this is the keystroke you want. It's much faster to nuke the previous word and retype it than to fiddle around with the mouse and the insertion point just to fix one letter.

Four additional keystrokes duplicate the functions of the arrow keys. Still, as long as you've got your pinky on that Control key...

Control-B, Control-F. Moves the insertion point one character to the left or right, just like the left and right arrow

keys. (Mnemonic: Back, Forward).

• Control-N, Control-P. Moves the insertion point one row down or up, like the down and up arrow keys. (*Mnemonic:* Next, Previous).

## 4.9.6 Background Window Control

As hinted in Chapter 1, the key unlocks a slick trick in Cocoa programs: It lets you operate the buttons and controls of an inactive, background window without bringing it to the front. You can operate a background window's resize box, buttons, pop-up menus, and scroll bars, all while another window is in front of it. In fact, you can even *drag through text* in a background window—and then drag-and-drop it into the foreground window. (Freaky!)

In every case, the secret is simply to keep  $\ref{eq:property}$  pressed as you click or drag.







# 4.10 Installing Mac OS X Programs

In general, new programs arrive on your Mac via one of two avenues: on a CD, or via an Internet download. The CD method is slightly simpler; see "Performing the Installation" later in this section.

For help installing downloaded programs, on the other hand, read on.

# 4.10.1 .sit, .zip, .tar, and .gz

Programs you download from the Internet generally arrive in a specially encoded, compressed form. The downloaded file's name usually has one of these file name extensions:

- .sit indicates a *Stufflt* file, the standard Macintosh file-compression format.
- .zip is the standard Windows compression file format—and, because Panther has a built-in Create [.zip] Archive command right in the File menu, it may become the *new* standard Macintosh compression format. (That would certainly make life easier for people who have to exchange files with the Windows crowd.)
- .tar is short for *tape archive*, an ancient Unix utility that combines (but doesn't compress) several files into a single icon, for simplicity in sending.
- .gz is short for gzip, a standard Unix compression format.
- .tar.gz or .tgz represents one *compressed* archive containing *several* files.
- .dmg is a disk image, described below.

Fortunately, if you use Safari (Chapter 20) as your Web browser, you don't have to worry about all this, because it automatically unzips and unstuffs them. If you use some other browser, StuffIt Expander can turn all of them back into usable form. In fact, StuffIt Expander, a program in your Applications Utilities folder, generally kicks in automatically when you download a file. (If it doesn't, double-click a downloaded compressed file to spur Expander into action.)

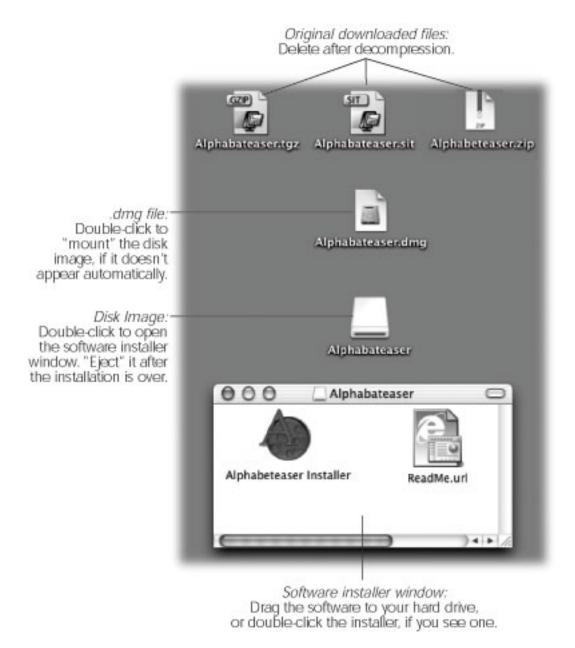
# 4.10.2 Disk Images (.dmg files)

Once you've unstuffed (or untarred) a downloaded program, it often takes the form of a disk image file, whose name ends with the letters .dmg (second from top in Figure 4.19). (Some files arrive as disk images straight from the Web, too, without having been compressed first.)

Disk images have been around for years on the Mac, but they're extremely common in Mac OS X. All you have to do is double-click the .dmg icon. After a moment, it magically turns into a disk icon on your desktop, which you can work with just as though it's a real disk (third from top in <u>Figure 4.19</u>). For example:

- Double-click it to open it. The software you downloaded is right inside.
- Remove it from your desktop by dragging it to the Trash (whose icon turns into a big silver Eject key as you drag), highlighting it and pressing #-E (the shortcut for File Eject), or Control-clicking it and choosing Eject from the contextual menu. (You've still got the original .dmg file you downloaded, so you're not really saying goodbye to the disk image forever.)

Downloading a new program from the Internet may strew your desktop with icons. After the installation is complete, you can delete all of them. (But keep the .dmg file if you think you might want to install the software again later.)



#### NOTE

In 2003, Apple introduced a new kind of disk images called *Internet-enabled disk images*. When you download one, the .dmg file automatically copies its contents onto your desktop and then auto-Trashes itself. You might never know that you downloaded a disk image; it's as though you just downloaded a bunch of files.

If you don't see all of the left-over detritus illustrated in <u>Figure 4-19</u> after downloading a disk image, now you'll know why; you just got lucky.

# 4.10.3 Cleaning Up after Decompression

When the Stufflt Expander progress-bar dialog box disappears, you may have several icons on your desktop. Some are useful; some you're free to trash.

• The original compressed file. It's safe to throw away the .sit, .tar, .gz, or .tgz file you originally downloaded (after it's decompressed, of course).



If you get tired of cleaning up after your downloads this way, you can tell Stufflt Expander to delete the pieces *automatically*. To do so, double-click the Stufflt Expander icon (in Applications——) Utilities). From the Stufflt Expander menu, choose Preferences. Turn on both "Delete after expanding" checkboxes, and then click OK.

• The .dmg file. Once you've turned it into an actual disk-drive icon, installed the software from it, and "ejected" the disk-drive icon, you can delete the .dmg file. Keep it only if you think you might need to reinstall the software someday.

#### **NOTE**

If you try to trash the .dmg file *before* removing the disk-drive icon from the screen, you'll get a "file in use" error message when you try to empty the Trash.

• The disk image itself. This final icon, the one that contains the actual software or its installer (third from top in Figure 4-19), doesn't exist as a file on your hard drive. It's a phantom drive, held in memory, that will go away by itself when you log out. So after installing its software, feel free to drag it to the Trash (or highlight it and press £ to "eject" it).

# 4.10.4 Performing the Installation

Working with .tar, .gz, and .dmg files are all skills unique to downloading Mac OS X programs from the Internet. Installing software from a CD is much more straight-forward.

In either case, once you've got a disk icon on your desktop (either a pseudo-disk from a disk image or a CD you've inserted), you're ready to install the software. You can install many Mac OS X programs just by dragging their icons or folders to your hard drive. Others offer a traditional installer program that requires you to double-click, read, and accept a license agreement, and so on.

In both cases, where you decide to install the new program is suddenly a big issue. You have the following two alternatives:

• In the Applications folder. Most programs, of course, sit in your Applications folder. Most of the time, this is where you'll want to install new programs. Putting them in the Applications folder makes it available to anyone who uses the Mac.

#### NOTE

You can't put anything in your Applications folder unless you have an Administrator account, as described in Section 11.2.

• In your Home folder. Suppose you share your Mac with other people, as described in <a href="Chapter 11">Chapter 11</a>. If that's your situation, you may occasionally want to install aprogram privately, reserving it for your own use only. In that case, just install or drag it into your Home folder, or a folder inside it. When other people log onto the machine, they won't even know that you've installed that new program, since it doesn't show up in the Applications folder.

# UP TO SPEED The Color Picker

Here and there—in System Preferences, TextEdit, Microsoft Office, and many other programs—Mac OS X offers you the opportunity to choose a *color* for some element: for your desktop background, a window, and so on.

The dialog box that appears offers a miniature color lab that lets you dial in any color in the Mac's rainbow. Several color labs, actually, arrayed across the top, each designed to make color-choosing easier in certain circumstances:

**Color Wheel.** Drag the scroll bar vertically to adjust the brightness, and then drag your cursor around the ball to pick the shade.

**Color Sliders.** From the pop-up menu, choose the color-mixing method you prefer. *CMYK* stands for cyan, magenta, yellow, and black. People in the printing industry will feel immediately at home, because these four colors are the component inks for color printing. (These people may also be able to explain why *K* stands for *black*)

RGB is how a TV or computer monitor thinks of colors: as proportions of red, green, and blue. And HSB stands for Hue, Saturation, and Brightness—a favorite color-specifying scheme in scientific circles.

In each case, just drag the sliders to mix up the color you want, or type in the percentages of each component.

**Color Palettes** presents canned sets of color swatches. They're primarily for programmers who want quick access to the standard colors in Mac OS X. (The Web Safe Colors list is useful for Web designers, too; they can tell whether a color will display properly on other computers.)

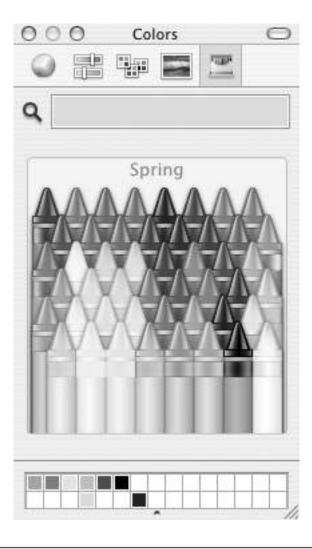
**Image Palettes** offers the visible rainbow arrayed yet another way: in cloudy, color-arranged streaks. (Cool tip: If you drag a graphics file directly into the dialog box, it will appear in the spectrum's place. That's a handy trick if you're trying to identify the color of a certain spot of an image, for example. And don't miss the pop-up button at the bottom of the dialog box, which offers a few other stunts).

**Crayons.** Now *this* is a good user interface. You can click each crayon to see its color name: "Mocha," "Fern," "Cayenne," and so on. (Some interior decorator in Cupertino had a field day naming these crayons.)

In any of these color pickers, you can also "sample" a color that's outside the dialog box—a color you found on a Web page, for example. Just click the magnifying-glass icon and then move your cursor around the screen. You'll see the sliders and numbers change inside the dialog box automatically when you click.

Finally, note that you can store frequently used (or frequently admired) colors in the mini-palette squares at the bottom. To do that, drag the big rectangular color swatch (next to the magnifying glass) directly down into one of the little squares, where it will stay fresh for weeks.

If you don't have space for all the colors you want at the bottom of the window, you can drag the small circular dot down to make room for more.



If you don't have an Administrator account, in fact, this is your only option for installing new programs.

# 4.10.5 Uninstalling Software

In Mac OS X, there's no Add/Remove Programs window. If the program you want to trash came with an Uninstall program, by all means use it. If not, to uninstall a program, just drag it (or its folder) from the Applications folder (or wherever it is), to the Trash.

Some programs also leave harmless scraps of themselves behind; to check for them, look for preference files or folders bearing the dearly departed program's name in your Library folders and your Home Preferences folder.

# FREQUENTLY ASKED QUESTION Submitting to Apple

What the—I was working along in Microsoft Word, and all of a sudden it just vanished! Poof! And all I got was this lousy dialog box about "submitting to Apple." What's going on?

Apple is trying to assimilate you.

Or, more accurately, it's trying to enlist your help in ferreting out all the little glitches that makes modern computing so much fun. If you're willing to click the Submit Report button and type a few comments ("I was just running Word, minding my own business, and when I clicked the Print toolbar button, the whole thing just crashed"), then Apple will add your report to the thousands flowing in from everyone else.

The idea, which Apple borrowed from Windows and added to Panther, is that when its programmers get a moment, they'll study these reports, track down the patterns ("Hm, we've received 50,000 reports about that Print button in Word"), and then accost the software company responsible—and, presumably, get a fix under way.

The report you submit is full of technical info that help the programmers figure out what was happening at the time of the crash, but no personal information goes along for the ride. So if you feel like doing some good for your fellow Mac fans, by all means submit the report (via the Internet) whenever you're offered the chance.





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# Chapter 5. Back to Mac OS 9

If only we could move into Mac OS X and live there! Unfortunately, *software* makes the world go 'round, and it'll be a long time before every program you'd ever want to use has been written or rewritten for Mac OS X.

That doesn't mean you can't use them at all, though. You can certainly run your old favorites within Mac OS X—by flipping back into Mac OS 9. There are two ways you can do that, as described in this chapter.

The bad news is that now you've got *two different* operating systems to learn. The landscape, features, and locations of favorite commands differ in each one.

If you've got the old Mac OS in your blood, you're way ahead of the game. But if you're new to the Mac, you can easily get confused. You may see a shiny blue menu one moment, and a striped one with completely different commands the next, as the machine flips back and forth between the two OSes.

There's no solution to this dilemma except to wait until every program you'd ever want to use is available in a Mac OS X version. Fortunately, most of the biggies are already available for Mac OS X. The sooner you can stop using the Mac OS 9 tricks described in this chapter, the better.



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# 5.1 Two Roads to Mac OS 9

You can return to Mac OS 9 in either of two ways. Here's a summary that outlines the pros and cons of each method:

Run Classic. The program called Classic is one of the crowning achievements of Mac OS X. You can think of it as
a Mac OS 9 simulator or emulator. It runs automatically whenever you double-click the icon of a pre-Mac OS X
program.

At that point, the Classic (Mac OS 9) world takes over your screen, looking exactly as though the old Mac OS 9 you used to know (or not know) is starting up. There's the old startup logo, the parade of extensions across the screen, your old menu, the non-striped menu bar, and so on. Once it's running, you can run almost all of your older Mac OS 9 programs without a hitch.

Classic is the reason Apple recommends that you install Mac OS X only on Macs with at least 128 MB of memory. When you run it, your Mac is running two operating systems at once, which requires quite a bit of memory.

For most people, most of the time, Classic is the easiest, quickest, and most effective way to run older Mac programs.

#### NOTE

Classic requires Mac OS 9.1 or later. The most recent version, 9.2.2, is best.

• Restart the Mac in Mac OS 9. Unfortunately, Classic is only a simulator. It isn't your operating system at the time—it isn't actually controlling your Mac. Mac OS X continues to run beneath it.

When a certain Mac OS 9 program "reaches for" a particular piece of circuitry on your Mac, such as the FireWire or USB jack, it may come up empty-handed. That's why many scanners, digitizing tablets, and even printers don't work when you run programs in the Classic mode.

Fortunately—depending on the age of your Mac—you may also be able to restart your Mac in Mac OS 9, just as though you don't have Mac OS X installed at all. At this point, you've got just a regular Mac OS 9 machine, and all of that older gear works just as it always did. Of course, you don't get any of the benefits of Mac OS X, such as its stability and multitasking prowess.

# FREQUENTLY ASKED QUESTION Where to Get Mac OS 9

Hey, I just bought Mac OS X 10.3, and it doesn't come with a Mac OS 9 CD! Where am I supposed to get a copy of Mac OS 9?

If you bought your Mac within the last several years, you already have a copy of Mac OS 9, right on the hard drive. Thanks to the software downloads page of Apple's Web site, you can update any version of Mac OS 9 to the very latest version (9.2.2).

Even if you bought your Mac today, you, too, have a copy of Mac OS 9. It's the folder called *System Folder* in your main hard drive window. (Don't confuse the folder called *System* Folder with the folder just called *System*, which is your Mac OS X folder.)

In short, you're completely out of luck only if you have an old Mac that's still running Mac OS 8.5 or 8.6. And for you, Apple has a special offer: \$20 buys you a copy of Mac OS 9. (You must prove your worthiness by sending Apple a copy of your Mac OS X receipt.) Details are on Apple's Web site.



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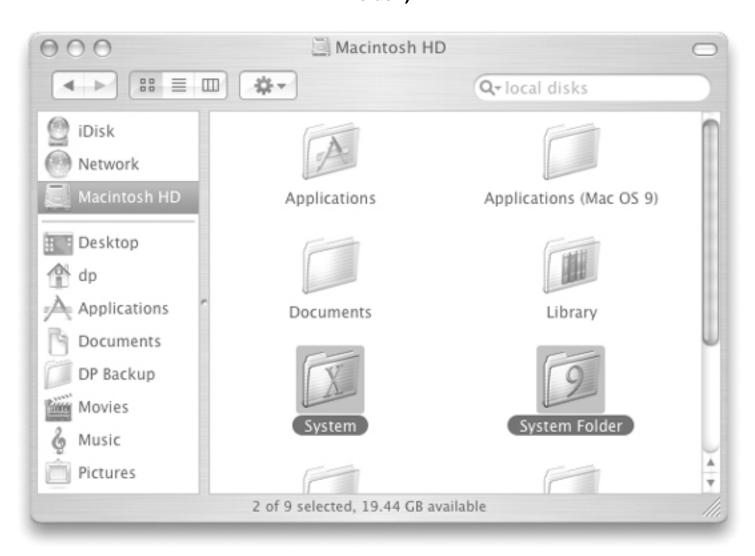


## 5.2 Classic: Mac OS 9 on Mac OS X

If you still harbor the notion, propagated by certain old Mac books, that it's bad form to have two System folders on the same hard drive, welcome to the 21st century. When you use Mac OS X, it's not only a good idea to have two System folders, it's almost a requirement. You should have one copy of Mac OS X, and *at least* one copy of Mac OS 9. (Appendix A describes various ways to set all this up.)

It's easy to spot the Mac OS 9 System folder on your drive, as shown in Figure 5-1.

When you're running Mac OS X, the System Folder that contains Mac OS 9 is clearly marked by the golden 9. Only one System Folder per disk may bear this logo, which indicates that it's the only one officially recognized by the Mac. (As the programmers say, it's the "blessed" System Folder.)



#### 5.2.1 How to Start Classic

You can start up your Classic program in any of several ways.

## 5.2.1.1 Double-click a Mac OS 9 program

The most common method of launching Classic is simply double-clicking the icon of a pre-Mac OS X program. Your Mac concludes: "Well, this program won't run in Mac OS X, so I'll just go ahead and launch your Mac OS 9 simulator."

At this point, several things happen. The very first time you ever run Classic, you may see a message that says, "Classic needs to update resources in your selected Classic system folder." Mac OS X is telling you that your Mac OS 9 System Folder requires a couple of extensions and other system files (listed later this chapter) in order to run within Mac OS X, and that it's offering to put them in the right place. Click OK.

Now a progress bar appears in a floating window, as shown in <u>Figure 5-2</u>. Classic takes about 15 seconds to start up, depending on your machine. (You can cut that time in half using the tricks described in the following pages.)

During the startup process, you'll see a little Classic (numeral 9) icon in your Dock, just to help you understand what's going on.



If you haven't got the time to wait, or you suddenly change your mind, you can cancel the Classic startup process by clicking the Stop button. In the confirmation box, click Stop Classic. You return to the desktop, no harm done.

And if you find Classic launching fairly often when you don't really want to bother, try this. Open System Preferences (Chapter 8), click the Classic icon, and turn on "Warn before starting Classic." Now, whenever you try to open a Mac OS 9 program, accidentally or not, Mac OS X will ask for your OK before firing up Classic.

When all the bouncing stops, you'll see a number of changes onscreen. Your Apple menu is now rainbow-striped, as it was in the days before Mac OS X, and it lists whatever programs, documents, and other icons you've put there. The menu bar is light gray, its fonts are smaller, and its menus and commands are different. In short, you've now gone back in time to Mac OS 9.

Top: Starting up Classic involves waiting for the progress bar to fill up.

Bottom: If you click the flippy triangle below the progress bar, you summon what looks like the full screen of a Macintosh floating within your own Mac's monitor, displaying the standard extensions and control panel icons, the Mac OS 9 logo, and other landmarks of the traditional Mac OS 9 startup process. (The title bar identifies which Mac OS 9 System Folder you're starting up from.)



#### NOTE

As an entire operating system, Mac OS 9 could well be the subject of an entire book unto itself—like *Mac OS* 9: *The Missing Manual*. The rest of this book assumes that you either know Mac OS 9 already or have a good source of information to help you with it.

# 5.2.1.2 Launch it manually

You can also start up Classic manually, although you'll rarely have much need to do so. The master control panel for controlling Classic is in System Preferences, and it works like this:

#### 1. Open System Preferences.

You can choose Preferences, or click the System Preferences icon in the Dock.

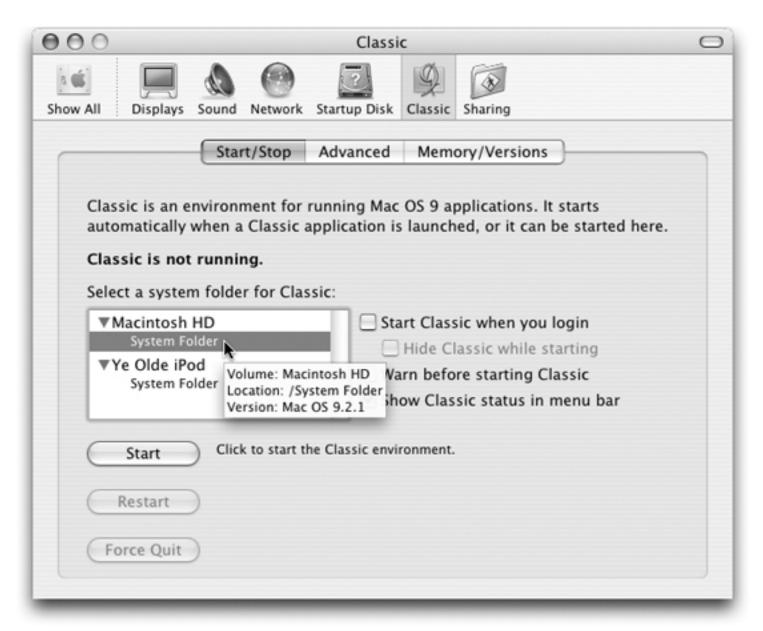
#### 2. Click the Classic icon.

Now the Classic preference panel appears, as shown in Figure 5-3.

At this point, you'll see a list of every disk (or disk partition) that contains a Mac OS 9 System Folder, also shown in <u>Figure 5-3</u>. If you expand the flippy triangle next to a disk's name, you'll see a list of the Mac OS 9 System Folders. Any one of them can serve as the System Folder that runs when you enter the world of Classic.

Make sure the correct one is selected; more on this topic later in this chapter.

This preference panel lets you specify which Mac OS 9 System Folder takes over when you launch the Classic mode. If you point to a System Folder without clicking, a square balloon appears to identify its name, location, and system version.



3. To start Classic manually, click Start.

Water appears to flow into the progress bar, exactly as shown in <u>Figure 5-2</u>. (If the Start button is dimmed, check the boldface message above the list of disks. It may be that Classic is already running.)



You can also add the icon of Classic to your Dock, creating a quick and easy way to launch it without having to burrow into System Preferences. Open your

System Library CoreServices folder. Inside this folder, you'll find an icon called Classic Startup. Drag it onto the Dock, where it will remain for easy access.

In fact, you can even add a little Classic menulet to your menu bar, complete with Start and Stop commands. Instructions are in (Section 3.6).

## 5.2.1.3 Open Classic from the Menulet

If you've installed the Classic menulet described in (Section 3.6), you can simply choose Start Classic from your menu bar.

### 5.2.1.4 Start up Classic automatically

If you find yourself using Classic every day, you'll have by far the best time with Mac OS X if you instruct it to start up Classic *automatically* when the computer turns on (or, if you share your Mac with others, when you log in).

It's true that your Mac will now take longer to start up each day as it loads first one operating system (Mac OS X), and then another (Mac OS 9). But you won't care. You'll be reading the paper and drinking coffee. And when you do need to run a Mac OS 9 program, you won't have to wait while Classic starts up; the environment will already be waiting for you.

Instructing Classic to start up automatically is extremely easy. Follow steps 1 and 2 in the preceding instructions—but at step 3, turn on "Start Classic when you log in." (To make the process even less intrusive, also turn on "Hide Classic while starting.") Close the System Preferences window.

From now on, Classic will automatically launch when you turn on, or log into, your Mac.

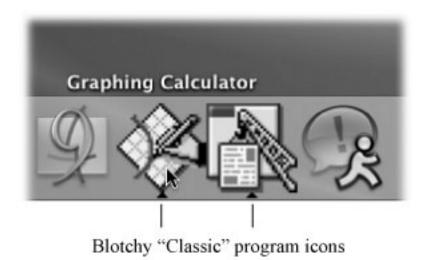
# 5.2.2 What to Expect from Classic

Once Classic is running, you're free to use the Mac OS 9 program you originally double-clicked—or any other Mac OS 9 programs, for that matter. You'll probably find, in fact, that Mac OS 9 programs launch even faster in Classic than they would on an actual Mac OS 9 computer.

Remember, you're running two operating systems simultaneously. Yet you can freely flip back and forth between Mac OS 9 and Mac OS X: When you click a Mac OS X program's icon on the Dock (or click inside a Mac OS X program's window), you bring forward *both* that program and Mac OS X. When you double-click a Mac OS 9 program's Dock icon (or click inside a Mac OS 9 program's window), you bring forward *both* that program and Mac OS 9. You can copy and paste information between the programs running in these two worlds—or even drag-and-drop highlighted material, exactly as described in Chapter 6.

You'll soon discover that the icons of open Mac OS 9 programs appear on the Dock, just like Mac OS X programs. (Well, maybe not *exactly* like them; see <u>Figure 5-4</u>.)

Most pre-Mac OS X programs exhibit ragged icons on the Dock—a side effect of being enlarged to Mac OS X size. There are some exceptions: For example, Microsoft knew about Mac OS X in time to design Mac OS X-style icons for Office 2001.



It's important to note, however, that Mac OS 9 is no more stable now than it ever was. It doesn't offer Mac OS X's memory protection and other goodies. One buggy program can still freeze or crash the entire Classic bubble. At that point, you may have to exit the entire Mac OS 9 portion of your machine, losing unsaved changes in any of your Mac OS 9 programs, just as though it were a Mac OS 9 machine that had locked up.

On the other hand, even when your Classic world goes down, you won't have to restart the actual computer. Mac OS X soldiers on, unaffected, and all your Mac OS X programs remain safe, open, and running.

## 5.2.3 Getting Out of Classic

Because Classic is a genuine Mac OS X program, it doesn't consume any memory or horsepower to speak of when it's in the background—especially if you turn on "Put Classic to sleep when it is inactive" (on the Advanced tab of the Classic panel of System Preferences). You may as well leave it open so that you won't have to wait for the startup process the next time you use a Mac OS 9 program.

In fact, Classic doesn't even distract you by putting its icon on the Dock. Apple's idea was that you shouldn't really care whether a program is running in Mac OS 9 or Mac OS X. All application icons—whether in Classic or not—show up on the Dock as equals. Clicking one switches to it, whether in Mac OS 9 or Mac OS X.

There are a few situations in which you might want to quit Classic manually, however. For example, you might want to close it following a system crash or lockup within Classic. Or you might want to restart Classic after making changes to its extensions, control panels, drivers, or other System Folder elements.

You can exit Classic in any of several ways:

• In the System Preferences panel shown in <u>Figure 5-3</u>, click Stop or Restart. The Mac invites you to save the changes to any open documents, if necessary.

- If you've installed the Classic menulet (Section 3.6), just choose Stop Classic from your menu bar.
- If your Classic environment has frozen or crashed, you may have to *force quit* your Classic program—that is, shut it down with the subtlety of a sledgehammer. You lose any unsaved changes in any Classic programs, but at least you escape the freeze or crash.

You can force quit Classic just as you would any program (<u>Section 4.1.3</u>). You can also click Force Quit in the System Preferences window shown in <u>Figure 5-3</u>.

# 5.2.4 Specifying a Classic System Folder

Classic doesn't operate at all unless there's a Mac OS 9 System Folder somewhere on your Mac.

On the other hand, it's perfectly legal, in the world of Mac OS X, to have *more* than one Mac OS 9 System Folder on board—and many people do. You may want to designate one of them exclusively for use in Classic. (You might want to use a second one for *dual booting*, as described at the end of this chapter.) Note, however, that for Classic purposes, each Mac OS 9 System Folder must sit on a different disk or disk partition (see <u>Appendix A</u>).

When following the instructions on the previous page, therefore, choose carefully. The System Folder you select here affects how much time it takes Classic to start up, which extensions and control panels it has (and therefore how stable it is), what preference settings apply in various programs, what Web-browser bookmarks are available, and so on.

## **5.2.5 Controlling Classic Startup**

If you're smart or lucky, you'll eventually eliminate the Classic startup delay altogether. For example, you can set up Classic so that it opens automatically at startup or login. Or maybe you'll get into the habit of never shutting down your computer at all, allowing it simply to sleep when not in use, so that Classic remains running essentially forever. Or you may eventually move almost all your operations into Mac OS X programs, rendering Classic obsolete—the dream of everyone who uses Mac OS X.

But if you open—and wait for—Classic every day, you might find it valuable to shave down the amount of time it takes to get going. The best way is to turn off as many extensions and control panels as possible. That's just one of the ways you can control the Classic startup process, as described in the following section.

## **5.2.5.1 Summoning Extensions Manager**

By the time Mac OS X arrived on the scene, the System Folder of its predecessor, Mac OS 9, was caked solid with extensions and control panels (self-launching software that loads into memory at startup time). Each controls some function of the Mac, but taken together, they account for much of the standard Mac OS 9's propensity to freeze, crash, and otherwise act up.

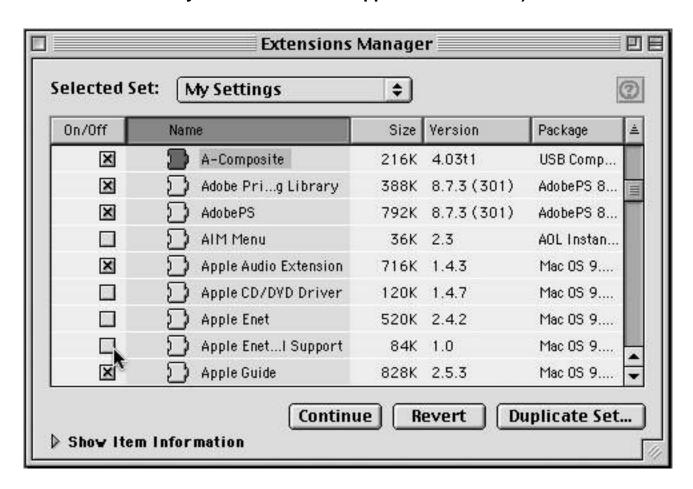
Within the Classic world, you don't need many of these extensions anymore. Remember that Classic is a *workaround*, not your main operating system. Mac OS X now duplicates many of its functions in a much superior way. Turning off as many Mac OS 9 extensions as possible, therefore, makes using your Classic environment a much smoother and more stable experience—and accelerates Classic's startup process.

The key to controlling which extensions load is to press and hold the Space bar *just after* the progress bar begins filling up, as shown in Figure 5-5. Release the Space bar only after you see the appearance of the Extensions Manager window.



If you can't seem to get the hang of the timing, then open the Classic panel of System Preferences, click the Advanced tab, and, from the first pop-up menu, choose Open Extensions Manager. The Extensions Manager window will open automatically the next time Classic starts.

Pressing the Space bar while Classic is starting up opens Extensions Manager, just as though you pressed Space while starting up a Mac OS 9 computer. (If you own the now-discontinued Conflict Catcher 9—a commercial replacement for Extensions Manager with many more features —you'll see its screen appear here instead.)



Extensions Manager lets you turn certain Mac OS 9 extensions or control panels on and off. One of its most useful features is its ability to create canned sets that permit you to switch among sets of preselected extension combinations with a single click. Use the Selected Set pop-up menu at the top to switch among them.

To set up your winnowed-down extension set, click Duplicate Set in the lower-right corner of the window. In the dialog box that appears, type a name for the set you're about to create (such as *Classic Speedy Startup*), and then click OK.

### 5.2.5.2 Extensions and control panels to turn off

Now you're ready to start paring down the extensions and control panels that delay Classic's startup process (and make it so prone to crashes). Depending on what functions you need to use in Classic, you might consider turning off the extensions and control panels in these function categories (by clicking their checkboxes so that the X no longer appears):

Control Panels. Many of Mac OS 9's control panel functions are superseded by new panels in the Mac OS X System Preferences (see <u>Chapter 8</u>). Changing your mouse speed using Mac OS 9's Mouse control panel, for example, doesn't have much meaning if you've already set your mouse speed in Mac OS X.

Therefore, you should turn off the following control panels immediately, since they don't work in Classic and gain you nothing: Control Strip, Energy Saver, File Sharing, Infrared, Location Manager, Modem, Monitors, Mouse, Multiple Users, Password Security, PowerBook SCSI Disk Mode, Remote Access, Software Update, TCP/IP, Trackpad, and Web Sharing.

#### **NOTE**

These Mac OS 9 control panels work, albeit with limited functions, within Classic: Appearance, AppleTalk, Date & Time (for menu-bar clock control only), General Controls (some commands, like Show Desktop, are dimmed), Keyboard (duplicated functions are dimmed), Memory (Disk Cache only), Monitors, and Sound (for alert sounds only).

- Internet. If you've moved your Web-surfing, email, and remote dial-in operations over to Mac OS X, you may have little need for the equivalent functions in the Classic environment.
  - If that's the case, you can safely turn off DialAssist, Internet, Location Manager Extension, Apple Modem Tool, Internet V.90 Modem (and other modem names, such as PowerBook Modem), the LDAP extensions, NBP Plugin, NetSprocketLib, Remote Only, and ShareWay IP Personal Bgnd, in addition to the control panels listed above. You may as well turn off the Software Update extensions, too, since they rely on Internet access.
- Networking, Multi-User features. Most of Mac OS X's networking and Mac- sharing features far outshine those in Mac OS 9. So if you won't be connecting to other computers on your office network from within Classic, you may as well turn off AppleTalk, any AirPort extensions, Keychain Access, IrDA Tool and IrDALib, Apple Enet, Apple Enet DLPI Support, AppleShare, EnetShimLib, File Sharing Extension, File Sharing Library, Multi-User Startup, OpenTpt Remote Access, Network Setup Extension, and SLPPlugin.
- **Printing.** If you don't plan to print from within Classic programs, you can turn off anything containing the words Print, Printer, Printing, or ColorSync, as well as the extensions bearing specific printer names (Color SW 1500, Color SW 2500, LaserWriter, and so on).
- **DVD.** The old, Mac OS 9-style DVD Player program doesn't even work in Classic. Turn off everything containing DVD in its name.
- **Disc burning.** Here again, Mac OS X does a far better job of burning CDs than Mac OS 9 does. For example, Mac OS X can even burn data *DVDs*, which hold a delightful 4.4 GB per disc. By all means, turn off the Disc Burner Extension.
- Video games. A few video games require the OpenGL, QuickDraw 3D, NVIDIA, and ATI extensions. If you're a
  gamer, you'll experience the best game play by restarting your Mac in Mac OS 9 (see <u>Section 5.3</u>), rather than
  trying to play Mac OS 9 games in the Classic mode. If you agree, turn off all extensions that contain the words
  QuickDraw 3D, OpenGL, NVIDIA, and ATI.
- FireWire. Even if you have a digital camcorder for use with iMovie, you may as well turn off the FireWire extensions, as the Mac OS X version of iMovie is better than the Mac OS 9 version. (Slower, but otherwise better.) Leave the FireWire extensions on only if you have FireWire gadgets like external hard drives that you want to access from within Mac OS 9.

Once your pruning session is complete, click Continue. You should find that the Classic mode now starts up far faster than before.

#### NOTE

These are only suggestions. If, after turning off some of these extensions and control panels, you find that certain familiar Mac OS 9 functions are no longer available, exit Classic, restart it with the Space bar pressed again, and experiment with restoring some of the things you turned off. And if you don't have the time to fiddle with individual extension settings, you can always turn on the entire Apple-authorized original set by choosing Mac OS 9 All (or Mac OS 9.2.2 All, or whatever) from the Selected Set pop-up menu.

#### 5.2.5.3 Extensions to leave on

You can't go totally hog-wild turning off System Folder elements. Classic expects to find certain System Folder items when it launches. If you turn them off, an error message will explain that "Some Classic-specific resources need to be added to or updated in your System Folder on [Disk Name]." If you click OK, Mac OS X copies them into the Mac OS 9 System Folder. Here's a list, current as of Mac OS 9.2.2:

- Control Panels: General, Startup Disk
- Extensions: Apple Guide, CarbonLib, Classic RAVE, Open Transport, Open Transport ASLM Modules
- Loose in the System Folder: Classic Support, Classic Support UI, ProxyApp

## 5.2.5.4 "Holding down" keys during startup

On a Mac OS 9 machine, holding down certain keys during the startup process triggers certain utility functions. Pressing Shift, for example, turns off all extensions and control panels. Holding down Option and eventually rebuilds the desktop database file, a Mac OS 9 troubleshooting technique that can cure general slowdowns as well as the "generic," blank-icon problem.

As Classic is starting up, these keystrokes work exactly as they do when a Mac OS 9 Mac is starting up. That is, if you press Shift immediately after the Classic progress bar appears onscreen, you'll see the usual "Extensions Off " message in the middle of the simulated Mac OS 9 startup screen. Similarly, if you hold down the Option and keys as the extension-loading process comes to an end, you'll eventually be offered the opportunity to rebuild the desktop. (Well, sort of...after Classic has finished loading, click the blank-document icon that appears in your Dock with the name Classic Support UI, to bring forward the "Are you sure you want to rebuild the desktop?" dialog box.)

Still, Apple's engineers worried that you might find it difficult to gauge when the right moment is to hold down these various startup keys, so they offer you an alternative method of "holding them down."

To see it, open the Advanced tab of the Classic preference panel (see Figure 5-6).

On this tab, you'll find a pop-up menu that helps you control the startup process. The options are as follows:

- Turn Off Extensions. If you choose this command and then click the Start Classic (or Restart Classic) button next to it, you launch the Classic emulator with all extensions turned off, just as though you had held down the Shift key during its startup.
- Open Extensions Manager. If you choose this command and then click Start Classic (or Restart Classic), the Mac behaves as though you had pressed the Space bar while Classic was starting up. As a result, the Extensions Manager window opens, just as described in Section 5.2.5.1.
- Use Key Combination. This option is designed to accommodate all other startup keys, such as those available in Conflict Catcher, a now-discontinued extensions manager. Start by clicking in the <enter up to five keys> box. Now you can press up to five different keys (one at a time, please) that the Mac will "hold down" when you start Classic by clicking the Start Classic (or Restart Classic) button in this dialog box. As you press the keys, you'll see them recorded in the text box.

#### WORKAROUND WORKSHOP

# Two Systems, One Preference

Having to live in two worlds—Mac OS 9 and Mac OS X—is not an especially popular situation. In fact, it can be a real pain.

Fortunately, Mac OS X takes a baby step toward simplifying things. Now, at least, programs that run in both Mac OS X and Classic can maintain a single set of preference files. Now your serial numbers, window positions, palette setups, and other settings will be remembered as you move between worlds.

To view this option, open the Classic panel of System Preferences. Click the Advanced tab, and then turn on "Use Mac OS 9 preferences from your home."

From now on, any programs that can run in *either* 9 or X will use a consistent set of preference files—the ones in your Home—Library—Preferences folder, rather than the Preferences folder in your Classic System Folder. (Such programs include Photoshop 7, AppleWorks, and so on, along with system-wide features like QuickTime preferences, Internet preferences, modem preferences, and so on.)

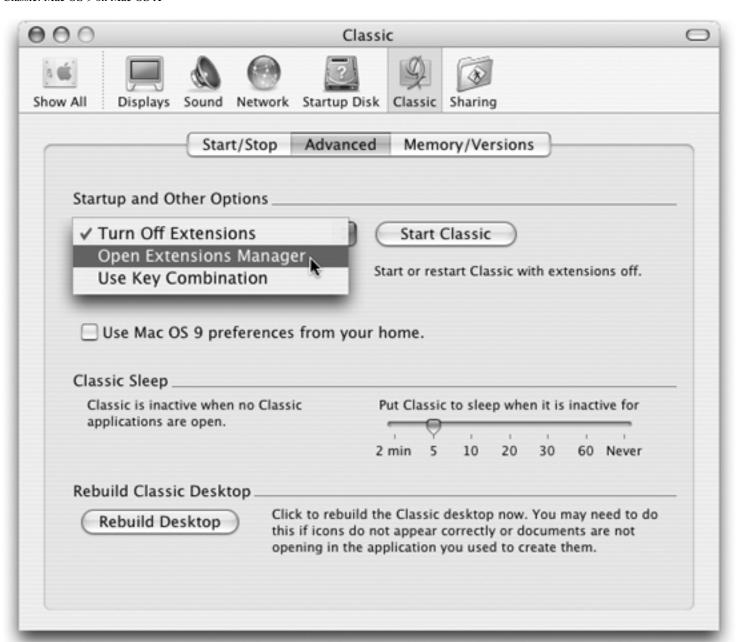
None of this means that these programs will use the same preference files when you restart in Mac OS 9—only when you run them in the Classic environment.

Note that whatever option you choose from the pop-up menu will apply only to the next Classic startup you trigger *from* within this dialog box. These options don't affect Classic when you start it up in any of the usual ways.



There's no need to press Option- when Classic is starting up if you want to rebuild the Desktop file. The Rebuild Desktop button in this dialog box does the trick automatically, without making you launch Classic at all.

The Advanced tab of the Classic panel lets you specify which keys you want "held down" for you as Classic starts up. It also lets you specify when Classic can sleep—that is, to slip down into virtual memory, returning the RAM (and processor attention) it was claiming to the general pool. Once it's sleeping, Classic takes slightly longer to open programs—but not nearly as long as when it first started up.





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# 5.3 Restarting in Mac OS 9

Unfortunately, Classic can get you only so far. Sure enough, it fakes out your older software fairly well—but your Mac is not *actually* running Mac OS 9. Anytime a piece of software tries to communicate with some physical component of your Mac, such the SCSI, USB, FireWire, or serial ports, it will bruise its knuckles on the stainless-steel dome of Mac OS X, which is *really* in charge of your ports. That's why a lot of older add-on equipment, including USB-to-serial adapters, certain printers, SCSI cards, scanners, and so on may not run properly in the Classic environment.

What this kind of equipment really needs, of course, is Mac OS X-specific driver software. If drivers exist (check the manufacturer's Web site), you can once again use your gear.

Otherwise, you have only one alternative when you want your external gadgets to work properly with your Mac, just the way they did when it ran Mac OS 9: Restart the Mac *in* Mac OS 9.

At that point, you've returned to complete compatibility with all your old gadgets and all your old programs. When you're finished, you can restart the Mac again, this time with Mac OS X "in charge." This ability to switch back and forth between two radically different operating systems on the same computer is called *dual booting*.

The chief caveat here is that only Mac models introduced *before January 2003* even offer this feature. Subsequent models —the 12-inch PowerBook G4, the Power Mac G5, and so on—can't dual boot; they're all Mac OS X, all the time. That's Apple's way of encouraging hardware and software makers to hurry up and develop X-compatible gadgets—but it's had the perverse effect of boosting the price of older, *used* Macs that still offer this desirable option.

## 5.3.1 Dual Booting the Long Way

The key to switching back and forth between Mac OS 9 and Mac OS X is the Startup Disk control panel (or System Preferences panel).

## 5.3.1.1 Switching from X to 9

Suppose you're running Mac OS X, and you need to duck back into Mac OS 9 to use, say, your scanner. The routine goes like this.

#### 1. Open System Preferences.

As always, you can do it by clicking the System Preferences icon on the Dock or by choosing System Preferences. The System Preferences screen appears.

#### 2. Click Startup Disk.

You now see the panel shown at top in <u>Figure 5-7</u>. The icons here represent the various System folders, both Mac OS 9 and Mac OS X flavors, that your Mac has found on all disks currently attached to your Mac.

3. Click the Mac OS 9 System Folder you want to be in charge, and then click Restart.

The Mac asks you: "Are you sure you want to set the Startup disk and restart the computer?"

4. Click "Save and Restart" (or press Enter).

When your Mac restarts, you'll feel like it's 1999 all over again. There go the parade of extension icons, the Mac OS 9 logo, and all the other trappings of the traditional, pre-Mac OS X startup process. You're now fully back in Mac OS 9, ready to use all your old add-on equipment and software (but without the benefit of Mac OS X's stability, good looks, and other features).

### 5.3.1.2 Switching from 9 to X: The Long Way

The officially prescribed method of returning to Mac OS X is very similar.

The Startup Disk control panel appears, as shown at bottom in <u>Figure 5-7</u>. Click the flippy triangle next to a disk's name, if necessary, to see the list of System folders on it.

2. Click the specific Mac OS X System folder you want to be in charge, and then click Restart.

Mac OS X starts up.

If you're running Mac OS X, you can indicate that you'd like Mac OS 9 to seize control at the next startup by using the Startup Disk system preference panel. If you're having trouble telling the System Folders apart (because, after all, System Preferences reveals only their System versions and disk names, not their folder names), point to the folder icon until the identifying yellow balloon appears. Bottom: If you're running Mac OS 9, use the Startup Disk control panel to specify that you want Mac OS X to be in charge at the next startup.











# 5.4 Three Tricks for Faster Switching

It didn't take long for the masses of Mac fans to grow impatient with fiddling around with System Preferences and control panels just to go back and forth between 9 and X.

Here are four ways to reduce the number of steps.

# 5.4.1 The X Key Trick (From 9 to X)

If you have both Mac OS 9 and Mac OS X installed on the same hard drive or disk partition, use this sensational shortcut: Just hold down the letter X key while the Mac is starting up. (Hold it down until the Mac stops chiming.) You'll go straight to Mac OS X.

# 5.4.2 The D Key Trick (From X to 9)

The only downside to the X key trick is that it's one-way. You can't, for example, hold down the 9 key to start up in Mac OS 9 again—at least not if 9 and X are on the same drive.

If you've installed 9 and X on two *different* drives or partitions, though, you can enjoy the D key trick. It works in either of these two situations:

- You have two hard drives. You've installed Mac OS 9 on the *internal* hard drive, and Mac OS X on an external.
- You have one hard drive, but you've *partitioned* it (divided it into two or more "virtual disks," each with its own icon). You'll find instructions for setting up multiple partitions—and installing different operating system versions on them—in Appendix A.

But here's the key point: You've installed Mac OS 9 on the first partition.

Once you've arranged things like this, leave your System Preferences set so that Mac OS X is the startup disk, as described earlier. But on those occasions when you want to duck back into Mac OS 9, hold down the D key just after the startup chime (when turning on or restarting the machine). The Mac starts up in Mac OS 9.

To return to Mac OS X, just don't do anything. Restart the machine without holding down any keys at all.

As it turns out, the D key tells the Mac to start up from the *first internal disk or partition* that contains a working System Folder of any type. If it's a Mac OS 9 partition, that's what you get.

# 5.4.3 The Option Key Trick

This trick may be the easiest and friendliest of all. It's a single keystroke that lets you decide, each time the computer turns on, which operating system version you want to run it. This method lets you postpone making the decision until the moment you actually turn the thing on, instead of having to make the switch after the computer has already started up.

This technique, too, works only if you've installed Mac OS 9 and Mac OS X on different disks or different *partitions* of a single disk. And it doesn't work on the oldest Mac OS X-compatible machines, like blue-and-white Power Mac G3 models.

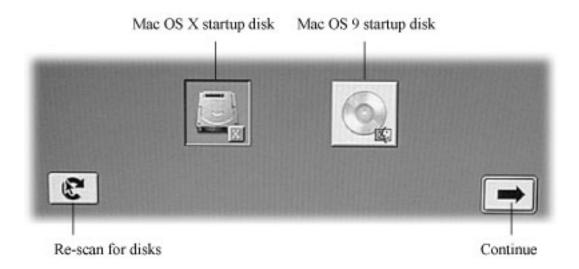
Now you're ready. Turn on the Mac. Just as it's lighting up, hold down the Option key. Hold it down until you see the display illustrated in <u>Figure 5-8</u>.

This screen, known inside Apple as the Startup Manager, offers icons for every disk, CD, or partition containing a working System folder (either Mac OS 9 or Mac OS X). Just click the one you want to start up the Mac and then click the "continue" button. Without missing a beat, your Mac continues to start up using the operating system you selected.

Clearly, this technique requires a bit of preparation and planning—not just because it requires different disks or partitions, but also because it limits you to having one System folder on each. The display shown in <u>Figure 5-8</u> offers a list of startup disks, not System folders. (The Startup Disk method described earlier, by contrast, lets you choose from among several System folders on the same disk.)

Still, if you find that switching between Mac OS 9 and Mac OS X is a daily feature of your work routine, you may decide to bite the bullet and partition your hard drive (or buy a second, external one) just to realize the convenience of this switching-at-startup feature.

This display, known as the Startup Manager, appears when you press Option during startup. It displays all the disk icons, or disk partitions, that contain working System folders. Just click the icon you want and then click the arrow button at the lower right.



# 5.4.4 Separate System Folders for Classic and Rebooting

If you've really thought this through, it may have dawned on you that the ideal Mac OS 9 System Folder for use in *Classic* makes a lousy System Folder for *restarting your Mac*, and vice versa.

The Mac OS 9 System Folder you want for Classic is a slimmed-down, streamlined System Folder with as few extensions and drivers as possible. Here, your aim is to make Mac OS 9 launch as quickly as possible. When you restart the Mac in Mac OS 9, on the other hand, you want maximum compatibility. You want all your Mac's features intact, especially the drivers that will operate your external equipment.

## 5.4.4.1 Maintaining a single Mac OS 9 System Folder

You can maintain a single Mac OS 9 System Folder on your Mac, of course. You can simply use Extensions Manager (or

#### 5.4 Three Tricks for Faster Switching

Conflict Catcher, if you still have it) to create two different sets of extensions: one for use in Classic and one for use when restarting the Mac. Use the Select Set pop-up menu (see Figure 5-5) to switch sets.

Obviously, this method presents one massive inconvenience: You have to remember to press the Space bar every time Mac OS 9 starts up (either in Classic or when dual booting) in order to summon Extensions Manager to make the switch. (All right, you wouldn't have to open Extensions Manager *every* time—only when switching the function of your Mac OS 9 System Folder [Classic or dual booting].)

This option can work just fine if:

- You do most of your Mac OS 9 work in Classic, and you find yourself rebooting in Mac OS 9 only occasionally, or
- You do most of your Mac OS 9 work by restarting into Mac OS 9, and you rely on Classic only occasionally.

In other words, the only inconvenient aspect of this setup is switching the function of your single Mac OS 9 System Folder.

## 5.4.4.2 Maintaining two different Mac OS 9 System Folders

Some people maintain *two* Mac OS 9 System Folders: one that's trimmed down for use in Classic, and another that loads a complete set of extensions and drivers for use in restarting the Mac (<u>Figure 5-8</u>). This method doesn't require separate partitions or drives. Both System Folders—or all three, if you count the Mac OS X System folder—can sit on the same hard drive.

This arrangement frees you from the inconvenience of switching extension sets when switching a single System folder's function. But it does come with a hassle of its own: You're now maintaining duplicate sets of preference settings, Web bookmarks, and the like.

Suppose you bookmark a Web site when running a Classic Web browser. The next day, when you reboot into Mac OS 9, your Web browser no longer lists that bookmark. That's because Mac OS 9 stores its bookmark lists, like its preference files, inside the System Folder that's "in charge" at the time.

Fortunately, this inconvenience, too, may turn out to be a red herring, depending on your purpose in using Mac OS 9. The Web bookmark example really isn't a good one because, for instance, you probably wouldn't want to use *any* version of Mac OS 9 for Web browsing. (Excellent Web browsers are available right in Mac OS X.) In real life, most people reboot into Mac OS 9 only for special purposes like using an old CD burner or scanner that doesn't work in Mac OS X or Classic. In these cases, the fact that each Mac OS 9 System Folder is maintaining a duplicate set of preference files will probably have little impact on your life, if you even notice it at all.



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# **Chapter 6. Moving Data**

The original 1984 Mac didn't make jaws drop because of its speed, price, or sleek looks. What amazed people most was the simplicity and elegance of the user interface. At some point in every Apple demo, the presenter copied a graphic drawn in a painting program (MacPaint) and pasted it directly into a word processor (MacWrite), where it appeared neatly nestled between typed paragraphs of text.

We take this example of data exchange for granted today. But in those days, that simple act struck people like a thunderbolt. After all, if this little computer let you copy and paste between different programs, it could probably do anything.

Today, the Mac is even more adept at helping you move and share your hard-won data. Mac OS X offers several different ways to move information within a single document, between documents, between different programs, and even between the Mac and Windows computers. This chapter leads you through this broad range of data-exchange mechanisms.



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# 6.1 Moving Data Between Documents

You can't paste a picture into your Web browser, and you can't paste MIDI music information into your word processor. But you can put graphics into your word processor, paste movies into your database, insert text into GraphicConverter, and combine a surprising variety of seemingly dissimilar kinds of data.

## 6.1.1 Cut, Copy, and Paste

The original copy-and-paste procedure of 1984—putting a graphic into a word processor —has come a long way. Most experienced Mac users have learned to trigger the Cut, Copy, and Paste commands from the keyboard, quickly and without even thinking. Here's how the process works:

#### 1. Highlight some material in a document.

Drag through some text in a word processor, for example, or highlight graphics, music, movie, database, and spreadsheet information, depending on the program you're using.

## 2. Use the Edit — Cut or Edit — Copy command.

Or press the keyboard shortcuts **#**-X (for Cut—think of the X as a pair of scissors) or **#**-C (for Copy). The Macintosh memorizes the highlighted material, socking it away on an invisible storage pad called the Clipboard. If you chose Copy, nothing visible happens. If you chose Cut, the highlighted material disappears from the original document.

At this point, most Mac fans take it on faith that the Cut or Copy command actually worked. But if you're in doubt, switch to the Finder (by clicking its Dock icon, for example), and then choose Edit Show Clipboard. The Clipboard window appears, showing whatever you've copied.



If you minimize the Clipboard window to the Dock, you'll be able to glance down to see what's on it at any given moment—because it's a live, self-updating Dock icon.

#### 3. Click to indicate where you want the material to reappear.

This may entail switching to a different program (even a Classic program), a different document, or simply a different place in the same document.

# 4. Choose the Edit → Paste command (ૠ-V).

The copy of the material you had originally highlighted now appears at your insertion point—if you're pasting into a program that can accept that kind of information. (You won't have much luck pasting, say, a movie clip into Quicken.)

# GEM IN THE ROUGH Styled Text

When you copy text from, for example, Word X, and then paste it into another program, such as Mail, you may be pleasantly surprised to note that the formatting of that text—bold, italic, font, (size, color, and so on)—appears intact in Mail. You're witnessing one of the Mac's most useful but underpublicized features: its support for *styled text* on the Clipboard.

Almost all Mac OS X-compatible programs transfer the formatting along with the copied text. Every time you paste formatted text copied from one of these programs, the pasted material appears with the same typographical characteristics it had in the original program. Over time, this tiny timesaver spares us years' worth of cumulative reformatting effort—yet another tiny favor the noble Macintosh does mankind.

The most recently cut or copied material remains on your Clipboard even after you paste, making it possible to paste the same blob repeatedly. Such a trick can be useful when, for example, you've designed a business card in your drawing program and want to duplicate it enough times to fill a letter-sized printout. On the other hand, whenever you next copy or cut something, whatever was already on the Clipboard is lost forever.

## 6.1.2 Drag-and-Drop

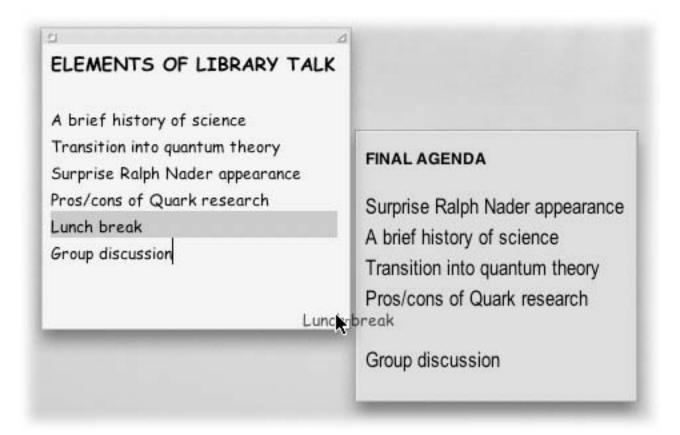
As useful and popular as it is, the Copy/Paste routine doesn't win any awards for speed. After all, it requires four steps. In many cases, you can replace that routine with the far more direct (and enjoyable) drag-and-drop method. Figure 6-1 illustrates how this works.

#### NOTE

Most *Cocoa* programs see (<u>Section 4.8</u>) require you to press the mouse button for a split second before beginning to drag. (This delay is shorter in 10.3 than it was in 10.2, however.)

Virtually every Mac OS X program works with the drag-and-drop technique, including TextEdit, Stickies, Mail, Sherlock, QuickTime Player, Preview, iMovie, iPhoto, and Apple System Profiler, not to mention commercial programs like Microsoft applications, America Online, and so on.

To use drag-and-drop, highlight some material. Click in the middle of the highlighted area; press the mouse button for about half a second. Now, with the button still pressed, drag to another place in the document, into a different window, or into a different application. As your cursor enters the target window, a shaded outline appears inside the window's boundaries—the Mac's way of letting you know that it understands your intention. When you release the mouse, the highlighted material appears instantly in its new location.



## 6.1.2.1 When to use drag-and-drop

As shown in <u>Figure 6-1</u>, drag-and-drop is ideal for transferring material between windows or between programs. It's especially useful when you've already copied something valuable to your Clipboard, since drag-and-drop doesn't involve (and doesn't erase) the Clipboard.

Its most popular use, however, is rearranging text within a single document. In Word or AppleWorks, for example, you can rearrange entire sections, paragraphs, sentences, or even individual letters, just by dragging them—a wonderfully efficient editing technique.



When you use drag-and-drop to moves text within a document, the Mac *moves* the highlighted text, deleting the highlighted material from its original location. If you press Option as you drag, however, you make a *copy* of the highlighted text.

## 6.1.2.2 Using drag-and-drop to the desktop

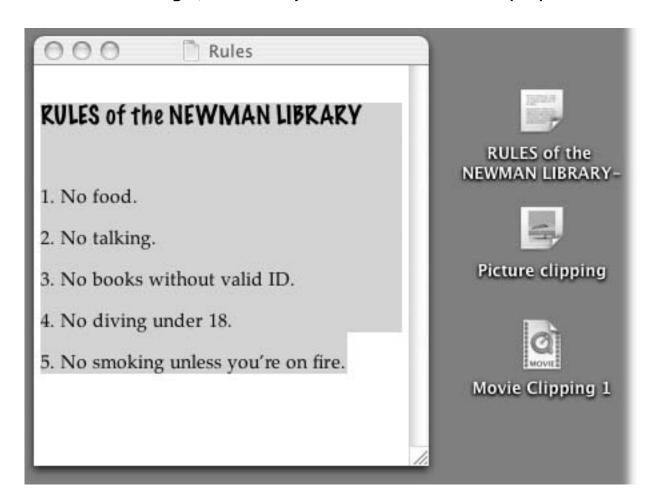
You can also use drag-and-drop in the one program you use every single day: the Finder itself. As shown in <u>Figure 6-2</u>, you can drag text, graphics, sounds, and even movie clips out of your document windows and directly onto the desktop. Once there, your dragged material generally becomes an icon called a *clipping file*.

When you drag a clipping from your desktop *back* into an application window, the material in that clipping reappears. Dragand-drop, in other words, lets you treat your desktop itself as a giant, computer-wide pasteboard—an area where you can temporarily stash pieces of text or graphics as you work.



When the material you drag to the desktop contains nothing but an Internet address, such as an email address or Web page URL, Mac OS X gives it a special icon and a special function: an *Internet location file*. See Section 18.10 for details.

When you drag material out of the document window and onto the desktop, you get a clipping file. Its icon depends on the kind of material contained within: from top, a text clipping, picture clipping, and movie clipping. (For easy identification, Mac OS X conveniently titles text clippings by the first line of the text contained inside.) You can view a clipping just by double-clicking it, so that it opens into its own window (left).



# 6.1.3 Export/Import

When it comes to transferring large chunks of information—especially address books, spreadsheet cells, and database records—from one program to another, none of the data-transfer methods described so far in this chapter do the trick. For these purposes, use the Export and Import commands found in the File menu of almost every database, spreadsheet, email, and address-book program. (In some programs, the Save As command serves this function.)

These Export/Import commands aren't part of Mac OS X, so the manuals (if any) of the applications in question should be your source for instructions. For now, however, the power and convenience of this feature are worth noting—it means that

your four years' worth of collected addresses in, say, your old email program can find its way into a newer program, like Palm Desktop, in a matter of minutes.







## 6.2 Exchanging Data with Other Macs

Considering how many ways there are to get files back and forth between Macs, it seems almost comical that anybody complained when Apple discontinued built-in floppy disk drives. For one thing, you can almost always email the file to someone—even to yourself! And there are plenty of other ways to move files around:

## 6.2.1 By Network

With about \$50 worth of equipment (or \$300, if you want to go wireless), you can connect your Macs together into a *network*. Once you've done so, you can keep an icon for each Mac's hard drive on your screen. You can open files from the other drives, copy stuff back and forth—anything you would do with your own disk.

Step-by-step instructions are in Chapter 12.

## 6.2.2 By CD or DVD

You can always burn your files onto a blank CD or DVD and then *carry* it to the other machine. You'd use this approach when, for example, you have *a lot* of data to copy, but the two Macs aren't within networking range; for example, they're not in the same room or the same city.

#### 6.2.3 FireWire Disk Mode

FireWire Disk Mode is a brilliant but little-known, Macintosh-only feature that lets you turn one Mac into an external hard drive for another. This is by far the fastest method yet for transferring a lot of data—even faster than copying files over a network. It's extremely useful in any of these situations:

- You're traveling with a laptop. You want to copy your life onto it from your main Mac, including your entire 2 GB email folder and project files, before taking it on a trip, and then unload it when you return.
- You have a new Mac. You want to copy everything off the old one, without having to wait all night.
- One Mac won't start up. You want to repair it, using another Mac as a "front end."

In the following steps, suppose your main Mac is an iMac, and you want to use a PowerBook as an external hard drive for it.

#### 1. Shut down the PowerBook.

Make sure it's plugged in, too. You wouldn't want the battery to die in the middle of this process. (Leave the iMac on.)

### 2. Using a FireWire cable, connect the FireWire jacks of both computers.

For this trick, you'll need a 6-pin FireWire cable—not the one that connects a camcorder to a Mac. The one you need has the same, large connector on both ends. (The one that comes with an original iPod is exactly right.)

#### NOTE

If your Mac has one of Apple's new FireWire 800 jacks, use its traditional FireWire 400 connector instead. Otherwise, you'll need either a special FireWire 800-to-FireWire-400 cable, or the 400-to-800 adapter that came with your Mac.

## 3. Turn on the PowerBook. Hold down the T key immediately after the chime.

You can release the key when you see a giant, yellow, Y-shaped FireWire icon bouncing around the laptop screen.

Now take a look at the iMac's screen: Sure enough, there's the PowerBook's hard drive icon on the desktop. You're ready to copy files onto or off of it, at extremely high speeds, and go on with your life.

4. When you're finished working with the PowerBook, eject it from the iMac's screen as you would any disk. Then turn off the laptop by pressing the power button.

Disconnect the FireWire cable only when you're sure the laptop is off.

### 6.2.4 Via the iPod

As noted in <u>Chapter 10</u>, an Apple iPod is an extremely fine music player with enormous capacity. That's because it contains an actual hard drive that stores the songs.

But because the iPod has a FireWire connector, it makes a dandy portable hard drive for everyday files, too—not just music.

#### NOTE

Of course, you can transfer data using any external FireWire hard drive without having to follow any particular steps.

To set this up, proceed like this:

1. Connect the iPod to your Mac with a FireWire cable.

Use the white one that came with the iPod. The style of cable changed with the 2003 iPod models, but either way, one end fits your Mac's FireWire jack.

(If this is the first time you've done this, the iTunes Setup Assistant may appear, offering you the chance to name your iPod.)

2. Open iTunes. Click the iPod icon in the left-side Source list, and then click the iPod icon in the lower-right corner of the screen.

The iPod Preferences window appears.

3. Turn on "Enable FireWire disk use."

A dialog box warns you that even when you're just syncing up your music collection (and not using the iPod as a hard drive for files), you'll have to manually eject the iPod after each use.

4. Click OK, and then OK again.

After a moment, you'll see the iPod's icon appear on your desktop.

Now you've got yourself a multi-gigabyte external hard drive. Just drag your files onto, or off of, the iPod icon, exactly as though it's a disk (which it is). The iPod automatically keeps your data files separate from your music files; your files won't be touched when you update your music collection from iTunes.

Whenever you're finished using the iPod as a hard drive, eject it in any of the usual ways. For example, drag its icon to the Trash, or Control-click it and choose Eject from the contextual menu.

### 6.2.5 Via Flash Drive

A *flash drive*, also called a thumb drive, is a tiny keychain-like doodad that plugs into your USB port. Inside is little more than a big chunk of RAM (memory) that acts like a miniature hard drive. When the flash drive is plugged into your Mac, its icon shows up on the desktop as a disk. Use it as a tiny, 512 MB hard drive (or whatever size you've bought).

The beauty of a flash drive is that it works instantly and automatically with any Mac *or* any Windows machine, without any software installation or configuration; it's small and light enough to carry around on your keychain; and it's *so darned cool*. If you do any kind of regular transfer of everyday documents between Macs or between Macs and PCs, a flash drive will change your life.

### 6.2.6 Via Bluetooth

Bluetooth is a long-delayed, but promising, cable-elimination technology. It's designed to let Bluetooth-equipped gadgets communicate within about 30 feet, using radio signals.

Already you can get Bluetooth—either built in or as a slide-in cartridge—for computers, printers, Palm and PocketPC organizers, Sony camcorders, and so on. Apple's wireless keyboard and mouse both rely on Bluetooth. Even some phones have built-in Bluetooth transmitters.

Apple's Bluetooth adapter costs \$50 and takes the form of a little nubbin that plugs into any Mac OS X Mac's USB port. It lets you sync with a Bluetooth-equipped Palm organizer, use a Bluetooth cellphone as a modem to get you online, use the Apple wireless keyboard or mouse—and transfer files through the air to similarly equipped gear.

Bluetooth isn't especially fast—in fact, it's pretty darned slow. (You'll get transfer speeds of 30 to 50 K per second, depending on the distance.) But when you consider the time you'd have taken for wiring, passwords, and configuration using any other connection method, you may find that Bluetooth wins, at least in casual, spur-of-themoment, airport-seat situations.

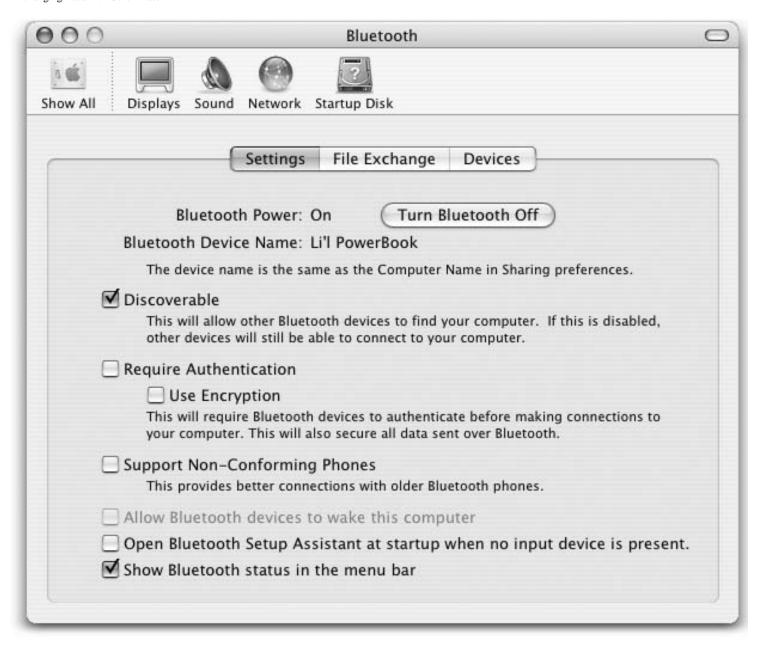
And when you consider that Bluetooth works no matter what the operating system —Mac, Windows, Palm, Pocket PC—you can see that it has great potential as a universal file-exchange translator, too.

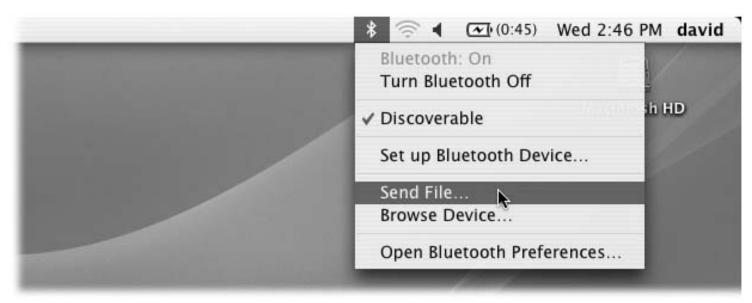
### 6.2.6.1 Sending a file

To shoot a file or two across the airwaves to a fellow Bluetooth-equipped Mac fan, proceed like this:

Top: Make sure that Discoverable is turned on. If a device (like your Mac) isn't in "discoverable" mode, then no other Bluetooth gizmos can see it. You get plenty of privacy, but no productivity. While you're at it, by the way, turn on "Show Bluetooth status in the menu bar."

Bottom: The Bluetooth menulet makes it quick and easy to shoot a file to another person (Mac or Windows) who's blessed (or shrewd) enough to have a Bluetooth-equipped machine.





1. Open System Preferences. Click the Bluetooth icon.

This panel appears in System Preferences only if you do, in fact, have a properly installed Bluetooth adapter.

2. Adjust the Settings tab as shown at top in Figure 6-3.

Discoverable means, "Other Bluetooth gadgets can see me."

3. Close System Preferences. From the Bluetooth menulet (Figure 6-3, top), choose Send File.

After a moment, the Select File to Send dialog box appears. (You've actually succeeded in opening a program called Bluetooth File Exchange, which sits in your Applications — Extras — Bluetooth folder.)

4. Navigate to, and select, the files you want to send.

If you're trying to send a bunch of them, you may find it easier to drag their icons onto the Bluetooth File Exchange icon in your Dock.

Either way, a new Send File dialog box appears.

Top: You can control what happens when someone sends you files via Bluetooth. Usually, you'll want your Mac to ask you whether or not to accept these files (that's what the option "Prompt for each file" means). You can also specify where you want received files to wind up. Here, they've been set to land in your Home Documents folder.

Bottom: Here's the exciting moment when a file is actually winging your way. (It's even more exciting when you peek at the other guy's screen to see that your progress bars are proceeding in parallel.)





#### 5. Click Search.

The Bluetooth software scans the airwaves in search of other Bluetooth-equipped computers. At least these days, since Bluetooth is still a new technology, you'll probably know perfectly well which ones are in range. (They, too, must be in Discoverable mode, by the way.)

6. In the list of found machines, click the name of the one you want to send your files to, and then click Send.

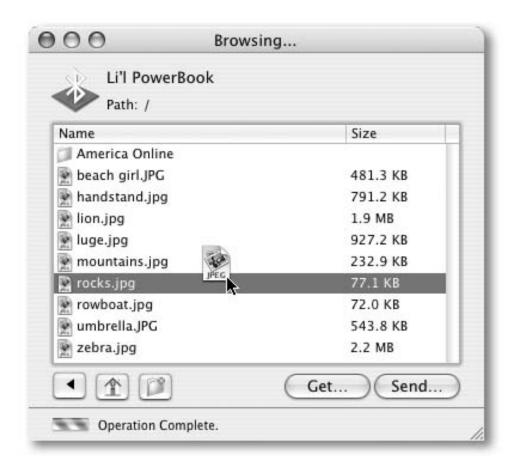
What happens now—on the receiving end—depends on how the receiving Mac has been set up (<u>Figure 6-4</u>, top). In most cases, a dialog box tells the receiver that files are arriving; if he clicks Accept, the download proceeds (<u>Figure 6-4</u>, bottom). He's then offered the chance to either (a) open the transferred file or (b) reveal its highlighted icon in the Finder.

When you send files to a Windows PC or some other gadget using this method, security may be tighter. You may be asked to make up a temporary, one-time password that must be typed into both your Mac and the receiving device within, say, one minute, to prove that this transfer is authorized.

## 6.2.7 Fetching a file

Using the Send a File command in the Bluetooth menulet is a quick and satisfying way to transfer a file—but it's not the only way. You can also perform this entire procedure in reverse. That is, you can go fishing through your buddies' files without their explicitly having to send one.

Once you're looking at the contents of your buddy's Bluetooth shared folder, you can either click a file name and click Get, or you can just drag the file out of the dialog box and onto your desktop.



To make a Mac invade-able, the person to be invaded must turn on "Allow other devices to browse files on this computer" (<u>Figure 6-4</u>), and indicate which folder contains the files to be shared.

Then all you have to do is choose Browse Device from your own menulet (Figure 6-3)—and let the rummaging begin!







## 6.3 Exchanging Data with Windows PCs

It's no surprise that the Mac is great at transferring information among Mac programs. The big news is how easy Mac OS X makes it to transfer files between Macs and Windows computers.

Documents can take one of several roads between your Mac and a Windows machine, many of which are the same as Macto-Mac transfers. For example, you can transfer a file on a disk (such as a CD or Zip disk), a flash drive, via network, by Bluetooth, on an iPod, as an attachment to an email message, via Web page, as an FTP download, and so on. The following pages offer some pointers on these various transfer schemes.

## **6.3.1 Preparing the Document for Transfer**

Without special adapters, you can't plug an American appliance into a European power outlet, play a CD on a cassette deck, or open a Macintosh file in Windows. Therefore, before sending a document to a colleague who uses Windows, you must be able to answer "yes" to both of these questions.

## 6.3.1.1 Is the document in a file format Windows understands?

Most popular programs are sold in both Mac and Windows flavors, and the documents they create are freely interchangeable. For example, documents created by recent versions of Word, Excel, PowerPoint, FileMaker, FreeHand, Illustrator, Photoshop, Dreamweaver, and many other Mac programs don't need any conversion. The corresponding Windows versions of those programs open such documents with nary a hiccup.

Files in one of the standard exchange formats don't need conversion, either. These formats include JPEG (the photo format used on Web pages), GIF (the cartoon/logo format used on Web pages), HTML (raw Web page documents before they're posted on the Internet), Rich Text Format (a word-processor exchange format that maintains bold, italic, and other formatting), plain text (no formatting at all), QIF (Quicken Interchange Format), MIDI files (for music), and so on.

But what about documents made by Mac programs that don't exist on the typical Windows PC hard drive, such as AppleWorks 6? It's available to educators in a Windows version, but you certainly can't count on your recipient having it.

Do your recipients the favor of first saving such documents into one of the formats listed in the previous paragraphs. In AppleWorks, for example, choose File Save As; from the File Type pop-up menu, choose "Word Win 97, 2000"; name this special version of the document (remember the .doc suffix); and then click Save.

### 6.3.1.2 Does the file have the correct three-letter file name suffix?

As noted in <u>Chapter 4</u>, every document on your hard drive has some kind of tag to tell the computer what program is supposed to open it: either a pair of invisible fourletter codes or a file name suffix like .doc.

Microsoft Windows uses *only* the latter system for identifying documents. Here are some of the most common such codes:

Kind of document Suffix Example

Microsoft Word	.doc	Letter to Mom.doc
Excel	.xls	Profit Projection.xls
PowerPoint	.ppt	Slide Show.ppt
FileMaker	.fp5	Recipe file.fp5
JPEG photo	.jpg	Baby Portrait.jpg
GIF graphic	.gif	Logo.gif
Web page	.htm	Index.htm

The beauty of Mac OS X is that your Mac adds these file name suffixes *automatically* and *invisibly*, every time you save a new document from a Mac OS X program. You and your Windows comrades can freely exchange documents without ever worrying about this former snag in the Macintosh/Windows relationship.

## 6.3.2 Notes on Disk Swapping

Once you've created a document destined for a Windows machine, your next challenge is to get it *onto* that machine. One way is to put the file on a disk—a CD you've burned, for example—which you then hand to the Windows user.

In theory, this kind of exchange shouldn't be possible, because Macs and PCs format disks differently. When you insert a Mac floppy disk into a PC, for example, an error message declares it to be unreadable. Windows then offers to "correct" the problem by erasing the disk.

#### 6.3.2.1 How the Mac reads Windows disks

Fortunately, although Windows can't read Mac disks, the Mac can read (and save onto) Windows disks. When you insert a Windows-formatted floppy, Zip, or CD into your Mac, its icon appears onscreen just like a Mac disk. You can drag files to and from this disk (or its window), rename files, delete files, and so on, exactly as though you're working with a Mac disk. (It doesn't operate nearly as quickly as a Mac disk, though.)

## 6.3.2.2 Creating a Windows disk on the Mac

You can even *create* a Windows disk on your Macintosh. CDs that you burn on the Mac, for example, are Windows compatible right out of the gate.

To share a floppy or Zip disk, you must first erase it using Disk Utility (in your Applications Utilities folder). (This example assumes that you *have* a floppy or a Zip drive, either of which you can buy for any USB Mac—although honestly, these days, buying a flash drive makes a heck of a lot more sense.) Insert the disk, so that its icon shows up in the list at the left side of the window, and then click the Erase tab. Click the disk's name, use the pop-up menu to specify MS-DOS File System format, and then click Erase. After the erasing process is over, you can insert the floppy into both Macs and PCs with equal success.

### 6.3.3 Network Notes

Mac OS X can "see" shared disks and folders on Windows PCs that are on the same network. Seated at the Mac, you can open or copy files from a PC—or vice versa. Complete instructions are in Chapter 12.

### 6.3.4 Via the Internet

<u>Chapter 22</u> offers details on FTP and Web sharing, two ways to make your Mac available to other computers—Windows PCs or not—on the Internet.





< Day Day Up:



# **Chapter 7. AppleScript**

You can think of AppleScript programs (called *scripts*) as software robots. A simple AppleScript might perform some daily task for you: backing up your Documents folder, for example.

A more complex script can be pages long. In professional printing and publishing, where AppleScript enjoys its greatest popularity, a script might connect to a photographer's hard drive elsewhere on the Internet, download a photo from a predetermined folder, color-correct it in Photoshop, import it into a specified page-layout document, print a proof copy, and send a notification email to the editor—automatically.

Even if you're not aware of it, you use technology that underlies AppleScript all the time. Behind the scenes, numerous components of your Mac communicate with each other by sending *Apple Events*, which are messages bearing instructions or data that your programs send to each other. When you use the Show Original command for an alias, or the Get Info command for a file or folder, an Apple Event tells the Finder how to respond. Some of the files in the Speakable Items folder (Section 14.4.2.4), furthermore, are AppleScripts that quit your programs, open AppleWorks, switch a window into list view, and so on.

AppleScript veterans will find a lot of enhancements in Mac OS X 10.3—and there's a nice surprise for first-timers, too.



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# 7.1 Running Ready-Made AppleScripts

You don't have to *create* AppleScripts to get mileage out of this technology. Mac OS X comes with several dozen prewritten scripts that are genuinely useful—and all you have to do is choose their names from a menu. "Playing back" an AppleScript in this way requires about as much technical skill as pressing an elevator button.



Similarly, you can download all sorts of useful scripts for iTunes, iPhoto, iDVD, AppleWorks, and other programs from the Apple Web site (<u>www.apple.com/applescript/imovie</u>; substitute the program name for that final part of the address).

To sample some of these cool starter scripts, you must first add the Script menu to your menu bar (see Figure 7-1).

Now open the newly installed Script menulet (which Apple calls simply the Script *menu*), whose icon looks like a scroll, to see the list of prewritten scripts.



The Script menu reflects the contents of two different Scripts folders: the one in your Home Library Scripts folder, and the one in your main Library folder. (The ones in your Home folder are listed below the dotted line in the Script menu.)

These scripts aren't just for *running*. They're also ideal for opening up in Script Editor (just by double-clicking) and analyzing line by line, to learn how they work. (Script Editor is a program in your Applications AppleScript folder, which you can use to type up your own scripts.) Once you understand the syntax, you can then copy bits of the code to modify and use in your own scripts.

# POWER USERS' CLINIC What's New in Panther's AppleScript

Dear AppleScript veterans:

A lot of the great old scripting tools (like scripting additions), Web sites, and Internet resources apply only to AppleScript in Mac OS 9 and earlier. And thousands of scripts that require the old Finder flounder in the Mac OS X Finder, which works somewhat differently.

Still, after several incarnations, the AppleScript of Mac OS X is finally becoming a solid tool with lots of features. Finder recordability has returned to the Mac in Panther—a great boost for first-timers.

Some of the other new features in Mac OS X 10.3 include:

**User-interface Scripting.** In Panther, AppleScript can choose menu commands, click radio buttons, turn on checkboxes, and type into text boxes in the course of running a script—a very useful enhancement in situations where the program you want to script isn't very AppleScript-savvy.

**Script Editor 2.** In version 2, Script Editor offers find-andreplace commands, a spelling checker, and a contextual menu (available by Control-clicking the main panel of the Script Editor window) that offers quick access to a library of pre-built, error-free code snippets.

Better yet, Script Editor is now itself scriptable; in theory, you could even write scripts that write other scripts.

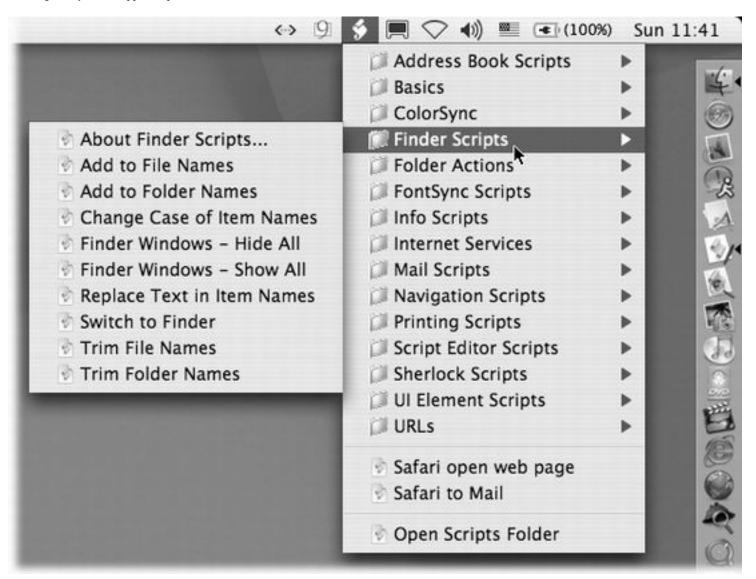
Folder Actions Setup. The new Folder Actions Setup panel lets you manage all of your Folder Actions (Section 7.5.2.2) from a single panel. To open this panel, choose Configure Folder Actions from your Script menu (Section 7.1), or open Applications AppleScript Folder Actions Setup.

**Image Events.** The new Image Events application lets your scripts flip, convert, and otherwise manipulate graphics files without having to fire up Photoshop.

**Help.** AppleScript Help isn't actually new in Mac OS X 10.3, but it's been expanded so much, it merits a mention. Anyone new to AppleScript should explore the AppleScript or Script Editor Help as a first resort in times of confusion.

Some of the scripts operate on familiar components of the Mac OS, like the Finder; others show off applications or features that are new in Mac OS X. Here are the categories as they appear in the Script menu:

Mac OS X comes with an assortment of useful scripts to try. The Script menu (which you install from your Applications AppleScript folder) lets you launch Perl, Shell, and AppleScript scripts, just by choosing their names, from within any application. To install the Script menu, open your Applications AppleScript folder and double-click Install Script Menu.



## 7.1.1 Address Book Scripts

In this folder, you'll find a single **Import Addresses** script that's designed to move addresses to the Address Book from Palm Desktop, Entourage, Eudora, or Outlook Express.

### 7.1.2 Basics

In this folder, you'll find a few simple scripts like **AppleScript Help** (which opens the Help Viewer and searches for the word *AppleScript*) and **AppleScript Website** (which opens the AppleScript Web page in your Web browser).

## 7.1.3 ColorSync

In this folder, you'll find seventeen ColorSync script *droplets* (scripts that run when you drop something on their icons) primarily designed for graphic artists, Web site designers, publishers, and so on.

If you choose a script's name from the menu, you'll get a terse help message and then an Open dialog box for choosing the graphics file you want to process. Alternatively, you can drag the graphics files onto the script's icon in the Library Scripts ColorSync folder.

## 7.1.4 Finder Scripts

All of these scripts have to do with the Finder—manipulating files and windows, for example. A few of the most useful:

- Add to File Names, Add to Folder Names. These scripts tack on a prefix or suffix to the name of every file or
  folder in the frontmost Finder window (or, if no windows are open, on the desktop). You could use this script to add
  the word draft or final or old to all of the files in a certain folder.
- Finder Windows Hide All minimizes all open Finder windows to the Dock, as though you'd pressed OptionM. Finder Windows Show All, of course, brings them back from the Dock.
- Replace Text in Item Names lets you do a search-and-replace of text bits inside file names, folder names, or both.
   When one publisher rejects your 45-chapter book proposal, you could use this script to change all 45 chapter files from, for example, "A History of Mouse Pads—A Proposal for Random House, Chapter 1" to "A History of Mouse Pads—A Proposal for Simon & Schuster, Chapter 1."
- Trim File Names, Trim Folder Names. If you made a mistake in using the Add to File Names script, you can
  always use Trim File Names script to undo the damage. This one removes file extensions, suffixes, or prefixes of
  your choosing.

For example, suppose you've just made a lot of new folders at once. Mac OS X calls them "untitled folder," "untitled folder 2," and so on. But what if you'd rather have them just called "folder 1," "folder 2," and so on? Run the Trim Folder Names script; when the dialog box asks you what you want trimmed, type *untitled* and click OK.

## 7.1.5 Folder Actions

This folder contains scripts that were required, in Mac OS X 10.2, to *folder actions* work (<u>Section 7.5.2.2</u>). In Panther, you probably won't use them much, since Controlclicking a folder (or inside its window) offers the same functions.

# 7.1.6 Folder Action Scripts

The scripts in this folder don't actually show up in the Script menu. They are, however, in your Library Scripts folder. You need to attach them to folders to use them.

They're sample *folder action* scripts—designed to make folders behave the way you wish they would. These scripts are useful just as they are, but even more useful as examples to help you learn the syntax for writing more folder action scripts.

- add new item alert. When you drop icons into a folder (to which you've attached this script), the Mac will tell you how many icons were added and offer you the chance to inspect the contents of the folder.
- close close sub-folders. When you close the folder to which this script is attached, all folders *inside* it also close.
- open show comments in dialog. Whenever you open the folder to which this script is attached, the Mac will
  show you the contents of its Comments box (that is, whatever you typed into the Comments area of its Get Info
  window). You'll be given the chance to open the Get Info window, delete the comments, or do nothing further.
- convert PostScript to PDF. When you drop PostScript files into a folder to which you've attached this script, the
  Mac converts them into PDF files. (Pay attention, you graphic designers and print-shop staff who don't have
  Adobe's Acrobat Distiller on hand.)

The remaining nine scripts (Image - Add Icon, Image - Duplicate as JPEG, Image - Duplicate as PNG, Image - Duplicate as TIFF, Image - Flip Horizontal, Image - Flip Vertical, Image - Info to Comment, Image - Rotate Left, and Image - Rotate Right) all perform the specified flipping or conversion operations on graphics files. For example, if you dump a bunch of TIFF files into a folder to which you've attached the Duplicate as JPEG script, Mac OS X converts them

into JPEG format for you (and preserves the originals).

These scripts are brought to you by Panther's new Image Events Scripting application (see Section 7.1).

## 7.1.7 FontSync Scripts

FontSync is a noble Apple attempt to solve an old problem for desktop publishers. You finish designing some beautiful newsletter, take it to the local printing shop for printing on a high-quality press, and then have to throw out the entire batch—all because the fonts didn't come out right. The printing shop didn't have exactly the same fonts you had when you prepared the document. Or, worse, it did have the same font—but from a different font company, with the same name but slightly different type characteristics.

FontSync is designed to give you early warning for such disasters. When you run the Create FontSync Profile script, several minutes elapse—and then the Mac generates a FontSync Profile document. This file contains staggering amounts of information about the design, spacing, and curlicues of every font installed in your system. When you hand that profile over to your print shop, they can drop it onto the accompanying script, called Match FontSync Profile. It will tell them precisely what fonts are different on their Macs and yours.

The wishful-thinking aspect of this technology is, of course, that it assumes a lot: that your print shop uses Mac OS 9 or Mac OS X, that the print shop knows how to use FontSync, and that you remember to create the profile and submit it.

## 7.1.8 Info Scripts

These two scripts offer minor usefulness: **Current Date & Time** displays the current date and time in a dialog box, complete with a Clipboard button that copies the information, ready for pasting. **Font Sampler** was designed, in an era before Font Book (Section 13.7), to show you what all your fonts look like.

## 7.1.9 Internet Services

These scripts are designed to show off the power of *XML-RPC* and *SOAP*, two Internetquery technologies that debuted in Mac OS X 10.1. For example, the **Stock Quote** and *Current Temperature by Zipcode* fetch those respective bits of information, popping them into a dialog box without having to use your Web browser, thanks to the power of SOAP (Simple Object Access Protocol).

## 7.1.10 Mail Scripts

This collection of scripts, expanded in Mac OS X 10.3, communicates with Mail (see Chapter 19). Some highlights:

- Count Messages in All Mailboxes counts all messages and unread messages in all of your mailboxes and displays the result.
- Crazy Message Text is Apple at its wackiest. When you run it, a dialog box asks you what message you want to send ("Happy Birthday," for example). Mail then creates a colorful, zany, outgoing formatted message in which each letter has a random typeface, style, color, and size. It's ideal for making people think you spent a long time with your Format menu for their entertainment.
- Display All Accounts And Preferences prepares a new mail message that includes information about every
  account you have configured and the preference settings you have set in Mail, all ready to send to some
  troubleshooting expert who needs the details in order to help you.
- Import Addresses grabs names from the address book from Entourage, Eudora, Outlook Express, or Palm Desktop. It's not actually a Mail script—it brings the addresses into Mac OS X's Address Book program—but it's

- still handy if you've decided to switch from one of those programs to Apple's Mail program.
- Quick Mail prompts you for an address and a subject line, launches the Mail application, and sets up a new
  message for you with those attributes. With a little analysis of this script, you should be able to see how it could
  save you time in generating canned, regularly scheduled outgoing mail messages. (A clean installation of Panther
  doesn't include this one, but you may have it if you upgraded from Mac OS X 10.2.)

The **Mail Scripts** Rule Action folder contains three scripts, two of which you're supposed to trigger from inside Mail, using a *message rule* (Section 19.4.12):

- Help With Rule Actions brings up the appropriate help screen so you can read about how to use Rule Actions.
- Open Apple Website brings up the Apple Web site. It's intended as an example of how you can use Mail's message rules to trigger AppleScripts automatically when certain conditions are met.
- Sample Action Rule Script is also intended as an example; it doesn't do anything but display a dialog box indicating the name of the rule that summoned it, along with the subject of the message.

The Mail Scripts Scripts Menu folder contains several scripts that illustrate how Mail's own Scripts menu can trigger AppleScripts. For example:

Create New Mailing List Mailbox\_\_\_ctl-m searches selected email messages for those it thinks came from a
mailing list. If it strikes gold, it creates a new mailbox, stashes the mailing-list messages in it, and creates a rule
that puts future messages from that list into the new mailbox automatically.



That "\_\_ Control-m" business is supposed to illustrate how you can create keyboard shortcuts for your AppleScripts (at least those in the Script menu). At the end of the script's name, you just type three underline characters, followed by the key combination you want—Control-M, in this case. (Note that this keystroke works only in Mail, and refers to Mail's own private Script menu.)

- **Get Source of Selected Message** copies the raw message contents of the highlighted message into a new email message. Here, *source* means the raw, underlying code of the message: invisible headers, the message body, HTML formatting code, any attached files (in encoded form), and so on.
- Remove Messages From Sender or Thread\_\_\_ctl-r. Mail maintains a blacklist of people you'd rather not hear from, and a list of *threads* (subject lines from an ongoing discussion) whose messages you no longer want to read. This script can assist you in updating that list.

Suppose, for example, that you select a message from *steveapple.com* with the subject line, "New Product." When you choose this command, Mail displays a set of dialog boxes for creating a message rule that (a) automatically deletes all email from *steveapple.com* or (b) automatically deletes all email in the same thread (having either "New Product" or "Re: New Product" as its subject).

- **Speak Sender and Subject** makes the Mac say out loud the number of messages that are currently selected (if more than one), and then announce the sender's name and subject of each.
- **Summarize Message** creates a short summary of the selected message—and then reads it out loud. (Great for long-winded correspondents.)

# 7.1.11 Navigation Scripts

Four of these scripts—New Applications Window, New Home Window, and so on—all open the corresponding windows,

just as though you'd used the Finder's Go menu to choose their names. (As for the word "New"—it's a red herring. These scripts do not, in fact, open a new window if one is already open.)

The **Open Special Folder** script presents a list of Mac OS X's special folders: Applications, Favorites, Movies, Sites, Utilities, and so on. Double-click the one you want to open—a straight shot to some of Mac OS X's most important folders.



If you're game to edit this script in Script Editor, you can modify it to let you choose and open more than one folder simultaneously (by \*\*\*-clicking them, for example). Just type multiple selections allowed true right after the text Choose folder to open: (which appears at the end of a line about a third of the way down the script). Save your changes.

## 7.1.12 Script Editor Scripts

As the **About these scripts** command tells you, these 48 canned scripts can help you write faster and more accurate scripts, because the code chunks are free of typos and syntax errors. As you progress, you can add your *own* code-building scripts, customized for the kind of scripts you like to build, to make you even more productive.

In any case, to insert one of these code chunks into a script you're editing in Panther's Script Editor 2, just Control-click your fledgling script. When you choose from the contextual menu, the code block magically appears in the Script Editor window, right where you had clicked. (Alternatively, choose the chunk's name from the Script menu; the code winds up on your Clipboard, ready to paste.)

## 7.1.13 Sherlock Scripts

The sole script here, **Search Internet**, prompts you for a *search string* (the words you want to search for on the Web). When you click Search, the script opens Sherlock and proceeds to execute your search. All of this saves you a few mouse clicks, but this script was likely designed to serve primarily as an example for study by scripting hopefuls.

## 7.1.14 UI Element Scripts

Much of the time, scripts perform their magic quietly in the background, out of sight. But if you're trying to automate a program that doesn't respond to the usual AppleScript commands, your scripts can now "operate" them manually by choosing menu commands, clicking buttons, and so on.

### **NOTE**

This feature, called UI (user-interface) scripting, doesn't work until you first open the Universal Access panel of System Preferences and make sure that "Enable access for assistive devices" is turned on.

You wouldn't want to run the scripts in the UI Element Scripts folder just as they are; they're simply samples that show you the correct syntax.

Here, for example, is a sample script that illustrates how you might use UI scripting. This script brings the frontmost TextEdit document to the front, highlights all of its contents, and then reads it out loud.

```
get properties
tell process "TextEdit"
    set frontmost to true
    delay 1
    keystroke "a" using {command down}
    click menu item "Start Speaking Text" of menu 1 of menu
    item "Speech" of menu 1 of menu item "Services" of menu
    "TextEdit" of menu bar item "TextEdit" of menu bar 1 of application
    process "TextEdit" of application "System Events"
end tell
```

end tell

See how the text is selected by "pressing" **#**-A, and the speech is triggered by "choosing" the

TextEdit Speech Start Speaking Text menu command? (Of course, TextEdit is scriptable, and you could perform the same stunt using a much shorter script without using the UI scripts—but you get the point.)

Here are the demonstration scripts that you'll find in the UI Element Scripts folder:

- **Get User Name.applescript** opens the System Preferences Accounts Password tab and extracts your name from the name field. (To try this script out, open it in Script Editor and run it. You'll see System Preferences open, and in a moment, your account name will appear in Script Editor's Result window.)
- **Key Down-Up.applescript.** Using TextEdit, this script demonstrates a number of ways to get AppleScript to do some typing for you. Use the examples in this script as a template for your own, more useful scripts.
- Probe Menu Bar.applescript and Probe Window.applescript are valuable demo scripts for "probing" menus and window elements (buttons, tabs, text boxes, and so on), in an effort to learn the correct syntax for making UI scripting work. For example, open the Menu Bar script and run it in Script Editor, and then observe the long list in the Result window. It reveals the correct ways to refer to all active (that is, not dimmed) Finder menu commands. (Feel free to change the word "Finder" in the script to another open program's name.)
- Set Network Location.applescript changes your Network Location settings to Automatic—not an especially useful script on its own, but a useful demonstration of how you can trigger commands in your menu. By modifying this script, you could, for example, make it change the location of the Dock, turn its magnification off, and so on.
- **Set Output Volume.applescript.** This script shows you the correct syntax for adjusting your Mac's speaker volume. You might incorporate it, for example, into a larger script that reads the mail, launches iTunes, and turns up the volume.

## 7.1.15 URLs

#### 7.1 Running Ready-Made AppleScripts

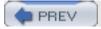
All of the scripts in this folder simply open your browser, connect to the Internet if necessary, and then open the specified Web pages (the stock quote for Apple on Yahoo, the Apple Store, CNN, and so on). **Download Weather Map** is much cooler; in a flash, it downloads the current U.S. weather map image and then opens the file in the Preview program for viewing.

The AppleScript Related Sites scripts in this folder open the most popular and useful AppleScript sites: Bill Cheeseman's AppleScript Sourcebook, MacScripter.net, and Apple's own AppleScript Web site. Each offers a wealth of information and links to even more great AppleScript sites.

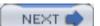


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# 7.2 Creating Your Own AppleScripts

If you ask a crowd of Mac users how many of them write AppleScripts, few hands are likely to go up. That's too bad, because as programming languages go, AppleScript is easy to understand. It takes only a few weeks, not years, to become comfortable with AppleScript. And the power AppleScript places in your hands is well worth the effort you'll expend learning it.

For example, here's a fragment of actual AppleScript code:

open folder "AppleScript" of folder "Applications" of startup disk

You probably don't need a manual to tell you what this line from an AppleScript program does. It opens the Applications AppleScript folder on your hard drive. (That's the folder that contains Script Editor, the Mac OS X program that lets you write your own AppleScripts.)

If you have no interest in learning to program, you're not alone. But almost every Mac fan can benefit by understanding what AppleScript can do, why it's important in certain industries, and how it may be useful in everyday situations.



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## 7.3 Recording Scripts in "Watch Me" Mode

You can, if you wish, create a script by typing out the computer commands one at a time, just as computer programmers do the world over. Details on this process come later in this chapter.

But if the task you want it to handle isn't especially complex, you'll be pleased to discover that in Mac OS X 10.3—surprise!
—the Finder itself is once again *recordable*, much as it was in the Mac OS 9 days. That is, you can create a script just by doing the job manually—using menu commands, opening windows, changing window views, and so on—as Script Editor watches and writes out the necessary lines of code automatically. Recording an action and watching the Mac turn your movements into lines of AppleScript code is a fantastic way to learn how AppleScript works.

# GEM IN THE ROUGH Text to Audio Files

Your Mac can perform an astonishing feat: It can convert a text file into a *spoken digital recording* in AIFF audio format.

This is a twist with huge implications. If you transfer these files to your iPod, you can listen to your documents—email, Web pages, reports, eBooks, or anything else you can type or download—as you commute, work out, or work outside.

Of course, commuters and joggers have been listening to Books on Tape for years, and companies like Audible.com create what you might call Books on MP3. But those products are expensive, and you can't listen to your own stuff.

To pull this off, just download the two sample scripts at www.apple.com/applescript/macosx/text2audio.html

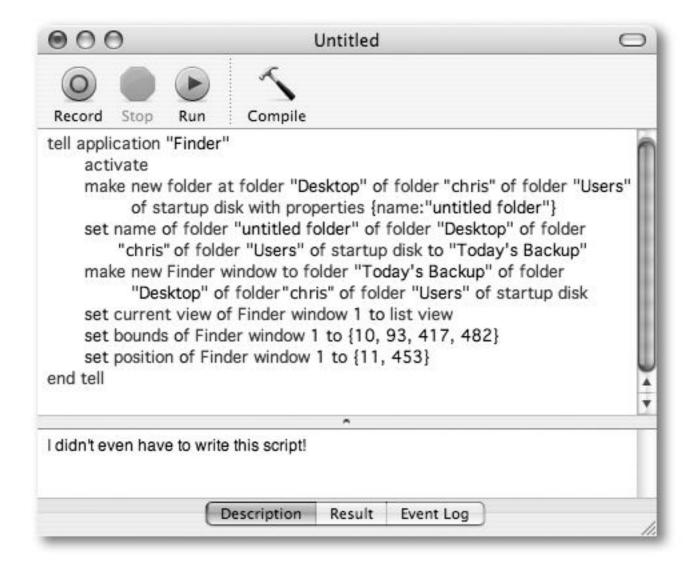
## 7.3.1 A Simple Auto-Recorded Script

The script you'll build in this experiment creates a squeaky-clean new folder, into which you can stuff your newly created documents each day for backup. In the following section, you'll find a line-by-line analysis of the result.

## 1. Open Script Editor.

Script Editor is in your Applications AppleScript folder. It looks like <u>Figure 7-2</u>, except that the window is empty when it first opens.

The Script Editor in action. Type a short description into the bottom pane of the window, if you like. This script appears already formatted with colored keywords (which aren't evident in the grayscale illustration here) and indents because it was created using "watch me" mode. (If you don't have an empty window before you begin recording, choose File—New.)



#### 2. Click Record.

Script Editor is about to write out the code that describes your every mouse movement, click, and menu command from now until you stop recording. In this experiment, you'll create a new folder, name it, open it, change the window to list view, resize it, and then move it to a convenient position on the screen.

3. Click the desktop. Choose File New Folder. Type *Today's Backup* and then press Return.

You've just made a new folder on your desktop. If you sneak a peek at your Script Editor window, you'll see that it has begun to notate the computer commands that represent what you've done so far.

- 4. Choose File → Open (or press #-O), and then choose View → as List (#-2).
- 5. Drag the resize handle (the lower-right corner of the window) to make the window smaller.

Finally, you'll move this backup folder window off to a corner, so that you'll have more room to drag your documents into it.

### 6. Drag the Today's Backup folder window to a new position on the screen.

That's all this modest AppleScript will do: Create a new folder, name it, open it, change the view to list view, and then resize and reposition it.

#### 7. Click in the Script Editor window, and then click Stop.

Your newly created script is complete, as shown in Figure 7-2.

Click your desktop and then throw away the Today's Backup folder, so that you can start fresh. Once again, return to Script Editor—but this time, click Run.

In rapid, ghost-driven sequence, you'll see AppleScript create *another* Today's Backup folder, open it, change it to List view, then resize it and drag it to precisely the spot on the screen where you dragged the first one by hand—all in a fraction of a second. The script you've created isn't the world's most useful, but it illustrates how powerful and fast AppleScript can be.

## 7.3.2 AppleScript Commands

Scripts you create in "watch me" mode are actually fairly limited. If you want to write scripts for programs that aren't recordable—or more complex scripts for the Finder—you'll eventually have to learn to type out AppleScript code for yourself.

As a first step in understanding the AppleScript language, study the code written by Script Editor in the previous example. As it turns out, much of this script consists of standard AppleScript jargon that appears in almost every script. Here's a line-by-line analysis of the little folder-creating script you just made.

```
activate

make new folder at folder "Desktop" of folder "chris" ¬

of folder "Users" of startup disk with properties

{name: "untitled folder"}

set name of folder "untitled folder" of folder "Desktop" ¬

of folder "chris" of folder "Users" of startup disk to "Today's

Backup"

make new Finder window to folder "Today's Backup" ¬

of folder "Desktop" of folder "chris" of folder "Users" of

startup disk

set current view of Finder window 1 to list view
```

7.3 Recording Scripts in "Watch Me" Mode

```
set bounds of Finder window 1 to {10, 93, 417, 482} set position of Finder window 1 to {11, 453}
```

end tell

### NOTE

The ¬ character means, "This command continues on the next line. Treat it all as one giant clump." (It appears on these limited-width pages for clarity, but in Script Editor, you don't actually need them. If you don't insert this character manually [by pressing Option-Return], Script Editor wraps lines automatically.)

## 7.3.2.1 tell application "Finder"

Almost every script begins with a line like this. It specifies which Mac program or window this section of your script will control. If you were writing a script manually, you'd begin by typing this line.

Complex scripts can involve several programs—grabbing information from File- Maker and pasting it into QuarkXPress, for example. In those longer scripts, you'd see *tell application "FileMaker Pro"* at the beginning of the steps that involve the first program, and then *tell application "QuarkXPress"* later in the script, where the steps pertain to QuarkXPress.

#### **7.3.2.2** activate

This command means, "Bring the abovementioned program to the front." Technically, you don't have to make the Finder the active program to perform the simple folder- creation steps in this script—AppleScript could create and manipulate your Today's Backup folder even with the Finder in the background. But Script Editor inserted this step automatically because, when recording your actions, *you* made the Finder the active program (by clicking the desktop). You're welcome to delete this step from your Script Editor window.

This is only the first of many examples you'll find in which Script Editor records wordier scripts than necessary. Hand-typed scripts, like those described later in this chapter, are typically more compact and faster to run.

# 7.3.2.3 make new folder "Desktop" of folder "chris" of folder "Users" of startup disk with properties {name:"untitled folder"}

This command tells the Finder to create a new folder on your desktop. (Why does it say "of folder chris"? Because remember that in Mac OS X, every account holder has a separate desktop.)

If you're writing out scripts by hand, it's worth knowing that you don't really need a command this verbose. The line *make new folder at desktop* would do just as well.

# 7.3.2.4 set name of folder "untitled folder" of folder "Desktop" of folder "chris" of folder "Users" of startup disk to "Today's Backup"

This step renames the new folder. (You could also type set name of folder "untitled folder" to "Today's Backup" for a more concise version.)

AppleScript processes the expression in parentheses first, just as in mathematics, and uses its result to evaluate that part outside of the parentheses. Either way, the result is a renamed folder.

# 7.3.2.5 make new Finder window to folder "Today's Backup" of folder "Desktop" of folder "chris" of folder "Users" of startup disk

This step opens the new folder to a Finder window. (Talk about wordy! The handscripter's more elegant alternative: *open folder "untitled folder"*.)

## 7.3.2.6 set current view of Finder window 1 to list view

The frontmost window is always number 1 in the Finder's eyes. This command changes its view to list view.

## 7.3.2.7 set bounds of Finder window 1 to {10, 93, 417, 482}

Here's how AppleScript thinks when it resizes your Finder window. The first two numbers in the list represent the vertical and horizontal coordinates of the window's upper-left corner, as measured in pixels from the upper-left corner of your screen. The second pair of numbers represents the position of the lower-*right* corner of the Finder window.

## 7.3.2.8 set position of Finder window 1 to {11, 453}

This script step moves your window to the specified position, once again measured in pixels from the upper-left corner of the screen to the upper-left corner of the window.

### 7.3.2.9 end tell

You're finally telling the Script Editor that it can stop paying attention to Finder. *End tell* always accompanies the *tell* application command that begins a script. These two commands form the bookends that delineate the instructions to the program in question. (AppleScripters call the entire chunk, beginning with *tell* and ending with *end tell*, a *tell block*.)

# FREQUENTLY ASKED QUESTION Colorful Words in Scripts

Why does Script Editor put some words in color and some in black?

Imagine that your word processor could color-code the words you type, according to their function in the sentence, or their part of speech. If you were asked to analyze the sentences for grammatical correctness, having the color code would be a big help; you could almost see the sentence structure.

AppleScript has rules of syntax as well. Script Editor checks your syntax for you, and displays the words you type in different colors according to whether it thinks that they're *language keywords*, *application keywords*, *variables*, *operators*, and so on. The color coding makes a script much easier to read. It can also sometimes help you find typos.

In Panther, AppleScript has a new standard color scheme. It doesn't color-code everything, but it's better than the allblack coloring approach of the old AppleScript.

To adjust the color settings, choose Script Editor——Preferences and click the Formatting icon. Double-click a color swatch to change it, or a "part of speech" name to change its font.



You can change the fonts and formatting Script Editor uses to write out your scripts. Choose Script Editor Preferences, click the Formatting toolbar button, and then use Script Editor's Font panel to choose new type specs. Experienced scripters can even change the color-coding of their scripts to make them easier to read and debug.



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# 7.4 Saving a Script

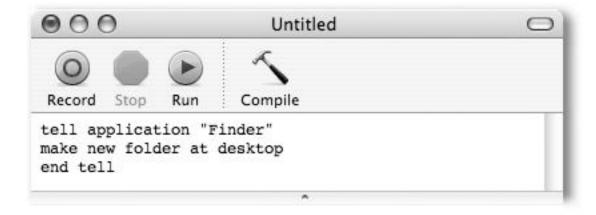
Before you save a script, let Script Editor check its *syntax* by clicking the Compile button. (If you don't perform a syntax check manually before trying to save, Script Editor will automatically do it for you as soon as you try to save.)

### NOTE

The Compile button won't find any errors if you created a script using the "watch me" system. After all, Script Editor itself wrote the script, so of *course* it's perfect. But when you write scripts by hand, as described later in this chapter, you'll find the Compile button a useful tool for cleaning stray errors out of your scripts.

If Script Editor finds your script to be correctly written, you'll get no reaction from Script Editor except to see your script formatted with colors and fonts, as shown in <u>Figure 7-3</u>. If it does find a problem with the syntax, you'll be limited to saving your script file in only one format: plain text.

If you type an AppleScript manually, it appears just as it would in a word processor (top left): in Courier with no special formatting. When you click the Check Syntax button, however, Script Editor indents the tell block and changes all type to Verdana (bottom right), with AppleScript's reserved words (language keywords and application keywords) in colored type and comments in smaller, italic type. Congratulations: You've got the Script Editor seal of approval.





At this point, you're ready to save your script. Choose File Save. Name your script and choose a location for it, by all means—but the important step here is to choose a *format* for your completed script (see <u>Figure 7-4</u>). Your choices depend on whether you want your scripts to work in Mac OS X, Mac OS 9, or both. They also depend on how you intend to use your scripts.

Script. Saving as a Script really means as a compiled script. You can't double-click a compiled script to run it.
 Nonetheless, compiled scripts are required by a number of programs that launch AppleScripts, including your Mac's Script menu (see Figure 7-1) and any programs that have their own Script menus. These so-called attachable programs include FileMaker Pro, Entourage, and Eudora, among others. Compiled scripts can run in both Mac OS X and Mac OS 9.

When you choose this option, you're offered an additional checkbox. If you choose Run Only, neither you nor anyone else can open your script for editing later. You may want to use Run Only scripts for distribution to people who shouldn't be modifying your scripts, or if you are being secretive about your code.

Top: The format you choose when you save a script depends mostly upon the operating system on which you plan to use your script and how you plan to use it. In Panther, you can specify what kind of invisible line-ending character you want: LF, CR, or CRLF (for reading on Unix, Mac, or Windows, respectively).

Bottom: The Options checkboxes control what happens when someone double-clicks the resulting AppleScript icon.



• **Application.** Choose this option if you want to create a standalone, double-clickable application script suitable for use in Mac OS X or OS 9. You can put the resulting script into the Dock, for example, so that you can trigger it whenever you like. Or you can put the finished script into, say, your Startup Items list to run automatically at startup (to search the Web for news of your industry and save the Web pages in a new folder, for example).

Cancel

Save

Stay Open

When you choose this option, you're offered three additional checkboxes (<u>Figure 7-4</u>, bottom). **Run Only** works just as it does for a compiled Script, as explained on the previous page. If you choose **Stay Open**, the applet you've created remains running after it's launched—just what you'd want for scripts that are meant to monitor some activity on your computer continuously.

In general, you'll want to leave **Startup Screen** turned off, so the startup message never appears. If you turn it on, however, then whatever description you provided for your script appears whenever the script runs. You, or whoever is using your script, must then click either Run or Quit after the script launches. This can become tiresome very quickly.

Script Bundle. Choose this option if your script relies on external files like a video clip, a graphic, or even other

- scripts. Script Editor will bundle them together with your script into a single icon.
- **Application Bundle.** Like the Application option, this format creates a doubleclickable, self-running script application—but one that can run only on Mac OS X 10.3 and later. Here again, the point is to store resources used by the script in a single icon (a package), making it possible to deploy more complicated scripts without worrying that some supporting files might go astray.
- **Text.** You can't actually run an AppleScript that's saved as a text file, but saving it this way provides a good way to exchange scripts with other people or to save an unfinished script you want to work on later.



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# 7.5 Writing Commands by Hand

Using the "watch me" mode, you can create only very simple scripts. If you want to create anything more elaborate, you must type out the script steps one by one, testing your work, debugging it, reworking it, and so on.

## 7.5.1 Scriptable Programs

Most introductory articles about AppleScript discuss scripts that perform useful tasks *in the Finder*—that is, scripts that manipulate your files, folders, disks, and so on. That's because AppleScript can control almost every element of the Finder, making it an extraordinarily *scriptable* program.

But AppleScript can also control and communicate with almost every popular Mac program: FileMaker, AppleWorks, Adobe and Microsoft applications, and so on. Sherlock, iTunes, iPhoto, iMovie, QuickTime Player, Terminal, TextEdit, Mail, Internet Connect, and Image Capture are among the built-in Mac OS X programs that you can control with AppleScripts, and the list is always growing.

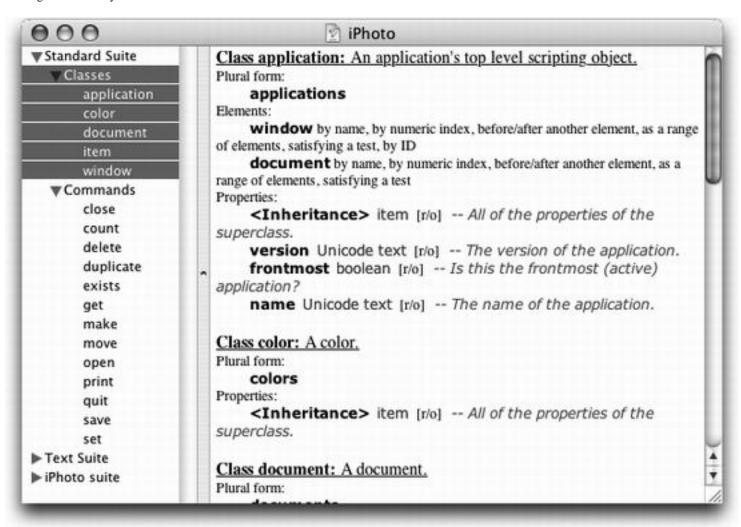
Before you can write a script that manipulates, say, FileMaker, you need to learn which commands FileMaker can understand. Most Mac programs understand at least the most basic four AppleScript commands—Open, Print, Quit, and Run—but some offer a much larger AppleScript vocabulary. To find out, you need to look at the application's dictionary—the list of AppleScript commands it understands.

To do so, open Script Editor; choose File Open Dictionary. You're offered a list of all scriptable applications on your Mac. You can jump to the program you want by typing the first few letters of its name (a new Panther feature). Once it's highlighted, press Enter, or double-click the name of the program you want to check out (see Figure 7-5). If the application whose dictionary you seek is not in the list, click the Browse button and hunt for it.



You can also open a dictionary by dragging a program's icon onto the Script Editor icon—a good argument for parking Script Editor in the Dock.

The dictionary for a program lists the AppleScript commands and objects (classes) it knows about. If you click one of the commands on the left side of the window, you see an explanation of how to use it on the right. Unfortunately, you don't get any examples; it's up to you to try each command to see how it works.



That's not to say, of course, that these commands make much sense to someone who's never written an AppleScript before. These commands, and the scripts that incorporate them, still require study and experimentation. But a glance at a program's AppleScript dictionary is a good way to assess its scriptability—and therefore how much the software company has embraced the Macintosh Way.

## 7.5.2 Two Sample Scripts

In the following hand-typed examples, you'll encounter new kinds of tell blocks, scripts that control more than one program at a time, and scripts that do things that you can't even do manually. If you look over these examples carefully—and type them up for yourself in Script Editor—you'll begin to see how similar to English AppleScript can be. You may also wind up with some useful scripts that can make your Macintosh life easier.

## 7.5.2.1 Example 1: Auto-backup before shutting down

Suppose you'd like to use your new iPod as a backup disk. You want to be able to back up your Home Documents folder each day without having to burrow through folders, drag and drop, click OK, and so on. AppleScript can do the job automatically.

In Script Editor, choose File New Script, and then type this:

```
tell application "Finder"

duplicate folder "Documents" of folder "chris" of folder "Users"

of startup disk to disk "Ye Olde iPod" with replacing
```

Here's how the key command breaks down:

tell application "Finder"

7.5 Writing Commands by Hand

end tell

duplicate. AppleScript also offers commands called move and copy. So why duplicate?

Use *move* when you want to "drag" an icon around on the same disk, changing its location; use *duplicate* when you want to leave a copy behind. (In this example, it doesn't matter which command you choose. "Dragging" an icon to a different disk *always* makes a copy and *never* moves the original.)

*Copy*, to AppleScript, means "copy to the Clipboard," which the Finder can't do by AppleScript control. (The Finder's dictionary lists the copy command as "not available yet.")

As for the phrase *with replacing*: You'll probably want to run this auto-backup script every day, so you'll want it to wipe out yesterday's Documents backup each time you run it. That's what *with replacing* accomplishes.

• folder "Documents" of folder "chris" of folder "Users" of startup disk. All of this business simply reflects the location of your Documents folder. It's in your Home folder, of course, which bears your name. In this example, substitute your actual Home folder's name for "chris."

After you've run your script a couple times from within Script Editor (by clicking the Run button) and enjoyed the mad, brain-shocking power, add a little finesse by adding the new commands shown here in italics:

```
duplicate folder "Documents" of folder "chris" of folder "Users"

of startup disk to disk "Ye Olde iPod" with replacing

activate me

beep

display dialog "Backup Successful!" buttons "Cool!"
end tell
```

The additional commands make the Mac beep and report, in a little dialog box, "Backup Successful!" after it makes the copy. It even offers a button ("Cool!") that you can click to dismiss the dialog box. (Of course, you can make the button say anything you like—"OK," "Get on with it," "Good boy!" or whatever.)

Once you've created this little script, save it as an application and put it in the Dock, on your Finder toolbar, or in your Sidebar. Or save it as a compiled script in your Home folder Library Scripts folder, so that you'll be able to trigger your backup from the Script menu.

As you get better at AppleScript, you'll realize that this script is only the beginning. You could, for example, add a date stamp in the folder name, label the folder, make it always keep the most recent backup (a *rolling backup* strategy), back the files up to your iDisk, "eject" the iPod disk after the backup is complete, and even speak out loud, "All done, O master!" after the copying is complete.

## 7.5.2.2 Example 2: Universal Shutdown

Every now and then, you might find it useful to quit all running programs except the Finder. Unfortunately, there's no one-step command that quits all of your open programs—but you can create one for yourself.

Nearly every Mac program on earth understands the Quit command when sent by AppleScript. All you have to do, then, is to send that command to each of the programs you're likely to have open. If you spend most of your time in AppleWorks, Mail, and Safari, for example, your script might look like this:

```
tell application "AppleWorks"
quit
end tell
tell application "Mail"
quit
end tell
tell application "Safari"
quit
end tell
```

In time, after hanging out on AppleScript mailing lists and studying a few other scripts, you'd realize that you could shorten those tell blocks like this:

```
tell application "AppleWorks" to quit

tell application "Mail" to quit

tell application "Safari" to quit
```

Even so, this script is doomed. If some of these programs aren't actually running, the script will dutifully *launch* each application and *then* quit it, which won't exactly make you the envy of your household. Fortunately, there's a better way.

What you really want is a script that briskly exits every running program, but is smart enough not to disturb the important system processes that run in the background. (Note that *process*, in computer-speak, refers to any running program, including both the applications you're using and the secret background ones that the Mac runs all the time.) So you'd want this:

```
tell application "Finder"

set quitList to the name of every application process whose file type is "APPL"

end tell

repeat with i from 1 to count of quitList

tell application (item i of quitList) to quit
```

Here's how some of these unfamiliar lines break down:

7.5 Writing Commands by Hand

end repeat

- set quitList to the name of every application process whose file type is "APPL." You're defining a new variable, a stunt double, called quitList. It's a list of every program whose file type (Section 4.5.1) is APPL—that is, every double-clickable program. By limiting it to processes whose file type is APPL, you avoid quitting most of Mac OS X's important background programs.
- repeat with i from 1 to count of quitList. This is a loop. You're saying, "run through the quitList list, exiting each program until you're at the end of the list."

Unfortunately, if you actually try this script (hint: save it first), you'll discover that it's the neutron bomb of scripts: It quits everything in sight, including the Dock, invisible graphic-interface programs like SystemUlServer, and even Script Editor itself! Oops.

By adding a few more lines, however, you can specify the names of processes that you want untouched:

```
set excludedOnes to {"Script Editor", "loginwindow", "Dock",

"SystemUIServer", "System Events", "ClassicAuxInput"}

tell application "Finder"

    set quitList to the name of every application process whose

file type is "APPL"

end tell

repeat with i from 1 to count of quitList

set aProcess to item i of quitList

if aProcess is not in excludedOnes then

    tell application aProcess to quit

end if
end repeat
```

This script gives you an even greater degree of control, because you can add to the list of processes that aren't to be

disturbed. Just add them to the bracketed list in the first line, always in quotes and followed by a comma. Now you're free to quit all of your running applications—even applications running in Classic—with one click of the mouse.







#### 7.6 Folder Actions

A *folder action* is a script that the Mac triggers automatically whenever you do something specific to a particular folder: open it, close it, move it, resize it, or change its contents.

#### 7.6.1 Attaching and Removing Folder Actions

If you've never before used folder actions, first run the Enable Folder Actions script from the Script menu, which turns on the feature. (You can also turn on Enable Folder Actions in the new Folder Actions Setup program, which is in your Applications AppleScript folder.)

Then, to attach a script to a folder, see Figure 7-6.



A folder shows no indication that an action is attached. You can, however, add a little indicator badge to it manually. The badged icon has vanished from Apple's AppleScript site, but you can still download it from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>.

Keep your eye on <u>www.apple.com/applescript/folderactions</u> too, for updated versions of the canned folder action scripts that come with your system, plus extra sample script.

To attach a script to a folder, Control-click the folder's icon. From the contextual menu, choose Attach a Folder Action. Then, in the dialog box, select the folder action script you want to run whenever somebody interacts with the specified folder. (It's perfectly OK to attach more than one script to a folder.)



To remove a Folder Action script from its folder, use any of these approaches:

- Control-click the closed folder icon (or, if its window is open, Control-click inside the window and choose Remove a
  Folder Action from the contextual menu). From the submenu, choose the script to remove.
- In the Folder Actions Setup panel, click the name of the folder in the left-side list; in the right pane, click the script you want to remove and then click the button beneath it.
- From the Script menu, choose Folder Actions Remove Folder Actions. You're shown a list of folders that have folder actions attached; select the one you want to cleanse. Highlight the name of the script you want to remove, and click OK.

## 7.6.2 What They're Good For

For a simple example of what folder actions can do, here's one that notifies you whenever somebody has put new files into a particular folder. Type this text into Script Editor, save it to your hard drive, and then attach it to a folder as described on the previous page:

```
on adding folder items to this_folder

tell application "Finder"

set the folder_name to the name of this_folder

display dialog "Someone has put new files into ¬
```

the folder called " & the folder\_name giving up after 30

end tell end adding folder items to

This script incorporates several useful AppleScript techniques you haven't yet seen in this chapter. For example:

- on adding folder items to. This phrase tells the Mac that the script should run when an icon is added to the folder.
- this\_folder. This term isn't a standard AppleScript term; it's a *variable*. You can substitute almost any word you like (it doesn't have to be *this\_folder*). It's no secret to the Mac which folder "this folder" refers to, because you *told* it which folder when you attached the folder action script.
- **folder\_name.** This term is another variable. In order not to have to type *the name of this\_folder* over and over again, the skilled scripter would use a new variable "folder\_name" to hold the value that longer phrase represents—that is, the folder's name.
- &. The & is the *concatenation operator*. It allows you to splice together, or *concatenate*, separate text chunks. When you're composing the message that you want to appear in a dialog box (as indicated by the "display dialog" command above), you can string together text you've written between quotes and text in any variables in your script. In this example, the fourth line of the script creates a dialog box that reads, "Someone has put new files into the folder called Fish Heads" (or whatever the folder is called).

After you've attached this script to a folder, nothing happens until you drop a new file into the folder, at which time a message appears, saying, "Someone has put new files into the folder called 'Fish Heads.'" This way, you can keep tabs on what your network buddies are submitting while you work on other things. (And if you don't click OK, the dialog box goes away by itself after 30 seconds.)



You can find an assortment of ready-made folder action scripts in your

Library Scripts Folder Action Scripts folder. If you have a copy of Mac OS 9 on your

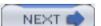
Mac, a second set awaits in the System Folder Scripts Folder Action Scripts folder.

Some don't work in Mac OS X, but they're a very good starting point for experimentation.

Keep an eye on Apple's AppleScript Web site for any updates that may include new folder action scripts. Useful things appear there frequently.



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## 7.7 Advanced AppleScript

No single chapter—in fact, no entire book—can make you a master AppleScript programmer. Gaining that kind of skill requires weeks of experimentation and study, during which you'll gain a lot of appreciation for what full-time software programmers endure every day.

By far the best way to learn AppleScript is to study existing scripts (like those in the Library Scripts folder) and to take the free online training courses listed at the end of this chapter. And there are thousands of examples available all over the Web. Trying to figure out these scripts—running them after making small changes here and there, and emailing the authors when you get stuck—is one of the best ways to understand AppleScript.

On the "Missing CD" page at <u>www.missingmanuals.com</u>, for example, you'll find a document called Advanced AppleScript. pdf. It introduces several more complex AppleScript concepts, including variables, loops, nested "if " statements, and so on.

When you get really serious about creating AppleScripts, you'll also want to check out AppleScript Studio (ASS for short—how did that one get past Marketing?). Technically, it's an integrated development environment that combines Project Builder and Interface Builder, making AppleScript a peer language of Java and Objective C. In plain language, ASS lets you put a real Aqua user interface on your scripts, complete with dialog boxes, text boxes, buttons, slide controls, and much more. It also lets you combine multiple scripts into a single program.

AppleScript Studio is free. It's part of the Developer Tools kit described in <u>Section 9.25.23</u>.

#### 7.7.1 Where to Learn More

Once you've exhausted the built-in AppleScript help screens (or *become* exhausted reading them), begin your quest for more information at Apple's AppleScript Web site, <u>www.apple.com/AppleScript</u>. There you'll find the link to an excellent, step-by-step tutorial in hand-coding scripts, as well as links to these outstanding online AppleScript guides:

• **Apple's own Web site.** The place to start your AppleScript quest is at the mother ship—Apple's own AppleScript web site (<u>www.apple.com/applescript/</u>). There you'll find lots of up-to-date information emanating from Apple, and links to all of the significant AppleScript sites on the Web.



At <u>www.apple.com/applescript/guidebook/sbrt/index.html</u> you'll find on-line AppleScript Guidebook modules with a lot of useful routines that you can use, borrow from, or dissect for the purposes of learning.

- **MacScripter.net.** This site is a beehive of AppleScript activity (<u>www.macscripter.net</u>), run by a group of AppleScript enthusiasts. It hosts the latest in AppleScript news from all quarters, links to everything AppleScript under the sun, free scripts for downloading, discussion boards, and much, much more.
- AppleScriptSourcebook.com. Run by Bill Cheeseman, one of AppleScript's longtime enthusiasts, this site contains a wealth of technical details about every release of AppleScript, including an expansion on many of the terse Apple release notes. There's a lot here for scripters of all levels, so keep it in your browser's AppleScript bookmarks.

Each of those three Web sites offer links to commercial AppleScript training course offerings, technical encyclopedias that describe every AppleScript command in detail, AppleScript news sites, scripting additions, freeware scripts, code samples, multimedia training magazines, and so on.

#### Other resources:

- AppleScript mailing lists. Sign up for one of these free, email-based discussion lists whose members are all AppleScript fans. Apple runs the AppleScript Users' list; the MacScript list is independent. Given the rapidly changing face of AppleScript in Mac OS X, these lists are possibly the best source of up-to-date solutions for the new scripter. (Sign up at lists.apple.com/mailman/listinfo)
- **AppleScript books.** If you want to buy a book about AppleScript, be sure that it's been updated for Mac OS X 10.3 —like the latest edition of *AppleScript: The Definitive Guide*.

# POWER USERS' CLINIC Scripting Additions

Much of AppleScript's power comes in the form of add-on files called *scripting additions*. You can think of them as plug-ins, each of which adds a particular new feature to AppleScript's repertoire.

In Mac OS X, you may find scripting additions in any of three different places. The standard additions are in the System Library ScriptingAdditions folder. As with fonts, sounds, or other settings, you can also install scripting additions that only *you* can access by making a Scripting Additions folder in your Home Library folder. Similarly, if you're an administrator, you can make a Scripting Additions folder in the main Library folder (in the hard drive window); everyone with an account will be able to use the scripting additions you place there.

Like a scriptable application, each of these scripting additions has its own *dictionary*—its own bunch of specialized AppleScript commands that you can use in your scripts. You view these new commands just as you would when studying the vocabulary of a program: by opening Script Editor, choosing File Open Dictionary, and then navigating to and opening the scripting addition you want.

As more power is built into AppleScript itself, there's less demand for the functions provided by scripting additions. In the meantime, now you know where to find them.

• **Bill Briggs' AppleScript Primers.** These articulate, thoughtful beginners' tutorials were written in the days of Mac OS 9, though most of the code will run in Mac OS X. Still the largest unified collection on the Web (<u>www.maccentral.</u> com/columns/briggs.shtml).



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## Part III: The Components of Mac OS X

**Chapter 8:** System Preferences

**Chapter 9:** The Free Programs

Chapter 10: CDs, DVDs, and iTunes



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## **Chapter 8. System Preferences**

The hub of Mac customization is System Preferences, the modern-day successor to the old Control Panel (Windows) or Control Panels (previous Mac systems). Some of its panels are extremely important, as their settings determine whether or not you can connect to a network or go online to exchange email. Others handle the more cosmetic aspects of customizing Mac OS X. This chapter guides you through the entire System Preferences program, panel by panel. (Reading it will be an especially worthwhile exercise if you're used to previous versions of Mac OS X. Apple had a field day rearranging things in this system-software toolbox.)



Only a system administrator (see <u>Section 11.2</u>) can change settings that affect everyone who shares a certain machine: its Internet settings, Energy Saver settings, and so on. If you see a bunch of controls that are dimmed and unavailable, now you know why.

The tiny padlock in the lower-left corner of a panel (see <u>Figure 8-4</u> for an example) is the other telltale sign. If you, a nonadministrator, would like to edit some settings, call an administrator over to your Mac and ask him to click the lock, input his password, and supervise your tweaks.



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## 8.1 The System Preferences Window

You can open System Preferences in dozens of ways, but the quickest is to choose its name from the menu or click its icon in the Dock. At first, the rows of icons are grouped according to function: Personal, Hardware, and so on.

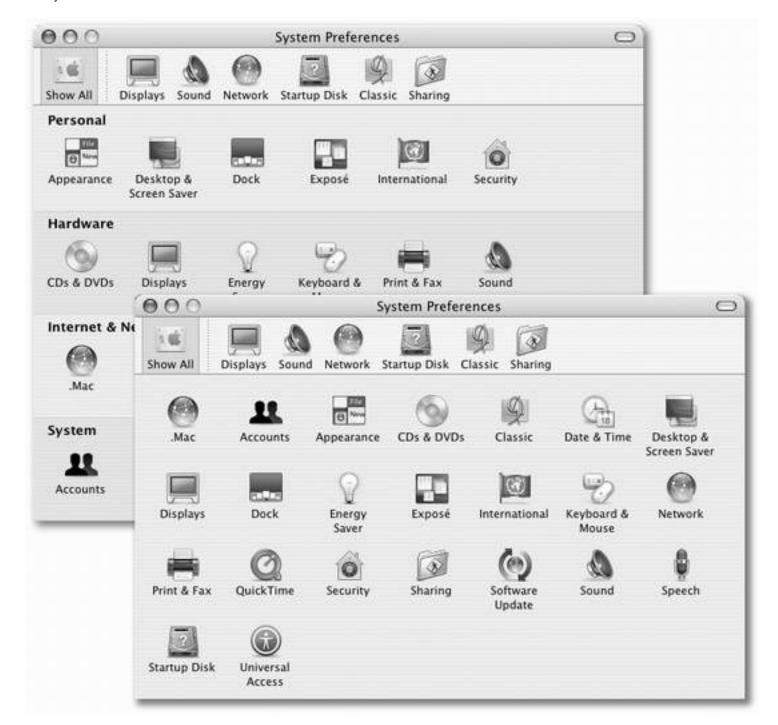
But you can also view them in tidy alphabetical order, as shown at bottom in <u>Figure 8-1</u>. That can spare you the ritual of hunting through various rows just to find a certain panel icon whose name you already know. (Quick, without looking: Which row is Date & Time in?) This alphabetical arrangement matches the way the various panels are organized in this chapter, too.

Either way, when you click one of the icons, the corresponding controls appear in the main System Preferences window. To access a different preference pane, you have a number of options:

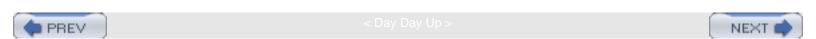
- Fast: Click the Show All icon in the upper-left corner of the window (or press # L, a shortcut worth learning). Then click the icon of the new panel you want. (Bonus effect: Shift-click the icon for slow-mo!)
- Faster: Choose any panel's name from the View menu.
- New in Panther: Choose a panel's name from the System Preferences Dock icon. (This menu appears only when System Preferences is actually open.)
- Even faster: (This keyboard-only trick assumes that you've turned on Full Keyboard Access; see <u>Section 4.6.</u>)
   Highlight the first System Preferences icon by pressing Tab. (The highlighting is very faint, but it's there.) Then type the first couple of letters of the icon you want to highlight—p for Print &, di for Displays, or whatever —and then press the Space bar to open that panel.

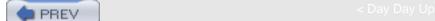
You can view your System Preferences icons alphabetically (bottom), rather than in rows of arbitrary categories (top); just choose View Organize Alphabetically. This approach not only saves space, but also makes finding a certain panel much easier, because you don't need to worry about which category it's in.

And while you're customizing: You can hide the toolbar by clicking the upper-right capsuleshaped button. You can also customize this toolbar—and you should—by dragging onto it the icons of the System Preferences panels you use the most.



• Fastest: Click the icon you want, if it's there, on the System Preferences toolbar. And why shouldn't it be there? By all means, stash the panels you use most frequently up there, as shown in Figure 8-1.







#### 8.2 .Mac

This panel is of no value unless you've signed up for a .Mac account (see <a href="Chapter 18">Chapter 18</a>). It offers two tabs:

- .Mac. This is where you fill in your member name and password for your .Mac account, if you've subscribed. (See
   Chapter 18 for a full discussion of these accounts.) If you're not yet a member, you can click the Sign Up button to
   get started.
- iDisk. The Disk Space graph indicates how full your electronic iDisk is. (And if it approaches your limit of 100 MB, a Buy More button lets you pay Apple for the privilege of gaining more storage.) The Your Public Folder controls let you specify whether or not other people are allowed to put new files into your Public folder (Section 18.9.2.3), and whether or not outsiders need a password to see what's in your Public folder. Much more detail on these topics in Chapter 18.



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PREV



## 8.3 Accounts

This is the master list of people who are allowed to log into your Mac. It's where you can adjust their passwords, startup pictures, self-opening startup items, permissions to use various features of the Mac, and other security features. All of this is described in <a href="Chapter 11">Chapter 11</a>.

#### **NOSTALGIA CORNER**

## Where to Specify Your Preferred Mail and Browser Programs

Hey! Where the heck do I specify what browser I want to open when I click a link in, say, an email message? It used to be in the Internet panel of System Preferences, but that panel doesn't exist anymore!

You're right. The Internet panel has been reborn in Panther as the .Mac panel, and the places where you set up your preferred email and Web programs have gone off to the great software company in the sky.

This is going to sound a little odd, but you specify which browser you want to use by opening the *Safari* browser that came with Mac OS X, choosing Safari Preferences, clicking the General tab, and then using the Default Web Browser pop-up menu at the top.

You specify your preferred email program the same way, but in Mail instead of Safari.

Yes, it's a bit peculiar that you have to visit Safari even if you want to specify that you don't want to use Safari, and you have to open Mail to opt out of using Mail. But at least you probably won't have to make these changes more than once.



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## 8.4 Appearance

After—what's it been, 20 years?—of calling this panel General, somebody at Apple finally realized it's mostly about how things *look* on the screen: windows, menus, buttons, scroll bars, and fonts. So in Panther, it's the same stuff on a renamed panel.

Nothing you find here lets you perform any *radical* surgery on the Aqua interface—the overall Mac OS X look stays the same—but you can tweak certain settings to match your personal style.

## 8.4.1 Changing Colors

Two pop-up menus let you crank up or tone down Mac OS X's overall colorfulness:

- Appearance. Choose between Blue or Graphite. Blue refers to Mac OS X's factory setting—bright, candy-colored scroll-bar handles, progress bars, menu, and pulsing OK buttons—and those shiny red, yellow, and green buttons in the corner of every window. If you, like some graphics professionals, find all of this circusposter coloring a bit distracting, then choose Graphite, which renders all of those interface elements in various shades of gray.
- **Highlight color.** When you drag your cursor across text, its background changes color to indicate that you've selected it. Exactly what color the background becomes is up to you—just choose the shade you want using the pop-up menu. (The Highlight color also affects such subtleties as the lines on the inside of a window as you drag an icon into it.)

If you choose Other, the Color Picker palette appears, from which you can choose any color your Mac is capable of displaying (Section 4.10.4).

## 8.4.2 Tweaking the Scroll Bars

These radio buttons control the scroll-bar arrow buttons of all your windows. You can keep these arrows together at one end of the scroll bar, or you can split them up so that the "up" arrow sits at the top of the scroll bar, and the "down" arrow is at the bottom. (Horizontal scroll bars are similarly affected.) For details on the "Jump to the next page" and "Scroll to here" options, see Section 1.2.9.

# GEM IN THE ROUGH Toolbar Tip-O-Rama

Hint and tip lovers, rejoice! The System Preferences toolbar is just loaded with goofy little secrets.

For example, you can rearrange the toolbar icons (except Show All) by dragging horizontally, or remove one by dragging it directly away from the toolbar. On the other hand, you can hide the toolbar altogether (to maximize your screen space) by clicking the white oval button in the window's upper- right corner. At that point, you switch among different System Preferences panes by using the View menu, or the System Preferences pop-up icon in the Dock.

Similarly, if you #-click that "hide toolbar" button, you cycle between six possible toolbar styles. With each click, the icons get smaller, the text labels get smaller, and finally the icons disappear altogether, leaving only a row of tiny text labels.

At the largest icon size, you have room for about seven or eight icons in the toolbar. In the smallest icon-only view, you can fit at least twelve to fifteen icons in the same horizontal space. (It defeats the purpose of putting them in the toolbar in the first place, but it looks really neat.)



Miss the days when only *both* arrows appeared at *both* ends of the scroll bar? You can make Mac OS X work that way, too. You just need a moment alone with TinkerTool, described in Section 17.1.

You can also turn on one or both of these checkboxes:

- Use smooth scrolling. This option affects only one tiny situation: When you click (or hold the cursor down) inside the empty area of the scroll bar (not on the handle, and not on the arrow buttons). And it makes only one tiny change: Instead of jumping abruptly from screenful to screenful, the window lurches with slight accelerations and decelerations, so that the paragraph you're eyeing never jumps suddenly out of view.
- Minimize when double clicking a window title bar. This option provides another way to minimize a window. In
  addition to the tiny yellow Minimize button at the upper-left corner of the window, you now have a much bigger
  target—the entire title bar.

#### 8.4.3 Number of Recent Items

Just how many of your recently opened documents and applications do you want the Mac to show using the Recent Items command in the menu? Pick a number from the pop-up menus. (You'll probably find that 5 is too few; 30 is more practical.)

## 8.4.4 Font Smoothing Style

The Mac's built-in text-smoothing (*antialiasing*) feature is supposed to produce smoother, more commercial-looking text anywhere it appears on your Mac: in word processing documents, email messages, Web pages, and so on. Yet one of the most common complaints about Mac OS X is that it actually makes text look blurry to people who aren't used to the effect.

Fortunately, you can control the *degree* to which text gets smoothed. Use the pop-up menu to choose a setting that suits your eyes—and your monitor. For example, Apple suggests Standard for CRT (cathode ray tube) screens (that is, traditional, bulky, television-style screens), and Medium for flat-panel screens like laptops and almost all current desktop Macs.

Either way, the differences are fairly subtle (see <u>Figure 8-2</u>). Furthermore, unlike most System Preferences, this one has no effect until the next time you open the program in question. In the Finder, for example, you won't notice the difference until you log out and log back in again.

#### 8.4.5 Turning Off Smoothing on Tiny Fonts

At smaller type sizes, such as 10-point and smaller, you might find that text is actually *less* readable with font smoothing turned on. It all depends upon the font, the size, and your taste. For that reason, the Size pop-up menu lets you choose a cutoff point for font smoothing. If you choose 12 from this pop-up menu, for example, then 12-point (and smaller) type still appears crisp and sharp; only larger type, such as headlines, displays the graceful edge smoothing.

Top: The same 12-point type with text smoothing turned on (top) and off, shown magnified for your inspection pleasure.

Bottom: Here's the widest difference in text-smoothing styles: Light smoothing vs. Strong. Standard and Medium, of course, are in between.

Smoothing off Krakatoa: A New Musical

Smoothing on Krakatoa: A New Musical

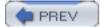
Light smoothing Krakatoa: A New Musical

At curtain rise, we see JASON eating strawberries on the beach. He does not notice the river of smoking lava that's just visible at STAGE RIGHT.

Strong smoothing Krakatoa: A New Musical

At curtain rise, we see JASON eating strawberries on the beach. He does not notice the river of smoking lava that's just visible at STAGE RIGHT.

Mac OS X fans will be delighted to discover that, in Panther, you can choose a size cutoff as low as 4 points. Note that none of the settings affect your *printouts*, only the onscreen display.



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#### 8.5 Bluetooth

This panel shows up only if your Mac is equipped with a Bluetooth transmitter, either built-in or in the form of an external USB gadget. The thrill of using Bluetooth to send files is described in detail in <u>Section 6.2.5</u>, but here's a quick overview of this panel's three tabs:

- Settings. Here's where you make your Mac *discoverable* (that is, "visible" to other Bluetooth gadgets), specify whether or not a password is required, and indicate whether or not you'd like your wireless data to be *encrypted* (presumably so that the Russian spies who've been tailing you won't be able to intercept your transmitted files using sophisticated interception equipment). You also get a Turn Bluetooth Off button, so that, when your laptop has nothing to communicate with, it can save the trickle of power it would otherwise use to power the transmitter.
- File Exchange. Here, you can indicate what you want to happen when someone shoots a document your way: accept it, refuse it, or ask what to do. You can similarly indicate what you want your Mac to do when someone sends you a "business card" from their copies of the Mac OS X address book (by choosing Card Send This Card).

Finally, if you turn on "Allow other devices to browse files on this computer," you're saying that it's OK for other Mac fans to burrow through whatever you've put into your Shared folder (Section 11.5.3) when they create a tiny, impromptu network using Bluetooth.

• **Devices.** The whole point of Bluetooth is hooking up—with phones, other Macs, wireless keyboards, whatever. Here's where you introduce other Bluetooth equipment to your Mac. Click Set Up New Device to fire up the Bluetooth Setup Assistant, which scouts the local airwaves for Bluetooth gear in your vicinity and lets you add them to your Mac's list.

Where security is an issue—like when you plan to use your Bluetooth cellphone as a wireless Internet antenna for your PowerBook, and you'd just as soon not have other people in the airport waiting lounge surfing the Web via *your* cellphone—you can also click Pair New Device. To prove that you're really the owner of both the laptop and the phone, you're asked to make up a one-time password, which you have 60 seconds to type into both the Mac and the phone. Once that's done, you're free to use the phone's Internet connection without any further muss, fuss, or passwords.



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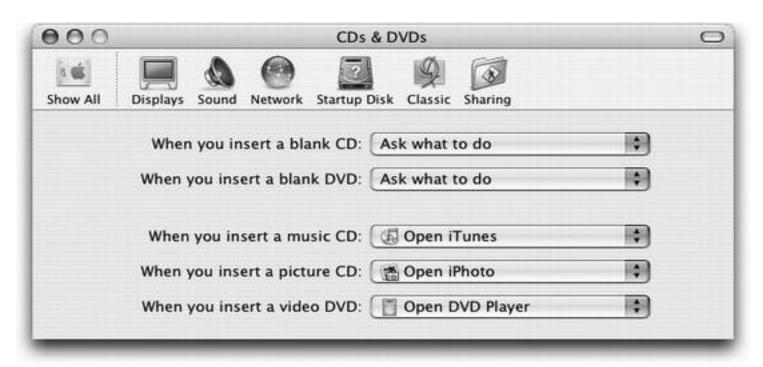




#### 8.6 CDs & DVDs

This handy panel (<u>Figure 8-3</u>) lets you tell the Mac what it should do when it detects the insertion of a CD or DVD. For example, when you insert a music CD, you probably want iTunes (<u>Chapter 10</u>) to open automatically so that you can listen to the CD or convert its musical contents to MP3 files on your hard drive. Similarly, when you insert a picture CD (such as a Kodak Photo CD), you probably want iPhoto to open in readiness to import the pictures from the CD into your photo collection. And when you insert a DVD from Blockbuster, you want the Mac's DVD Player program to open.

## You can tell the Mac exactly which program to launch when you insert each kind of disc, or tell it to do nothing at all.



For each kind of disc (blank CD, blank DVD, music CD, picture CD, or video DVD), the pop-up menu lets you choose options like these:

- Ask what to do. A dialog box will appear that asks what you want to do with the newly inserted disc.
- Open (iDVD, iTunes, iPhoto, DVD Player...). The Mac can open a certain program automatically when you insert the disc. When the day comes that somebody writes a better music player than iTunes, or a better digital shoebox than iPhoto, you can use the "Open other application" option.
- Run script. If you've become handy writing AppleScript programs (<u>Chapter 7</u>), you can schedule one of your own scripts to take over from here. For example, you can set things up so that inserting a blank CD automatically copies your Home folder onto it for backup purposes.
- Ignore. The Mac won't do anything when you insert a disc (except to display its icon on the desktop).

#### **POWER USERS' CLINIC**

## System Preferences: Under the Hood

The entire System Preferences program is nothing more than a series of graphical front ends for underlying Unix settings. (If you know Unix and feel so inclined, in fact, you can bypass the System Preferences panel completely. Using the *defaults* command, you can use Mac OS X's Terminal program to make any of the changes described in this chapter—and many others.)

The individual preference panels are represented by package icons (Section 4.2) in your various Library folders. For example, icons in the basic Mac OS X set are in System Library PreferencePanes. Mac OS X also checks the Network Library PreferencePanes folder, if there is one, when it decides which icons to include in System Preferences.

You can easily expand System Preferences by simply dropping new pane modules into your Home Library PreferencePanes folder (or running downloaded installers that do just that). The beauty of this arrangement, of course, is that everyone who shares a Mac now can see a different assortment of customized preference panes.

Or, if you're an administrator, you can generate a PreferencePanes folder in the Mac's main Library folder, so that everyone with an account on the Mac (<u>Chapter 11</u>) will be able to access your newly added panels.

When you download and install a new System Preferences pane like TinkerTool or TiVo Desktop, it takes the form of a new icon in one of those four PreferencePanes folders. That's good to know when the day comes that you want to *remove* one of these add-on panes.

Within the System Preferences program, any new panes you add in this way appear in a new row of icons labeled Other.

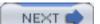


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## 8.7 Classic

Pre-Mac OS X programs can still run under Mac OS X, thanks to a program called Classic. This panel lets you start, stop, and restart Classic (see <u>Chapter 5</u>).







#### 8.8 Date & Time

Your Mac's conception of what time it is can be very important. Every file you create or save is stamped with this time, and every email you send or receive is marked with this time. As you might expect, setting your Mac's clock is what the Date & Time panel is all about.

#### 8.8.1 Date & Time tab

Click the Date & Time tab. If your Mac is online, turn on "Set Date & Time automatically," and be done with it. Your Mac sets its own clock by consulting a highly accurate scientific clock on the Internet. (No need to worry about Daylight Savings Time, either, as the time servers take that into account.)



If you have a full-time Internet connection (cable modem or DSL, for example), you may as well leave this checkbox turned on, so that your Mac's clock is always correct. If you connect to the Internet by modem, however, turn *off* the checkbox, so that your Mac won't keep trying to dial spontaneously at all hours of the night.

If you're not online and have no prospect of getting there, you can also set the date and time manually. To change the month, day, or year, click the digit that needs changing and then either type a new number or click the little arrow buttons. Press the Tab key to highlight the next number. (You can also specify the day of the month by clicking a date on the mini calendar.)

To set the time of day, use the same technique—or, for more geeky fun, you can set the time by dragging the hour, minute, or second hands on the analog clock. Finally, click Save. (If you get carried away with dragging the clock hands around and lose track of the *real* time, just click the Revert button to restore the panel settings.)

## **GEM IN THE ROUGH**

#### Your Free Time-Difference Calculator

You can use the Time Zone pane of the Date &Time panel to calculate the exact time difference between any two points on earth. To do this, you must have the Time Zone pane open and your menu bar clock turned on—set to View as Text, with a digital readout. (See the discussion of the menu bar clock in this chapter.)

To calculate a time difference, make a note of the current time shown in the menu bar, with the Time Zone correctly set to your own zone. Now click your way across the Time Zone map. With each click, notice that the time in the menu bar changes, updating itself as you cross from time zone to time zone. By comparing the original time on your menu bar with the new time that appears when you've finished clicking, you can easily determine the time difference.



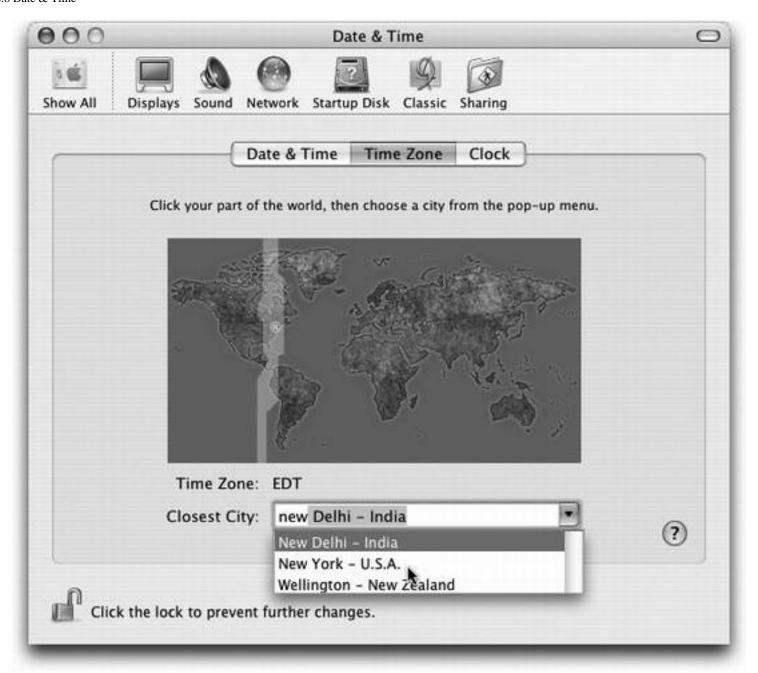
If you're frustrated that the Mac is showing you the 24-hour "military time" on your menu bar (that is, 17:30 instead of 5:30 PM)—or it isn't showing military time when you'd like it to—click the Clock tab button and turn "Use a 24-hour clock" on or off.

Note, however, that this affects only the menu bar clock. If you'd like to reformat the menu bar clock *and* all other dates (like the ones that show when your files were modified in list views), click the Open International button at the bottom of the Date & Time pane. Once there, click the Formats tab button. There you'll see a Customize button for Times, which leads you to "24-hour clock" and "12-hour clock" options.

#### 8.8.2 Time Zone tab

You'd be surprised how important it is to set the Time Zone for your Mac. If you don't do so, the email and documents you send out—and the Mac's conception of what documents are older and newer—could be hopelessly skewed. Teach your Mac where it lives using the Time Zone map, as shown in Figure 8-4.

Setting the Time Zone is a two-step process. In the Time Zone pane, click on a section of the map to select a general region of the world, and then use the pop-up menu to specify your country within that region. (Or, instead of using the pop-up menu with the mouse, you can also highlight the text in the Closest City box. Then start typing your city name until the Mac gets the idea.)



#### 8.8.3 Clock tab

In the Clock pane, you can specify whether or not you want the current time to appear, at all times, at the right end of your menu bar, or even in a small floating window, whose transparency you can control with the slider here. You can choose between two different clock styles: digital (3:53 PM) or analog (a round clock face). If you go the View as Text route, you get several other options that govern this digital clock display: whether or not you want to include designations for AM and PM, the display of seconds, the day of the week, and a blinking colon.



At the bottom of the dialog box, you'll find a new Panther feature called "Announce the time." At the intervals you specify, the Mac will speak, out loud, the current time: "It's ten o'clock." If you tend to get so immersed in "working" that you lose track of time, Mac OS X just removed your last excuse.

And by the way, your menu bar clock always shows the current *time*. When you need to know today's *date*, just click the clock. A menu drops down revealing the complete date. The menu also lets you switch between digital and analog clock types and provides a shortcut to the Date & Time panel in System Preferences.



Attention Unix geeks: You can also set the date and time from within Terminal (<u>Chapter 15</u>). Use *sudo* (<u>Section 15.1</u>), type date *yyyymmddhhmm.ss*, and press Enter. (Of course, replace that code with the actual date and time you want, such as *200404051755.00* for April 5, 2004, 5:55 p.m.) You might find this method faster than the System Preferences method.



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## 8.9 Desktop & Screen Saver

This panel represents the mating of two separate panels called Desktop and Screen Effects from Mac OS X 10.2. But they still do the same thing:

- Desktop lets you dress up your desktop with the background image of your choice. You can choose from one of
  the several dozen background pictures that come with Mac OS X or use your own pictures. In fact, you can even
  schedule these background pictures to change automatically at regular intervals—an essential feature for the easily
  bored.
- **Screen Saver** controls the Mac OS X screen saver—the wild, animated light show that appears on your screen to protect its contents when you've wandered away for a cup of coffee.

## NOSTALGIA CORNER You Say Screen Saver, I Say Screen Effects

Hey, in the last edition of this book, you made a big deal about how Apple called it Screen Effects instead of Screen Saver, because in this era of flat-panel monitors and dramatically improved CRT monitors, screen burn-in is a thing of the past. You said that Apple called it Screen Effects because these days, "Screen savers are mostly about entertainment, pure and simple." So how come it's back to being called Screen Saver, hot shot?

Who knows what secrets lurk in the hearts of Apple programmers?

In this case, the secret probably was this: Most people call these displays *screen savers* no matter what the logic.

So Apple went with the flow.

## 8.9.1 Desktop

Mac OS X comes with several ready-to-use collections of desktop pictures, ranging from *National Geographic*-style nature photos to plain solid colors. To install a new background picture, first choose one of the image categories in the list at the left side of the window, as shown in <u>Figure 8-5.</u> Your choices include Apple Background Images (muted, soft-focused swishes and swirls), Nature (plants, bugs, water), Abstract (swishes and swirls with wild colors), or Solid Colors (boring grays, blues, and greens).

#### NOTE

Several of Apple's ready-to-use desktop pictures come in two sizes. The elongated versions (with the flatter, squashed-down thumbnails) are designed to perfectly fill the extra-wide screens on 15- and 17-inch PowerBooks, Apple Cinema Displays, and other unusually wide screens.

#### 8.9.1.1 Using your own pix

Of course, you may feel that decorating your Mac desktop is much more fun if you use one of your *own* pictures. You can use any digital photo, scanned image, or graphic you want in almost any graphics format (JPEG, PICT, GIF, TIFF, PDF, or Photoshop).

That's why your own Pictures folder is also listed here. If you use iPhoto to manage your digital camera shots, you'll welcome the appearance of the Photo Library, Last Import, and iPhoto album icons here, too.

Using the list of picture sources at left, you can preview an entire folder of your own images before installing one specific image as your new desktop picture. Use the Choose Folder option to select a folder of assorted graphics—or, if you're an iPhoto veteran, click an iPhoto album name, as shown here. Clicking one of the thumbnails installs the corresponding picture on the desktop.



In any case, when you click one of these icons, you see thumbnail versions of its contents in the main screen to its right. Just click the thumbnail of any picture to apply it immediately to the desktop. (There's no need to remove the previously installed picture, because picking a new picture automatically replaces the old one.)



If there's one certain picture you like, but it's not in any of the listed sources, just drag the image file itself onto the *well* (the mini desktop displayed in the Desktop panel). A thumbnail of your picture instantly appears in the well and, a moment later, the picture is plastered across your monitor.

#### 8.9.1.2 Making the picture fit

No matter which source you use to choose a photo of your own, you have one more issue to deal with. Unless you've gone to the trouble of editing your chosen photo so that it matches the precise dimensions of your screen (1024 x 768 pixels, for example), it probably isn't exactly the same size as your screen.



The top 23 pixels of your graphic will be hidden by the menu bar—something to remember when you prepare the graphic.

Fortunately, Mac OS X offers a number of solutions to this problem. Using the popup menu just to the right of the desktop preview well, you can choose any of these options:

- **Fill screen.** This option enlarges or reduces the image so that it fills every inch of the desktop. If the image is small, the low-resolution stretching can look awful. Conversely, if the image is large and its dimensions don't precisely match your screen, parts get chopped off. At least this option never *distorts* the picture, as the "Stretch" option does (below).
- **Stretch to fill screen.** Use this option at your peril, since it makes your picture fit the screen exactly, come hell or high water. Unfortunately, larger pictures may be squished vertically or horizontally as necessary, and small pictures are drastically blown up *and* squished, usually with grisly-looking results.
- **Center.** This command centers the photo neatly on the screen. If the picture is larger than the screen, you see only the middle; the edges of the picture are chopped off as they extend beyond your screen.

But if the picture is smaller than the screen, it doesn't fill the entire background; instead it just sits right smack in the center of the monitor at actual size. Of course, this leaves a swath of empty border all the way around your screen. As a remedy, Apple provides a color-swatch button next to the pop-up menu (also shown in <u>Figure 8-5</u>). When you click it, the Color Picker appears (<u>Section 4.10.4</u>), so that you can specify the color in which to frame your little picture.

• Tile. This option makes your picture repeat over and over until the multiple images fill the entire monitor. (If your

picture is *larger* than the screen, no such tiling takes place. You see only the top center chunk of the image.)

#### 8.9.1.3 Auto-picture changing

The novelty of any desktop picture, no matter how interesting, is likely to fade after several months of all-day viewing. That's why Panther's randomizing function is so delightful.

Turn on "Change picture" at the bottom of the dialog box. From the pop-up menu, specify when you want your background picture to change: "every day," "every 15 minutes," or, if you're *really* having trouble staying awake at your Mac, "every 5 seconds." (The option called "when waking from sleep" refers to the *Mac* waking from sleep, not its owner.)

Finally, turn on "Random order," if you like. (If you leave it off, your desktop pictures will change in alphabetical order by file name.)

That's all there is to it. Now, at the intervals you specified, your desktop picture changes automatically, smoothly crossfading between the pictures in your chosen source folder like a slideshow. You may never want to open another window, because you'll hate to block your own view of the show.

#### 8.9.2 Screen Saver

On the Screen Saver panel, you can create your own screen-saver slideshows—an absolute must if you have an Apple Cinema Display and a cool Manhattan loft apartment.

Apple provides a few displays to get you started:

- Computer Name. This display shows nothing more than the Apple logo and the computer's name, faintly displayed on the monitor. (These elements shift position every few minutes—it just isn't very fast.) Apple probably imagined that this feature would let corporate supervisors glance over at the screens of unattended Macs to find out who's not at their desks.
- Flurry. You get flaming, colorful, undulating arms of fire, which resemble a cross between an octopus and somebody arc welding in the dark. If you click the Options button, you can even control how many streams of fire appear at once, the thickness of the arms, the speed of movement, and the colors.
- Abstract, Beach, Cosmos, Forest. These are photographic screen savers, featuring gorgeous pictures that slowly
  zoom and softly cross-fade into each other. Abstract features psychedelic swirls of modern art. In the Beach,
  Cosmos, and Forest screen savers, you see a series of tropical ocean scenes, deep space objects, and lush rain
  forests, respectively.

Each creates an amazingly dramatic, almost cinematic experience, worthy of setting up to "play" during dinner parties like the lava lamps of the Seventies.

• .Mac. One of the perks for paying \$100 per year for a .Mac membership is the ability to create slideshows online, which can play back either on your own Mac or (if you opted to make it public) on anybody else's. Yes, that's right: You can now enjoy a screen saver composed of photos taken by somebody else on the Internet ("Oh, look, honey, here's some shots of Uncle Jed's crops this summer!").

Click the Options button to specify which member's slideshow collection you want to view and how you want it to appear. (For example, you can turn off the crossfade between slides, crop the slides so that they fit on the screen,

opt to present the slides in random order, and so on.)

- **Pictures Folder, Choose Folder.** This is one of the coolest modules. It lets you transform your *own* collection of pictures—whatever you've got in your Home——Pictures folder—into a self-playing slideshow, complete with spectacular zooming and dissolving effects. (If you keep your photos elsewhere, click Choose Folder instead.)
- Photo Library, Last Import, album list. If you're using iPhoto to organize your digital photos, you'll see its familiar
  album list here, making it a snap to choose any of your own photo collections for use as a screen saver. It's a very
  nice touch in Panther.
- Random. If you can't decide which one of the modules to use, click Random. The Mac will choose a different module each time your screen saver kicks in.

When you click a module's name in the Screen Savers list, you see a mini version of it playing in the Preview screen. Click Test to give the module a dry run on your full monitor screen.

When you've had enough of the preview, just click the mouse or press any key. You return to the Screen Saver panel.

#### 8.9.2.1 Activating the screen saver

You can control when your screen saver takes over your monitor in a couple of ways:

• After a period of inactivity. Using the "Start screen saver" slider, you can set the amount of time that has to pass without keyboard or mouse activity before the screen saver starts. The duration can be as short as three minutes or as long as two hours, or you can drag the slider to Never to prevent the screen saver from ever turning on by itself.

# **GEM IN THE ROUGH Secrets of the Screen Saver Modules**

The canned screen saver modules are stored in your System Library Screen Savers folder. If you Control-click one of the icons inside and choose Show Package Contents from the contextual menu, you'll find a Contents Resources folder that contains the individual JPEG files for each module (the outer space photos for the Cosmos screen saver, for example).

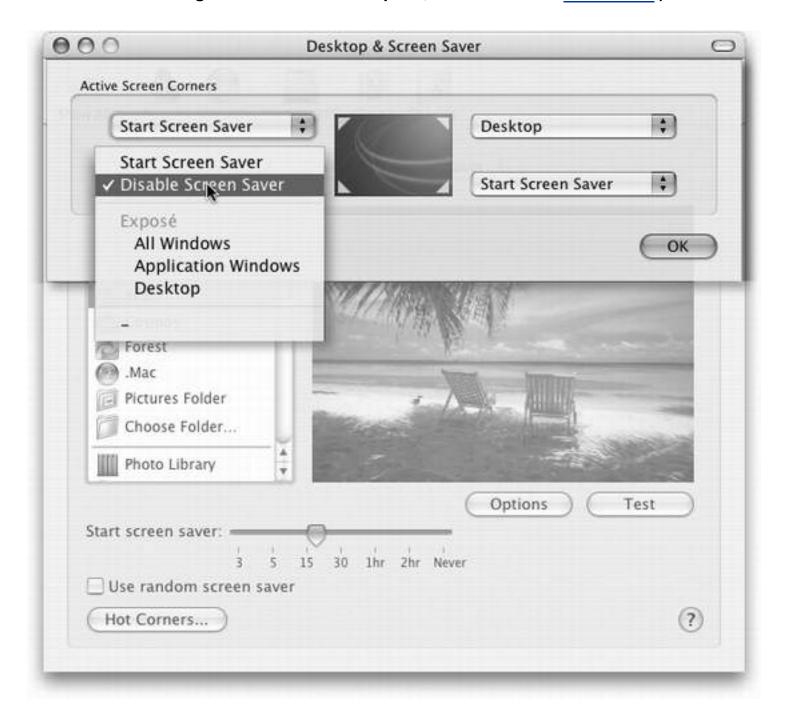
Why bother? Because some of these spectacular photos make really good desktop pictures. You're free to copy them out of the Resources folder for that purpose.

• When you park your cursor in the corner of the screen. If you click the Hot Corners button, you'll see that you can turn each corner of your monitor into a *hot corner* (see <u>Figure 8-6</u>).



You can find dozens more screen saver modules at www.epicware.com

Click the Hot Corners button to open this "sheet," which lets you designate certain corners of your screen as instant-activation spots, or never-come-on spots. Sliding the mouse to the Start Screen Saver corner, for example, turns on your screen saver right away. (You can use the remaining corners to control Exposé, as described in Section 4.3.)



## FREQUENTLY ASKED QUESTION

### The Password-Protected Screen Saver

I like the fact that when I wander away from my desk, the screen saver protects whatever I was doing from prying eyes. But whoever walks by can just press a key to exit the screen saver, so big deal! I looked all over, and couldn't find any way to make the Mac require a password before exiting the screen saver.

You had the right idea—you were just looking in the wrong place.

In System Preferences, click the new Panther icon called Security. There's the checkbox you're looking for: "Require password to wake this computer from sleep or screen saver."



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## 8.10 Displays

Displays is the center of operations for all your monitor settings. Here, you set your monitor's *resolution*, determine how many colors are displayed onscreen, and calibrate color balance and brightness.



On a laptop, you can open up this panel with a quick keystroke from anywhere on the Mac. Just press Option as you tap one of the screen-brightness keys (F1 or F2) on the top row of your keyboard.

The specific controls you'll see here depend on the kind of monitor you're using, but here are the ones you'll most likely see:

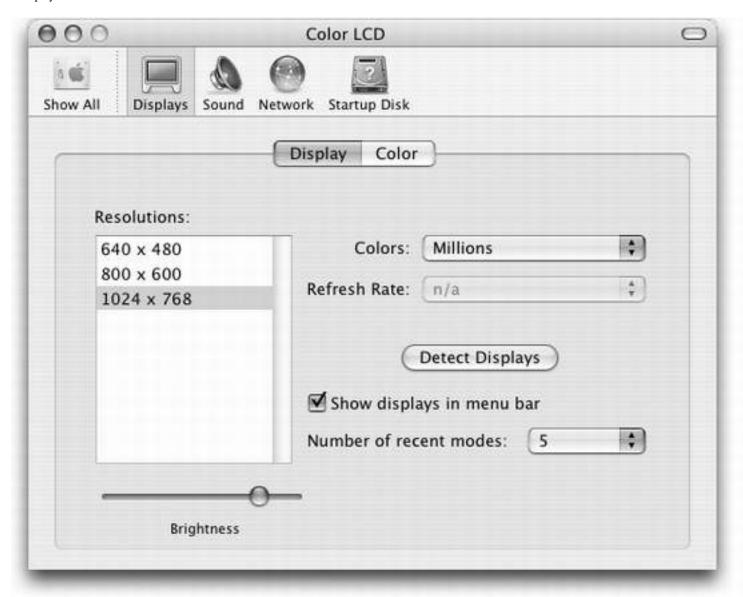
### 8.10.1 Display Tab

This tab is the main headquarters for your screen controls. It governs these settings:

• **Resolutions.** All Mac screens today can make the screen picture larger or smaller, thus accommodating different kinds of work. You perform this magnification or reduction by switching among different *resolutions* (measurements of the number of dots that compose the screen). The Resolutions list displays the various resolution settings your monitor can accommodate: 800 x 600, 1024 x 768, and so on (Figure 8-7).

When you use a low-resolution setting, such as 800 x 600, the dots of your screen image get larger, thus enlarging (zooming in on) the picture, but revealing a smaller slice of the page. Use this setting when playing a small QuickTime movie, for example, so that it fills more of the screen. At higher resolutions (such as 1024 x 768), the screen dots get smaller, making your windows and icons smaller, but showing more overall area. Use this kind of setting when working on two-page spreads in your page-layout program, for example. (Lower resolutions usually look blurry on flat-panel screens, though.)

In the early days of Macintosh, higher color settings required a sacrifice in speed, since it took the Mac time to compute the color for each of thousands of individual dots that make up the screen image. Today, however, there's very little downside to leaving your screen at its maximum depth setting ("Millions" of colors). Photos, in particular, look best when your monitor is set to higher depth settings. (The Detect Displays button appears primarily on laptops; it means, "Check to see if I've attached an external monitor or projector.")



Colors. Today's Mac monitors offer different color depth settings, each of which permits the screen to display a
different number of colors simultaneously. The Colors pop-up menu generally offers only three choices: 256 Colors,
Thousands, and Millions.



You can still make your monitor grayscale (shades of gray), even if no choice for it appears here. The trick is to visit the Universal Access panel, described later in this chapter.

- Refresh Rate. If you have a choice here at all, this pop-up menu lets you adjust how many times per second your screen image is repainted by your monitor's electron gun. (You may not see this pop-up menu if you have a flat-panel screen.) Choose a setting that minimizes flicker.
- Brightness, Contrast. Use these sliders to make the screen look good in the prevailing lighting conditions. You'll usually want the Contrast control all the way up—if you have it at all (flat-panel screens usually don't)—and Brightness near the middle.

Of course, most Apple keyboards have brightness-adjustment *keys*, so these software controls are included just for completeness' sake.



You can adjust the color depth and resolution of your monitor without having to open System Preferences. Just turn on "Show displays in menu bar," which adds a Monitors pop-up menu (a menulet-Section 3.6) to the right end of your menu bar for quick adjustments.

## 8.10.2 Geometry Tab

This pane appears only on Macs with built-in, non-flat screens—for the most part, that means eMacs and the older, fruit-colored iMacs. It lets you adjust the position, size, and angle of the screen image on the glass itself—controls that can be useful in counteracting distortion in aging monitors.

#### FREQUENTLY ASKED QUESTION

## **Blurry Flat-Panel Screens**

Yucko! I tried the 800 x 600 setting on my 2001 iBook, and everything got all blurry and fuzzy! How do I fix it?

On any flat-panel screen—not just laptop screens—only one resolution setting looks really great: the maximum one. That's what geeks call the *native resolution* of that screen.

That's because on flat-panel screens, every pixel is a fixed size. At lower resolutions, the Mac does what it can to blur together adjacent pixels, but the effect is fuzzy and unsatisfying. (On a bulky, CRT monitor, the electron gun can actually make the pixels larger or smaller, so you don't have this problem.)



Don't miss the opportunity to eliminate the black borders around your screen perimeter! That's just wasted space. Click the Height/Width button. Then click the "expand vertical" and "expand horizontal" buttons at the lower-right corner of the miniature monitor image until you've eliminated the black borders around the screen. (You'll probably have to recenter the whole picture, too.)

## 8.10.3 Arrange Tab

From the dawn of the color-monitor era, Macs have had a terrific feature: the ability to exploit multiple monitors all plugged into the computer at the same time. Some Macs can project the same thing on both screens (*mirror mode*), which is useful in a classroom. A few lucky models permit one monitor to act as an extension of the next. For example, you might have your Photoshop image window on your big monitor, but keep all the Photoshop controls and tool palettes on a smaller screen. In this case, your cursor passes from one screen to another as it crosses the boundary.

To bring about this delicious arrangement, you need a Mac with a video output jack. (All current Mac laptops have one, as do iMacs and eMacs. And with the installation of additional video cards, you can have three or even more monitors all going at once.) You don't have to shut down the Mac to hook up another monitor—just put it to sleep.

When you open System Preferences, you see a different Displays window on each screen, so that you can change the color and resolution settings independently for each. Your Displays *menulet* shows two sets of resolutions, too, one for each screen.

If your Mac can show different images on each screen, your Displays panel offers an Arrange tab, displaying a miniature version of each monitor. By dragging these icons around relative to each other, you can specify how you want the second monitor's image "attached" to the first. Most people position the second monitor to the right of the first, but you're also free to position it on the left, above, below, or even directly on top of the first monitor's icon (the last of which produces a video-mirroring setup). For the least likelihood of going insane, consider placing the real-world monitor into the corresponding position—to the right of your first monitor, for example.

For committed multiple-monitor fanatics, the fun doesn't stop there. See the microscopic menu bar on the first-monitor icon? You can drag that tiny strip onto a different monitor icon, if you like, to tell Displays where you'd like the menu bar to appear. (And check out how most screen savers correctly show different stuff on each monitor!)

#### 8.10.4 Color Tab

The Color pane lets you choose an accurate ColorSync profile for your screen (<u>Section 13.8</u>), and lets you calibrate it for correct color display.

When you click Calibrate, the Display Calibrator Assistant opens to walk you through a series of six screens, presenting various brightness and color-balance settings in each screen. Pick the settings that look best to you; at the end of the process, you save your monitor tweaks as a *ColorSync profile* (Section 13.8) that ColorSync-savvy programs can use to adjust your display for improved color accuracy.



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## 8.11 Dock

See Chapter 3 for details on the Dock and its System Preferences pane.





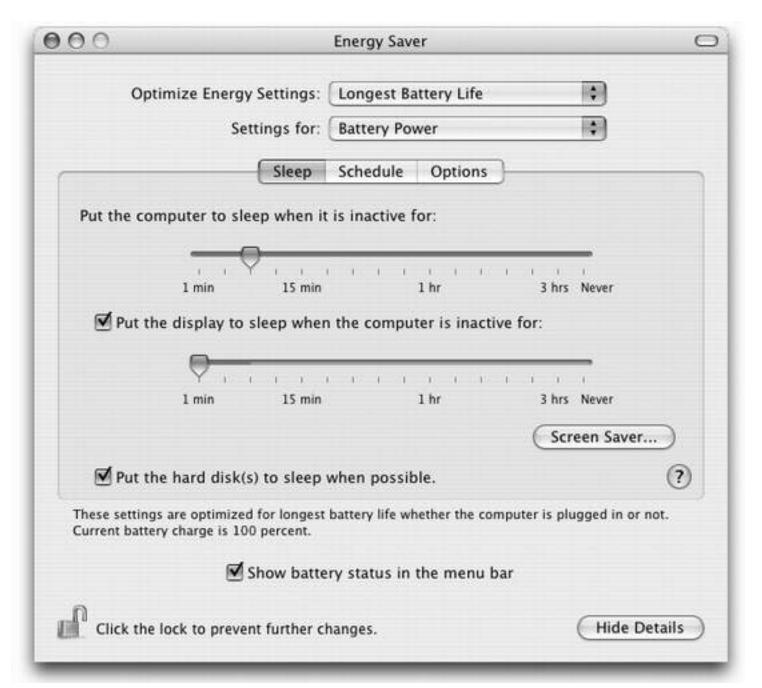


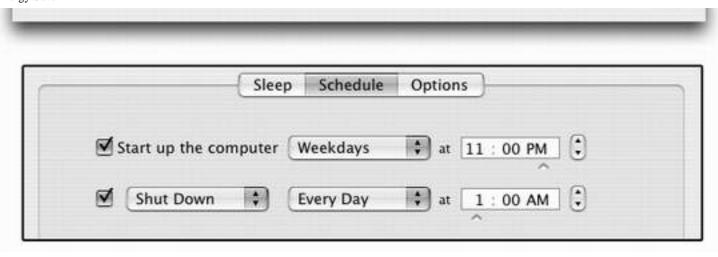
## 8.12 Energy Saver

The Energy Saver program helps you and your Mac in a number of ways. By blackening the screen after a period of inactivity, it prolongs the life of your monitor. By putting the Mac to sleep half an hour after you've stopped using it, Energy Saver cuts down on electricity costs and pollution. On a laptop, Energy Saver extends the length of the battery charge by controlling the activity of the hard drive and screen.

Top: Here's what Energy Saver looks like in its expanded condition on a laptop. (On a desktop machine, it's far simpler.) If you turn on the "Put the display to sleep" option, you can specify an independent sleep time for the screen.

Bottom: Here's the relevant slice of the Schedule tab—a welcome return of the Mac's selfscheduling abilities.





Best of all, an old friend is back, to the joy of longtime Mac veterans: The option to have your computer turn off each night automatically, and turn on again at a speci- fied time in anticipation of your arrival at the desk.

## **8.12.1 Sleep Tab**

The Energy Saver controls are very different on a laptop Mac and a desktop Mac.

On a desktop Mac, you see a pair of sliders; on a laptop, you have to click Show Details to see them (Figure 8-8).

In any case, the top slider controls when the Mac will automatically go to sleep—anywhere from one minute after your last activity to Never. (Activity can be mouse movement, keyboard action, or Internet data transfer; Energy Saver won't put your Mac to sleep in the middle of a download.)

At that time, the screen goes dark, the hard drive stops spinning, and your processor chip slows to a crawl. Your Mac is now in *sleep* mode, using only a fraction of its usual electricity consumption. To wake it up when you return to your desk, press any key. Everything you were working on, including open programs and documents, is still onscreen, exactly as it was. (To turn off this automatic sleep feature entirely, drag the slider to Never.)

#### NOTE

On Macs of old, the beauty of the independent "Put the display to sleep" slider was that you could make the screen go dark *before* the Mac itself. That way, the Mac would awaken *instantly* when you touched a key or clicked the mouse.

In Mac OS X, the Mac *always* wakes instantly from sleep—one of the great payoffs of Mac OS X. In short, there's very little reason to set the screen to sleep independently of the Mac itself.

Finally, "Put the hard disk(s) to sleep when possible" saves even more juice—and noise—by letting your drives stop spinning when not in use. The downside is a longer pause when you return to work and wake the thing up, because it takes a few seconds for your hard drive to "spin up" again.

## 8.12.2 Laptop Options

As noted above, Energy Saver on a laptop offers quite a few additional controls see(<u>Figure 8-8</u>). That's because power management is ten times more important on a laptop, where every drop of battery power counts.

The Optimize Energy Settings pop-up menu, for example, offers several canned Energy Saver settings, appropriate for several common laptop situations:

- Automatic detects whether or not the laptop is plugged into a power outlet. If so, it switches you to Highest Performance mode, described next. But if you're running on battery power, it switches automatically to Longest Battery Life. Most of the time, this is exactly what you want: high-speed when you're safely plugged into the wall, and best battery life when you're working at 39,000 feet.
- **Highest Performance** sets both sliders to Never, so that you won't be inconvenienced by the screen going dark. It also turns off the "Put the hard disk(s) to sleep" checkbox, so that you'll never need to wait while the hard drive spins up after going to sleep. (The settings also turn on all three checkboxes on the Options tab, as described below, so that the laptop will be turned on and awake whenever possible.)
- Longest Battery Life puts the screen to sleep after one minute of inactivity, puts the laptop itself to sleep after five minutes, and puts the hard disk to sleep whenever possible. All of this is designed to ensure that the machine uses as little juice as possible whenever you wander away—even if it's only for a minute.

Although there's no visual indication, this option also slows down your processor to save power.

• **DVD Playback** keeps the screen on, keeps the laptop awake, and keeps the DVD drive going—but stops the hard drive from spinning whenever possible. (Technically, you don't need your hard drive when you're playing a DVD.) After all, when you're watching a movie, the last thing you want is the screen blinking off just as Schwarzenegger reaches the top of the skyscraper. This is still a pretty power-hungry arrangement, but not quite as bad as Highest Performance.

# GEM IN THE ROUGH Mysteries of the Battery Menulet

If you've got a laptop, don't miss the checkbox in Energy Saver called "Show battery status in the menu bar." It puts a fantastically handy status indicator in the menu bar that keeps you informed of your battery's life.

When used as a menu, this menulet lets you choose between displaying the actual *number of minutes* left until a battery is depleted, the *percentage* of battery life that remains, or a visual emptying-battery icon.

If you've opted to view the numeric version, you may notice that sometimes the number, or the percentage, is in parentheses, like this: (78%). That's your signal that the laptop is plugged in and charging; you're seeing the number of minutes left *until* the battery is fully recharged (or the percentage of full charge you've achieved so far). Either way, the readout is *counting down* to that glorious moment.

If you're viewing only the battery icon in the menu bar, here's what the readouts mean:

Power-cord-in-the-battery: The laptop is plugged in, and the battery is 100% charged. Ready to roll, captain!

**Lightning-bolt-in-the-battery:** The laptop is plugged in, but the battery is still charging.

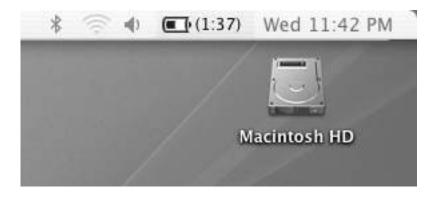
**Superimposed X:** The laptop is plugged in, but the battery isn't in right, it's missing, or it isn't getting a charge

for some other reason.

**Emptying black battery:** The laptop is running off of battery power, and has at least 25 percent power left. (The width of the bar reveals how much charge is left.)

**Emptying red battery:** You're running off of battery power, and you have less than 25 percent charge remaining.

A nearly invisible red bar means you have less than nine minutes left. Save those documents, buddy.



- **Presentations** is exactly the same as DVD Playback, except that it doesn't keep the DVD drive spinning.
- **Custom** just means "none of the above." Whenever you adjust one of the sliders or checkboxes, Energy Saver automatically changes the pop-up menu to say Custom. (Mac OS X remembers your settings here. If you choose one of the presets and then choose Custom again, your hand-adjusted settings remain in place.)

Note, by the way, that the expanded Energy Saver panel also offers a pop-up menu called "Settings for," which lets you establish independent variations of the presets for the two times you'll be using your laptop: when plugged in and when running on battery. In other words, you really have two versions of each preset: one DVD Playback setting for battery, another for AC power; one Presentations setting for battery, another for AC power; and so on.

## 8.12.3 Scheduled Startup and Shutdown

By clicking the Schedule tab button, you can set up the Mac to shut itself down and turn itself back on automatically (<u>Figure 8-8</u>, bottom).

If you work 9 to 5, for example, set the Mac to turn itself on at 8:45 a.m., and shut itself down at 5:30 p.m.—an arrangement that conserves electricity, saves money, and reduces pollution, but doesn't inconvenience you in the least. In fact, you may come to forget that you've set up the Mac this way, since you'll never actually see it turned off.

#### NOTE

The Mac doesn't shut down automatically if you've left unsaved documents open onscreen. It will go to sleep, though.

#### 8.12.4 Waking and Other Options

Click the Options tab button to summon a few more controls:

- Wake when the modem detects a ring. This checkbox can be useful in two circumstances: first, if you use your
  Mac as a fax machine that accepts incoming faxes (<u>Chapter 13</u>), and second, if you dial into your Mac from the
  road. In either case, when a phone call reaches the laptop's modem, the computer wakes up and accepts the call—
  if this option is turned on.
- Wake for Ethernet network administrative access. This option exists exclusively for the purchasers of the software suite called Mac OS X Server, which lets the network guru in an office control (and, with this checkbox, even awaken) sleeping Macs on the network.
- Restart automatically after a power failure. This is a good option if you leave your Mac unattended and access it
  remotely, or if you use it as a network file server or Web server. It ensures that, if there's even a momentary
  blackout that shuts down your Mac, it will start itself right back up again when the juice returns.



All three of these checkboxes can be part of the presets for a laptop. In other words, the DVD Playback setting turns all of the checkboxes off, the Highest Performance setting turns them all on, and so on.

• **Processor Performance.** Is the scalding metal case of the PowerBook sending your thighs to the emergency room? Here's your quick fix: Choose Reduced from this pop-up menu. Your chip doesn't run nearly as fast now, but it's still plenty fast for email, word processing, and so on—and it runs at about half the temperature. (You'll gain some battery life, too.)



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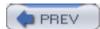
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# 8.13 Exposé

Here's where you specify how you want to trigger the flagship feature of Mac OS X 10.3, Exposé. Do this by pressing certain keys or by shoving your cursor into a corner of the screen. Full details appear in <u>Section 4.3</u>.







#### 8.14 International

The International panel lets you set up your Mac to work in other languages. If you bought your Mac with a *localized* operating system—a version that already runs in your own language—and you're already using the only language, number format, and keyboard layout you'll ever need, then you can ignore most of this panel.

But at the very least, check it out. When it comes to showing off Mac OS X to your friends and loved ones, the "wow" factor on the Mac's polyglot features is huge.

### 8.14.1 Another Language—Instantly

The Mac has always been able to run software in multiple languages—if you installed the correct fonts, keyboard layouts, and localized software (a French copy of the Mac OS, a French version of Entourage, and so on). But in Mac OS X, you can shift from language to language in certain programs on the fly, without reinstalling the operating system or even restarting the computer.

Open the International panel. On the Language tab, you see a listing of the different languages the Mac can switch into—French, German, Spanish, and so on. Just drag one of the languages to the top of the list to select it as the target language, as shown in Figure 8-9.

Now launch Safari, TextEdit, or Stickies. Every menu, button, and dialog box is now in the new language you selected! If you log out and back in (or restart) at this point, the entire Finder will be in the new language, too.

Of course, if you're really French (for example), you'll also want to make these changes:

 Visit the Formats tab and choose your French-speaking country from the Region pop-up menu, so that time and date formats, number punctuation, and currency symbols also conform to your local customs.

For example, the decimal and thousands separator characters for displaying large numbers differ from country to country. (The number 25,600.99, for example, would be written as 25 600,99 in France, and as 25.600,99 in Spanish.) And what appears to an American as July 4 (the notation 7/4), to a European, indicates April 7.

If, for some reason, Apple's preprogrammed settings aren't right for your region, you'll see three Customize buttons that let you override them.

Choose the French keyboard layout from the Input Menu pane, as explained in Section 8.14.1.

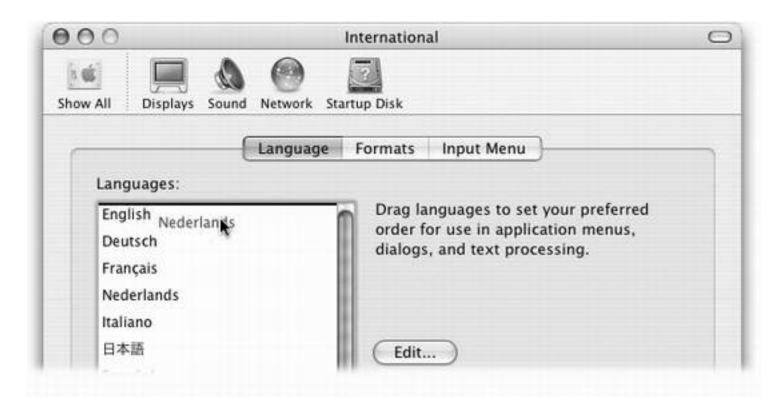
#### NOTE

Not all programs are language-switching aware. Also note that, while you can add other languages to the Language list using the Edit button, they don't actually work unless you install additional language kit software.

Top: The exact number of languages you see here depends on which options you chose during

#### your Panther installation, as described in Appendix A.

Bottom: Here's TextEdit running in Dutch. Actually understanding Dutch would be useful at a time like this—but even if you don't, it can't help but brighten up your work day to choose commands like Spraakfunctie or Knip.





#### 8.14.2 Input Menu Tab

While the Mac can display many different languages at the same time, *typing* in those languages is another matter. The symbols you use when you're typing Swedish aren't the same as when you're typing English. Apple solved this problem by creating different keyboard layouts, one for each language. Each rearranges the letters that appear when you press the keys.

For example, when you use the Swedish layout and press the semicolon key, you don't get a semicolon (;)—you get an ö. (Apple even includes a Dvorak layout—a scientific rearrangement of the standard layout that puts the most common letters directly under your fingertips on the home row. Fans of the Dvorak layout claim greater accuracy, better speed, and less fatigue.)

Use the list in the Input Menu pane to indicate which keyboard layout you want. If you check off more than one keyboard layout, a tiny flag icon appears in your menu bar—a keyboard *menulet* that lets you switch from one layout to another just by choosing its name. (To preview a certain keyboard arrangement, launch the Key Caps program described in the next chapter.)

# GEM IN THE ROUGH The Character Palette

There you are, two-thirds of the way through your local chess-club newsletter, when it hits you: You need an arrow symbol. Right now.

You know there's one in one of your symbol fonts, but you're not about to take two weeks off from work just to hunt through your fonts, typing every single combination of keys until you produce the arrow symbol. You can't help wishing there was an easier way to find those special symbols that hide among your fonts—fancy brackets, math symbols, special stars and asterisks, heart shapes, and so on.

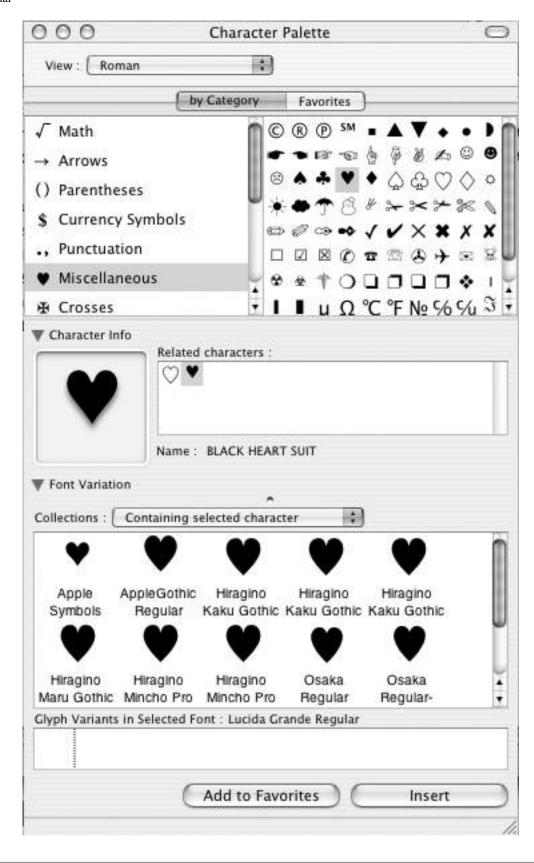
The Keyboard Viewer display described on the facing page is one solution. But there's a better one: the Character Palette.

To make it appear, open System Preferences, click the International icon, click the Input Menu tab, and turn on the Character Palette checkbox. Now inspect your menu bar: You've just added the keyboard menu.

Next time you're word processing or doing page layout, choose Show Character Palette from this menu. (In some programs, you can choose Edit Special Characters to summon the palette, too.)

The resulting window rounds up all symbols from all your fonts at once. To find a particular symbol, click the "by Category" tab, and then click the various category headings: Arrows, Stars/Asterisks, Math, and so on. (You can preview various styles of the same symbol by opening the Font Variations triangle.) When you find the symbol you want, double-click it.

If you're using a Cocoa program, the correct symbol pops into your document. (If not, you may get only the correct character, but not in the correct font. In that case, you'll have to change the font of the inserted character manually. To find out what font it came from, click the Font Variation flippy triangle to see the font name.)





Instead of using the keyboard menu, you can switch back and forth between the most recently selected pair of keyboard scripts by pressing #-Space bar. Alternatively, you can "walk down" the list of layouts by pressing Option-#-Space (if, that is, you've turned on this option in the Options box of the Input tab).

If these keystrokes conflict with one of the programs you already use, there's not much you can do about it, other than turning off the keyboard layouts you don't use. Apple's keyboard-layout keystrokes always take precedence over the same shortcuts in your programs.

Then again, you may not have to switch manually. Sweetly enough, the new option here called "Try to match keyboard with text" may save you that effort. The Mac tries to choose the appropriate layout automatically when you highlight some text in a document, based on the language characters it sees there.

#### 8.14.3 Keyboard Viewer: The Return of Key Caps

Key Caps, a part of the Mac since its earliest days, consists of a single window containing a tiny onscreen keyboard (Figure 8-10). When you hold down any of the modifier keys on your keyboard (like 3, Option, Shift, or Control), you can see exactly which keys produce which characters. The point, of course, is to help you learn which keys to press when you need special symbols or non-English characters, such as © or ¢, in each font.

#### NOTE

Key Caps shows only the symbols you can produce by typing *keystrokes*. A font may contain thousands of other characters that can't actually be typed; the Character Palette (see the facing page) is the only way to access these other symbols.

How do you make a  $\pi$ symbol? Top: Open Keyboard Viewer by choosing its name from the International (flag) menulet.

Bottom: Keyboard Viewer reveals the answer. When you press the Option key, the Keyboard Viewer keyboard shows that the pi character  $(\pi)$  is mapped to the P key. Once you've found the character in Keyboard Viewer, click its onscreen key to "type" it into the frontmost text application window.





It's a great tool—if you can find it. In Panther, it's no longer a separate program.

Instead, open the International panel of System Preferences, click Input Menu, and turn on the Keyboard Viewer checkbox. The window shown at top in <u>Figure 8-10</u> appears. (Thereafter, you'll be able to choose its name from the flag menulet at the top of the screen, also as shown at top in <u>Figure 8-10</u>.)

To see the effect of typing while pressing the modifier keys (Shift, Option, and so on), either click the onscreen keys or type on your actual keyboard. The corresponding keys on the onscreen keyboard light up as they're pressed.

#### 8.14.3.1 Change the Keyboard Viewer font

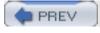
Different fonts contain different hidden characters. For example, Palatino contains an character (pressing Shift-Option-K), yet Adobe Garamond does not.

Fortunately, Keyboard Viewer lets you see the characters lurking within almost any installed font; just choose a font's name

from the Font pop-up menu to see all of its modifier-key characters. (You may have to change the keyboard layout to see all symbols in some fonts.) Alas, this feature doesn't work in a few of the fonts where it would be the most useful (certain symbol fonts like Symbol and Zapf Dingbats).



You're not stuck viewing all characters in 12-point size—a good thing, because some of them are hard to read when displayed that small. Just "zoom" the Key Caps window by dragging its lower-right corner, or by clicking its Zoom button. You magnify the Key Caps window and its font.



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## 8.15 Keyboard & Mouse

This panel lets you do some frivolous fine-tuning of your mouse, keyboard, and (for laptops) trackpad. It also unlocks Mac OS X's strange and remarkable Full Keyboard Access feature, which lets you control your Mac's menus, windows, dialog boxes, buttons, the Dock, and the toolbar—all from the keyboard. Here's a tour of the Keyboard & Mouse panel's various tab buttons.

# UP TO SPEED Bringing Dead Keys to Life

If you press Option while the Key Caps window is open, you see little white outlines around certain keys (shown in <u>Figure 8-10</u>, for example). These rectangles identify the Mac's five *dead keys*—keys that, when pressed once, type *nothing* onscreen.

However, when you then type another key—a normal letter, for example—it appears with the dead key's displayed marking over it.

To type the ñ in *jalapeño*, for example, you must first press Option-N and then type an n. This same two-step approach lets you type characters like ö and é.

## 8.15.1 Keyboard Tab

The changes you make are teeny tiny, but can have a cumulatively big impact on your daily typing routine.

- **Key Repeat Rate, Delay Until Repeat.** You're probably too young to remember the antique once known as the *typewriter*. On some electric versions of this machine, you could hold down the letter X key to type a series of XXXXXXS—ideal for crossing something out in a contract, for example.
  - On the Mac, every key behaves this way. Hold down any key long enough, and it starts spitting out repetitions, making it easy to type, for example, "No WAAAAAAY!" or "You go, girrrrrrrrrl!" These two sliders govern this behavior. On the right: a slider that determines how long you must hold down the key before it starts repeating (to prevent triggering repetitions accidentally, in other words). On the left: a slider that governs how fast each key spits out letters once the spitting has begun.
- Illuminate keyboard in low light conditions. This setting appears only if your Mac's keyboard does, in fact, light up when you're working in the dark—a showy feature of, for example, the 15- and 17-inch PowerBook models. You can specify that you want the internal lighting to shut off after a period of activity (to save power when you've wandered away, for example), or you can turn the lighting off altogether.

#### **8.15.2 Mouse Tab**

It may surprise you that the cursor on the screen doesn't move five inches when you move the mouse five inches on the desk. Instead, the cursor moves farther when you move the mouse faster.

How *much* farther depends on how you set the first slider here. The Fast setting is nice if you have an enormous monitor, since you don't need an equally large mouse pad to get from one corner to another. The Slow setting, on the other hand, forces you to pick up and put down the mouse frequently as you scoot across the screen. It offers no acceleration at all, but it can be great for highly detailed work like pixel-by-pixel editing in Photoshop.

The Double-Click Speed setting specifies how much time you have to complete a double-click. If you click too slowly—beyond the time you've allotted yourself with this slider—the Mac "hears" two *single* clicks instead.

#### 8.15.3 Bluetooth Tab

People have named their Macs for years (Voyager, Li'l Abner, PowerThang G5). Now they can name their keyboards and mice—and, indeed, must—thanks to Apple's 2003 introduction of its cordless Bluetooth keyboard and mouse. Here's where you type in their names (so that Mac knows which wireless keyboard and mouse it's "listening" to in a room full of them) and monitor their battery levels.

#### 8.15.4 Trackpad Tab

This panel shows up only if you have a laptop.

Under normal circumstances, you touch your laptop's trackpad exclusively to move the cursor. For clicking and dragging, you're supposed to use the clicking button *beneath* the trackpad.

Many people find, however, that it's more direct to tap and drag directly on the trackpad—using the same finger that's been moving the cursor. That's the purpose of these five checkboxes:

- **Clicking.** When this box is turned on, you can tap the trackpad surface to register a mouse click at the location of the cursor. Double-tap to double-click.
- **Dragging.** Turn on this option if you want to move icons, highlight text, or pull down menus—in other words, to drag, not just click—using the trackpad. Start by tapping twice on the trackpad, then *immediately* after the second tap, begin dragging your finger. (If you don't start moving promptly, the laptop assumes that you were double-clicking, which could wind up opening an icon you didn't intend to open.) You can stroke the trackpad repeatedly to continue your movement, as long as your finger never leaves the trackpad surface for more than about one second. When you finally stop touching the pad, you "let go," and the drag is considered complete. (All of this is much easier to do than to describe.)
- Drag lock. If the dragging maneuver described above makes you too nervous that you might "drop" what you're
  dragging if you stop moving your finger for a fraction of a second, turn on this option instead. Once again, begin
  your drag by double-clicking, then move your finger immediately after the second click.
  - When this option is on, however, you can take your sweet time in continuing the movement. In between strokes of the trackpad, you can take your finger off the laptop for as long as you like. You can take a phone call, a shower, or a vacation; the Mac still thinks that you're in the middle of a drag. Only when you tap *again* does the laptop consider the drag a done deal.
- **Ignore accidental trackpad input.** This option is a huge Mac OS X perk. It addresses a chronic syndrome of laptop owners who turn on the Clicking option of Apple trackpads: when you type along and a finger accidentally brushes the trackpad, sending the insertion point onto a different line of text. Before you even notice, you've typed over, or typed into, some random part of your document.

This ingenious option locks out the click-and-drag trackpad functions when you're actually typing on the keyboard-an elegantly simple solution.

• Ignore trackpad when mouse is present. Here's another ingenious advance in laptop technology: When you hook up a mouse, trackball, or tablet to your laptop, the trackpad is deactivated. Obviously, if you're using a mouse, then you probably won't want to use the trackpad—and by turning on this checkbox, you're no longer susceptible to accidentally brushing it.

Here, too, is where you adjust the tracking and double-click speed of your trackpad, exactly as you would for a mouse.

#### 8.15.5 Keyboard Shortcuts

Mac OS X 10.3 comes loaded with keyboard shortcuts for common tasks—and now you can reassign them to shortcuts you prefer. For a full discussion of the options on this pane, Section 4.6.





# 8.16 Network

The Network panel is the brain of your Mac's Internet and local networking connections. See <u>Chapters 12</u> and <u>18</u> for the settings you need to plug in.





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## **8.17 Print & Fax**

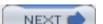
<u>Chapter 13</u> describes printing and faxing in detail. This panel's purpose in life is to offer a few miscellaneous printing options, such as which printer and paper size you use most of the time. It also offers faxing settings like your fax number and whether you want received faxes to print out automatically.



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PREV



## 8.18 QuickTime

The settings in the QuickTime panel affect the way movies are played back on your Mac, including movies that stream to you from a Web page and movies that you watch using QuickTime Player (Chapter 14).

You don't even have to touch most of these settings, but here are a few worth tweaking:

- **Plug-In.** The settings in this pane control the way your Web browser's QuickTime plug-in works with streaming video. The "Play movies automatically" option, for example, tells the plug-in to start playing streaming movies as soon as they begin downloading (rather than waiting for an entire movie to download before starting).
- Connection. The only important setting here is Connection Speed. Set it to match the actual speed and type of
  your Internet connection. Some streaming Quick- Time Web sites are set up with multiple versions of the same
  movie, each saved at a different size and frame rate. Based on your connection speed setting here, the QuickTime
  plug-in can automatically request the appropriately sized version of a movie for the best possible playback.
- Music. Nothing to see here, folks. You're supposed to choose a music synthesizer for playing back MIDI music files
   —but you have only one choice.
- **Media Keys.** Media keys are supposed to be special passwords supported by QuickTime that unlock movies so you can watch them. As it turns out, nobody uses them.
- Update. These controls provide an easy way to download the latest QuickTime software from Apple.

(The Registration button at the bottom of the dialog box lets you upgrade to Quick- Time Pro, as described in Chapter 14.)



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# 8.19 Security

Mac OS X 10.3 turns out to be one of the most secure operating systems on earth—and this panel helps to explain why. See <u>Chapter 11</u> for details on locking up your Mac.



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## 8.20 Sharing

Mac OS X is an upstanding network citizen, flexible enough to share its contents with other Macs, Windows PCs, people dialing in from the road, people dialing in from the Internet, and so on. Here's where you'll find the details of these connection methods:

- Personal File Sharing, Windows Sharing: Chapter 11.
- Personal Web Sharing, Remote Login, FTP Access, Apple Remote Desktop: Chapter 21.
- Remote Apple Events: Chapter 7.
- Printer Sharing: Chapter 13.



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## 8.21 Software Update

Few operating-system ideas are simpler or better than this one: Whenever Apple improves or fixes one of the innumerable software pieces that make up Mac OS X,

# POWER USERS' CLINIC Storing Apple Software Updates

The great unspoken migraine of Software Update is this: If you ever reinstall Mac OS X from its original CD or DVD (when you install a new hard drive or move to a new computer, for example), you'll have to download and install all relevant updates again. That is, if you bought Mac OS X 10.3 and it came with iPhoto 2.0.1, you'll have to download and install the 10.3.1 updater, the iPhoto 2.0.3 updater, and so on.

Fortunately, although you can't skip the reinstallation process, you can skip the download step—by *preserving* the update installers as they arrive.

Each time Software Update finds updates to install, turn on the ones you wish to install and then choose Update Install and Keep Package.

Later, you can reinstall your downloaded updates at any time by just double-clicking each installer. (They wind up in your Macintosh HD — Library — Packages folder.)

The sole downside: When there are multiple updates that require restarting your Mac, you have to restart after each one you install. On its own, Software Update would save up its one restart until all of the updates are installed.

the Software Update program can notify you, download the update, and install it into your System automatically. These updates may include new versions of programs like iPhoto and iMovie; drivers for newly released printers, scanners, cameras, and such; bug fixes and security patches; and so on.

Software Update doesn't run rampant through your system software, however. It's quietly respectful. For example, Software Update doesn't actually download the new software without asking your permission first and explicitly telling you what it plans to install, as shown in <u>Figure 8-11</u>.

When Software Update finds an appropriate software morsel, it offers to install it automatically by presenting this dialog box. Apple has always created updated and bug-fixing versions of its software components, but they don't do you any good if you don't know about them. You no longer have to scour Mac news Web sites to discover that one of these components has been released and then hunt down the software itself.



## 8.21.1 Update Software Tab

For maximum effortlessness, turn on the "Check for updates" checkbox and then select a frequency from the pop-up menu—daily, weekly, or monthly. If you also turn on "Download important updates in the background," you'll still be notified before anything gets installed, but you won't have to wait for the downloading—the deed will already be done.

(If you've had "Check for updates" turned off, you can always click the Check Now button to force Mac OS X to report in to Apple to see if new patches are available.)

## 8.21.2 Installed Updates Tab

By popular demand, Software Update also keeps a meticulous log of everything it drops into your system. On this tab, you see them listed, for your reference pleasure.



In your hard drive Library Receipts folder, you'll find a liberal handful of .pkg files that have been downloaded by Software Update.

Most of these are nothing more than receipts that help Mac OS X understand which updaters you've already downloaded and installed. They make intriguing reading, but their primary practical use is determining whether or not you've installed, for example, the 10.3.2 update.



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#### **8.22 Sound**

Mac OS X's sound options are a little on the lean side, but a visit to the Sound panel is still worthwhile. Using the panes of the Sound panel, you can configure the sound system of your Mac in any of several ways.



Here's a quick way to jump directly to the Sound panel of System Preferences—from the keyboard, without ever having to open System Preferences or click Sound. Just press Option as you tap one of the volume-adjustment keys on the top row of your Apple keyboard.

#### 8.22.1 Sound Effects Tab

"Sound effects" means *error beeps*—the sound you hear when the Mac wants your attention, or when you click someplace you shouldn't.

Just click the sound of your choice to make it your default system beep. Most of the canned choices here are funny and clever, yet subdued enough to be of practical value as alert sounds.

As for the other controls on the Sound Effects panel, they include:

• Alert Volume slider. Some Mac users are confused by the fact that even when they drag this slider all the way to the left, the sound from games and music CDs still plays at full volume.

The actual *main* volume slider for your Mac is at the bottom of the Sound panel, called "Output volume." The slider on the Alert Sounds panel is *just* for error beeps; Apple was kind enough to let you adjust the volume of these error beeps independently.



You can also adjust the alert volume by holding down the Option key as you drag the main speaker volume menulet on your menu bar.

- Play user interface sound effects. This option produces a few subtle sound effects when you perform certain Finder operations: dragging something off of the Dock, for example, or dropping something into the Trash.
- Play feedback when volume keys are pressed. Most Mac keyboards have little volume-adjustment keys on the
  top row that, when pressed, adjust the overall speaker level. Each time you press one of these keys, the Mac
  beeps to help you gauge the current volume.

That's all fine when you're working at home. But more than one person has been humiliated in an important meeting when the Mac made a sudden, inappropriately loud sonic outburst-and then amplified that embarrassment by furiously and repeatedly pressing the volume-down key, beeping all the way.

If you turn off this checkbox, the Mac won't make any sound at all as you adjust its volume. Instead, you'll see only a visual representation of the steadily decreasing (or increasing) volume level.



If you like the little volume-adjustment clicks *most* of the time, you can shut them up on a one-shot basis by pressing Shift as you tap the volume keys.

#### 8.22.2 Output Tab

"Output" means speakers. For 99 percent of the Mac-using community, this panel offers nothing useful except the Balance slider, which sets the balance between your Mac's left and right stereo speakers. The "Choose a device" wording seems to imply that you can choose which speakers you want to use for playback. But Internal is generally the only choice, even if you have external speakers. (The Mac uses your external speakers automatically when they're plugged in.)

#### **8.22.3 Input Tab**

This panel lets you specify which sound source you want the Mac to "listen to," if indeed you have more than one source connected: external microphone, internal mike, line input, or whatever. It also lets you adjust the sensitivity of that microphone—its *input volume*—by dragging the slider and watching the real-time Input Level meter above it change as you speak.

Put another way, it's a quick way to see if your microphone is working or not.



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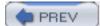
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# 8.23 Speech

Your Mac's ability to speak—and be spoken to—is described in Chapter 14 (see Section 14.4).





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# 8.24 Startup Disk

Use this panel to pick the System Folder your Mac will use the next time you start your Mac, swapping between Mac OS X and Mac OS 9.2, for example. Check out the details in <u>Chapter 5</u>.







#### 8.25 Universal Access

The Universal Access panel is designed for people who type with one hand, find it difficult to use a mouse, or have trouble seeing or hearing. (These features can also be handy when the mouse is broken or missing.)

#### NOTE

The Mac actually speaks aloud the names of the Universal Access panel's various buttons and tabs, as you move your cursor over them. This, of course, is intended to help people who have trouble reading the screen. If it bothers you, turn off "Enable text-to-speech for Universal Access preferences" at the bottom of the window.

#### 8.25.1 Seeing Tab (Magnifying the Screen)

If you have trouble seeing the screen, one quick solution is to reduce your monitor's *resolution*—thus magnifying the image —using the Displays panel described earlier in this chapter. If you have a 17-inch or larger monitor set to, say, 640 x 480, the result is a greatly magnified picture.

That method doesn't give you much flexibility, however, and it's something of a hassle to adjust.

If you agree, then try out the features offered by the Seeing panel (called CloseView in earlier Mac OS versions). This feature lets you enlarge the area surrounding your cursor in any increment—and, if you like, also to invert the colors of the screen so that white is black, blue is yellow, and so on.

To make it work, press Option-#-8 as you're working. Or, if the Seeing panel is open in front of you, just click the gigantic Turn On Zoom button. That's the master switch.

No zooming actually takes place, however, until you press Option-#-plus sign (to zoom in) or Option-#-minus sign (to zoom out). With each press, the entire screen image gets larger or smaller, creating a virtual monitor that follows your cursor around the screen.

You'll be amazed at just how much you can zoom in. In fact, there's nothing to stop you from zooming in so far, that a *single pixel* fills the entire monitor. (That may not be especially useful for people with limited vision, but it can be handy for graphic designers learning how to reproduce a certain icon, dot by dot.)

If you click Zoom Options, you'll find miles and miles of options that control when the enlarged screen image pans (all the time, or only when the pointer hits a screen edge), the maximum or minimum degree of enlargement, and so on.

While you're at it, pressing Control-Option-#-\* (asterisk), or clicking the "Switch to Black on White" button, inverts the colors of the screen, so that text appears white on black—an effect that some people find easier to read. (This option also freaks out many Mac fans who turn it on *by mistake*, somehow pressing Control-Option-#-\* by accident during everyday work. They think that the Mac's expensive monitor has just gone loco. Now you know better.)



There's also a button called Set Display to Grayscale, which banishes all color from your screen. This is another feature designed to improve text clarity, but it's also a dandy way to see how a color document will look when printed on a monochrome laser printer.

Switch back to color by clicking Set Display to Color.

#### 8.25.2 Hearing Tab (Flashing the Screen)

If you have trouble hearing the Mac's sounds, the obvious solution is to increase the volume, which is why the Adjust Sound button on this panel offers a direct link to the Sound preferences panel. (If your Mac doesn't have external speakers, consider getting some.)

Fortunately, hearing your computer usually isn't critical (except when working in music and audio, of course). The only time audio is especially important is when the Mac tries to get your attention by beeping. For those situations, turn on "Flash the screen when an alert sound occurs" (an effect you can try out by clicking Flash Screen). Now you'll see a white flash across the entire monitor whenever the Mac would otherwise beep—not a bad idea on laptops, actually, so that you don't miss beeps when you've got the speakers muted.

#### 8.25.3 Keyboard Tab (Typing Assistance)

This panel offers two clever features designed to help people who have trouble using the keyboard.

• Sticky Keys lets you press multiple-key shortcuts (involving keys like Shift, Option, Control, and #) one at a time instead of all together.

To make Sticky Keys work, first turn on the master switch at the top of the dialog box. Then go to work on the Mac, triggering keyboard commands as shown in Figure 8-12.

If you press a modifier key *twice*, meanwhile, you lock it down. (Its onscreen symbol gets brighter to let you know.) When a key is locked, you can use it for several commands in a row. For example, if a folder icon is highlighted, you could double-press ## to lock it down—and then type O (to open the folder), look around, and then press W (to close the window). Press the ## key a third time to "un-press" it.

Whenever you want to press a multiple-key keystroke like Shift- Option-\(\mathbb{H}\)-D, press them one at a time. You'll see ghost images of these keys superimposed on your screen, to show you which keystrokes you've added to your temporary collection. To "un-press" a key you've already pressed, press it again twice.





The checkbox called "Press the Shift key five times to turn Sticky Keys on or off" gives you the flexibility of turning Sticky Keys on and off at will, without even taking a trip to System Preferences. Whenever you want to turn on Sticky Keys, press the Shift key five times in succession. You'll hear a special clacking sound effect alerting you that you just turned on Sticky Keys. (Repeat the five presses to turn Sticky Keys off again.)

• Slow Keys, on the other hand, doesn't register a key press at all until you've held down the key for more than a second or so—a feature designed to screen out accidental key presses.

If "Use click key sounds" is turned on, you'll hear a little typing sound each time you press a key, but none of these key presses registers unless you hold the key down for a moment. (Use the Acceptance Delay slider to govern this threshold.) You hear a different sound when the Mac actually accepts the key press, and, of course, you'll see the letter you typed appear onscreen.

#### POWER USERS' CLINIC

### **Direct System Preferences Access from the Dock**

As noted earlier in this chapter, Mac OS X 10.3 offers a tidy pop-up menu of System Preferences panels right there in your Dock. That's a great feature, one that saves you several steps on the way to System Preferences, but it works only when System Preferences is *already running*.

Wouldn't it be cool if your favorite preference panels could pop up from the Dock *anytime*, whether System Preferences was running or not?

Here's how you do it. Make a new folder (in your Home folder, for example). Name it whatever you want the Dock icon to say—SysPrefs or Control Panels, for example. Stick it into your Sidebar for a moment.

Now open your System Library PreferencePanes folder, which contains the icons for the various System Preferences panes. Select all of them—or only the ones you actually use.

Drag them into the SysPrefs folder on your Sidebar, taking care to press Option- as you release the mouse. (Option- dragging makes aliases of them.) If the .prefPane suffix on the aliases bugs you, select all of the aliases, press -I, open the Name & Extension panel in the Get Info window, and turn on "Hide extension."

Finally, drag the SysPrefs folder onto the right side of your Dock. Now, whenever you want to open a particular panel, just Control-click (or hold the mouse button down on) this SysPrefs Dock icon. You get a handy pop-up list, as shown here. (The icons may look like folders, but they're standard, double-clickable icons that take you directly to the corresponding panel of System Preferences.)



## 8.25.4 Mouse Tab (Cursor Control from the Keyboard)

Mouse Keys is designed to help people who can't use the mouse—or who want more precision when working in graphics programs. It lets you click, drag, and otherwise manipulate the cursor by pressing the keys on your numeric keypad.

When Mouse Keys is turned on, the 5 key acts as the clicker; hold it down for a moment to "click the mouse," do that twice to double-click, and so on. Hold down the 0 key to lock down the mouse button, and the period key to unlock it. (The amount of time you have to hold them down depends on how you've set the Initial Display slider.)

Move the cursor around the screen by pressing the eight keys that surround the 5 key. (For example, hold down the 9 key to move the cursor diagonally up and to the right.) If you hold one of these keys down continuously, the cursor, after a pause, begins to move smoothly in that direction—according to the way you have adjusted the sliders called Initial Delay and Maximum Speed.



The new Panther checkbox called "Press the option key five times to turn Mouse Keys on or off" saves you the trouble of opening System Preferences.



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# **Chapter 9. The Free Programs**

Right out of the box, Mac OS X comes with a healthy assortment of nearly 50 freebies: programs for sending email, writing documents, doing math, even playing games. Some are dressed-up versions of Mac programs that have been around for years. Others, though, are new programs that not only show off some of Mac OS X's most dramatic new technologies, but let you get real work done without having to invest in additional software.

#### **NOTE**

Several of the freebie programs described here are also the subject of other books in this series, including *iMovie 3 & iDVD: The Missing Manual, iMovie 3: The Missing Manual,* and *iPhoto 2: The Missing Manual.* By popular request (and, in some cases, indignant request), this chapter now includes concise crash courses in these programs. But the full scoop on each of these powerful programs-including tips, tricks, customization advice, troubleshooting chapters, and so on-requires a whole other book.



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# 9.1 Your Free Mac OS X Programs

You've got a broad assortment of programs in the Applications folder in the main hard drive window. The Applications Utilities folder holds another couple dozen mini-programs that handle such workaday jobs as setting up printers and network connections, fixing problems on your hard disk, and monitoring the behind-the-scenes processing performed by your Mac whenever you launch and run programs.

All of these programs have been either written expressly for Mac OS X (*Cocoa* applications) or adapted for it ( *Carbonized*—see <u>Section 4.8</u>). This chapter guides you through every item in your new software library, one program at a time. (Depending on your Mac model, you may find other programs in your Applications folder; Apple occasionally includes software of its own, or from other companies, to spice up the collection for, say, iMacs or Power Macs.)



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# 9.2 Address Book

The Address Book is a database that stores names, addresses, email addresses, phone numbers, and other contact information. <u>Chapter 19</u> covers Address Book in detail.



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# 9.3 AppleScript

This folder contains all of the scripts and tools described in <a href="Chapter 7">Chapter 7</a>.







#### 9.4 Calculator

Over the years, just about every Mac program and feature evolved, matured, and grew. For 17 years, however, one program chugged along, essentially untouched: the simple, four-function Calculator. As late as 2002, this Calculator still lacked memory keys, a percentage key, or a CE (clear entry) key, let alone any advanced functions. By the time Mac OS X came along, it was the very last piece of original Mac OS software still standing.

That relic is finally gone. The new Calculator is far more potent than the humble fourfunction program that preceded it. It can act as a scientific calculator for students and scientists, a conversion calculator for metric and U.S. measures, and even a currency calculator for world travelers.

Here's everything you need to know for basic math:

- The calculator has two modes: Basic and Advanced (see <u>Figure 9-1</u>). Switch between them by choosing the appropriate command from the View menu (or pressing **1**-1 for Basic, **1**-2 for Advanced).
- You can operate the calculator by clicking the onscreen buttons, but it's much easier to press the corresponding number and symbol keys on your keyboard.



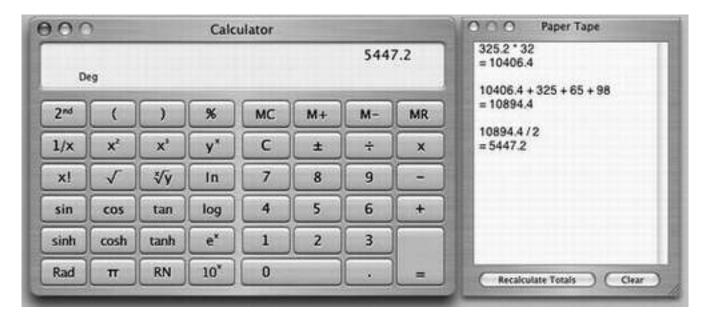
If you have a Mac laptop, don't miss the embedded numeric keypad, superimposed on the right side of the keyboard and labeled on the keys in a different color ink. When you press the Fn key in the lower-left corner of the keyboard, typing these keys produces the numbers instead of the letters. (You can also press the NumLock key to *stay* in number mode so that you don't have to keep pressing Fn.)

As you go, you can make your calculator speak each key you press. The Mac's voice ensures that you don't
mistype as you keep your eyes on the receipts in front of you, while you type by touch.

Just choose Speech Speak Button Pressed to turn this feature on or off. (You choose which voice does the talking in the Speech panel of System Preferences.)

- Press the C key to clear the calculator display.
- Once you've calculated a result, you can copy it (using Edit ——) Copy, or ##-C) and paste it directly into another program.

Both the four-function Basic mode and the scientific calculator mode (shown here) offer a "paper tape" feature (View > Show Paper Tape) that lets you correct errors made way back in a calculation. Drag through a number, retype, and then click Recalculate Totals.



#### 9.4.1 Conversions

Calculator is more than a calculator; it's also a conversion program. No matter what units you're trying to convert—meters, grams, inches, miles per hour—Calculator is ready. Proceed like this:

1. Clear the calculator. Type in the starting measurement.

To convert 48 degrees Celsius to Fahrenheit, for example, type 48.

2. From the Convert menu, choose the kind of conversion you want.

In this case, choose Temperature. When you're done choosing, a little dialog box appears.

3. Use the pop-up menus to specify which units you want to convert to and from.

To convert Celsius to Fahrenheit, choose Celsius from the first pop-up menu, and Fahrenheit from the second.

4. Click OK.

The calculator displays the result—in degrees Fahrenheit, in this example.

The next time you want to make this kind of calculation, you can skip steps 2, 3, and 4. Instead, just choose your desired conversion from the Convert Recent Conversions submenu.



You might not suspect it, but the Calculator has a secret graphing mode—and a few other tricks up its sleeve. See the box in Section 9.25.23 for details.

Calculator is especially amazing when it comes to *currency* conversions—from pesos to American dollars, for example—because it actually does its homework. It goes online to download up-to-the-minute currency rates to ensure that the conversion is accurate.

All you have to do is choose Convert Update Currency Exchange Rates. Then, when you use the Convert Currency command, your numbers will be the very latest.



If you Control-click Calculator's results display, the contextual menu offers an option called Large Type. If you choose it, you get *huge, enormous, gigantic* type, superimposed upon a smoky background window for contrast—a great way to make sure the peons in the back row can see the answer.



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#### 9.5 Chess

Mac OS X comes with only one game, but it's a beauty (<u>Figure 9-2</u>). Chess is a traditional chess game played on a gorgeously rendered board with a set of realistic 3-D pieces. You can rotate the board in space, as described in Figure 9-2.

The program is actually a 15-year-old Unix-based chess program, Gnu Chess, that Apple packaged up in a new wrapper.

You don't have to be terribly exact about grabbing the chess pieces when it's time to make your move. Just click anywhere within a piece's current square to drag it into a new position on the board (shown here in its Marble incarnation). And how did this chess board get rotated like this? Because in this program you can grab a corner of the board and rotate it in 3-D space.

Cool!



### 9.5.1 Playing a Game of Chess

When you launch Chess, you're presented with a fresh, new game that's set up in Human vs. Computer mode—meaning that you (the Human, with the light-colored pieces) get to play against the Computer (your Mac, on the dark side). Drag the chess piece of your choice into position on the board, and the game is afoot.

If you choose Game New Game, however, you're offered a pop-up menu with choices like Human vs. Computer, Human vs. Human, and so on. If you switch the pop-up menu to Computer vs. Human, you and your Mac trade places; the Mac takes the white side of the board and opens the game with the first move, and you play the black side.



The same New Game dialog box also offers a pop-up menu called Variant, which offers three other chess-like games: Crazyhouse, Suicide, and Losers. The Chess help screens (under "Starting a new game") explain these variations.

On some night when the video store is closed and you're desperate for entertainment, you might also want to try the Computer vs. Computer option, which pits your Mac against itself. Pour yourself a beer, open a bag of chips, and settle in to watch until someone—either the Mac or the Mac—gains victory.

#### 9.5.2 Chess Preferences

Choose Chess Preferences to find some useful controls like these:

- **Style.** In Mac OS X 10.3, Apple went nuts with the computer-generated materials options. (Is it a coincidence that Steve Jobs is also the CEO of Pixar, the computeranimation company?)
  - In any case, you can choose all kinds of wacky materials for the look of your game board—Wood, Metal, Marble, or *Grass* (!)—and for your playing pieces (Wood, Metal, Marble, or *Fur*).
- Computer Plays. Use this slider to determine how frustrated you want to get when trying to win at Chess. The further you drag the slider toward the Stronger side, the more calculations the computer runs before making its next move (and, thus, the harder it gets for you to outthink it). At the Faster setting, Chess won't spend more than five seconds ruminating over possible moves. Drag the slider all the way to the right, however, and the program may analyze each move for as long as ten fun-filled hours. This hardest setting, of course, makes it all but impossible to win a game (which may stretch on for a week or more anyway).
  - Choosing the Faster setting makes it only mildly impossible.
- **Speech.** This checkbox lets you play Chess using the Mac's built-in voice-recognition features. You *tell* your chess pieces where to go instead of dragging them. <u>Section 14.5.1</u> has the details.



If your Chess-playing skills are less than optimal, the Move menu will become your fast friend. The three commands tucked away there let you undo your last move (great for recovering from a stupid mistake), display your opponent's previous move (in case you failed to notice what the computer just did), and receive a suggestion for a move when you don't have a clue what to do next.

## 9.5.3 Saving Your Games

You can choose Game Save Game to save any game in progress, so that you can resume it later.

To archive the moves making up an entire game instead, use the Game Log command, which displays the history of your game, move by move. A typical move would be recorded as "Nb8 - c6," meaning that the knight on the b8 square moved to the c6 square. Equipped with a Chess list document, you could recreate an entire game, move by move.



If you open this window before you begin a new game, you can see the game log fill in the moves as they happen.



< Day Day Up







# 9.6 DVD Player

DVD Player, your Mac's built-in movie projector, is described in Chapter 10.







# 9.7 Font Book

This delightful program, new in Mac OS X 10.3, lets you install or uninstall fonts, or sets of fonts, as the whim suits you. It's also great for looking over your fonts to see what they look like. Details in <a href="#">Chapter 13</a>.







# 9.8 iCal, iChat, iSync

For details on Apple's calendar program, the iChat instant-messaging program, and the iSync utility, see Chapter 20.

# NOSTALGIA CORNER Death to the Clock?

Hey! Where's the Clock? I used to love that little Mac OS X app.

Mac OS X 10.3 no longer comes with a program called Clock in your Applications folder—that much is true.

However, the friendly neighborhood clock is still around.

Open System Preferences, click Date & Time, click the Clock tab button, turn on "Show the date and time," choose "View in: Window," and "View as: Analog." There's your old friend, floating in its own little window as always.



< Day Day Up >







#### 9.9 iDVD 3

You have iDVD 3 only if you bought a new Mac containing a SuperDrive DVD burner, or you bought Apple's iLife software suite. In any case, iDVD is designed to let you turn your digital photos or camcorder movies into DVDs that work on any DVD player, complete with menus, slideshow controls, and other navigation features. iDVD handles the technology; you control the style.

Sure, you can export your finished iMovie project back to a good old VHS cassette. But preserving your work on a DVD gives you a boatload of benefits, including better durability, dramatically better quality, no need for rewinding, duplication without quality loss, and cheaper shipping. (And besides, you can fit a lot more DVDs on a shelf than VHS tapes.)

#### NOTE

DVD players sold since 2002 are generally a safe bet for playing back homemade DVDs, but check the master player compatibility list at <u>www.dvdrhelp.com</u> if you're ever in doubt. Some players are fussy about which DVD-R brand discs they play, too.

Here's the basic routine for converting an iMovie movie into a Blockbuster-style DVD.

#### 9.9.1 Phase 1: Insert Chapter Markers

DVD *chapters* let viewers skip to predefined starting points within a movie, either using a Scene menu or pressing the Next Chapter or Previous Chapter buttons on the remote control. Thanks to the partnership of iMovie 3 and iDVD 3, you can add to your own movies markers that perfectly replicate this feature.

The iDVD palette lets you add, remove, and name chapters—and then publish your iMovies to iDVD. New iMovie chapters are numbered sequentially, as they appear in your movie from left to right. Chapter references appear in your timeline as small yellow diamonds, just above the video track. iMovie can add up to 99 chapters per movie with the iDVD palette.



1. In iMovie, click the iDVD button to open the iDVD palette.

You'll find it among the other palette buttons, just to the right of the Effects button, as shown in Figure 9-3.

2. Drag the Playhead to the position for your new chapter. Click Add Chapter. Type a chapter title into the Chapter Title box.

Whatever you type here will wind up as the chapter name in the finished DVD menu.

3. Repeat step 2 until you've created all the chapters for your movie. Save your project.

If you've added a chapter in error, click it and then click Remove Chapter.

#### 9.9.2 Phase 2: Hand Off to iDVD

Now you're ready to hand off the movie to iDVD, where you do your menu design and DVD burning.

The Customize button reveals iDVD's Customize drawer. When you click one of the buttons at the top, the pane changes to show its contents. For example, Themes lets you choose a design scheme. The Settings pane lets you choose motion menu duration, background video and

# audio, title fonts, and the look and placement of buttons. The Audio and Photos panes link directly to iTunes and iPhoto.



Save your project, and then click Create iDVD Project at the bottom of the chapter list. Your hard drive whirs, thunder rolls somewhere, and after a few minutes, you wind up in iDVD itself. You'll know when you get there: haunting movie-score music plays and animated red curtains open and close (Figure 9-4).



To turn off the Apple logo that appears in the lower-right corner of every iDVD Project, choose iDVD Preferences and turn off "Show Apple logo watermark."

### 9.9.3 Phase 3: Design the Menu Screen

The red-curtained theater, the music that's playing, and the font for your buttons are all part of a *theme*: a unified design scheme that governs how the menus look and behave.

A wide range of canned themes awaits your inspection. To see them, click Customize to open the Customize drawer, if it isn't already open (Figure 9-4). Then, from the pop-up menu at the top of the drawer, choose All.

Scroll through the list of themes, clicking each one to see what it looks like in the main work area, or just rely on the little thumbnail icons to get a sense of the theme's overall flavor.

Select a theme by clicking its thumbnail. The main menu screen takes on your chosen theme instantly. If your DVD menu system has other screens—a scene-selection screen that lists your chapter markers, for example—choose Advanced—Apply Theme to Project, so that every screen will look alike.

#### 9.9.4 Phase 4: Edit Titles and Buttons

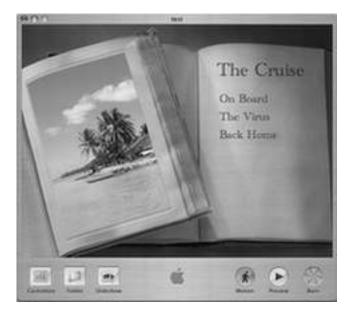
On the main menu screen now before you, you'll find two buttons:

Play. On the finished DVD, this button will mean, "Play the movie from the beginning."

# GEM IN THE ROUGH Drop Zones

Drop zones, new in some iDVD 3 themes, let you use video, slideshows, and graphics as the backgrounds of your menu screens. Look for the words "Drag photos or movies here," indicating the presence of a drop zone.

You can drag any video, photo album, or image right into a drop zone outline to install it there (like the island photo shown here). You can drag it out of the Finder, or directly out of the Movies or Photos panes in the Customize drawer.



By the way, if you drag a movie into a drop zone, you can't control where the movie begins, as you can with button movies. It always begins at the beginning.

• Scene Selection. On the finished DVD, this button will take your audience to a second screen, which is filled with individual buttons for the chapters you created. (In fact, this second screen may well have arrows that lead to third and fourth screens, because iDVD can fit only six buttons per screen.)

You can edit these text buttons just as you would Finder icon names: Click inside the text to open up an editing box, type your changes, and then press Enter or Return.

Editing button names works almost the same way, except that you single-click the button first, and then click the text itself to open the editing box.

#### 9.9.4.1 Button images and button videos

Almost every button displays an icon, picture, or tiny movie clip to give viewers a hint as to what lies in store if they click it. To specify what that image is, see <u>Figure 9-5</u>.

iDVD can display up to 30 seconds of a movie right there on the button. Turn on Movie, and then use the slider to specify where you want the tiny button movie to begin looping. To make your button's face a still image instead, turn off the Movie checkbox, and then drag any graphics file right onto the button; you'll see the image change instantly.



## 9.9.5 Phase 5: Burning Your DVD

Once your menu screens are looking pretty good, you're almost ready to burn the DVD. Before you go using up a blank disc, however, you should test your creation to make sure that it works on the virtual DVD player known as the Macintosh.

- Preview the DVD. iDVD's Preview button lets you test your menu system to avoid unpleasant surprises. When you click it, iDVD enters Preview mode, which simulates how your DVD works on a standalone set-top DVD player. You even get a simulated remote control to help you navigate. Click Stop (the filled square) or reclick Preview to return to iDVD's Edit mode.
- Check the length. iDVD prefers to burn 60-minute DVDs, because they have the best quality. The instant you try to add the sixty-first minute of footage to your project, though, iDVD invites you to switch to 90-minute mode—at lower quality —or to delete some video from the project to make it fit within 60 minutes again.

When you've finished editing your disc and testing it thoroughly, it's time to proceed with your burn.

#### 1. Check your Motion setting.

The Motion button at the bottom of the window determines whether or not your finished DVD will have animated menus, buttons, and backgrounds, and whether or not music will play. If the Motion button is green, you'll get all of the above. If you click to turn the Motion button off (gray), then motion and audio features won't appear on the final disc.

### 2. Choose File Save Project. Click the Burn button twice.

The first click on the gray, closed Burn button "opens" it, revealing a throbbing yellow-and-black button. The second click begins the burning process.

#### 3. Insert a blank DVD-R disc when the Mac asks for it.

Be sure you're using the correct kind of blank DVD for the speed of your DVD burner. For example, don't attempt to burn 1x or 2x blanks at 4x speed.

After a while, or a bit more than a while, a freshly burned DVD automatically ejects from your SuperDrive.







# 9.10 Image Capture

This unsung little program is something of an orphan. It was designed to download pictures from a USB digital camera and then process them automatically (turning them into a Web page, scaling them to emailable size, and so on). Of course, after Image Capture's birth, iPhoto came along, generally blowing its predecessor out of the water.

Even so, Apple still includes Image Capture with Mac OS X for these reasons:

- Image Capture makes it easy to download only *some* pictures from your camera (<u>Figure 9-6</u>). iPhoto, by contrast, always downloads the *entire* contents of your camera's memory card.
- Image Capture can grab images from Mac OS X-compatible scanners, too, not just digital cameras.
- Image Capture can download your movies and sounds from a digital still camera; iPhoto can't.
- In Mac OS X 10.3, Image Capture can turn a compatible digital camera into a Webcam, broadcasting whatever it "sees" to anyone on your office network—or the whole Internet. Similarly, it can share a scanner with all the networked Macs in your office.

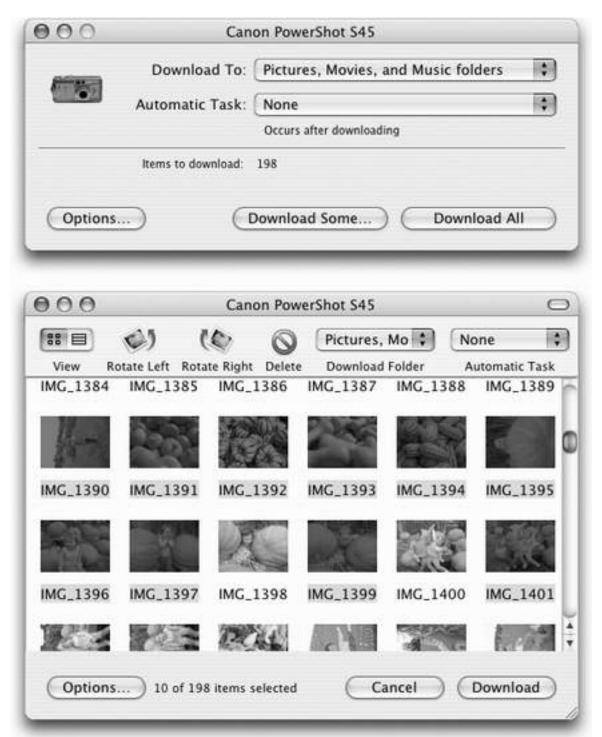
You can open Image Capture in either of two ways. You can simply double-click its icon in your Applications folder or you can set it up to open automatically whenever you connect a USB digital camera and turn it on. To set up that arrangement, open Image Capture manually. Choose Image Capture Preferences, click Camera, and choose Image Capture from the "When a camera is connected, open" pop-up menu.

In any case, once Image Capture is open, it looks like Figure 9-6.

In Image Capture, you can use the following pop-up menus.

Top: You can set up Image Capture to open automatically when you attach a USB camera to your Mac. One click (on Download All) transfers the cameras pictures to your hard drive.

Bottom: If you click Download Some, you get this "slide-sorter" window, where you can choose the individual pictures you want to download, use the buttons at the top to rotate selected shots, or delete shots from the camera. In slide-sorter view, Shift-click or # click the thumbnails of the pictures you want. In list view, Shift-click or #-click as though they're Finder list-view files.



#### 9.10.1 Download To

Use this pop-up menu to choose a destination folder for the pictures. Image Capture proposes putting photos, sounds, and movies from the camera into your Home folder's Pictures, Music, and Movies folders, respectively. When the downloading process is complete, Mac OS X opens the corresponding folder automatically, saving you the trouble of finding it.

#### 9.10.2 Automatic Task

Download, schmownload—Image Capture is just warming up. It comes equipped to process the downloaded photos in several useful ways. For example:

- None. Translation: "Just download the pictures, please."
- **Build slide show.** After the download is complete, your screen goes black, and a smooth full-screen slideshow begins, featuring the newly downloaded pictures gracefully cross-fading one to the next (without musical accompaniment, alas).
- **Build web page.** Creates an actual, and very attractive, Web page of your downloaded shots. Against a black background, you get thumbnail images of the pictures in a Web page document called index.html. (You'll find it in your Home folder Pictures Index folder, which also contains the graphics files incorporated into this HTML document.) Image Capture, proud of its work, automatically opens up this page in your Web browser.

Just click one of the small images to view it at full size, exactly as your Web site visitors will be able to do once this page is actually on the Web. (Getting it online is up to you, although Apple's HomePage feature—part of the .Mac subscription program described in Section 18.9—is one of the easiest methods.)

The truth is, iPhoto offers more Web page options and better-looking results, but Image Capture is handy when you just need something quick and dirty.

• **crop to 3 x 5, fit to 3 x 5....** Each option here creates a photo gallery as a PDF document (<u>Section 13.6</u>), ready to print out and then, presumably, to cut apart with scissors or a paper cutter. Each offers neatly arranged photos in the dimensions you've selected.

And what if a photo doesn't precisely fit 4 x 6 proportions (or whatever)? The "crop to" options center each photo within the specified shape and then trim the outer borders if necessary. The "fit to" options *shrink* the photo as necessary to fit into the specified dimensions, sometimes leaving blank white margins.

#### **NOTE**

The "crop" commands never touch the actual downloaded photos. The downloaded image files themselves retain their full size and resolution.

• **Preview.** This option opens the fresh pictures in Preview (Section 9.18), so that you can get a better (and bigger) look at them.

# **GEM IN THE ROUGH Image Capture Super-Prefs**

Apple spared no expense on this baby. Lurking in the dialog box that appears when you click the Options button (shown in <u>Figure 9-6</u>) are some very powerful features. They're well worth exploring.

The Download Options tab, for example, is where you can set Image Capture to grab pictures automatically when you plug in the camera, saving you a click on the Download button. Here's where you specify, too, that you want to delete the photos from the camera after they've been downloaded to the Mac—another stepsaving option that makes your memory card ready for more pictures.

The View Options tab controls the displays shown at bottom in <u>Figure 9-6</u>: the size of the icons in "slide-sorter" view, and which columns of information appear in the list view—date, height and width, resolution (DPI), aperture, and so on.

• Other. The beauty of the Image Capture system is that people can, in theory, write additional processing scripts.

Once you've written or downloaded them, drop them into your System Library Image

Capture Automated Tasks folder, and then enjoy their presence in the newly enhanced Automatic Task pop-up menu.

#### 9.10.3 Download Some, Download All

Clicking Download All, of course, begins the process of downloading the photos to the folder you've selected. A progress dialog box appears, showing you thumbnail images of each picture that flies down the wire.

#### Connect the camera and turn it on.

Top: Choose Image Capture Preferences, click the Sharing tab, and turn on "Enable Web-Sharing." Click OK.

Bottom: Now anyone else on the Internet can open Safari, type the IP address provided by the Preferences dialog box (see it, just underneath the "Enable Web-Sharing" checkbox at top?) into their address bar, and peep at the contents of your Mac's digital camera! (Meet George Jetson...) And if they have one of the lucky camera models, they can even click Remote Monitor and use the camera as a spycam/Webcam from across town or across the world.



Clicking Download Some, however, opens the picture browser shown at bottom in <u>Figure 9-6</u>. In either a list view or a slide-sorter view, you can Shift- or **#** -click the photos you want to download, rotate, or delete from the camera.

## 9.10.4 Downloading from Across the Network

You're sitting in front of Macintosh #1, but the digital camera is connected to Macintosh #2 downstairs, elsewhere on the network. What's a Mac fan to do?

All right, that situation may not exactly be the scourge of modern computing. But downloading pictures from a camera attached to a different computer can occasionally be useful—in a graphics studio, for example, when a photographer comes back from the field, camera brimming with fresh shots. He can hook up the camera to his Mac so that his editor can peruse the pictures on hers from across the building.

To share your camera on the network, hook it up, choose Image Capture Preferences, click the Sharing tab, turn on "Share my devices," and select the camera in question (Figure 9-7). (This trick works with scanners, too.)

On the other Mac, open Image Capture and choose Devices "Browse shared devices." Open the flippy triangle, select the camera, click OK, open Safari, enter the address Image Capture gaver you (Figure 9-7), and proceed to view and download the photos exactly as though the camera's connected to *your* Mac.

### 9.10.5 Downloading from Across the Internet

You can also share your camera's contents with *the whole Internet*, assuming your Mac has its own, publicly accessible IP address (Section 21.1). Figure 9-7 has the details for the setup.

## 9.10.6 Image Capture as Web Spycam

All digital cameras can share what's currently on their memory cards via the Internet as described above. If you have one of a few newer models, in fact, you can actually *control the camera remotely*. You can spy on whatever's in the room where the camera is, taking snapshots at on demand. (Can you say, "Babysittercam"?)

#### **NOTE**

Some of the Webcammable cameras are the Canon A60, A70, S400, S50, and G5; HP C618 and 912; Kodak DC280, DC4800, and DC5000; and Nikon D1, D1X, and D1H.

To set this up, begin as shown in <u>Figure 9-7</u>. Then, if your camera is one of the compatible models, the Remote Monitor tab (shown dimmed in <u>Figure 9-7</u>) springs to life, along with the buttons labeled Delete, Take Picture, and so on.

Clicking Take Picture captures a picture exactly as you would if you'd been next to the camera and pressed the shutter button.

If you click the Remote Monitor tab, you see, at full size, whatever the camera is seeing; the image is updated once every minute. (The pictures are blasted to you via the Internet, but not captured onto the memory card.) Click the light-switch icon to change the shutter interval.

### 9.10.7 Scanning

Assuming you haven't changed the "Open scanner window when Image Capture is launched" setting (in Image Capture Preferences Scanner), you should see the window shown in Figure 9-8 as soon as you turn on your scanner and fire up Image Capture.

Assuming your scanner is compatible with Mac OS X (that is, it's TWAIN-compatible), this preview window appears automatically when you turn on the scanner and open Image Capture. Open the drawer to specify the dimensions and resolution you want. Click Overview if you need to repeat the preview. Drag across the image to indicate which part you want to capture (otherwise, the Scan button is dimmed), and then click Scan when you're ready to go.





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#### 9.11 iMovie

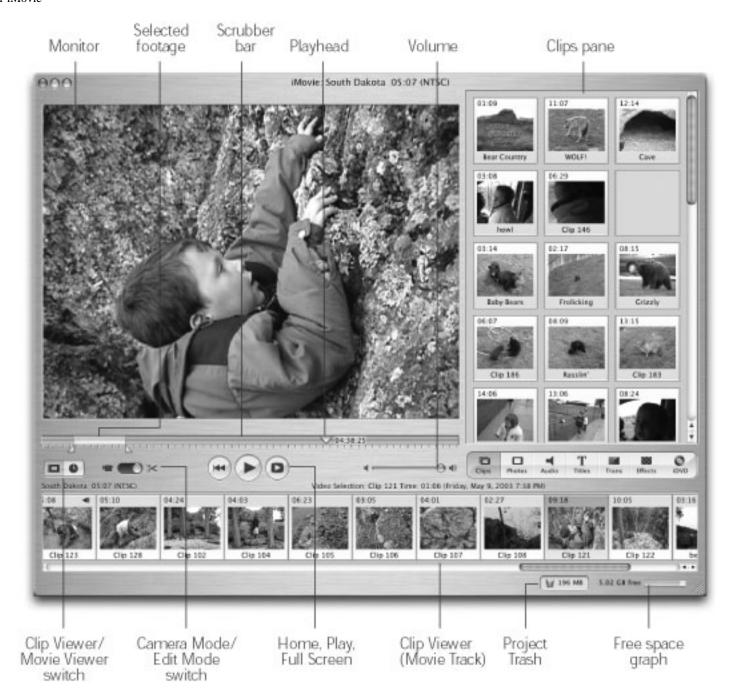
If you have a digital camcorder (MiniDV or Digital8 format) and a few hours of free time—all right, a few weekends of it—iMovie helps you make astonishingly highquality, fully edited movies. Digital video is great; you can transfer the footage back and forth between the Mac and the camcorder a hundred times, but you'll never see any deterioration in quality.

#### 9.11.1 Phase 1: Set Up iMovie 3

The first time you run iMovie, it asks you whether you want to open an existing iMovie file (called a *project*) or start a new one. After that, each time you launch iMovie, it automatically opens up the movie you most recently worked on.

If you click Create Project, you're asked to select a name and location for the movie you're about to make. Once you've saved your project, you finally arrive at the main iMovie window (Figure 9-9).

Here's iMovie in a nutshell. Save your project onto the drive that has the most space (if, indeed, you have more than one), because digital video files are enormous. They require 3.6 MB of hard drive space per second or 13 gigabytes per one-hour tape. Choose a monitor resolution that's 1024 x 768 or larger (using, for example, the Displays panel of System Preferences). Poor iMovie can't even run at any lower setting.



## 9.11.2 Phase 2: Import Camcorder Footage

After you've shot some footage, connect the camcorder to the Mac using a FireWire cable. If you have the proper cable, one end (the six-pin connector) fits your Mac, and the much smaller end (the four-pin connector) goes into the FireWire connector on your camcorder, which, depending on the brand, may be labeled FireWire, i.Link, DV In/Out, or IEEE 1394.

Put the camcorder into VTR mode (also known as VCR or Playback mode). If necessary, click iMovie's Camera button, identified in Figure 9-9.

The Monitor window says, "Camera Connected." Now you can click the Play, Rewind, Fast Forward, and other buttons on the screen to control the camcorder. Scan your tape to find the sections that you'll want to include in your edited movie.

Every time you click the Import button—or tap the Space bar—iMovie imports the footage you're watching, saving it as a

series of digital-video movie files on the Mac's hard drive. For each scene, iMovie creates what looks like a slide in the Clips pane, as shown in <u>Figure 9-9</u>. That's a *clip*—a single piece of footage that makes up one of the building blocks of an iMovie movie. Its icon is a picture of the first frame. On the clip's upper-left corner, you can see the length of the clip expressed as "seconds: frames" (there are 30 frames per second in North American video, 25 in the European format).

#### 9.11.2.1 How iMovie organizes its files

Every time you save a project file, iMovie creates an entire *folder* bearing your project's name. Inside this folder are three key icons that are worth getting to know:

- **Media folder.** Inside the Media folder are several, or dozens, or hundreds of individual QuickTime movies. These are digital files, one for each clip, sound, picture, or special effect you used in your movie.
  - *Never* rename, move, or delete the files in the Media folder. iMovie will become cranky, display error messages, and forget how you had your movie the last time you opened it.
- The project file. This is the file that you actually edit when you work on iMovie. It's tiny, because it contains nothing more than a list of internal pointers to the QuickTime clips in the Media folder.
- The reference movie. If your movie is called Bigfoot, this file is the one called Bigfoot.mov. This icon, too, contains references (pointers) to all of the individual movie and sound clips in the Media folder.

The reference movie's primary purpose is to work behind the scenes with iDVD. You may occasionally find the reference movie handy for your own purposes, though, as it offers a great way to open a movie you've been working on for a quick playback where you don't risk messing anything up.

When you double-click this icon, your iMovie movie appears in QuickTime Player, where a simple tap of the Space bar starts it playing.

# GEM IN THE ROUGH Automatic Scene Detection

If you let the tape continue to roll, you'll notice each time a new scene begins, a new clip icon appears in the Clips pane.

iMovie is studying the *date and time stamp* that DV camcorders record into every frame. When iMovie detects a break in time, it assumes that you stopped recording, if only for a moment—and therefore that the next piece of footage should be considered a new shot. It turns each new shot into a new clip.

If you'd prefer manual control over when each clip begins and ends, choose iMovie Preferences and turn off "Automatically start new clip at scene break."

# 9.11.3 Phase 3: Arrange the Clips

As you're building your movie, you can store your clips in either of two places: the Clips pane or the storyboard strip—the *Movie Track*, for want of an official name—at the bottom of the window (<u>Figure 9-9.</u>). You put clips on the Clips pane before deciding what to do with them, and drag them down to the storyboard area once you've decided where they fit into your movie.

The Movie Track can appear in either of two ways, depending on which tab you click (the film strip or the clock):

- Clip Viewer. this view, each clip appears as an icon, like a slide on a slide viewer. Each is sized identically, regardless of length.
- **Timeline Viewer.** Here, each clip is represented by a horizontal bar that's as wide as the clip is long. Parallel bars below the clips indicate the soundtracks playing simultaneously.

You can do several things to a clip, whether it's in the Clips pane or the Movie Track. For example:

- **Select a clip.** Click a clip's icon to view its first frame and, down on the Movie Track, some statistics (for example, when the scene was filmed).
  - To highlight several consecutive clips in the Movie Track, click one clip, and then Shift-click the last one. In the Clips pane, you can also drag diagonally across a batch of them.
- Play a clip. To play a highlighted clip, press the Space bar. You can also drag the *playhead* (see <u>Figure 9-9.</u>) to view earlier or later parts of the clip. By pressing the right and left arrow keys when playback is stopped, you can view your clip one frame at a time, as though you're watching the world's least interesting slideshow.



Adding the Shift key when you press the arrow keys lets you jump *ten* frames at a time. This is more useful when you have a lot of footage to cover.

- Reorganize the clips. You can drag clips from cubbyhole to cubbyhole on the Clips pane. In fact, you can even drag a clip (or even a mass of highlighted clips) onto an *occupied* cubbyhole. iMovie automatically creates enough new cubbyholes to hold them all, and shuffles existing clips out of the way if necessary.
- **Trash a clip.** You can get rid of a clip either by selecting it and then pressing the Delete key or by dragging it directly onto the project Trash icon (once again, shown in <u>Figure 9-9</u>).

You can't open the Trash, as you can in the Finder; in iMovie, the Trash is the key to iMovie's ten-level Undo command. Whenever you delete some footage, iMovie stores it in this Trash can. Then, if you decide to use the Undo command, even ten times in a row, iMovie will be able to restore the footage you had cut—by pulling it, behind the scenes, out of the project Trash.

That's why, whenever you choose File Empty Trash (or double-click the Trash can), you *lose* your ability to undo the last ten steps you took.

Trim a clip. Unless you have some godlike ability to control precisely when the subjects of your life—your pets, your children, your geysers—are at their most video-worthy, you probably don't need to preserve every frame of your captured footage for future generations.

To target some footage for deletion, click a clip, position your cursor within the tick marks of the Scrubber bar, and drag horizontally until the triangle handles surround the footage you want to keep (<u>Figure 9-9</u>). If you choose Cut or Clear from the Edit menu, iMovie promptly trims away whatever was highlighted between the triangles. (If you choose Edit Crop instead, iMovie deletes whatever was *outside* the highlighted portion.)



Here's a quick trick for highlighting only the first portion of a selected clip: Shift-click within the Scrubber bar at the point where you'd like the selection to *end*. Instantly, iMovie highlights everything from the left end of the clip to the position of your click.

#### 9.11.4 Phase 4: Assemble the Movie

Drag the edited clips out of the Clips pane and into the correct order on the Movie Track, exactly as though you're building a storyboard or timeline.

You can also have fun with the Movie Track like this:

- To make a selected clip play backwards, choose Advanced Reverse Clip Direction (H-R). Even the audio gets reversed, offering hours of fun to the kind of people who look for secret messages in Beatles albums.
- You can adjust the Rabbit/Turtle slider at the bottom edge of the Timeline Viewer to make a selected clip play faster or slower.
- To magnify the Timeline Viewer for a better look, drag the slider at the lower-left corner of the window. It adjusts the relative sizes of the bars that represent your clips.

#### 9.11.4.1 Play as you go

As you work, you'll want to play back your movie to check its flow. You may discover that, in the context of the whole movie, some clips are too long, too short, in the wrong order, and so on.

- To play back your entire Movie Track, press the Home key, which means Rewind. When you tap the Space bar, iMovie plays your movie from the beginning, one clip after another, seamlessly.
- To play back only a certain chunk of the movie, first select the clips you want, then click the Play button or press the Space bar. iMovie plays only the clips you highlighted.
- The Play Full Screen button (the darkened triangle to the right of the round Play button) makes the playback—even if it's already under way—fill the entire computer screen. To interrupt the movie showing, click the mouse or press any key on the keyboard.

#### NOTE

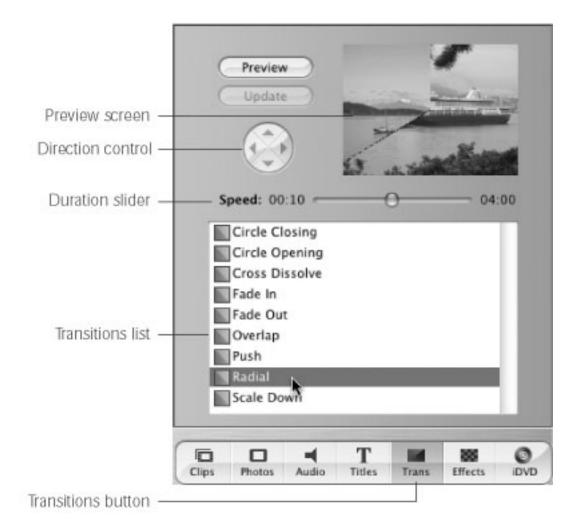
The quality of the full-screen playback may look a tad grainy. Don't panic. When you transfer your finished movie back to your camcorder for TV playback, you'll get pristine, crystal-clear playback.

## 9.11.5 Phase 5: Transitions, Effects, Titles, Audio, and Photos

Professional film and video editors have at their disposal a wide range of *transitions* — special effects that smooth the juncture between one clip and the next. For example, apart from a simple *cut*, the world's most popular transition is the *crossfade* or *dissolve*, in which the end of one clip gradually fades away as the next one fades in.

iMovie 3 offers a long list of transitions, of which crossfades are only the beginning. To see them, click the Trans button (Figure 9-10.).

Click the name of the transition you want. Use the slider above the Transitions palette to specify how many seconds you want the crossfade to last. (One second is fairly standard.) Once you've done so, drag the name of the transition into the Movie Track, between the two clips. They scoot apart to make room for the new transition icon that appears.



When you drag a transition into your Movie Track, the Mac now creates the crossfade — *renders* it—by superimposing the end of one clip with the beginning of the next. When the red progress bar is finished, click in your timeline just before the transition, press the Space bar to play, and marvel at your new ability to make home movies look pro.



You can continue working on other parts of your movie, or even switch into another Mac OS X program, while the rendering is going on.

To delete a transition, click its icon in the timeline and then press Delete. To edit it (by changing its length, for example), click its icon, return to the Transitions palette, make the adjustment, and then click Update.

#### 9.11.5.1 Effects

The Effects button summons a panel full of additional visual effects. Most are designed to create actual special effects that simulate fog, rain, earthquakes, lightning, flashbulbs, and bad LSD. (Most are weird and distracting. Use sparingly.)

To apply an effect, first specify which lucky region of footage you want to be affected. (iMovie can apply effects only to *entire* clips, so it may have to split your clip at the endpoints of the selection, and then apply the effect to the central clip.)

Then, on the Effects pane, specify when the effect should begin and end (use the Effect In and Effect Out sliders), its intensity, and so on. Finally, click Apply. As usual, the rendering telegraphs its progress with a miniature red progress bar on the selected clip.

If you click a clip and then press the Delete key, you're saying: "Throw away the effect. Bring back my original, unmodified clip." To adjust the start time, stop time, or other parameters of a special effect, you must first delete the effect altogether, and then reapply it using new settings.



It's perfectly possible to *combine* effects by applying first one, and then another. For example, after using the Black & White effect, you may want to use Brightness & Contrast control to adjust its gray tones. You can even apply a single effect repeatedly, intensifying the result. For instance, you could apply Rain twice at different intensities to add depth to your simulated deluge.

If you click such a clip, you can retrace your steps, removing one effect after another with each press of the Delete key.

#### 9.11.5.2 Titles and credits

To add rolling credits, opening titles, subtitles, or MTV-style music video credits to your masterpiece, start by clicking the Titles button. A list of title animation styles pops up. In the tiny text box underneath the list, type the text you want to appear. (Some of the effects, like Rolling Credits, offer *pairs* of text blobs; see Figure 9-11.)

If you'll want to insert this title *in front of* a clip, so that the text appears on a black background, turn on the Over Black checkbox. If you'd rather have the text appear *on top of* the video, leave that box unchecked. (Superimposing a title usually breaks the clip in half—the part with the title superimposed is now one clip, and the unaffected part is separate.)

Click the Preview button to see what the title will look like. Adjust the timing slider above the list, and then drag the *name* of the title type (such as Centered Title) into the Movie Track.

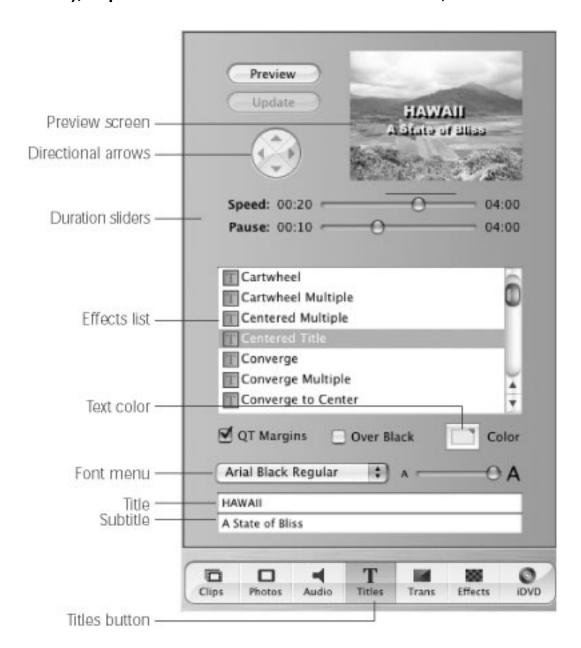
To eliminate a title, click its icon in the timeline and then press Delete. To edit, click its icon, make changes in the Titles palette, and then click Update.

#### 9.11.5.3 Audio

As noted in <u>Chapter 5</u>, the top horizontal band of the Timeline Viewer displays the *video* component of your movie. For the most part, you won't do much with this strip when you're editing audio; its primary purpose is to show where you are in the movie.

After you've typed in a couple of pairs, click the + button to tack on yet another pair to your

credits. The program automatically adds the dots and lines up the names (just like real live credits!), or places the subtitle beneath the main title, as shown here.



The two skinnier horizontal strips underneath it are your playground for audio clips (<u>Figure 9-11.</u>). Both audio tracks are equivalent. Each can hold sound from any of these sources:

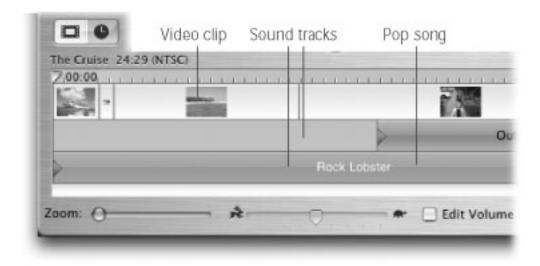
- iTunes tracks. When you click the Audio button, iMovie shows you your complete iTunes music collection, including playlists, making it easy for you to choose background music for your flick. Double-click a song to listen to it; drag its name onto one of the audio tracks to use it in your movie.
- Narration. This can be anything that you've recorded with your microphone. Drag the Playhead to a spot just before you want the narration to begin, click the round, Record Voice button on the Audio pane, and begin to speak. You can watch the video play as you narrate. (If the level meter isn't dancing as you speak, check the selected sound source in the Sound panel of System Preferences.)
- Sound effects. From the pop-up menu at the top of the iMovie audio pane, choose iMovie Sound Effects. Now you can add any of iMovie's sound effects (laughing, crickets, and so on) to your movie just by dragging them into an audio track.
- MP3, WAV, AAC, and AIFF audio files. Import these popular music formats using the File Import command.
- Music from a CD. You can insert a standard audio CD and transfer a song into iMovie to serve as the music for a

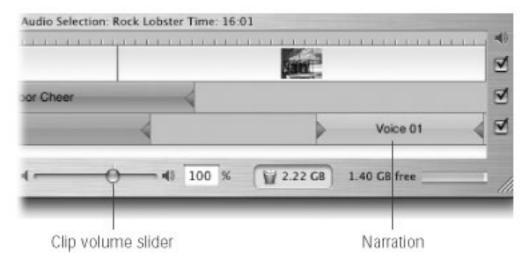
- scene. (Its contents appear in the Audio palette, and iTunes usually opens automatically to help you catalog the CD.) As usual, drag the name of a song to an audio track to install it there.
- Your camcorder audio. You can turn the ordinarily invisible audio portion of a video clip into an independent sound clip, which you can manipulate just like any other kind of sound clip (great for creating voice-overs, echoes, audio flashbacks, and so on). To do that, highlight the audio clip and then choose Advanced Extract Audio.



You can use the three checkboxes at the right end of these tracks to control which ones play back. When you want to isolate only one track, turn off the other two checkboxes.

The Timeline Viewer reveals your two parallel audio tracks (shown split in half here, to fit on the page). Feel free to drag audio clips between the two sound tracks. And don't miss the Edit Volume slider, which lets you create audio adjustments along a sound's length.





Fortunately, you can do more with your audio clips than just insert them into the Timeline Viewer. You can lengthen them or shorten them, make them fade in or out, shift them to play earlier or later in time, and even superimpose them. Best of all—and here's one of the most useful new features in iMovie 3—you can make their volume rise and fall over the length of the clip.

- Whole-clip volume adjustments. To make a selected clip louder or quieter, drag the volume slider shown in
   <u>Figure 9-12</u>. You can make it so quiet that it's absolutely silent, or you can actually boost it to 50 percent louder
   than the original.
- Volume adjustments within a clip. In iMovie 3, you can make the volume of a clip rise and fall along its length. For example, you can "pull back" the music when somebody is speaking, and then bring it back to full volume in between speeches.

When you turn on the Edit Volume checkbox at the bottom edge of the Timeline Viewer, a horizontal line appears on every audio clip, stretching from edge to edge (and your video clips, too). This line is a graph of the clip's volume.

Click directly on the line and drag upward or downward to produce a temporary volume fluctuation (Figure 9-13).

Each "knot" in the line (the round handle) represents a new volume level that sticks until the end of the clip or the next volume level, whichever comes first. To remove a volume change, click the orange "knot" to select it, and then press the Delete key.



#### 9.11.5.4 Photos

You might want to import a graphics file into iMovie for any number of reasons—to use as a less distracting still image behind your titles and credits, for example, or to create a video photo album. If you keep your pictures in iPhoto, a great feature awaits.

When you click the Photos button (<u>Figure 9-12</u>), you're shown the contents of your entire iPhoto Library. Using the pop-up menu, you can even limit your view to the contents of one iPhoto *album* or another.

Once you've pinpointed the picture you want, use the controls at the top of the Photos palette to specify:

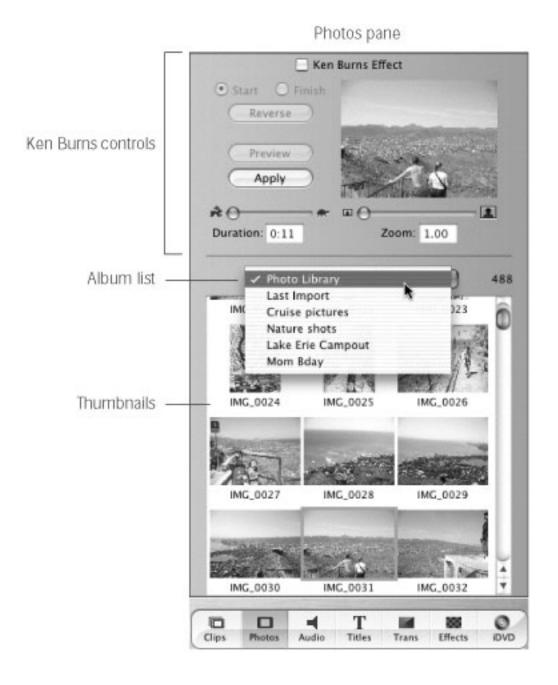
- The amount of time the photo will remain on the screen.
- Whether or not you want the *Ken Burns effect*, where the "movie camera" pans and zooms smoothly across photos, in essence animating them and directing the viewer's attention. (Ken Burns is the creator of PBS documentaries like *The Civil War* and *Baseball*, which use this effect in abundance.)

Finally, drag the photo out of the thumbnail palette and into the Movie Track. The other clips scoot out of the way to make room, and the photo becomes, in effect, a new silent video clip with the duration you specified. (If you turned on the Ken Burns effect, iMovie takes a few moments to render the animation. The familiar red progress bar inches across the face of the clip.)

#### NOTE

If you don't routinely keep your photos in iPhoto, you can also import a graphics file, or even a QuickTime movie, right from your hard drive by choosing File \_\_\_\_Import.

To set up a Ken Burns effect, click Start. Use the Zoom controls until the photo is as big as you want it at the beginning of its time on screen. Drag inside the Preview screen to adjust the photo's position. Then click Finish, and repeat to set up the picture's final size and position. (Shift-drag to constrain your dragging to perfect vertical or perfect horizontal adjustments.) In short, what you've done is set up the starting and ending conditions for the photo.



9.11.6 Phase 6: Meet Your Public

When the movie's looking good on your Mac screen, you're ready to distribute it to the adoring masses. iMovie offers three ways to do that:

- Export it as a QuickTime movie. Choose File Export. Choose To QuickTime from the first pop-up menu, and choose a quality setting from the second one—for example, Email, CD-ROM, or Expert (that is, manual settings for compression, frame rate, and size).
- Play it back to your camcorder. Put the camcorder into VTR or VCR mode, connect the FireWire cable to your Mac, choose File Export, and choose Camera from the pop-up menu.

From there, by connecting your camcorder to a VCR, you can copy the movie onto a regular VHS tape for submission to the Sundance film festival, Cannes, or your mother.

Turn it into a DVD. If your Mac came equipped with a SuperDrive (a drive that both reads and records both CDs and DVDs), you can create professional-quality DVD discs just like the ones that come out of Hollywood. See "iDVD 3," earlier in this chapter, for complete instructions.



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## 9.12 Internet Connect

Internet Connect is primarily designed for people who connect to the Internet via dial-up modem. Here's what you can accomplish with Internet Connect:

- Click Connect to dial out using your current modem settings.
- Once you're hooked up, check the status display to confirm whether your modem successfully connected to your ISP—or if you've been disconnected.
- You also see your connection speed, to find out if you're really connected at 56 K (ha!).
- A timer shows how long you've been connected.
- Internet Connect keeps a neat log of your connection activity (choose Window Connection Log). Reading this log is about as exciting as reading random entries from the White Pages. Nonetheless, if you're having serious connection problems, it can be a useful troubleshooting tool.
- The "Show modem status in menu bar" checkbox lets you use a menu bar icon to dial and observe your connections—without using Internet Connect at all.

Of course, even then, you don't really need Internet Connect to get online. If your dial-up settings are configured correctly (see <u>Section 18.2.2</u>), your Mac will automatically dial whenever you launch a program that requires one (such as Internet Explorer).

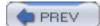
In Mac OS X 10.3, Apple rolled a few other miscellaneous Internet connection functions into Internet Connect. For example:

- Internet Connect is also your gateway to Virtual Private Networking, a feature that lets you tunnel into corporate networks from the road—see <u>Section 21.5.</u>
- You can use Internet Connect to initiate PPPoE (PPP over Ethernet, a connection required by certain DSL modems), as described in <u>Chapter 18</u>.
- If you use your Bluetooth-equipped Mac to dial the Net using a Bluetooth-equipped cellphone as a wireless modem in your pocket ( *man*, is that cool!), you can once again use Internet Connect to start and stop the connection. Details in Chapter 12.
- Internet Connect now incorporates the setup programs for AirPort wireless networks (Chapter 12).



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# 9.13 Internet Explorer

Microsoft's Web browser has received a very public demotion in Panther. It doesn't even appear in the Dock when you first install Mac OS X 10.3. And no wonder—not only is Safari a superior Web browser in many regards, but Microsoft has announced that it has stopped working on Internet Explorer for Macintosh.

Still, as noted in Chapter 20, certain Web sites don't work in Safari, so it's good to have both browsers on hand.







## 9.14 iPhoto

Once you're hooked on using a digital camera, your free, filmless photos pile up quickly. Before you know it, you have 6,000 pictures of your kid playing soccer. Just organizing and keeping track of all these photos is enough to drive you insane.

Apple's answer to such problems was iPhoto, a simple and uncluttered program designed to organize, edit, and distribute digital photos without the nightmarish hassles. Here's the executive summary.

# 9.14.1 Importing Pictures

Plugging a USB camera into your Mac is the easiest way to transfer pictures into iPhoto. The whole process practically happens by itself.

1. With your camera turned off, connect it to your Mac using the USB cable that came with it.

iPhoto opens automatically as soon as you switch on the camera (unless you've changed the factory settings in Image Capture).

#### **NOTE**

If this is the first time you've ever run iPhoto, it asks if you *always* want it to run when you plug in the camera. If you value your time, say yes.

2. Turn on the camera.

iPhoto detects that there are new photos available for download.

3. Click the Import button at the bottom of the screen.

iPhoto swings into action, copying each photo from your camera to your hard drive. (If you turned on "Erase camera contents after transfer," you'll see a final "Are you sure...?" dialog box, affording you one last chance to back out of that decision.)

The program also creates a *thumbnail* of each picture—a tiny, low-resolution version of each photo that appears, like a slide on a slide sorter.

4. Switch to the Finder. Drag the camera memory-card "disk" icon, if you see one, to the Trash. Turn off the camera, and then unplug it.

This is the official Apple-sanctioned procedure for disconnecting your camera.



You can also import photos, or even folders or disks full of them, by dragging their icons (or the disk or folder icons) directly into the iPhoto window.

The large photo viewing area reveals thumbnails of your imported photos. The pane at the bottom of the window changes depending on which of iPhoto's four modes you're in—Import, Organize, Edit, or Book. In Organize mode, the Size slider controls the size of thumbnails; in Edit mode, it zooms in and out of an individual image; and in Book mode, it magnifies or shrinks a single page.



# POWER USERS' CLINIC Where iPhoto Keeps Your Files

Whenever you import pictures into iPhoto, the program makes *copies* of your photos, always leaving your original files untouched. Those copies land in a special folder called iPhoto Library, which you can find in your Home Pictures folder.

If all of your photos one day "disappear" from iPhoto, you'll know why: Somebody moved or renamed this important folder. It must be in your Home Pictures folder, and it must be named iPhoto Library. (Shareware programs like iPhoto Library Manager permit you to name it other things and file it in other places, but you get the point.)

# 9.14.2 Organizing Photos

You now see a neatly arranged grid of thumbnails (<u>Figure 9-15</u>). You're looking at what iPhoto refers to as your *Photo Library*—your entire photo collection, including every last picture you've ever imported.

## 9.14.2.1 The Last Import film roll

Most of the time, you'll probably work with the photos that you just downloaded from your camera. That's the purpose of the roll-of-film icon called Last Import. With one click, iPhoto displays only your most recent photos, hiding all the others. If, at any time, you want to return to the grand overview of all your pictures, click the Photo Library icon at the top of the Album pane.



You can speed up iPhoto's scrolling by turning off the Drop Shadow option in the Appearance section of iPhoto's Preferences window.

# 9.14.2.2 Opening photos

The easiest way to open a photo for full-size viewing is simply to double-click a thumbnail. Unless you've changed iPhoto's settings, the photo opens in the main iPhoto window, scaled to fit into the viewing area.

iPhoto aficionados prefer, though, to use iPhoto's much smarter, but less obvious, method of opening photos: Open each picture *in its own window*. For example, you can:

• Choose iPhoto Preferences and change the photo-opening setting. Under the "Double-click" heading, select the "Opens in separate window" button. Then click OK.

Several advantages of opening photos in their own windows are illustrated here. Specifically, not only can you look at multiple full-size images at the same time—a critical feature when

comparing a series of similar shots—but you can also keep your other thumbnails in view, allowing you to easily open additional photos without closing the ones you already have open. Also, notice how iPhoto tells you, in the title bar, which magnification level it's using to display each photo.



• Control-click a photo. Choose "Edit in separate window" from the contextual menu. (If you choose "Edit in separate application," you can edit the photo in another program—Photoshop, for example.)

When a photo opens in its own window, all kinds of control and flexibility await you (see Figure 9-16).

#### 9.14.2.3 Deleting Photos

As every photographer knows—make that every *good* photographer—not every photo is a keeper. At some point, you'll probably want to delete some of the photos you've imported into iPhoto.

Do so by dragging a picture from the Library or Last Import collection to the Trash at the bottom of the Album list (or click it and press Delete). Instead of deleting the photo immediately, iPhoto lets it sit there in the Trash, awaiting permanent disposal via the Empty Trash command.

Whatever pictures you erase this way also disappear from any albums you've created. (Deleting a photo from an *album* is different, as described later in this section.)

#### 9.14.3 Albums

An *album* is a subset of pictures from your Photo Library, grouped together for easy access and viewing. It's represented by a little album-book icon in the album list. (If you've used playlists in iTunes, or the Sidebar in the Finder, you'll recognize the concept.) Albums make finding photos much faster. Furthermore, only in an album can you drag your photos into a different *order*.

There's no limit to the number of albums you can add, so make as many as you need to logically organize all the photos in your Photo Library. New albums are always added to the end of the list, but you can change the order in which they appear by simply dragging them up or down in the list.



To create an iPhoto album, choose File New Album (#6-N), or click the + button in the iPhoto window, below the album list. A dialog box appears. Type in a descriptive name (*Yellowstone 2004, Edna in Paris*, or whatever), click OK, and watch as a new photo album icon appears in the Album pane. (See Figure 9-17.)



You can also drag a thumbnail (or a batch of them) from the photo-viewing area directly into an empty portion of the Album pane. In a flash—well, in about three seconds—iPhoto creates a new album for you, named Album-1 (or whatever number it's up to). The photos you dragged are automatically dumped inside.

In fact, you can drag a bunch of graphics files, or a folder full, from the *desktop* into the Album pane. In one step, iPhoto imports the photos, creates a new photo album, names it after the folder you dragged in (if that's how you did it), and puts the newly imported photos into that album.

To rename an album, double-click its name or icon. A renaming rectangle appears, with text highlighted and ready to be edited.

To add photos to an album, drag them onto its icon. (Putting photos in an album doesn't *move or copy them*. You're just creating creates *references* to, or aliases of, the photos in your master Photo Library. In other words, each photo can appear in as many different albums as you want.)

## 9.14.3.1 Deleting photos or albums

To remove a photo from an album, click the album name to view its contents, click the photo you want to remove, and then press Delete. The thumbnail disappears from the album, but of course it's not really gone from iPhoto. It's still in your Photo Library.

To delete a selected *album*, choose Edit Clear or press the Delete key. iPhoto asks you to confirm your intention. (Deleting an album doesn't delete any photos, just the references to those photos. Even if you delete *all* your albums, your Photo Library remains intact.)

## 9.14.4 Sharing Your Pix

The payoff for all of this organizational effort is, of course, showing your photos to other people. iPhoto is endlessly talented in this department. After you select some photos or an album and check to make sure that the Organize button is selected beneath the thumbnail area, you can click the following icons:

#### 9.14.4.1 Print

iPhoto comes with a number of templates for clustering photos onto each sheet of printer paper, saving both paper and ink.

#### 9.14.4.2 Slideshow

Onscreen slideshows are easy to set up, they're free, and they make your photos look fantastic. The Mac presents the pictures in full-screen mode—no windows, no menus, no borders—with your images filling every inch of the entire monitor. Each picture fades gently into the next, producing a smooth, cinematic effect. If you want, you can even add a musical soundtrack to accompany the presentation.

Click an album (or highlight a group of thumbnails), and then click the Play button under the Info pane. A moment later, your Mac's screen fades to black, and then the show begins. The default musical soundtrack—J. S. Bach's Minuet in G—plays in the background. When you've had enough, click the mouse or press almost any key.

For more control, click the Slideshow icon at the bottom of the iPhoto window (Figure 9-18.).

In this dialog box, you can adjust the speed of slide changing, how you want the show to repeat, and which song (from your iTunes collection) you want as the slideshow's soundtrack. (Use the iTunes Library pop-up menu to choose any playlists that you've already created using iTunes.)



#### 9.14.4.3 Email

The most important thing to know about emailing photos is this: *full-size photos are usually too big to email*. They take forever to download, they run the risk of exceeding your recipient's In-box limit, and they open up much too large on your victims' screens. (It does you no good to email somebody a 3-megapixel photo—2048 x 1536 pixels—when her monitor's maximum resolution is only 1024 x 768.)

Fortunately, iPhoto can automatically send a scaled-down, reasonably sized version of your photo instead.

Start by choosing the email program you use in the iPhoto Preferences command. Then highlight the photos you want to send, and click the Email icon on the panel at the bottom of the iPhoto window. In the resulting dialog box, choose a size for your photos; "Medium (640x480)" yields a file that will fill a nice chunk of your recipient's screen, with plenty of detail.

Finally, click Compose. iPhoto processes your photos—converting them to JPEG format and, if you requested it, resizing them—and then opens your email program, creates a new message, and attaches your photos to it. Just type your recipient's email address into the "To:" box, and then click Send.

## 9.14.4.4 Order prints

This option uploads your selected photos and—for a fee—converts them into handsome Kodak prints that get mailed back to you.

#### 9.14.4.5 Order book

iPhoto's Book feature lets you design and order (via the Internet) a gorgeous, linencovered, 9-by-11-inch hardbound book, printed at a real bindery and shipped back to you in a slipcover. Your photos are printed on the glossy, acid-free, single-sided pages, complete with captions, if you like.

A ten-page book costs \$30 (extra pages are \$3 each). That's about the least you could hope to pay for a handsome, emotionally powerful gift *guaranteed* never to wind up in an attic, garage sale, or eBay.

# FREQUENTLY ASKED QUESTION Slideshow Smackdown: iPhoto vs. iMovie

I've read that iMovie makes a great slideshow program, too. Supposedly I can import my photos, add music, and play it all back full-screen with cool cross-dissolves, just like you're saying here. Which program should I use?

The short answer: iPhoto for convenience, iMovie for control.

In iMovie, you can indeed import photos. You can add them to the Movie Track in any order. What's more, you have individual control over their timing (1 second for the first slide, 3 seconds for the second, or whatever) and the crossfades between them (dissolve between slides 1 and 2, a left-to-right "wipe" between slides 2 and 3, and so on). You can even add the Ken Burns effect: slow, elegant pans and zooms across certain photos.

The music options are much greater in iMovie, too. Not only can you import music straight from a music CD, but you can actually record a narration into a microphone as the slideshow plays. And, of course, you have a full range of title and credit-making features at your disposal.

But iPhoto has charms of its own. Creating a slideshow is much less work, for one thing. If you want a slideshow to loop endlessly—playing on a laptop at somebody's wedding, for example, or at a trade show—iPhoto is also a much better bet. (iMovie can't loop.)

Remember, too, that iPhoto is beautifully integrated with your various albums. Whereas building an iMovie project is a serious, sit-down-and-work proposition that results in one polished slideshow, your Photo Library has as many different slideshows as you have albums—all ready to go at any time.

Start by putting the photos you want into an album, dragged into the sequence you like. Next, click the Book button below the main picture area. You're viewing a proposed layout of your book pages. (In this book-design mode, you can't add photos to your album, take any photos out, or rearrange them. You can perform tasks like these only in Organize mode.)

Choose a canned design for the book—from the Theme pop-up menu at the lower-left corner of the iPhoto screen. Then

design the individual pages, starting with the Cover (the *first picture* in the album). For each following page, click the thumbnail, and use the Page Design pop-up menu to specify how many photos you want to appear.



Each time you change the number of photos on a page, pictures on the *following* pages slide onto earlier or later pages. This syndrome can drive you wiggy if it winds up disrupting a page that you've already tweaked to perfection—a problem you'll almost certainly encounter if you don't work on your pages from left to right.

The solution: Once a page has the right photos on it, turn on the Lock Page checkbox at the lower edge of the window.

Most themes offer you text boxes that you can fill with titles, explanations, and captions. You're welcome to edit the photo titles or comments either in the layout, or in the Info box for the individual photos (at the left side of the iPhoto window).

Before blowing \$30 or more on a one-shot deal, proofread and inspect your book design from every possible angle. Finally, click the Organize button. In the row of icons at the bottom of the screen, click Order Book.

In the next dialog box, choose a cover color, input your Apple ID or .Mac account name (or sign up for one), specify the address for the finished book, and click Buy Now. The hardest part is waiting the three days it takes for the book to arrive.

#### 9.14.4.6 Home Page

If you have a .Mac account, you can turn an album or a selection of photos into an instant Web-page gallery, complete with fast-downloading thumbnail images that your visitors can click to magnify. All you have to do is send your fans the Web address provided by the .Mac account.



If you already have a Web site (not a .Mac account), you can create the same attractive online gallery by choosing File Export and clicking the HTML tab. iPhoto will save, to your hard drive, a complete set of HTML documents and linked, nested folders (containing both thumbnails and full-size images), ready to upload to your site.

#### 9.14.4.7 .Mac slides

When you send your photos out into the world as .Mac slides, other Mac OS X users can *subscribe* to your show, displaying *your* pictures as *their* screen saver.

To create a .Mac slideshow, select the album or photos you want to share, and then click this button. Click Publish to begin uploading your photos. When the process is complete, click Announce Slideshow to email your friends to let them know about your slides.

To view someone *else's* .Mac show, see Section 8.9.1.3.

## 9.14.4.8 Desktop

This button plasters any selected photo in your Photo Library onto your desktop as a wallpaper background. Neat!

If you select *multiple* photos (or an album), this button turns them into fodder for the Mac OS X screen saver. Wait long enough, and they'll appear all by themselves, in gorgeous, panning, cross-fading fashion.

#### 9.14.4.9 Burn

*iPhoto CDs* are discs (either CDs or DVDs) that you can create directly from within iPhoto to archive your entire Photo Library—or any selected portion of it—with just a few mouse clicks. This is a great way to back up your photos; transfer them to another Mac without losing all your keywords, descriptions, and titles; share discs with other iPhoto fans; offload photos to CD or DVD as your photo collection grows; or merge separate Photo Libraries (such as the one on your iBook and the one on your iMac) into a single master library.

With iPhoto in Organize mode, select the albums or photos that you want to include on the disc, and then click the Burn icon. Pop in a blank CD or DVD.

Now take a look at the Info panel just below with Albums list. If the set of photos you want to burn is larger than 650 or 700 megabytes (for a CD) or about 4.3 gigabytes (for a DVD), it's not going to fit. You'll have to split your backup operation across multiple discs. Select whatever number of photo albums or individual pictures you can that *will* fit on a single disc, then, after burning the first disc, select the next set of photos, and then burn another CD or DVD.

Finally, click the Burn icon again. When the process is done, your Mac spits out the finished CD (named "iPhoto Disc"), ready to use.

Later, if you want to view the contents of your finished CD in iPhoto, pop the disc back into the drive. Moments later, the icon for the CD appears in the Albums list of the iPhoto window. If you click the disc's icon, the photos it contains appear in the photo-viewing area, just as if they were stored in your Photo Library.



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# **9.15 iSync**

See Chapter 20 for details on this Internet-based file-synchronization program.





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# 9.16 iTunes

iTunes is Apple's beloved digital music-library program. Chapter 10 tells all.





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# 9.17 Mail

Mail, the Mac OS X email program, has received a significant upgrade in version 10.3. See Chapter 19 for the whole story.







## 9.18 Preview

Preview began life as Mac OS X's built-in graphics viewer—but in Panther, it's much more than that. It's now the program you use to view incoming faxes (<u>Chapter 13</u>), as well as a nearly full-blown clone of Acrobat Reader (the free Adobe program that you use to read PDF files).

In fact, because Preview now includes searching PDF documents, copying text out of them, and clicking live hyperlinks in them—features that used to be available only in Acrobat Reader—Apple doesn't even include Acrobat Reader with Mac OS X. Preview, the company feels, is ready to take over all PDF-reading tasks. (Among other benefits, Preview is a lot *faster* than Acrobat Reader.)

# 9.18.1 Preview as Graphics Viewer

Preview's hallmark is its surprising versatility. It can display and manipulate pictures saved in a wide variety of formats, including common painting formats like JPEG, TIFF, PICT, and GIF (even animated ones; you can add a Play button to the toolbar, as described below); less commonly used formats like BMP, PNG, SGI, TGA, and MacPaint; and even Photoshop, EPS, and PDF graphics.

## 9.18.1.1 Cropping graphics

For the first time in Panther, you can crop graphics in Preview, chopping out unwanted sections. To do that, choose Tools—Select Tool (or click the dotted-rectangle tool on the toolbar). Drag across the part of the graphic that you want to keep, and then choose Tools—Crop Image (#-K).

If you don't think you'll ever need the original again, save the document. Otherwise, choose File Save As to spin the shrunken image out as a separate file, preserving the original in the process.



You can also rotate an image—even a PDF document—in 90-degree increments and then flip it vertically or horizontally, using the commands in the View menu.

# 9.18.1.2 Converting file formats

Preview doesn't just open all these file formats—it can also convert between most of them. You can pop open some old Mac PICT files and turn them into BMP files for a Windows user, pry open some SGI files created on a Silicon Graphics workstation and turn them into JPEGs for use on your Web site, and so on.



What's even cooler, you can open raw PostScript files right into Preview, which converts them into PDF files on the spot (a new feature in Panther). Put another way, you no longer need a PostScript laser printer to print out high-end diagrams and page layouts that come to you as PostScript files. Thanks to Preview, even an inkjet printer can handle them.

All you have to do is open the file you want to convert and choose File Export. In the Save As dialog box that appears, choose the new format for the image using the Format pop-up menu.

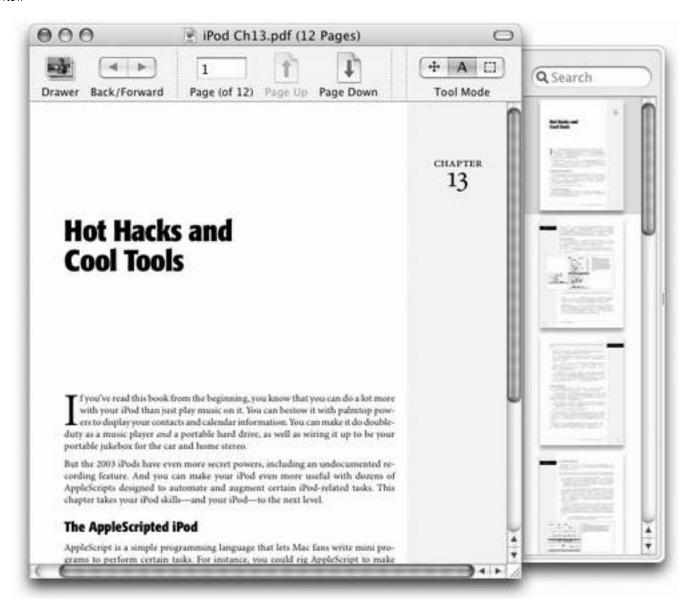
For each format, the Options button may be available. When exporting to JPEG, for example, you can choose a Quality setting, and—if you plan to use this graphic on the Web—even specify how big it is, in kilobytes, so that you can gauge how long it will take to download. When saving TIFF files, you can turn built-in compression on or off.

Finally, click Save to export the file.

#### 9.18.1.3 The Thumbnails drawer

The Thumbnails drawer slides out from the side of the main Preview window whenever (a) you open a multipage PDF or TIFF file, or (b) you highlight a bunch of graphics files in the Finder and open them all at once. (If your PDF file has been prepared with a table of contents, the drawer shows that.)

To open or close the new Thumbnails drawer (right), click the Thumbnails icon at the left end of the toolbar. Incidentally, you can change the size of these miniatures by choosing Preview Preferences and adjusting the slider. In the same dialog box, you'll find buttons that govern whether the Thumbnails drawer shows icons, text labels, or both.



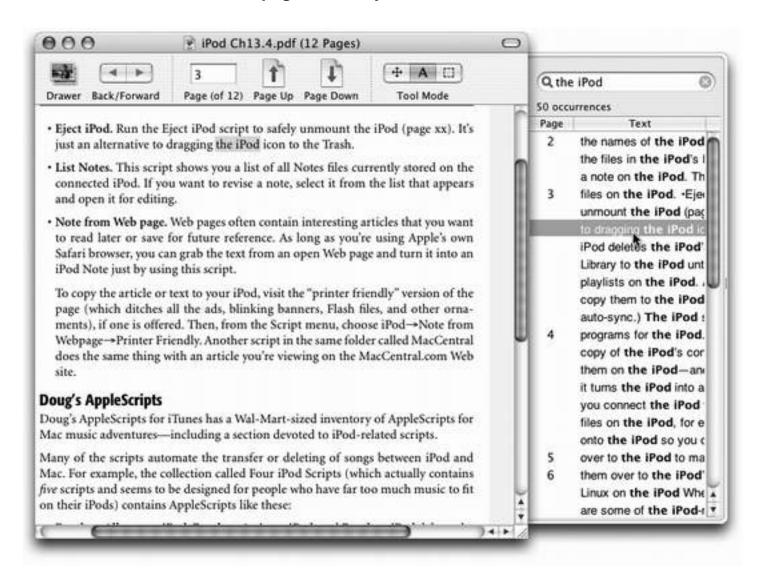
The idea is that these thumbnails (miniatures) let you navigate pages or graphics without having to open a rat's nest of individual windows. Figure 9-19 expands on the idea.

#### 9.18.2 Preview as PDF Reader

Preview is a full-blown equivalent of Acrobat Reader, the free program used by millions to read PDF documents. Here are the basics:

- Use **#**-up arrow and **#**-down arrow to page through a document. (Page Up and Page Down aren't quite the same thing; they shift to the previous or next part of the *same* page, if it wasn't already visible.) You can use the up arrow and down arrow keys alone to walk through the miniature images in the Thumbnails drawer, too.
- Turn antialiasing (font smoothing) on or off to improve readability; to find the on/off switch, choose Preview Preferences and click the PDF tab. (Though antialiased text generally looks great, it's sometimes easier to read very small type with antialiasing turned off. It's a little jaggy, but clearer nonetheless.)
- Turn on View——Continuous Scrolling to scroll through multipage PDF documents in one continuous stream, instead of jumping from page to page when you use the scroll bars.

Once the Find drawer is open (press #F-F), begin typing into the Find box (top right). Preview presents a list of matching phrases in the list as you type, exactly as in the Finder's search bar. (The numbers next to the occurrences represent page numbers.) To jump to the spot on the actual page, click any of the "items found."



- To find a word or phrase somewhere in a PDF document, press #-F (or choose Edit Find Find) to open the Find drawer. Proceed as shown in Figure 9-20.
- If you want to copy some text out of a PDF document—for pasting into a word processor, for example, where you can edit it—click the Text tool (the letter A on the toolbar) or choose Tools—Text Tool. Now you can drag through some text and then choose Edit—Copy, just as though the PDF document is a Web page. (You can even drag across page boundaries.)
- You can save out a single page from a PDF as a TIFF file, so that you can use it in other graphics, word
  processing, or page layout programs—some of which might not directly support PDF. (Microsoft Word, for
  example, can accept TIFF graphics, but not PDFs.)

To extract a page, use the usual File Export command, making sure to choose the new file format from the pop-up menu. (If you choose a format like Photoshop or JPEG, you'll be warned that only the currently selected page of your PDF document will be converted. That's because there's no such thing as a multipage Photoshop or JPEG graphic. But you already knew that.)

## 9.18.3 The Toolbar

You can have hours of fun with Preview's toolbar. Exactly as with the Finder toolbar, you can customize it (by choosing View—Customize Toolbar—or by Option-#clicking the upper-right toolbar button), rearrange its icons (by #-dragging them sideways), and remove icons (by #-dragging them downward).

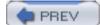


Unhappy about the full inch of screen space consumed by the toolbar? No problem. Just a click the toolbar button (the white capsule in the upper-right corner). With each click, you cycle to the next toolbar style: large icons, small icons, no text labels, only text labels, and so on



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# 9.19 QuickTime Player

There's a lot to say about Apple's new QuickTime player, but it's all in Chapter 14.





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# 9.20 Safari

Apple's first and only Web browser feels decidedly faster and more modern than Internet Explorer, and there are enough tips and tricks lurking inside to last you a lifetime. Details in <u>Chapter 20</u>.





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# 9.21 Sherlock

Sherlock is something like a Web browser that's dedicated to certain common kinds of info-searches. <u>Chapter 20</u> has the details.







## 9.22 Stickies

Stickies lets you create virtual Post-it notes that you can stick anywhere on your screen—a triumphant software answer to the thousands of people who stick notes on the edges of their actual monitors.

You can use Stickies to type quick notes and to-do items, paste in Web addresses or phone numbers you need to remember, or store any other little scraps and snippets of text you come across. Your electronic Post-its show up whenever the Stickies program is running Figure 9-21).

In the old days of the Mac, the notes you created with Stickies were text-only, single-font deals. Today, however, you can use a mix of fonts, text colors, and styles within each note. You can even paste in graphics, sounds, and movies (like PICT, GIF, JPEG, QuickTime, AIFF, whole PDF files, and so on), creating the world's most elaborate reminders and to-do lists.



# 9.22.1 Creating Sticky Notes

The first time you launch Stickies, a few sample notes appear automatically, describing some of the program's features. You can quickly dispose of each sample by clicking the close button in the upper-left corner of each note or by choosing File—Close ( #-W). Each time you close a note, a dialog box asks if you want to save the note. If you click Don't Save (or press #-D), the note disappears permanently.

To create a new note, choose File New Note ( #-N). Then start typing—or:

- Drag text in from any other program, such as TextEdit, AppleWorks, or Microsoft Word.
- Drag text clippings from the desktop directly into notes.
- Drag the icon of a single-page PDF file into a note. (Stickies can't accept multipage PDF files.)
- Choose File Import and select any plain text file or RTF (Rich Text Format) document to bring it into a note.
- Drag a PICT, GIF, JPEG, or TIFF file into a note to add a picture. Or drag a sound or movie in. (A message will ask if you're sure you want to copy the whole whomping QuickTime movie into a little Stickies note.)
- Drag URLs into a note directly from a Web browser's Address Bar.



If one particular note contains your most important information—your to-do list, say—you can force it to remain in front of all other windows, even if Stickies itself gets shunted to the background. Just click the note and then choose Note—Floating Window.

• In TextEdit, Mail, or other Carbon applications, select a chunk of text and then choose

TextEdit Services Make New Sticky Note. This command launches Stickies, creates a new note, and fills it with your selected text—all in one step.



Have a favorite style for your sticky notes? First create a new note, choosing the color and text style that you like and setting it to the size you prefer. Then choose Note Use as Default. All new notes you create will now appear in the size, font, and color of your choice.

# 9.22.2 Growing and Shrinking Notes

Once you start plastering your Mac with notes, it doesn't take long to find yourself plagued with desktop clutter. Fortunately, Stickies includes a few built-in tricks for managing a deskful of notes:

- There's a small resize handle on the lower-right corner of each note. Drag it to make notes larger or smaller on screen.
- The small triangle in the upper-right corner of each expanded note is mysterious in design and function, but it must be useful to somebody. It makes each note snap to the same cozy position near the lower-left corner of your screen
- The best option: Double-click anywhere along the dark strip at the top of each note to miniaturize it into a compact one-line mini note, as shown in <a href="Figure 9-22">Figure 9-22</a>. You also can miniaturize a selected note by choosing Window Miniaturize Window ( #-M).

If the first line of text gets truncated, as in the third note shown here, you can tug the right corner of the note and drag it wider without de-miniaturizing it.





The most efficient way to use Stickies is to keep the notes in their miniaturized state, as shown in <a href="Figure 9-22">Figure 9-22</a>. When a note is miniaturized, the first line of text shows up in tiny type right in the collapsed title bar of the note, so you don't have to expand the note to remember what's in it. And since many—if not most—of your notes can probably be summed up in a couple of words ("pick up dry cleaning," "call Mom"), it's perfectly possible to keep your sticky notes in their miniaturized state permanently.

# 9.22.3 Formatting Notes

Stickies has several word processor-like commands for creating designer sticky notes, with any combination of fonts, colors, and styles. (You can also choose from six background colors from the Color menu.) For the full scoop on Mac OS X's Font panel, choosing colors, and using the Copy Font command, see <u>Section 13.7.3</u>.

# 9.22.4 Saving Sticky Notes

The notes you create in Stickies last only as long as you keep them open. If you close a note to get it out of the way, it vanishes permanently.

If you want to preserve the information you've stuffed into your notes in a more permanent form, use File Export Text to save each note as a standalone TextEdit document. When you use the Export Text command, you have the following options:

- Plain Text. This option saves your note as a plain text file, with neither formatting nor pictures.
- RTF stands for Rich Text Format, a special format recognized by most word processors that preserves most formatting, including font, style, and color choices. You can open the resulting RTF file in just about any word processor with all of your formatting still intact.
- RTFD. RTFD, a strange and powerful variant of RTF, is a Rich Text Format document *with attachments*. How do you "attach" items to an RTFD file? Drag the icon of an actual application (Clock, Calculator, or whatever) or a multipage PDF file, into a sticky note. The icon for the program or document appears in the note, but double-clicking the icon doesn't do anything. When you export the note as an RTFD file, the result is a TextEdit document that has embedded within it the *entire* program or document that you dragged in. The program icon appears just as it did in the sticky note, but if you double-click it, the program now actually launches.

# NOSTALGIA CORNER Kenneth, Where Are the Stickies?

In the days of Mac OS 9, it was easy to find the file that actually stored the text of your Stickies. It was called Stickies File, and it sat right there in your System Folder Preferences folder. Because you could see it, you could back it up, copy it when you bought a new Mac, email it to other people, or whatever.

Today, the Stickies file is in your Home folder Library folder. It's just sitting there out in the open. You're free to copy it, pass it along, and so on, just as you would any old file.

Make that 151 new features in Panther, Apple!

You can also paste a graphic into your sticky note. When you export the note, the resulting *package* file will include a graphics file of the format that you pasted.

If you don't have embedded programs or documents in your notes, then exported RTFD files are exactly the same as their RTF counterparts.

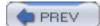


You can import the Stickies file from your old Mac OS 9 System Folder. Just choose File Import Classic Stickies. In the Open File dialog box, navigate to the old System Folder Preferences Stickies File document and open it.



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# 9.23 System Preferences

This program opens the door to the nerve center of Mac OS X's various user preferences, settings, and options. Chapter 8 covers every option in detail.







#### 9.24 TextEdit

TextEdit: It's not just for Read Me files anymore.

As always, TextEdit is a basic word processor—but it's not nearly as basic as it used to be. You can create real documents with real formatting, using style sheets, colors, and customized line spacing, and—get this—even save the result as a Microsoft Word document. There's even a multiple-level Undo command. If you had to, you could write a novel in TextEdit and it would look pretty decent.

# POWER USERS' CLINIC The Hidden Stickies Commands

The casual Stickies user may miss some of the program's more interesting commands, which are accessible only through the contextual menus that pop up when you Control- click a sticky note. Here's what you'll find only in the contextual pop-up menus:

**Check Spelling As You Type.** Turning on this spell-check option flags misspelled words the moment you type them. You must turn this option on or off for each note individually.

Speech. Don't just read your notes—listen to them. You can use the Mac's Text-to-Speech feature to hear your notes read aloud. Choose Speech—Start Speaking to hear the Mac read a selected portion of a note, or use the command with nothing selected to hear the entire contents of a note. The only way to stop the speech is to Control-click again and choose Speech—Stop Speaking.

(To pick the voice and speed of the reader, go to the Speech pane of System Preferences, as described in Section 14.5).

**Writing Direction.** This feature is intended to let you type in non-English languages. But even in English, you can have plenty of fun with unsuspecting suckers by choosing Right to Left, so that all your text is right-justified and the insertion point moves to the *left* as you type.



Not only can TextEdit open and save Microsoft Word documents, but it even recognizes some of the very same keyboard shortcuts. For example, you can advance through documents one word at a time by pressing Option-left arrow or Option-right arrow. Adding the Shift key to those key combinations lets you *select* one whole word at a time. You can also use the Control or key in conjunction with the right and left arrow keys to jump to the beginning or end of a line.

# 9.24.1 Setting up TextEdit

When you first launch TextEdit, it's not very impressive. You see a blank, untitled document with neither a toolbar nor margins. It looks like a nearly useless text editor.

To unleash the program's full potential as a word processor, set things up like this:

- Choose Format Wrap to Page. Now you'll see the actual width of your page, with visible margins—just as in a real word processor. (The Wrap to Window mode is the marginless view in which your text reflows to fill the width of the window.) Wrap to Page view also produces a Zoom menu in the lower-right corner of each window with ten different levels of magnification.
- Turn on the text ruler. If you don't see a ruler at the top of the window, choose Format Text Show Ruler (#-R). Now the ruler appears, complete with all the standard tools for setting margins, indents, tabs, line spacing, and paragraph alignment. It works almost exactly like the rulers you'd find in Microsoft Word or AppleWorks (Figure 9-23).
- Fire up the spell-checker. If the Edit Spelling Check Spelling As You Type command is turned on, you get interactive spell-checking, just as in Microsoft Word and other word processors. That is, misspelled words get flagged with a dashed red line the moment you type them.

#### **UP TO SPEED**

## The Deal with Microsoft Word

Yes, you read that correctly: Humble TextEdit can now *open and create* Microsoft Word documents! Your savings: the \$400 price of Microsoft Office!

Well, sort of.

When you open a Microsoft Word document, most of the formatting comes through alive: bold, italic, font choices, colors, line spacing, alignment, and so on.

A lot of Word-specific formatting does not survive crossing the chasm, however: borders, bullets, style sheets, footnotes, and the like.

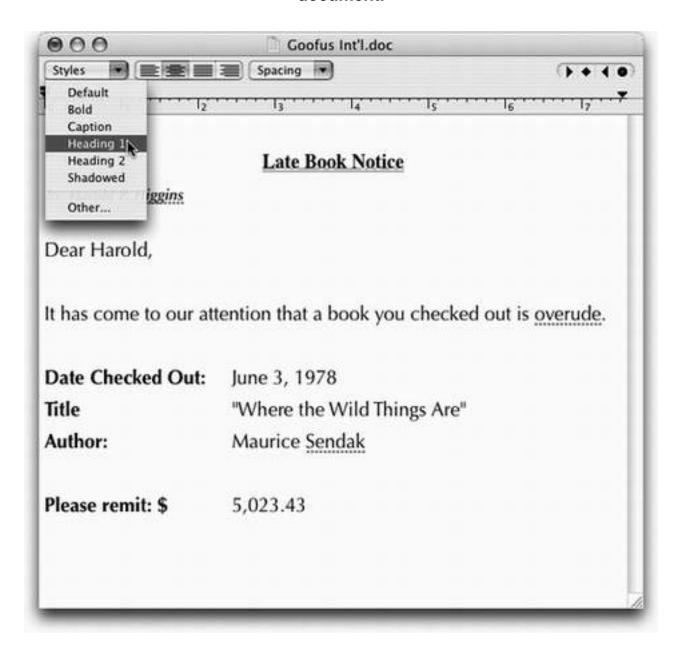
Saving a TextEdit document as a Word document (File Save As) is a better bet, because Word understands *all* of the kinds of formatting that TextEdit can produce. The one disappointment is that Word doesn't recognize any style sheets you've set up in TextEdit. The formatting *applied* by those style names survives—just not the style names themselves.

Even so, a built-in Word-document editor is a huge, huge step for the Mac OS. It means that for the most part, you can be a first-class citizen on the great playing field of American business. Nobody ever needs to know that you're (a) using a Mac, and (b) *not* using the real Microsoft Word.

#### 9.24.2 TextEdit's Two Personalities

The one confusing aspect of TextEdit is that it's both a *plain-text editor* (no formatting; globally compatible) and a true *word processor* (fonts, sizes, styles; compatible with other word processors). You need to keep your wits about you as you edit, because the minute you add formatting to your document, TextEdit will no longer let you save it as a plain text file.

The text ruler gives you control over tab stops, line spacing, paragraph justification, and so on. Pressing ## -R makes it appear and disappear. The Style pop-up menu lists canned sets of character and paragraph formatting, so that you can apply them consistently throughout a document.



#### Here's the scheme:

- You can change a plain-text document to a formatted one by choosing Format
   Make Rich Text. The ruler appears automatically to remind you that a new world of formatting has just become available.
- Conversely, you can change a formatted document (a Word file you've opened, for example) to a plain-text document by choosing Format Make Plain Text. An alert message appears to point out that you're about to lose all formatting.
- If you know what kind of document you *always* want to open, go to the TextEdit Preferences dialog box and select "Rich text" or "Plain text." That's what kind of document you'll get every time you choose File New.

## 9.24.3 Working in TextEdit

As you begin typing, all the usual word processing rules apply, with a few twists:

- Choose Bold, Italic, and font sizes using the Format Font submenu, or choose Format Font Show Fonts (#-T) to open up the standard Mac OS X Font panel (Section 13.7.3). You can even create subscript or superscript, change the color of the text (Format Font Show Colors), and so on.
- Common paragraph-alignment options—Align Left, Align Right, Center, Justify— are all available in Format—Text submenu. Adjust the line spacing (single, double, or any fraction or multiple) using the Spacing pop-up menu in the ruler.
- You can easily add graphics to a TextEdit file by dragging or pasting pictures directly into a document. The program understands TIFF, PICT, JPG, and GIF formats.

# POWER USERS' CLINIC Advanced Typography in TextEdit

If you just sprayed your coffee upon reading the heading of this sidebar, you're forgiven. Advanced typography in TextEdit? Isn't that a little bit like saying, "page layout in Note Pad"?

Not at all. TextEdit is a gleaming showcase for Mac OS X's typographical smarts.

Most of the commands in the Format Font submenu should be familiar to you: Bold, Italic, Underline, and so on. But a few were once found only in expensive page-layout programs like PageMaker and QuarkXPress. For example:

Kern. Use these commands, such as Tighten and Loosen, to nudge the letters of the selected text closer together or farther apart—an especially useful feature when you're fiddling with headlines and headings.

There are no controls to set *how much* you want to kern the text, but you can apply these commands repeatedly to the same text selection to intensify them. If you want your text to be very tight, for example, just keep choosing the Tighten command. The characters will creep closer and closer together until they crash into each other.



Ligature. Ligatures are letter pairs, such as fl and ff, that, in fancy typesetting, are often conjoined into special combination characters, as shown here. If you choose Format Font Ligature Use Default (or Use All) TextEdit will display these letter pairs with the appropriate ligatures. (This works only if the font you're using has those ligatures built into it. New York, Charcoal, Apple Chancery, and all Adobe Expert fonts do, for example, but many other fonts don't.)

**Baseline.** The baseline is the imaginary "floor" for text characters in a line of type. You can push text above this line or sink it below the baseline using the Raise and Lower commands in the Baseline submenu. The

Superscript and Subscript commands, meanwhile, shift characters far above or below the baseline, so you can write stuff like H<sub>2</sub>0.

**Character Shape.** In a few fonts, such as Adobe Expert fonts, this submenu offers a choice between Traditional Form and specialized type treatments like Small Caps.

**Copy Style/Paste Style.** If mastering the new Styles pop-up menu (<u>Section 9.24.4</u>) is too much effort, these commands offer another way to copy and paste just the font formatting to other text in your document—the font, color, style, and size, but none of the actual text or paragraph attributes, such as alignment.

## 9.24.4 Style Sheets

A *style* is a prepackaged collection of formatting attributes that you can apply and reapply with a click of the mouse: bold, 24-point Optima, double-spaced, centered (for example). You can create as many styles as you need: chapter headings, sidebar styles, and so on. You end up with a collection of custom-tailored styles for each of the repeating elements of your document.

Once you've created your styles, you can apply them as you need them, safe in the knowledge that they'll be consistent throughout the document. During the editing process, if you notice you accidentally styled, say, a *headline* using the *Subhead* style, you can fix the problem by simply reapplying the correct style.

#### **NOTE**

Unlike a real word processor, TextEdit doesn't let you *change* a style's formatting and thereby update every occurrence of it. You can't search and replace by style, either.

• Creating a named style. To create a style, start by formatting some text so that it looks the way you like it, complete with font, color, line spacing, tab settings, and so on.

Then, from the Styles pop-up menu in the ruler, choose Other (<u>Figure 9-23</u>). Click Add to Favorites, type a name for the style, turn on both checkboxes (<u>Figure 9-24</u>), and click Add.

Highlight the text you want to format. Then, from the Styles popup menu in the ruler, choose Other. With each click of a triangle button, you summon a snippet of the next chunk of formatting. When you find one you like, you can either click Apply (to zap the highlighted text into submission) or Add To Favorites (so that you can reuse this canned style later).



• **Applying a style.** Later, when you want to reuse the formatting you set up, just highlight some text and then choose the appropriate name from the Styles pop-up menu. TextEdit applies the formatting immediately.



If you simply click *inside a paragraph*, applying a style affects only *paragraph* attributes like line spacing, tab stops, and alignment. If you *highlight text* instead, applying a style affects only *character* attributes like the font and type size.

If you highlight an entire paragraph, however, both text and paragraph formatting appears.

- **Deleting a style.** To delete superfluous styles, choose Other from the Styles pop-up menu on the ruler. Click the Favorite Styles button, choose the unwanted style's name from the pop-up menu, and click Remove From Favorites. Format Style, then click the style in the Styles list box and click Delete. (Deleting a style doesn't affect any formatting that's already in your document; it just removes the name from the Styles menu.)
- Copying by example. In Word and most other "serious" word processors, the routines above correctly describe
  how you use styles. But in TextEdit, there's a clever new method of grabbing formatting from one place in your
  document and reusing it elsewhere. See <u>Figure 9-24</u> for complete details. (Note that you can't apply styles in textonly documents.)

#### 9.24.5 The TextEdit Preferences

Most of the settings in the TextEdit Preferences window have no effect on documents that are already open—only on documents you open or create from now on. Most of the settings are self-explanatory; nonetheless, handy explanatory balloons appear if you point to an option without clicking. Here are a few settings that may not be immediately clear:

• **Default Fonts.** If Helvetica 12 doesn't especially float your boat, you can change TextEdit's starting font. Note that you can set *two* default fonts—one for Rich Text documents and another one for Plain Text files.

#### NOTE

By definition, plain text files don't have any formatting. So whatever font you choose here for Plain Text files is for your editing pleasure only. If you plan to send the file to anyone else, remember that the font choice won't be saved with the document.

- Window width, Window height. These settings have no effect unless you're in Wrap to Window mode. If you are
  in Wrap to Window mode, then these dimensions determine the size of the window that appears each time you
  create a new TextEdit document.
- Rich Text Processing. When you keep these settings turned off, TextEdit opens and displays HTML documents as though it's a Web browser, *interpreting* the tags and displaying a fully formatted Web page. It handles RTF documents the same way, interpreting the behind-the-scenes tags that indicate the font faces, colors, styles, and so on. But if you turn on the Ignore checkboxes, TextEdit *doesn't* interpret the HTML or RTF tags. Instead, it opens these files as plain text, so that you can view the raw "source" inside them.

## 9.24.6 TextEdit's Other Writing Tools

TextEdit includes a few other very useful document-editing tools:

• **Allow Hyphenation.** When you select this command from the Format menu, TextEdit breaks up words by syllable and inserts hyphens when necessary in order to create more visually pleasing line breaks.



It's especially important to turn this feature *on* if your paragraph alignment is set to Justify, or if you create narrow columns of text. If hyphenation is turned off, TextEdit won't break up whole words at the end of a line—even if it leaves big, ugly white gaps between words.

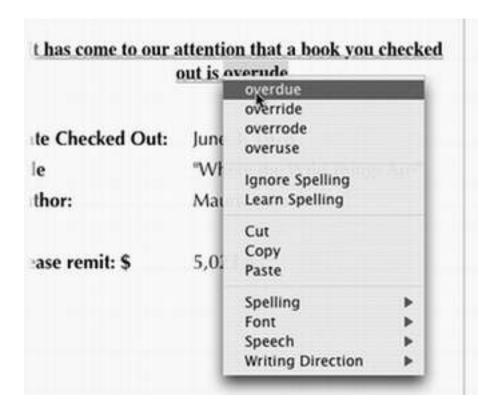
- **Prevent Editing.** When you turn this option on (again, in the Format menu), you're locked out. You can select and copy text to your heart's content, but you can't change anything. Prevent Editing mode can be useful if you want to prevent yourself from making accidental changes to a file, but it's not much of a security feature. (All anyone has to do is choose Format Allow Editing to regain full editing privileges.)
- **Spell Checking.** As mentioned earlier, TextEdit can check spelling as you type, flagging questionable words with red underlining. To open the full Spelling panel at any time, choose Edit Spelling Spelling (or press Shift-1;). Using the panel, you can correct errors (choosing from the suggestions generated by Apple's built-in spelling dictionary) or tell TextEdit to learn or ignore other suspected misspellings.

However, the quickest way to handle spelling corrections is shown in Figure 9-25.



This feature isn't really a TextEdit function—it's a system-wide spelling checker that you'll also find in Stickies, Mail, iCal, iPhoto, and other programs. You learn it once, you've learned it forever.

You're never more than a Control-click away from more accurate spelling in TextEdit. Controlclick a questionable word; the suggestions of Apple's builtin dictionary appear right in the contextual pop-up menu, along with the Learn and Ignore commands.



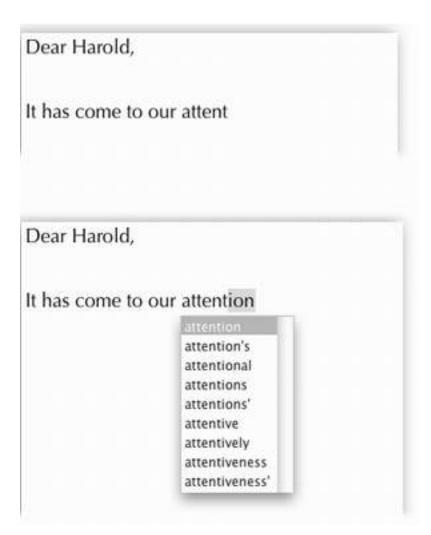
• Find and Replace. No self-respecting word processor would be complete without a good find-and-replace command. Choose Edit—Find—Find (#-F) to search for and replace text in TextEdit documents.



If you use Edit Find Use Selection for Find (or #-E), instead of typing words into the Find field, you'll find the next occurrence of whatever text you've already selected *in your document*, without even opening the Find Panel. Select one occurrence of the word you want to look for, press #-E, and then press #-G to jump to each new occurrence of that word.

• AutoComplete. This feature, new in Panther (and perhaps in Mac word processors), is great for anyone who's in a hurry, who's unsure of a spelling, or who's trying to solve a crossword puzzle. See <u>Figure 9-26</u> for details.

Once you've begun typing a word, press Option-Esc to produce the list of possible word completions shown here. If TextEdit correctly anticipates the rest of the word, great; just continue typing to accept the suggestion. If TextEdit guesses wrong, you can either select a different word in the list (using the mouse or the arrow keys), or tap Esc or the Space bar to keep on typing as if nothing had happened.





< Day Day Up :</pre>





## 9.25 Utilities: Your Mac OS X Toolbox

The Utilities folder (inside your Applications folder) is home to another batch of freebies: another couple dozen tools for monitoring, tuning, tweaking, and troubleshooting your Mac.

The truth is, though, that you're likely to use only about six of these utilities. The rest are very specialized gizmos primarily of interest only to network administrators or Unix geeks who are obsessed with knowing what kind of computer-code gibberish is going on behind the scenes.



Tip: Even so, Apple obviously noticed that as the sophistication of Mac OS X fans grows, more people open the Utilities folder more often. That's why Panther features, for the first time, a menu command and a keystroke that can take you there. In the Finder, choose Go Utilities (Shift-#-U).

## 9.25.1 Activity Monitor

Activity Monitor is the result of a merger between two earlier Mac OS X programs known as Process Viewer and CPU Monitor. Its function is the same, though: To let the technologically savvy Mac fan check in to see how much of the Mac's available processing power is being tapped at any given moment.

#### 9.25.1.1 The Processes table

Even when you're only running a program or two on your Mac, dozens of computational tasks ( *processes*) are going on in the background. The top half of the dialog box, which looks like a table, shows you all the different processes—visible and invisible —that your Mac is handling at the moment.

Check out how many items appear in the Process Listing Window, even when you're just staring at the desktop. It's awesome to see just how busy your Mac is! Some are easily recognizable programs (such as Finder), while others are background systemlevel operations you don't normally see. For each item, you can see the percentage of CPU being used, who's using it (either your account name, someone else's, or *root*, meaning the Mac itself), and the percentage of memory it's using.

# GEM IN THE ROUGH Files within Files

It's no surprise that you can include formatted text and pictures in a TextEdit document, but here's a shocker: You can also embed an entire program or document within a TextEdit file.

Try this experiment: Create a new TextEdit document in Rich Text mode. Drag the icons from a couple of programs into the TextEdit document. Do the same with some documents that were created using native Mac OS X programs (another TextEdit document, for example).

When you save the file, Mac OS X saves embedded copies of the applications and documents you dragged into the TextEdit document itself. (The TextEdit file is saved in a format called RTFD, which is a Rich Text Format document with attachments.)



Once you've saved the file, you can double-click any of the icons in the file to launch the embedded items. In the TextEdit document shown here, you could launch the Clock, Chess, DVD Player, and Mail programs—all right from within the file.

To make things even wilder, it's possible to drag a TextEdit file containing embedded items into another TextEdit file, saving a file within a file within a file.

One important point to keep in mind: The double-clickable icons you create in TextEdit using this method are not aliases or links to your original documents and programs. They're actual, full copies. If you make changes in the original document, they won't be reflected in the copies embedded in the TextEdit file. And if you embed a 10 MB program into a TextEdit document, you'll end up with a 10 MB TextEdit file!

## 9.25.1.2 The System monitor tabs

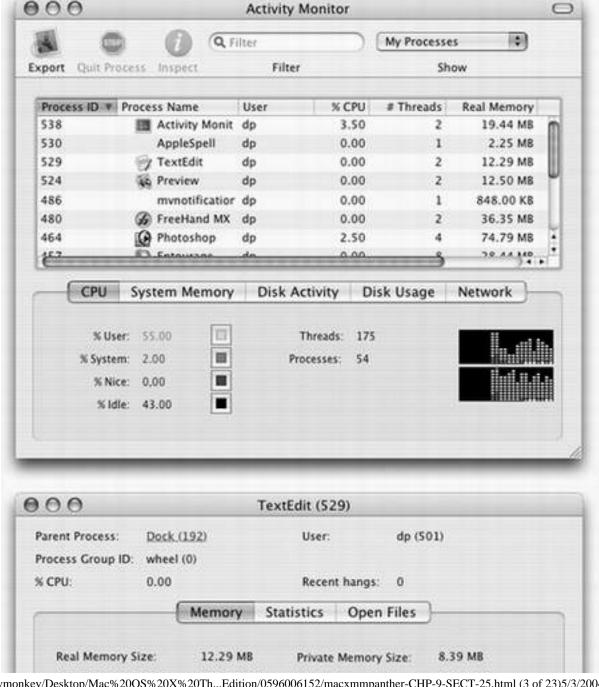
At the bottom of Activity Monitor, you're offered five tabs that reveal intimate details about your Mac and its behind-the-scenes efforts:

CPU. As you go about your usual Mac business, opening a few programs, dragging a playing QuickTime movie across the screen, playing a game, and so on, you'll see the CPU graph rise and fall, depending on how busy you're keeping the CPU. On multiple-processor Macs, you see a different bar for each chip, enabling you to see how efficiently Mac OS X is distributing the work among them.

## The many faces of Activity Monitor.

Top: It can be a graph of your processor (CPU) activity, your RAM usage at the moment, your disk capacity, and so on.

Bottom: If you double-click a process's name, you're treated to a three-tab dialog box that offers stunningly complete reams of data, mostly of interest only to programmers, about what that program is up to. (The Open Files dialog box, for example, shows you how many files that program has opened, often invisibly.) The most handy feature of this dialog box is the Quit button. It's a handy way to jettison a locked-up program when all else fails.



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You may also want to watch this graph right in your Dock (choose Monitor Dock Icon Show CPU Usage) or in a bar at the edge of your screen (choose Monitor Floating CPU Window Show Horizontally).

System Memory. Here's a colorful graph that reveals the state of your Mac's RAM at the moment.

The number below the graph shows how much memory is installed in your Mac. If, when your Mac is running a typical complement of programs, the Wired number plus the Active number nearly equals your total RAM amount, it's time to consider buying more memory. You're suffocating your Mac.

- **Disk Activity.** Even when you're not opening or saving a file, your Mac's hard drive is frequently hard at work, shuffling chunks of program code into and out of memory, for example. Here's where the savvy technician can see exactly how frantic the disk is at the moment.
- **Disk Usage.** This little graph offers one of the quickest ways to check out how full your hard drive is at the moment. (If you have more than one drive—say, a flash drive, tape-backup drive, or whatever—choose another's name from the pop-up menu.)
- **Network.** Keep an eye on how much data is shooting across your office network with this handy EKG-ish graph.

# 9.25.2 AirPort Admin Utility

Don't even think about this program unless you've equipped your Mac with the hardware necessary for Apple's wireless AirPort networking technology. (That entails installing a \$100 AirPort card in your Mac and setting up a base station, as described in <a href="Chapter 12">Chapter 12</a>.)

Even then, you don't use the AirPort Admin Utility to set up AirPort connections for the first time. For that task, use the AirPort Setup Assistant (described below).

After you're set up, you can use AirPort Admin Utility to monitor the connections in an existing AirPort network. (You can also use this utility to set up new connections manually, rather than using the step-by-step approach offered by the Assistant.)

# 9.25.3 AirPort Setup Assistant

An Assistant, in Apple-ese, is an interview program. It presents a series of screens, posing one question at a time; after answering each question, you're supposed to click the right-arrow (or Next) button. At the end of the interview, the Assistant program incorporates your answers into a finished product. It configures numerous System Preferences all at once, for

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example.

The AirPort Setup Assistant is the screen-by-screen guide that walks you through the steps needed to set up and use AirPort wireless networking. You'll be asked to name your network, provide a password for accessing it, and so on. When you've followed the steps and answered the questions, your AirPort hardware will be properly con- figured and ready to use.

### 9.25.4 Asia Text Extras

The tools in this folder are exclusively for Chinese-speaking Mac fans. The Chinese Text Coverter converts documents between Simplified and Traditional Chinese; the IM Plugin Converter lets you create your own customized input methods in Chinese.

These tools aren't of any value to you unless (a) you've turned on the Chinese input method on the International panel of System Preferences, and (b) you have a clue what you're doing.

## 9.25.5 Audio MIDI Setup

Maybe you've heard that Mac OS X comes with spectacular internal wiring for music, sound, and MIDI (Musical Instrument Digital Interface, a standard "language" for inter-synthesizer communication). It's available, that is, to music software companies that write their wares to capitalize on these new tools. (The big-name programs, including Digital Performer, are ready to go.)

This configuration program offers two tabs. The first, Audio Devices, is the master control panel for all your various sound inputs and outputs: microphones, line inputs, external speakers, and so on. Of course, for most people, this is all meaningless, because most Macs have only one input (the microphone) and one output (the speakers). But if you're sitting even now in your darkened music studio, humming with high-tech audio gear whose software has been designed to work with this little program, you're smiling.

The second tab, MIDI Devices, should look familiar to synthesizer fans who have used software like OMS or FreeMIDI to teach the Mac about their studio configurations. By clicking Add Device, you create a new icon that represents one of your pieces of gear. Double-click the icon to specify its make and model. Finally, by dragging lines from the "in" and "out" arrows, you teach your Mac (and its MIDI software) how the various components are wired together.

## 9.25.6 Bluetooth File Exchange

One of the luxuries of using a Mac that has Bluetooth is the ability to shoot files (to similarly forward-thinking colleagues) through the air, up to 30 feet away. Bluetooth File Exchange makes it possible, as described in Section 6.2.5.

# 9.25.7 Bluetooth Serial Utility

This utility is designed to let your Bluetooth transmitter serve as a wireless serial port for, for example, HotSyncing with a Bluetooth Palm organizer.

Come to think of it, that's about the *only* example most people can think of for this program—and it comes pre-configured for Palm organizers, so most people have very little need to visit this little stub of a program.

## 9.25.8 Bluetooth Setup Assistant

Getting your Bluetooth-equipped PowerBook to communicate with your Bluetoothequipped cellphone or your Apple Bluetooth keyboard and mouse is, in theory, much simpler if you let this little program walk you through the process. When everything goes smoothly (as it usually does with a keyboard or mouse), only a few clicks get you where you're going. When you run into trouble (as you may when setting up a cellphone), you're in for a call to the phone company's techsupport hotline, assistant or no.

## 9.25.9 ColorSync Utility

If you happen to use ColorSync (because you're in the high-end color printing business, for example), you might be surprised to find that the ColorSync panel is gone from Panther's System Preferences program. Instead, that panel's settings have been merged into this beefed-up program.

This bet-you'll-never-touch-it utility combines two functions:

- Its **Profile First Aid tab** performs a fairly esoteric task: repairing ColorSync pro- files that may be "broken" because they don't strictly conform to the *ICC profile* specifications. (ICC [International Color Consortium] profiles are part of Apple's ColorSync color management system, as described in <u>Section 13.8</u>.) If a profile for your specific monitor or printer doesn't appear in the Profiles tab of this program when it should, this is the tool you need to fix it.
- The **Profiles tab** lets you review all the ColorSync profiles installed on your system. The area on the right side of the window displays information about each ColorSync profile you select from the list on the left.
- The other tabs are described in Section 13.8.

#### 9.25.10 Console

Console is a viewer for all of Mac OS X's text logs—the behind-the-scenes, internal Unix status messages being passed between the Mac OS X and other applications.

Opening the Console log is a bit like stepping into an operating room during a complex surgery; you're exposed to stuff the average person just isn't supposed to see. (Typical Console entries: "kCGErrorCannotComplete" or "doGetDisplay TransferByTable.") You can adjust the font and word wrapping using Console's Font menu, but the truth is that the phrase "CGXGetWindowType: Invalid window -1" looks ugly in just about *any* font.

Console isn't useless, however. These messages can be of great value to programmers who are debugging software or troubleshooting a messy problem.

# 9.25.11 DigitalColor Meter

DigitalColor Meter can grab the exact color value of any pixel on your screen, which can be helpful when matching colors in Web-page construction or other design work. After launching the DigitalColor Meter, just point anywhere on your screen. A magnified view appears in the meter window, and the RGB (red-green-blue) color value of the pixels appears in the meter window. You can display the color values as RGB percentages or absolute values, in Hex form (which is how colors are defined in HTML; white is represented as #FFFFFF, for example), and in several other formats.

Here are some tips for using the DigitalColor Meter to capture color information from your screen:

- To home in on the exact pixel (and color) you want to measure, drag the Aperture Size slider to the smallest size—one pixel. Then use the arrow keys to move the aperture to the precise location you want.
- Press Shift-#-C (Color Copy Color as Text) to put on the Clipboard the numeric value of the color you're pointing to.

- Press Shift-\(\mathbb{H}\)-H (Color\(\begin{array}{c}\)-Hold Color) to "freeze" the color meter on the color you're pointing to—a handy stunt when you're comparing two colors onscreen. You can point to one color, hold it using Shift-\(\mathbb{H}\)-H, and then move your mouse to the second color. Pressing Shift-\(\mathbb{H}\)-H again releases the hold on the color.
- When the Aperture Size slider is set to view more than one pixel, DigitalColor Meter measures the *average* value of the pixels being examined.

## 9.25.12 Directory Access

If you use your Mac at home, or if it's not connected to a network, you'll never have to touch Directory Access. Even if you are connected to a network, there's only a remote chance you'll ever have to open Directory Access—unless you happen to be a network administrator, that is.

This utility controls the access that each individual Mac on a network has to Mac OS X's *directory services* —special databases that store information about users and servers. Directory Access also governs access to *LDAP directories* (Internet- or intranet-based "white pages" for Internet addresses).

A network administrator can use Directory Access to do things like select NetInfo domains, set up search policies, and define attribute mappings. If those terms don't mean anything to you, just pretend you never read this paragraph and get on with your life.

## 9.25.13 Disk Utility

One of Panther's hallmarks is a certain merging frenzy, in which Apple attempts to reduce icon clutter by combining two older programs into one new one. CPU Monitor + Process Viewer = Activity Monitor. ColorSync Panel + old ColorSync Utility = new ColorSync Utility. And, finally, Disk Copy + old Disk Utility = new Disk Utility.

Put another way, this program serves two key functions:

- It's Mac OS X's own little Norton Utilities: a powerful hard-drive administration tool that lets you repair, erase, format, and partition disks. If you make the proper sacrifices to the Technology Gods, you'll rarely need to run Disk Utility. But keep it in mind, just in case you ever find yourself facing a serious disk problem.
- Disk Utility also creates and manages *disk images*, electronic versions of disks or folders that you can send electronically to somebody else.

The following discussion tackles the program's two personalities one at a time.

## 9.25.13.1 Disk Utility, the hard drive-repair program

Here are some of the tasks you can perform with this half of Disk Utility:

- Get size and type information about any disks attached to your Mac.
- Fix disks that won't mount on your desktop or behave properly.
- Repair folders, files, and programs that don't work because you supposedly don't have sufficient "access privileges."
- Completely erase disks—including rewritable CDs (CD-RW).
- Partition a disk into multiple *volumes* (that is, subdivide a drive so that its segments appear on the desktop with separate disk icons).
- Set up a RAID array (a cluster of separate disks that acts as a single volume).

#### NOTE

Disk Utility can't verify, repair, erase, or partition your *startup disk*—the disk on which your system software is currently running. That would be like a surgeon performing an appendectomy on himself—not a great idea.

If you want to use Disk Utility to fix or reformat your startup disk, you must start up your Mac from a different system disk, such as the Mac OS X Install disc.

The left Disk Utility panel lists your hard drive and any other disks in your Mac at the moment. When you click the name of your hard drive's mechanism, like "74.5 GB Hitachi iC25N0..." ( *not* the "Macintosh HD" partition label below it), you see a panel with five tabs, one for each of the main Disk Utility functions:

• First Aid. This is the disk-repair part of Disk Utility, and it does a great job at fixing many disk problems. When you're troubleshooting, Disk Utility should always be your first resort. To use it, you click the icon of a disk and then click either Verify Disk (to get a report on the disk's health) or Repair Disk (which fixes whatever problems the program finds). In other words, First Aid attempts to perform the same healing effects on a sick hard drive as, say, a program like Norton Utilities.

If Disk First Aid reports that it's unable to fix the problem, *then* it's time to invest in Norton Utilities or its increasingly popular rival, DiskWarrior (<a href="https://www.alsoft.com">www.alsoft.com</a>).



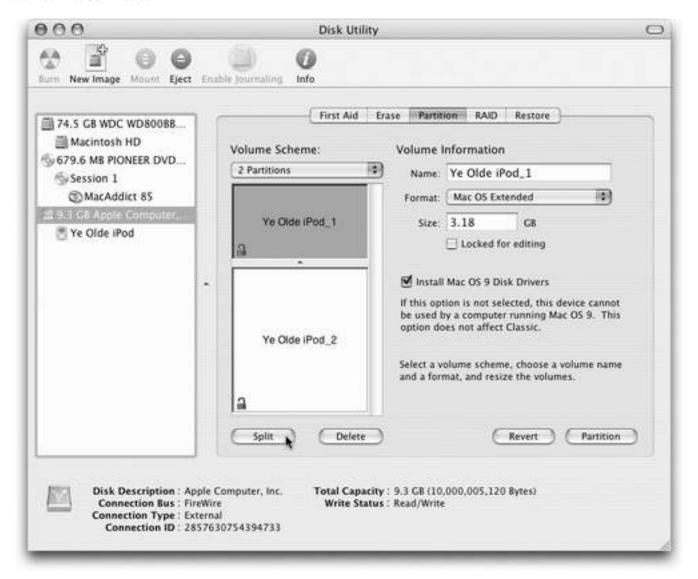
If Disk First Aid finds nothing wrong with a disk, it reports, "The volume appears to be OK." Don't be alarmed at the wishy-washy, not-very-confident wording of that message—that's the strongest vote of confidence Disk First Aid can give. Even a brand-new, perfectly healthy hard drive only *appears* to be OK to Disk First Aid.

You may wind up using the Verify and Repair Disk *Permissions* buttons even more often. Their function is to straighten out problems with the invisible Unix file permissions that keep you from moving, changing, or deleting files or folders. (The occasional software installer can create problems like this.) You'd be surprised how often running one of these permission checks solves glitchy little Mac OS X problems.

Chapter 12 has a much more detailed discussion of permissions.

• **Erase.** Select a disk, choose a format (*always* Mac OS Extended, unless you're formatting a disk for use on an ancient Mac running Mac OS 8.1 or earlier), give it a name, and click Erase to wipe a disk clean.

To partition your drive—which involves erasing it completely —launch Disk Utility, switch to the Partition pane, and select the hard drive you want to partition from the list on the left. From the Volume Scheme popup menu, choose the number of partitions you want (or, for two equal chunks, click Split below the map). Now drag the horizontal divider in the Volumes map to specify the relative sizes of the partitions you want to create. Assign a name and format for each partition in the Volume Information area, and then click Partition.



# NOSTALGIA CORNER Dude, Where's My Erase Disk Command?

Erasing a disk on a Mac used to be easy. All you had to do was select the disk in the Finder and choose Special Frase Disk. But in Mac OS X, there's no Special menu, and the Erase Disk command is nowhere to be found.

That's because the Disk Utility program now handles your disk-erasing needs. Launch it, click the Erase tab, and blow away the data on the disk of your choice, whether it's a floppy, hard drive, rewriteable CD, or rewriteable DVD.

• **Partition.** With the Partition tools, you can erase a hard drive in such a way that you subdivide its surface. Each chunk is represented on your screen by two (or more) different hard drive icons. (See <u>Figure 9-28</u>.)

There are some very good reasons *not* to partition a drive these days: A partitioned hard drive is more difficult to resurrect after a serious crash, requires more navigation when you want to open a particular file, and offers no

speed or safety benefits.

But there's one very good reason *to* do it, too: On older Macs that can still restart in Mac OS 9, keeping Mac OS 9 and Mac OS X on different partitions can save you time when you switch between them, as described in <u>Section</u> 5.3.

• RAID. RAID stands for Redundant Array of Independent Disks, and refers to a special formatting scheme in which a group of separate disks are configured to work together as one very large, very fast drive. In a RAID array, multiple disks share the job of storing data—a setup that can improve speed and reliability.

Most Mac users don't use or set up RAID arrays, probably because most Mac users only have one hard drive (and Disk Utility can't make your startup disk part of a RAID array).

If you're using multiple external hard disks, though, you can use Apple RAID to merge them into one giant disk. Just drag the icons of the relevant disks (or disk partitions) from the left-side list of disks into the main list (where it says, "Drag disks here to add to set"). Use the RAID Scheme pop-up menu to specify the RAID format you want to use (Stripe is the most common), name your new mega-disk, and then click Create. The result is a single "disk" icon on your desktop that actually represents the combined capacity of all the RAID disks.

• **Restore.** This tab, new in Panther, introduces a useful new feature: It can make a *perfect copy* of a disk or a disk image, much like the popular shareware program CarbonCopy Cloner. You might find this useful when, for example, you want to make an exact copy of your old Mac's hard drive on your new one. (You can't do that just by copying your old files and folders manually via, say, a network. If you try, you won't get the thousands of *invisible* files that make up a Mac OS X installation. If you use the Restore function, they'll come along for the ride.)

Start by dragging the disk or disk image you want to copy *from* into the Source box. Then drag the icon of the disk you want to copy *to* into the Destination box.



If you want to copy an *online* disk image onto one of your disks, you don't have to download it first. Just type its Web address into the Source field. You might find this trick convenient if you keep disk images on your iDisk, for example.

If you turn on Erase Destination, Disk Utility will obliterate all the data on your target disk before copying the data. If you leave this checkbox off, however, Disk Utility will simply copy everything onto your destination, preserving all your old data in the process. (The Skip Checksum checkbox is available only if you choose to erase your destination disk. If you're confident that all of the files on the source disk are 100% healthy and whole, turn on this checkbox to save time. Otherwise, leave it off for extra safety.)

Finally, click the Restore button. (You might need to type in an administrator password.) Restoring can take a long time for big disks, so go ahead and make yourself a cup of coffee while you're waiting.



Instead of clicking a disk icon and then clicking the appropriate Disk Utility tab, you can just Control-click a disk's name and choose Information, First Aid, Erase, Partition, or Restore from the contextual menu.

## 9.25.13.2 Disk Utility, the disk-image program

The world's largest fan of *disk images* is Apple itself; the company often releases new software in disk-image form. A lot of Mac OS X add-on software arrives from your Web download in disk-image form, too.

Disk images are popular for software distribution for a simple reason: Each image file precisely duplicates the original master disk, complete with all the necessary files in all the right places. When a software company sends you a disk image, it ensures that you'll install the software from a disk that *exactly* matches the master disk.

It's important to understand the difference between a *disk-image file* and the *mounted disk* (the one that appears when you double-click the disk image). Figure 9-29 makes the distinction clear.



After you double-click a disk image, go ahead and click Skip in the verification box that appears. If something truly got scrambled during the download, you'll know about it right away —your file won't decompress correctly, or it'll display the wrong icon, for example.

In fact, you can make Disk Utility *always* skip that verification business, which is a relic from the floppy-disk days. To do so, choose Disk Utility Preferences, click the Verifying tab, and turn off Verify Checksums.

The usual life cycle of a disk-image file: First, you download it from the Internet. The result is an icon whose name usually ends in .img or .dmg (upper left). (Files that end with .smi are also disk images, but self-mounting ones that don't require Disk Utility.) Second, when you double-click this icon, an invisible program called DiskImageMounter creates an icon that simulates a new disk (upper right). Finally, when you double-click this icon, you see exactly what the original creator of the image wanted you to see (bottom).



You can create disk images, too. Doing so can be very handy in situations like these:

- You want to create a backup of an important CD. By turning it into a disk-image file on your hard drive, you'll
  always have a safety copy, ready to burn back onto a new CD. (This is an essential practice for educational CDs
  that kids will be handling soon after eating peanut butter and jelly.)
- You want to replicate your entire hard drive—complete with all of its files, programs, folder setups, and so on—onto a new, bigger hard drive (or a new, better Mac), using the new Restore feature described earlier.
- You want to back up your entire hard drive, or maybe just a certain chunk of it, onto an iPod or another disk. (Again, you can later use the Restore function to complete the transaction.)
- You bought a game that requires its CD to be in the drive at all times. Most programs like these run equally well off of a mounted disk image that you made from the original CD.
- You want to send somebody else a copy of a CD via the Internet. You simply create a disk image, and then send that—preferably in compressed form.

Here's how you make a disk image.

• To image-ize a disk or partition. Click the name of the disk you want (in the leftpanel list, where you see the disks currently in, or attached to, your Mac). (The topmost item is the name of your *drive*, like "484.0 MB MATSHITADVD-R" for a DVD drive or "74.5 GB Hitachi" for a hard drive. Beneath that entry, you generally see the name of the actual partition, like "Macintosh HD," or the CD's name as it appears on the screen.)

Then choose Image New Image from [whatever the disk or partition's name is].

• To image-ize a folder. Choose Image New Image from Folder. In the Open dialog box, click the folder you want and then click Open.



Disk Utility can't turn an individual *file* into a disk image. But you can always put a single file into a folder, and then make a disk image of *it*.

Either way, the next dialog box (Figure 9-30) offers some fascinating options.

• Image Format. If you choose "read/write," your disk image file, when doubleclicked, will turn into a superb imitation of a hard drive. You'll be able to drag files and folders onto it, drag them off of it, change icons' names on it, and so on.

If you choose "read-only," however, the result will behave more like a CD. You'll be able to copy things off of it, but not make any changes to it.

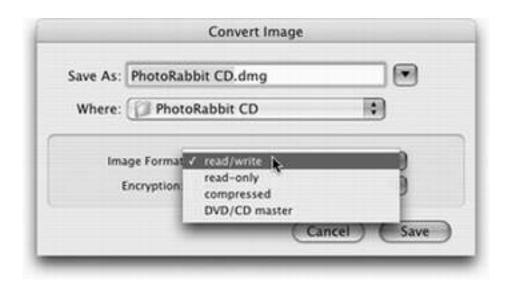
The "compressed" option is best if you intend to send the resulting file by email, for example, or if you'd like to preserve the disk image on some backup disk for a rainy day. It takes a little longer to create a simulated disk when you double-click the disk image file, but it takes up a lot less disk space than an uncompressed version.

Finally, choose "DVD/CD master" if you're copying a CD or a DVD. The resulting file is a perfect mirror of the original disc, ready for copying onto a blank CD or DVD when the time comes.

• Encryption. Here's a great way to lock private files away into a vault that nobody else can open. If you choose "AES-128 (recommended)," you'll be asked to assign a password to your new image file. Nobody will be able to open it without the password—not even you. Furthermore, if you save it into your Keychain (Section 12.4.1.2), it

- won't be such a disaster if you forget the password.
- Save As. Choose a name and location for your new image file. The name you choose here doesn't need to match the original disk or folder name.

These two pop-up menus let you specify (a) what kind of disk image you want, and (b) whether or not you want it password-protected. The latter option is great when you want to password-protect one folder, without bothering with your entire Home folder.



When you click Save (or press Enter), if you opted to create an encrypted image, you'll be asked to make up a password at this point.

Otherwise, Disk Utility now creates the image and then *mounts* it—that is, turns the image file into a simulated, yet fully functional, disk icon on your desktop.

When you're finished working with the disk, eject it as you would any disk (Controlclick it and choose Eject, for example). Hang onto the .dmg disk image file itself, however. This is the file you'll need to double-click if you ever want to recreate your "simulated disk."

### 9.25.13.3 Turning an image into a CD

One of the other most common disk-image tasks is turning an image *back* into a CD or DVD—provided you have a CD or DVD burner on your Mac, of course.

All you have to do is drag the .dmg file into the Disk Utility window, select it, and click the Burn icon on the toolbar (or, alternatively, Control-click the .dmg icon and choose Burn from the contextual menu). Insert a blank CD or DVD, and then click Burn.

### 9.25.14 Grab

Grab takes pictures of your Mac's screen, for use when you're writing up instructions, illustrating a computer book, or collecting proof of some secret screen you found buried in a game. You can take pictures of the entire screen (press #-Z, which for once in its life does *not* mean Undo) or capture only the contents of a rectangular selection (press Shift-#-A). When you're finished, Grab displays your snapshot in a new window, which you can print, close without saving, or save as

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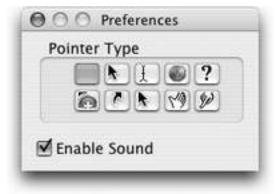
a TIFF file, ready for emailing or inserting into a manuscript.

Now, as experienced Mac users already know, the Mac OS has long had its *own* builtin shortcuts for capturing screenshots: Press Shift-#-3 to take a picture of the whole screen, and Shift-#-4 to capture a rectangular selection.

So why use Grab instead? In many cases, you shouldn't. The Shift-#-3 and Shift-#-4 shortcuts work like a dream. But there are some cases in which it might make more sense to opt for Grab. Here are three:

- Grab can make a *timed* screen capture (choose Capture Timed Screen, or press Shift-#-Z), which lets you enjoy a ten-second delay before the screenshot is actually taken. After you click the Start Timer button, you have an opportunity to activate windows, pull down menus, drag items around, and otherwise set up the shot before Grab shoots the picture.
- When you capture a screenshot using Grab's Selection command, the *size* of your selection is displayed, in pixels, right under the pointer as you drag. If you need to capture a 256-pixel-wide square, for example, you can do so with pinpoint accuracy. (Choose Edit Inspector to read the dimensions of a screenshot *after* you capture it.)
- With Grab, you have the option of including the cursor in the picture, which is extremely useful when you're showing a menu being pulled down or a button being clicked. (Mac OS X's screenshot keystrokes, by contrast, always eliminate the pointer.) Use the technique described in <u>Figure 9-31</u> to add the pointer style of your choice to a Grab screenshot.

One of the advantages Grab offers over simply snapping screenshots with Shift-#-3 or Shift-#-4 is that it lets you include the pointer/cursor in the picture—or hide it. Choose Grab Preferences and pick one of the nine different pointer styles, or choose to keep the pointer hidden by activating the blank button in the upper-left corner.





Actually, if you're going to write a book or manual about Mac OS X, the program you really need is SnapzPro X (available for download from <a href="www.missingmanuals.com">www.missingmanuals.com</a>, among other places). It offers far more flexibility than any of Mac OS X's own screenshot features. For example, you have a choice of file format, you can neatly snip out just one dialog box or window with a single click, and you can even capture movies of screen activity.

## **9.25.15 Installer**

You'll never launch this. It's the engine that drives the Mac OS X installer program and other software installers. There's

9.25 Utilities: Your Mac OS X Toolbox

nothing for you to configure or set up.

#### 9.25.16 Java

Programmers generally use the Java programming language to create small programs that they then embed into Web pages—animated effects, clocks, calculators, stock tickers, and so on. Your browser automatically downloads and runs such applets (assuming that you have "Enable Java" turned on in your browser).

Your Java folder contains several Java-related tools, including Applet Launcher, Java Plugin Settings, and Web Start.

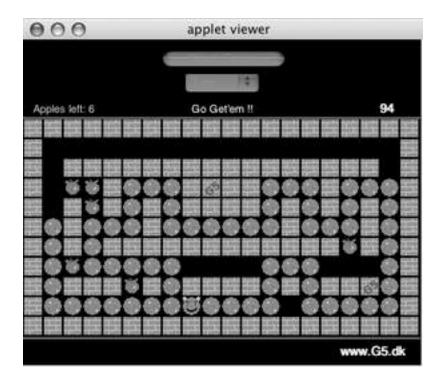
## 9.25.16.1 Applet Launcher

So-called Java applets are really just *programs*. So, what if you want to run one without going through a Web site and launching your Web browser? Applet Launcher (<u>Figure 9-32</u>) lets you open and launch Java applets without relying on a Web browser.



You might wonder—where do you *find* Java applets to run with Applet Launcher? Just launch your browser and type *free Java applets* into any search engine. You'll find Web sites galore containing hundreds of applets—games, utilities, animations, and more—that you can download immediately. Once you've downloaded them, use Applet Launcher to open the . *html* file associated with each applet.

Thanks to the Applet Viewer, you can use your Mac to run hundreds of free Java applets available for download over the Internet, such as this vintage Commodore 64 era game.



Once you're running an applet in the Applet Viewer, an Applet menu appears in the menu bar, containing a few self-

explanatory commands, such as Stop, Start, Restart, and Reload. If an applet locks up, the Restart command can generally revive it.

## 9.25.16.2 Java Plugin Settings

These tiny configuration programs offer a few random settings that pertain to the Mac's Java Virtual Machine (the "engine" that runs Java applets). The average person will never need to adjust these settings. But if you're the kind of person who knows what to do with options like "Recycle Classloader," go wild.

#### 9.25.16.3 Java Web Start

Java Web Start isn't an Apple product—it's a free program from Sun Microsystems designed to streamline the process of downloading and running Java-based programs on your Mac.

If you want to see what this is all about, fire up your browser and go to <u>java.sun.com/products/javawebstart/demos.html</u> to access a page of demo programs. When you click one of the demo Launch buttons, Java Web Start (JWS) kicks in to download all the necessary files and start running the program you select—all with one click, and without relying on the Web browser. In fact, JWS doesn't just *run* Java programs; it also stores them on your system so you can launch them again later. To launch a Java-based program, double-click its icon, or choose View—Downloaded Applications in JWS.

The catch is that Java Web Start is a fledgling technology and only a handful of (mostly lame) demo programs are available that actually make use of JWS.

Ultimately, Sun hopes that JWS will become an important software distribution tool, enabling people to connect to a Web site, click a button, and start using whatever program they need. It's a great concept—but still mostly *just* a concept.

### **UP TO SPEED**

## **Sleuthing Around with NetInfo Manager**

While most of NetInfo Manager is of little use to a typical Mac user, a few parts of this utility can be valuable even to a non-system administrator.

To dive into NetInfo Manager, start by clicking the padlock button at the bottom of the main window and enter an administrator's password. Then examine the various parameters in the top-left Directory Browser list. As you'll quickly discover, most of these settings are written in Unix techno-speak.

A few, however, are easy enough to figure out. If you click *users* in the middle list, you'll see, in the next column, a list of accounts you've created. Click one of the account names there, and you'll see, in the properties pane at the bottom of the screen, some parameters that may come in handy—such as each person's name, password, and password hint.

By double-clicking one of these info items, you can edit it, which can come in genuinely handy if someone on your school or office network forgets her password.

# 9.25.17 Keychain Access

Keychain Access manages all your secret information—passwords for network access, file servers, FTP sites, Web pages, and other secure items. For instructions on using Keychain Access, see Chapter 12.

## 9.25.18 NetInfo Manager

NetInfo is the central Mac OS X database that keeps track of user and group accounts, passwords, access privileges, email configurations, printers, computers, and just about anything else network related. NetInfo Manager is where a network administrator (or a technically inclined Mac guru) can go to view and edit these various settings.

You can find more information about NetInfo in these places:

- The tutorials in the relevant sections of this book, such as in Section 11.8 and Section 12.4.
- Article #106416 ("NetInfo: What is it? How to Set Up NetInfo") at <u>kbase.info.apple.com</u>, and the associated downloadable PDF manual.

# 9.25.19 Network Utility

The Network Utility gathers information about Web sites and network citizens. It offers a suite of standard Internet tools like NetStat, Ping, Traceroute, Finger, and Whois—advanced tools, to be sure, but ones that even novice Mac users may be asked to fire up when calling a technician for Internet help.

Otherwise, you probably won't need to use Network Utility to get your work done. However, Network Utility can be useful when you're performing Internet detective work:

- Use Whois ("who is") to gather an amazing amount of information about the owners of any particular domain (such as <u>www.apple.com</u>)—including name and address info, telephone numbers, and administrative contacts—using the technique shown in <u>Figure 9-33</u>.
- Use **Ping** to enter a Web address (such as <a href="www.google.com">www.google.com</a>), and then "ping" (send out a "sonar" signal to) the server to see how long it takes for it to respond to your request. Network Utility reports the response time in milliseconds—a useful test when you're trying to see if a remote server (a Web site, for example) is up and running. (The time it takes for the ping to report back to you also tells you how busy that server is.)

# FREQUENTLY ASKED QUESTION Key Caps: Missing In Action?

Hey, where's Key Caps!? I used to use this program all the time to figure out how to type which special symbols (like  $\phi$ ) using which key combinations (like Option-4). Now it's not even there any more!

Well, that's not quite true. It's now called Keyboard Viewer. You get to it via System Preferences International Input Menu.

Section 8.14.3 tells all.

• Traceroute lets you track how many "hops" are required for your Mac to communicate with a certain Web server.

Just type in the network address or URL, and then click Trace. You'll see that your request actually jumps from one *trunk* of the Internet to another, from router to router, as it makes its way to its destination. You'll find that a message sometimes crisscrosses the entire country before it arrives at its destination. You can also see how long each leg of the journey took, in milliseconds.

The Whois tool is a powerful part of Network Utility. First enter a domain that you want information about, then choose a Whois server from the pop-up menu (you might try whois. networksolutions.com). When you click the Whois button, you'll get a surprisingly revealing report about the owner of the domain, including phone numbers, fax numbers, contact names, and so on.



### 9.25.20 ODBC Administrator

This program is designed to arbitrate ODBC access requests. Any questions?

If you have no idea what that means, and no corporate system administrator has sat down to explain it to you, then your daily work probably doesn't involve working with corporate ODBC (Open Database Connectivity) databases. You can ignore this program or throw it away.

# 9.25.21 Printer Setup Utility

This is the hub of your Mac's printing operations. You can use the Printer Setup Utility (formerly called Print Center) to set up and configure new printers, and to check on the status of print jobs, as described in Chapter 13.

# 9.25.22 Stufflt Expander

Stufflt Expander, a free program from Aladdin Systems, is an indispensable utility for decompressing and decoding files,

especially those that you download from the Internet or receive as email attachments. It automatically restores all kinds of compressed files into usable form, including Stufflt files (whose names end with .sit), Zip files (.zip), BinHex files (.hqx), UUEncoded files (.uu), MIME or Base64 files (.mime), and—especially important in Mac OS X—.tar and .gzip files, which were once found only on Unix machines. (Now your Mac *is* a Unix machine.)

Usually, you needn't *do* anything with Stufflt Expander. It just does its thing automatically whenever you download a compressed file. That's because most Web browsers summon Expander the moment they recognize that you've downloaded a compressed file.

If, for some reason, you end up with a .sit or .zip file on your Mac that needs decompressing —and StuffIt Expander hasn't been launched automatically—just drag the file onto the StuffIt Expander icon to expand it.

## 9.25.23 System Profiler

System Profiler (previously called Apple System Profiler) is a great tool for learning exactly what's installed on your Mac and what's not—in terms of both hardware and software. (The people who answer the phones on Apple's tech-support line are particularly fond of System Profiler, since the detailed information it reports can be very useful for troubleshooting nasty problems.)



Instead of burrowing into your Utilities folder to open System Profiler, it's usually faster to use this trick: Choose About This Mac. In the resulting box, click the More Info button. Boom—System Profiler opens. (Oh, and if you click your Mac OS X version twice in the About box, you see your Mac's serial number!)

# POWER USERS' CLINIC The XCode (Developer Tools) CD Extras

Starting with the Panther version, the Mac OS comes on three CDs (or one DVD) for the first time—and that's not even counting the mysterious fourth CD, labeled XCode Tools, that comes in the Mac OS X box. (If Mac OS X came with your Mac, the Developer CD may be a disk image on one of your Software Restore discs. Use Disk Utility to burn this image onto a real CD, as described in Section 9.25.13.)

The XCode Tools CD is intended for developers (programmers) who write Mac OS X software. You'll need some of these programs if you want to get into some of the more esoteric (or, as some would say, *fun*) Mac OS X tricks and tips, like those in the book *Mac OS X Hints*.



To install these tools, double-click Developer.mpkg in the CD window. You wind up with a new folder called Developer on your hard drive. In its Applications Utilities Built Examples folder, you'll find a few programs that are userfriendly enough even for nonprogrammers.

BlastApp, for example, is a fun fly-the-helicopter-throughthe- cave arcade-style game. Another example: Sketch is a simple drawing program. If you're a Mac old-timer, you might describe it as something along the lines of the old MacDraw. It makes smooth lines, circles, and text boxes.

Here, too, you'll find a strange hybrid: a Mac OS X version of SimpleText, which 99.999 percent of Mac users probably assume is a Mac OS 9-only program. Why is this handy? Because it offers a Sound Record feature —the only place in Mac OS X where you'll find a simple sound-recording tool (not counting iMovie). (WorldText, in the same folder, is similar, but with more features, including paragraph-justification commands.)

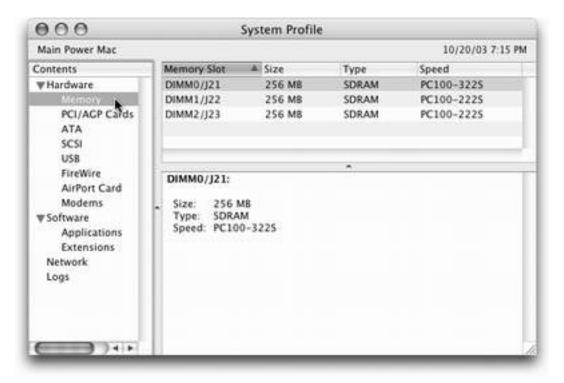
When you launch System Profiler, it reports information about your Mac in a list down the left side (Figure 9-34).

#### They fall into these categories:

• **Hardware.** Click this word to see precisely which model Mac you have, what kind of chip is inside (and how many), how much memory it has, and its serial number.

If you expand the flippy triangle, you get to see details about which **Memory** slots are filled and the size of the memory module in each slot (which spares you from having to stick your fingers into your Mac's case to find out what's in there); what **PCI/AGP Cards** are installed in your expansion slots (including what graphics card you have); what's attached to your **ATA** bus (internal drives, like your DVD drive and hard drive); what's connected to your **SCSI**, **USB**, and **FireWire** chains, if anything; details on your **AirPort Card**, if you have one; and what **Modems** you have.

Does your PowerBook's chip run at 800 MHz or 1.25 GHz? What percentage of your external hard drive is filled up? Want a comprehensive list of every program installed on your Mac, with version numbers? And (shown here): Does your G4 tower have any open slots for extra RAM?



Finally, the Network section reveals which kind of network your Mac is on and, if you have a networkable printer, which printer is selected.

• **Software.** Click this heading to see exactly which version of Mac OS X you have, and what your computer's name is, as far as the network is concerned ("Chris's Computer,") for example.

The **Applications** list documents every program on your system, with version information—a quick inventory of what you've installed on your Mac. It's great for spotting duplicate copies of programs.

Similar information shows up in the **Extensions** panel. In this sense, "extensions" doesn't mean *system* extensions like those that made life a living hell in Mac OS 9 and earlier. In Mac OS X, the term *extensions* refers to a different kind of add-on component to the core system software. Generally, these are drivers for the Mac's various components, which sit in the System Library Extensions folder. Whatever's in that folder is what you see listed in this panel.

- **Network.** This category shows all the different ways your Mac can connect to other computers (AirPort, Ethernet, Internet Modem, Bluetooth, and so on), and which ones are online at the moment (as indicated by whether or not they display IP Addresses).
- Finally, the Logs panel reveals your Mac's secret diary: a record of the traumatic events that it experiences from
  day to day. (Many of these are the same as those revealed by the Console utility.) Some reveal crash logs, which
  are detailed technical descriptions of what went wrong when various programs crashed, and what was stored in
  memory at the time.

Unfortunately, there's not much plain English here to help you understand the crash, or how to avoid it in the future. Most of it runs along the lines of "Exception: EXC\_BAD\_ACCESS (0x0001); Codes: KERN\_INVALID\_ADDRESS (0x0001) at 0x2f6b657d." In other words, it's primarily for the benefit of programmers. Still, tech-support staff may occasionally ask to see the information in one of these logs, as described next.

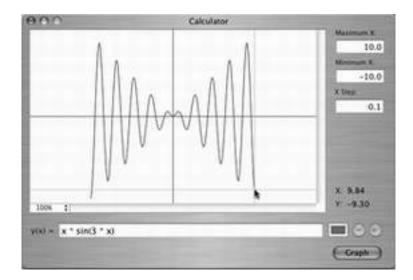
# POWER USERS' CLINIC Secrets of the Plug-Ins

Mac OS X programs can be built out of modular chunks, which is one of the features that programmers like so much about it. Several of Panther's built-in programs, in fact, come with additional software chunks that you can turn on or off at will.

Here's an example: the Calculator. Did you know that it has a graphing mode—perfect for high-school math?

To explore the invisible world of plug-ins, highlight Calculator's icon, and then choose File Get Info Expand the Plug-ins panel, which you've probably never seen before in a Get Info window.

Right now, the Calculator views you know and love are listed here: Basic&Sci.calcview, which refers to the Basic and Scientific views. But there are others.



Click Add. In the resulting Add Plug-ins window, navigate to your

Applications—Calculator—Contents—Resources folder. (It might seem strange to click Calculator as though it's a folder, but that's actually what it is; see Section 4.2.)

The plug-ins to install look like folders, and they're called Graphing-2d.calcview, Hexadecimal. calcview, and ExpressionSheet. calcview. Open one or all of them (highlight the folder and then click Open).

You return to the Get Info window, where these additional views are now listed. Now open Calculator and inspect the View menu. You've got the 2-D Graphing mode (type an equation, click Graph); Expression Sheet (a simple type-an-equation mode); and Hexadecimal (for programmers).

Presto: the humble Calculator is now SuperCalc!



If any of these screens are showing you more or less technical information than you'd like, use the View menu to choose Short Report, Standard Report, or Extended Report.

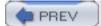
## **9.25.23.1 Saving a report**

To create a handsomely formatted report that you can print or save, choose File Export Rich Text. Note, however, that the resulting report can be well over 100 pages long. In many cases, you're better off simply making a screen shot of the relevant Profiler screen, as described in Section 13.11.

### 9.25.24 Terminal

Terminal opens a terminal window with a *command line interface*, taking you deep into the world of Unix, the operating system on which Mac OS X is based. <u>Chapter 15</u> and <u>Chapter 16</u> offer a crash course on this powerful window into the Mac's shadow operating system.





< Day Day Up >



# Chapter 10. CDs, DVDs, and iTunes

Section 10.1. How the Mac Does Disks

Section 10.2. Burning CDs and DVDs

Section 10.3. iTunes: The Digital Jukebox

Section 10.4. DVD Movies



< Day Day Up







## 10.1 How the Mac Does Disks

Apple shocked the world when, in 1997, it introduced the iMac without a floppy disk drive—and proceeded to eliminate the floppy drive from all subsequent Mac models in the following years. Apple argues that the floppy disk is dead: It's too small to serve as a backup disk, and, in this day of the Internet, it's a redundant method of exchanging files with other computers.

These days, even Windows PC manufacturers seem to agree the floppy drive is gradually vanishing as standard equipment. So, for that matter, is the Zip disk, the SuperDisk (a high-capacity floppy), and Iomega Peerless drives (a hard drive cartridge system).

## 10.1.1 Disks Today

So what's springing up to take the floppy's place? Let us count the disks:

#### 10.1.1.1 Hard drives and the iPod

Thanks to the Mac's FireWire or USB jacks, it's easier than ever to attach an external hard drive for extra storage. It would be hard to imagine a more convenient second hard drive than, for example, Apple's iPod, which is not only an outstanding MP3 music player but also doubles as a self-powered, extremely compact, bootable hard drive.

#### 10.1.1.2 CDs

You wouldn't get far in today's computer world without a CD-ROM drive. Most commercial software comes on CD—not to mention the music CDs that the Mac can play so expertly.

CD-ROM stands for "compact disc, read-only memory"—in other words, you can't ever write (save files) onto them.

Yet most Mac models today don't just play CDs; they can also record them, thanks to a built-in CD burner. A CD burner can record onto either of two kinds of blank discs:

- **CD-R.** You can fill this type of disc with your own files—once. The disc can't be erased, although you can *add* to it (see Section 10.2).
- **CD-RW.** The initials stand for *rewritable;* using Disk Utility (<u>Section 9.25.13</u>), you can erase one of these discs and rerecord it, over and over again. Of course, CD-RW and DVD-RW blank discs are somewhat more expensive than the one-shot kind.

#### 10.1.1.3 DVDs

Many Mac laptops and desktops include a built-in DVD drive. You use it primarily for playing back DVD movies that you've rented or bought, but you may also occasionally use it for data DVDs—that is, DVDs that contain Mac files or software installers.

However, the latest—and definitely the greatest—kind of drive is what Apple calls the SuperDrive: a drive, actually made by Pioneer or Sony, that can play *and* record CDs *and* DVDs. If your Mac came with a SuperDrive built in, you can take advantage of a Mac OS X feature that neither Windows nor any previous version of the Mac OS offers: the ability to use

blank DVDs as massive backup disks that hold 4.7 GB each.

You may see all kinds of disks on the Mac OS X desktop (shown here: hard drive, CD, iPod, iDisk)—or none at all, if you've chosen to hide them using the Finder—Preferences command.

But chances are pretty good you won't be seeing many floppy disk icons.



If you've used iMovie to edit your home camcorder footage, you can also save them onto one of these DVDs for playback in standard home DVD players—the perfect way to distribute your masterpiece to friends and family without the drastic sacrifice of video quality that would result in saving the movie onto a VHS tape.

The first generations of SuperDrive could record only onto so-called DVD-R and DVD-RW blank discs (note the hyphen). The latest SuperDrives, found in, for example, the Power Mac G5, can also record your files onto DVD+R and DVD+RW discs (note the plus sign), a confusingly similar format that doesn't work in the original SuperDrives.

#### 10.1.1.4 Flash drives

The most recent invention is among the most convenient: tiny, keychain-sized flash drives or thumb drives, which plug directly into your USB jack and serve as low-capacity hard drives with no moving parts. Inside, they contain nothing but RAM—pure memory.

Flash drives are fantastic, inexpensive gadgets that typically hold 128, 256, or 512 MB. They work on any Mac or Windows PC, and don't require any drivers or special software installation. Ask for one for your birthday.

### 10.1.2 Disks In, Disks Out

When you insert a disk, its icon shows up in three places (unless you've changed your Finder preferences): on the right

side of the screen, in the Computer window, and in the Sidebar (<u>Section 1.2.1</u>). To see what's on a disk you've inserted, just double-click its icon.

#### **NOTE**

You *can* make the Mac work like Windows, if you choose. For example, to open a single window containing icons of all currently inserted disks, choose Go Computer (which produces the rough equivalent of the My Computer window).

To complete the illusion that you're running Windows, you can even tell Mac OS X not to put disk icons on the desktop at all. Just choose Finder Preferences and turn off the three top checkboxes—"Hard disks," "Removable media (such as CDs)," and "Connected servers." They'll no longer appear on the desktop—only in your Computer window. (You can stop them from appearing in the Sidebar, too, by clicking the Sidebar button in the Finder preferences and turning off the same checkboxes.)

To remove a disk from your Mac, use one of these methods:

• **Drag its icon onto the Trash icon.** For years, this technique has confused and frightened first-time Mac users. Their typical reaction: Doesn't the Trash mean "delete"? Yes, but only when you drag document or folder icons there—not disk icons. Dragging disk icons onto the Trash (at the right end of the Dock) makes the Mac spit them out. (If you've dragged a disk image icon or the icon of a networked disk, this maneuver unmounts them—that is, gets them off your screen.)

The instant you begin dragging a disk icon, the Trash icon on the Dock changes form, as though to reassure the novice that dragging a disk icon there will only eject. As you drag, the wastebasket icon morphs into a giant-sized Eject logo (which matches the symbol on the upper-right key of current Mac keyboards).

- Highlight the disk icon, and then choose File == Eject (#-E). The disk pops out.
- Control-click the disk icon. Choose Eject from the contextual menu.
- Use the Sidebar. Click the little <u>has button next to a disk's name in the Sidebar, as described in Section 1.2.2.</u>



Any of these techniques also work to get network disks and disk images off your screen, too.

• Hold down the Eject key on your keyboard. Recent Mac keyboards, both on laptops and desktops, have a special Eject key in the upper-right corner. Hold it down for a moment to make a CD or DVD pop out. (If you don't have an Eject key, press F12 instead.)

## 10.1.3 Startup Disks

When you turn the Mac on, it hunts for a *startup disk*—that is, a disk containing a System folder. If you've ever seen the dispiriting blinking folder icon on a Mac's screen, you know what happens when the Mac can't find a startup disk. It blinks like that forever, or until you find and insert a disk with a viable System folder on it.

## 10.1.3.1 Creating a startup disk

By installing the Mac OS onto a disk—be it a hard drive or blank CD or DVD—you can create a startup disk. Not all disks are capable of starting up the Mac, however (older external FireWire disks, for example), and not all older Macs can start up from external FireWire drives.

## 10.1.3.2 Selecting a startup disk

It's perfectly possible to have more than one startup disk simultaneously attached to your Mac. That's the deal, for example, whenever you've inserted the Mac OS X

# FREQUENTLY ASKED QUESTION The Eject Button That Doesn't

When I push the Eject button on my keyboard (or on my CD-ROM drawer), how come the CD doesn't come out?

There might be two things going on. First of all, to prevent accidental pushings, the Eject key on the modern Mac keyboard is designed to work only when you hold it down steadily for a second or two. Just tapping it doesn't work.

Second, remember that once you've inserted a disk, the Mac won't let go unless you eject it in one of the official ways.

On Mac models with a CD tray, pushing the button on the CD-ROM door opens the drawer only when it's *empty*. If there's a disc in it, you can push that button till doomsday, but the Mac will simply ignore you.

That behavior especially confuses people who are used to working with Windows. (On a Windows PC, pushing the CD button does indeed eject the disc.) But on the Mac, pushing the CD-door button ejects an inserted disc only when the disc wasn't seated properly, or the Mac couldn't read the disc for some other reason, and the disc's icon never appeared onscreen.

The Eject key on the modern Mac keyboard, however, isn't so fussy. It pops out whatever CD or DVD is in the drive.

Oh—and if a CD or DVD won't come out at all (and its icon doesn't show up on the desktop), restart the Mac. Keep the mouse button pressed as the Mac restarts to make the disc pop out.

And if even that technique doesn't work, look for a tiny pinhole in or around the slot. Inserting a straightened paper clip, slowly and firmly, will also make the disc pop out.

CD into your Mac: Each contains a System folder, and each is a startup disk. Some veteran Mac fans deliberately create other startup disks—using CDs, for example—so that they can easily start the Mac up from a backup disk, or from a different version of the OS.

Only one System folder can be operational at a time. So how does the Mac know which to use as its startup disk? You

make your selection in the Startup Disk pane of System Preferences (Figure 10-2).



If you're in a hurry to start the machine up from a different disk, just click the disk icon and then click Restart in the System Preferences window. You don't have to close the System Preferences window first.

## 10.1.4 Erasing a Disk

Mac OS X doesn't have an Erase Disk command at the desktop. When you want to erase a disk (such as a CD-RW disc), therefore, you have to use Disk Utility, which

In the Startup Disk pane of System Preferences, the currently selected disk—the one that will be "in force" the next time the machine starts up—is always highlighted. You see the System folder's version and the name of the drive it's on, but not its actual name—until you point to the icon (without clicking).



### **UP TO SPEED**

## Mac OS Extended Formatting

Whether you use Disk Utility to erase a disk (or when you first install Mac OS X and elect to erase the hard drive in the process), you'll be confronted with a choice between formatting options called *Mac OS Extended* and *UNIX File System (UFS)*. (Depending on the kind of disk, you may also see an option to create a DOS-formatted disk for use in Windows machines.)

Mac OS Extended or Mac OS Extended (Journaled) refers to the HFS Plus filing system, a disk format that has been proudly maximizing disk space for Mac fans since Mac OS 8.1. (For a definition of journaling, see Appendix A.4.)

Mac OS X still accepts disks that were prepared using the older, *Mac OS Standard* formatting—the ancient HFS (hierarchical filing system) format—but you can't use one as your startup disk, and any file names longer than 31 characters will appear chopped off.

As for the UNIX File System option, it's exclusively for use on computers that run Unix (the pure variety, not the dressed-up version that is Mac OS X).

is in your Applications Utilities folder. This is the same program you use to erase, repair, or subdivide (partition) a hard drive.

Once you've opened Disk Utility, click the name of the disc (in the left-side list), click the Erase tab, and click the Erase button.

You won't be able to do so, though, if:

- The disk is a standard CD-ROM, DVD, a previously recorded CD-R disc, or a disk elsewhere on the network.
- You're trying to erase the startup disk. You can't wipe out the disk that contains the currently running System folder any more than you can paint the floor directly beneath your feet. (To erase your built-in hard drive, for example, you must start up from the Mac OS X CD-ROM.)



< Day Day Up:







# 10.2 Burning CDs and DVDs

If your Mac has a CD-RW drive or an Apple SuperDrive in it, you've got yourself the world's most convenient and elegant backup system. It's just like having a floppy disk drive, really—except that a blank CD holds at least 450 times as many files, and a blank DVD holds about 3,250 times as many!

You can buy blank CDs very inexpensively in bulk (\$20 for 100 discs, for example) via the Web. (To find the best prices, visit <a href="www.shopper.com">www.buy.com</a> and search for blank CD-R.) Blank DVDs are more expensive, but not ridiculously so considering their capacity. At this writing, the Apple Web site, for example, sells them at \$20 for five—and prices keep dropping.

To use one for backup, transporting files, or mailing files, insert a blank CD-R, CDRW, DVD-R, DVD-RW, or (on recent model SuperDrive Macs) DVD+R or DVD+RW disc into your Mac. (If you have a slot-loading Mac, simply slip the disc into the slot. If your Mac has a sliding CD/DVD tray instead, open it first by pressing the button on the tray, or pressing your Eject key for about one second.

Top left: Choose Open Finder if you plan to copy regular Mac files onto the CD, or Open iTunes if you plan to burn a music CD using iTunes. If this is pretty much what you always want to do with blank CDs, turn on "Make this action the default." Then click OK.

Right: Drag the fully "loaded" CD or DVD onto the Burn icon in the Dock, or Control-click it and choose Burn Disc, as shown here.

Lower left: Confirm your choice in this box.







Once you've inserted a CD or DVD into your tray, you can close it either by pushing gently on the tray or—if your keyboard has an Eject key—by pressing the key again.

After a moment, the Mac notices the blank disc and displays a dialog box asking, in effect, what you want to do with this blank disc. See Figure 10-3 for instructions.

If you choose Open Finder, you'll see the disc's icon appear on the desktop after a moment. At this point, you can begin dragging files and folders onto it, exactly as though the disc were a particularly well-endowed floppy disk. You can add, remove, reorganize, and rename the files on it just as you would in any standard Finder window. You can even rename the CD or DVD itself just as you would a file or folder.



Behind the scenes, the Mac is creating a *disk image* of the CD- or DVD-to-be, as described in <u>Section 4.10</u>. If your hard drive is very full—too full to set aside a 650-megabyte, 700-megabyte, or 4.3-gigabyte loading area for your files, depending on the kind of disc—you'll get an error message.

When the disk contains the files and folders you want to immortalize, do one of these things:

- Choose File Burn Disc.
- Click the Burn button next to the disc's name in the Sidebar.
- Drag the disc's icon toward the Trash icon on the Dock. As soon as you begin to drag, the Trash icon turns into what looks like a bright yellow fallout-shelter logo. Drop the disc's icon onto it.
- Control-click the disc's icon on the Dock and choose Burn Disc from the contextual menu that appears (shown in Figure 10-3).

In any case, the dialog box shown at bottom left in <u>Figure 10-3</u> now appears. Click Burn. The Mac's laser proceeds to record the CD or DVD, which can take some time. Feel free to switch into another program and continue using your Mac.

When the recording process is over, you'll have yourself a newly minted DVD or CD that you works in any other suitably equipped Mac (or PC, for that matter).

Here are a few final notes on burning CDs and DVDs at the desktop:

- Not sure whether your Mac even has a CD-burning drive? Launch System Profiler (in your Applications Utilities folder). Expand the Hardware triangle, and click the ATA category (or if your drive is external, click USB, FireWire, or SCSI). At the right side of the display, you'll see an indication of the kind of drive your Mac has. It might say "DVD," for example (meaning you can't record anything), or "CD-RW/DVD-R" (meaning you can burn CDs and DVDs—a SuperDrive).
- You can only do the most basic recording right in the Finder—convenient as all get-out, but very basic. For example, you can only record an entire CD at once, instead of adding files one at a time.
- You can, however, add more to a previously recorded CD-R or CD-RW (technically, to create a *multisession* disc). See the box in Section 10.2.

- If you do a lot of disc burning, a full-fledged CD-burning program like Toast Titanium (<u>www.roxio.com</u>) adds myriad additional formatting options that let you make startup CDs, video CDs, and so on.s
- When you insert a CD-RW disc that you've previously recorded, the box shown at top left in <u>Figure 10-3</u> doesn't appear. Instead, the disc's icon simply appears on the desktop as though it's an ordinary CD. Before you can copy new files onto it, you must erase it using Disk Utility as described in the previous section.

# GEM IN THE ROUGH How to Burn a Multisession CD in Mac OS X

Most people think that you need a program like Roxio Toast to record a CD-R disc more than once in Mac OS X.

In fact, though, you can use humble old Disk Utility, right there your Applications——Utilities folder, to burn a single CD as many times as you like. That's right—regular, cheapie CD-R discs, *not* CD-RW (rewriteable).

What you'll create here is a *multisession* disc. Each time you burn more material onto it, you create a new disc icon that will appear separately when you insert the CD. Shown here at top, for example, is a disc that's been burned twice. A folder called PhotoRabbit was burned to the CD first. Then, a week later, a folder called "Flower pix" was burned onto the same disc, creating a second *session* (disc icon).

To pull off this stunt, prepare the material you intend to burn the first time. For example, put it all into a folder on your desktop.

Now open Disk Utility. Choose Images New Image from Folder. When prompted, navigate to, and select, the folder you want to burn, and then click Image.

Type a name for the disk image you're creating. Specify a location (like the Desktop) and then click Save. In this example, suppose it's called PhotoRabbit CD.dmg.

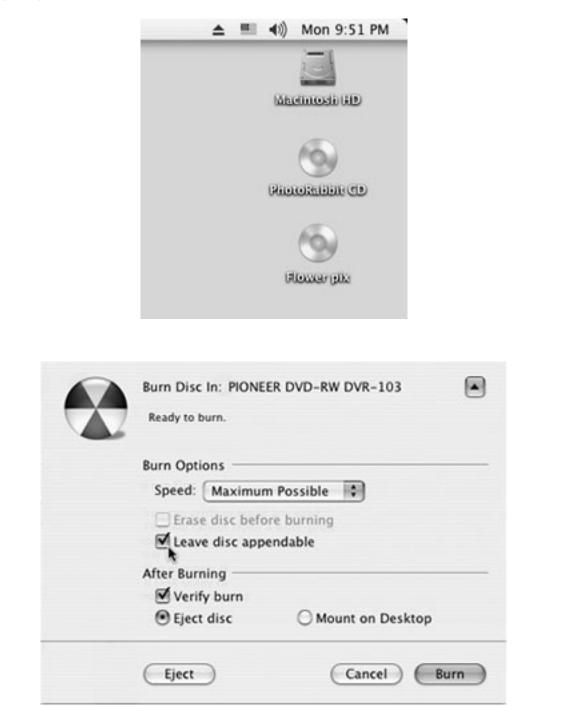
When you're ready to burn, open Disk Utility. Click the Burn icon on the toolbar. Navigate to, and click once, the disk image (PhotoRabbit CD.dmg). Then click Burn.

In the resulting Burn Disc dialog box, click the blue triangle button at upperright. The dialog box expands, as shown here. Turn on "Leave disc appendable." Click Burn to record the material onto the CD.

When it comes time to add new material to that disc, repeat all of these steps so far. This time, in the dialog box shown above, you'll see that instead of Burn, the lower-right button now says Append. That's your clue that Disk Copy understands what it's about to do: add information to an existing CD, resulting in a second disk icon on the desktop containing only the new material.

You've just created a multisession disc!

You can repeat the process over and over again, adding more and more material to a disc until it's full.



• The CDs that the Mac burns work equally well on Macs and Windows (or Linux) PCs. If you plan to insert a CD into a PC, however, remember that Windows doesn't permit any of these symbols in a Windows file name—\ / : \*? " <> |—and you'll run into trouble if any of your file names contain these symbols. In fact, you won't be able to open any folders on your CD that contain illegally named files.





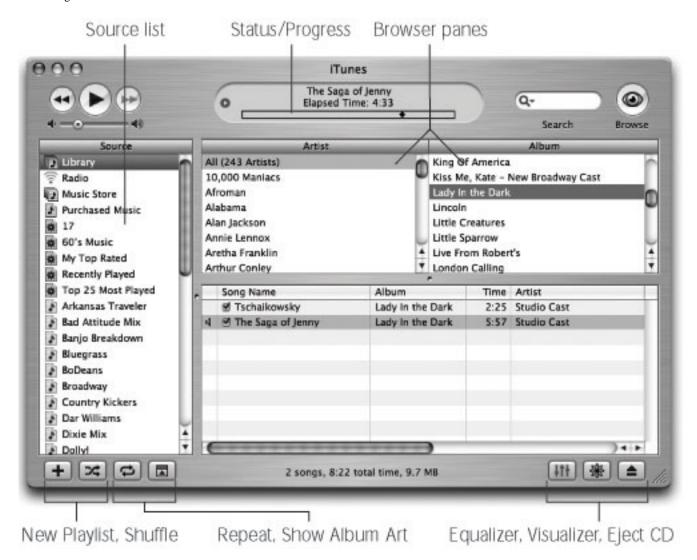


# 10.3 iTunes: The Digital Jukebox

iTunes, in your Applications folder, is the ultimate software jukebox (<u>Figure 10-4</u>). It can play music CDs, tune in to Internet radio stations, load up your iPod music player, and play back *MP3 files* (sound files in a popular format that stores CD-quality music in remarkably small files) and other popular audio formats. It can also turn selected tracks from your music CDs *into* MP3 files, so that you can store favorite songs on your hard drive to play back anytime—without having to dig up the original CDs. If your Mac can burn CDs, iTunes lets you record your own custom audio CDs that contain only the good songs. Finally, of course, iTunes is the shop window for Apple's popular online iTunes Music Store (\$1 a song, \$10 an album).

iTunes can also burn MP3 CDs: music CDs that fit much more than the usual 74 or 80 minutes of music onto a disc (because they store songs in MP3 format instead of AIFF). Not all CD players can play MP3 discs, however, and the sound quality is slightly lower than standard CDs.

When the Library icon is selected in the Source list, you can click the Browse button (upperright) to produce a handy, supplementary view of your music database, organized like a Finder column view. It lets you drill down from a performer's name (left column) to an album by that artist (right column) to the individual songs on that album (bottom half, beneath the browser panes).



The first time you run iTunes, you're asked (a) whether you want iTunes to be the program your Mac uses for playing music files from the Internet, (b) whether you want it to ask your permission every time it connects to the Internet, and (c) whether you want the program to scan your Home folder for all music files already on it. (You can decline to have your hard drive scanned at this time. Later, you can always drag it, or any other folder, directly into the iTunes window for automatic scanning.)



The following pages present a mini-manual on iTunes. For the full scoop, plus coverage of the iPod and the iTunes Music Store, consult *iPod: The Missing Manual*.

# 10.3.1 MP3 Files and Company

The iTunes screen itself is set up to be a list—a database—of every song you've got in MP3, AIFF, WAV, AC3, or AAC format. iTunes automatically finds, recognizes, and lists all such files in your Home folder——) iTunes——) iTunes Music folder.



You can instruct iTunes to display the contents of other folders, too, by choosing

File Add to Library. It promptly copies any sound files from the folder you "show" it into your Home folder iTunes iTunes folder.

### 10.3.2 Audio CDs

If you're not into collecting MP3 files, you can also populate the main list here simply by inserting a music CD. The songs on it immediately show up in the list.

At first, they may appear with the exciting names "Track 01," "Track 02," and so on. But after a moment, iTunes attempts to connect to the Internet and compare your CD with the listings at <a href="www.cddb.com">www.cddb.com</a> a global database of music CDs and their contents. If it finds a match among the thousands of CDs there, iTunes copies the album and song names into the program, where they reappear every time you use this particular music CD.

# FREQUENTLY ASKED QUESTION Auto-Playing Music CDs

How do I make music CDs automatically play when they're inserted into the Mac?

First, make sure iTunes is slated to open automatically when you insert a music CD. You do that on the CDs & DVDs panel of System Preferences (use the "When you insert a music CD" pop-up menu).

Then all you have to do is make sure iTunes knows to begin playing automatically once it launches. Choose iTunes Preferences, click the General icon, and from the On CD Insert pop-up menu, choose Begin Playing, and click OK.

From now on, whenever you insert a music CD, iTunes will open automatically and begin playing.



If you connect an iTunes-compatible portable MP3 player to your Mac (the iPod isn't the only one), its name, too, shows up in the left-side Source list. This is your opportunity to make your Mac the "hub for the digital lifestyle," exactly as Apple advertises: You can add or remove songs on your player (by dragging them onto its icon), rename or reorder them, and so on.

### 10.3.3 The iPod

Unless you're just off the shuttle from Alpha Centauri, you probably already know that the iPod is Apple's beautiful, tiny, white-and-chrome music player containing a hard drive that can hold thousands of songs. It's designed to integrate seamlessly with iTunes.

10.3 iTunes: The Digital Jukebox

All you have to do is connect the iPod to the Mac via its FireWire cable. You'll see the iPod's icon show up on your desktop as though it's a hard drive (which it is). You'll also see an iPod icon show up in the iTunes let-side source list. Click its icon to view its contents.

### 10.3.4 The iTunes Music Store

The iTunes Music Store is incredibly easy to figure out. Right from within iTunes, you can search or browse for over 400,000 pop songs, classical pieces, and even comedy excerpts—and then buy them for \$1 apiece. There are no monthly fees, and your downloads don't go *poof!* into the ether if you decide to cancel your subscription, as they do with some rival services.

Start by clicking the Music Store icon in the iTunes Source list. You go online and land on the home page, which looks and works like a Web page. Use the Search Music Store box to find the songs or performers you're interested in. Double-click a song to hear a 30-second excerpt. (For audio books, you get a 90-second excerpt.)

# WORKAROUND WORKSHOP iPod Independence

Out of the box, the iPod and iTunes come set for automatic synchronization. That is, as soon as you hook them together, iTunes sends your complete music library (the contents of your Library "folder" in iTunes) to the iPod. The iPod's songs and playlists always match the Mac's.

Apple's idea here was to ensure that you don't use the iPod as a convenient piracy machine. Your iPod gets its music *from* your Mac, but can't put its songs *onto* a Mac.

At least that's the theory. But what if your hard drive selfdestructs, vaporizing the 945 MP3 files that you've made from your paid-for CD collection? You legally own those copies. Shouldn't you have the right to retrieve them from your own iPod?

If you believe that the answer is yes, a quick search at <u>www.versiontracker.com</u> will bring up a list of programs like iPod Viewer and iPod.iTunes, which let you copy music *from* the iPod *to* the Mac.

These programs know that the name of the super-secret music folder on the iPod, called iPod\_Control, is invisible, which is why you can't see it on your desktop without the help of these utilities.

## 10.3.4.1 Buying music

If you decide to buy a song, you need an Apple Account; click the Account: Sign In button on the right side of the iTunes window to get started. (If you've ever bought or registered an Apple product on the company's Web site, signed up for AppleCare, bought an iPhoto hardbound book, or have a .Mac membership, you probably have an Apple Account already. All you have to do is remember your name—usually your email address—and password.)

When you click the Buy button next to a song's name, iTunes downloads it into your Home Music folder. It also shows up in the Purchased Music playlist in the Source list for convenient access.

### 10.3.4.2 Restrictions

Although some people may never even realize it, Apple Music Store downloads are copy-protected—gently. For example:

 Maximum of three computers. Apple lets you play your Music Store-bought songs on up to three computers at once.

However, to prevent you from becoming a rampant music pirate, you must prove your honesty by authorizing these three machines.

You authorized your first machine when you signed up for an Apple Account for the iTunes store. To authorize a song to play on a second or third computer, copy it over from the first machine. Then, in iTunes, select the song and click the Play button. Type in your Apple Account user name and password in the box that appears. This second computer is now authorized to play that song—and any other songs you bought using the same Apple Account.

# GEM IN THE ROUGH Playing Across the Network

If you've taken the trouble to set up a home network, you can share songs and playlists with up to five networked computers. You could, for example, tap into your roommates' jazz collection without getting up from your desk, and they can sample the zydeco and tejano tunes from your World Beat playlists. The music you decide to share is streamed over the network to the other computer.

You can't share music across the *Internet*; only within your own home or office network. Technically speaking, the computers must be on the same *subnet* (open the Network panel of System Preferences to check your subnet number).

To make your music available to others, choose iTunes Preferences, click the Sharing icon, and turn on "Share my music." When they click OK, they'll find *your* iTunes collection listed in the Source pane, ready to play.

Unfortunately, you can't listen to a song from the iTunes Music Store across the network until you enter the Apple account name and user password that was used to purchase the song. Your Mac now takes one of the three spots on the song's authorized list. If you don't type in the owner's name and password for purchased songs, iTunes will just skip those tracks.



Thinking of putting that older computer up for sale? Before you wipe the drive clean and send it on its way, be sure to deauthorize it (choose Advance Deauthorize Computer), so that you're not wasting one of your "you can play your Music Store purchases on up to three computers" slots. Erasing a hard drive, by itself, does not deauthorize a computer.

10.3 iTunes: The Digital Jukebox

Maximum of ten CDs per playlist. You can also burn purchased tracks to blank CDs, so you can listen to them in
the car or on the big stereo rack in the living room. Here, Apple has inserted a tiny, almost irrelevant form of copy
protection: If you've added store-bought songs to a given playlist, you can't burn more than ten CD copies of it in a
row without making at least one change to that list. Changing the song order slightly will do.

## 10.3.5 Playing Music

To turn your Mac into a music player, click iTunes' triangular Play button (or press the Space bar). The Mac immediately begins to play the songs whose names have checkmarks in the main list (Figure 10-4).



The central display of the top of the window shows not only the name of the song and album, but also where you are in the song, as represented by the diamond in the horizontal strip. Drag this diamond, or click elsewhere in the strip, to jump around in the song.

To view the current music's sound levels, just click the tiny triangle at the left side of this display to see a pulsing VU meter, indicating the various frequencies.

## 10.3.6 Playing with Playback

As music plays, you can control and manipulate the music and the visuals of your Mac in all kinds of interesting ways. As a result, some people don't move from their Macs for months at a time.

### 10.3.6.1 Turning on visuals

*Visuals* is the iTunes term for an onscreen light show that pulses, beats, and dances in perfect sync to the music you're listening to. The effect is hypnotic and wild. (For real party fun, invite some people who grew up in the Sixties to your house to watch.)

To summon this psychedelic display, click the flower-power icon in the lower-right corner of the window (see Figure 10-4).

The show begins immediately—although it's much more fun if you choose Visuals—Full Screen so that the movie takes over your whole monitor. True, you won't get a lot of work done, but when it comes to stress relief, visuals are a lot cheaper than a hot tub.

Once the screen is alive with visuals, you can turn it into your personal biofeedback screen by experimenting with these keys:

Key	Function	
?	Displays a cheat sheet of secret keystrokes. (Press it repeatedly to see the other shortcut keys.)	
F	Displays, in the upper-left corner of your screen, how many frames per second iTunes' animation is managing—a quick, easy way to test the power of your graphics circuitry.	

Т	Turns <i>frame rate capping</i> on or off—a feature that limits the frame rate to 30 frames per second, to avoid sapping your Mac's horsepower when you're working in other programs (not really much of an issue in Mac OS X, of course).
1	Shows/hides info about the current song.
С	Shows/hides the current Visuals configuration (the name of the current waveform, style, and color scheme) in the upper-right corner of the screen.
М	Turns slideshow mode on or off. In slideshow mode, the visuals keep changing color and waveform as they play. (Otherwise, the visuals stick with one style and color.)
N	Turns "high-contrast colors mode" on or off.
В	Turns on an Apple logo in the center of the Visuals screen.
R	Chooses a new waveform/style/color at random.
Q or W	Cycles through the various waveform styles stored in iTunes.
A or S	Cycles though <i>variations</i> on the currently selected waveform.
Z or X	Cycles through color schemes.
Number keys	Cycle through the ten different preset, preprogrammed waveform/ color/style configurations.
Up/down arrow keys	Louder/softer
D	Restores the default waveform settings.

By the way, these are the secret keystrokes for the *built-in* visuals. The Web is crawling with add-on modules that have secret keystrokes of their own.



If the visuals aren't running in full-screen mode, the Browse button turns into an Options button. Click it to see a window full of options that aren't available anywhere else.

## 10.3.6.2 Keyboard control

You can control iTunes' music playback using its menus, of course, but the keyboard can be far more efficient. Here are a few of the control keystrokes worth noting:

Function	Keystroke
Play, Pause	Space bar
next song/previous song	right arrow, left arrow
next source/previous source	down arrow, up arrow
louder	<b>≇</b> -up arrow
quieter	<b>#</b> -down arrow
mute	Option-#-M
fast-forward, rewind	Option-#-right arrow, -left arrow
eject	<b>%</b> -∈
Turn Visuals on	<b>Ж</b> -⊤
Turn Visuals off	#-T or mouse click
Full-screen visuals	<b>%</b> -⊧
Exit full-screen visuals	<b>#</b> -T, <b>#</b> -F, Esc, or mouse click

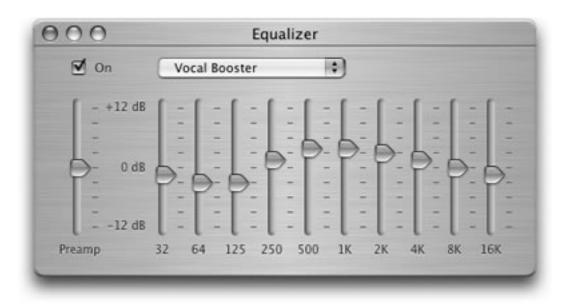


You can also control CD playback from the Dock. Just Control-click the iTunes icon (or click and hold on it) to produce a pop-up menu offering playback commands like Pause, Next Song, and Previous Song, along with a display that identifies the song currently being played.

### 10.3.6.3 Playing with the graphic equalizer

If you click the Graphic Equalizer button (identified in <u>Figure 10-4</u>), you get a handsome control console that lets you adjust the strength of each musical frequency independently (see <u>Figure 10-5</u>).

Drag the sliders (bass on the left, treble on the right) to accommodate the strengths and weaknesses of your speakers or headphones (and listening tastes). Or save yourself the trouble —use the pop-up menu above the sliders to choose a canned set of slider positions for Classical, Dance, Jazz, Latin, and so on. These settings even transfer to the iPod.



## 10.3.6.4 Preventing ear-blast syndrome

Here's a clever touch: In the iTunes Preferences dialog box, if you click the Effects icon, you see a new checkbox called Sound Check. Its function is to keep the playback volume of all songs within the same basic level, so that you don't have to adjust the volume to compensate for different recorded levels. (This setting, too, gets transferred to your iPod.)

# 10.3.7 Copying (Ripping) CD Songs to Your Hard Drive

iTunes lets you convert your favorite songs from audio CDs into files on your hard drive. Once they've been transferred to your Mac, you can play them whenever you like, without even needing the original CD.

To *rip* a CD (as aficionados would say), make sure that only the songs you want to capture have checkmarks in the main list. (The bottom of the window shows you how many songs are on the CD, their total playback time, and how many megabytes of disk space it would take to copy them to your hard drive.) Choose a format for the files you're about to create

using the pop-up menu on the iTunes Preferences Importing tab. Then click the Import button at the upper-right corner of the window (see Figure 10-6).

Watch the display at the top of the window to see how long the conversion is going to take, and which song iTunes is working on. As iTunes finishes processing each song, you see a small, circled checkmark next to its name in the main list to remind you that you've got it on board and no longer need the CD in your machine.



When it's all over, you'll find the imported songs listed in your Library (click the Library icon in the left-side Source list). From there, you can drag them into any other folder (playlist), as described next.

## 10.3.8 Playlists and Smart Playlists

When you click the Library icon in the left-side Source list, the main part of the screen displays every music file iTunes knows about (and even QuickTime movie files; iTunes will play back just the soundtrack). It's organized much like a Finder window, with columns indicating the song length, singer or band, album, and so on. As always, you can rearrange these columns by dragging their headings, sort your list by one of these criteria by clicking its heading, reverse the sorting order by clicking the heading a second time, and so on. And here's the best part: To find a particular song, just type a few letters into the Search blank above the list. iTunes hides all but the ones that match.

Apple recognizes that you may not want to listen to *all* your songs every time you need some tunes. That's why iTunes lets you create *playlists*—folders in the Source list that contain only certain songs. In effect, you can devise your own albums,

10.3 iTunes: The Digital Jukebox

like one called Party Tunes, another called Blind Date Music, and so on.

### 10.3.8.1 Creating playlists

To create a new playlist, click the New Playlist button in the lower-left corner of the window, or choose File New Playlist (#-N). Alternatively, if you've already highlighted certain songs—by #-clicking them or Shift-clicking them—you can choose File New Playlist From Selection.

A new playlist appears as an icon in the list at the left side of the screen. You can rename one by double-clicking it, and add songs to one by dragging them out of the main list.



Deleting a song from a playlist doesn't delete it from the Library (or your hard drive). Similarly, it's fine to add the same song to as many different playlists as you like, since you're not actually increasing the size of your Library. (You might be starting to pick up a running theme in Apple's software. Playlists work just like albums in iPhoto, or the Sidebar in the Finder.)

### 10.3.8.2 Playing with criteria

Smart Playlists constantly rebuild themselves according to criteria you specify. You might tell one Smart Playlist to assemble 45 minutes' worth of songs that you've rated higher than four stars but rarely listen to, and another to list your most-often-played songs from the Eighties.



iTunes automatically tracks how many times you've played each song, the band name, and other criteria. The rating is one Smart Playlist criterion you have to input yourself.

To rate a song, make the window wide enough that you can see the My Rating column. Then just click in the My Rating column for a selected song. The appropriate number of stars appears—one, two, three, four, or five—depending on the position of your click. You can change a song's rating as many times as you like—a good thing, considering the short shelf life of a pop hit these days.

The Smart Playlist dialog box is really a powerful search command (because iTunes is really a powerful database). You can set up certain criteria, like the hunt for particular Beatles tunes illustrated here. Then, provided the "Live updating" checkbox is turned on, iTunes will always keep this playlist updated as your collection changes, as you change your ratings, as your Play Count changes, and so on.



To make a smart playlist, choose File New Smart Playlist (Option-R-N)—or just Option-click the New Playlist button beneath the source list. The dialog box shown in <u>Figure 10-7</u> appears. The controls here are designed to set up a search of your music database. <u>Figure 10-7</u>, for example, illustrates how you'd find up to 74 Beatles tunes released between 1965 and 1968—that you've rated three stars or higher and that you've listened to exactly twice.s

When you click OK, your Smart Playlist is ready to show off. When you click its name in the Source list, the main song list updates itself according to your criteria and any changes in your music collection. (Smart Playlists get transferred to your iPod, but don't continue to update themselves there.)

## 10.3.9 iTunes: Burning Music CDs

If your Mac can burn CDs, Mac OS X can serve as your own private record label. iTunes can record selected sets of songs, no matter what the original sources, onto a blank CD. When it's all over, you can play the burned CD on almost any standard CD player, just as you would a CD from Tower Records—but this time, you hear only the songs you like, in the order you like, with all of the annoying ones eliminated.



Use CD-R discs. CD-RW discs are not only more expensive, but may not work in standard CD players. (Not all players recognize CD-R discs either, but the odds are better.)

10.3 iTunes: The Digital Jukebox

# GEM IN THE ROUGH Internet Radio

Audio CDs and MP3 files aren't the only sources of musical and spoken sound you can listen to as you work. iTunes also lets you tune in to hundreds of Internet-based radio stations, which may turn out to be the most convenient music source of all. They're free, they play 24 hours a day, and their music collections make yours look like a drop in the bucket.

Click Radio in the left-side Source list. In the main list, if you're connected to the Internet, you'll see categories like Blues, Classic Rock, Classical, and so on, as shown here. Click the flippy triangle to see a list of Internet radio stations in that category.

When you see one that looks interesting, double-click it. (The higher the number in the Bit Rate column, the better the sound quality. Note, though, that 128 Kbps is generally too rich for dial-up modems, and may sputter or fail to connect.) Wait a moment for your Mac to connect to the appropriate Internet site, and then let the music begin!

Unfortunately, there's no easy way to capture Internet broadcasts or save them onto your hard drive. You can, however, drag the name of one into the Source list, or your Library, or even a playlist, to make it easier to access later on.

If you discover other Internet radio stations that sound interesting, choose Advanced Open Stream, type in the station's Web address (URL), and press Return.



Start by creating a playlist for the CD you're about to make. Click its icon in the leftside Source list to see the list you've

10.3 iTunes: The Digital Jukebox

built. Take a moment to drag them up or down in the list to reflect their playback order. Keep these points in mind:

- Keep an eye on the readout at the bottom of the list, which tells you how much time the songs will take.
- About 74 or 80 minutes of AIFF audio files fit on one CD. But if you make an MP3 CD instead (choose iTunes Preferences Burning tab, choose MP3 CD as the format), you can hold at least ten times as much. Note, though, that MP3 CDs don't play on all CD players—only those advertised with this feature.
- You can control how many seconds of silence iTunes leaves between tracks on your custom CD. Choose iTunes Preferences, click the Burning icon, and make a selection from the Gap Between Songs pop-up menu. This is also where you specify whether you want to make a standard audio CD or a CD in the newer, less compatible MP3 CD format (which holds much more music per disc).

When everything is set up, click the Burn CD button in the playlist window. Insert a blank CD into the Mac and then click Burn CD again.

The burning process takes some time. Feel free to work in other programs while iTunes chugs away.







### 10.4 DVD Movies

If your Mac has a DVD drive (or a combo DVD/CD-RW drive or SuperDrive), you're in for a treat. Your Mac can play rented or purchased movies on DVD as though it was born to do so.

Watching movies on your Mac screen couldn't be simpler: Just insert the DVD. The Mac automatically detects that it's a video DVD—as opposed to, say, one that's just filled with files—and launches the DVD Player program (Figure 10-8).

### NOTE

DVD Player doesn't work (and doesn't even get installed) on certain older Macs, including the "Wall Street" PowerBook laptops and early blue-and-white Power Macs.

If DVD Player doesn't start up automatically when you insert a DVD movie, you can open it yourself. It's sitting there in your Applications folder. (Then fix the problem, using the CDs & DVDs panel of System Preferences.)

## 10.4.1 Playing a Movie

If DVD Player starts out playing your movie in a window, your first act should be to choose Video Enter Full Screen (#2-0). At this point, the movie screen fills your entire monitor—even the menu bar disappears. (To make it reappear, move your cursor near the top of the screen.)

At this point, you're ready to play the movie. By far the easiest way is to just press the Space bar—once to start, again to pause, again to start again.

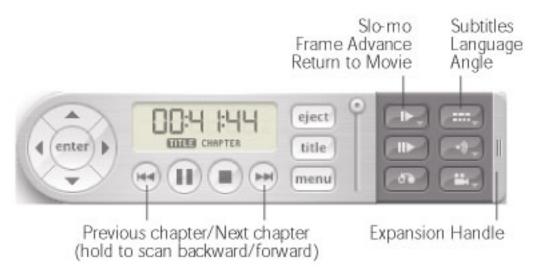
You can also use the "remote control," which is deconstructed in Figure 10-8. Or just use the keyboard:

• Press Shift-#-right arrow to fast-forward; press that combination repeatedly to cycle from twice to 4, 8, or 16 times normal speed. Similarly, press Shift-#-left arrow to scan backwards. Click Play (or press the Space bar) to resume normal playback.

## Top: DVDs on your screen!

Bottom: You can orient this controller either horizontally or vertically on your screen by choosing Controls—>Use Vertical Controller. You can also do without this remote control altogether, since all of its buttons have keyboard equivalents.





You can make the movie louder or quieter by repeatedly tapping #-up or -down arrow. That's a good keystroke to remember when you've hidden the remote control itself.

Or, if you prefer a clip'n'save cheat sheet of all the keystrokes, here it is:

Function Keystroke

Play, Pause Space bar

10.4 DVD Movies	
Fast-forward	Shift- <b>#</b> -right arrow
Rewind	Shift- <b>#</b> -left arrow
Louder	<b>≇</b> -up arrow
Quieter	<b>#</b> -down arrow
Mute/Unmute	Option- <b>∰</b> -down arrow
Next/previous "chapter"	right arrow, left arrow
Main menu	#-~ (upper left of your keyboard)
Full-screen mode	<b>36</b> -0
Half, normal, maximum size	<b>%</b> -1, -2, -3
Eject	<b>36</b> -⊑
Show/hide remote control	Shift- <b>ૠ</b> -C
Rotate remote control	Option- <b>#</b> -C

# 10.4.2 Language Fun

Show/hide "movie screen"

Show movie Info

Most Hollywood DVDs have been programmed with onscreen subtitles to help those with hearing impairments and people sitting in noisy bars. Click the Subtitle button (<u>Figure 10-8</u>) to turn on the subtitles, again to hide them. (You can specify the language you want—English subtitles, Spanish subtitles, or whatever the DVD offers—by clicking the same button

Shift-**ૠ**-V

Shift-**ૠ**-I

repeatedly. Or choose DVD Player Preferences, click the Disc Setup tab, and choose a language from the Subtitle popup menu.)

Meanwhile, each time you click the Audio button on the remote, the movie's soundtrack switches to a different language (if, in fact, alternate soundtrack languages have been provided). You'll see the name of each language appear briefly in the remote's display. (You can also use the Audio button as a pop-up menu to choose the language you want directly.)

# FREQUENTLY ASKED QUESTION Region Changing

The first time I tried to play a DVD, I got this weird message about initializing the region code. What's up with that?

Hollywood generally releases its movies in each part of the world at different times. A movie may come out on video in the U.S. when it's just hitting screens in Europe. We certainly can't have people watching a DVD before the movie studio says it's OK! That's why many discs are *region-locked*, so that they play back only on players in certain geographical regions of the world.

As a DVD player in disguise, your Mac is just doing its duty. You can change its region (you'll be offered the chance to do so when you insert a region-locked DVD from another region), but only five times—and then it's frozen forever in the fifth version, or at least until you erase your hard drive and start over.

The dialog box shows you which region your DVD is designed for: 1 for the U.S. and Canada; 2 for Japan, Europe, South Africa, and the Middle East; 3 for Southeast and East Asia; 4 for Australia, New Zealand, Pacific Islands, Central America, Mexico, South America, and the Caribbean; 5 for Eastern Europe, Africa, and North Korea; 6 for China; and 8 for airplanes, cruise ships, and so on.

(There is no Region 7. Maybe it's reserved for the empty spot in movie executives' hearts.)



For real fun, turn on English subtitles but switch the soundtrack to a foreign language. No matter how trashy the movie you're watching, you'll gain much more respect from your friends and family when you tell them that you're watching a foreign film.

# 10.4.3 The Big Picture

Now, watching a movie while sitting in front of your iMac or Power Mac is not exactly the great American movie-watching dream. But if your Mac has an S-video jack (many PowerBook and iBook models do), you can connect the Mac to your TV for a much more comfortable movie-watching experience.

Just be sure to connect the cable *directly* to the TV. If you connect them to your VCR instead, you'll probably get a horrible, murky, color-shifting picture—the result of the built-in copy-protection circuitry of every VCR.

PREV





# Part IV: The Technologies of Mac OS X

**Chapter 11**: Security and Accounts

Chapter 12: Networking

Chapter 13: Printing, Faxing, Fonts, and Graphics

Chapter 14: Sound, Speech, Movies, and Handwriting

Chapter 15: Terminal: Doorway to Unix

Chapter 16: Fun with Terminal

Chapter 17: Hacking Mac OS X



< Day Day Up







# **Chapter 11. Security and Accounts**

In an era when *security* is the hot high-tech buzzword, Apple was smart to make security a focal point for the Panther upgrade. In an already virus-free operating system, it's only icing on the cake that, for example, you can now opt to have your Home folder protected with something called AES-128 encryption. (How secure is that? It would take a password-guessing computer *149 trillion years* before hitting paydirt. Or, in more human terms, slightly longer than two back-to-back Kevin Costner movies.)

The concept of *user accounts* is central to Panther's security approach. Like the Unix under its skin (and also like Windows XP and Windows 2000), Mac OS X is designed from the ground up to be a *multiple-user* operating system. You can configure a Mac OS X machine so that everyone must *log in*—that is, you have to click or type your name and type in a password—when the computer turns on. And upon doing so, you discover the Macintosh universe just as you left it, including these elements:

- Your documents, files, and folders.
- Your preference settings in just about every program you use: Web browser bookmarks and preferred home page; desktop picture, screen saver, and language; icons on the desktop and in the Dock—and the size and position of the Dock itself; and so on.
- Your email account(s), including personal information and mailboxes.
- Your personally installed programs and fonts.
- Your choice of programs that launch automatically at startup.

This system means that several different people can use it throughout the day, without disrupting each other's files and settings. It also protects the Mac from getting fouled up by mischievous (or bumbling) students, employees, and hackers.

If you're the only person who uses your Mac, you can safely skip most of this chapter. The Mac will never ask for the name and password you made up when you installed Mac OS X (at least not at startup time), because Apple's installer automatically turns on something called *automatic login* (Section 11.4.1). You will be using one of these accounts, though, whether you realize it or not.

Furthermore, when you're stuck in line at the Department of Motor Vehicles, you may find the concepts presented here worth skimming, as certain elements of this multiple-user system may intrude upon your solo activities—and the discussions in this book—from time to time.



Even if you don't share your Mac with anyone and don't create any other accounts, you might still be tempted to learn about the accounts feature because of its ability to password-protect the entire computer. All you have to do is to turn *off* the automatic login feature described in Section 11.4.1. Thereafter, your Mac is protected from unauthorized fiddling when you're away from your desk or when your laptop is stolen.



Up >

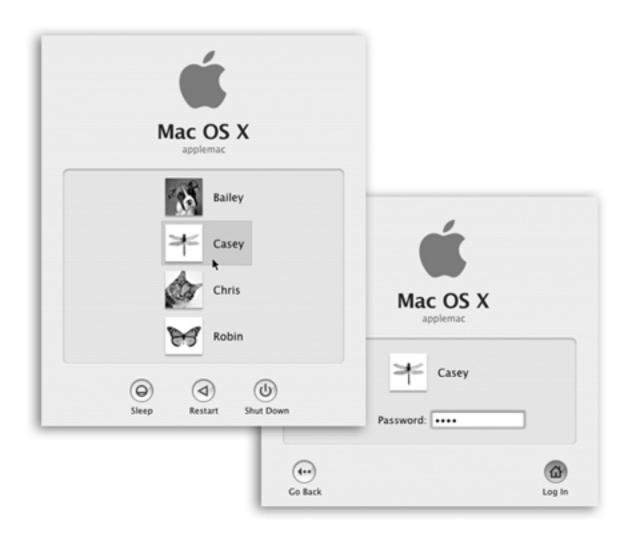




# **11.1 Introducing Accounts**

When you first installed Mac OS X, whether it was 10.3 or an earlier version (see <u>Appendix A</u>), you were asked for a name and password. You may not have realized it at the time, but you were creating the first *user account* on your Macintosh. Since that fateful day, you may have made a number of changes to your desktop—adjusted the Dock settings, set up your folders and desktop the way you like them, added some favorites to your Web browser, and so on—without realizing that you were actually making these changes only to *your account*.

When you set up several accounts, you don't turn on the Mac so much as sign into it. A command in the menu called Log Out summons this sign-in screen, as does the new Accounts menu described later in this chapter. Click your own name, and type your password (if any), to move past this box and into your own stuff.



As noted in <u>Chapter 2</u>, you've probably been saving your documents into your own Home folder, which is the cornerstone of your own account. This folder, generally named after you and stashed in the Users folder on your hard drive, stores not only your own work, but also your preference settings for all the programs you use, special fonts that you've installed, programs you've installed for your own use, and so on.

Now then: If you create an account for a second person, when she turns on the computer and signs in, she'll find the

### 11.1 Introducing Accounts

desktop exactly the way it was factory-installed by Apple—blue swirling desktop picture, Dock along the bottom, the default Web browser home page, and so on. She can make the same kinds of changes to the Mac that you've made, but nothing she does will affect *your* environment the next time you log in. You'll still find the Mac desktop the way you left it—your desktop picture fills the screen, the Web browser lists your bookmarks, the Dock lists your favorite documents, and so on.

In other words, the multiple-accounts feature has two components: first, a convenience element that hides everyone else's junk; and second, a security element that protects both the Mac's system software and everybody's work.



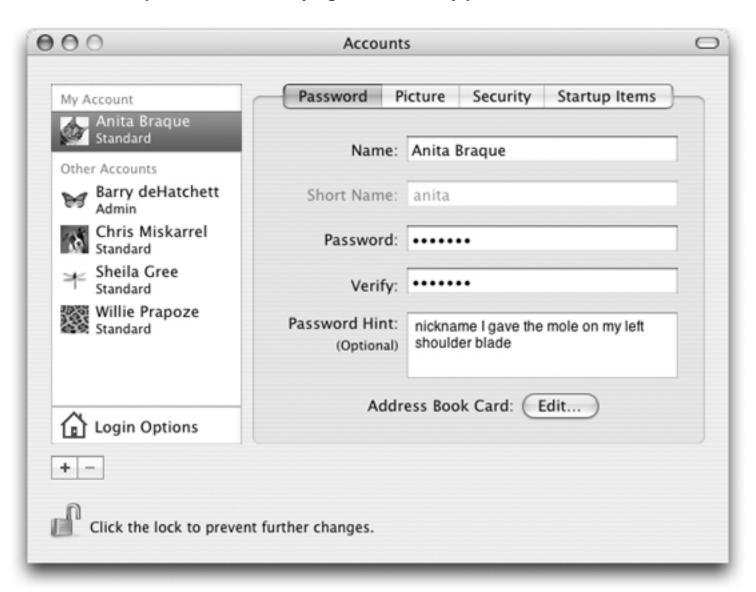




### 11.2 Administrator vs. Standard Accounts

If you like the idea of this multiple-accounts business, begin by opening System Preferences (<u>Chapter 8</u>). In the System Preferences window, click Accounts.

The screen lists everyone for whom you've created an account. From here, you can create new accounts or change passwords. Notice the padlock icon at the bottom. Whenever you see it, you're looking at settings that only administrators are allowed to change—after clicking the padlock and identifying themselves by password, that is.



The screen shown in <u>Figure 11-2</u> appears, revealing the list of everyone who has an account. If you're new at this, there's probably just one account listed here—yours. This is the account that Mac OS X created when you first installed it.

### 11.2.1 Administrator Accounts

It's important to understand the phrase you see just beneath your name. On your own personal Mac, it probably says *Admin.* This, as you could probably guess, stands for Administrator.

Because you're the person who installed Mac OS X to begin with, the Mac assumes that you are its *administrator*—the technical wizard who's in charge of it. You're the teacher, the parent, the resident guru. You're the one who will maintain this Mac. Only an administrator is allowed to:

- Install new programs into the Applications folder.
- Add fonts (to the Library folder) that everybody can use.
- Make changes to certain System Preferences panels (including Network, Date & Time, Energy Saver, and Startup Disk).
- Use NetInfo Manager and some features of the Disk Utility program.
- Create, move, or delete folders outside of your Home folder.
- Decide who gets to have accounts on the Mac.
- Open, change, or delete anyone else's files (Section 12.2.10).
- Bypass FileVault using a master password (<u>Section 11.3.3</u>).

Mastering the notion of administrators may be new to you, but it's an important pill to swallow. For one thing, you'll find certain settings all over Mac OS X that you can change *only* if you're an administrator—including many in the Accounts panel itself (see <u>Figure 11-2</u>). For another thing, whether or not you're an administrator plays an enormous role when networking your Mac to other kinds of computers, as described in the next chapter. And finally, in the bigger picture, the fact that the Mac has an industrial-strength accounts system, just like traditional Unix and Windows 2000 operating systems, gives it a fighting chance in the corporations of America.

As you create accounts for other people who'll use this Mac, you'll be offered the opportunity to make each one an administrator just like you. Needless to say, use discretion. Bestow these powers only upon people as responsible and technically masterful as you.

### 11.2.2 Standard Accounts

Anyone who isn't an administrator will probably just be an ordinary, everyday *Standard* account holder (<u>Figure 11-2</u>). (In earlier Mac OS X versions, Apple had no name for this kind of account; they were just "not administrators.")

These people have everyday access to their own Home folders and to some of the System Preferences, but most other areas of the Mac are off-limits. Mac OS X won't even let them create new folders on the main hard drive, except inside their own Home folders (or in the Shared folder described later).

A few of the System Preferences panels contain a padlock icon like the one in <u>Figure 11-2</u>. If you're a Standard account holder, you can't make changes to these settings without the assistance of an administrator. (Fortunately, you aren't required to log out so that an administrator can log in and make changes. You can just call the administrator over, click the padlock icon, and let him type in his name and password—if, indeed, he feels comfortable with you making the changes you're about to make.)



< Day Day Up >







# 11.3 Creating an Account

To create a new account, click the + button beneath the list of accounts. The controls shown in Figure 11-2 appear.

Mac OS X offers a long list of options for each account, as described in the following pages. None of it is difficult; some of it, in fact, is kind of fun.

### 11.3.1 Phase 1: Name the Account

On the first tab of the dialog box, called Password, you fill in certain information about the new account holder.

- Name. If it's just the family, this could be Chris or Robin. If it's a corporation or school, you'll probably want to use both first and last names.
- Short Name. Particularly if your name is, say, Alexandra Stephanopoulos, you'll quickly discover the value of having a short name—an abbreviation of your actual name. When you sign into your Mac in person, you can use either your long or short name. But when you access this Mac by dialing into it or connecting from across the network (as described in the next chapter), the short variation is all you need.

As soon as you tab into this field, the Mac proposes a short name for you. You can replace the suggestion with whatever you like. (Technically, it doesn't even have to be shorter than the "long" name.)

• Password, Verify. Here's where you're supposed to type this new account holder's password (<u>Figure 11-2</u>). In fact, you're supposed to type it twice, to make sure you didn't introduce a typo the first time. The Mac displays only dots as you type, to guard against the possibility that somebody is watching over your shoulder.

The usual computer book takes this opportunity to stress the importance of a long, complex password—something made up of mixed letters and numbers or anything that isn't in the dictionary. This is excellent advice if you create sensitive documents and work in a big corporation.

But if you share the Mac only with a spouse or a few trusted colleagues in a small office, for example, you may have nothing to hide. You may see the multiple-users feature more as a convenience (keeping your settings and files separate) than a protector of secrecy and security. In these situations, there's no particular urgency to the mission of thwarting the world's hackers with a convoluted password.

In fact, you may want to consider setting up *no* password—leaving both password blanks empty. Later, whenever you're asked for your password, just leave the Password box blank. You'll be able to log in that much faster each day.

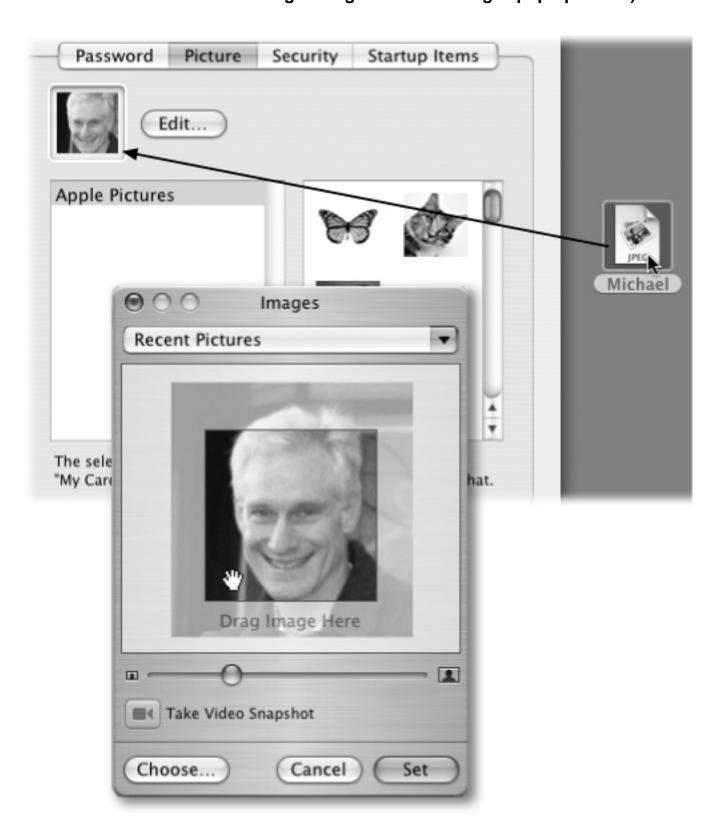
Password Hint. If you gave yourself a password, you can leave yourself a hint in this box. If your password is the
middle name of the first person who ever kissed you, for example, your hint might be "middle name of the first
person who ever kissed me."

Later, if you ever forget your password, the Mac will display this cue to jog your memory.

### 11.3.2 Phase 2: Choose a Picture

The usual Mac OS X sign-in screen (Figure 11-1) displays each account holder's name, accompanied by a little picture.

Once you've selected a photo to represent yourself (left), you can adjust its position relative to the square "frame" (right), or adjust its size by dragging the slider. Finally, when the picture looks correctly framed, click Set. (The next time you return to the Images dialog box, you'll be able to recall the new image using the Recent Images pop-up menu.)



On the Picture tab, you can choose a little graphic for yourself. It will become not only your icon on the sign-in screen, but also your "card" photo in Mac OS X's Address Book program and your icon in iChat.

If you like the selections that Apple has provided at the right side of the window (drag the scroll bar to see them all), just click one to select it. If you'd rather supply your own graphics file—a digital photo of your own head, for example—follow one of these paths:

- Drag the graphics file directly into the "picture well" (<u>Figure 11-3</u>). Use the resulting Images window to frame your picture.
- Click the Edit button. In the Images dialog box that appears, click Choose. You're shown a list of what's on your hard drive so that you can double-click it.
- If you have an iSight camera (or a digital camcorder) hooked up to your FireWire jack, click Edit. Use the resulting Images window to frame yourself, and then click the Take Video Snapshot button.

### 11.3.3 Phase 3: Security—and FileVault

The Security tab, new in Panther, is the heart of Mac OS X's account security system (Figure 11-4).

The most important item here is the checkbox called "Allow user to administer this computer." This is the big one: the master switch that turns this ordinary, unsuspecting computer user into an administrator, as described previously.

The second most important item here is FileVault, one of Panther's most often-cited new features. Understanding what it does may take a little slogging.

As noted earlier, the Mac OS X accounts system is designed to keep people out of each other's stuff. Ordinarily, for example, Chris isn't allowed to go rooting through Robin's stuff.

Until Mac OS X 10.3, though, there were all kinds of ways to circumvent this protection system. A sneak or showoff could start up your Mac in Mac OS 9, which knows nothing about Mac OS X permissions, or start up the Mac in FireWire disk mode (Section 6.2) using a different copy of Mac OS X, or even remove the hard drive and hook it up to a Mac OS 9 machine. In each case, they'd then be able to run rampant through everybody's files, changing or trashing them with abandon. For people with sensitive or private files, the result was a security hole bigger than Steve Jobs' bank account.

FileVault is an extra line of defense. When you turn on this feature, your Mac automatically *encrypts* (scrambles) everything in your Home folder, using the abovementioned, ridiculously secure AES protocol. This means that unless someone knows (or can figure out) your password, FileVault renders your files unreadable for anyone but you and your computer's administrator—no matter what sneaky tricks they try to pull.

You won't notice much difference when FileVault is turned on. You log in as usual, clicking your name and typing your password. Only a slight pause indicates that Mac OS X is decoding your entire Home folder.



This feature is especially useful for laptop owners. If someone swipes or "borrows" your PowerBook or iBook, they won't be able to access your stuff without the password.

Here are some things you should know about FileVault's protection:

• It's useful only if you've logged out. Once you're logged in, your files are *not* encrypted. If you want the protection, log out before you wander away from the Mac. (Or let the screen saver close your account for you; see

Section 11.4.2).

• It only covers your Home folder. Anything in your Applications, System, or Library folders is exempt from protection.



If you've got *programs* you don't want anyone else to see, store them in your Home folder and put aliases of them in your Applications folder. That way, you get the security of FileVault *and* the convenience of your Applications folder.

- An administrator can access your files, too. According to Mac OS X's caste system, anyone with an
  administrator's account can have virtually unhindered access to his peasants' files—even with FileVault on—
  because the administrator has the master password described below.
- It doesn't let you access your files from anything other than Mac OS X. In exchange for protection against evildoers, Mac OS X doesn't let you get to the stuff in your Home folder when the Mac starts up in Mac OS 9, or when you access it via FireWire disk mode. (That, after all, is the whole point.)
- It keeps other people from *opening* your files, not from deleting them. It's still possible for someone to trash all your files, without ever seeing what they are. There's not much you can do about this with FileVault on *or* off.
- Any shared folders in your Home folder will no longer be available on the network. That is, any folders you've shared won't be available to your co-workers *except* when you're at your Mac and logged in.
- Backup programs may throw a tizzy. File Vault's job is to "stuff" and "unstuff" your Home folder as you log in
  and out. Backup programs that work by backing up files and folders that have changed since the last backup may
  therefore get very confused.
- It's only as secure as your password. If someone can figure out your account's password, they can bypass FileVault for your account. Even more seriously, if someone can figure out the *master password* (see below), they can bypass FileVault for *every* account on your computer.
- If you forget your password and your administrator forgets the master password, you're toast. If this happens, your data is *permanently lost*. You'll have no choice but to erase your hard drive and start from scratch.

To turn FileVault on, proceed like this:

1. In the Accounts panel of System Preferences, click the Security tab.

Actually, you can find the same controls in the Security panel of System Preferences.

#### 2. Click Set Master Password.

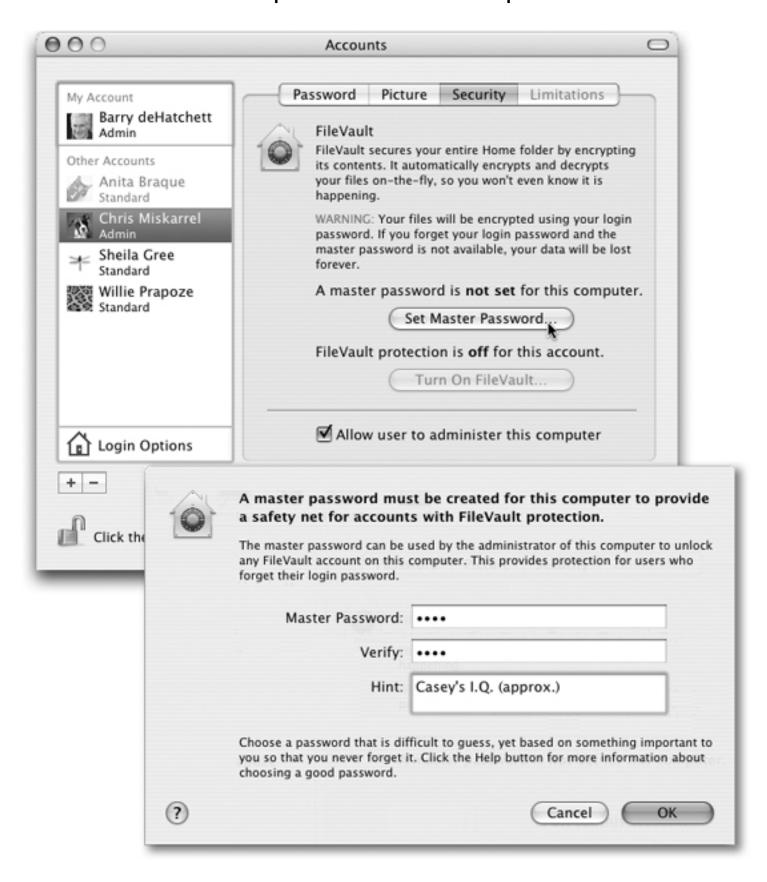
If you're the first person to turn on FileVault, you'll need to create a master password first.

The master password is an override password that gives an administrator full power to access any account (even without knowing the account holder's password) or to turn off FileVault for any account.

The thinking goes like this: Yeah, yeah, the peons with Standard accounts forget their *account* passwords all the time. But with FileVault, a forgotten password would mean *the entire Home folder is locked forever*—so Apple gave you, the technically savvy administrator, a back door. (And you, the omniscient Administrator, would *never* forget the *master* password—right?)

Top: The Security tab is the gateway to Panther's beefed-up security features.

Bottom: Type in your master password twice, and give yourself a hint. (In the event of an emergency, the hint will appear after the third unsuccessful attempt to type in the master password.) When you click OK, you'll see that the Security dialog box now says, "A master password is set for this computer."



When you click Set Master Password, the dialog box shown in Figure 11-4 appears.

### 3. Click Turn On FileVault.

Some time passes as Mac OS X tries to figure out whether or not you have enough free disk space to encrypt your Home folder. (Remember, it's essentially going to duplicate and encode everything in your Home folder-all of your photos, movies, and so on. It will then delete the originals.) If you don't have enough space (20 GB, 30 GB, or more may be necessary), you'll get only an error message.

If you do have enough space, an explanatory dialog box appears.

### 4. Click Turn on FileVault in the dialog box.

Now Mac OS X logs you out of your own account. (It can't very well encrypt a folder that's in use.) Some time will pass while it converts your Home folder into a protected state, during which you can't do anything but wait.

After a few minutes, you arrive at the standard login window, where you can see that your account picture is now adorned by the FileVault logo. Sign in as usual, confident that your stuff is securely locked away from anyone who tries to get at it when you're not logged in.

#### NOTE

To turn off FileVault, open System Preferences, click Security, and click Turn Off FileVault. Enter your password and click OK. (The master password sticks around once you've created it, however, in case you ever want to turn FileVault on again.)

# UP TO SPEED Password Hell

With the introduction of the *master password* in Mac OS X 10.3, you now have quite a few different passwords to keep straight. Each one, however, has a specific purpose:

**Account password.** You type this password in at the normal login screen. You can't get into anyone else's account with it—only yours. Entering this password unlocks FileVault, too.

**Administrator password.** You're asked to enter this password whenever you try to install new software or modify certain system settings. If you're the only one who uses your computer (or you're the one who controls it), your administrator password *is* your account password. Otherwise, you're supposed to ask an administrator to type in *his* name and password once he's assessed what you're trying to do.

**Master password.** You can think of this password as a master key: If anyone with FileVault forgets her account password, the administrator who knows the master password can unlock the account. The master password also lets an administrator change an account's password right at the sign-in screen, whether FileVault is turned on or not.

Root password. This password is rarely useful for anything other than Unix hackery (Chapter 16).

### 11.3.4 Phase 4: Build the Rubber Room

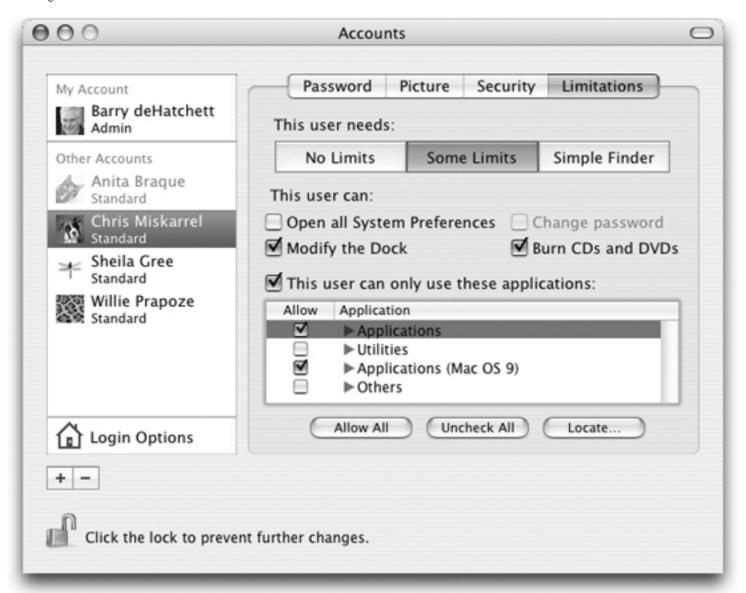
If you're setting up a Standard account, the Limitations tab affords you the opportunity to shield your Mac—or its very young, very fearful, or very mischievous operator—from confusion and harm. This is a great feature to remember when you're setting up accounts for students, young children, or easily intimidated adults.

Here, you see three buttons: No Limits, Some Limits, and Simple Finder.

### 11.3.4.1 No Limits

This setting, of course, means that this account holder is allowed do just about anything on the Mac that a Standard account holder is allowed to do: open any program, change settings, burn any kind of disc, and so on. Only administrative duties are off limits (installing programs into the Applications folder, adding and deleting accounts, and so on).

From the Limitations window, you can control the capabilities of any user of your system. In the lower half of the Some Limits or Simple Finder panes, you can choose applications by turning on the boxes next to their names. (Expand the flippy triangles if necessary.) Those are the only programs these account holders will be allowed to use.



### 11.3.4.2 Some Limits

By tinkering with the checkboxes here, you can declare certain programs off-limits to this account holder, or turn off his ability to remove Dock icons, burn CDs, and so on.

In fact, you can restrict this person's access to the Mac in several different ways:

• Limit the programs. At the bottom of the dialog box shown in Figure 11-5, you see a list of all the programs in your Applications folder (an interesting read in its own right). If you turn on "This user can use only these applications," you can then turn the programs' checkboxes on or off. Only checked items will show up in the account holder's Applications folder.



If you don't see a program listed, click the Locate button and find it, or drag its icon from the Finder into the window. You'll have to do that when, for example, a program, like Adobe Photoshop, is inside a *folder* in the Applications folder, rather than sitting loose as a solo icon there.

If you're setting up an account for use in the classroom, say, you may well want to turn off access to programs like Disk Utility, iChat, and Tomb Raider.

• Limit the features. When you first create a Standard account, all of the checkboxes above the list of programs are turned *on*. That is, Standard account holders are free to burn CDs or DVDs, change what's on the Dock, change their passwords, and view the settings of all System Preferences panels (although they can't necessarily *change* all of these settings).

Depending on your situation, you may find it useful to turn off some of these options. In a school lab, for example, you might want to turn off the ability to burn discs (to block software piracy). If you're setting up a Mac for a technophobe, you might want to turn off the ability to change the Dock (so your colleague won't accidentally lose access to his own programs and work).

### 11.3.4.3 Simple Finder

If you're *really* concerned about somebody's ability to survive the Mac—or the Mac's ability to survive them—then click the Simple Finder button (shown at top in <u>Figure 11-5</u>). Also turn on the checkboxes of the programs that person is allowed to use.

Now suppose you're the lucky Mac fan who's been given a Simple Finder account. When you log in, you'll discover the barren world shown in <u>Figure 11-6</u>. There are only three menus ( , Finder, and File), a single onscreen window, no hard drive icon, and a bare-bones Dock. The only folders you can see are in the Dock. They include:

- My Applications. These are aliases of the applications the administrator approved. They appear on strange, fixed, icon view "pages" (list and column views don't exist). You can't move these icons, delete them, or rename them. If you have too many to fit on one screen, you get numbered page buttons beneath them, which you can click to move from one set to another.
- **Documents.** Behind the scenes, this is your Home Documents folder. Of course, as a Simple Finder kind of soul, you don't *have* a visible Home folder. All your stuff goes in here.
- **Shared.** This is the same Shared folder described in <u>Section 11.5.2</u>. It's provided so that you and other account holders can exchange documents. However, you can't open any of the folders here, only the documents.
- **Trash.** The Trash is here, but you won't use it much. Selecting or dragging any icon is against the rules, so you're left with no obvious means of putting anything into your Trash.

Truth is, you *can* put something into the Trash by Control-clicking it and choosing Move to Trash from the contextual menu. But as you'll be told, the item "will be deleted immediately." In Simple Finder, there's no mercy for files you've slated for execution.

The Simple Finder doesn't feel like home-unless you've got one of those Spartan, spaceage, Dr. Evil-style pads. But it can be just the ticket for less skilled Mac users, with few options and a basic oneclick interface. Every program in your My Applications folder is actually only an alias to the real program, which is safely ensconced in the off-limits Applications folder.



Otherwise, you can essentially forget everything else you've read in this book. You can't create folders, move icons, or do much of anything beyond clicking the icons that your benevolent administrator has provided. It's as though Mac OS X moved away and left you the empty house.

- If you click a folder, it opens—but only if something's actually inside; if it's empty, nothing happens at all. To keep
  things extra-simple, Mac OS X permits only one window at a time to be open. It's easy to open icons, too, because
  one click opens it, not two.
- The File menu is stunted, offering only a Close Window command. The Finder menu only gives you two options: About Finder and Run Full Finder. (The latter command prompts you for an administrator's user name and password, and then turns back into the regular Finder—a handy escape hatch. To return to Simple Finder, just choose Finder—Return to Simple Finder.)
- The menu is really bare-bones: You can Log Out, Force Quit, or go to Sleep. That's it.

Although the Simple Finder is simple, any program (at least, any that you, the administrator, have permitted) can run from it. A program running inside the Simple Finder still has all of its features and complexities—only the Finder has been whittled down to its essence.

This, of course, is one of the downfalls of the Simple Finder concept: It's great for streamlining the Finder, but novices won't get far swallowing their techno-fear until the world presents us with Simple AppleWorks, Simple Mail, and Simple Microsoft Word. Still, it's better than nothing.

In any case, as shown in Figure 11-6, the available programs' icons appear, 12 on a "page," with page buttons and previous/

next buttons at the bottom of the screen. The Simple person can't move, rename, delete, sort, or change the display of them —merely click them.

When the Simple people try to save documents, they'll find that although the Save box lists the usual locations (Desktop, Applications, and so on), in fact, they can save files only into their own Home folders (or folders inside it).

You can add any icon to the list of things you want to start up automatically. Click the + button to summon the Open dialog box where you can find the icon, select it, and then click Choose. Better yet, if you can see the icon in a folder or disk window (or on the desktop), just drag it into this list. You can specify the order in which your startup items open just by dragging them up or down in the list. To remove an item, click it in the list and then click the - button.



# 11.3.5 Phase 5: Startup Items

There's one additional System Preferences setting that each account holder can set up for herself: which programs or documents open automatically upon login. (This is one decision an administrator *can't* make for other people. It's available only to whoever is logged in at the moment.)

To choose your own crew of self-starters, open System Preferences and click the Accounts icon. Click the Startup Items tab. As shown in <u>Figure 11-7</u>, you can now build a list of programs, documents, disks, and other goodies that will autolaunch each time you log in. You can even turn on the Hide checkbox for each one, so that the program is running in the background at login time, waiting to be called into service with a quick click.

Don't feel obligated to limit this list to programs and documents, by the way. Disks, folders, servers on the network, and other fun icons can also be startup items, so that their windows are open and waiting when you arrive at the Mac each morning.

# 11.3.6 Editing Accounts

Administrators have all the fun, but even peon Standard users are permitted to change their startup pictures and (if the administrator has permitted it) passwords. Just open System Preferences, click Accounts, and then click your own account, which appears at the top of the account-holders' list. Now you can change whatever settings you like. (Well, *almost* any settings. Only administrators can change an account's name—and even they can't change an account's *short* name once the account has been created.)

## 11.3.7 Deleting Accounts

Hey, it happens: Somebody graduates, somebody gets fired, somebody dumps you. Sooner or later, you may need to delete an account from your Mac.

When that time comes, click the account name in the Accounts list and then click the little minus-sign button beneath the list. Panther asks what to do with all of the dearly departed's files and settings:

- **Delete Immediately.** This button offers the "Hasta la vista, baby" approach. The account and all of its files and settings are vaporized forever, on the spot.
- **OK.** This button presents the "I'll be back" approach. Mac OS X will preserve the dearly departed's folders on the Mac, in a tidy digital envelope that won't clutter your hard drive, and can be reopened in case of emergency.

In the Users Deleted Users [person's name] folder, you'll find a disk image file (.dmg) like the ones described in Section 4.10. If you double-click it, you'll find a new, virtual disk icon on your desktop named for the deleted account. You can open folders and root through the stuff in this "disk," just as if it were a living, working Home folder.

If fate ever brings that person back into your life, you can use this disk image to reinstate the deleted person's account. Start by creating a brand-new account. Then copy the contents of the folders in the mounted disk image (Documents, Pictures, Desktop, and so on) into the corresponding folders of the new Home folder.

# POWER USERS' CLINIC Moving Your Home Folder Between Computers

Mac OS X proposes putting all of the account holders' Home folders in one special folder (Users) on the main hard drive. But being able to put somebody's Home folder—such as your own—on a different disk can have its advantages, too. If you travel back and forth between home and work, for example, you might find it convenient to keep your entire life on an iPod or some other portable disk. In corporate environments, a network administrator may want you to keep your Home folder elsewhere on the Windows network. (Yes, Mac OS X is *that* compatible.)

Sure, you can do it, but you'll have to exploit the sometimes- intimidating power of NetInfo Manager, a program included with Mac OS X that's designed to let you perform just such technical tasks.

You'll find this program in your Applications Utilities folder. Open the program, click the lower-left padlock,

and then enter an administrator's name and password.

In the second column, *click* users. In the column to its right, click the name of the account whose Home folder you want to move—let's say it's *chris*.

In the bottom half of the window, scroll down until you see an entry called *home*. In the next column, you'll see its current location: /Users/chris (that is, the Home folder is called *chris*, and it's in the Users folder).

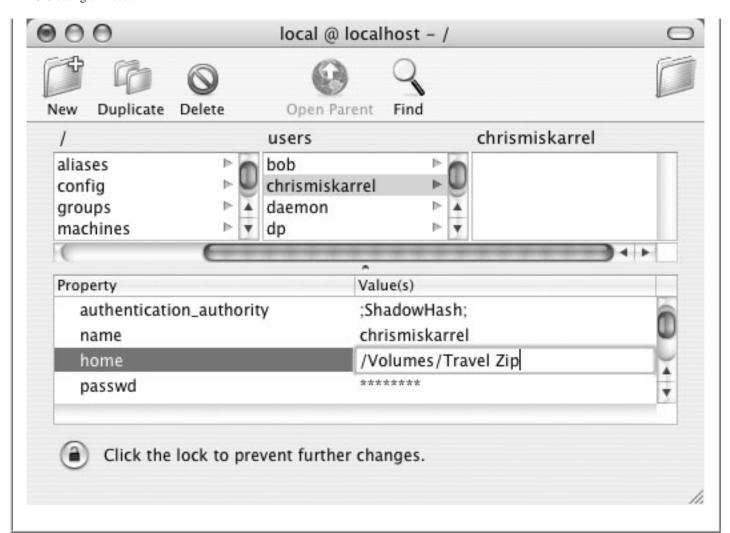
Double-click this notation (/Users/chris) to edit it. Change this text to /Volumes/diskname, where diskname is the name of your removable disk. ("Volumes" is the name of an invisible folder on your Mac OS X machine that lists the names of all disks present.) Press Enter, and then choose Domain—Save (and click "Update this copy" in the confirmation box).

Log out and then log back in again—as *chris*. You should see by the house-shaped icon on your desktop that the iPod is now, in effect, your Home folder, complete with all the usual Home-folder subfolders (Desktop, Documents, Library, and so on).

You're not allowed to remove the disk from the Mac until you've logged out and logged back in under a different account. Once you've done so, remove the disk and take it to work (or wherever the other Mac OS X machine is). Insert the disk and then repeat all of these steps so far.

From now on, both Macs will expect to find your Home folder on that removable disk. (Make sure that you've inserted it and given it time to spin up before you log in. And of course, don't remove the disk while you're logged in.)

And by the way, the procedure described here will leave the original *chris* folder on the primary hard drive—an orphaned duplicate. It's not doing any harm, but if you find its presence confusing, you can always delete it by restarting your Mac in Mac OS 9 (if your Mac can do that) or using the *sudo rm* command in Terminal (if you know how to do that; see Chapter 16).









# 11.4 Setting Up the Login/Logout Process

Once you've set up more than one account, the dialog box shown in <u>Figure 11-1</u> appears whenever you turn on the Mac, whenever you choose <u>Log</u> Out, or whenever the Mac logs you out automatically (<u>Section 11.4.1</u>). But a few extra controls let you, an administrator, set up either more or less security at the login screen—or, put another way, build in less or more convenience.

Top: This dialog box lets you know where to find the deleted account's material, should the need arise.

Bottom: The files and settings of accounts you deleted live on, in the Users Deleted Users [name] folder.



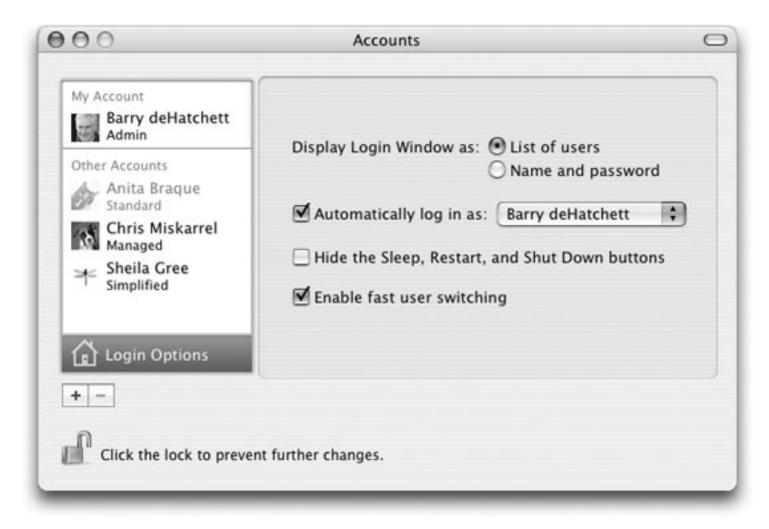


## 11.4.1 Login Options

Open System Preferences, click Accounts, and then click the Login Options button (<u>Figure 11-9</u>). Here are some of the ways you can shape the login experience for greater security (or greater convenience).

- **Display Login Window as.** Under normal circumstances, the login screen presents a list of account holders when you power up the Mac, as shown in <u>Figure 11-1</u>. That's the "List of users" option in action.
  - If you're especially worried about security, however, you might not even want that list to appear. If you turn on "Name and password," each person who signs in must type both his name (into a blank that appears) *and* his password—a very inconvenient, but secure, arrangement.
- Automatically log in as: This option eliminates the need to sign in at all. It's a timesaving, hassle-free arrangement if only one person uses the Mac, or if one person uses it most of the time.

These options make it easier or harder for people to sign in, offering various degrees of security. By the way: Turning on "List of users" also lets you sign in as >console, a troubleshooting technique described in <a href="Appendix B.9.2">Appendix B.9.2</a>. It's also one way to sign in with the root account <a href="Section 11.8">Section 11.8</a>, once you've activated it.



When you choose an account holder's name from this pop-up menu, you're prompted for his name and password. Type it and click OK.

From now on, the dialog box shown in <u>Figure 11-1</u> won't appear *at all* at startup time. After turning on the machine, you, the specified account holder, will zoom straight to your desktop.

Of course, only one lucky person can enjoy this express ticket. Everybody else must still enter their names and passwords. (And how can they, since the Mac rushes right into the Automatic person's account at startup time? Answer: The Automatic thing happens only at startup time. The usual login screen appears whenever the current account holder logs out—by choosing Log Out, for example.)

Hide the Sleep, Restart, and Shut Down buttons. If you haven't turned on File- Vault, the Mac OS X security system is easy to circumvent. Truly devoted evildoers can bypass the standard login screen in a number of different ways: by restarting in Mac OS 9, restarting in FireWire Disk Mode, restarting at the Unix Terminal, and so on. Suddenly, these no-goodniks have full access to every document on the machine, blowing right past all of the safeguards you've so carefully established. (As noted earlier, using FileVault closes all of these back doors and more.)

One way to thwart them is to turn on this checkbox. Now there's no Restart or Shut Down button to tempt mischief-makers. That's plenty of protection in most homes, schools, and workplaces; after all, Mac people tend to be *nice* people.

But if you worry that somebody with a pronounced mean streak might restart simply by pulling the plug, then either use FileVault or set the *Open Firmware password*, as described in the box below.

Enable fast user switching. This new Panther feature is described in <u>Section 11-7</u>.

# POWER USERS' CLINIC The Open Firmware Password

After all this discussion of security and passwords, it may come as a bit of a shock to learn that enterprising villains can bypass *all* of Mac OS X's security features in 10 seconds. If you haven't turned on FileVault, their nefarious options include restarting the Mac with a Mac OS 9 CD in the drive, using the *Unix console* described in Appendix B, using FireWire disk mode (Section 6.2) age 183), and so on.

But there *is* one way to secure your Mac completely: by using the Open Firmware Password program. (It's on your original Mac OS X Install CD, Disc 1, in the Applications Utilities folder. You can also download it from *www.info.apple.com*; search for *Open Firmware Password* in the Downloads section.)

Once you've turned on Open Firmware Password protection, none of the usual startup-key tricks work. Holding down the C key to start up from a CD, holding down N to start up from a NetBoot server, pressing T to start up in Target Disk Mode, \*\*E-V to start up in Verbose mode, \*\*E-S to start up in Single-user mode, \*\*E-Option-P-R key to reset the parameter RAM, pressing Option to start up from a different system disk—none of it works without the master Open Firmware Password.

When you run this little utility, you turn on a checkbox called "Require password to change Open Firmware settings," as shown here. Then you make up a master password that's required even to turn the Mac on.

This password is deadly serious and un-hackable, and there's no back door. If you forget the Open Firmware

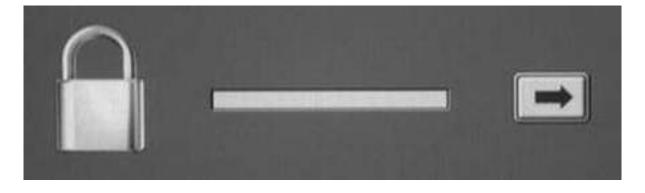
password, you can't change the startup disk ever again. Even Apple can't help you out of that situation.

Once you've entered a password into both boxes, you're asked for an administrator's password. Finally, a message tells you that, "The settings were successfully saved." Restart the Mac.

From now on, whenever you attempt to start up in anything but the usual way (primary hard drive, standard login screen), you'll be asked to type in the Open Firmware password. For example, you'll see it when you press the C key to start up from a CD, or when you press Option to choose a different startup disk or partition.

No amount of clever restarting or inserting of disks can bypass this heavily armed gatekeeper.





# **11.4.2 Logout Options**

As you'll read later in this chapter, the usual procedure for finishing up a work session is for each person to choose Log Out. After you confirm your intention to log out, the sign-in screen appears, ready for the next victim.

But sometimes people forget. You might wander off to the bathroom for a minute, run into a colleague there who breathlessly begins describing last night's date and then proposes finishing the conversation over pizza. The next thing you know, you've left your Mac unattended but logged in, with all your life's secrets accessible to anyone who walks by your desk.

You can prevent that situation using either of two checkboxes, both in the Security panel of System Preferences:

- Require password to wake this computer from sleep or screen saver. This option gives you a password-protected screen saver that locks your Mac after a few minutes of inactivity. Now, whenever somebody tries to wake up your Mac after the screen saver has appeared (or when the Mac has simply gone to sleep according to your settings in the Energy Saver panel of System Preferences), the "Enter your password" dialog box will appear. No password? No access.
- Log out after \_\_ minutes of inactivity. If you prefer, you can make the Mac sign out of your account completely if
  it figures out that you've wandered off (and it's been, say, 15 minutes since the last time you touched the mouse or
  keyboard). Instead, it presents the standard Login screen.

### DON'T PANIC

# The Case of the Forgotten Password

Help—I forgot my password! And I never told it to anybody, so even the administrator can't help me!

No problem. Your administrator can simply open up System Preferences, click Users, click the name of the person who forgot the password, and then click Edit to re-establish the password.

But you don't understand. I am the administrator! And I'm the only account!

Aha—that's a different story. All right, no big deal. At the login screen, type a gibberish password three times. On the last attempt, the Mac will offer you the chance to reset the password. All you have to do is type in your Master password (Section 11.3.3) to prove your credentials.

Um—I never set up a master password.

All right then. That's actually *good* news, because it means you didn't turn on FileVault. (If you had, and you'd also forgotten the master password, your account would now be locked away *forever*.)

Insert the Mac OS X CD. Restart the Mac while pressing down the letter C key, which starts up the Mac from the CD and launches the Mac OS X installer.

On the first installer screen, choose Installer Reset Password. When the Reset Password screen appears, click the hard drive that contains Mac OS X. From the first pop-up menu, choose the name of your account. Now make up a new password and type it into both boxes. Click Save, close the window, click the installer, and restart.

And next time, be more careful! Write down your password on a Post-it note and affix it to your monitor. (Joke —that's a joke!)

## **NOTE**

Beware! If there are open, unsaved documents at the moment of truth, the Mac won't be able to log out.







# 11.5 Signing In

Here's how you go about getting into, and out of, a Mac OS X machine once somebody has set up your account, . (For the purposes of this discussion, "you" are no longer the administrator—you're one of the students, employees, or family members for whom an account has been set up.)

## 11.5.1 Identifying Yourself

When you first turn on the Mac—or when the person who last used this computer chooses — Log Out—the login screen shown in Figure 11-1 appears. At this point, you can proceed in any of several ways:

- Restart. Click if you need to restart the Mac for some reason. (The Restart and Shut Down buttons don't appear here if the administrator has chosen to hide them as a security precaution; see Section 11.4.1)
- **Shut Down.** Click if you're done for the day, or if sudden panic about the complexity of user accounts makes you want to run away. The computer turns off.
- Log in. To sign in, click your account name in the list. If you're a keyboard speed freak, you can also type the first letter or two—or press the up or down arrow keys—until your name is highlighted. Then press Return or Enter.

Either way, the password box appears now (if a password is required). If you accidentally click the wrong person's name on the first screen, you can click Go Back. Otherwise, type your password and then press Enter (or click Log In).

You can try as many times as you want to type the password. With each incorrect guess, the entire dialog box shudders violently from side to side, as though shaking its head "No." If you try unsuccessfully three times, your hint appears-if you've set one up.



If you ever forget your password, and even the Mac's administrator doesn't know it, your third attempt to type the password correctly produces not only your password hint, but also a button called Reset Password. When you click it, the Mac asks for the *master* password (Section 11.3.3), which the administrator almost *certainly* knows.

Once that's typed in, you're allowed to make up a new password for your own account (and, presumably, a better hint this time). No harm done.

### 11.5.2 Your World

Once you're in, the world of the Mac looks just the way you left it (or the way an administrator set it up for you). As noted in <a href="Chapter 2">Chapter 2</a>, most of the action revolves around the Applications folder, the Dock, and your own Home folder (press Shift- # to open it).

Mac OS X keeps almost everything in your Mac world separate from anybody else who uses this Mac. A few examples are especially worth noting:

- Fonts. You can install your own preferred fonts into your Home folder Library Fonts folder. Only you will be able to see them and use them in your programs.
- Programs. Unless you're an administrator, you're not allowed to install any new programs (or indeed, to put
  anything at all) into the Applications folder. That folder, after all, is a central software repository for everybody who
  uses the Mac, and all such universally shared folders are off-limits to everyday account holders. (You can drag
  things out of the Applications folder, but doing so doesn't actually move them—it just copies them.)

That's not to say that you can't install new programs of your own. You can-but you must put them somewhere in your own Home folder (where you'll be the only person with access to such programs) or in the Shared folder (if you want other people to be able to use them). You may want to create a Programs folder there just for this purpose.

- **Bookmarks.** When you browse the Web, you can freely "bookmark" your favorite Web pages, confident that nobody else who uses your Mac will be able to see where you've been or what you consider your favorite sites.
- **Mail.** Your email collection is yours and yours alone. When your sister tries to run the same email program, she'll find *her* email there.

### 11.5.3 The Shared Folder

Every Mac OS X machine has a Users folder in the main hard drive window. It contains the individual Home folders of every account on this Mac.

If you try to open anybody else's Home folder, you'll see a tiny red "no go here" icon superimposed on almost every folder inside, telling you: "Look, but don't touch."

# FREQUENTLY ASKED QUESTION Shared Data Files

My wife and my eight-year-old kid share my Mac. Over the years, we've amassed a fabulous collection of MP3 files, but at the moment, I'm the only one who sees them in iTunes. This business of separate environments for every account holder is all well and good, but what about when we want to access the same files—like our iTunes library?

The problem is that the iTunes library is stored in the Music folder of just one person. Fortunately, the solution is easy enough.

Whoever is the administrator—probably your eight-year old —should move the iTunes folder (currently in somebody's Music folder) to the Users——Shared folder. Now it's available to everybody.

At this point, each account holder can log in, fire up iTunes, choose iTunes Preferences Advanced, and click the Change button to choose the relocated iTunes Music Folder in the Shared folder.

From now on, each person will be able to see and access the entire library of iTunes tunes, but will still enjoy the flexibility to build individual playlists.

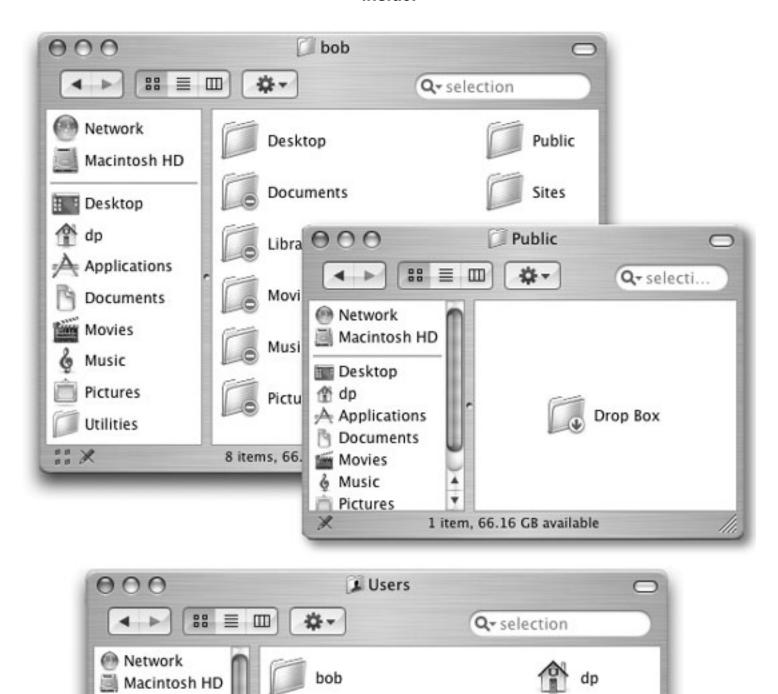
There are exceptions, though. As shown in <u>Figure 11-10</u>, two folders are designed to be distribution points for files your coworkers want you to see: Public and Sites.

You, too, have Public and Sites folders in your own Home folder. Here again, anything you put into these folders is available for inspection—although not for changing—by anyone else who uses this Mac.

Top: In other people's Home folders, the Public and Sites folders are available for your inspection. These two folders contain stuff that other people have "published" for the benefit of their co-workers.

Middle: In the Public folder is the Drop Box, which serves the opposite purpose. It lets anyone else who uses this Mac hand in files to you (but they can't see what's in it).

Bottom: Inside the Users folder (to get there from a Home folder, press #up- arrow) is the Shared folder, a wormhole between all accounts. Everybody has full access to everything inside.





Sitting in the Users folder is one folder that doesn't correspond to any particular person: Shared. This is the one and only folder that everybody can access, freely inserting and extracting files. It's the common ground among all the account holders. It's Central Park, the farmer's market, and the grocery store bulletin board.

## 11.5.4 Changing Permissions

A factory-fresh installation of Mac OS X offers one way for you to submit files *to* somebody else (that person's Public folder), one way to accept files *from* other people (your Drop Box folder), and one community folder (the Shared folder).

This arrangement is relatively secure and relatively easy to understand. But maybe you'd like even more security; you'd rather seal off your Public folder so that people can't see what's inside. Or maybe you'd like greater convenience; you'd like to set up some additional drop box folders, or other "public" folders, for your co-workers' use.

The business of changing the permissions, or *access privileges*, for certain folders can be complex and brain-bending. A full discussion begins in <u>Section 12.2.10</u>. In the meantime, here's a quick summary of some typical setups.

In each case, you can't make changes unless either (a) you have an Administrator account or (b) it's a folder that you *own* (it's in your Home folder, or you created it).

Begin by highlighting the folder in question and choosing File Get Info. Expand the Ownership & Permissions section, and then the Details section. Prove your worthiness as an administrator by clicking the tiny padlock icon (and typing your password, if any).



At this point, an administrator can change the *ownership* of the folder just by choosing another name from the Owner pop-up menu. In other words, an administrator actually has full access to *every* folder in *every* account. Better be good, you Standard account-holding boys and girls!

Now you can use the Access pop-up menus as follows:

- Full access by everybody. If you want to turn one of your folders into one that resembles the Shared folder (full free access by anyone with an account), set up its Get Info window like the one shown at left in Figure 11-11.
- Give, but don't take. To make another folder work like your Drop Box folder (people can put things in, but can't

actually open the folder), set things up as shown at middle in Figure 11-11.



Remember that people can't put anything into a new Drop Box-type folder if they can't get to it. That is, make sure you've turned on "Read" access for whatever folder it's in. (Making a Drop Box folder in your Documents folder, for example, won't work because nobody is allowed to open your Documents folder to begin with.)

• Look, but don't touch. You can also turn any of your folders into another Publictype, "bulletin board" folder—that is, people can open or copy files from inside, but they can't put anything in or save any changes they make.

You'll realize the importance of mastering these various access permissions when you get a load of this startling fact: Unless you intervene, everybody else who uses this Mac will be able to peek into everything *in every new folder* you create (unless it's inside a folder that is, itself, off-limits). Technically speaking, every new folder springs into existence with Readonly permissions for Everyone. They're allowed to open or copy anything inside.

The bottom line: As you type the title of a new folder that you suspect might be best kept private (Salaries 2004 or My Spicy Dreams Journal, let's say), remember to use the File Get Info routine to change the new folder's Everyone and Group settings to None.

(Even so, remember that anyone with an *Administrator* account can blow your intentions to smithereens. Such people can, at any time, override your ownership and permission settings, even making your folders off-limits to *you*, if they so desire. That's what you get for using a Mac that you've allowed somebody else to set up for you.)

Three typical configurations for folders you've created in your Home folder. Set the three popup menus as shown for a Shared-type folder (left), a drop-box folder (middle), and the "bulletin board" folder (right). Click the "Apply to enclosed items" button if you want the same settings to apply to all the folders inside this one. Finally, close the Get Info window.









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# 11.6 Logging Out

When you're finished using the Mac, choose Log Out (or press Shift-LQ). A confirmation message appears. If you click Cancel or press Esc, you return to whatever you were doing. If you click Log Out, or press Return, you return to the screen shown in Figure 11-1, and the entire sign-in cycle begins again.



If you press Option as you choose Log Out (or as you press Option-H-Q), the confirmation box doesn't appear.



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# 11.7 Fast User Switching

The account system described so far in this chapter has its charms. It keeps everyone's stuff separate, it keeps your files safe, and it lets you have the desktop picture of your choice.

As fans of Mac OS X 10.0, 10.1, and 10.2 may have discovered, though, it was capable of going from handy to hassle in one split second. That's when you're logged in, and somebody else wants to duck in just for a second—to check email or a calendar, for example. You had no choice but to log out completely, closing all of your documents and quitting all of your programs. When the interloper was finished, you had to log back in and fire up all your stuff again, hoping against hope that your inspirational muse hadn't fled in the meantime.

Fortunately, that's all over now. A new Panther feature called Fast User Switching —modeled on a similar Windows XP feature, which itself is modeled on a Unix feature—lets Person B log in and use the Mac for a little while. All of *your* stuff, Person A, simply slides into the background, still open the way you had it (see <u>Figure 11-12</u>).

When Person B is finished working, you can bring your whole work environment back to the screen without having to reopen anything. All your windows and programs are still open, just as you left them.

To turn on this feature, open the Accounts panel of System Preferences. Click Login Options, and turn on "Enable fast user switching." (You can see this dialog box in Figure 11-12.)

The only change you'll notice immediately is the appearance of your own account name in the upper-right corner of the screen (Figure 11-12).

Top: The appearance of the Accounts menu lets you know that Fast User Switching is turned on. The circled check mark indicates people who are already logged in, including those who have been "fast user switched" into the background. The dimmed account name shows who's logged in right now.

Bottom: Fast User Switching lets one account holder "cut in" without requiring someone else to log out first. When the screen changes from your account to somebody else's, your entire world slides visibly offscreen as though it's mounted on the side of a rotating cube—a spectacular animation made possible by Mac OS X's Quartz Extreme graphics software. (On older Macs that lack Quartz Extreme, you get the feature, but not the animation.)



That's all there is to it. Next time you need a fellow account holder to relinquish control so that you can duck in to do a little work, just choose your name from the Accounts menu. Then merely type your password, if one is required, and feel guiltless about the interruption.

And now, the finer points of fast user switching:

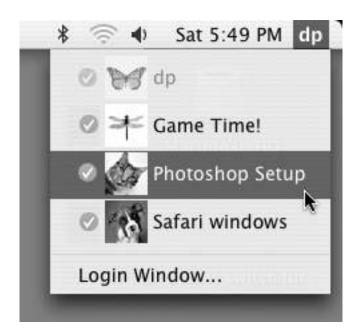
- Depending on how many programs are open and how much memory the Mac has, switching accounts may entail a
  delay and a good deal of hard-drive activity. That's Mac OS X's virtual memory scheme kicking in, "setting down"
  what was in memory in your account to make room for the incoming account's stuff.
- There's only one way to neatly close one of the accounts listed in the Accounts menu: switch to it and then choose Log Out as usual.
- Weirdly enough, a bunch of account holders can be using the same program simultaneously in their own parallel universes. Even if Microsoft Word was open in your account, Chris, Casey, and Robin can each open the same copy of the same program simultaneously when they fast-switch into their own accounts. (Word in that case uses up four times as much memory, of course.)

- You can't make changes to accounts (in System Preferences) that are still logged in. Nor, as you'd expect, can you
  turn off Fast User Switching while other people are logged in.
- If you try to shut the Mac down or restart it while other people are logged in, a dialog box tells you: "There are currently logged in users who may lose unsaved changes if you shut down this computer." Now you're asked to type in an administrator's name and password to establish that you know what the heck you're doing.

# GEM IN THE ROUGH Fast Opinion Switching

This might blow your mind, but Fast User Switching isn't just for letting several *people* use the Mac at once. You can also use it to keep different *work* environments separate, even if you're the only one who uses the Mac.

That is, you can treat each account as an *environment*. One account can be your word processing setup, with the Mac's colors, desktop picture, Dock, programs, and palettes set up just so. Another can be your graphics environment, with Photoshop open and its various tools arrayed. A third can be your Internet world, with Safari and Mail always open and always online.



As you proceed through your workday, you can simply switch among these accounts as though they're separate workstations with separate monitors. You have a minimum of preference-changing and window-adjusting to do as you move from one aspect of your work to another.

Fast User Switching: It's not just for family members anymore.

Here's a moral dilemma for the modern age. If you proceed by typing the password and clicking Shut Down, you shut down all accounts that were open in the background *and* any open documents-and if those documents hadn't been saved, all changes are gone forever. Of course, if you click Cancel, you can't shut down the Mac at all, or at least not until you hunt down the account holders whose stuff is still open in the background so that they can log out one at a time



You can avoid this awkward situation in either of two ways: (1) Trust each other completely. (2) Save all your documents before you let anyone else cut in and send your account to the background.

- Remember the Shared folder (in the Users folder on the hard drive)? It's still the wormhole between all accounts. If
  you want to share a file with another account holder, put it there.
- Your account isn't anesthetized completely. In fact, it keeps on doing whatever you set it to doing. If you were
  downloading some big file, for example, it keeps right on downloading when the next guy logs in.
- A few programs, like Macromedia's MX 2004 programs (Freehand, Dreamweaver, and so on), don't work when Fast User Switching is turned on. Bummer.



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### 11.8 The Root Account

An administrator's account isn't exactly a skeleton key that gives unfettered access to every corner of the Mac. Even an administrator isn't allowed to remove files from the System folder or other files whose removal could hobble the machine.

It turns out that Standard and Administrator aren't the only kinds of accounts. There's one account that wields ultimate power, one person who can do anything to any file anywhere. This person is called the *superuser*.

Unix fans speak of the superuser account—also called the *root* account—in hushed tones, because it offers absolutely unrestricted power. The root account holder can move, delete, rename, or otherwise mangle any file on the machine, no matter what folder it's in. One wrong move—or one Internet hacker who manages to seize the root account—and you've got yourself a \$2,500 doorstop. That's why Mac OS X's root account is completely hidden and, in fact, deactivated.

There's another reason this account comes turned off: You can enjoy most root-like powers without actually turning on the root account. Here, for example, are some of the things the root account holder can do—and the ways you can do them without ducking into a phone booth to become the superuser:

- See the thousands of crucial system files that Mac OS X ordinarily renders invisible. Of course, you can also see them extremely easily just by using the shareware program TinkerTool (see <u>Section 17.1</u>). You can also use the Terminal program as described in <u>Chapter 15</u>.
- Manipulate the files within the System folder's Library folder. First of all, you'd be nuts to try. The numero uno virtue of Mac OS X is its stability—its System folder's invulnerability to change. Sure, you can mess around with its contents, but if you really wanted a crash-prone machine, you could have stuck with Mac OS 9.
  - Anyway, even if you did want to fool around with these files, there's a much easier way: Restart the Mac in Mac OS 9. You'll have full access to all Mac OS X files and folders.
- Peek into other account holders' folders (or even trash them). You don't have to be the superuser to do this—you just have to be an administrator who's smart enough to use the Get Info command, as described in <u>Section 2.8</u>.
- Use powerful Unix system commands. As you'll discover in <u>Chapter 16</u>, some of the Unix commands you can issue in Mac OS X require superuser powers. As you'll also find out in that chapter, however, there's a simple command—the *sudo* command—that simulates root powers without you actually having them. Details in <u>Section 16.1.4.1</u>.

Treat the root account, in other words, as you would one of those "Break glass in case of fire" boxes. If you know what you're doing, and you see no alternative, you might be glad the root account is available. System-customization freaks who enjoy editing the look of window title bars, say, may need to enable the root account. And certain pre-Panther software installers, like the one for Palm Desktop 4.1, won't install correctly except when you're using the root account.

You can turn on the root account in any of several ways. One of them involves typing a Unix command or two (<u>Section 16.2</u>), but the technique most people use goes like this:

1. In your Applications Utilities folder, open the NetInfo Manager program. Click the tiny padlock in the lower-left corner of its screen.

A dialog box asks you for an administrator's name and password. After all, you wouldn't want ordinary underlings fooling around with the superuser account.

### 2. Type your name and password, and then click OK.

You're in. (If you're not an administrator, then you probably shouldn't be using the root account.)

# 3. Choose Security Enable Root User.

If this is the first time you've performed this particular surgery, you'll be told, "The root password is currently blank." You're asked to make up a "non-trivial" (meaning virtually impossible for anyone to guess) password for the newly created root account.

### 4. Click OK and then type the password in both of the bottom Password boxes. Click OK two more times.

The second dialog box simply tells you that if you intend to make any *more* changes in NetInfo Manager, you'll have to sign in as an administrator *again*. But your work is done here.

### 5. Quit NetInfo Manager.

You've just brought the dormant root account to life.

### 6. Log out. Log back in again as root.

That is, when the login screen appears, click Other User (a choice that magically appears once you've turned on the root account). In the first text box, type *root*. In the second, type the password you made up in step 4. Click Log In

That's it—you arrive at the desktop, where no matter what you do, no error messages regarding access privileges or ownership will interrupt the proceedings. In the words of every movie hero's sidekick: Be careful out there.

When you're finished going about your business as a root user, immediately log out again. It's important to rule out the possibility that some clueless or malicious person might wander up to the Mac while you're still logged in as the superuser.

In fact, if you don't anticipate needing your superuser powers again soon, consider turning off the root account altogether. (Just repeat steps 1 and 2 on the preceding page. In step 3, choose Security Disable Root User.)



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PREV



# **Chapter 12. Networking**

Just about every Mac ever built is network-ready. Buy a few cables and adapters, and you can connect all the Macs in your office together, with or without wires. The process of rigging the hardware and software for a network is somewhat more technical than, say, emptying the Trash, but it's not exactly rocket science.

Once you've got a network, you can copy files from one machine to another just as you'd drag files between folders on your own Mac. You can send little messages to each other's screens. Everyone on the network can consult the same database or calendar. You can play games over the network. You can share a single printer, cable modem, or fax modem among all the Macs in the office. You can connect to this network from wherever you are in the world, using the Internet as the world's longest extension cord back to your office. And in Mac OS X, you can even connect to Windows machines without having to buy any additional software.

Best of all, all the software you need to create such a network is built right into Mac OS X.

As you read this chapter, remember the difficulty Apple faces: It must design a networking system simple enough for the laptop owner who just wants to copy things to a desktop Mac when returning from a trip, yet secure and flexible enough for the network designer at a large corporation. In general, you'll probably find that Apple has done an excellent job of balancing these two wildly different motivations.



You don't necessarily need a network to exchange files between Macs (and even PCs). If each computer is equipped with a *Bluetooth* card, they can shoot files back and forth wirelessly, as described in Section 6.2.6



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# **12.1 Wiring the Network**

Most people connect the Macs (and other computers) in their offices using either of two connection systems: Ethernet or AirPort.

### 12.1.1 Ethernet Networks

These days, every Mac and every network-ready laser printer has an Ethernet jack on the back or side panel (see Figure 12-1). If you connect all of the Macs and Ethernet printers in your small office to a central *Ethernet hub*—a compact, inexpensive box with jacks for five, ten, or even more computers and printers—you've got yourself a very fast, very reliable network. (Most people wind up hiding the Ethernet hub in a closet, and running the wiring either along the edges of the room or inside the walls.) You can buy Ethernet cables, plus the Ethernet hub, at any computer store or, less expensively, from an Internet-based mail-order house. (Hubs aren't Mac-specific.)

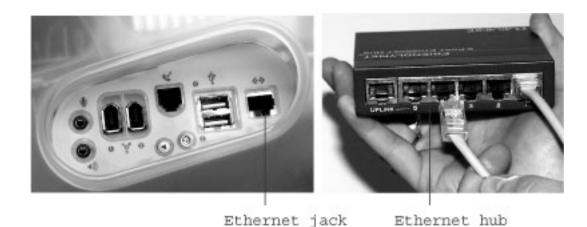


If you want to connect only two Macs—say, your laptop and your desktop machine—you don't need an Ethernet hub. Instead, you just need an Ethernet *crossover cable*—about \$8 from a computer store or online mail-order supplier. Run it directly between the Ethernet jacks of the two computers. Better yet, if you have a metal-clad PowerBook, a white iBook, or a recent desktop model (like a Power Mac G5), you can use *either* a crossover cable *or* a traditional Ethernet cable.

Or don't use Ethernet at all; just use a FireWire cable (Section 12.1.3).

Ethernet is the best networking system for many offices. It's fast, easy, and cheap.

Every Mac OS X-compatible Mac has an Ethernet jack (left). It looks like an overweight telephone jack. It connects to an Ethernet hub (right) via Ethernet cable (also known as Cat 5), which ends in what looks like an overweight telephone-wire plug (also known as an RJ-45 connector).



file:///Users/crazymonkey/Desktop/Mac%20OS%20X%20Th...Edition/0596006152/macxmmpanther-CHP-12-SECT-1.html (1 of 5)5/3/2004 5:02:03 AM

### 12.1.2 AirPort Networks

Of course, the Mac wouldn't be the Mac if it couldn't connect to other Macs using the most exciting kind of networking connection: radio waves. You can install an \$80 metal AirPort card, about the size of a Visa card, into almost any Mac OS X-compatible Mac. This card lets your machine connect to your network without any wires at all—as long as they're within about 150 feet of a *base station*, which must in turn be physically connected to your network. (If you think about it, the AirPort system is a lot like a cordless phone in that the Mac is the handset.)



Although novices may never even realize it, AirPort is actually Apple's name for the popular *WiFi* or *802.11* wireless network system. You can find free or inexpensive WiFi *hot spots* (base stations) all over the country—in coffee shops, airports, parks, offices, McDonald's restaurants, and so on. Just whip open your laptop, check the AirPort menulet for a signal (Section 3.6), and start using the Internet!

The base station can take any of these forms:

- AirPort Base Station. This \$200 Apple product looks like a small white or silver flying saucer. (The \$250 version has a built-in modem, so that it can dial up the Internet while you're comfortably relaxing in a room that doesn't even have a phone jack.)
- A wireless broadband router. These gadgets are, in essence, AirPort Base Station clones from other companies, such as MaxGate (<u>www.maxgate.net</u>) or Macsense (<u>www.xsense.com</u>). You can plug the base station into an Ethernet hub, thus permitting 10 or 20 AirPort-equipped Macs to join an existing Ethernet network without wiring.
- Another Mac. Your Mac can also *impersonate* an AirPort base station. In effect, the Mac becomes a software-based base station.

### **UP TO SPEED**

# AirPort: Regular or Supersized?

You can buy your AirPort gear in either of two variants: the original AirPort or the newer AirPort Extreme.

The difference involves the technical specs of the wireless signal. Original AirPort uses the 802.11b standard; AirPort Extreme uses 802.11g. (Incidentally, Apple didn't make up this ridiculous terminology.)

So what's the difference? Equipment bearing the "b" label transfers data through the air at up to 11 megabits per second; the "g" system is almost five times as fast. (Traditionally, geeks measure network speeds in mega*bits*, not mega*bytes*. If you're more familiar with megabytes, though, here's a translation: The older AirPort gear has a top speed of 1.4 megabytes per second, versus more than 6 megabytes per second for the AirPort Extreme stuff.)

The beauty of the Extreme (802.11g) gear, though, is that it's backwards-compatible with the original AirPort gear, and vice versa. If you have a PowerBook with an original AirPort card, you can hop onto an Extreme base station simultaneously with people using Extreme cards—and if you have an AirPort Extreme card, you can hop onto older base stations. You won't get better speed, of course, but at least you won't need a separate base station.

It's important to understand, though, that a cable modem or DSL box delivers Internet information at only

about *half* a megabyte per second. The bottleneck is the Internet connection, not your network. Don't buy AirPort Extreme gear thinking that you're going to speed up your email and Web activity.

Instead, the speed boost you get with AirPort Extreme is useful *only* for transferring files between computers on your own network—and playing networkable games.

Incidentally, the great thing about wireless networking is that it all works together, no matter what kind of computer you have. There's no such thing as a "Windows" wireless network or a "Macintosh" wireless network. Macs can use non-Apple base stations, PCs can use AirPort base stations, and so on.

The Mac itself must have an AirPort card inside, but you may still save money. By equipping a Mac with a \$80 card, you save yourself the purchase of a \$200 AirPort base station. (Much more on AirPort network setups in Chapter 18.)

### 12.1.3 FireWire Networks

FireWire networks?

You're forgiven for splurting your coffee. Everyone knows that FireWire is great for hooking up a digital camera or an iPod, and a few people know about FireWire Disk Mode (Section 6.2). But not many people realize that FireWire makes a fantastic networking cable, since it's insanely, blisteringly fast. (All right, *gigabit Ethernet* is faster. But attaining that kind of networking nirvana requires that all your Macs, hubs, and other networking gear are all gigabit-Ethernet compatible.)

FireWire networking, technically known as *IP over FireWire*, is an unheralded, unsung feature of Mac OS X 10.3. But when you have a lot of data to move between Macs—your desktop and your laptop, for example—a casual FireWire network is the way to go. It lets you copy a gigabyte of email, pictures, or video files in a matter of seconds.

Here's how you unleash this secret feature.

1. Connect two Macs with a FireWire cable.

You can't use the one that fits a camcorder. You need a six-pin-to-six-pin cable for traditional FireWire jacks (like the one that came with original iPods). If you want to use the faster FireWire 800 connection on the latest Mac models, you'll need to shop for an even less common cord.

In any case, the computers can remain turned on. (That's one difference from FireWire Disk Mode. The other difference is that you can continue to *use* both Macs while they're connected.)

2. Open System Preferences. Click Network. From the Show pop-up menu, choose Network Port Configurations.

The dialog box shown in Figure 12-2 appears, showing all the different ways your Mac can connect to a network.

3. Click New. Type a name (like *FireWire*) and, from the Port pop-up menu, choose Built-in FireWire (<u>Figure 12-</u>2). Click OK.

Your FireWire network connection appears in the list.

### 4. Drag the word FireWire to the top of the list. Click Apply Now.

This is an important step! If you don't drag the FireWire connection to the top, the network won't work, because your Mac won't assign itself an IP address.

### 5. Repeat steps 2-4 on the second Mac.

By now, it may have dawned on you that you can't actually get *online* via FireWire, since your cable runs directly between two Macs. But you can always turn on Internet Sharing (Section 18.8) on the other Mac.

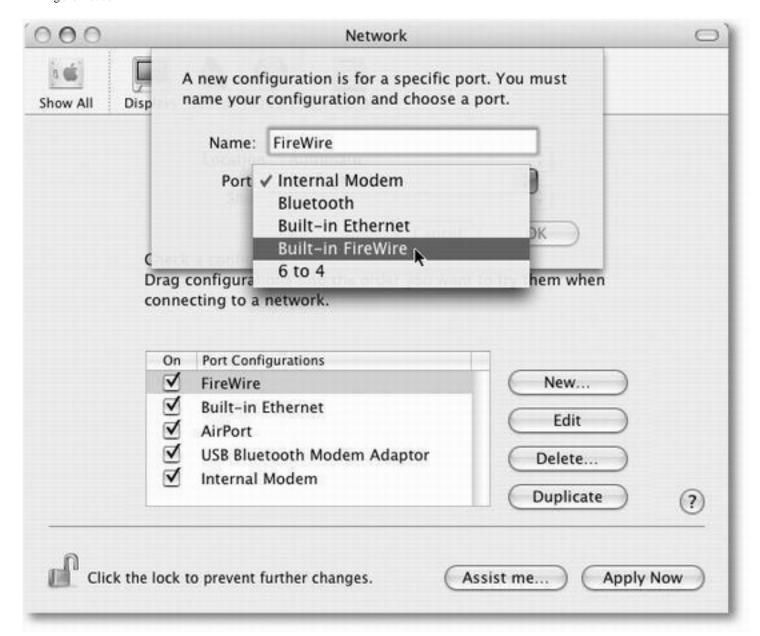
### 6. Quit System Preferences.

Your Macs are ready to talk—fast.



Once you've switched on your FireWire connection, you may need to turn File Sharing or Internet Sharing off and on again to make it work.

In the Network pane of System Preferences, you can add your FireWire port to the list of network connections. The point of this window, by the way, is that a Mac can maintain simultaneous open network connections—Ethernet, AirPort, FireWire, and dial-up modem. (That's a feature called multihoming.) On this screen, you drag them into the order you prefer, usually fastest first.









# 12.2 File Sharing

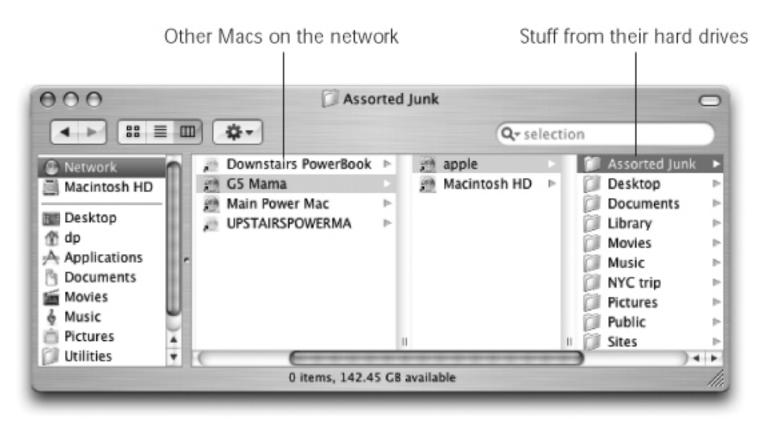
When you're done wiring (or not wiring, as the case may be), your network is ready. Your Mac should "see" any Ethernet or shared USB printers, in readiness to print (see <u>Chapter 13</u>). You can now play network games or use a network calendar. And you can now turn on *File Sharing*, one of the most useful features of the Mac OS.

In File Sharing, you can summon the icon for a folder or disk attached to another computer on the network, whether it's a Mac or a Windows PC. It shows up in a Finder window, as shown in <u>Figure 12-3</u>. At this point, you can drag files back and forth, exactly as though the other computer's folder or disk is a hard drive connected to your own machine.

## 12.2.1 Setting up the Computers

These instructions assume that you've already set up your network, as described at the beginning of this chapter.

The point of file sharing is to bring other Macs and PCs onto your own screen—in this example, the contents of the account called apple on the Mac called G5 Mama. By dragging icons back and forth, you can transfer your work from your main Mac to your laptop; give copies of your documents to other people; create a "drop box" that collects submissions; and so on.



# 12.2.1.1 Setting up a Mac OS X machine

The first step in setting up file sharing is to create an *account* for each person who might want to visit (<u>Chapter 11</u>). Whatever password you use to *log in* to the Mac computer is the *same* password you need to connect over the network. In

other words, Mac OS X doesn't care how you try to get into your own stuff, just as long as it's sure that you're you.



If you work alone, or with only a few trusted others, you can make life easier for yourself in a couple of ways. First, give yourself no password at all. Second, give yourself a very short, easy-to-type name—just your initials, for example.

Once you've established accounts for everybody who might want to access your Mac—even if it's only you—you're ready to proceed with preparing the machine for access from elsewhere on the network.

1. Open System Preferences (Chapter 8). Click the Sharing icon.

The Sharing panel appears, as shown at top in Figure 12-4.

#### NOTE

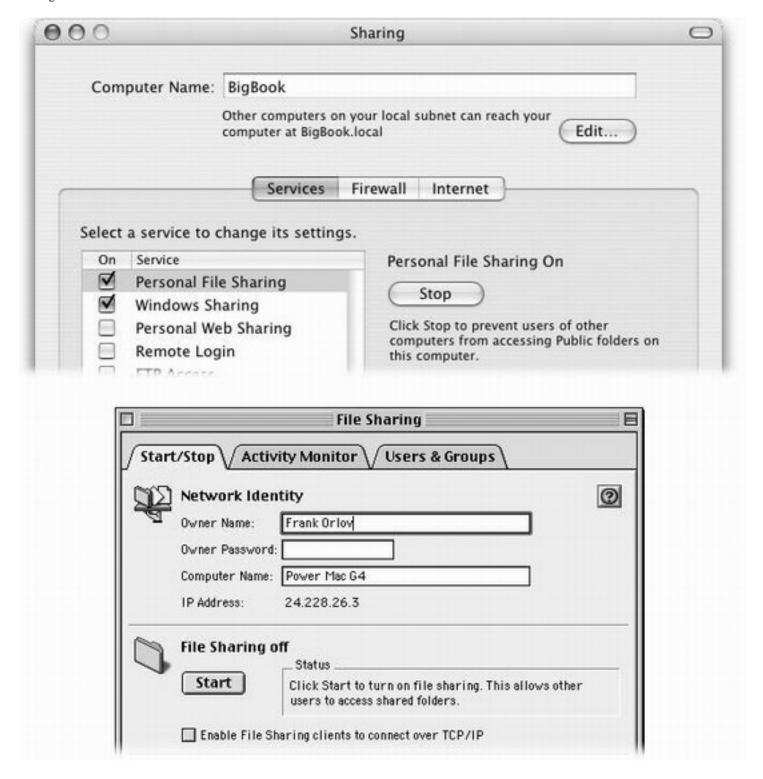
Only administrators (Section 11.2) are allowed to fool around with the settings you're about to change. If the little padlock icon in the lower-left corner looks locked, call an administrator over, click the lock, and prove that you have permission to do what you're doing by entering (or asking the administrator to enter) the administrator's name and password.

2. In the Computer Name blank, change your Mac's name, if you like.

Your Mac will appear on the network with this name. Make it nice and descriptive, such as Front Desk iMac. If other Macs on your network run Mac OS X 10.2 or later, you can also edit your *Rendezvous* name (<u>Section 12.2.10.1</u>) by clicking the Edit button. (You're not allowed to use spaces or punctuation—except hyphens—in the Rendezvous name.)

Top: Here's the master on/off switch for file sharing over the network in Mac OS X—the Sharing panel of System Preferences. (The toolbar has been hidden in this illustration.)

Bottom: In Mac OS 9, this is the setup for a security-free, high-convenience file-sharing arrangement. You'll be able to access any Mac on the network without typing in a name, password, or anything. If you work alone with a couple of Macs, or with coworkers you trust, this is the most efficient arrangement.



3. In the list of checkboxes, turn on Personal File Sharing (Figure 12-4, top).

If you want Windows PCs on your network to be able to connect to your Mac too, turn on Windows Sharing as well.

These features takes a moment to warm up; when File Sharing is finally on, the button says Stop. Close the window, if you like.

Repeat this process on each Mac OS X machine in your office, giving each one a different computer name.

### 12.2.2 Connection Method A: The Sidebar

Suppose you're seated at your Power Mac (running Mac OS X), but you need a file that's on the flat-screen iMac down the hall. As long as the other machine is running Mac OS 8.6 or later, the steps to accessing shared stuff on another networked Mac are the same:

### 1. Open any Finder window.

For example, press **#**-N, or click the Finder icon on your Dock.

### 2. Click the Network icon in the Sidebar.

This is the cool part, new in Panther: your network is built right into your desktop.

For several seconds, you may not see anything at all, or maybe just a Server icon. But wait it out. After 5, 10, or 30 seconds, more icons appear.

Depending on the complexity of your network, you may see the icons for individual Macs (Chris's iBook, PowerMac G5, and so on); skip to step 4. Or you may see an assortment of "network neighborhoods"—limbs of your network tree, as shown in Figure 12-5.

The **Local** folder is usually the one you want. It contains the icons of all the shared Macs, Windows, and Unix machines on your limb of the office network.

# POWER USERS' CLINIC Pre-Mac OS X Macs

If your network includes a Mac that's running Mac OS 8.5 through 9.2, setting it up for file sharing follows almost the same steps as outlined above—but the locations of the controls are different. Here's a summary:

Setting up user accounts. Use the Users & Groups tab of the File Sharing control panel.

**Naming the computer.** Use the File Sharing control panel.

**Clicking Start.** You do this in the File Sharing control panel, as well. But there's one additional step: Turn on the checkbox called "Enable File Sharing clients to connect over TCP/IP," if you have it (shown at the very bottom of Figure 12-4).

This TCP/IP option is available in Mac OS 9 and later. If one of your networked Macs runs Mac OS 8.5 or 8.6, you'll have to compensate for its absence by taking an extra step. On each Mac OS X machine, reopen System Preferences. Click Network, double-click the kind of network connection you have from the pop-up menu (like Ethernet or AirPort), click the AppleTalk tab, turn on "Make AppleTalk active," and then click Apply Now. (The reason: All modern Macs communicate using the TCP/IP language, just like the Internet. Older Macs spoke only the proprietary AppleTalk protocol.)

Without either TCP/IP or AppleTalk, you won't be able to access the files or folders on your older

computer from a Mac OS X machine. (You will, however, be able to go the other direction. In other words, you'll be able to access a Mac OS X machine on the network from your older machine.)

You should be all set to access the shared disks and folders on your Mac OS X 8.5-9.2 machines while seated at your Mac OS X machines, just as described in this chapter. To go the other way, sit at the older Mac, choose Chooser and click AppleShare to see the other network Macs' icons. Double-click away.

You may also see a **Servers** icon, which lets you know what *your* Mac's icon looks like on the network. (In companies big enough to employ professional network nerds, this is also where you'll find any servers they've set up for you.)

If you see a **MSHOME** icon, that means Windows PCs are being shared on the network. And the **WORKGROUP** icon displays the icons of Macs for which you've turned on Windows Sharing in System Preferences.

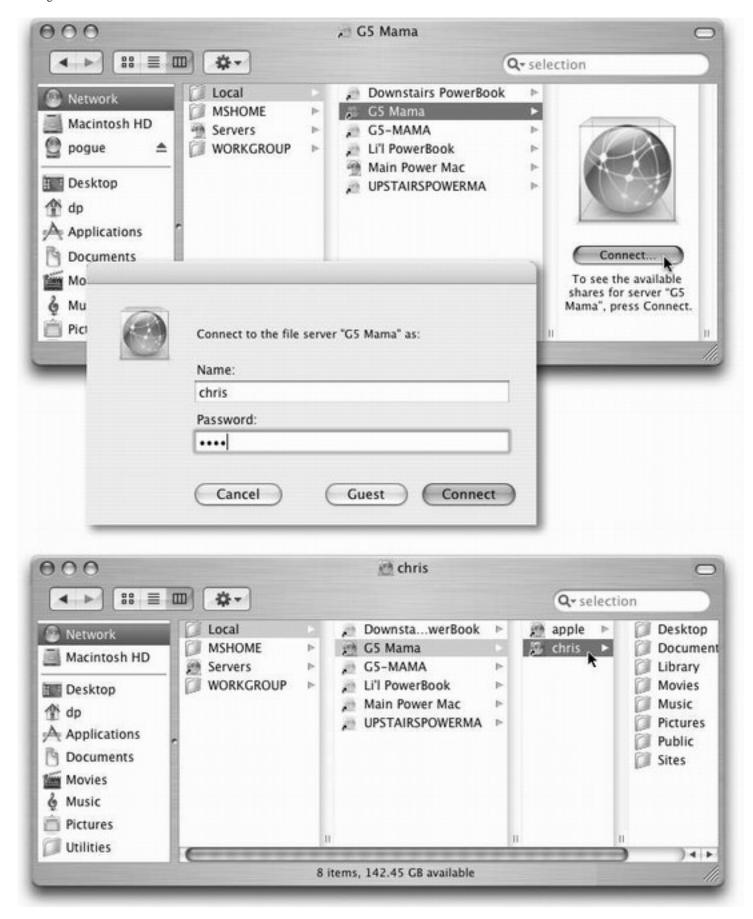
It's normal, by the way, for some Macs to show up in more than one of these folders. Mac OS X is just doing its best to "listen" for the presence of every possible networking protocol.

Top: When you click Network in the Sidebar, you'll see the names of individual computers in the leftmost column. On bigger networks, you may see folder icons that represent Apple- Talk zones, Windows workgroups, or other Mac OS X machines. Column view, shown here, gives you the best sense of how you got where you are. Click Local, click the name of the Mac you want, click Connect. (Don't be freaked out by the appearance of your own Mac's name. That's all normal.)

Middle: Specify your password, or if one isn't required, leave the password box blank.

Click Connect.

Bottom: At long last, you're in. The other Mac's shared contents appear in the Finder window just as though it's another disk.



NOTE

If you're a network nerd, you may be interested to note that Mac OS X 10.3 can also "see" servers that use the SMB/CIFS, NFS, FTP, and WebDAV protocols running on Mac OS X Server, AppleShare, UNIX, Linux, Novell NetWare, Windows NT, Windows 2000, and Windows XP servers. But the Sidebar method described here reveals *only* the shared computers on your *subnet* (your internal office network) —not those on the Internet.

### 3. Open Successive folders until you find the shared disk or folder you want.

If you open the Local folder, you may see either the names of individual shared Macs, or the names of AppleTalk zones (clusters of machines, as found in big companies and universities). In any case, keep clicking until you see the machine you're browsing for.

If you're trying to tap into a Windows machine, open the icon representing the *workgroup* (computer cluster) that contains the machine you want. In small office networks, it's usually called MSHOME. (In big corporations, these workgroups can be called almost anything—as long as it's no more than twelve letters long with no punctuation. Thanks, Microsoft.)



You can also access other Macs on your network directly from within the Open or Save dialog boxes described in <u>Chapter 4</u>. There, too, you'll find a Network icon in the Sidebar (expand the dialog box if necessary). Click it, and then continue with the steps outlined here.

### 4. Double-click the name of the computer you want to access.

Now the "Connect to the file server" box appears (<u>Figure 12-5</u>, center). You're supposed to specify your account name and password, so that you can sign in and access your own files on that other Mac.

You can even do this while somebody else is actually *using* the Mac in person. The Mac can process the work of many people simultaneously. In fact, you, Chris, and Robin can each log into Ellen's Mac from across the network, with each of you using your own files on that same machine, even while Ellen is using her own account!

### 5. Type your short user name (Figure 12-5, middle).

Type precisely what you would use to log into the networked computer if you were sitting in front of it.

If nobody has set up an account for you on that machine, on the other hand, all you can do is click the Guest button to gain some very limited access to what's on the other Mac. And if the Guest button is dimmed, then someone has turned off Guest access altogether. Now you're completely out of luck.

(Not sure what your short user name is? To look it up, open System Preferences on your home-base Mac, click Accounts, and click your account name.)

#### 6. Press Tab, and then type your password.

If you work alone or with a small group of trusted people, and you've left your password blank, just skip the password box here.

#### 7. Click Connect, or press the Return or Enter key.

Now a list of disks and folders on that Mac that have been *shared* for network access appears (<u>Figure 12-5</u>, bottom). You're free to open them and work with their contents exactly as though they were on your own Mac—with certain limitations, which are described next.



If you drag a shared folder onto the bottom half of the Sidebar (or highlight it and choose File Add to Sidebar), you can bring it back to your screen later just by clicking its icon.

You can even drag its icon into the Startup Items window described in <u>Section 11.3.4</u>. Now the disk will appear on your desktop *automatically* each time you log in—the most effortless arrangement of all.

#### 12.2.3 Connection Method B: Connect to Server

The Sidebar method of connecting to networked folders and disks is practically effortless. It involves nothing more than clicking your way through folders—a skill that, in theory, you already know.

But the Sidebar method lacks some advantages of the older "Connect to Server" method of Mac OS X versions gone by. Here are some of the differences:

- When you use the Sidebar to access a disk or folder, the shared icon never actually shows up on your desktop. It's therefore hard to know when you're really connected to it.
- When you use the Sidebar, if somebody shuts down the Mac you're exploring via network, a message on your screen eventually appears to say, "The alias 'chris' could not be opened, because the original item could not be found"—not exactly a crystal-clear explanation of what's gone wrong.

In Panther, connecting to networked disks is both easier and harder. The Sidebar method is quick and easy, but it doesn't let you connect to certain kinds of disks. The Connect to Server method entails plodding through several dialog boxes and doesn't let you browse for shared disks, but it can find just about every kind of networked disk.



- The Sidebar method doesn't let you *type* in a disk's network address. As a result, you can't access any shared disk on the *Internet* (an FTP site, for example), or indeed anywhere beyond your local subnet (that is, your own small network).
- Except as noted in <u>Figure 12-5</u>, the Sidebar method doesn't offer an "Add to Keychain" option (<u>Section 12.4.1.2</u>)
  that makes the Mac memorize your password for a certain disk so you don't have to type it in every darned time
  you connect.

Fortunately, the pre-Panther method of summoning shared disks and folders is still alive and well. When you choose Go—Connect To Server, you get the dialog box shown in <u>Figure 12-6</u>. The idea is that you can type in the *address* of the shared disk you want.

For example, from here, you can connect to:

• Everyday Macs on your network. If you know the IP address of the Mac you're trying to access—you geek!—you can type nothing but its IP address into the box and then hit Connect.

And if the other Mac runs Mac OS X 10.2 or later, you can just type its Rendezvous name: afp://upstairs-PowerMac.local/.



To find out your Mac's IP address or Rendezvous address, open the Sharing panel of System Preferences. There, at the bottom, you'll see a message like this: "Other Macintosh users can access your computer at afp://192.168.1.24." That's your IP address. (Technically, though, you don't even need the *afp://* part—only the number.)

To see your Rendezvous address, click the Edit button at the top of the System Preferences pane.

After you enter your account password and choose the shared disk or folder you want, its icon appears on your desktop *and* in the Sidebar's disk list (<u>Figure 12-7</u>, bottom). As a bonus, the corresponding window opens automatically.

The next time you open the Connect To dialog box, Mac OS X will remember that address, as a courtesy to you, and show it pre-entered in the Address field.

- Macs across the Internet. If your Mac has a permanent (static) IP address, the computer itself can be a server, to which you can connect from anywhere in the world via the Internet. Details on this procedure begin in <a href="Section 21.3">Section 21.3</a>.
- An iDisk. An iDisk is a file server, too (Section 18.9.2). The easiest way to bring *your* iDisk icon to the screen is to choose Go Disk My iDisk. But what if you're not using *your* own Mac? What if you're visiting a friend, and you want to bring *your* iDisk to *his* screen?

In that case, you could type *afp://idisk.mac.com* into the Connect to Server dialog box. When you click Connect, the Mac asks for your iDisk name and password. Type them in, and after a moment, your iDisk's icon pops up on the desktop.

• **Windows machines.** Find out the PC's IP address or computer name, and then use this format for the address: smb://192.168.1.34 or smb://Expensive-Dell.

After a moment, you're asked to enter your Windows account name and password, and then to choose the name of the shared folder you want. When you click OK, the shared folder appears on your desktop as an icon, ready to use. (More on sharing with Windows PCs later in this chapter.)



If you know the name of the shared folder, you can add that after a slash, like this: smb://192.168.4.23/ sharedstuff. You save yourself one dialog box.

- NFS servers. If you're on a network with Unix machines, you can tap into one of their shared directories using this address format: nfs://Machine-Name/pathname, where Machine-Name is the computer's name or IP address, and pathname is the folder path (Section 1.2.2) to the shared item you want.
- **FTP servers.** Mac OS X 10.3 makes it simple to bring *FTP servers* onto your screen, too. (These are the drives, out there on the Internet, that store the files used by Web sites.)

In the Connect to Server dialog box, type the FTP address of the server you want, like this: ftp://www.apple.com (or whatever the address is). If the site's administrators have permitted anonymous access—the equivalent of a Guest account—that's all there is to it. A Finder window pops open, revealing the FTP site's contents.

If you need a password for the FTP site, however, what you type into the Connect to Server dialog box should incorporate the account name you've been given, like this: *ftp://yourname@www.apple.com.* You'll be asked for your password.



You can even eliminate that password-dialog box step by using this address format: ftp://yourname: yourpassword@www.apple.com.

Once you type it and press Return, the FTP server appears as a disk icon on your desktop (and in the Sidebar). Its window opens automatically, its contents ready to open or copy from. (You can't delete things or add things when you connect this way, however. If that's your intention, see Section 21.2.1.)

WebDAV server. This special kind of Web-based shared disk requires an address format of its own, like this: http://
Computer-Name/pathname. (Technically, the iDisk is a WebDAV server—but as you know, Mac OS X offers far
user-friendlier ways to get at it.)

In each case, once you click OK, you may be asked for your name and password. You're then offered a useful Options button (see Figure 12-7).

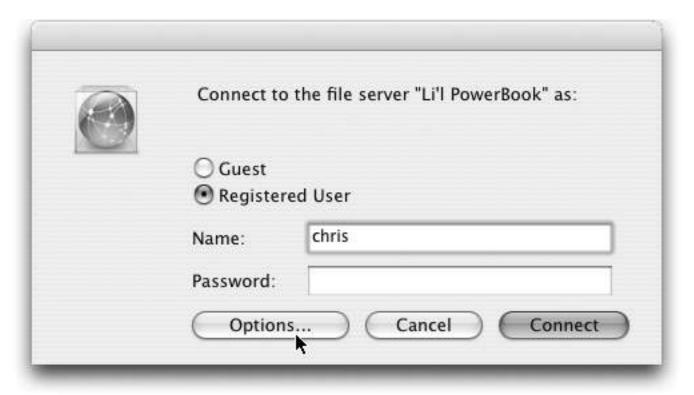
Nor is that the only timesaving feature built into the Connect to Server box (Figure 12-6):

- Once you've typed a disk's address into the box, you can click the + button to add that server to the list of server favorites. The next time you want to connect, you can open the shared disk just by double-clicking its name.
- The clock-icon pop-up menu lists Recent Servers—computers you've accessed recently over the network. If you choose one of them from this pop-up menu, you can skip having to type in an address manually.

Top: When you access another networked computer using the Connect to Server command, this dialog box asks for your name and password. Don't miss the Options button.

Middle: Clicking Options opens this useful box. The Add Password to Keychain button means that you won't have to type your password later (see "The Keychain," later in this chapter). If you click Change Password as you connect to another computer, you'll be given the opportunity to change your account password on that machine. A clear text password is one that isn't encrypted—a less secure, but more compatible, method of transmitting your password over the network.

Bottom: When you connect to a server using this method, its icon shows up in the Sidebar, so it's easy to eject—something that you don't get when you connect by clicking the Network icon in the Sidebar.









Here's a handy side effect of using the Connect to Server command: It displays each connected disk as an icon in your Sidebar, *even* within the Open or Save dialog boxes of your programs. You don't have to burrow through the Sidebar's Network icon to open files from them, or save files onto them.

#### 12.2.4 What You Can Do Once You're In

When you tap into a *Mac OS 9* machine over the network, you're allowed complete freedom. You can trash, rename, move, or otherwise wreak havoc with the files and folders you find there.

But when you tap into a *Mac OS X* machine, you can access only what's in certain designated folders. Which folders are available depends on whether you're a *guest*, a *normal user*, or an *administrator* (see the previous chapter).

#### 12.2.5 If You're a Guest

If you're just a guest—somebody for whom an account hasn't already been set up—you won't see the usual assortment of shared disks and folders (see Figure 12-8).

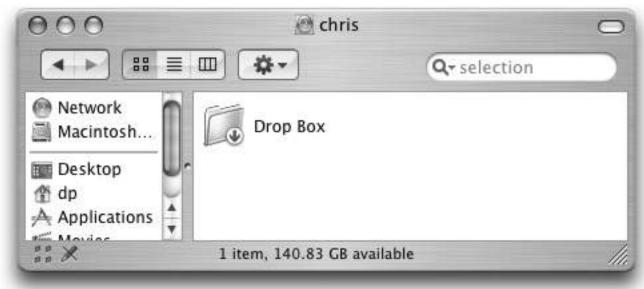
At this point, all you can do is this:

Put things into anyone's Drop Box folder. (Open the account holder's folder to see the Drop Box folder.) You can
copy files into a Drop Box, but you can't open it. Yes, Mac OS X is very secure, but even a high-security prison has
a mailbox.

If you connect as a guest, there's not much to see. Top: At first, you see only the names of account holders on the Mac you're tapping into (Bob, Chris, Robin, and so on).

Bottom: You can deposit files into the Drop Box folder of any account holder, but not into the window that holds it—the little slashed-pencil icon in the lower-left corner tells you that it's off-limits.





• **Open** anything that people have put into their Public folders. (If you don't see any Public folders, then nobody has put anything into them for you to see.) Figure 12-9 has the details.

The rest of the Mac is invisible and off-limits to you.

Suppose that Chris put three files into her Public folder. (Every person's Home folder contains a Public folder.) When you connect to her Mac, you'll see whatever she put there plus her Drop Box. You can't put anything in Chris's window (except in the Drop Box), but you can open the three files she's left there for you to see.



#### 12.2.6 If You're a Standard Account Holder

If you have a Standard account, you'll enjoy Drop Box access, Public-folder access, and the ability to see and manipulate what's inside your own Home folder. You can do anything you like with the files and folders you find there, just as though you're actually seated in front of that Mac.

All other disks and folders on the Mac, including the System and Application folders, are invisible to you.

#### NOTE

Once you've connected to a Mac using your account (or indeed, any account), the other Mac assumes that it has a lock on your identity. You'll be able to connect to the other Mac over and over again, without ever having to retype your password.

On the other hand, if you try to connect to a *different* person's Home folder, you'll be treated as a guest; you won't even be offered the chance to type in that person's password. After all, you can't very well be two people at once, can you? (Insert favorite Jim Carrey joke here.)

The only way to wipe the other Mac's memory clean is to log out and log back in again. You're once again asked for your password when you try to connect to the other Mac.

#### 12.2.7 If You're an Administrator

If you're an *administrator*, you get to see icons for the account-holder folders *and* the hard drive itself to which you're connecting. In fact, you even get to see the names of any other disks connected to that Mac.

If you, O lucky administrator, open the hard drive, you'll discover that you not only have the same freedoms as a Standard account holder (described above), but also the freedom to see and manipulate the contents of these folders:

Applications

- Desktop folder
- Library (and the System Library folder, but nothing else in the System folder)
- Users Shared folder (Section 11.5.3)
- The other disks connected to the Mac OS X machine

Why aren't Standard and Administrator account holders allowed to see what's in the System folder? Because Mac OS X is extremely protective of its System folder. To make Mac OS X remain as solid and stable as the day you installed it, human beings are not allowed to play with it, whether they're visiting over the network or not.

Standard and Administrator account holders aren't allowed to see what's in other users' Home folders, either. (When you're connected via the network, you can't use the Get Info trick described in <u>Section 12.2.10</u> to seize control of other people's folders.)

#### NOTE

There's actually one more kind of account, of course, as described in the previous chapter—the *root user*. Whoever holds this account has complete freedom to move or delete *any file or folder anywhere*, including critical system files that could disable your Mac. <u>Section 11.8</u> has details.

### 12.2.8 Disconnecting Yourself

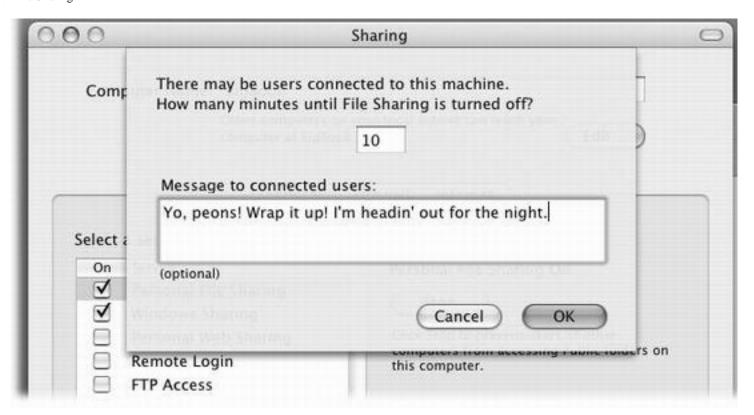
When you're finished using a shared disk or folder, you can remove it from your screen just as you would any disk (<u>Section 10.1.2</u>). The easiest method is to click the Eject icon next to its name in the Sidebar.

### 12.2.9 Disconnecting Others

In Mac OS X, there's no visual clue to alert you that other people on the network are accessing your Mac.

Maybe that's because there's nothing to worry about. You certainly have nothing to fear from a security standpoint, since, as you'll recall, people from across the network are allowed to access only their own folders. Nor will you experience much computer slowdown as you work (another traditional drawback of having people access your hard drive from across the network), thanks to Mac OS X's prodigious multitasking features.

This dialog box asks you how much notice you want to give your co-workers that they're about to be disconnected—10 minutes to finish up, for example. If you're feeling rushed or rude, type a zero; you'll cut off that person instantly, without warning. Then click OK. (When you disconnect people by closing your laptop lid or having a system crash, your co-workers get a message that says, "The server has unexpectedly shut down.")



Still, if you're feeling particularly antisocial, you can slam shut the door to your Mac just by turning off the File Sharing feature. (Click System Preferences on the Dock, click the Sharing icon, and turn off the Personal File Sharing or Windows Sharing checkbox.)

If anybody is, in fact, connected to your Mac at the time (*from* a Mac), you see the dialog box shown in <u>Figure 12-10</u>. If not, your Mac instantly becomes an island once again.

#### 12.2.10 Advanced Permissions Control

You may have noticed that Mac OS X adopts a fairly rigid scheme of permissions (*access privileges*). Most people on the network are allowed to see only their own folders (and what's in other people's Public folders) when they connect to a Mac OS X machine.

#### But what if:

- You want your co-workers to be able to access other folders?
- You'd rather not have your Public folder be quite that public?
- You work in a corporation where every machine has a full-time, high-speed connection to the Internet, which
  makes you worry even about that Drop Box? If some prankster figures out your Mac's IP address, it's conceivable
  that they could dump unsavory files into your Drop Box anonymously over the Internet (or keep dumping random
  files into it until your hard drive is full).

### GEM IN THE ROUGH Instant Network Messaging

As <u>Figure 12-11</u> makes clear, turning off File Sharing gives you the opportunity to send a little message to everyone who is currently connected to your Mac via network. But you don't have to turn off File Sharing just to gain the opportunity to send little instant messages to your buddies. The dialog box shown in <u>Figure 12-11</u> is suitable for warning your network buddies that the boss is coming, for example, or to request that they get you a beverage.

To do so, open System Preferences, click Sharing, and turn off the File Personal File Sharing checkbox. Type your message into the box that appears, and click OK. Your message pops up on the screens of everyone who's connected to you.

Technically, you also just began the File Sharing shutdown process—now you should cancel that. After sending a message, you'll find that you're now staring straight at the Cancel button on the Sharing panel. Clicking it cancels the shutdown of File Sharing. (It also sends yet another message to your network comrades' screens, to the effect that File Sharing is no longer going to be cut off—a small price to pay for learning about the secret Mac OS X instant-messaging system.)

Yes, of course, iChat is a far better instant-messaging system—but this cheapie one lets you send little messages even to Macs running systems before Mac OS X 10.2.

 You find it annoying that Standard account holders can't access the other disks attached to your Mac from across the network?

Fortunately, Mac OS X's very restrictive folder-permission scheme is just a suggestion. It's perfectly possible to make individual folders either more protected or less protected, as you see fit—a bit technically hairy, but possible.



In Mac OS X, you can even control how much access people have to an individual *file*—not just an entire folder. Keep that useful fact in mind as you read the following discussion.

### 12.2.10.1 Changing access permissions for a file or folder

To begin, highlight a file or folder on your hard drive. Unless you're an administrator, it must be a file or folder that you *own* (because it's in your Home folder or because you've created it yourself). (Standard account holders are never allowed to mess with other people's folders.)

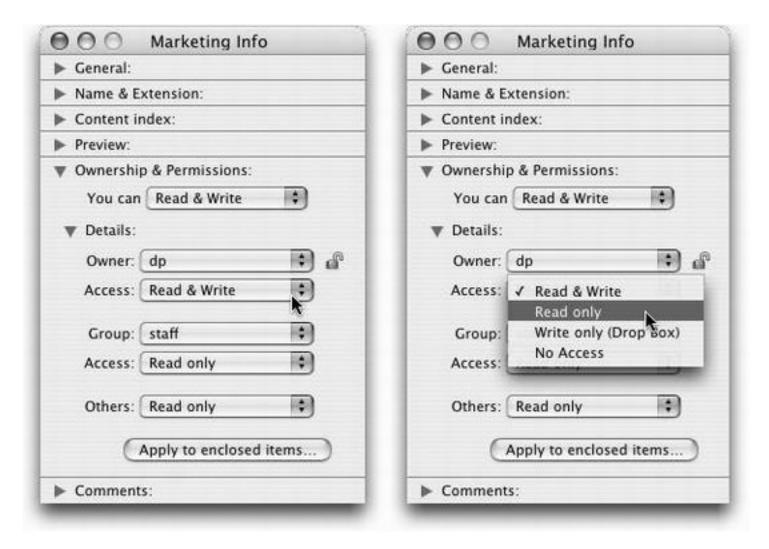
Choose File Get Info (or press II-I). When the Info dialog box appears, expand the Ownership & Permissions panel; then expand the Details section (see Figure 12-11).



You can also change the permissions for many folders at once. Just highlight all of them before choosing File Get Info.

Left: This window lets you establish who's allowed to see or use the contents of a particular folder or disk.

Right: Using the pop-up menus, you can specify how much access you, the Owner, a selected group, and everyone else has.



Now you see three pop-up menus: Owner, Group, and Others. (Each of the first two also offers an Access pop-up menu.) More on these designations in a moment.

For now, note that the Owner Access, Group Access, and Others pop-up menus contain identical commands. They let you specify what you, the other people in your work group, and the entire network community can do with this document or folder:

• If you choose **No Access**, then you're a network tease—your co-workers may be able to see the folder, but its name and icon will be dimmed and unavailable.

- The **Read only** option lets visitors open the folder, open the files inside, or copy the files inside to their own hard drives; however, they can't put anything new into the folder, nor save changes to files they find there. Set up a *folder* like this as a distribution point for newsletters, standard logos, or other company information. Or turn this on for a *document* that you want people to be able to read but not edit.
- The Write only (Drop box) option is available only for folders. Turn it on if you want your network co-workers to be able to see the folder, but not open it. All they can do is copy files into it. (Your own Drop Box—which Mac OS X creates automatically in your Home—Public folder—works this way, too.)

This option is great for setting up a place where people can put documents that are intended for your eyes only. Think students turning in homework, underlings turning in quarterly reports, and so on.

• Finally, choose **Read & Write** if you'd like your networked colleagues to have full access to the folder. They can do anything they want with the files inside, including trashing them.

#### NOTE

Whenever you adjust the permissions for a folder like this, remember to take into account the permissions of the folder it's *in* (that is, its parent folder). No matter how exquisitely you set up a drop box folder, for example, nobody will even know it's there unless it's *inside* a folder for which you've turned on at least "Read only" access.

But wait. Just when you thought this permissions business might be easy enough for you to grasp without that long-postponed PhD in astrophysics, it gets more complicated.

It turns out that you can assign these different levels of freedom to different subsets of people on your network. That's why there are three different categories of pop-up menu:

• Owner. That's you.

Of course, ordinarily, you have full access (Read & Write) to all of your folders. You can put anything into them, take anything out of them, and do whatever you like with them. But if you feel the need to protect yourself from your own destructive instincts, you can actually limit your own access to certain folders. For example, you can turn one into a drop box using this pop-up menu, as described below.

If you're an administrator, in fact, you can do more than specify how much access you have. You can actually *change* the owner, so that somebody else has control over this icon.

To make this change, click the padlock icon, and then choose a new owner from the Owner pop-up menu.

This is an unbelievably sweeping power. It means that you can trod roughshod over everyone else's stuff, blowing away all of the usual Mac OS X account-security mechanisms. If you feel like trashing all the files of everyone else who uses this Mac, you can do it. You, after all, are Administrator, God of the Mac. (This, by the way, is a good argument for limiting the number of people who *have* Administrator accounts. Remember, they can do the same thing to you.)

In any case, as soon as you choose a new owner from the pop-up menu, you'll be asked for your account password, just to prove that you're really an administrator. Type it, and then click OK.

Now you can not only change who the owner *is*, but you can also use the Owner Access pop-up menu to specify how much access that person has to the selected file or folder.

• **Group**. In most networking systems, you can put every person in your office into certain groups, such as Marketing, Accounting, or Temps. Mac OS X itself, however, offers no easy mechanism for setting up such groups. (There is a complicated way, however, which is described in <u>Section 12.4</u>).)

But Mac OS X does come with a whole bunch of canned, prefab groups, to which it automatically assigns everyone on the network. If you're an administrator, for example, you belong to the *admin* group, among others; if you're a mere peon, a Standard account holder, you're part of the *staff* group. (The other group names here—*dialer, guest, mail*, and such—exist for the benefit of network administrators and for Mac OS X itself. Mac OS X 10.3 even creates a group named after each account holder—very tiny groups indeed.)

If you have a Standard account, you can't change the Group pop-up menu. But using the Group *Access* pop-up menu, you can change how much access *everyone* in your group has to the file or folder.

If you're an administrator, on the other hand, you can make a selected file or folder available to any other group (and then, by using the Access pop-up menu beneath it, specify that group's degree of access). Once again, you'll be asked to prove your worthiness by clicking the padlock icon and entering your administrator password.

• Others. So far, you've specified how much access the *owner* of this icon has, and how much access one favored *group* gets to it. But what about everyone else?

They are the *Others*, of course. This pop-up menu specifies how much freedom *everybody else* in the network will have to the selected file or folder, including guests. Needless to say, if security is an issue where you work, you may not want to set the Everyone pop-up menu to permit full access.

#### NOTE

You can't give "Everyone" more access to the folder than you gave the Group people—only the same degree of freedom, or less. For example, you can't give Read & Write access to a folder to Everyone, but give your own administrator group only Drop Box access.

If you want the change to affect all the folders *inside* the selected disk or folder in the same way, click "Apply to enclosed items." In the confirmation box, click OK.

In any case, just close the Info window when you're finished. You've just fooled around with some high-powered Unix mojo—without even knowing it.



This chapter describes the *visual* way to connect from across the network—a system of dialog boxes, menus, and nice clickable buttons.

If you're willing to forego all of that Mac-like stuff, a second, highly regarded system of connecting to your Mac from across the network (or from across the Internet) awaits: a Unix program called SSH (Secure Shell). If you're still game, Section 21.4 offers the details.

### GEM IN THE ROUGH Rendezvous

Throughout this chapter, and throughout this book, you'll encounter rituals in which you're supposed to connect to another Mac, server, or printer by typing in its *IP address* (its unique network address).

First of all, IP addresses are insanely difficult to memorize (192.179.244.3, anyone?). Second, networks shouldn't require them anyway. If a piece of equipment is on the network, it should *announce* its presence, rather than making you specifically *call* for it by name.

Now you can appreciate the beauty of *Rendezvous*, an underlying Mac OS X networking technology that lets networked gadgets detect each other on the network *automatically* and recognize each other's capabilities.

It's Rendezvous at work, for example, that makes other Macs' names show up in your iTunes program so that you can listen to their music from across the network (Section 10.3.4.1). Rendezvous is also responsible for filling up your buddy list in iChat automatically, without requiring you to know your buddies' screen names first (Section 20.2.3); for making shared Macs' names show up in the Sidebar's Network icon; and for making the names of modern laser printers from HP, Epson, or Lexmark appear like magic in the list of printers in the Print dialog box.

And if you're lucky enough to have (a) a TiVo Series 2 video recorder for your television, (b) a home network that connects it with your Mac, and (c) TiVo's Home Networking Option, you already know that your Mac's name magically appears on the TiVo screen. This allows you to play your iTunes music, or put on a slide show of your iPhoto pictures, right on the TV. Once again, it's Rendezvous at work.

But it's even more tantalizing to contemplate the future of Rendezvous. To quote <u>www.zeroconf.org</u>, whose underlying technology forms the basis of Rendezvous:

"The long-term goal of Zeroconf is to enable the creation of entirely new kinds of networked products, products that today would simply not be commercially viable because of the inconvenience and support costs involved in setting up, configuring, and maintaining a network to allow them to operate."

But that's just the beginning. If the electronics companies show interest (and some have already), you may someday be able to connect the TV, stereo, and DVD player with just a couple of Ethernet cables, instead of a rat's nest of audio and video cables.

For most of us, that day can't come soon enough.



NEXT 📫





### 12.3 Networking with Windows

Microsoft Windows may dominate the corporate market, but there *are* Macs in the offices of America. Mac OS X represents a historic moment in Mac-Windows relations: It lets Macs and Windows PCs see each other on the network, with no special software (or talent) required.

In fact, you can go in either direction: Your Mac can see shared folders on the Windows PCs, and a Windows PC can see shared folders on your Mac. The following pages take you through both situations.

### 12.3.1 Seated at the Mac: Seeing the PC

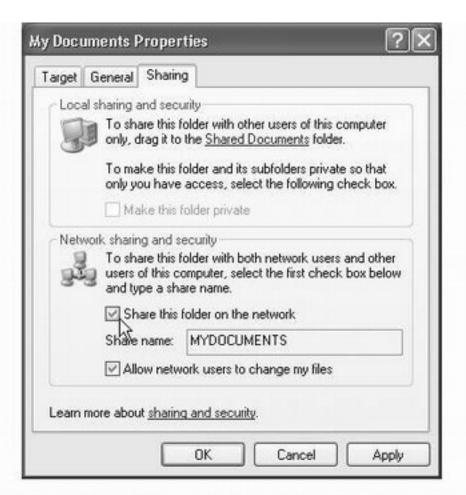
Suppose you have a Windows XP machine on the network (although the same feature works in Windows Me, Windows 2000, and other recent editions). Here's how you get the Mac and PC chatting:

1. On your Windows PC, share a folder.

You have to specify which folders you want to make available on the network, if some administrator hasn't already done so. In Windows XP, for example, you right-click a folder, choose Properties from the shortcut menu, click the Sharing tab, and turn on "Share this folder on the network" (Figure 12-12, top). In the "Share name" box, type a name for the folder as it will appear on the network (no spaces are allowed).

Top: To share a folder in Windows, right-click it, choose Properties, and turn on "Share this folder on the network."

Bottom: Back in the safety of Mac OS X, click Network in the Sidebar, click your workgroup name (if necessary), click the name of the shared computer, and click Connect. (Those are the steps in column view. In other views, just double-click the name of the computer you want.)





#### NOTE

If you've never shared a folder on this PC before, you won't see the "Share this folder" option. In its place, you'll see a link that runs the Network Setup Wizard. Go ahead and run that, supplying a computer and workgroup name when prompted, and then restart the PC to turn on sharing. Then start over with step 1.

Repeat for any other folders you want to make available to your Mac.

#### 2. On the Mac, open any Finder window. Click Network in the Sidebar.

The shared PCs may appear as individual computer names, or—if you've used Microsoft's Network Setup Assistant—you may see only the icon of their *workgroup* (network cluster). Unless you (or a network administrator) changed it, the workgroup name is probably MSHOME or WORKGROUP.



You can also access the shared PC via the Connect to Server command, as described in Section 12.2.3.

3. If necessary, click LOCAL or the Windows workgroup name.

Now the names of the individual PCs on the network appear on the right side of the window (Figure 12-12, bottom).

4. Double-click the name of the computer you want.

The Authentication dialog box appears, as shown at top in Figure 12-13.

5. Type your name and password, if necessary, and then click OK.

If you have an account on the Windows PC, great—use that name and password. If the PC isn't in a corporation where somebody administers access to each machine, you may be able to leave the password field blank.

# WORKAROUND WORKSHOP When Your Workgroup Isn't WORKGROUP

When you first turn on Windows Sharing in Mac OS X, the Mac tries to show what a good sport it is by announcing that it's part of a Windows workgroup (network cluster). Unfortunately, it believes itself to be in the workgroup called WORKGROUP—while Windows PCs start out believing that they belong to a workgroup called MSHOME.

This distinction isn't earth-shatteringly important. But if the Macs and PCs have the same workgroup names, connecting is easier; for example, your Mac is more likely to show up on the PC from across the network, and your LOCAL folder (in the Networking icon of the Sidebar) won't display *both* Macs and PCs.

The easiest solution: Open the Directory Access program in your Applications Utilities folder. Click the padlock, sign in as an administrator, and then double-click the SMB item in the list.

In the resulting dialog box, type (or choose) the new name you want—MSHOME, or whatever matches the PC's workgroup name—and then click OK. Quit Directory Access and click LOCAL again.

This time, you should see Macs and PCs listed side-by-side, in glorious harmony.

The SMB Mount dialog box now appears (<u>Figure 12-13</u>, bottom). Its pop-up menu lists the *shares* (that is, shared folders and disks) on the selected PC.

6. From the pop-up menu, choose the name of the shared folder that you want to bring to your desktop. Click OK.

At long last, the contents of the shared folder on the Windows machine appear in your Finder window, just as though you'd tapped into another Mac. From here, it's a simple matter to drag files between the machines, open Word documents on the PC using Word for the Mac, and so on, exactly as though you're hooked into another Mac.

Top: The PC wants to make sure that you're authorized to visit it. If the terminology here seems a bit geeky by Apple standards, no wonder—this is Microsoft Windows' lingo you're seeing, not Apple's.

Bottom: Here, you see a list of shared folders on the PC. Choose the one you want to connect to, and then click OK. Like magic, the Windows folder shows up on your Mac screen, ready to use!





### 12.3.2 Seated at the PC: Seeing the Mac

Actually, you can share files in *both directions*. Not only can your Mac see other PCs on the network, but they can see the Mac, too.

Here's how you prepare the Mac for visitation from a PC:

1. On the Mac, open System Preferences. Click the Sharing icon. Turn on Windows Sharing (Figure 12-14,

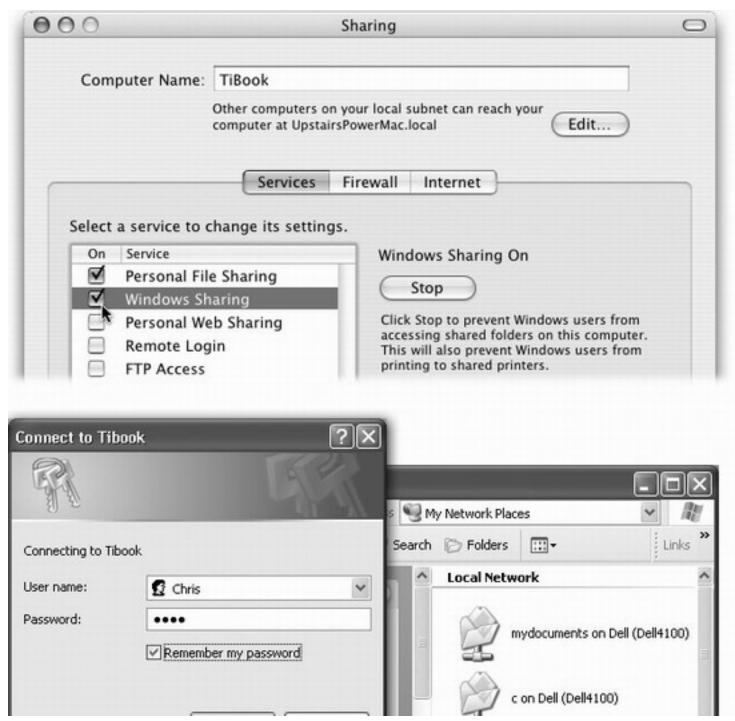
top).

If you haven't created an account for whoever will be tapping into your Mac (<u>Chapter 11</u>), this is your opportunity to do so. Otherwise, your Mac is ready for invasion. Quit System Preferences, if you like.

Top: This magic checkbox in System Preferences makes it all possible. It's a systemwide On switch for invasion from Windows.

Lower left: Sign in, using the same name and password you'd use to log into your Mac (Chapter 11).

Lower right: Here's your Mac's icon—in Windows! Open it up to find your Home folder, complete with all your stuff.





2. On the Windows machine, open the My Network Places or Network Neighborhood icon (<u>Figure 12-14</u>, lower right).

The goal here is to find your Mac's icon. If it shows up by itself (you may need to wait a minute or two), terrific; you must have sacrificed the proper animals to the Windows gods.

If it doesn't appear, try each of these three approaches, in order of desperation:

First resort: Click "Microsoft Windows Network" in the task pane.

Second resort: Click "View workgroup computers" instead.

#### NOTE

The *task pane* is the blue panel at the left side of every Windows XP desktop window. If you don't see it, try widening the window. If you still don't see it, choose Tools Folder Options and turn on "Show common tasks in folders."

Last resort: If your Mac still doesn't show up, you'll have to add it the hard way. Click "Add a network place" in the task pane. On successive screens, click Next, click "Choose another network location," and then click Next. In the "Internet or network address" box, type \\192.168.1.24\\chiris\) (substitute your Mac's IP address and your short account name), taking care to use backslashes, not normal / slashes.

Finally, click Next, type a name for your Mac on the network, click Next again, and click Finish.

In any case, when you *do* find your Mac on the network, its icon may bear a name like "Samba 2.2.3a (Robinscomputer)." No, Microsoft isn't trying to give you dance lessons. Samba is the Mac's version of the SMB file sharing protocol that Windows uses.

In the future, you won't have to do so much burrowing, since it will appear automatically in the My Network Places window.

3. Double-click the icon's name, sign in (Figure 12-14, bottom left), and then go to town.

In the final window, you see your actual Home folder—on a Windows PC! You're ready to open its files, copy them back and forth, or whatever.

#### 12.3.3 More Mac-Windows Connections

The direct Mac-to-Windows file-sharing feature of Mac OS X is by far the easiest way to access each other's files. But it's not the only way. Here are a few more possibilities (not including disks, flash drives, and other removable gadgets):

- **Dave.** Dave (<u>www.thursby.com</u>) is a Mac/Windows file-sharing program that's more powerful, more flexible, and more complex than the procedure described in the previous pages.
- **Web Serving.** As described in <u>Chapter 21</u>, Mac OS X's Apache software turns your Mac into a living Web site. And the beauty of the Web, of course, is that it doesn't care what kind of computer you're using. The contents of the Web site are dished up exactly the same way to Macs, Windows machines, Unix machines, and so on.

All of this provides a great way to distribute files to other people on the network —even people who are using less enlightened operating systems. You can simply list files for distribution on a simple Web page, to which other people on the network can connect.

<u>Chapter 21</u> offers the full details of setting up such a system—but in the context of making your Mac available to anyone on the Internet. The point to note here is that other people on your office network can access your Mac in exactly the same way, just by typing <a href="http://192.168.1.5/~chris/">http://192.168.1.5/~chris/</a> (that is, your IP address followed by ~ and your short account name), into the address bar of their Web browsers.

- FTP. Think of an FTP server as something like a Web site designed specifically as a holding tank for files that you want to distribute or accept. Here again, though, it's worth remembering that you can use the Mac OS X built-in FTP server to distribute and accept files on your local network, not just over the Internet. The Windows PC user, using only a Web browser, will be able to download any files in the folder that you've set up for such transactions.

  Chapter 21 has complete details. (And using an FTP client program—the Windows equivalent of Fetch, for example—that person can copy files to and from the folder.)
- **Bluetooth**. If your Mac and a PC each have Bluetooth adapters, you can share files between them as though there's no language barrier at all.

Apple's Bluetooth adapter comes with a nondenominational file-exchange program called Bluetooth File Exchange; not all Windows Bluetooth adapters come with such a program. But if yours does (3Com's adapters do, for example), you should be able to shoot files between the machines with the greatest of ease—and no setup whatsoever. See Section 6.2.5.



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### **12.4 Managing Groups**

As noted earlier in this chapter, the circuitry of Mac OS X's file-sharing software doesn't let you create and manipulate *groups*. As your networking setup becomes more complex, being able to work with subsets of the people on your network can be a great timesaver.

For example, you might create groups called Marketing, Temps, and Executives. Later, you can permit an entire group of these people access to a particular file, folder, or disk in one fell swoop. (Groups are also the key to letting Standard account holders on your network see and access secondary *drives* on your Mac OS X computer.)

Phase 1 involves creating and naming the groups you want. It requires NetInfo Manager, an advanced utility program that comes with Mac OS X. Phase 2 involves assigning those groups to individual disks, files, or folders on your system. The following pages walk you through both procedures.

### 12.4.1 Creating Groups

To set up groups, start by opening NetInfo Manager, which is in your Applications Utilities folder.

#### 12.4.1.1 Defining and naming the group

Here's how you might go about creating a new group called Executives and then adding the names of three employees to it. (These steps assume that you've already created accounts for these people, as described in Chapter 11.)

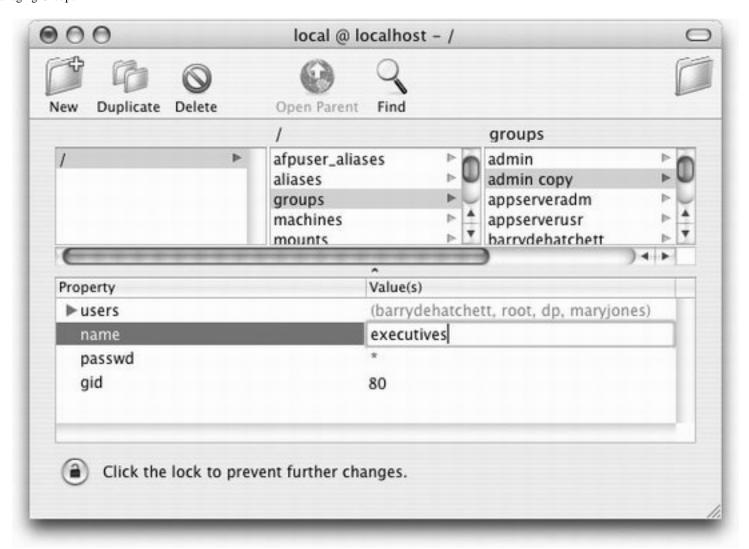
1. In NetInfo Manager, click the tiny padlock in the lower-left corner.

A dialog box appears, prompting you for an administrator's name and password. The Mac is just checking to make sure that somebody with a clue is at the helm.

2. Type the name and password of an administrator (Section 11.2). Click OK.

NetInfo presents a staggering array of network-related variables (<u>Figure 12-15</u>). In the second column, you'll see that one of them is called *groups*.

Consider yourself warned: NetInfo is an extremely technical program designed for network administrators with years of training and full employee benefits somewhere in corporate America. Not only do you need an administrator's account to play with it, but veering off the instructional path speci- fied in the following pages could, in theory, get your Mac in trouble.



#### 3. Click groups.

In the next column to the right, you'll see a list of all the canned groups that come installed with Mac OS X: *admin, bin, daemon, kmem,* and so on. These terms aren't especially closely related to English, but then again, Unix names were designed primarily for efficiency in typing.

You're ready to add a new group to this list. The easiest way is to duplicate one of the existing groups.

4. Click *admin* in the list of groups, and then click the Duplicate button at the top of the window. Now click Duplicate in the confirmation message.

You wind up with a new group in the list, called *admin copy*. Note that it's highlighted, and a few morsels of information about it appear at the bottom of the window. One of them—in the Property column—says *name* (see Figure 12-15).

5. Double-click admin copy. at the bottom of the window (in the Value(s) column). Type the new name for your group, as shown in Figure 12-15, and then press Enter.

You've just created and named a new group. To help Mac OS X keep this one separate from the others, you'll also need to give it a new group ID number, abbreviated *gid* in Unix-ese.

6. If the *gid* value (in the third row at the bottom of the window) isn't already highlighted, double-click it. Then type 200 and press Enter.

The ID number doesn't especially matter except that it can't be the same as any the other folders' group IDs. The existing ones are all under 100, so you should be in good shape.

At the moment, your new group lists the names of all Administrator accounts (because you began this process by duplicating the *admin* group). Now you need to make sure that the right people belong to this group.

#### 12.4.1.2 Adding people to the new group

The adding-people-to-group process takes place in the bottom half of the window.

1. At the bottom of the window, click the *users* row without expanding it. Choose Directory Insert Value (or press Option-\(\mathbb{H}\)-1).

The *users row* now expands, revealing individual rows for each account holder who already belongs to this group. A *new\_value* box waits for you to type in the name of somebody you've created an account for. (Sorry, efficiency fans, there's no simple pop-up list of the accounts on your Mac; NetInfo Manager assumes that you can remember the precise name and capitalization of every account.)

2. Type the *short* account name (Section 11.3) of the person you want to add to this group, and then press Enter.

If you want to add another person, choose Directory Insert Value again, and then type in another name. (You can also delete someone from this group by highlighting the appropriate row and then choosing Directory Delete Value.)

3. When you're finished adding people, save your changes (Domain Save Changes), and click "Update this copy" in the confirmation dialog box.

Quit NetInfo Manager.

At the moment, you've got yourself a properly defined group, but this information is just kicking around in Mac OS X's head without any practical value. The next step is to tell Mac OS X which folders are the private stomping grounds of this group.

### **12.4.2 Assigning Groups**

It's easy for an administrator to let a certain group have access to a certain file, folder, or disk. Just highlight the icon in question, choose File Get Info, expand the Ownership & Permissions panel (Figure 12-11), expand the Details section, click the padlock icon, and use the Group pop-up menu to specify a group. (Type in your administrator's name and password again.)

Then use the Access pop-up menu below it to determine how *much* access this group should enjoy. (Use the Others pop-up menu to specify how much access all *other* group members get.)

You can do exactly the same thing using Terminal, Mac OS X's rabbit hole into the world of Unix commands. The average Macintosh fan will certainly consider this method insanely opaque, user-hostile, and counterintuitive. The average Unix fan will love it. You'll find an overview in <a href="Chapter 16">Chapter 16</a>.





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## 12.5 Dialing In from the Road

If you're one of the several million lucky people who have full-time Internet connections—in other words, cable modem or DSL accounts—a special thrill awaits. You can connect to your Mac from anywhere in the world via the Internet. If you have a laptop, you don't need to worry when you discover you've left a critical file on your desktop Mac at home.

Mac OS X offers several ways to connect to your Mac from a distant location, including file sharing over the Internet, virtual private networking, FTP, and SSH (secure shell). Chapter 21 has the details.



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### 12.6 Forgettable Passwords: The Keychain

The information explosion of the computer age may translate into bargains, power, and efficiency, but it carries with it a colossal annoyance: the proliferation of *passwords* we have to memorize. Shared folders on the network, Web sites, your iDisk, FTP sites—each requires another password.

Apple has done the world a mighty favor with its *Keychain* feature. The concept is brilliant: Whenever you log into Mac OS X and type in your password, you've typed the master code that tells the computer, "It's really me. I'm at my computer now." The Mac responds by *automatically* filling in every password blank you encounter in your networking exploits (and in your Web-surfing exploits too, if you use a Keychainsmart browser like Safari or OmniWeb). You can now safely forget all of the passwords required for accessing the various other Macs on your network.

Because it's on all the time and memorizes most passwords automatically, the Keychain winds up being invisible for many people. Just go about your business, tapping into other computers on the network as described earlier in this chapter, connecting to your iDisk, and so on. Behind the scenes, the Mac quietly collects the various passwords so that you don't need to enter them again.

### 12.6.1 Locking and Unlocking the Keychain

When your Keychain is unlocked, you can open your password-protected FTP sites, iDisk, network servers, and so on, without ever having to enter a password. Technically, you're supposed to enter a name and master password to "unlock" the Keychain every time you sit down in front of your Mac, thereby turning on this automaticpassword feature. But Apple figured, "Hey, you've *already* entered a name and master password—when you logged into the Mac. That's good enough for us."

If you work alone, the Keychain therefore becomes automatic, invisible, and generally wonderful.

But what if you work in an office where someone else might sit down at your Mac while you're getting a candy bar? Of course, Mac OS X 10.3 can now lock your Mac—Keychain and all—after a specified period of inactivity (Section 11.4.2).

But if, for old times' sake, you want to lock the Keychain *manually*, you can use either of these methods. Each requires the Keychain Access program (in your Applications——) Utilities folder):

You can use this program to examine the passwords that Keychain Access is storing for you. (Click one of these rows to see more information about that password in the Attributes window.) The Access Control tab lets you specify which programs Mac OS X will supply with the selected password.



- Lock the Keychain manually. Click the Lock button in the toolbar of the Keychain Access window (see <u>Figure 12-16</u>).
- Lock the Keychain automatically. In the Keychain Access program, choose Edit Change Settings for Keychain [your name]. The resulting dialog box lets you set up the Keychain to lock itself, say, five minutes after the last time you used your Mac, or whenever the Mac goes to sleep. When you return to the Mac, you'll be asked to re-enter your account password in order to unlock the Keychain, restoring your automatic-password feature.

Either way, when the Keychain is locked, Mac OS X will no longer fill in your passwords.

#### NOTE

As noted above, you unlock your Keychain using the same password you used to log into Mac OS X, but that's just a convenience. If you're really worried about security, you can choose Edit Change Password for Keychain [your name], thereby establishing a *different* password for your Keychain, so that it no longer matches your login password. Of course, doing so also turns off the automatic-Keychain-unlocking-whenyoulog-in feature.

### 12.6.2 Managing Keychains

To take a look at your Keychain, open the Keychain Access program. By clicking one of the password rows, you get to see its *attributes*—name, kind, account, and so on (<u>Figure 12-16</u>). At this point, you can turn on "Show password" to see the actual password it's storing.



The primary purpose of the Keychain is, of course, to type in passwords for you automatically. However, it's also an excellent place to record all kinds of private information just for your own reference: credit card numbers, ATM numbers, and so on. Just click the Access Control tab, then click the Add button.

No, the Mac won't type them in for you automatically anywhere, but it does maintain them in one central location that is, itself, password-protected.

### 12.6.3 Multiple Keychains

By choosing File New Keychain, you can create more than one Keychain, each with its own master password. On one hand, this might defeat the simplicity goal of the Keychain. On the other hand, it's (faintly) conceivable that you might want to encrypt all of your business documents with one master password, and all of your personal stuff with another, for example.



If you do have more than one keychain, click the Show Keychains toolbar icon to make a "drawer" listing all keychains slide out of the side of the main window. Click their names to switch among them.

No, wait—there's an even better way. In Keychain Access, choose View—Show Status in Menu Bar. You've just added the Keychain menulet to your menu bar (a padlock icon), which makes it easy to switch keychains from within any program.

### 12.6.4 Keychain Files

Keychains are represented by separate files in your Home folder Library Keychains folder. Knowing that can be handy when you want to delete a keychain or copy it to another Mac—your laptop, for example.



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# Chapter 13. Printing, Faxing, Fonts, and Graphics

The Macintosh may be only the five-percent solution in the mainstream business world, but in the graphics and printing industries, it's the 800-pound gorilla. You'd better believe that when Apple designed Mac OS X, it worked very hard to keep its graphics and printing fans happy.

This chapter tackles printing, faxing, fonts, graphics, and ColorSync. It also covers PDF (Acrobat) files, which Mac OS X uses as an everyday exchange format—one of the biggest perks in Mac OS X.



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#### 13.1 Mac Meets Printer

One of the biggest complaints about the original Mac OS X was that at the outset, not many printer companies had rewritten their *printer drivers*—the software that controls various printer models—for it. Fortunately, the situation has improved: Today's Mac OS X comes with hundreds of printer drivers from Epson, HP, Lexmark, Canon, and others.



The Panther installer described in Appendix A even offers you the strangely named but wonderful GIMP-Print, a package of high quality printer drivers for Mac OS X. These drivers give new life to hundreds of current and older Epson, Canon, HP, and Lexmark printers.

The beauty of Mac OS X is that setting up a printer for the first time is incredibly easy. The first time you want to print something, follow this guide:

1. Connect the printer to the Mac, and then turn the printer on.

Inkjet printers usually connect to your USB jack. Laser printers generally hook up to your Ethernet connector. (If you're on an office network, the laser printer may already be connected somewhere else on the network, saving you this step. If you're hooking the printer straight into your Mac's Ethernet jack, you may need an Ethernet crossover cable to connect it, rather than a standard Ethernet cable.)

#### NOTE

Most Ethernet- or network-connected laser printers communicate with your Mac using a language called AppleTalk. If you have such a printer, here is step 1.5: Open the Network pane of System Preferences; double-click your network connection (like Ethernet or AirPort); click the AppleTalk tab; turn on Make AppleTalk Active, and then click Apply Now. (If you omit this step, Printer Setup Utility will nag you about it in step 5.)

Top: If you've never before hooked up a printer to your Mac, Printer Setup Utility displays this message. (If you're trying to hook up an additional printer, on the other hand, click the Add toolbar button.) Middle: If you choose the right connection method from the popup menu, your Mac should automatically "see" any printers that are hooked up and turned on. Click the one you want, and then click Add. (If you have some oddball printer whose driver doesn't come built into Mac OS X, a "Driver not installed" message appears. Find the driver, if it exists, on the printer's CD or Web site.)

Bottom: If you've set up more than one printer in this way, you'll see all of them listed in the Printer List. The one whose name appears in bold is the one currently selected—the one destined to produce your next printout.



2. Open a document to be printed. Choose File Print. In the Print dialog box (<u>Figure 13-3</u>), open the Printer pop-up menu. Choose Edit Printer List.

A program called Printer Setup Utility opens automatically. (It was called Print Center in previous versions of Mac OS X.) You could also have opened it manually from your Applications Utilities folder, or by opening the Print & Fax panel of System Preferences and clicking the Set Up Printers button.

If you haven't already set up a printer, you see the message at top in Figure 13-1.

#### 3. Click Add.

Now a strange little window appears. If you have an inkjet printer that Mac OS X recognizes, its name may appear here. Skip to step 5.

If you work in a corporation where a highly paid network expert has already configured some network printers (using technical tools like NetInfo or LDAP databases), you'll see these printers listed here. Similarly, if you work on a network that's been equipped with one of the new *Rendezvous* printers (<u>Section 12.2</u>), they, too, appear here automatically. In either case, skip to step 5.

But if you find the Directory Services window empty, you need to tell Printer Setup Utility where to look to find its new printer.

4. From the *upper* pop-up menu, choose the kind of printer you intend to use: USB, AppleTalk, or whatever (Figure 13-1, middle).

In other words, tell Printer Setup Utility how the printer is connected to the Mac. For example, choose **USB** if you've connected an inkjet printer to your USB port. (You may see a brand-named version here, like Epson USB or HP USB; choose that, if it matches your printer brand.) Choose **AppleTalk** if you're connected to a laser printer via an Ethernet network cable or AirPort wireless network.

Most Mac fans are unfamiliar with LPR (Line Printer) printers, which live on corporate networks (and, therefore, connect to your Mac's Ethernet jack). If you and your company's network nerd determine that the printer you want to use is, in fact, an LPR printer, choose **IP Printing** from the pop-up menu and fill in the appropriate IP address and other settings, as directed by your cheerful network administrator.

#### NOTE

Panther introduces a new menu option here called *Windows Printing*. It means, "Hey, your Mac can send printouts to a Windows-only printer out there on your office network!" Just choose this option, click the name of the network group you're in, and then type an account name and password, if necessary.

After a moment, the names of any printers that are turned on appear in the printer list. For most people, that means just one printer—but one's enough.

5. Click the name of the printer you want to use.

As an optional step, you can open the Printer Model pop-up menu. Choose your printer's manufacturer (like HP or Canon), and then, in the list that appears, choose your printer's model name, if you can find it. That's how your Mac knows what printing features to offer: double-sided, legal size, second paper tray, whatever.

#### 6. Click Add.

After a moment, you return to the main printer list window, where your printer now appears (<u>Figure 13-1</u>, bottom). You're ready to print.

If you're lucky enough to own several printers, repeat the steps above for each one. Eventually, you'll have introduced the Mac to all the printers available to it, and all of their names will show up in the printer list.



Don't miss the Show Info button in the Printer Setup Utility's toolbar. Among other things, it lets you *rename* a printer. In a building where all the printers show up with such helpful names as 172.168.3.4 and 172.168.9.23, this feature can be extremely helpful.

And while you're poking around: If you choose Printers Create Desktop Printer, you create, yes, a desktop icon for the selected printer. From now on, you can drag documents onto it to print them, or double-click it to check on the list of printouts-in-waiting.

Whenever you want to switch from one printer to the other, you *can* return to Printer Setup Utility and click the new printer's name. There's a much easier way, however: Use the Printer pop-up menu that appears in the Print dialog box (Figure 13-3).



The printer listed in bold denotes the *default* printer—the one that the Mac will use unless you explicitly choose a different one for a particular printout. To specify a different default printer, click its name in Printer Setup Utility and then click the Make Default button on the toolbar (or press ##-D).



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# 13.2 Making the Printout

You print documents from within the programs you used to create them, exactly as in other operating systems. The options for printing should feel distinctly familiar.



You know how Mac OS X comes with the necessary software for hundreds upon hundreds of printers? Unless you're in Oprah's tax bracket, you probably don't actually own that many printers—but their drivers are taking up nearly a gigabyte of hard drive space!

To clean out the ones you don't need, open your hard drive Library Printers folder. Throw away the folders for printer companies that *didn't* make your printer. (Administrator account required.)

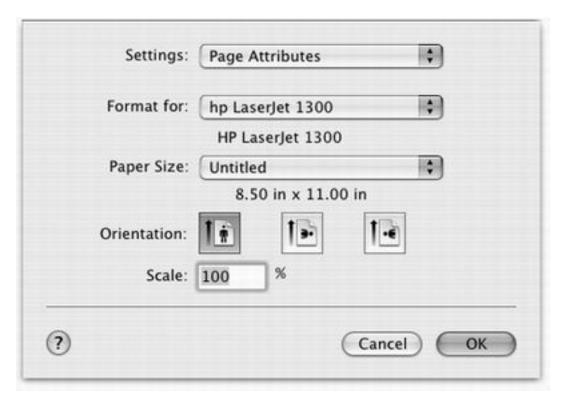
## 13.2.1 Page Setup

The experience of printing depends on the printer you're using—laser printer, color inkjet, or whatever. In every case, however, all the printing options hide behind two commands: File—Page Setup, which you need to adjust only occasionally, and File—Print, which you generally use every time you print. You'll find these two commands in almost every Macintosh program.

The pop-up menu at the top of the Page Setup dialog box offers a command called Summary, which displays a textual description of the document you're about to print (orientation, paper dimensions, and so on). It sometimes offers a command specific to the program you're using. For example, in Microsoft Word, the Settings Microsoft Word command offers a screenful of custom page-size and margin settings.

The real action, though, is in the dialog box that appears when you choose Page Attributes from this pop-up menu (see Figure 13-2).

Here, in Page Setup, are the controls you need to print a document rotated sideways on the page, so that it prints "the long way." The Scale control, which lets you reduce or enlarge your document, can be handy if the program you're using doesn't offer such a control. And the Paper pop-up menu, of course, specifies the size of the paper you're printing on—US Letter, US Legal, or one of the standard European or Japanese paper sizes (A4 and B5).



The remaining choices vary. The Page Setup options for an Epson inkjet, for example, differ dramatically from those for a laser printer. Only your printer's user manual can tell you exactly what these choices do.



You can (and must) configure the Page Setup settings independently in each program you use. And by the way: To change the *default* paper size for all new documents, open System Preferences, click Print & Fax, and use the "Default paper size" pop-up menu. (Mac fans in the UK: You're welcome.)

#### 13.2.2 The Print Command

Although you can grow to a ripe old age without ever seeing the Page Setup dialog box, you can't miss the Print dialog box. It appears, like it or not, whenever you choose File Print in one of your programs.

Once again, the options here depend on the printer. But here's what you may find on the box's main screen (when the popup menu reads Copies & Pages):

- **Printer.** One cool thing about Mac OS X is that if you have more than one printer connected to your Mac, you can indicate which you want to use for a particular printout just by choosing its name from this pop-up menu.
- **Presets.** Here's a way to preserve—and call up again with one click—your favorite print settings. Once you've proceeded through this dialog box (specifying the number of copies, which printer trays you want the paper taken from, and so on), choose Save As from the pop-up menu shown in <a href="Figure 13-3">Figure 13-3</a>, and then assign a name to your settings set (like "Borderless, 2 copies"). Thereafter, you'll be able to recreate that suite of settings just by choosing its name from this pop-up menu.
- **Copies.** Type the number of copies you want printed. The Collated checkbox controls the printing order for the various pages. For example, if you print two copies of a three-page document, the Mac will generally print the pages in this order: 1, 2, 3, 1, 2, 3. If you turn off Collated, on the other hand, it'll print in this order: 1, 1, 2, 2, 3, 3.

• **Pages.** You don't have to print an entire document—you can print, say, only pages 2 through 15. Use commas and hyphens to spell out exactly the pages you want. For example, typing *1*, *3-6*, *9* will produce pages 1, 3, 4, 5, 6, and 9.



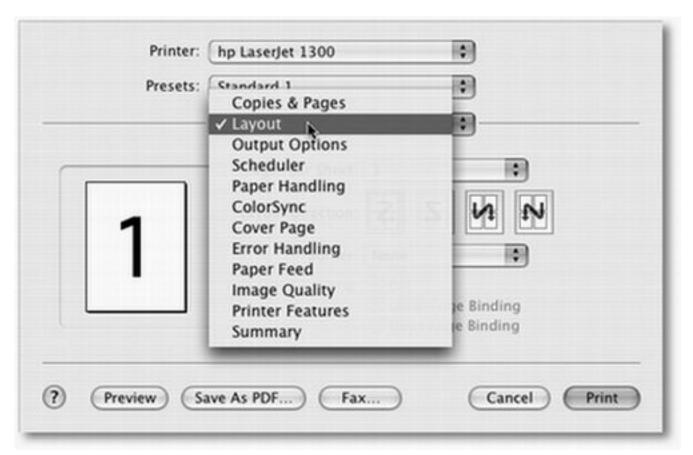
You don't have to type numbers into both the "From" and "to" boxes. If you leave the first box blank, the Mac assumes that you mean "from page 1." If you leave the second box blank, the Mac understands that you mean "to the end." To print only the first three pages, in other words, leave the first box blank, and type 3 into the second box. (These page numbers refer to the physical pages you're printing, not to any fancy numbering you've set up in your word processor. As far as the Print dialog box is concerned, the first printed page is page 1, even if you've told your word processor to label it Section 14.3.1.1.)

- Preview. This button provides a print-preview function to almost every Mac OS X program on earth, which, in the
  course of your life, could save huge swaths of the Brazilian rain forest and a swimming pool's worth of ink in
  wasted printouts.
  - Technically, the Preview button sends your printout to Preview. As described in <u>Section 9.18</u>, Preview lets you zoom in or zoom out, rotate, or otherwise process your preview. When you're satisfied with how it looks, you can either print it (File Print), cancel it (File Close), or turn it into a PDF file (File Save as PDF). (Another means to this end is described next.)
- Save As PDF. Clicking this delightful button, of course, turns your document into a PDF file instead of printing it. PDF means an Adobe Acrobat document—a file that any Mac, Windows, Linux, or Unix user can view, read, and print using either Preview (Mac OS X 10.3) or the free Acrobat Reader (included with every PC and earlier Mac operating system). Much more on PDF files in Section 13.6.
- Fax. Here, for the first time as a built-in Mac feature, is faxing! See Section 13.4.

If you examine the unnamed pop-up menu just below the Presets pop-up menu, you'll find dozens of additional options. They depend on your printer model and the program you're using at the moment, but here are some typical choices:

- **Layout.** As shown in <u>Figure 13-3</u>, you can save paper and ink or toner cartridges by printing several miniature "pages" on a single sheet of paper.
- Output Options. Turning on "Save as File," choosing PDF from the Format popup menu, and then clicking Print
  saves your document as a PDF file, exactly like the Save As PDF button described above. In Panther, in fact, you
  can even save the result as a pure PostScript file—a feature beloved by graphic artists who send their work to
  professional printing shops.
- **Scheduler.** This option, new in Mac OS X 10.3, lets you specify *when* you want your document to print. If you're a freelancer, sitting at home with an inkjet on your desk, you might not immediately grasp why anyone wouldn't want their printouts *right now*. But try to print a 400-page catalog in a big office where other people on the network might resent you for tying up the laser printer all afternoon, and you'll get the idea.

The options included in this dialog box depend on the printer model you're using. Sometimes, as when printing on a laser printer, the pop-up menu at the top lets you switch among different screens full of choices.



- **Paper Handling.** Here's another handy Panther special: You can opt to print out your pages in reverse order so that they stack correctly, or you can print just odd or even pages so that you can run them through again for double-sided printing.
- **ColorSync.** Most color printers offer this panel, where you can adjust the color settings—a little more red, perhaps. This is also where you indicate whose *color-matching system* you want to use: Apple's ColorSync, your printer manufacturer's, or none at all.
- Quality & Media (inkjet printers only). Here's where you specify the print quality you want, the kind of paper you're printing on, and so on. (The name of this panel varies by manufacturer.)
- Error Handling. Using these controls, you can specify that you want a technical message to print out when the
  laser printer reports a PostScript error (when your document is too complex for the printer's memory, for example).
  Depending on your printer, you may also be able to specify what kind of notification you want to receive if your
  specified paper tray runs out of paper.
- Paper Feed. If you chose the correct printer model (from the Printer Model popup menu shown at middle in <u>Figure 13-1</u>), then this screen "knows about" your printer's various paper trays. Here's where you specify which pages you want to come from which paper tray. (By far the most popular use for this feature is printing the first page of a letter on company letterhead, and the following pages on blank paper from a second tray.)
- [Program Name]. Whichever program you're using—Mail, Word, AppleWorks, or anything else—may offer its own special printing options on this screen.
- Summary. This command summons a text summary of all your settings so far.



Here's one for the technically inclined. Open your Web browser and enter this address: <a href="http://127.0.0.1:631">http://127.0.0.1:631</a>. You find yourself at a secret "front end" for CUPS (Common Unix Printing System), the underlying printing technology for Mac OS X 10.3—and one that lets your Mac communicate with a huge array of older printers that don't yet have Mac OS X drivers. Using this administration screen, you can print a test page, stop your printer in its tracks, manage your networked printers and print jobs, and more—a very slick trick indeed.

## 13.2.3 Printing

When all of your settings look good, click Print (or press Enter) to send your printout to the printer.



Tip: Background printing is turned on all the time in Mac OS X. In fact, you can't turn it off. As you may have realized by now, Mac OS X is the king of multitasking. It spends about as much attention thinking about printing as you do thinking about what to have for breakfast next Wednesday.







# **13.3 Managing Printouts**

After you've used the Print command, you can either sit there until the paper emerges from the printer, or you can *manage* the printouts-in-waiting. That option is attractive primarily to people who do a lot of printing, have connections to a lot of printers, or share printers with many other people.

Start by opening Printer Setup Utility. In the list of printers, the Status column shows which printers are busy. Double-click a printer's name to see something like <u>Figure 13-4</u>; namely, the printouts that will soon be sliding out of your printer appear in a tidy list.

Here are some of the ways in which you can control these waiting printouts, which Apple collectively calls the *print queue*:

- **Delete them.** By clicking an icon, or **#**-clicking several and then clicking the Delete toolbar button, you remove items from the list of waiting printouts. Now they won't print.
- Pause them. By highlighting a printout and then clicking the Hold button, you pause that printout. It won't print out until you highlight it again and click the Resume button. This pausing business could be useful when, for example, you need time to check or refill the printer, or when you're just about to print your resignation as your boss drops by to offer you a promotion.



If you pause one printout, the others lined up behind it will continue to print.

• **Halt them all.** You can stop all printouts from a specific printer by clicking the Stop Jobs button. (They resume when you click the button again, which now says Start Jobs.)

Waiting printouts appear in this Printer window. You can manipulate this window exactly as you would any Finder list view. For example, you can sort the list by clicking the column headings Name, Status, and so on; make the columns wider or narrower by dragging the column-heading dividers horizontally; or reverse the sorting order by clicking the column name a second time.



# FREQUENTLY ASKED QUESTION Scanning: The Opposite of Printing

Will my scanner work with Mac OS X?

These days, the odds are pretty good.

For the first couple years A.M. (After Mac OS X), scanning was a sore spot for Mac fans. Precious few scanners worked with Mac OS X even a year after its release.

These days, Mac OS X recognizes almost any Epson scanner *and* any scanner that works with the so-called TWAIN scanning standard (which, if you can believe it, stands for Technology Without An Interesting Name). As noted in <u>Chapter 9</u>, you can use Mac OS X's Image Capture program to operate such scanners without even installing any software.

If you're hanging onto an older scanner model that predates these scanning standards, run, don't walk, to <a href="https://www.hamrick.com">www.hamrick.com</a> to download VueScan. It's a \$60 shareware program that enables dozens of scanners to work with Mac OS X, including:

**SCSI models** including all SCSI scanners from Apple, Epson, Canon, HP, Microtek, UMAX, LinoType-Hell, Acer, and Agfa.

**USB models** including all scanners from Epson and many from Canon, HP, Microtek, Umax, and others.

FireWire models including all scanners from Epson, Microtek, UMAX, and LinoType-Hell.

#### **NOTE**

You can't rearrange printouts by dragging them up or down in the queue lists, nor drag printouts between these lists. But remember that you can re-sequence the printing order by choosing the Scheduler option described in <u>Section 13.5.2</u>.





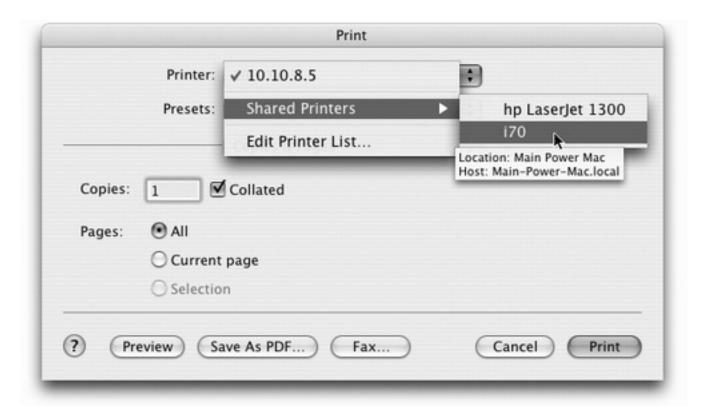




# 13.4 Printer Sharing

USB *printer sharing* is for people (or offices) with multiple Macs connected to a network (<u>Chapter 12</u>), who'd rather not buy a separate printer for each machine. Instead, you connect the printer to one Mac, flip a couple of software switches, and then boom: The other Macs on the network can send their printouts to the printer without actually being attached to it—even wirelessly, if they're on an AirPort network.

To use a USB printer that's been shared elsewhere on the network, open the document you want to print and then choose File Print. In the list of printers, you'll see a new item called Shared, which lists the printers that have been shared on the network. (Point to one without clicking to view the details rectangle shown here.)



#### **UP TO SPEED**

## **Printing from Classic Programs**

If you imagine Mac OS X as an intervening layer between the Classic programs (see <u>Chapter 5</u>) and Macintosh circuitry itself, you won't find it so surprising that printing documents from within Classic programs isn't, shall we say, one of the highlights of the Mac OS X experience.

Classic programs can't print to many older printers (those that use the so-called QuickDraw technology), including the ImageWriter, StyleWriter, and many in the Personal LaserWriter line. If you want to use these printers, you must restart in Mac OS 9, as described in <u>Section 5.3</u> (if your Mac can, in fact, restart in Mac OS 9).

Some USB inkjet printers work within Classic, and some don't. Most PostScript laser printers, fortunately, work fine.

In any case, you need to treat Classic as though it were a separate Macintosh. That is, even if you've already installed your printer's software under Mac OS X, you must reinstall it—the Mac OS 9 version, that is—while running Classic.

Setting up printer sharing is easy. On the Mac with the printer, open the Print & Fax panel of System Preferences. On the Printing tab, turn on "Share my printers with other computers." (The Printer Sharing checkbox in the Sharing panel of System Preferences is similar, except that it shares all printers that your Mac can see—not just USB printers attached directly to it. In offices, the result can be duplicate listings of networked laser printers.)

Then, to make a printout from across the network, see the instructions in Figure 13-5.



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# 13.5 Faxing

It only took 19 years for faxing to become a built-in Mac OS feature. Sure, some Macs came with add-on faxing software like FaxSTF, but the new faxing feature in Panther is Apple's first attempt at home-grown faxing software.

Using the Mac as a fax machine is a terrific idea, for a lot of reasons. It saves all kinds of money on paper and fax cartridges, and may even spare you the expense of buying a physical fax machine. Faxing from the Mac also eliminates the silly and costly ritual of printing out something just so that you can feed it into a fax machine. And because your fax originates directly from the heart of Mac OS X instead of being scanned by a crummy 200-dpi fax-machine scanner, it blesses your recipient with a great-looking document.

Here's the basic idea: When faxes come in, you can read them on the screen, opt to have them printed automatically, or even have them emailed to you so that you can get them wherever you are in the world. (Try *that* with a regular fax machine.) And sending a fax is even easier on a Mac than on a real fax machine: You just use the regular File Print command, exactly like you're making a printout of the onscreen document.

There are only two downsides of using a Mac as a fax machine:

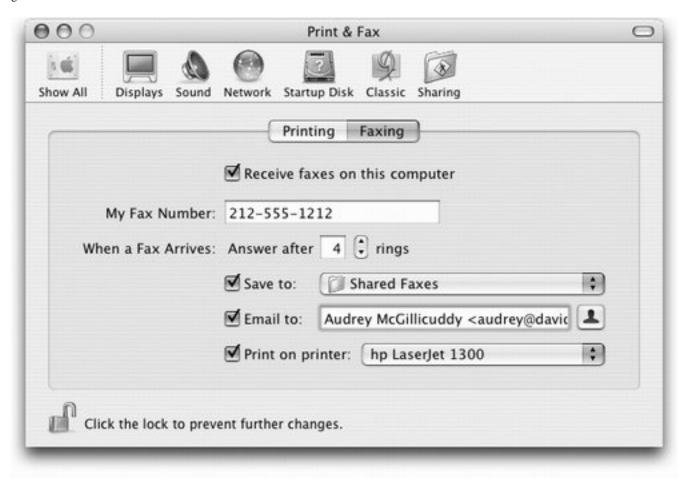
- The Mac needs its own phone line. Otherwise, your Mac, answering each incoming call, will give friends and relatives a screaming earful when they try to call to express their love.
  - Of course, you can avoid that prerequisite by using your Mac exclusively for *sending* faxes, so that it doesn't answer the phone. Or if you need to receive the occasional fax, you could just turn on the fax-receiving feature only when somebody is about to send you a fax. Or you could buy an automated fax/voice splitter that sends voice lines to the phone and incoming faxes to the Mac.
  - But in general, the Mac-as-fax works best if it has its own line.
- You can't fax from a book or magazine. The one big limitation of Mac-based faxing is that you can only transmit documents that are, in fact, on the computer. That pretty much rules out faxing notes scribbled on a legal pad, clippings from *People* magazine, and so on (unless you scan them in first).

# 13.5.1 Setting Up Faxing

Open System Preferences. Click Print & Fax. Click the Faxing tab.

If you intend to *send* faxes from the Mac, type in your return fax number. If you intend to *receive* faxes, turn on "Receive faxes on this computer." Then specify how you want to handle incoming faxes, as described in <u>Figure 13-6</u>.

When your Mac answers the fax line, there are three things it can do with the incoming fax:
Option 1: Save it as a PDF file that you open with Preview. (The Mac proposes saving these files into the Users Shared Shared Faxes folder, but you can set up a more convenient folder.) Option 2: Email it to you, so that you can get your fax even when you're not home (and so that you can forward the fax easily). Option 3: Print it out automatically just like a real fax machine.



## 13.5.2 Sending a Fax

When you're ready to send a fax, type up the document you want to send. Choose File Print. In the Print dialog box (Figure 13-3), click the Fax button.

The dialog box shown in Figure 13-7 appears. Here's what you're supposed to do now:

• **Specify the fax number.** If you like, you can simply type the fax number into the To box, exactly the way it should be dialed: *1-212-553-2999*, for example. You can even send a single fax to more than one number by separating each with a comma and a space.

If you fax the same people often, though, you're better off adding their names and numbers to the Address Book (<u>Chapter 19</u>). That way, you can start typing a name and letPanther auto-complete it for you—or click the little silhouette button to the right of the "To:" box and choose the recipient as shown in Figure 13-7, top.

#### NOTE

At this writing, the Address Book feature doesn't work when you're sending from Microsoft Word or Excel. You have to type in the fax number by hand.

- Add a subject line. If you plan to send a cover sheet, you can type a fax title into the Subject box.
- Set up the "printout." Most of the time, fiddling with the lower pop-up menu isn't relevant to sending a fax.

(ColorSync? On a black-and-white fax? Get real!) But the standard printing controls are here for your convenience. You can use the Scheduler pane to specify a time for your outgoing fax, the Layout pane to print more than one "page" per sheet, and so on.

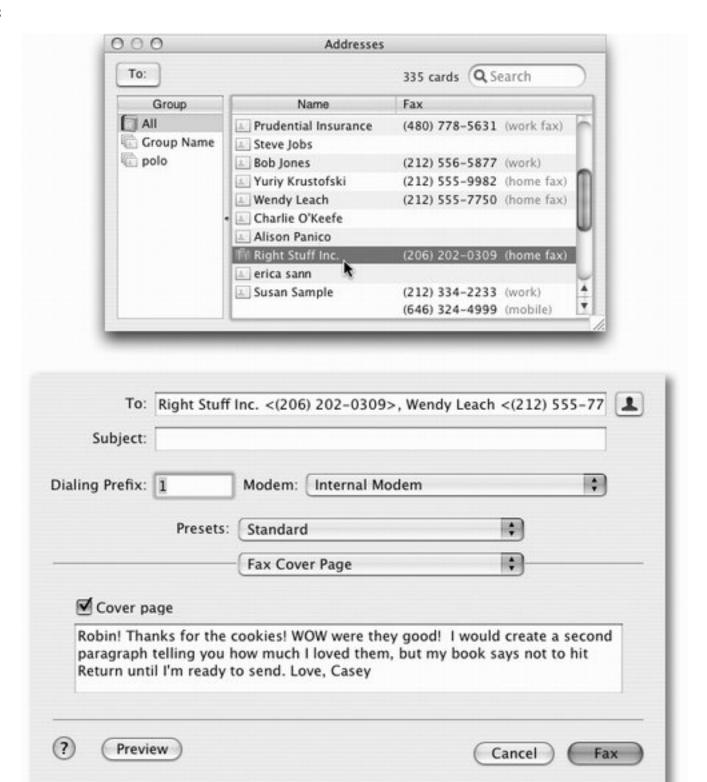
• Add a cover sheet. If you turn on "Cover page," you're allowed to type a little message into the box. Be careful, though! Your note must all be one long, run-in paragraph. *Don't press the Return key*, thinking that you're creating a new paragraph; Return actually triggers the Fax button, and you'll send your message before it's complete.



Clever Mac fans can work around this awkward situation by typing up the cover note *in another program*, complete with paragraph breaks, and then *pasting* it into the Cover Page box.

Top: This miniature version of the Address Book program is a "look, don't touch" scheme. You can choose someone's name here by doubleclicking, but you can't add a new person to the list. All phone numbers appear here, so look for those identified (in gray type) as fax numbers. (Chances are that the address book listing doesn't feature the "1-" long- distance prefix, which is why Apple gave you a separate Dialing Prefix box.) If you've built groups in your address book, you can send to everyone in a group at once. After you've double- clicked a fax number or group name, close the Address Book list.

Bottom: Fill in this dialog box in readiness to send a fax.



• **Preview.** This button opens your outgoing fax in Preview (<u>Section 9.18</u>), so you can see exactly what it will look like. (Don't miss the Soft Proof checkbox at the lower left. A better name for it would be, "Crummy preview," because it simulates the jagged, black-and-white look of an actual fax.)



Choosing File Save As at this point is your only opportunity to keep a copy of the fax you're sending.

When everything looks good, hit the Fax button. Although it may look like nothing is happening, check your Dock, where the icon of a secret program called Internal Modem has appeared. If you click it, you'll see a clone of the dialog box shown in <u>Figure 13-4</u>, indicating the progress of your fax. Here you can pause the faxing, delete it, or hold it exactly as you would a printout.

Otherwise, you don't get much feedback on the faxing process. You don't hear anything, see anything, or receive any notice that the fax was successful.

(If your fax was *not* successfully sent for some reason, the Internal Modem window will automatically reschedule the fax to go out in five minutes. If you can't wait, click the fax in the list and then click the Resume button.)



If you've set up a network, only one Mac has to be connected to a phone line. On that Mac, open System Preferences, click Sharing, and turn on Printer Sharing. From now on, other Macs on the network can send out faxes via the one that has a phone line! (They'll see the shared modern listed in the Fax dialog box.)

## 13.5.3 Receiving a Fax

A Mac that's been set up to answer calls does a very good impersonation of a fax machine. You don't even have to be logged in to get faxes (although the Mac does have to be turned on and *not* asleep).

When a fax call comes in, the Mac answers it after the number of rings you've specified. Then it treats the incoming fax image in the way you've specified in System Preferences —by sending it to your email program, printing it automatically, or just saving it as a PDF file in a folder that you've specified.

# WORKAROUND WORKSHOP Beyond Mac OS X Fax

As you'll discover pretty quickly, Mac OS X's built-in faxing feature is bare-bones, to say the least. For example, there's no record of what you've sent or received, you can't design your own cover pages, and you don't get any indication that a sent fax was successful.

There are alternatives. The best-known Mac faxing program is the weirdly named FaxSTF, available for \$90 from <u>www.smithmicro.com</u>. In addition to Mac OS X's faxing features, it adds goodies like a central, Mail-like program for viewing sent, pending, and received faxes.

The shareware world is a good place to shop, too. For example, you can try Page-Sender, Cocoa eFax, or any of the other shareware faxing programs listed at <a href="https://www.versiontracker.com">www.versiontracker.com</a> on the Mac OS X tab.)

#### NOTE

As of Mac OS X 10.3.2, faxing in general, and receiving faxes specifically, is still an iffy prospect. In many cases, for example, your Mac will answer incoming calls just fine; it just doesn't manage to download the fax itself.

People who upgrade *from* a previous copy of Mac OS X 10.2 seem to have the most problems; those who use the Archive & Install option (see <u>Appendix A</u>) seem to have the fewest; but just about everyone agrees that there's room for improvement.

When Apple solves the problems, you (and your Software Update program) will be the first to know.







#### 13.6 PDF Files

Sooner or later, almost everyone with a personal computer encounters PDF (portable document format) files. Many a software manual, Read Me file, and downloadable "white paper" comes in this format. Until recently, you needed the free program called Acrobat Reader if you hoped to open or print these files. In fact, Windows users still do.

But PDF files are one of Mac OS X's common forms of currency. In fact, you can turn *any document* (in any program with a Print command) into a PDF file—a trick that once required the \$250 program called Adobe Acrobat Distiller. (Maybe Apple should advertise: "Buy Acrobat for \$250, get Mac OS X free—and \$120 cash back!")

And why would you want to do so? What's the big deal about PDF in Mac OS X? Consider these advantages:

- Other people see your layout. When you distribute PDF files to other people, they see precisely the same fonts, colors, page design, and other elements that you did in your original document. And here's the kicker: They get to see all of this even if they don't have the fonts or the software you used to create the document. (Contrast with the alternative: Sending somebody a Microsoft Word document, for example. If your correspondents don't have precisely the same fonts you have, then they'll see a screwy layout. And if they don't have Word or a program that can open Word files, they'll see nothing at all.)
- It's universal. PDF files are very common in the Macintosh, Windows, Unix/Linux, and even Palm and PocketPC organizer worlds. When you create a PDF file, you can distribute it (by email, for example) without worrying about what kinds of computers your correspondents are using.
- It has very high resolution. PDF files print at the maximum quality of any printer. A single PDF file prints great both on cheapo inkjets and on high-quality imagesetting gear at professional print shops. (You're looking at a PDF file right now, in fact, which was later printed at a publishing plant.)
- You can search it. Although you may be tempted to think of a PDF file as something like a captured graphic of the original document, it has several key differences. Behind the scenes, its text is still text. Furthermore, you can search this text using a Find command—an especially handy feature when you work with electronic software manuals in PDF format.

# 13.6.1 Opening PDF Files

There's nothing to opening up a PDF file: Just double-click it. Either Preview or Acrobat Reader takes over from there, and opens the PDF file on your screen.

## 13.6.2 Creating PDF Files

Opening, schmopening—what's really exciting in Mac OS X is the ability to create your *own* PDF files. The easiest way is to click the Save As PDF button in the standard Print dialog box (<u>Figure 13-3</u>). When you click it, Mac OS X saves your printout-to-be to the disk instead of printing it.

#### NOTE

All right, that joke about a free copy of Acrobat is an exaggeration. Mac OS X alone creates *screen-optimized* PDF files—compact, easy-to-email files that look good on the screen but don't have high enough resolution for professional printing. For high-end purposes and more optimization for specific uses (Web, fancy press machines, and so on), you still need a program like Adobe Acrobat.



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NEXT





## 13.7 Fonts—and Font Book

Over the years, Macintosh fonts have improved considerably. No longer must you pray to the printer gods that your beautiful flyer won't come out with jagged-looking type because you chose the wrong font *type*, one that doesn't have smooth edges.

Up through Mac OS 9, a family of typefaces called *bitmapped fonts* was still kicking around, a holdover from the jagged-printing days of the original 1984 Macintosh. But Mac OS X can't even use such fonts. Only always-smooth font formats work in Mac OS X: namely, TrueType, PostScript Type 1, and OpenType. (OpenType is a font format developed by Microsoft and Adobe that's already common on Windows machines.)

In short, Mac OS X delivers type that is *all smooth, all the time*. Fonts always look smooth onscreen, no matter what the point size, and always look smooth in printouts, no matter what kind of printer you use.

Better yet, Mac OS X 10.3 introduces a new program *just* for installing, removing, inspecting, and organizing fonts. It's called Font Book, and it's in your Applications folder.

#### 13.7.1 Where Fonts Live

If you're used to Mac OS 9 or Windows, one of the most confusing changes is that there is no longer one single Fonts folder for your computer. There are now *five* Fonts folders. The fonts you actually see listed in the Fonts menus and Font panels of your programs are combinations of these Fonts folders' contents. They include:

- Your private fonts (your Home folder Library Fonts). This Fonts folder sits right inside your own Home folder. You're free to add your own custom fonts to this folder. Go wild—it's your font collection and yours alone. Nobody else who uses the Mac will be able to use these fonts, and will never even know that you have them.
- Main font collection (Library Fonts). This, for all intents and purposes, is the equivalent of the traditional Fonts folder. All fonts in this folder are available to everyone to use in every program. (As with most features that affect everybody who shares your Macintosh, however, only people with Administrator accounts are allowed to change the contents of this folder.)
- Network fonts (Network Library Fonts). In certain corporations, a network administrator may have set up a central font collection on another computer on the network, to which your Mac and others can "subscribe." The beauty of this system, of course, is that everybody on the network will be able to rely on a consistent set of fonts. (In this case, the Network "folder" is represented by the Network icon in your Sidebar.)
- Essential system fonts (System Library Fonts). This folder contains the fonts that the Mac itself needs: the typefaces you see in your menus, dialog boxes, icons, and so on. You can open this folder to see these font suitcases, but you can't do anything with them, such as opening, moving, or adding to them. Remember that, for stability reasons, the System folder is sealed under glass forever. Only the *superuser* (Section 11.8) can touch these files—and even that person would be foolish to do so.
- Classic fonts (Mac OS 9 System Folder Fonts). Mac OS X automatically notices and incorporates any fonts in the System Folder that you've designated for use by the Classic environment (Chapter 5). This folder is also, of course, the source of fonts that appear in the Font menus of your Classic programs.

With the exception of the essential system fonts, you'll find an icon representing each of these locations in your Font Book program, described next.

# 13.7.2 Font Book: Installing and Managing Fonts

One of the biggest perks of Mac OS X is its preinstalled collection of over 50 greatlooking fonts—"over \$1,000 worth," according to Apple, which licensed many of them from type companies. In short, fewer Mac users than ever will wind up buying and installing new fonts.

But when you do buy or download new fonts, you're in luck. There's no limit to the number of fonts you can install. Furthermore, installing them is simpler than ever, thanks to the new Font Book program.

#### 13.7.2.1 Looking over your fonts

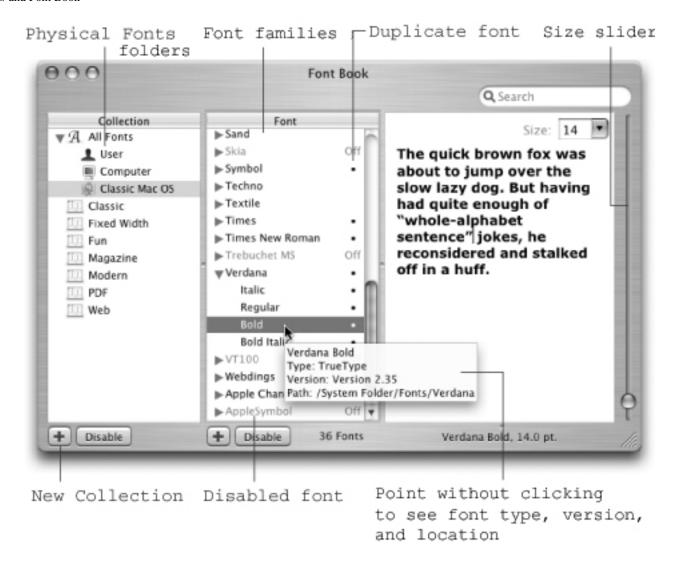
Right off the bat, Font Book is great for one enjoyable pursuit: looking at samples of each typeface. Expand the All Fonts triangle, click Computer (for example), click the first font name, and then press the down-arrow key. As you walk down the list, the rightmost panel shows you a sample of each font (Figure 13-8).

You can also open any font family's flippy triangle (or highlight its name and then press the right arrow) to see the font *variations* it includes: Italic, Bold, and so on.



When you first open Font Book, the actual text of the typeface preview (in the right panel) is pretty generic. Don't miss the Preview menu, though. It lets you substitute a full display of every character (choose Repertoire)—or, if you choose Custom, it lets you type your *own* text, as illustrated in Figure 13-8.

Each account holder can have a separate set of fonts; your set is represented by the User folder. You can drag fonts and font families between the various Fonts folders represented here; for example, from your User account folder to the Computer icon, making it available to all account holders.



## 13.7.2.2 Eliminating duplicates

Since your Mac accesses up to five folders containing fonts, you might wonder what happens in the case of *conflicts*. For example, suppose you have two slightly different fonts, both called Optima, which came from different type companies, and are housed in different Fonts folders on your system. Which font will you actually get when you use it in your documents?

The scheme is actually fairly simple: Mac OS X proceeds down the list of Fonts folders in the order shown above, beginning with your own home Fonts folder. It only acknowledges the existence of the *first* duplicated font it finds.

If you'd rather have more control, open Font Book. A bullet (·) next to a font's name is Font Book's charming way of trying to tell you that you've got copies of the same font in more than one of your five Fonts folders. You might have one version of Comic Sans in your own Home Library Fonts folder, for example, and another in your Mac's main Fonts folder.

Click the one that you want to keep and then choose Edit Resolve Duplicates. Font Book turns off all *other* copies, and the bullet disappears.

## 13.7.2.3 Adding, removing, and hiding fonts

Here's what you can do with Font Book:

- Install a font. When you double-click a font file's icon in the Finder, Font Book opens and presents the typeface for your inspection pleasure. If you like it, click Install Font. You've just installed it into your account's Fonts folder, so that it appears in the Font menus of all your programs. (If you'd rather install it so that it appears in all account holders' Fonts menus, see Figure 13-8.)
- **Remove a font.** Removing a font from your machine is easy: Highlight it in the Font Book list and then press the Delete key. (You'll be asked to confirm the decision.) Before taking such a drastic and permanent step, however, keep in mind that you can simply *disable* (hide) the font instead. Read on.
- Disable a font. When you disable a font, you're simply hiding it from your programs. You might want to turn off a
  font so that you can use a different version of it (bearing the same name but from a different type company, for
  example), make your Font menus shorter, or make programs like Microsoft Word start up faster. (You can always
  turn a disabled font back on if you ever need it again.)

To disable a font, just click it (or its family name; see <u>Figure 13-8</u>) and then click the Disable button beneath the list. Its name now appears gray, and the word Off appears next to it, making it absolutely clear what you've just done. (To turn the font on again, highlight its name and then click the Enable button.)

#### NOTE

When you install, remove, disable, or enable a font using Font Book, you'll see the changes in the Font menus and panels of your *Cocoa* programs immediately. You won't see the changes in open Carbon programs, however, until you quit and reopen them.

And when you use Font Book to manipulate fonts in Classic, not only must you quit your open Classic programs—you must actually restart *Classic itself* to see the changes in your Font menus.

#### 13.7.2.4 Font collections

A *collection*, like the ones listed in the first Font Book column, is a canned set of fonts. Apple starts you off with collections called things like PDF (a set of standard fonts used in PDF files) and Web (fonts you're safe using on Web pages—that is, fonts that are very likely to be installed on the Macs or Windows PCs of your Web visitors).

But you can create collections called, for example, Headline or Sans Serif, organized by font type. Or you can create collections like Brochure or Movie Poster, organized by project. Then you can switch these groups of fonts on or off at will, just as though you'd bought a program like Suitcase.

To create a new collection, click the leftmost + button to create a new entry in the Collections column, whose name you can edit. Then click one of the font storage locations—User, Computer, or Classic Mac OS—and drag fonts or font families onto your newly created collection icon. (Recognize this process from playlists in iTunes, or albums in iPhoto?) Each font can be in as many different collections as you want. When you're finished, click Done.

To remove a font from the collection, click its name and then press Delete. You're not actually removing the font from your Mac, of course—only from the collection.



Each time you create a new font collection, Mac OS X records its name and contents in a little file in your Home folder—Library—FontCollections folder.

By copying these files into the Shared folder (see Section 11.5.2), you can make them available to anyone who uses the Mac. If your sister, for example, copies one of these files from there into her own Home folder Library FontCollections folder, she'll see the name of your collection in her own Font panel. This way, she can reap the benefits of the effort and care you put into its creation.

## 13.7.3 The Font panel

As noted in <u>Chapter 4</u>, some existing Mac programs have simply been touched up—Carbonized, in the lingo—to be Mac OS X-compatible. Choosing fonts in these programs works exactly as it always has on the Mac: You choose a typeface name from the Font menu or a formatting palette.

Things get much more interesting when you use *Cocoa* programs (<u>Section 4.8</u>), like TextEdit and Mail. They offer a new, standard Mac OS X feature called the Font panel. If you're seated in front of your Mac OS X machine now, fire up TextEdit and follow along.

The Font panel, generally available only in Cocoa programs, offers elaborate controls over text color, shadow, and underline styles. It also contains some of the genetic material of old-style programs like Suitcase and Font Juggler. See the handy font sample shown here above the font lists? To get it, choose Show Preview from the Action pop-up menu. Or use the mousy way: Place your cursor just above the headings (Collections, Family, and so on) and drag downward.



## 13.7.3.1 Choosing fonts from the Font panel

Suppose you've just highlighted a headline in TextEdit, and now you want to choose an appropriate typeface for it.

In TextEdit, open the Font panel (Figure 13-9) by choosing Format Font Show Fonts (F.T). If you've ever used Font Book, this display should look distinctly familiar. The first column lists your Collections, as described above. The second column, Family, shows the names of the actual fonts in your system. The third, Typeface, shows the various style variations—Bold, Italic, Condensed, and so on—available in that type family. (Oblique and Italic are roughly the same thing; so are Bold and Black.)

The last column lists a sampling of point sizes. To select one, you can use the size slider, choose from the point-size popup menu, or type any number into the box at the top of the Size list.

#### 13.7.3.2 Designing collections and favorites

At the bottom of the Font panel is a small gear-shaped pop-up menu just like the Action menu in Finder windows. It offers a few useful tools for customizing the standard Font panel.

Add to Favorites. In the first column of the Font panel, the category called Favorites represents the first of several

tools Apple provides to manage unwieldy font collections. To designate a font as one of your favorites, specify a font, style, and size by clicking in the appropriate columns of the Font panel. Then use this command.

From now on, whenever you click Favorites in the Collections column, you'll see a list of the typefaces you've specified.

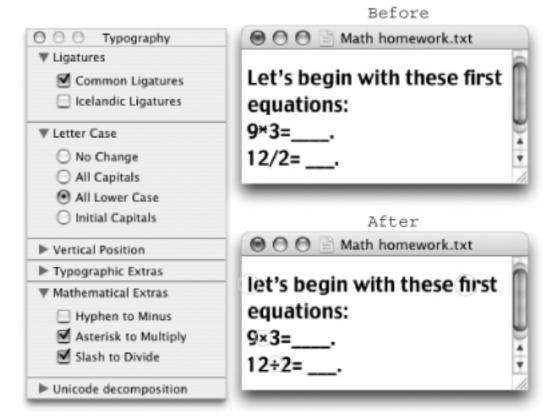
• **Show Preview.** The Font panel is great and all that, but you may have noticed that, at least at first, it doesn't actually *show* you the fonts you're working with—something of an oversight in a window designed to help you find your fonts. See <u>Figure 13-9</u> for details. (Choose this command again—now called Hide Preview—to get rid of this preview.)



Once you've opened the Preview pane, feel free to click the different sizes, typeface names, and family names to view the various effects.

- **Hide Effects.** The "toolbar" of the Font panel lets you create special text effects—colors, shadows, and so on—as shown in Figure 13-9. This command hides that row of pop-up buttons.
- Color. Opens the Color Picker (<u>Section 4.10</u>), so that you can specify a color for the highlighted text in your
  document.
- Characters. Opens the Character Palette (<u>Section 8.14.2</u>), so that you can choose a symbol without having to remember the crazy keyboard combo that triggers it.
- **Typography.** Opens the new Typography palette (see <u>Figure 13-10</u>).
- Edit Sizes. The point sizes listed in the Font panel are just suggestions. You can actually type in any point size you want. By choosing this command, in fact, you can edit this list so that the sizes you use most often are only a click away.
- Manage Fonts. Opens Font Book, described earlier in this chapter.

The new Typography palette is a collapsible menagerie of fancy type effects, which vary by font. Each option is a master on/off switch for your entire document. In this example, turning on Common Ligatures creates fused letter pairs like fl and fi; the Mathematical options create true multiplication and division symbols; and the lowercase option affects all text you've already typed.





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## 13.8 Font Fuzziness on the Screen

As noted earlier in this chapter, *printed* type generated by Mac OS X always looks smooth and terrific, at all sizes and on any printer.

On the screen, however, some people describe the type in Mac OS X as remarkably smooth, while others describe it as fuzzy. There's a lot of confusion regarding Mac OS X's jaggies-eliminating technology, which is technically called *antialiasing*.

Mac OS X's success in enhancing screen type depends primarily on the size of the type. If you find that very small type is too fuzzy for comfort, open System Preferences, click the Appearance icon, and choose a higher number from the "Turn off text smoothing for font sizes \_\_ and smaller" pop-up menu. The setting you assign here affects type in every program, including the Finder.

You can also change the *style* of this font smoothing; see Section 4.5 for details and illustrations.



You can't make Mac OS X apply antialiasing to 8-point type or smaller—at least not without the help of TinkerTool, which you can download from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>.



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# 13.9 ColorSync

As you may have read elsewhere in this book—or discovered through painful experience —computers aren't great with color. Each device you use to create and print digital images "sees" color a little bit differently, which explains why the deep amber captured by your scanner may be rendered as chalky brown on your monitor, yet come out as a fiery orange on your Epson inkjet printer. Since every gadget defines and renders color in its own way, colors are often inconsistent as a print job moves from design to proof to press.

ColorSync attempts to sort out this mess, serving as a translator between all the different pieces of hardware in your workflow. For this to work, each device (scanner, monitor, printer, digital camera, copier, proofer, and so on) has to be calibrated with a unique *ColorSync profile*—a file that tells your Mac exactly how your particular monitor (or scanner, or printer, or digital camera) defines colors. Armed with the knowledge contained in the profiles, the ColorSync software can make on-the-fly color corrections, compensating for the various quirks of the different devices, and even the different kinds of paper they print on.

Most of the people who lose sleep over color fidelity are those who do commercial color scanning and printing, where "off " colors are a big deal. After all, a customer might return a product after discovering, for example, that the actual product color doesn't match the photo on a company's Web site.

## 13.9.1 Getting ColorSync Profiles

ColorSync profiles for most Apple color printers, scanners, and monitors come built into Mac OS X. When you buy equipment or software from, say, Kodak, Agfa, or Pantone, you may get additional profiles. If your equipment didn't come with a ColorSync profile, visit Profile Central (<u>www.chromix.com</u>), where hundreds of modelspeci fic profiles are available for downloading. Put new profiles into the Library ColorSync Profiles folder.

# POWER USERS' CLINIC AppleScript and ColorSync

Using AppleScript, described in <u>Chapter 7</u>, you can harness ColorSync in elaborate ways. Just by dragging document icons onto AppleScript icons, for example, you can embed ColorSync profiles, modify the profiles already incorporated, remove profiles, review the profile information embedded in a graphic, and much more. Better yet, you don't even have to know AppleScript to perform these functions—just use the built-in AppleScripts that come with Mac OS X.

To find them, open the Library ColorSync Scripts folder. Unfortunately, there aren't any instructions for using these eighteen ready-made AppleScripts. Nonetheless, Apple's real hope is that these example scripts will give you a leg up on creating your own AppleScripts—that someday you, the print shop operator, will be able to automate your entire color processing routine using AppleScript and ColorSync.

#### 13.9.2 Default Profiles

In professional graphics work, a ColorSync profile is often embedded right in the photo, making all of this automatic. Using

the ColorSync Utility program (in Applications Utilities), you can specify:

- Which ColorSync profile each of your gadgets should use. Click the Devices tab, open the category for your device (scanner, camera, display, printer, or proofer), click the model you have, and use the Current Profile pop-up menu to assign a profile to it.
- Which ColorSync profile to use when Mac OS X encounters an image that doesn't include one. Click the
  Preferences toolbar icon, and use the three pop-up menus (RGB Default, CMYK Default, Gray Default, which
  correspond to the three kinds of printing you may intend to do) to set up your fallback profiles.



In the Displays pane of System Preferences, you'll find a Color tab. Its Calibrate button is designed to create a profile for your particular monitor in your particular office lighting—all you have to do is answer a few fun questions onscreen and drag a few sliders.

## 13.9.3 More on ColorSync

If you ache to learn more about ColorSync, you won't find much in Mac OS X's Help system. Instead, search the Web. At <a href="https://www.apple.com/colorsync">www.apple.com/colorsync</a>, for example, you'll find articles, tutorials, and—perhaps most important—a link to an email discussion group where you can pose questions and read other people's answers. Going to a site like <a href="https://www.google.com">www.google.com</a> and searching for ColorSync is also a fruitful exercise.

# GEM IN THE ROUGH The Coolest Panther Feature?

Deep in the ColorSync Utility program beats one of the coolest new Panther features that nobody's ever discovered.

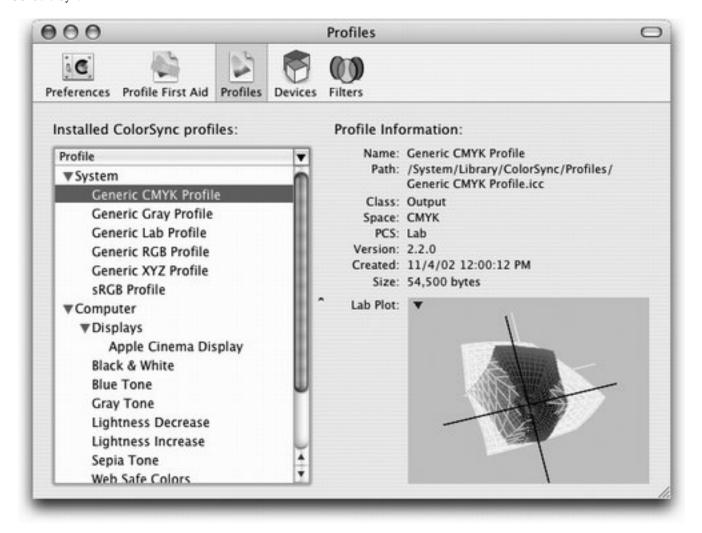
On the Profiles tab, you can click the name of a color-device profile and view a lab plot of its *gamut* (the colors it's capable of displaying). What you might not realize, however, is that this is a 3-D graph; you can drag its corners to spin it in space.

But that's not the cool part. The tiny triangle in the corner of the graph is a pop-up menu. If you choose "Hold for comparison" and then choose a different color profile, you'll see both lab plots superimposed, revealing the spectrum areas where they overlap—and the yawning gaps where they *can't* display the same colors.

You'll find out, among other things, that printers can't display nearly as many colors as your monitor can, and that inkjets are much better at depicting, say, cyan than green.

And while we're discussing features you might have missed: You can double-click a profile's name to view a dizzyingly complex scientific description of its elements.

Blue colorant tristumulus, anyone?





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# 13.10 Graphics in Mac OS X

Now you're talking. If you want to see dilated pupils and sweaty palms, just say "graphics" to any Mac OS X junkie.

Yes, graphics is one of the big deals with Mac OS X, thanks to its sophisticated Quartz graphics-processing technology. Everywhere you look in Mac OS X, you'll find visual effects that would make any other operating system think about early retirement.

For example: Menus are slightly transparent, and when you release them, they fade away instead of snapping off; you can set Excel 3-D graphs to be slightly transparent, so that they don't block other bars in a 3-D graph; when you paste files into windows in icon view, their icons fade into view; when you open an especially long message in Mail, its text fades in from white; and, of course, when you switch accounts using Fast User Switching, your work environment slides off the screen as though it's pasted on the side of an animated cube.

All of these visual goodies owe their existence to Quartz (or its enhanced successor, Quartz Extreme, which is not available on older Macs).

## 13.10.1 Graphics Formats in Mac OS X

Mac OS X understands dozens of Mac and Windows graphics file formats. Better yet, its Preview program (Section 9.18) can open such graphics and then export them in a different format, making it an excellent file-conversion program.

You can confidently double-click graphics files—from a digital camera, scanner, or a Web download, for example—in any of these formats:

- **PICT files.** For almost 20 years, the PICT file was the graphics format Mac fans were most familiar with. It was the graphics format used by the Macintosh Clipboard, and it was the format created by the Shift-#-3 keystroke (see the end of this chapter).
  - Unfortunately, no other kinds of computers could open these files, so PICT files gave conniptions to the equipment at printing shops. Mac OS X acknowledges the existence of PICT files, and can open them just fine; the Preview program can even export them. Otherwise, however, Mac OS X dramatically downplays the importance of PICT files, which will soon ride into the sunset.
- **TIFF files.** The TIFF file format is a high-density *bitmap*—that is, the Mac has memorized the color of each tiny dot in the file. Trying to enlarge one is like enlarging a fax: Make it too big, and the image breaks down into visible dots.
  - Nonetheless, TIFF files are very popular in the printing industry—most of the graphics in this book, for example, were stored as TIFF files. They print beautifully, work nicely in page-layout programs, and are understood by both Macs and PCs.
- JPEG files. This format is one of the most popular on the Web, particularly for photos or other high-quality, fullcolor artwork.
  - What makes JPEG files ideal for online use is that they've been compressed (using a program like Photoshop). Just enough of the color data has been thrown out from the original file to make the image a quick download without noticeably impacting its quality.
- **GIF files.** GIF stands for *graphics interchange format*. Today, GIF files are used almost exclusively on the Web, usually for solid-colored graphics like cartoons, headlines, and logos. (A GIF file can have a maximum of 256

- colors, which is not even close to the photorealism of, say, JPEG. That's what makes GIF files inappropriate for photographs.)
- **PNG files.** As it turns out, one of the algorithms used by GIF files is, technically speaking, the property of a company called Unisys, which threatened to sue everybody who was creating GIF files. No problem, said the World Wide Web Consortium, we'll just come up with our own replacement—a file format that has no legal strings attached. What they created was PNG (for *portable network graphics*). You can save AppleWorks, Photoshop, and Preview documents in PNG format, and every modern Web browser understands it.

PNG files don't lose quality when compressed, as JPEG files do. On the other hand, PNG files don't accommodate animation, as GIF files do. And when it comes to photos, they don't offer as impressive a size/quality balance as JPEG.

- **PDF (Acrobat) files.** You can read all about these files in <u>Section 13.6</u>. As noted there, Mac OS X traffics effortlessly in PDF files, meaning that you can distribute documents you create to almost anyone, confident that they'll be able to open and print your stuff regardless of what kind of computer, fonts, and programs they have.
- Photoshop files. If you're a graphic designer or Webmeister, this one is kind of neat: Mac OS X can open (and Preview can even export) actual Photoshop files. Among other advantages, the fact that Mac OS X can open and display these files means that you could use a Photoshop masterpiece, complete with layers and transparency, as a Mac OS X desktop background.
- **BMP.** You can think of this graphics format as the PICT files of the Windows world. It's nice that Mac OS X can open (and Preview can export) them, especially because you may occasionally find .bmp files on the Web or attached to email messages.
- Silicon Graphics, MacPaint, Targ. Talk about obscure—you could go through your whole life without ever seeing a graphic in one of these formats. Silicon Graphics is, of course, the format created by Silicon Graphics computers. MacPaint is a black-and-white only, 8-x-10-inch maximum, ancient Macintosh graphics format that disappeared from the scene in about 1988. And Targ (Targa) is the file format once used by products from the Truevision Corporation.



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# 13.11 Screen-Capture Keystrokes

If you're reading a chapter about printing and graphics, you may someday be interested in creating screenshots—printable illustrations of the Mac screen.

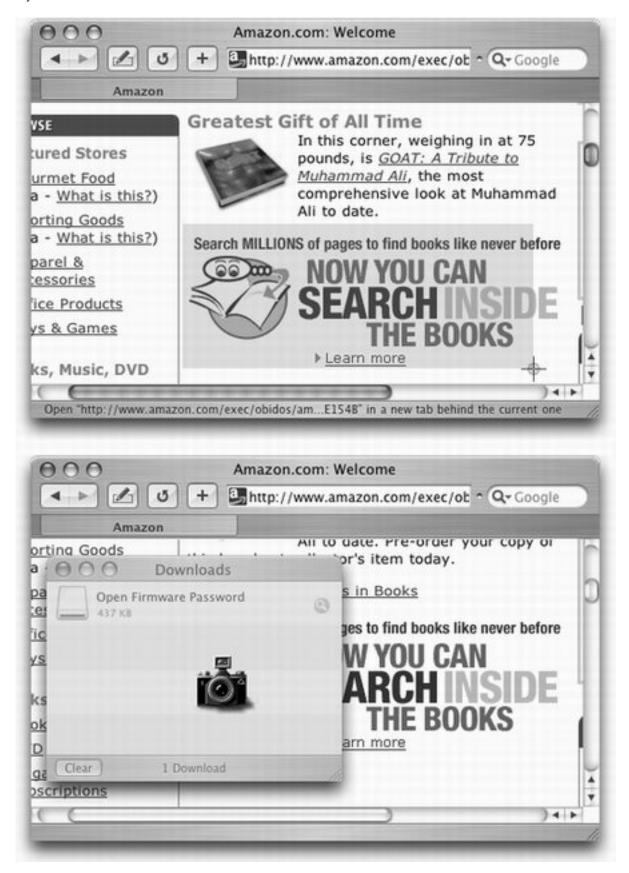
Screenshots are a staple of articles, tutorials, and books about the Mac (including this one). Mac OS X has a secret built-in feature that lets you make them—and includes some very cool convenience features.

Here's how to capture:

• The whole screen. Press Shift-#-3 to create a picture file on your desktop, in PDF (Acrobat) format, that depicts the entire screen image. A satisfying camera-shutter sound tells you that you were successful.

Top: If you're interested in capturing only part of the screen, press Shift-#-4 to turn your cursor into a tiny + symbol. Now drag diagonally across the screen to capture only a rectangular chunk of it, as illustrated here. When you drag and release the mouse, you hear the camera-click sound, and the Picture 1 file appears on your desktop as usual.

Bottom: To capture just one dialog box, use the old Camera Cursor trick. That is, invoke Shift-#-4 and then tap the Space bar to produce the cursor shown here. Click the element you want to snip from its background. (Press the Space bar a second time to exit "snip one screen element" mode and return to "drag across an area" mode.) If you ever change your mind about taking any kind of screenshot, press #-period or the Esc key.



The file is called *Picture 1* or *Picture 1.pdf*. Each time you press Shift-**2** -3, you get another file, called Picture 2, Picture 3, and so on. You can open these files into Preview, AppleWorks, or another graphics program, in readiness for editing or printing.

- One section of the screen. You can capture only a rectangular *region* of the screen by pressing Shift-#-4. See Figure 13-11 for the details.
- One menu, window, icon (with its name), or dialog box. Once you've got your menu or window open onscreen, or the icon visible (even if it's on the Dock), press Shift-#-4. But instead of dragging diagonally, press the Space bar.

Now your cursor turns into a tiny camera (<u>Figure 13-11</u>, bottom). Move it so that the misty highlighting fills the window or menu you want to capture—and then click. The resulting Picture file snips the window or menu neatly from its background.

• **The Dock.** That business of pressing Shift-#-4 and then the Space bar also lets you capture the Dock in one quick snip. Once you've got the camera cursor, just click any *blank* spot on the Dock (between icons).



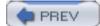
If you hold down the Control key as you click or drag (using any of the techniques described above), you copy the screenshot to your *clipboard*, ready for pasting, rather than saving it as a new graphics file on your desktop.

As noted in <u>Chapter 9</u>, by the way, Mac OS X also offers another way to create screenshots: the Grab program, which offers a timer option that lets you set up the screen before it takes the shot. But if you're really serious about capturing screenshots, you should opt instead for SnapzPro X (<u>www.ambrosiasw.com</u>), which can capture virtually anything on the screen—even movies of onscreen procedures, along with your narration—and save it in your choice of graphics format.



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# Chapter 14. Sound, Movies, Speech, and Handwriting

For years, as other computer companies whipped themselves into a frenzy trying to market one multimedia computer or another, Mac fans just smiled. Macs have been capable of displaying sound and graphics—no add-on sound, graphics, or video boards required—from day one, years before the word multimedia was even coined.

The Mac's superiority at handling sound and video continues in Mac OS X. Quick- Time, for example, is software that lets you play digital movies on your screen and watch live "streaming" broadcasts from the Internet. This chapter covers both creative pursuits: creating and using sound, and playing and editing movies.

As a bonus, this chapter also covers Mac OS X's speech features (how to command your Mac by voice, as well as making your Mac talk back) and even Ink, Mac OS X's bizarre little handwriting-recognition system.



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## 14.1 Playing Sounds

You can have a lot of fun with digital sounds—if you know where to find them, where to put them, and how to edit them. You can play almost any kind of digitized sound files, even MP3 files, right in the Finder—if you put its window into column view. But that's just the beginning.

## 14.1.1 Controlling the Volume

Adjusting the volume of your Mac's speakers couldn't be easier: Just add the speaker menulet to your menu bar, as directed in Figure 14-1. That illustration also shows the Sound panel of System Preferences, which offers another way to go about it.



Actually, all current Macs offer an even more direct way to control the speaker volume: speaker-control keys right on the keyboard. (The key next to them is the Mute button, which instantaneously cuts off all the Mac's sound—a wonderful feature when you find yourself trying to use the Mac surreptitiously in a library or church.)

The tiny speaker silhouette in the upper-right corner of your screen turns into a volume slider when you click it. To make this sound menulet appear, open the Sound pane of System Preferences and turn on "Show volume in menu bar" (bottom). (Of course, another way to adjust the overall speaker volume is to drag the "Output volume" slider in System Preferences.)



The Output tab of this panel, by the way, is designed to let you adjust the left-toright balance of your stereo speakers, if you have them. The stereo speakers on most Macs that have them (iMac, PowerBooks) are already perfectly centered, so there's little need to adjust this slider unless you generally list to one side in your chair. (You may find additional controls here if you have extra audio gear—an iSub subwoofer system, for example.)



In the Audio MIDI Setup program (in Applications—Utilities), you can set up and configure much fancier speaker setups, including 5.1 and 6.1 surround-sound systems.

## 14.1.2 Alert Beeps and You

In Mac OS X, you don't hear error beeps much—the little quacks, beeps, or trumpet blasts that say, "You can't click here."

Dialog boxes very rarely commandeer your screen as they do in Mac OS 9 or Windows. These days, if you try to click outside the Print dialog box, you just switch into whichever window or program you clicked.

Nonetheless, you still hear error beeps occasionally. (Try typing letters into a dialog box where a program expects numbers, for example.)

## 14.1.2.1 Choosing an alert beep

To choose one that suits your own personal taste, open the Sound panel of System Preferences (<u>Figure 14-1</u>, bottom). The Sound Effects screen offers a canned choice of fourteen witty and interesting sound snippets for use as error beeps. Press the up and down arrow keys to "walk" through them, listening to each. The one that's highlighted when you close the window becomes the new error beep.

You can also drag the "Alert volume" slider to adjust the error beep volume relative to your Mac's overall speaker setting.

## 14.1.2.2 Adding new alert beeps

Mac OS X's error beeps are actually AIFF sound flles (see the box below). As with fonts, Mac OS X builds the list of error beeps that you see in the Sound panel of System Preferences from several folder sources:

- System Library Sounds folder. This folder contains the basic Mac OS X set. Because it's in the System folder, it's off-limits to manipulation by us meddlesome human beings. You can't delete one of the original Mac OS X error beeps, nor add to this collection (unless you take the drastic step of logging in as the root account holder [Section 11.8] or restarting the computer in Mac OS 9).
- Home folder—Library—Sounds folder. Fortunately, it's easy enough to add sounds for your own use—just add them to this folder.
- Library Sounds folder. If you, an administrator, want to make a sound flle available to all account holders (if, in fact, there's more than one) on your Mac, create a new Sounds folder in the main hard drive window's Library folder. Any sound flles you put there now appear in every account holder's list of alert sounds.

The sound flles you put into these folders must be in AIFF format, and their names must end with the extension .aiff or .aif.

## UP TO SPEED AIFF Files

The standard sound format in Mac OS X is the AIFF flle, a popular Mac/Windows/Internet sound format—which, as a testimony to its potential for high quality, is also the standard sound-flle format for music CDs. (The abbreviation stands for audio interchange flle format.)

If you double-click an AIFF flle, it opens up in iTunes (described in <u>Chapter 10</u>), where you must press the Space bar to begin or end playback. You can also play it right in the Finder, of course, in the far right pane of a column view window.

The good news is that you can exchange these flles with both Mac and Windows fans, download them from Web sites with the comforting certainty that your Mac will be able to play them, and so on.

## **NOTE**

Any changes you make to these Sounds folders don't show up in the Sound panel until you've quit and reopened System Preferences.







## 14.2 Recording Sound

If you hope to record new sounds, you'll need a microphone. Your microphone situation depends on the kind of Mac you have:

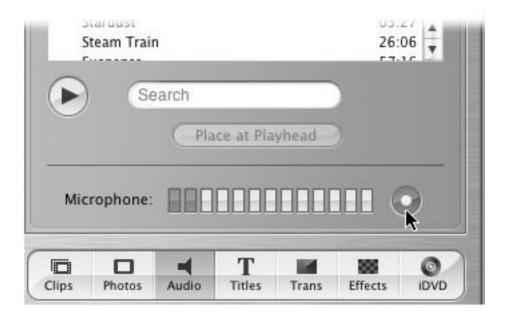
- iMac, eMac, PowerBook, white iBook. You have a built-in microphone, usually a tiny hole near the screen. This microphone couldn't be more convenient: it's always with you, and always turned on.
- Original iBook, Cube, recent Power Macs. You can plug in an external USB microphone (the Apple Products
  Guide at <u>www.guide.apple.com</u> offers a list) or use an adapter (such as the iMic, <u>www.grifflntechnology.com</u>) that
  accommodates a standard microphone.
- Older Power Macs. These models came with a gray, half-cone-shaped microphone called the PlainTalk microphone. You'll flnd a corresponding miniplug jack for it on the back. Note, however, that the PlainTalk mike's pin is slightly longer than a standard miniplug. Standard microphones don't work in a Mac without an adapter like the NE Mic from <a href="https://www.grifflntechnology.com">www.grifflntechnology.com</a>

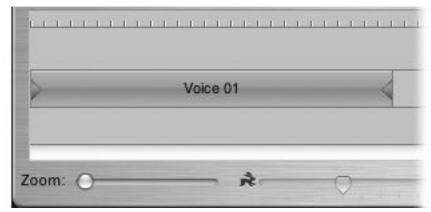


No matter what model you have, an Apple iSight videoconferencing camera works great as a microphone.

Top: To summon the Record Voice controls, click the Audio button. If your microphone is correctly hooked up, the Record Voice button (indicated here by the cursor) is available. (Otherwise, it's dimmed.) Just beside the button is a live "VU" level meter. Test your setup by speaking into the microphone. If this meter twitches in response, you're ready to record.

Bottom: Your recording takes the form of a colored bar labeled Voice at the bottom of the screen. (Click the clock icon tab if you don't see it.)





The Sound panel of System Preferences lets you choose which sound source you want the Mac to listen to. Click the Input tab, and then click the sound source you want: external USB microphone, external analog microphone (that is, something plugged into the microphone or Line In jacks of Macs that have them), built-in microphone, iSight, or whatever.

## 14.2.1 Making the Recording

Once you've got your microphone situation taken care of, you need to get your hands on some sound-recording software.

#### 14.2.1.1 The iMovie method

Although you might never suspect it, Mac OS X comes with a basic recording program: it's iMovie, which lurks in your Applications folder.

In a new, arbitrarily named movie project, click the Audio button shown in <u>Figure 14-2</u>. Click the round, red Record Voice button and begin to speak. Click Stop to complete the recording.

Now a new stripe appears in the soundtrack, labeled Voice 01 like the one shown in <u>Figure 14-2</u>. Drag the playhead to the left—to the beginning of the new recording —and then press the Space bar to listen to your voice-over work. If the narration wasn't everything you hoped for, it's easy enough to record another take. Just click the stripe representing your recording and then press Delete to get rid of it. Then repeat the process.

When you're satisfled with the recording, you can proceed in either of two ways:

- The quick way. Save the project and quit iMovie. Inside the movie project folder, you'll flnd a folder called Media. Inside it, there's a flle called, for example, Voice 01. That's the sound flle you just made.
  - Add .aiff to its name, confirming your decision when the Mac asks you, and then drag the flle into the appropriate Library Sounds folder, as described on the previous page. (It's flne to create a Sounds folder if there isn't one already.) Delete the orphaned iMovie project folder.
- The flexible way. Choose File Export. In the resulting dialog box, choose To QuickTime from the upper popup menu, and Expert Settings from the lower one. Then click Export. In the next dialog box, select "Sound to AIFF" from the Export pop-up menu. Make sure the flle name ends in .aiff, navigate to a Sounds folder, and click Save.

The advantages to this approach: First, you don't have to remove the sound flle from your iMovie project folder, so you won't have any problems if you try to open the project again later. Second, you can adjust the quality of the exported sound by clicking Options in the last dialog box (you could make the sound Mono, for example).

Either way, congratulations: You've just created a new alert sound!

#### 14.2.1.2 The shareware method

If you're willing to spend a few dollars, you can buy a shareware program that puts iMovie, as a sound studio, to shame. Some of the most useful, economical, and powerful include Sound Studio for OS X (\$35) and Amadeus II (\$25). You can download trial versions of both programs from <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>, among other places.

These programs make terriflc sound recorders. Better yet, they make great editors, too. If there's excess silence at one end of the clip, or a few too many "uhs" and "ums" in the middle, you can edit them out just by dragging through the appropriate section of the scrolling sound-wave map and pressing Delete.

These programs can open almost any kind of sound flles, including tracks from your music CDs, and convert them to any other kind of format, including MP3.







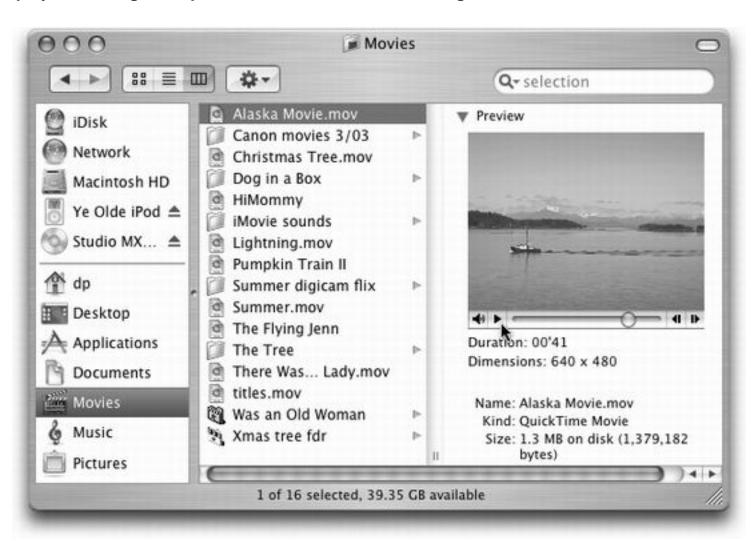
## 14.3 QuickTime Movies

A QuickTime movie is a video flle you can play from your hard drive, a CD-ROM, or the Internet. Like any movie, it flashes many individual frames (photos) per second before your eyes, while also playing a synchronized soundtrack.

## 14.3.1 QuickTime Player

Hundreds or even thousands of Mac OS X programs can open QuickTime movies, play them back, and sometimes even incorporate them into documents: Word, File- Maker, AppleWorks, PowerPoint, Internet Explorer, America Online, and even the Finder (Figure 14-3).

You don't need any special software to play QuickTime movies. Just view their Finder windows in column view. To preview a selected QuickTime movie, in miniature, click the Play triangle to play; click it again to pause. The two buttons on the right end are frameadvance buttons.



But the cornerstone of Mac OS X's movie-playback software is QuickTime Player, which sits in your Applications folder (and even comes factory installed on the Dock). It's designed not only to play movies, but also to show pictures, and to play sounds, in all kinds of formats.



Like Preview, another basic Mac OS X utility program, QuickTime Player can open many graphics flles—such as JPEG, GIF, TIFF, PICT, and even native Photoshop documents. You can either drag these graphics flles onto the QuickTime Player icon, or—from within QuickTime Player—choose File—Open Movie in New Player.

## 14.3.1.1 Playing movies with QuickTime Player

You can open a movie flle by double-clicking it, dragging it onto the QuickTime Player icon, or launching QuickTime Player and then choosing File Open Movie in New Player ( -C). As shown in Figure 14-4, a number of controls help you govern the movie's playback:

- Audio level meters. This tiny graph dances to indicate the relative strength of various frequencies in the soundtrack, like the VU meters on a stereo. If you don't see any dancing going on while the movie plays, then you've opened a movie that doesn't have a soundtrack.
- **Q button.** Click this peculiar, round button to summon "QuickTime TV"—icons of Web sites that provide video feeds, as described below.
- Resize handle. Drag diagonally to make the window bigger or smaller.

Some of the controls shown here are available only in the Pro version of QuickTime Player. They appear as soon as you type in your registration code (which you get when you pay \$30).





When you drag the resize handle, QuickTime Player strives to maintain the same aspect ratio (relative dimensions) of the original movie, so that you don't accidentally squish it. If you want to squish it, however—perhaps for the special effect of seeing your loved ones as they would look with different sets of horizontal and vertical genes—press Shift as you drag.

If you press Option while dragging, meanwhile, you'll discover that the movie frame grows or shrinks in sudden jumping factors of two—twice as big, four times as big, and so on. On slower Macs, keeping a movie at an even multiple of its original size in this way ensures smoother playback.

Scroll bar. Drag the black triangle to jump to a different spot in the movie.



You can also press the right and left arrow keys to step through the movie one frame at a time. If you press Option-right or -left arrow, you jump to the beginning or end of the movie. In the Pro version, Optionarrow also jumps to the beginning or ending of a selected stretch of the movie.

# FREQUENTLY ASKED QUESTION QuickTime Player vs. QuickTime Player Pro

Every time I launch QuickTime Player, I get this stupid ad about upgrading to QuickTime Pro. How can I get rid of it?

Easy one. Click Later, and then Quit QuickTime Player. Open System Preferences; click Date & Time. Reset your Mac to a date far beyond its obsolescence point—the year 2020, for example. (Turn off "Set Date & Time automatically" flrst, if it's on.) Close the window.

The next time QuickTime Player shows its ad (which it does only once a day), click the Later button for the very last time. Quit the program, reset your clock to the correct date, and enjoy the fact that you've played a little trick on the program's calendar-watching feature. You'll never see the ad again—at least not until 2020.

All of these shenanigans are only necessary, of course, if you've decided not to upgrade to QuickTime Player Pro, whose additional editing playback and exporting features are documented in this chapter.

For \$30, Apple will sell you a password that turns your copy of QuickTime Player into something called QuickTime Player Pro. (To obtain this password, call 888-295-0648, or click the Upgrade Now button to go online to <a href="https://www.apple.com/quicktime/buy">www.apple.com/quicktime/buy</a>.)

To record your password, choose QuickTime Player Preferences Registration. Your password gets stored in your Home folder Library Preferences folder, in a flle called QuickTime Preferences. (Remember that when you upgrade to a new Mac.)

Once you've upgraded, you gain several immediate benefits—not the least of which is the permanent disappearance of the "upgrade now" advertisement. Now QuickTime Player can edit your movies, as described later in this chapter. It can also import many more sound and graphics formats, and—via the File——Export command—convert sounds, movies, and graphics into other formats.

Nor is QuickTime Pro the only upgrade you can buy. For another \$20, you can add the MPEG-2 Playback Component, which gives QuickTime Player the ability to open, play, and convert MPEG-2 flles (like the superhigh-quality flles found on a DVD).



- **Selection handles.** These tiny black triangles appear only in the \$30 Pro version. You use them to select, or highlight, stretches of footage.
- **Volume.** If you like, you can make the soundtrack louder or softer by dragging this slider with your mouse or clicking in its "track." You may find it easier, however, to press the up or down arrow keys.



To mute the sound, click the little speaker icon, or press Option-down arrow. Press Option-up arrow to make the volume slider jump to full-blast position.

- Counter. In "hours: minutes: seconds" format, this display shows how far your diamond cursor has moved into the
  movie.
  - If you have QuickTime Pro, the counter reveals the position of the selection handle you've most recently clicked (if anv).
- Rewind, Fast Forward. By clicking one of these buttons and keeping the mouse button pressed, you get to speed
  through your movie, backward and forward, respectively, complete with sound. This is a terrifle way to navigate
  your movie quickly, regardless of whether you're using QuickTime Player or QuickTime Player Pro.
- **Jump to Start, Jump to End.** These buttons do exactly what they say: scroll to the beginning or end of your movie. In the Pro version, they can also jump to the beginning and ending of the selected portion of the movie (if any). All of this, in other words, is exactly the same as pressing the Option-left arrow or -right arrow keys.

# GEM IN THE ROUGH QuickTime Virtual Reality

If they live to be 100, most Mac users will probably never encounter a QuickTime VR movie. Yet this kind of "panorama movie" technology is built into every Mac.

The trick is flnding a Quick- Time VR movie; your safest bet is, as usual, the Web. (The best starting point is Apple's own QuickTime VR page, www.guide.apple.com)

When you open a Quick- Time VR movie, you might think at first that you've simply opened a still photo (there's no scroll bar, for example). The trick is to drag your cursor around inside the photo. Doing so rotates the "camera," enabling you to look around you in all directions.

Then try pressing the Shift key, to zoom in (move forward) as much as you like. If you go too far, the image becomes too grainy. Press the Control key to zoom out (move backward).

And if you really want to blow your mind, try one of the cubic VR movies posted on that Web page. It lets you rotate your view not just side to side, but also up to the sky and down to your feet.

Using the free and commercial tools listed on the Apple Web site (or several that aren't, including PanoTools), you can even make your own QuickTime VR movies—provided you've got a camera, a tripod, and a good deal of patience.







Try minimizing a QuickTime Player window while a movie is playing. It shrinks to the Dock—and keeps on playing. Do this enough times, and you'll know what it's like to be Steve Jobs on stage.

#### 14.3.1.2 Hidden controls

Don't miss the Movie—Show Video Controls and Movie—Show Sound Controls commands. As shown in <u>Figure 14-5</u>, they let you fine-tune the video and audio you're experiencing.



Clicking the tiny, grayed-out grid to the right of the scroll bar is a quicker alternative to choosing Movie Show Audio Controls.

Click the word Brightness to summon the Contrast or Tint slider; drag your mouse across the vertical bars to adjust the picture accordingly. The Sound controls replace the scroll bar. When you're finished adjusting the balance, bass, and treble, click the light gray grid at the right edge to bring the scroll bar back.



## 14.3.1.3 Fancy playback tricks

Nobody knows for sure what Apple was thinking when it created some of these additional features—exactly how often do you want your movie to play backward?—but here they are. Some of these features are available only in the unlocked Proversion of QuickTime Player, as indicated below.

• Change the screen size. Using the Movie menu commands, such as Double Size and Fill Screen, you can enlarge or reduce the actual "movie screen" window. Making the window larger also makes the movie coarser,

because QuickTime Player simply enlarges every dot that was present in the original. Still, when you want to show a movie to a group of people more than a few feet back from the screen, these larger sizes are perfectly effective.

• Play more than one movie. You can open several movies at once and then run them simultaneously. (Of course, the more movies you try to play at once, the jerkier the playback gets.)



If you have Player Pro, you can use the Movie Play All Movies command to begin playback of all open movies at the same instant.

- Play the movie backward. You can play the movie backward—but not always smoothly—by pressing #-left arrow, or by Shift-double-clicking the movie itself. (You must keep the Shift button pressed to make the backward playback continue.) There's no better way to listen for secret subliminal messages.
- Loop the movie. When you choose Movie Loop and then click Play, the movie repeats endlessly until you make it stop.
- Play a selection (Pro only). When you choose Movie Loop Back and Forth and then click Play, the movie plays to the end—and then plays backward, from end to beginning. It also repeats this cycle until you make it stop.

## 14.3.2 QuickTime TV (Internet Streaming)

QuickTime TV generated a few raised eyebrows when Steve Jobs announced it in 1998, but few Mac fans have even noticed it since. That's too bad: It's a clever feature that lets you watch "Internet slide shows," watch a couple of live TV stations, or listen to the radio—all as you work on your Mac, and all at no charge.

## 14.3.2.1 Streaming video from your browser

With ever-increasing frequency, modern Web sites advertise streaming video events, such as Steve Jobs keynote speeches and the occasional live rock concert. You'll flnd a note on a Web page, for example, that says, "Watch the live debate by clicking here on October 15 at 9:00 p.m. EST."

If you do so, you'll find yourself transported once again into QuickTime Player, which connects to the appropriate Internet "station" and plays the video in its window. (You can also choose File Open URL in New Player from within QuickTime Player to type in the Web address.)

#### **NOTE**

You don't have much control when watching a live broadcast. You generally can't rewind, and you certainly can't fast-forward. You may be able to pause the broadcast, but when you un-pause, you wind up at the current broadcast moment—not where you stopped.

## 14.3.2.2 Streaming video in QuickTime Player

Fortunately, if you're eager to experience the early-technology thrill of watching live Internet video, you don't have to wait until you stumble onto a broadcast advertised on a Web page. Thanks to Apple's QuickTime TV initiative, a number of TV and radio broadcasts are going on at this very moment—24 hours a day. A list of them is built right into QuickTime Player.

To access these channels, click the little Q button. Channel icons replace the video image, as shown in Figure 14-6.



You can find a list of additional QuickTime TV channels at <a href="www.apple.com/quicktime/qtv">www.apple.com/quicktime/qtv</a>

## 14.3.2.3 Manipulating your Favorites

When you choose Favorites Show Favorites, you see a list of items you've put there for quick access.

Although few people have any use for this feature, it's possible to add the icons of your own QuickTime movies to the Favorites panel—not QuickTime TV channels, but actual movies on your hard drive. To do so, you can use any of these methods:

A "pick of the day" is highlighted on the right side. At this point, you can click the featured ad to see the movie's Web page in your browser; click a category button to see individual movies; or click one of the More buttons. You'll go to an Apple Web page that lists many more music stations, educational clips, movie or game trailers, and so on.

Click a category.

Click to go to this feature's Web page...



...or click this More triangle to go to an Apple Web page filled with similar ads and features.

- Drag the icon of a QuickTime movie, picture flle, or sound clipping directly off of your desktop and into QuickTime Player's Favorites window.
- Open a movie, picture, or sound, and then choose Favorites Add Movie As Favorite.

You can also reorganize the locations of the Favorites icons just by dragging them up or down in the list. To delete one of your favorites, just click its name and then press Delete (and click Delete in the confirmation box).

## 14.3.3 QuickTime Player Pro

If you've spent the \$30 to upgrade your free copy of QuickTime Player to the Pro version, you've unlocked a number of useful features. For example:

- Your Movie menu contains additional playback options, such as those described in "Fancy playback tricks" in Section 14.3.1.1.
- When you find a QuickTime movie on a Web page, you can usually save it to your hard drive. (Click the movie; hold down the mouse button until a pop-up menu appears; choose Save Movie to Disk, or the equivalent in your browser.)
- Using the commands in the Edit menu, you can view, turn on and off, add, or delete the individual tracks in a
  particular movie. (Most movies have nothing but a video track and a soundtrack. But a few specialized movies may

- also contain a text track, an animation track, alternate soundtracks, and so on.)
- The Movie Full Screen (# -F) command is the best possible way to view a Quick-Time movie on your screen. When you use this command, QuickTime Player blacks out the screen and devotes most of the Mac's processing power to playing the movie smoothly. (To interrupt the movie, press Esc or -period.) Just remember that although Full Screen is terriflc when you want to play a movie for a large group of people, an enlarged QuickTime movie is also a jerkier and grainier one.

By far the most powerful feature you gain in the Pro version, however, is its ability to edit QuickTime movies. You can rearrange scenes, eliminate others, and save the result as a new movie with its own name.

## 14.3.3.1 Selecting footage

Before you can cut, copy, or paste footage, QuickTime Player needs to provide a way for you to specify which footage you want to manipulate. Its solution: the two tiny black triangles that start out at the left end of the horizontal scroll bar, as shown in <u>Figure 14-4</u>. These are the "in" and "out" points; by dragging these triangles, you can isolate the scene you want to cut or copy.



You can gain more precise control over the selection procedure by clicking one of the black triangles and then pressing the right- or left-arrow key. Doing so expands or contracts the selected chunk of footage by one frame at a time.

You may also prefer to select a piece of footage by Shift-clicking the Play button. As long as you hold down the Shift key, you continue to select footage. When you release the Shift key, you stop the playback, and the selected passage appears in gray on the scroll bar.

Once you've highlighted a passage of footage, you can proceed as follows:

- Jump to the beginning or end of the selected footage by pressing Option-right arrow or -left arrow key.
- Deselect the footage by dragging the two triangles together again.
- Play only the selected passage by choosing Movie Play Selection Only (# -T). (The other Movie menu commands, including Loop, apply only to the selection at this point.)
- Drag the movie picture out of the Player window and onto the desktop, where the selected portion becomes a movie clipping that you can double-click to view.
- Cut, copy, or clear the highlighted material using the commands in the Edit menu.



If you paste some text directly into QuickTime Player Pro, you get a two-frame title—like an opening credit—at the location of the scroll-bar playhead. (If you need it to be longer, paste it repeatedly.) QuickTime Player automatically uses the font, size, and style of the text that was in the text clipping. You can paste a graphic image, too, which gets you a two-frame "slide" of that still image.

If you find it easier, you can also drag a text or picture clipping file directly from the desktop into the QuickTime Player window; once again, you get a two-frame insert.

## 14.3.3.2 Pasting footage

After cutting or copying footage, you can move it elsewhere in the movie. Specify where you want the pasted material to go by clicking or dragging in the horizontal scroll bar so that the black triangle marks the spot; then choose Edit Paste. The selection triangles (and their accompanying gray scroll bar section) appear to show you where the new footage has appeared. (That makes it easy for you to promptly choose Edit Cut, for example, if you change your mind.)

But in QuickTime Player Pro, Cut and Paste are just the beginning of your options. For example:

- If you choose Edit Replace, any footage that's on your Clipboard now replaces the selected stretch of movie.
- Edit Trim eliminates the outer parts of the movie—the pieces that aren't selected. All that remains is the part you first highlighted.

QuickTime Player Pro has a little-known subtitling feature, complete with freedom of type style. Copy some formatted text from a word processor, highlight a slice of footage in QuickTime Player, and choose Edit Add. The copied text appears as a subtitle on a black band, beneath the picture, as shown here.



- Edit Add adds whatever's on the Clipboard so that it plays simultaneously with the selected footage—a feature that's especially useful when you're adding a different kind of material to the movie (see Figure 14-7).
- If you choose Edit Add Scaled, whatever you're pasting gets stretched or compressed in time so that it flts the highlighted region, speeding up or slowing down both the audio and video. The effect can be powerful, comical, or just weird.



You can edit sounds exactly as you edit movies, using the same commands and shortcuts. Use the File Open Movie in New Player command in QuickTime Player Pro to locate a sound flle to open. It opens exactly like a QuickTime movie, except with only a scroll bar, no picture.

## 14.3.3.3 Saving the flnished movie

After you've flnished working on your sound or movie, you can send it back out into the world in any of several ways. If you choose Edit Save As, for example, you can specify a new name for your edited masterpiece. You must also choose one of these two options:

- Save normally. The term "normally" in this case is a red herring. In fact, you'll almost never want to use this option, which produces a very tiny QuickTime flle that contains no footage at all. Instead, it's something like an alias of the movie that works only as long as the original, unedited movie remains on your hard drive. If you try to email the newly saved flle, your unhappy recipient won't see anything at all.
- Make movie self-contained. This option produces a new QuickTime movie—the one you've just flnished editing. Although it consumes more disk space, it has none of the drawbacks of the "save normally" flle described above.

## GEM IN THE ROUGH All About Pixlet

If you were to open the pop-up menu at the top of the dialog box shown in <u>Figure 14-8</u> (lower right), you'd see one of the new Panther features that Apple is most excited about: A new video codec (compressordecompressor) called Pixlet.

Now, Pixlet is not intended as a new way to compress, say, your iMovie masterpieces. Instead, it was designed for use by a professional fllm company—Pixar, to be exact. Film and TV editors want to be able to edit movies with perfect frame quality and perfect frame accuracy—without having to ship gargantuan, full-resolution, multi-gigabyte flles across the network or across the country.

Pixlet is the answer. It compresses the original, fllm-resolution movie down to about a twentieth its original flle size, without introducing any artifacts (specks or blockiness).

Unlike other codecs, Pixlet doesn't compress video over time; that is, it doesn't memorize one key frame and then, for the following frames, store only the information for the pixels that have changed. Pixlet stores all of the color information for every single frame. (It achieves its compression solely by compressing the color information within each frame.) The point of all this is to permit editors to scrub back and forth through a scene, stepping frame by frame if they like, and viewing full, instantaneous, half-high-definition resolution at every step.

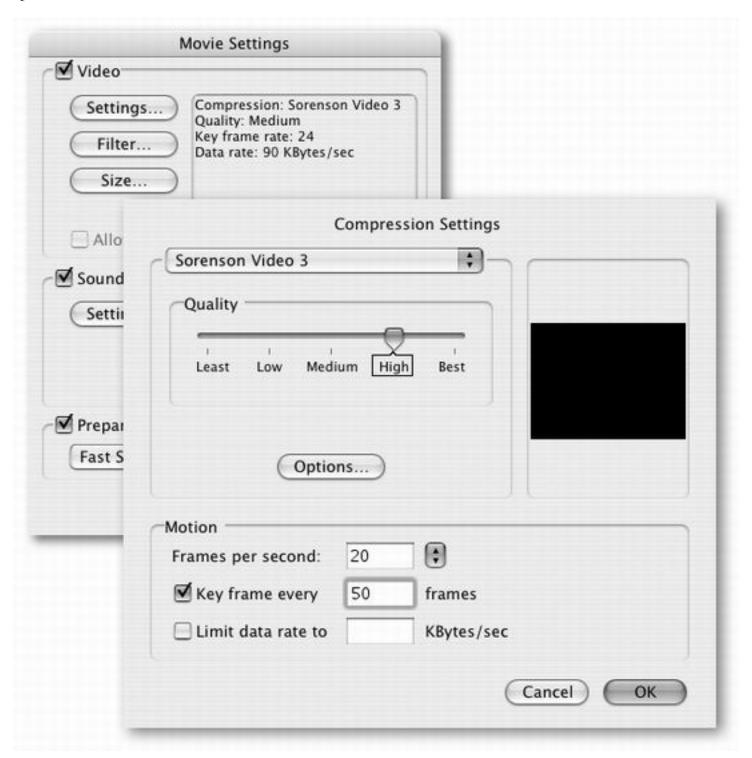
## 14.3.3.4 Exporting the flnished work

Instead of using the File Save As command, you can also use the File Export command. The resulting dialog box offers two pop-up menus that can be very useful in tailoring your flnished work for specific purposes:

- Export. Using this pop-up menu, you can convert your movie to AVI (Windows movie) format, DV Stream (for use as a clip in digital-video editing programs like iMovie and Final Cut), Image Sequence (a very large collection of individual still frames), and so on. This pop-up menu also lets you convert a sound you've been working on to AIFF, System 7, WAV (Windows), and other formats.
- Use. This pop-up menu lets you establish your preferences for the export format you've just specified above. For example, if you're exporting your movie as individual still frames, use this pop-up menu to specify the format for those individual still frames—BMP (Windows bitmap format), JPEG, and so on. If you're exporting your work as a QuickTime movie, you can specify how much QuickTime Player should compress it. (Compression makes a fille smaller, but decreases the video quality.) For example, if you intend to let people watch this movie over the Internet, you should use one of the Streaming options, which makes the movie extremely small and extremely cruddy-looking. If you plan to burn your movie onto a CDROM, use one of the "CD-ROM" options at the bottom of the pop-up menu.

If you're used to most moviemaking software, like iMovie or Final Cut, you may wonder where QuickTime Player hides its compression settings. They're here, in the Options dialog box (left) and the Settings boxes that spring from within it (right).

Hint: For smooth playback, use 15 frames per second or above (television playback is 30 fps); for best quality but small flle size, use the Sorenson 3 Video Compressor (or MPEG-4, if you're sure your audience has QuickTime 6 or later). For the smallest possible flle size—at more picture-quality sacrifice— use the H.263 compressor.



## 14.3.3.5 Compression and special effects

One of QuickTime Player's most powerful features is hidden in the Export dialog box, in a place where you might never flnd it. If none of the canned compression settings appeals to you, you can click the Options button. In the Settings dialog box that appears (see <u>Figure 14-8</u>), QuickTime Player Pro offers a staggering degree of control over the movie you're exporting. (The resulting dialog box varies according to the compression method you've selected.)

When exporting a movie as a QuickTime Movie, for example, here's where you can specify the compression format, the frames per second, and (by clicking Size) the dimensions of the flnished movie. As a bonus, you even get a Filter button that offers fourteen special video effects. They let you blur or sharpen your movie, adjust the brightness or contrast, flddle with the color balance, and so on.

Similarly, when you're exporting a sound flle, the Options button lets you specify the sound quality you want, the compression method, and so on—all various ways of manipulating the trade-off between flle size and sound quality.







## 14.4 Speech Recognition

Although it may surprise many Mac users, the Mac is quite talented when it comes to speech. Its abilities fall into two categories: reading text aloud, using a synthesized voice; and taking commands from your voice.

The Apple marketing machine may have been working too hard when it called this feature "speech recognition"—the Mac OS feature called PlainTalk doesn't take dictation, typing out what you say. (For that, you need a program like IBM ViaVoice for Mac OS X, www.ibm.com, or iListen, www.macspeech.com.)

Instead, PlainTalk is what's known as a command-and-control technology. It lets you open programs, trigger AppleScripts, choose menu commands, trigger keystrokes, and click dialog box buttons and tabs—just by speaking their names.

Few people use PlainTalk speech recognition. But if your Mac has a microphone, PlainTalk is worth at least a 15-minute test drive. It may become a part of your work routine forever.

#### 14.4.1 Your First Conversation with the Mac

The on/off switch for speech recognition in Mac OS X is the Speech panel of System Preferences (<u>Figure 14-9</u>). Where you see "Apple Speakable Items is," click On. (The first time you do this, a small instructions window appears. Read it if you like, and then click Continue. If you ever want to see these tips again, click the Helpful Tips button on this pane.)

#### 14.4.1.1 The Feedback window

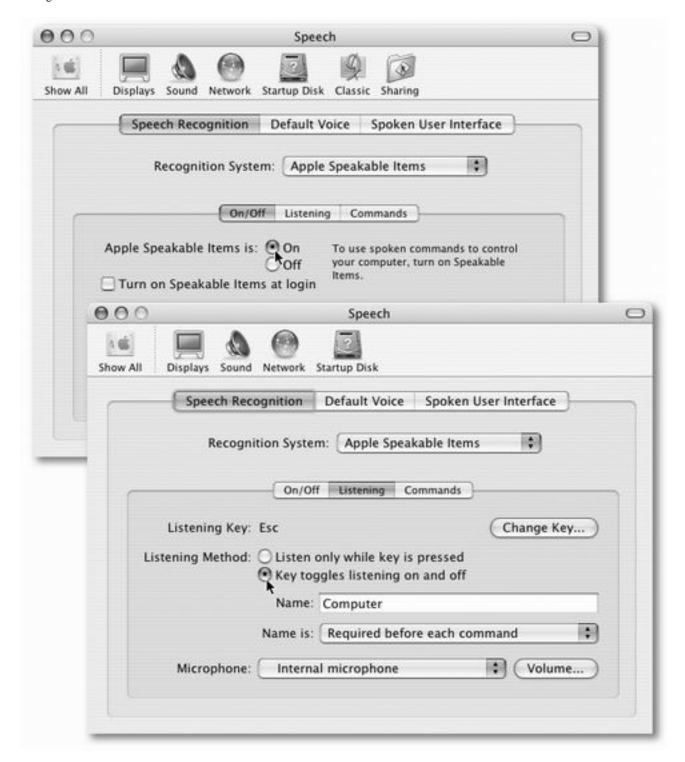
Check out the right side of your screen: A small, microphone-like floating window now appears (<u>Figure 14-10</u>). The word Esc in its center indicates the "listen" key—the key you're supposed to hold down when you want the Mac to respond to your voice. (You wouldn't want the Mac listening all the time—even when you said, for example, "Hey, it's cold in here. Close the window." Therefore, the Mac comes ready to listen only when you're pressing that key.)

You can specify a different key, if you wish, or eliminate the requirement to press a key altogether, as described in the next section.

When you start talking, you'll also see the Mac's interpretation of what you said written out in a yellow balloon just over the Feedback window.

## Top: Turn off listening altogether using the On/Off tab.

Bottom: If you turn on "Key toggles listening on and off," then you don't have to press a key to make the Mac listen. (Instead, pressing the designated key turns the speech recognition feature on or off completely.) In the Name blank, type the name you want the Mac to listen for as it monitors the sound from your mike.



### 14.4.1.2 The Speakable Commands window

Here's the most important single fact to understand about PlainTalk speech recognition: The only commands it understands are those listed in the Speakable Commands window, which generally appears automatically when you turn on speech recognition.

Keeping your eye on the Speakable Commands window is absolutely essential, because it offers a complete list of everything your Mac understands. As you can see, some of them represent shortcuts that would take several steps if you had to perform them manually.

To open this list if it's not open, click the tiny arrow at the bottom of the Feedback window and choose Open Speech Commands Window from the commands that appear. Here are a few examples of what you'll find in the list at first:

- **Open Sherlock.** Launches the Sherlock Web-searching program, as described in <u>Chapter 20</u>, saving you the trouble of using the Dock or finding it in your Applications folder.
- Close this window. Closes the frontmost window instantly.
- **Empty the trash.** Works only when you're in the Finder.
- Switch to AppleWorks. Brings AppleWorks to the front. (Of course, you can say "switch to" and then the name of any running or recently used program.)

Left: The Feedback window lacks the standard Close and Minimize buttons. If it's in your way, just double-click it (or say "minimize speech window") to shrink it into your Dock. If you choose Speech Preferences from its bottom-edge triangle, you open the Speech preferences window.

Right: Choosing Open Speech Commands window, of course, opens the list of things you can say.





- Quit all applications. Saves you the trouble of switching into each program and choosing Quit.
- Open the Speech Commands window or Show me what to say. Opens the Speech Commands window, of course.
- What day is it? Tells you the date.
- **Tell me a joke.** Begins a pathetic/funny knock-knock joke. You've got to play along, providing the "who's there?" and "so-and-so who?" answers.

Mac OS X updates the listing in the Speech Commands window in real time, according to the context. When you switch from one program to another, you see a list of the local commands that work in the new program. You'll discover that when you use the "Tell me a joke" command, for example, you don't necessarily have to say, "Who's there?" You can also say

"Stop," "Go away," or "Stop with the jokes!" (It must really be fun to work at Apple.)

## 14.4.1.3 Speaking to the Mac

When you're ready to talk to your computer, position the microphone between one and three feet from your mouth. If it's a headset mike, make sure it's plugged into your Mac's microphone or USB jack. If it's built-in, speech recognition may not be as accurate.

In any case, flnish up by opening the Speech panel of System Preferences. Click the Listening mini-tab, and use the Microphone pop-up menu to specify which microphone you'll be using (if you have a choice).

Now you're ready to begin. While pressing the Esc key (if that's still the one identified in the Feedback window), begin speaking. Speak normally; don't exaggerate or shout. Try one of the commands in the Speakable Commands list—perhaps "What time is it?" If the Feedback window doesn't display animated sound waves, indicating that the Mac is hearing you, something's wrong with your microphone setup. Open the Speech panel again, and confirm that the correct microphone is selected.

## 14.4.2 Customizing Speech Recognition

You can tailor the speech recognition feature in two ways: by adjusting the way it looks and operates, and by adding new commands to its vocabulary.

## 14.4.2.1 Changing when the Mac listens

Early experimentation quickly showed Apple's speech engineers that having the microphone "open," listening full-time, was an invitation for disaster. Everyday phone conversations, office chatter, and throat clearings completely bewildered the software, triggering random commands.

Therefore, you must explicitly tell the Mac when you're addressing it. When you first turn on the speech recognition feature, the Mac expects you to alert it by pressing a key when you speak, such as the Esc key.



To change the key you hold down when you want the Mac to listen, visit the Speech panel of System Preferences; click the Listening tab, and then click Change Key. A little message prompts you to press the keyboard key you'd prefer to use. Your choices are Esc, tilde (~), Delete, F5 through F15 (not including the Eject key), or the keys on your numeric keypad—with or without the Shift, Control, or Option keys.

If you'd rather not have to press some key whenever you want the computer's attention, click the other option in this box, "Key toggles listening on and off." Now to get the computer's attention you must speak its name—which you type into the Name box—before each command. For example, you might say, "Computer, open AppleWorks," or "Hal, what day is it?"

The name you specify appears in the middle of the round Feedback window.

#### NOTE

This method of getting the computer's attention is less reliable than the push-a-key-to-talk system. Especially if you name the computer Hal; although that's hilarious in theory, polysyllabic names work better in practice.

By using the "Name is" pop-up menu, meanwhile, you can specify how big your window of opportunity is:

- Optional before each command. If you work alone in a quiet room, this is the choice for you. It means that you don't have to press a key or say the Mac's name when issuing a voice command. Everything you say is considered a command.
- Required before each command. Nothing you say is interpreted as a command unless you say the computer's name first, as in, "Macintosh, switch to Microsoft Word."
- Required 15 seconds after last command, Required 30 seconds after last command. Sometimes you want to issue several commands in a row, and would feel foolish saying, "Computer, close all windows. Computer, empty the trash. Computer, switch to AppleWorks." When you turn on this option, you can say the computer's name just once; all commands that you issue in the next 15 or 30 seconds "belong to" that first salutation. The push-to-talk key and the spoken name, in this case, serve as a master on/off switch for the Mac's listening mode.



If you're not using the push-to-talk method, you can still turn speech recognition off temporarily by saying, "Turn on push to talk." (Now the Mac listens to you only when you're pressing the designated key.) When you want to return to listening-all-the-time mode, say, "Listen continuously."

Finally, note that the Speech pane also lets you turn off recognition completely. On the On/Off tab, click Off (Figure 14-9). On the other hand, if you really love the speech feature, you can save yourself the trouble of visiting this control panel each morning by turning on "Start Speakable Items at log in." Speech recognition will be turned on and "listening" as soon as you log in.

## 14.4.2.2 Changing the feedback

Another set of options on the On/Off tab governs what the Mac does when it understands something that you've said. For example:

- Play sound. The Mac generally makes a sound whenever it recognizes something you've said. Use this pop-up menu to control which of your built-in beeps you want it to use—or choose None.
- **Speak confirmation.** Sometimes the Speech Feedback window shows you a message of its own—when you use the "Empty the trash" command, for example, text in the Feedback window may inform you that a locked item prevents the emptying. The Mac generally reads this text aloud to you; turn this checkbox off if you'd rather have the Mac be silent.

#### 14.4.2.3 Triggering menus by voice

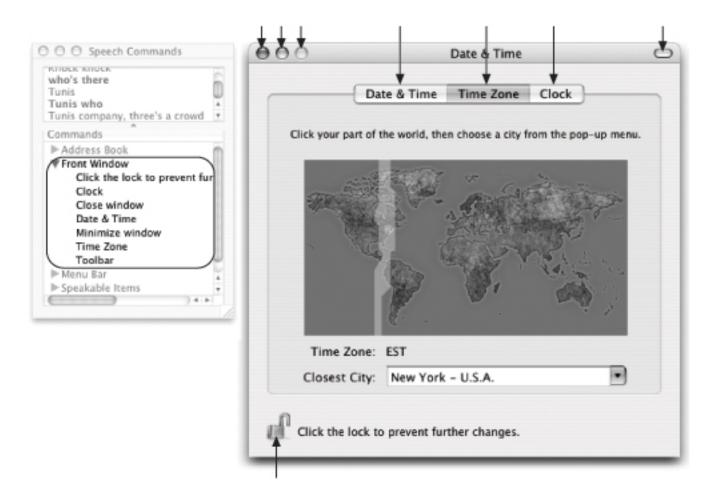
On the Speech panel of System Preferences, click the Speech Recognition tab, and then click the Commands mini-tab on that window. Here you'll flnd a list of the command categories that Speakable Items can understand. As you turn each checkbox on or off, watch the Speech Commands window. Giant swaths of commands appear or disappear as you fool with these checkboxes, giving you a good indication as to their function. Here's a rundown:

Global Speakable Items. This is the master list of Speakable Items shown in Figure 14-11.

- Application Specific Items. Certain Mac OS X programs come with preset lists of commands that work only when you're in the relevant program. For example, whenever you're in the Finder, you can say, "Empty the trash," "Go to my Home directory," "Hide the Dock," "Minimize all windows," "Make a new folder," and so on. When this checkbox is off, the Mac no longer recognizes any of these handy commands.
- **Application Switching.** This is the command category at the bottom half of the Speech Commands list—"Switch to Address Book," "Switch to AOL," and so on.
- **Front Window.** In your Speech Commands window, you'll note the appearance of a new category of commands, called Front Window. The idea here is to provide you with quick speech-recognition access to the most prominent buttons, tabs, and icons in whichever window is before you. <u>Figure 14-11</u> elaborates on the idea.
- Menu Bar. This command lets you open menus (in the menu bar) by speaking their names.

Once you say its name ("File menu," for example), the menu opens. Now you can say any command in the open menu ("New Playlist," "Save," or whatever). The Menu Bar category of the Speech Commands window changes to remind you of what you can say at any given moment.

The Front Window commands change automatically to reflect the controls that are in the frontmost window. For example, in the Date & Time panel of System Preferences, you can say anything in the circled area of the Speech Commands window: the name of any tab or window control (indicated by the arrows). Whenever you say an item, the Mac "clicks" it for you. You can also speak the menus' names to open them.



You can probably see that the combination of Front Window and Menu Bar commands lets you do quite a bit of work on your Mac without ever needing the mouse or keyboard.

## 14.4.2.4 Improving the PlainTalk vocabulary

By putting an alias of a favorite document, folder, disk, or program into your Home Library Speakable Items folder, you can teach PlainTalk to recognize its name and open it for you on command. You can name these icons anything you want. You can also rename the starter set that Apple provides. You'll have the best luck with multiword or polysyllabic names—"Microsoft Word," not just "Word."

But one kind of icon PlainTalk can open is an AppleScript icon, the kind you create by following the instructions in <a href="Chapter">Chapter</a>
7. If you open your Home folder
Library
Speech
Speakable Items, you'll discover that most of the built-in speakable-item icons are, in fact, AppleScript icons. The point is that you can make PlainTalk do almost anything you want, especially in the Finder, simply by creating AppleScripts and putting them into the Speakable Items folder.

## 14.4.2.5 Application-specific commands

Most of the preinstalled PlainTalk commands work in any program. You can say, for example, "Open Sherlock" to launch Sherlock from within any program.

However, you can also create commands that work only in a specific program. They sit in your Speakable Items Application Speakable Items folder, inside individual application-name folders. For example, Mac OS X comes with commands for Internet Explorer that include Go Back, Go Forward, and Page Down.

Then open the program for which you want to create special commands and say, "Make this application speakable." The Mac creates a folder for the program in the Speakable Items folder; flll it with the AppleScripts you've created.

Of course, not every program is equally suitable to being voice-controlled—since PlainTalk is based on AppleScript, only programs that are AppleScriptable (Chapter 7) thrive with this treatment.

#### NOTE

If you give an application-specific icon the exact same name as one of the global commands, the Mac executes the application-specific one—if that program is running.

### 14.4.2.6 PlainTalk tips, tricks, and troubleshooting

When you're creating new commands, keep this advice in mind:

- Favor longer icon names. "Save the flle" works better than "Save."
- If the name of an icon includes an acronym (such as FTP), put spaces between the letters (F T P), if you'll be pronouncing them as individual letters.
- You can precede the name of something in your Speakable Items folder with the word "open." PlainTalk doesn't care—"open Excel" and "Excel" do the same thing.

If you can't seem to make the speech recognition feature work, consider this checklist:

- If the stripes on the bottom half of the Feedback window don't change color when you're speaking, something's
  wrong with your microphone arrangement. Revisit the Speech panel of System Preferences, and make sure you've
  selected the correct microphone. Also make sure you've plugged the microphone into the correct jack on the back
  or side of the computer.
- Make sure you're pressing the correct key (if you're using the push-to-talk method), or speaking the name of the computer before each command (if not).
- Make sure you're saying the name of the working command, as listed in either the Speakable Commands window (which appears when you say "Show me what to say") or the Speech Commands list.



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## 14.5 The Mac Talks Back

So far in this chapter, you've read about the Mac's listening ability. But the conversation doesn't have to be one way; it's even easier to make the Mac talk.

In fact, Mac can read almost anything you like: text that you pass your cursor over, alert messages, menus, and any text document in any program. It can speak in your choice of 22 synthesized voices, ages eight to flfty. The Mac's voice comes out of its speakers, reading with a twangy, charmingly Norwegian accent.

For 15 minutes of hilarious fun, try clicking the Mac's voices in turn (or press the up and down arrow keys) to hear a sample sentence spoken in that voice. Drag the slider to affect how fast he or she speaks. (Clearly, Apple's programmers had some fun with this assignment.)



## 14.5.1 Setting Up the Mac's Voice

To configure the way the Mac talks, revisit the Speech panel of System Preferences. Click the Default Voice tab at the top

of the window. As you can see in <u>Figure 14-12</u>, you can control which of the Mac's voices you want your computer to use, as well as how fast it should speak.



Five of the voices sing rather than speak: Good News sings to the tune of "Pomp and Circumstance," also known as the Graduation March; Bad News sings to the tune of the Chopin Prelude in C minor, better known as the Funeral March; Cellos sings to the tune of Grieg's "Peer Gynt" suite; Pipe Organ sings to the tune of the Alfred Hitchcock TV theme; and Bells sings the typical church-bell carillon melody.

In other words, these voices sing whatever words you type to those melodies. (To hear the melody in its entirety, don't use any punctuation.)

## 14.5.2 Programs That Already Talk

Some Mac OS X programs come with built-in speaking features. For example, Mail (Chapter 19) can read your messages aloud; just Control-click inside a message window and, from the pop-up menu, choose Speech Start Speaking. (Choose Speech Stop Speaking when you've heard enough.) You can also add a Speak Text button in AppleWorks, or add a Speak command in FileMaker Pro scripts.

## 14.5.3 The Chatty Mac

As noted earlier, the Mac is prepared to read to you any text in any program.

# GEM IN THE ROUGH Talking to Chess

If your friends and co-workers are, for some reason, still unimpressed by Mac OS X and your mastery of it, invite them over to watch you play a game of chess with your Mac—by talking to it.

(Actually, this feature isn't purely for entertainment: Some chess players prefer to move without looking at the board. By speaking their moves to the computer—and having the computer respond by speaking its own moves—these people can play "blindfolded.")

Open the Chess program, which is described in Section 9.5. Unless you've turned it off (in

Chess Preferences), the game's speech-recognition feature is already turned on. When it's on, the round Feedback window should be visible onscreen.

To learn how to speak commands in a way that Chess will understand, click the small gray triangle at the bottom of the Speech Feedback panel to open the Speech Commands window. As usual, it lists all the commands that Chess can comprehend.

You specify the location of pieces using the grid of numbers and letters that appears along the edges of the chessboard. The White king, for example, starts on square e1 because he's in the first row (1) and the fifth column (e). To move the king forward by one square, you'd say: "King e1 to e2."

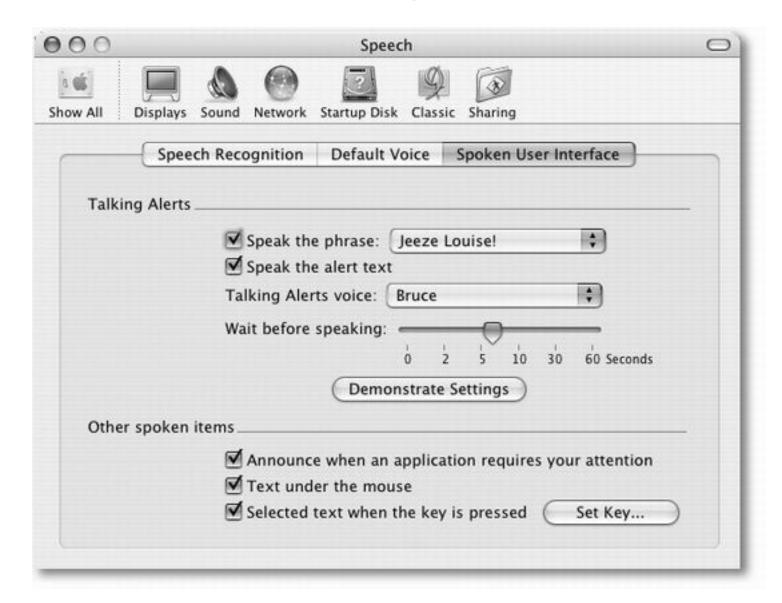
As the Speech Commands window should make clear, a few other commands are at your disposal. "Take back move" is one of the most useful. When you're ready to close in for the kill, the syntax is: "Pawn e5 takes f6."

And smile when you say that.

To experiment, visit the Speech panel of System Preferences. Click the Spoken User Interface tab (Figure 14-13).

Here are all the different occasions when the Mac can talk to you:

Here's where you tell the Mac just how chatty you want it to be. You can also control which voice it uses, and even how fast it talks—a slider, by the way, you won't find on many of your human companions.



## 14.5.3.1 When an alert message appears onscreen

You can make the Mac read aloud error messages and alert messages that may appear on your screen. Here are the controls available to you:

- **Speak the phrase.** Use this pop-up menu to specify which utterance the Mac speaks before the actual error message—for example, "Excuse me! The Trash could not be emptied" or "Attention! The document could not be printed." If you don't want any such preamble, turn off the checkbox.
  - If you choose "Next in the list" or "Random from the list" from this pop-up menu, you'll never hear the same expletive twice. Better yet, choose Edit Phrase List to open a dialog box where you can specify your own words of frustration. (Apple Computer, Inc. is not liable for any trouble you may get into with people in neighboring cubicles.)
- Speak the alert text. If you turn off this checkbox, the Mac won't read the actual error message at all. That is, if you turn on "Speak the phrase" but leave this checkbox off, the Mac will shout, for example, "Oh dear!" to get your attention, but will leave it up to you to read the onscreen message.
- Talking Alerts voice. Use this pop-up menu to specify the voice you want reading your error messages. (It doesn't have to be the same as the standard Mac default voice that's used for other purposes.)
- Wait before speaking. The entire purpose of the Talking Alerts feature is ostensibly to get your attention if you've
  wandered away—mentally or physically—from your Mac. The chances are slim, but an urgent problem might occur
  that, if left undetected, could land you in trouble. (A 500-page printout brought to its knees by a paper jam comes to
  mind.)

In other words, if you're still sitting in front of your Mac, you may not need the Mac to speak to get your attention; you'll simply read the onscreen message. That's why you can set this slider to make the Mac wait, after the error message appears, for up to a minute before trying to flag you with its voice, so that it won't harangue you unnecessarily. (Click Demonstrate Settings for a sense of how long the Mac will delay before speaking.)

## 14.5.3.2 When an application requires your attention

A jumping Dock icon means that the program is trying to get your attention. It might be because your printer is out of paper, or it might be because you've tried to shut down but one program still has open, unsaved documents. In any case, now the Mac can tell you, in so many words, which program needs some loving care.

## 14.5.3.3 When your cursor passes over some text

This feature is, obviously, a spectacular help for anyone who has trouble seeing. Now your cursor can "read" buttons, tabs, dialog box options, desktop icons, the subject lines of messages in your email inbox, and so on.

## 14.5.3.4 When a key is pressed

In its own humble way, this option offers the most dramatic possibilities of all. It means that the Mac can read any text in any program. Now you can hear any Web page read to you, any email message, any sticky note—a welcome break for sore eyes. Furthermore, if you do any kind of writing at all, you'll discover the value of having your material read back to you out loud; it's a proofreading technique that reveals all kinds of typos and wordos that you wouldn't catch just by reading, even if you read it 50 times.

The very first time you turn on this checkbox, the Mac prompts you to specify a keystroke. (Later, you can always change the keystroke by clicking the Set Key button.) Choose a keystroke that doesn't conflict with the program you're using—Shift-Option-Z, for example.

Now go to the program where you'd like the reading to happen. Highlight some text (or just press #:A to select all of it).

Then press the keystroke you specified. The Mac begins reading it aloud immediately. To interrupt the playback, press the same keystroke again.

And be glad you were alive to see the day.



If you have an iPod, don't forget that your Mac can convert any text or word processing document into a spoken recording, so that you can listen to it when you're on the go. Details in <u>Section 7.3</u>.



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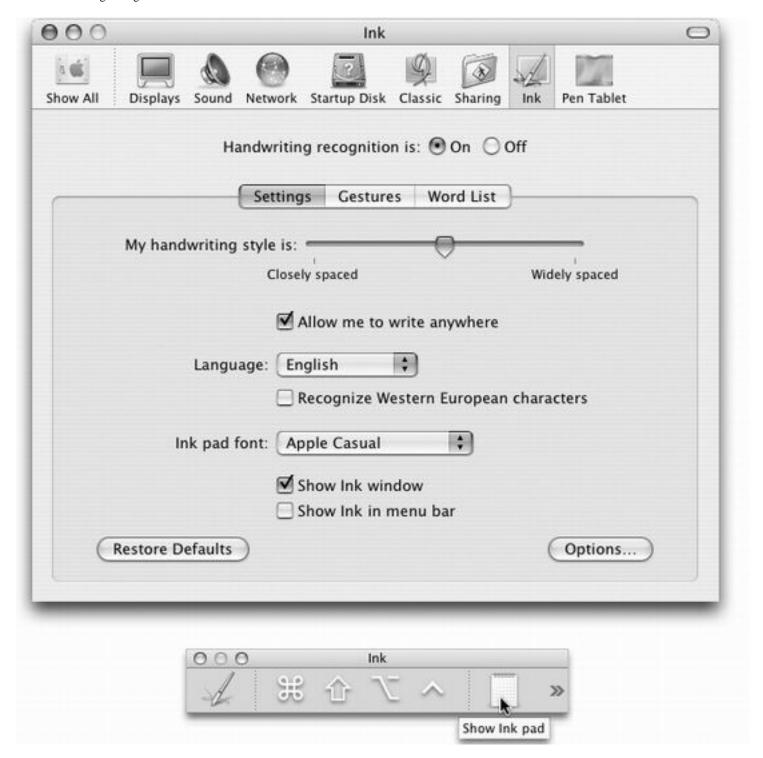
## 14.6 Ink: Handwriting Recognition

In the same way that your grandmother turned yesterday's dinner into today's sandwich (and tomorrow's soup), Apple recycled the handwriting technology of its failed Newton handheld and added it to Mac OS X. It's now called Ink, and it does exactly what it used to: turns your handwriting into "typed" text in any program.

You can't very well write directly on your Apple Cinema Display (although that would be cool—Apple, are you listening?). That's why Ink appears in Mac OS X only if you have a graphics tablet, one of those stylus-and-pad devices found generally only on the desks of graphic artists. (Wacom is the best-known tablet company, but there are a couple of others.)

Top: Most people never see the lnk panel of System Preferences, since it appears only when you install a Wacom graphics tablet.

Bottom: You can shrink the lnk toolbar down to a small square by clicking on the zoom button (Section 1.2.3), or expand it to include the lnk pad by clicking the notepad icon at the toolbar's right.



Can Ink really replace the keyboard? Not for anything more than quick notes, that's for sure. But it can be handy when you're Web surfing, sketching, filling in database forms, and so on.

## 14.6.1 Write Anywhere

The Ink panel appears in System Preferences only after you've installed a tablet and its software driver.

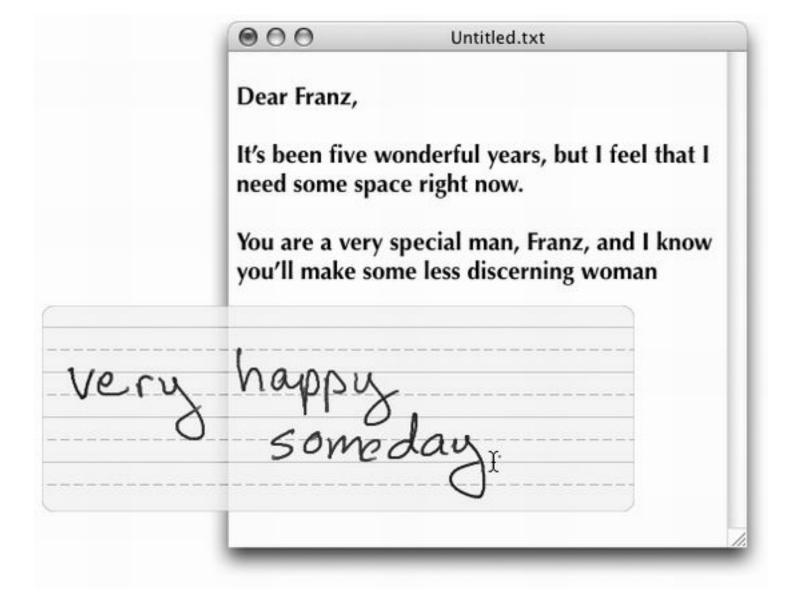
Once you've done so, open System Preferences and click the Ink icon. Turn on handwriting recognition by setting the "Handwriting Recognition is" button to On (<u>Figure 14-14</u>, top). Right away, you see a change on your screen: the Ink toolbar appears (<u>Figure 14-14</u>, bottom).

Now visit a program that accepts typing—TextEdit, for example. As you start to write on the tablet, a translucent, yellow, lined overlay appears, magically expanding if necessary to accommodate your writing. A moment after you stop writing each word, the Mac turns your writing into text and "types" it into the current document (Figure 14-15).



Use the Character Palette (<u>Section 8.14.2</u>) to insert awkward punctuation marks and unusual symbols.

As you write, your penstrokes appear on screen. They disappear as the Mac recognizes your writing and inserts it at the insertion point. Print neatly on the overlay—don't use script—and make capital letters distinctly larger than lowercase letters. It's OK if the yellow writing area extends beyond your document window.



## 14.6.2 Writing vs. Mousing

So when is your stylus a mouse for pointing and clicking, and when is it a writing implement? When "Write Anywhere" is turned off, your stylus is just a mouse.

You can find this switch in three different places:

• The first icon on the lnk toolbar is the on/off switch for "Allow me to write anywhere." When the icon looks like an arrow cursor, your pen is just a pointing device; when it's a fountain pen, it's a writing device.



The next few buttons on the Ink toolbar let you "press" the keys for menu commands: **#**, Shift, Option, or Control. For example, to trigger the Shift-**#**-H keystroke (for Replace) in Microsoft Word, you'd tap the **#** button, tap Shift, and then write the letter H.

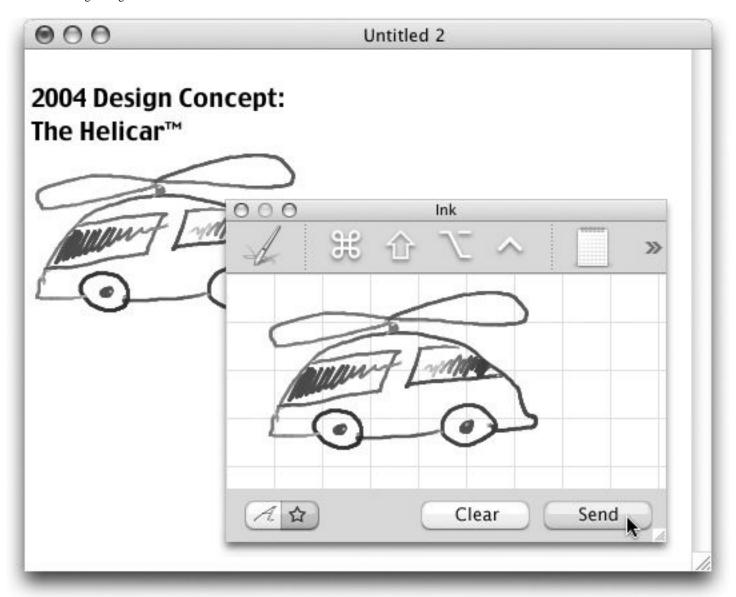
- An "Allow me to write anywhere" checkbox also appears on the lnk panel of System Preferences.
- Also in System Preferences, a checkbox called "Show Ink in menu bar" adds a fountain-pen icon (a menulet) to your menu bar. Its commands include Write Anywhere and Show Ink Window (meaning the Ink pad, described next).

#### 14.6.3 The Ink Pad

The "anywhere on the screen" mode described above is only one place that Ink can detect what you write. If you click the rightmost icon on the Ink palette (highlighted in <u>Figure 14-14</u>), or choose Show Ink Window from either System Preferences or the Ink menulet, you can also summon a floating "note pad" window called the Ink pad.

Limiting the writing area to the Ink pad is a useful arrangement when you're working in a graphics program and want the Mac to distinguish between penstrokes that draw and penstrokes that write. The Ink pad is also handy because it recognizes gestures, described next.

Click the A button to input text; click the star button to make a drawing. Either way, after you're flnished, click the Send button to have your text or art pasted into whatever document is open behind it. (Of course, you can't paste a graphic unless the program you're currently running accepts graphics.)



At the bottom of the lnk pad, you see two buttons, labeled with the letter A and a star. Their functions are described in Figure 14-16.



If Ink makes a mistake in the Ink pad, tap the word while pressing the Control key. You get a pop-up list of alternate transcriptions.

# 14.6.4 Improving Ink

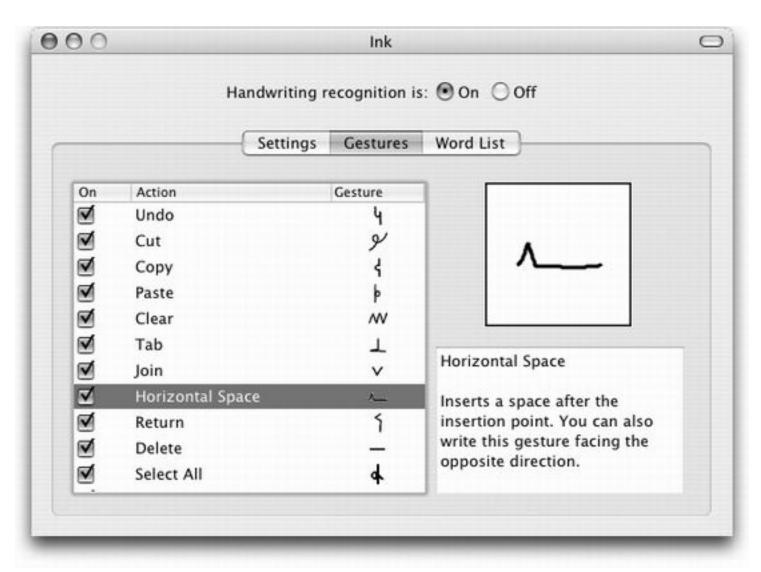
If you find that Ink doesn't translate your handwriting well (you write "Millennium" and Ink thinks you wanted "Mill E Numb," for example), return to the Ink panel of System Preferences.

Adjust the "My handwriting style is" slider (<u>Figure 14-14</u>, top). If your writing is loose and airy, for example, sliding toward "Widely spaced" can dramatically improve Ink's recognition of your chicken scratch.

If you click Options at the bottom of this tab, you'll flnd even more ways to tweak the way lnk processes your handwriting. For example, you can use the sliders here to govern how quickly your writing pen cursor turns back into a pointing-and-clicking device after you stop writing.

Another way you can help is to teach Ink terms it may not know, such as your friends' names and any professional jargon you use. To do so, click the Word List tab (of the Ink panel of System Preferences). Click Add, type the word you want Ink to consider legitimate, and click OK. Adding uncommon words to the Word List tab dramatically improves recognition.

Do these gestures look more like hieroglyphics? No problem. When you click a gesture, the large box at the right of the screen displays a small animation, showing you how to properly write the gesture. Most of them are pretty easy to remember: Undo is a U with an extra leg, Paste is a modified P, and Clear—as all Newton users will remember—is a zigzag line, as if you were crossing something out on a pad of paper.



In other words, don't give up if Ink doesn't perfectly recognize your handwriting right away. After working with it for a little while, you'll get the hang of using Ink—and it'll get the hang of understanding you.

#### 14.6.5 Gestures

Ink also recognizes gestures, a strange but logical concept: When you draw certain shapes on the tablet, Ink performs commands like Undo, Copy, Paste, and Select All. There are also written characters for keys like Delete, Space, Tab, and Return.

To view the list of gestures that Ink knows, click the Gestures tab of the Ink panel of System Preferences, as shown in <u>Figure 14-17</u>. By learning these characters, you can maximize the time you spend using your pen, and minimize the effort of pressing keys and pulling down menus.

### **14.6.6 Editing Your Transcriptions**

Since your stylus can serve as both your keyboard and your mouse, editing your transcribed text, as you might guess, can be a tad tricky. Use these techniques:

- Switch the pen back into mouse mode (so that you can drag across text to highlight it) by pausing momentarily. Drag to select the botched word, and then write the replacement word. (You can also tap the first lnk toolbar icon to switch into, or out of, writing mode.)
- To insert punctuation after a word, you're supposed to highlight the last letter, and then rewrite the letter and the
  punctuation.
- In Inkpad, you can use gestures to edit, as described above.



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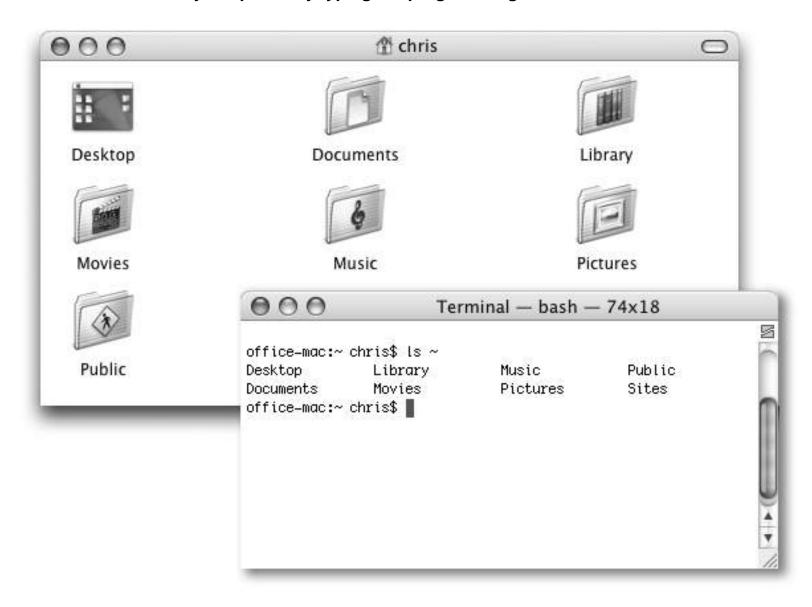
# **Chapter 15. Terminal: Doorway to Unix**

As you're certainly aware by now, Mac OS X's resemblance to the traditional Mac operating system is only superficial. The engine underneath the pretty skin is utterly different. In fact, it's Unix, one of the oldest and most respected operating systems in use today.

The first time you see it, you'd swear that Unix has about as much in common the traditional Mac OS as a Jeep does with a melon (see Figure 15-1).

Top: What most people think of when they think "Macintosh" is a graphic interface—one that you control with a mouse, using icons and menus to represent files and commands.

Bottom: Terminal offers a second way to control Mac OS X: a command line interface, which you operate by typing out programming commands.



What the illustration at the bottom of <u>Figure 15-1</u> shows, of course, is a *command line interface*: a place where you can type out instructions to the computer. This is a world without icons, menus, or dialog boxes; even the mouse is almost useless.

Surely you can appreciate the irony: The brilliance of the original 1984 Macintosh was that it *eliminated* the command line interface that was still the ruling party on the computers of the day (like Apple II and DOS machines). Most non-geeks sighed with relief, delighted that they'd never have to memorize commands again. Yet here's Mac OS X, Apple's supposedly ultramodern operating system, complete with a command line! What's going on?

# UP TO SPEED Mac OS X's Unix Roots

In 1969, Bell Labs programmer Ken Thompson found himself with some spare time after his main project, an operating system called Multics, was canceled. Bell Labs had withdrawn from the expensive project, disappointed with the results after four years of work.

But Thompson still thought the project—an OS that worked well as a cooperative software-development environment— was a promising idea. Eventually, he and colleague Dennis Ritchie came up with the OS that would soon be called Unix (a pun on Multics). Bell Labs saw the value of Unix, agreed to support further development, and became the first corporation to adopt it.

In the age when Thompson and Ritchie started their work on Unix, most programmers wrote code that would work on only one kind of computer (or even one computer *model*). Unix, however, was one of the first *portable* operating systems: its programs could run on different kinds of computers without having to be completely rewritten. That's because Thompson and Ritchie wrote Unix using a new programming language of their own invention called *C*.

In a language like C, programmers need only write their code once. After that, a software Cuisinart called a *compiler* can convert the newly hatched software into the form a particular computer model can understand.

Unix soon found its way into labs and, thanks to AT&T's low academic licensing fees, universities around the world. Programmers all over the world added to the source code, fixed bugs, and then passed those modifications around.

In the mid-1970s, the University of California at Berkeley became the site of especially intense Unix development. Students and faculty there improved the Unix *kernel* (the central, essential part of the OS), added features, and wrote new Unix applications. By 1977, they had enough additional software to release their own version of Unix, the first of several *Berkeley Software Distribution* (BSD) versions.

As it happened, the government's Defense Advanced Research Projects Agency (DARPA) was seeking a uniform, portable OS to use for their growing wide-area network, originally called ARPAnet (and now called the Internet).

DARPA liked Unix and agreed to sponsor further research at Berkeley. In January 1983, DARPA changed ARPAnet's networking protocol to TCP/IP—and the Internet was born, running mostly on Unix machines.

Cut to 1985. Steve Jobs left Apple to start NeXT Computer, whose NextStep operating system was based on BSD Unix. When Apple bought NeXT in 1996, Jobs, NextStep (eventually renamed OpenStep), and its Terminal program came along with it. The Unix that beats within Mac OS X's heart is just the latest resting place for the OS that Jobs's team developed at NeXT.

So the next time you hear Apple talk about its "new" operating system, remember that its underlying technology is actually more than 30 years old

Actually, the command line never went away. At universities and corporations worldwide, professional computer nerds kept right on pounding away at the little *C*: or \$ prompts, appreciating the efficiency and power such direct computer control afforded them.

You're forgiven if your reaction to learning Unix is, "For goodness' sake—can't I finish learning one way to control my new operating system before I have to learn yet another one?"

Absolutely. You never *have* to use Mac OS X's command line. In fact, Apple has swept it far under the rug, obviously expecting that most people will use the beautiful icons and menus of the regular desktop. In earlier versions of Mac OS X, there were a few tasks you could perform *only* at the command line, but there are even fewer of them in 10.3.

For intermediate or advanced Mac fans with a little time and curiosity, however, the command line opens up a world of possibilities. It lets you access corners of Mac OS X that you can't get to from the regular desktop. It lets you perform certain tasks with much greater speed and efficiency than you'd get by clicking buttons and dragging icons. And it gives you a fascinating glimpse into the minds and moods of people who live and breathe computers.

If you've ever fooled around with ResEdit, experimented with AppleScript, or set up a Mac on a network, you already know the technical level of the material you're about to read. The Unix command line may be *unfamiliar*, but it doesn't have to be especially technical, particularly if you have some "recipes" to follow like the ones in this chapter and the next.

#### NOTE

Unix is an entire operating system unto itself. This chapter is designed to help you find your footing and decide whether you like the feel of Unix. If you get bitten by the bug, see <u>Appendix E</u> for sources of additional Unix info.



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#### 15.1 Terminal

The keyhole into Mac OS X's Unix innards is a program called Terminal, which sits in your Applications Utilities folder (see Figure 15-2). Terminal is named after the terminals (computers that consist of only a monitor and keyboard) that tap into the mainframe computers at universities and corporations. In the same way, Terminal is just a window that passes along messages to and from the Mac's brain.

The first time you open Terminal, you'll notice that there's not much in its window except the date and time of your last login, a welcome message, and the *command line prompt* (Figure 15-2).

For user-friendliness fans, Terminal doesn't get off to a very good start; this prompt looks about as technical as computers get. It breaks down like this:

- office-mac: is the name of your Mac (at least, as Unix thinks of it). It's usually the Mac's Computer Name (as it
  appears in the Sharing panel of System Preferences), but it's occasionally the name your Mac goes by on the
  Internet.
- ~. The next part of the prompt indicates what folder you're "in" (see <u>Figure 15-1</u>). It denotes the *working directory*—that is, the currently open folder. (Remember, there are no icons in Unix.) Essentially, this notation tells you where you are as you navigate your machine.

The very first time you try out Terminal, the working directory is set to the symbol ~. That tilde symbol is important shorthand; it means "your own Home folder." It's what you see the first time you start up Terminal, but you'll soon be seeing the names of other folders here—office-mac: /Users or office-mac: /System/Library, for example. (More on this slash notation in Section 1.2.2.)

#### NOTE

Before Apple came up with the user-friendly term *folder* to represent an electronic holding tank for files, folders were called *directories*. But in this chapter and the next, you'll encounter the term *directory* almost exclusively. In any discussion of Unix, "directory" is simply the correct term.

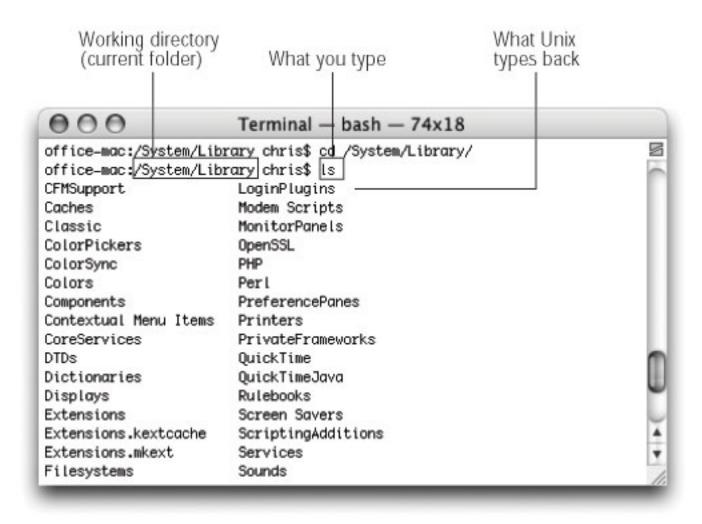
Besides, using a term like "working folder" within earshot of Unix geeks is likely to get you lynched.

chris\$ begins with your short user name. It reflects whoever's logged into the shell (see the box on the facing page), which is usually whoever's logged into the mac at the moment. As for the \$ sign, think of it as a colon. In fact, think of the whole prompt shown in <a href="Figure 15-2">Figure 15-2</a> as Unix's way of asking, "OK, Chris, I'm listening. What's your pleasure?"

Unless you've fiddled with Terminal's preferences, the insertion point looks like a tall rectangle at the end of the command line. It trots along to the right as you type.

On the Web, Mac OS X's Terminal is one of the most often discussed elements of Mac OS X. Dozens of step-by-step tutorials for performing certain tasks circulate online, usually without much annotation as to why you're typing what you're typing. As you read this chapter, remember that capitalization matters in Terminal, even though it doesn't in the Finder. As far as

#### most Unix commands are concerned, Hello and hello are two different things.



## 15.1.1 Unix Programs

An enormous number of programs have been written for Unix. And thanks to thousands of open-source developers—programmers all over the world who collaborate and make their work available for the next round of modification—much of this software is freely available to all, including Mac OS X users.

Each Unix command generally calls up a single application (or *process*, as geeks call it) that launches, performs a task, and closes. Many of the best-known such applications come with Mac OS X.

Here's a fun one: Just type *uptime* and press Enter or Return. (That's how you run a Unix program: type its name and press Enter). On the next line, Terminal shows you how long your Mac has been turned on continuously. It shows you something like: "6:00PM up 8 days, 15:04, 1 user, load averages: 1.24, 1.37, 1.45"—meaning your Mac has been running for 8 days, 15 hours nonstop.

You're finished running the *uptime* program. The \$ prompt returns, suggesting that Terminal is ready for whatever you throw at it next.

Try this one: Type *cal* at the prompt, and then press Enter. Unix promptly spits out a calendar of the current month.

# POWER USERS' CLINIC bash, Terminal, and Shells

One Unix program runs automatically when you open a Terminal window: *bash*. It's Apple's chosen *shell* for Mac OS X 10.3.

A *shell* is a Unix program that interprets the commands you've typed, passes them to the *kernel* (the operating system's brain), and then shows you the kernel's response.

But more practically, the shell is the Unix Finder. It's the program that lets you navigate the contents of your hard drive, see what's inside certain folders, launch programs and documents, and so on.

There are actually several different shells available in Unix, each with slightly different command syntax. A few others—like *tcsh*, *zsh*, *and csh*—come with Mac OS X. (You can choose among them by choosing Terminal Preferences and typing the new shell's path into the text box.) But on a clean installation of Panther, Terminal comes set to use *bash*.

Bash evolved from the original sh shell, which was named the Bourne shell after its inventor. Bash got its name, then, as the Bourne Again Shell (get it?).

So why did Apple switch to *bash* in Panther? (In Mac OS X 10.2, *tcsh* was the standard shell. In fact, if you upgraded to 10.3 rather than performing a clean install and creating a fresh account for yourself, you'll still have *tcsh*.)

Turns out *bash* has better international-text features, among other improvements—and goodness knows, Apple would love for Mac OS X to become a hit in as many countries as possible. *Bash* is also more popular than *tcsh*. And, of course, the *bash* prompt symbol, \$, is a lot more inspiring than the *tcsh* prompt, which was a % symbol.

You can open additional Terminal windows (45 max) by choosing File New Shell. Each window runs independently of any others. For proof, try opening several windows and then running the *cal* command in each

office-mac:~ chris\$ cal

October 2003

S	M	Tu	W	Th	F	S
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	

#### office-mac:~ chris\$

This time, try typing *cal 11 2004*, *cal -y*, or *cal -yj*. These three commands make Unix generate a calendar of November 2004, a calendar of the current year, and a *Julian* calendar of the current year, respectively.



The mouse isn't very useful at the command line. You generally move the cursor only with the left and right arrow keys. (The Delete key works as it always does.)

You *can* use the mouse, however, to select text from anywhere in the window (or other programs) and paste it in at the prompt. You can also use the mouse to drag an icon off your desktop into the Terminal window, as shown in <a href="Figure 15-3">Figure 15-3</a>. And in the Terminal Window Settings Emulation dialog box, you'll find a preference that lets you Option-click in a command line to plant the insertion point there.



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# 15.2 Navigating in Unix

If you can't see any icons for your files and folders, how are you supposed to work with them?

You have no choice but to ask Unix to tell you what folder you're looking at (using the *pwd* command), what's in it (using the *ls* command), and what folder you want to switch to (using the *cd* command), as described in the following pages.

# UP TO SPEED Pathnames 101

In many ways, browsing the contents of your hard drive using Terminal is just like doing so with the Finder. You start with a folder, and move down into its subfolders, or up into its parent folders.

In this chapter and the next, you'll be asked to specify a certain file or folder in this tree of folders. But you can't see their icons from the command line. So how are you supposed to identify the file or folder you want?

By typing its *pathname*. The pathname is a string of folder names, something like a map, that takes you from the *root level* to the next nested folder, to the next, and so on. (The root level is, for learning-Unix purposes, the equivalent of your main hard drive window. It's represented in Unix by a single slash. The phrase */Users,* in other words, means "the Users folder in my hard drive window"—or, in Unix terms, "the Users directory at the root level.")

One way to refer to the Documents folder in your own Home folder, for example, would be /Users/chris/ Documents (if your name is Chris, that is)

## 15.2.1 pwd (print working directory, or "Where am I?")

Here's one of the most basic navigation commands: *pwd*, which stands for *print working directory*. The *pwd* command doesn't actually print anything on your printer; instead, the *pwd* command types out, on the screen, the *path* Unix thinks you're in (the working directory).

Try typing pwd and pressing Enter. On the next line, Terminal may show you something like this:

/Users/chris/Movies

Terminal is revealing the working directory's *path*—a list of folders-in-folders, separated by slashes, that specifies a folder's location on your hard drive. /Users/chris/Movies pinpoints the Movies folder in Chris's Home folder (which, like all Home folders, is in the Users directory).



Capitalization counts in Unix. Command names are almost always all lowercase (like *cal* and *pwd*). But when you type the names of *folders*, be sure to capitalize correctly.

## 15.2.2 Is (list, or "What's in here?")

The *Is* command, short for *list*, makes Terminal type out the names of all the files and folders in the folder you're in (that is, your working directory). You can try it right now: just type *Is* and then press Enter. Terminal responds by showing you the names of the files and folders in a list, like this:

Desktop Library Music Public

Documents Movies Pictures Sites

In other words, you see a list of the icons that, in the Finder, you'd see in your Home folder.

#### NOTE

Terminal respects the limits of the various Mac OS X accounts (<u>Chapter 11</u>). In other words, a Standard or Administrator account holder isn't generally allowed to peek into someone else's Home folder. If you try, you'll be told, "Permission denied."

You can also make Terminal list what's in any other directory (one that's *not* the working directory) just by adding its pathname as an *argument*. An argument tells the command *what* to work on. (Remember the Calendar example? When you wanted the November 2004 calendar, you typed *cal 11 2004*. The "11 2004" part was the argument— that is, everything you typed after the command itself.)

To see a list of the files in your Documents directory, then, you could just type *Is /Users/ chris/ Documents*. Better yet, because the ~ symbol is short for "my home directory," you could save time by typing *Is ~/ Documents*. The pathname "~/ *Documents*" is an argument that you've fed the *Is* command.

### **15.2.2.1 About flags**

Between a command and its arguments, you can sometimes insert option flags (also called switches)—short modifying phrases that affect how the command works. In the Calendar example, you can type cal -y to see a full-year calendar; the -y part is an option flag.

Option flags are almost always preceded by a hyphen (-), although you can usually run several flags together following just one hyphen. If you type *Is -ai*, both the -a and -i flags are in effect.

Here are some useful options for the *Is* command:

• -a. The unadorned *Is* command even displays the names of *invisible* files and folders—at least by the Finder's definition. The Unix shell uses its own system of denoting invisible files and folders, and ignores the Finder's. That doesn't mean you're seeing everything; files that are invisible by the Unix definition still don't show up.

You can use one of the *Is* command's flags, however, to force even Unix-invisible files to appear. Just add the *-a* flag. In other words, type this: *Is -a.* Now when you press Enter, you might see something like this:

```
./ Desktop/ Music/
../ Documents/ Pictures/
.CFUserTextEncoding Library/ Public/
.Trash/ Movies/ Sites/
```

• **-F.** As you see, the names of invisible Unix files all begin with a period (Unix folk call them *dot files*). But are these files or folders? To find out, use *Is* with the *-F* option (capitalization counts), like this: *Is -aF*. You're shown something like this:

```
./ Desktop/ Music/
../ Documents/ Pictures/
.CFUserTextEncoding Library/ Public/
.Trash/ Movies/ Sites/
```

The names of the items themselves haven't changed, but the *-F* flag makes slashes appear on directory (folder) names. This example shows that in your home directory, there are 11 other directories and one file.

- **-G.** Here's a fascinating flag that makes *ls* display color-coded results: blue for directories, red for programs, normal black-on-white type for documents, and so on.
- **-R.** The -R flag produces a *recursive* listing—one that shows you the directories *within* the directories in the list. Listing all of the home directory could take several pages, but if you type *Is -R Movies*, for example, you might get something like this:

```
Bad Reviews.doc Old Tahoe Footage 2 Picnic Movie 2 Reviews.doc

./Old Tahoe Footage 2:

Tahoe 1.mov Tahoe 3.mov Tahoe Project File

Tahoe 2.mov Tahoe 4.mov

./Picnic Movie 2:

Icon? Media Picnic Movie 2 Project
```

./Picnic Movie 2/Media:

Picnic Movie 1 Picnic Movie 3 Picnic Movie 5

Picnic Movie 2 Picnic Movie 4 Picnic Movie 6

In other words, you've got two subdirectories here, called Old Tahoe Footage 2 and Picnic Movie 2—which itself contains a Media directory.



As you can tell by the *cal* and *ls* examples, Unix commands are very short. They're often just two-letter commands, and an impressive number of those use *alternate hands* (*ls, cp, rm,* and so on).

The reason has partly to do with conserving the limited memory of early computers and partly to do with efficiency: most programmers would just as soon type as little as possible to get things done. User-friendly it ain't, but as you type these commands repeatedly over the months, you'll eventually be grateful for the keystroke savings.

### 15.2.3 cd (change directory, or "Let me see another folder")

Now you know how to find out what directory you're in, and how to see what's in it, all without double-clicking any icons. That's great information, but it's just information. How do you *do* something in your command-line Finder—like switching to a different directory?

To change your working directory, use the *cd* command, followed by the path of the directory you want to switch to. Want to see what's in the Movies directory of your home directory? Type *cd* /*Users/chris/Movies* and press Enter. The \$ prompt shows you what it considers to be the directory you're in now (the new working directory). If you perform an *Is* command at this point, Terminal will show you the contents of your Movies directory.

That's a lot of typing, of course. Fortunately, instead of typing out that whole path (the *absolute* path, as it's called), you can simply specify which directory you want to see *relative* to the directory you're already in.

For example, if your Home folder is the working directory, the relative pathname of the Trailers directory inside the Movies directory would be *Movies/Trailers*. That's a lot shorter than typing out the full, absolute pathname (/Users/chris/Movies/Trailers).

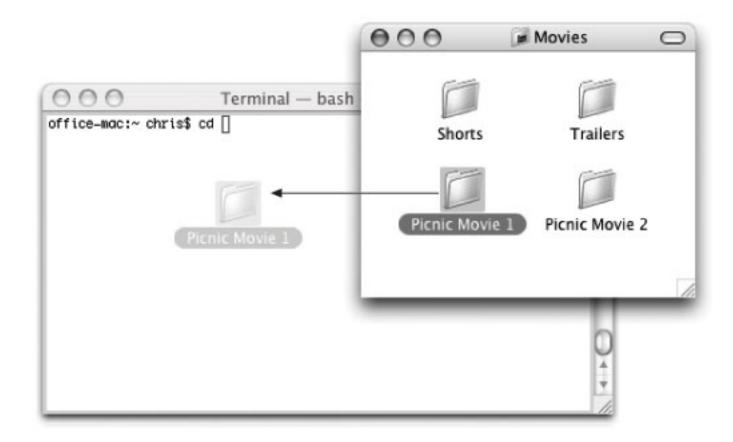
If your brain isn't already leaking from the stress, here's a summary of the three different ways you could switch from ~/ (your home directory) to ~/Movies:

- cd /Users/chris/Movies. That's the long way—the absolute pathname. It works no matter what your working directory is.
- **cd ~/Movies**. This, too, is an absolute pathname that you could type from anywhere. It relies on the ~ shorthand (which means "my home directory," unless you follow the ~ with another account name).
- cd Movies. This streamlined relative path exploits the fact that you're already in your home directory.



Actually, there's a fourth way to specify a directory that involves no typing at all: *dragging the icon* of the directory you want to specify directly into the Terminal window. <u>Figure 15-3</u> should make this clear.

This may be the quickest way of all to identify a directory or file you want to manipulate: don't type anything at all. When you drag icons directly from the desktop into a terminal window, the icon's pathname appears automatically at the insertion point. Terminal even adds backslashes to any special characters in these pathnames for you (a necessary step known as escaping the special characters; see Section 15.2.5.2).



# 15.2.4 . and .. (dot and dot-dot, or "Back me out")

So now you've burrowed into your Movies directory. How do you back out?

Sure, you could type out the full pathname of the directory that encloses Movies—if you had all afternoon. But there's a shortcut: you can type a period (.) or a double period (.) in any pathname. These shortcuts represent the *current directory* and its *parent directory* (the directory that contains it), respectively.

To go from your home directory up to /*Users*, for example, you could just type *cd* .. (that is, *cd* followed by a space and two periods).

You can also use the dot-dot shortcut repeatedly to climb multiple directories at once, like this: cd ../.., which would mean

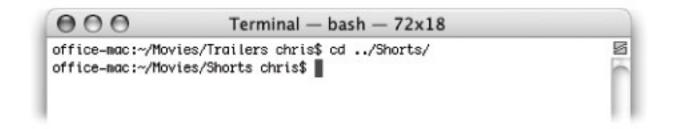
"switch the working directory to the directory two layers out." If you were in your Movies directory, ../.. would change the working directory to the Users directory.

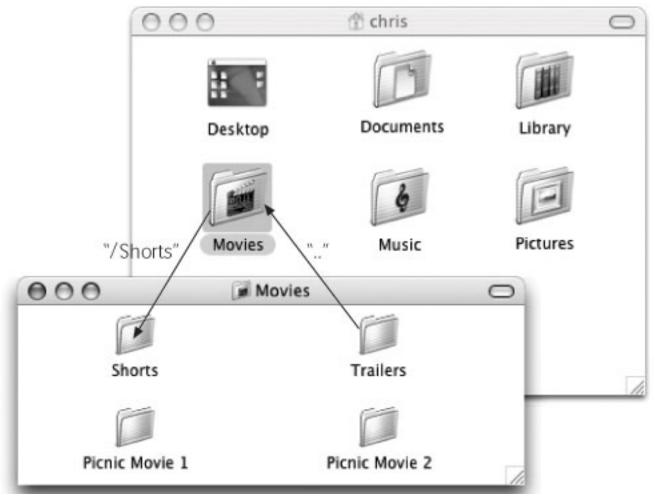
Another trick: You can mix the .. shortcut with actual directory names. For example, suppose your Movies directory contains two directories: Trailers and Shorts. Trailers is the current directory, but you want to switch to the Shorts directory. All you'd have to do is type *cd* ../Shorts, as illustrated in Figure 15-4.

#### 15.2.5 Keystroke-Saving Features

By now, you might be thinking that clicking icons would still be faster than doing all this typing. Here's where the typing shortcuts of the *bash* shell come in.

The double dot tells Unix to switch its attention to the Movies directory (walking upward through the directory tree); the rest tells it to walk down the Movies directory into the Shorts directory. Note that the prompt always identifies the current working directory.







### 15.2.5.1 Tab completion

You know how you can highlight a file in a Finder window by typing the first few characters of its name? The tab-completion feature works much the same way. Over time, it can save you miles of finger movement.

It kicks in whenever you're about to type a pathname. Start by typing the first letter or two of the path you want, and then press Tab. Terminal instantly fleshes out the rest of the directory's name. As shown in <u>Figure 15-5</u>, you can repeat this process to specify the next directory-name chunk of the path.

Some tips for tab completion:

- Capitalization counts.
- Terminal will add backslashes automatically if your directory names include spaces, \$ signs, or other special characters. But you still have to insert your own backslashes when you type the "hint" characters that tip off tab completion.
- If it can't find a match for what you typed, Terminal beeps.

If it finds several files or directories that match what you typed, Terminal beeps; when you press Tab again, terminal shows you a list of them. To specify the one you really wanted, type the next letter or two and then press Tab again.

Top: You type cd /U and then press Tab.

Second from top: Terminal finishes the directory name Users for you.

Third from top: You type c and then press Tab.

Bottom: Terminal finishes the home-directory name, chris. You can also use tab completion to specify file names, as when you type Is -I Movies/R and then press Tab; Terminal finishes the name Reviews.doc.



#### 15.2.5.2 Using the history

You may find yourself at some point needing to run a previously entered command, but dreading the prospect of re-entering the whole command. Retyping a command, however, is never necessary. Terminal (or, rather, the shell it's running) remembers the last 500 commands you entered. At any prompt, instead of typing, just press the up or down arrow keys to walk through the various commands in the shell's memory. They flicker by, one at a time, at the \$ prompt—right there on the same line.

#### 15.2.5.3 Wildcards

Wildcards are special characters that represent other characters—and they're huge timesavers.

The most popular wildcard is the asterisk (\*), which means "any text can go here." For example, to see a list of the files in the working directory that end with the letters *te*, you could type *ls \*te*. Terminal would show you files named Yosemite, BudLite, Brigitte, and so on—and hide all other files in the list.

Likewise, to see which files and directories begin with "Old," you could type *Is Old\** and press Enter. You'd be shown only the names of icons in the working directory called Old Yeller, Old Tahoe Footage, Olduvai Software, and so on.

If you add the asterisk before *and* after the search phrase, you'd find items with that phrase *anywhere* in their names. Typing *Is \*jo\** will show you the files named Mojo, johnson, Major Disaster, and so on.



Using \* by itself means "show me everything." To see a list of what's in a directory *and* in the directories *inside it* (as though you'd highlighted all the folders in a Finder list view and then pressed #-right arrow), just type *Is* \*.

#### 15.2.5.4 Directory switching

A hyphen (-) after the *cd* command means, "take me back to the previous working directory." For example, if you changed your working directory from ~/Movies/Movie 1 to ~/Documents/Letters, simply enter *cd* - to change back to ~/Movies/Movie 1. Use *cd* - a second time to return to ~/Documents/Letters. (Note the space between *cd* and the hyphen.)



If you're doing a lot of switching between directories, you'll probably find it quicker to open and switch between two Terminal windows, each with a different working directory.

# WORKAROUND WORKSHOP No Spaces Allowed

Terminal doesn't see a space as a space. It thinks that a space means, for example, "I've just typed a command, and what follows is an argument." If you want to see what's in your Short Films directory, therefore, don't bother typing *Is ~/Movies/Short Films*. You'll only get a "No such file or directory" error message. (See the space in the Short Films directory name?)

Similarly, % signs have a special meaning in Unix. If you try to type one in a pathname (because a directory name contains %, for example), you'll have nothing but trouble.

Fortunately, you can work around this quirk by using a third reserved, or special, character: the backslash (\). It says, "Ignore the special meaning of the next character—a space, for example. I'm not using it for some special Unix meaning. I'm using the following space as, well, a space." (At a Unix user-group meeting, you might hear someone say, "Use the slash character to escape the space character.")

The correct way to see what's in your Short Films directory, then, would be *Is ~/Movies /Short\ Films*. (Note how the backslash just before the space means, "This is just a space—keep it moving, folks.")

Of course, if you have to enter a lot of text with spaces, it'd be a real pain to type the backslash before every single one. Fortunately, instead of using backslashes, you can enclose the whole mess with single quotation marks. That is, instead of typing this:

cd /Users/chris/My\ Documents/Letters\ to\ finish/Letter\ to\ Craig.doc

...you could just type this:

cd '/Users/chris/My Documents/Letters to finish/Letter to Craig.doc'

It can get even more complicated. For example, what if there's a single quote *in* the path? (Answer: Protect *it* with double quotes.) Ah, but you have years of study ahead of you, grasshoppa.

#### 15.2.5.5 The ~ shortcut

You already know that the tilde (~) character is a shortcut to your home directory. But you can also use it as a shortcut to somebody else's home directory simply by tacking on that person's account name. For example, to change to Miho's home directory, use *cd* ~*Miho*.

#### 15.2.5.6 Special keys

The *bash* shell offers dozens of special keystroke shortcuts for navigation. You may recognize many of them as useful undocumented shortcuts that work in any Cocoa application (see <u>Section 4.8</u>), but even more are available (and useful) in Terminal:

Keystroke	Effect		
Ctrl-U	Erases the entire command line you're working on (to the insertion point's left).		
Ctrl-A	Moves the insertion point to the beginning of the line.		
Ctrl-E	Moves the insertion point to the end of the line.		
Ctrl-T	Transposes the previous two characters.		
Esc-F	Moves the insertion point to the beginning of the next word.		
Esc-B	Moves the insertion point to the beginning of the current word.		
Esc-Delete	Erases the previous word (defined as "anything that ends with a space, slash, or most other punctuation marks; periods and asterisks not included"). You have to hold down Esc as you press Delete; repeat for each word.		
Esc-D	Erases the word, or section of a word, following the insertion point.		
Esc-C	Capitalizes the letter following the insertion point.		
Esc-U	Changes the next word or word section to all uppercase letters.		
Esc-L	Changes the next word or word section to all lowercase letters.		



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# 15.3 Working with Files and Directories

The previous pages show you how to navigate your directories using Unix commands. Just perusing your directories isn't particularly productive, however. This section shows you how to *do* something with the files you see listed: copy, move, create, and delete directories and files.



You're entering Serious Power territory, where it's theoretically possible to delete a whole directory with a single typo. As a precaution, consider working through this section with administrator privileges turned off for your account (Section 11.2), so that you won't be able to change anything outside your home directory—or even create a new, test account just for this exercise.

## 15.3.1 cp (copy)

Using the Unix command *cp*, you can copy and rename a file in one move. (Try *that* in the Finder!)

The basic command goes like this: *cp path1 path2*, where the *path* placeholders represent the original file and the copy, respectively.

#### 15.3.1.1 Copying in place

To duplicate a file called Thesis.doc, you would type *cp Thesis.doc Thesis2.doc*. (That's just a space between the names.) You don't have to call the copy *Thesis2*—you could call it anything you like; the point is that you wind up with two identical files in the same directory with different names. Just remember to add a backslash before a space if you want to name the copy with two words (*Thesis\Backup*, for example).



If this command doesn't seem to work, remember that you must type the *full* names of the files you're moving—including their file name suffixes like .doc or .gif, which Mac OS X usually hides. Using the *Is* command before a copy may help you find out what the correct, full file names should be. Or you may just want to use the tab-completion feature, making Terminal type the whole name for you.

## 15.3.1.2 Copying and renaming

To copy the same file into, say, your Documents folder instead, just change the last phrase so that it specifies the path, like this: *cp Reviews.doc ~/Documents/Reviews2*. doc.



Note that *cp* replaces identically named files without warning. Use the *-i* flag (that is, *cp -i*) if you want to be warned before *cp* replaces a file like this.

#### 15.3.1.3 Copying without renaming

To copy something into another directory without changing its name, just use a pathname (without a file name) as the final phrase. So to copy Reviews.doc into your Documents folder, for example, you would type *cp Reviews.doc ~/Documents*.



You can use the "." directory shortcut (which stands for the current working directory) to copy files from another directory *into* the working directory, like this: \$ cp ~/Documents/Reviews. doc . (notice the space and the period after Reviews.doc).

# FREQUENTLY ASKED QUESTION The Slash and the Colon

OK, I'm so confused. You say that slashes denote nested directories. But in Mac OS 9, I always read that colons (:) denote the Mac's internal folder notation, and that's why I can't use colons in the names of my icons. What's the story?

At the desktop, the Mac still uses colons as path separators instead of the slash. Therefore, you *are* allowed to use slashes in file names in the Finder, but not a colon. Conversely, in Terminal, you can use colons in file names but not slashes!

Behind the scenes, Mac OS X automatically converts one form of punctuation to the other, as necessary. For example, a file named *Letter 6/21/2002* in the Finder shows up as *Letter 6:21:2002* in Terminal. Likewise, a directory named *Attn: Jon* in Terminal appears with the name *Attn/ Jon* in the Finder. Weird—and fun!

## 15.3.1.4 Multiple files

You can even move several files or directories at once. Where you'd normally specify the source file, just list their pathnames separated by spaces, as shown in Figure 15-6.

The first argument of this command lists two different files. The final clause always specifies where you want all of these files moved to (in this case, the FinishedMovies directory).



You can also use the \* wildcard to copy several files at once. For example, suppose you've got these files in your iMovie Projects directory: Tahoe 1.mov, Tahoe 2.mov, Tahoe 3.mov, Tahoe 4.mov, Script.doc, and Tahoe Project File. Now suppose you want to copy *only* the QuickTime movies into a directory called FinishedMovies. All you'd have to do is type *cp* \* *mov ../FinishedMovies* and press Enter; Mac OS X instantly performs the copy.

If you wanted to copy *all* of those files (not just the movies) to another directory, you'd use the \* by itself, like this: *cp* \* ../ *Finished Movies*.

### WORKAROUND WORKSHOP

When Forks Collide: CpMac and MvMac

If you could inspect certain traditional Macintosh files with the software equivalent of a CAT scanner, you'd see that its single icon might actually house two chunks of computer code, which the geeks call the *data fork* and the *resource fork*. (Data refers to, well, data—stuff you type, or the programming code that makes up an application. Resources are programming components like icons, windows, toolbars, and other pieces of your applications.)

This fork business is news to Unix, however. When you use the *cp* command (or *mv*, described later in this chapter), Unix copies or moves only the data fork—the one it knows about. The effect on the copied or moved file could be minor or disastrous, depending on the type of file. Many non-Cocoa programs (AppleWorks, Word, and so on), for example, will be rendered useless, having lost many of their essential resources. Many will also be given blank icons, having lost their *type* and *creator codes* (Section 4.5.1).

To address this problem, Apple created command line applications called *CpMac* and *MvMac*, which are just like *cp* and *mv* except that they copy or move all forks of any file they copy. The standard Mac OS X installation doesn't include these commands, however; they're available only if you install the Developer Tools (see Section 9.25.23).

Unfortunately, because these are add-on Unix programs, you have to refer to them using their entire path notations. A typical command might therefore look like this: /Developer/ Tools/CpMac -r MacWrite\ Folder ~/ Applications.

You can replace *cp* with *CpMac* (and *mv* with *MvMac*) in any of the examples in this chapter. There are only two minor differences. First, *CpMac* uses a lowercwhat is the nokie sitease *r* for its recursive copying option instead of a capital R. (*MvMac* doesn't require any flag; it always moves everything inside a folder.) Second, whereas you can specify that *cp* and *mv* warn you before overwriting files, CpMac and MvMac provide no warnings before overwriting existing files of the same name.

Unfortunately, if the iMovie Projects directory contained other *directories* and not just files, that command would produce an error message; the Unix *cp* command doesn't copy directories within directories unless you explicitly tell it to, using the *-R* option flag. Here's the finished command that copies everything in the current directory— both files and directories—into FinishedMovies: *cp -R* \* ../FinishedMovies.

Here's one more example: a command that copies everything (files and directories) with *Tahoe* in its name into someone else's Drop Box directory: *cp -R \*Tahoe\* ~miho/ Public/Drop\ Box.* 

#### 15.3.2 mv: Moving and Renaming Files and Directories

Now that you know how to copy files, you may want to move or rename them. To do so, you use the Unix command *mv* almost exactly the same way you'd use *cp* (except that it always moves directories inside of directories you're moving, so you don't have to type *-R*).

The syntax looks like this: mv oldname newname. For example, to change your Movies directory's name to Films, you'd type mv Movies Films. You can rename both files and directories this way.

#### 15.3.2.1 Moving files and directories

To rename a file and move it to a different directory simultaneously, just replace the last portion of the command with a pathname. To move the Tahoe1 movie file into your Documents directory—and rename it LakeTahoe at the same time—type this: mv Tahoe1.mov ~/Documents/LakeTahoe.mov.

All the usual shortcuts apply, including the wildcard. Here's how you'd move everything containing the word Tahoe in your working directory (files and directories) into your Documents directory: mv \*Tahoe\* ~/Documents.

#### 15.3.2.2 Option flags

You can follow the *mv* command with any of these options:

- -i. Makes Terminal ask your permission before replacing a file with one of the same name.
- -f. Overwrites like-named files without asking you first. (Actually, this is how *mv* works if you don't specify otherwise.)
- -n. Doesn't overwrite like-named files; just skips them without prompting.
- -v. Displays *verbose* (fully explained) explanations on the screen, letting you know exactly what got moved.



If you use a combination of options that appear to contradict each other—like the -f, -i, and -n options— the last option (farthest to the right) wins.

By the way, the *mv* command never replaces a *directory* with an identically named *file*. It will copy everything else you've asked for, but it skips files that would otherwise wipe out folders.

## 15.3.3 mkdir: Creating New Directories

In the Finder, you make a new folder by choosing File New Folder. In Terminal, you create one using the *mkdir* command (for *make directory*).

Follow the command with the name you want to give the new directory, like this: *mkdir 'Early iMovie Attempts'* (the single quotes in this example let you avoid having to precede each space with a backslash).

The *mkdir* command creates the new directory in the current working directory, although you can just as easily create it anywhere else. Just add the pathname to your argument. To make a new directory in your Documents

directory, for example, type mkdir '~/Documents/Finished/Early iMovie Attempts'.



If there *is* no directory called Finished in your Documents directory, you'll just get an error message—unless you use the *-p* option, which creates as many new directories as necessary to match your command. For example, *mkdir -p '~/Documents/Finished/Early iMovie Attempts'* would create *both* a Finished directory and an Early iMovie Attempts directory inside it.

## 15.3.4 touch: Creating Empty Files

To create a new, empty file, type *touch filename*. For example, to create the file *practice.txt* in your working directory, use *touch practice.txt*.

And why would you bother? For the moment, you'd use such new, empty files primarily as targets for practicing the next command.

## 15.3.5 rm: Removing Files and Directories

Unix provides an extremely efficient way to trash files and directories. With a single command, *rm*, you can delete any file or directory—or *all of those* that you're allowed to access with your account type (Admin or Standard).

The dangers of this setup should be obvious, especially in light of the fact that *deletions are immediate* in Unix. There is no Undo, no Empty Trash command, no "Are you sure?" dialog box. In Unix, all sales are final.

The command *rm* stands for "remove," but could also stand for "respect me." Pause for a moment whenever you're about to invoke it. For the purpose of this introduction to *rm*, double-check that administration privileges are indeed turned off for your account.

To remove a directory and everything in it, add the -r flag, like this: rm -r Practice- Folder.

If you're feeling particularly powerful (and you like taking risks), you can even use wildcards with the *rm* command. Now, many experienced Unix users make it a rule to *never* userm *rm* with wildcards while logged in as an administrator, because one false keystroke can wipe out *everything* in a directory. But here, for study purposes only, is the atomic bomb of command lines, the one that deletes *everything* in the working directory: *rm* -*r*\*.



Be doubly cautious when using wildcards in *rm* command lines, and triply cautious when using them while logged in as an administrator.

Just after the letters rm, you can insert options like these:

- -d deletes any empty directories it finds, in addition to files. (Otherwise, empty directories will trigger an error message.)
- -i (for interactive) makes the Mac ask you for confirmation before nuking each file or directory.

#### 15.3.6 srm: Secure Removal

Behind the scenes, the Finder's new Secure Empty Trash function (Section 2.7.3) actually triggers Unix's *srm* (secure removal) tool. Of course, you can also use *srm* directly from the command line. One benefit: in Terminal, you can control just *how* thoroughly Mac OS X scrubs the hard drive spot where the deleted file once sat.

The *srm* utility lets you specify three general levels of deletion:

- **Simple.** The **-s** flag tells *srm* to perform a *simple* secure removal, overwriting the deleted material with random data just once. It's faster than the Finder's Secure Empty Trash, but not as thorough.
- **Medium.** The **-m** flag designates *medium* level, which overwrites the unwanted data seven times with various types of random and not-so-random data. This is what you get when you use the Finder's Secure Empty Trash command, and it's thorough enough to meet U.S. Department of Defense security requirements.
- **Strong.** If you don't specify either -s or -m, *srm* will perform a *strong* secure removal. That entails recording over the spot where the deleted file sat *35 times*, each time using a different string of data as specified by the Gutmann algorithm. (And what is the Gutmann algorithm? A series of data patterns that make recovery of an erased file almost impossible. More than you ever wanted to know is at <a href="www.cs.auckland.ac.nz/~pgut001/pubs/secure\_del.html">www.cs.auckland.ac.nz/~pgut001/pubs/secure\_del.html</a>.)

The bottom line: To make sure no one ever, ever reads that poem you typed out for your cat one lonely, bleary-eyed evening, type *srm* "*My Twinkie.doc*". That will be the end of it, and neither the CIA nor Norton Utilities will ever know what it was.

## 15.3.7 echo: The Safety Net

You can make *rm* or *srm* less risky by prefacing it with the *echo* command. It makes Terminal type out the command a second time, this time with a handy list of exactly what you're about to obliterate. If you've used wildcards, you'll see the names of the files that will be affected by the \* character. If you type *echo rm -r* \*, for example (which, without the *echo* part, would normally mean "delete everything in this directory"), you might see a list like this:

rm -r Reviews.doc Tahoe Footage Picnic Movie Contract.doc

Once you've reviewed the list and approved what Terminal is about to do, *then* you can retype the command without the *echo* portion.

#### NOTE

The *rm* command doesn't work on file or directory names that begin with a hyphen (-). To delete these items from your working directory, preface their names with a dot slash (./), like this: *rm* ./-*Recipes.doc*.



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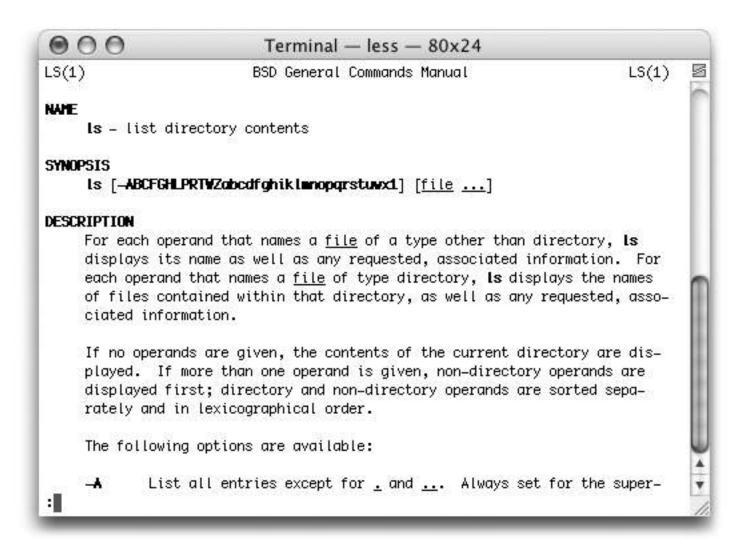
## 15.4 Online Help

Mac OS X comes with more than 900 Unix programs like the ones described in this chapter. How are you supposed to learn what they all do?

Fortunately, almost every Unix program comes with its own little help file. It may not appear within an elegant, brushed-metal Panther window—in fact, it's pretty darned plain—but it offers much more material than the regular Mac Help Center.

These help files are called user-manual pages, or *manpages*, which hold descriptions of virtually every command and program available. Mac OS X, in fact, comes with manpages on about 5,500 topics—almost 10,000 printed pages' worth.

To move on to the next man screen, press the Space bar. To go back, press the up-arrow key or the B key. To close the manual and return to a prompt, press Q. You can also search for a certain phrase by typing a / (to produce the "find what?" prompt); thereafter, type n to find the next occurrence.



Alas, manpages rarely have the clarity of writing or the learner-focused approach you'll find in the Mac Help Center. They're generally terse, just-the-facts descriptions. In fact, you'll probably find yourself needing to reread certain sections again and

again. The information they contain, however, is invaluable to new and experienced Unix fans alike, and the effort spent mining them is usually worthwhile.

### **15.4.1 Using man**

To access the manpage for a given command, type *man* followed by the name of the command you're researching. For example, to view the manpage for the *ls* command, enter: *man ls*.



The -k option flag lets you search by keyword. For example, man -k appletalk produces a list of all manpages that refer to AppleTalk, whereupon you can pick one of the names in the list and man that page name.

Now the manual appears, one screen at a time, as shown in Figure 15-7.

A typical manpage begins with these sections:

- Name. The name and a brief definition of the command.
- **Synopsis.** Presents the syntax of the command, including all possible options and arguments, in a concise formula. For example, the synopsis for *du* (disk usage) is as follows: *du* [-H | -L | -P] [-I mask] [-a | -s | -d depth] [-c] [-h | -k] [-x] [file ...].

This shows all the flags available for the *du* command and how to use them.

Brackets ([]) surround the optional arguments. (All of the arguments for du are optional.)

Vertical bars called *pipes* (|) indicate that you can use only one item (of the group separated by pipes) at a time. For example, when choosing options to use with *du*, you can use *either* -H, -L, or -P—not two or all three at once.

The word *file* in the synopsis means "type a pathname here." The ellipsis (...) following it indicates that you're allowed to type more than one pathname.

Description. Explains in more detail what the command does and how it works. Often, the description includes the
complete list of that command's option flags.

For more information on using man, view its own manpage by entering—what else?—man man.



The free program ManOpen, available for download at <u>www.missingmanuals.com</u> is a Cocoa manualpages reader that provides a nice looking, easier-to-control window for reading manpages.

## 15.4.2 Other Online Help

Sometimes Terminal shoves a little bit of user-manual right under your nose—when it thinks you're having trouble. For example, if you use the *mkdir* command without specifying a pathname, *mkdir* interrupts the proceedings by displaying its own synopsis as a friendly reminder (subtext: "Um, this is how you're *supposed* to use me"), like this: *usage: mkdir [-pv] [-m mode] directory...* 







#### 15.5 Terminal's Window Preferences

Like most applications, Terminal has a Preferences command. You use it, among other things, to switch from *bash* to a different shell. (Turn on "Execute this command" and then type */bin/bash* for *bash*, or */bin/csh* for *tsch*. Then open a new Terminal window.)

However, you'll access most of Terminal's settings from the Terminal Window Settings command instead; the Terminal Inspector window opens. If you spend endless hours staring at the Terminal screen, as most Unix junkies do, you'll eventually be grateful for the preference settings that let you control how Terminal looks and acts.

Most of the options here are self-explanatory, but here are a few worth noting.

#### 15.5.1 Window Settings

When you choose Terminal Window Settings, the Terminal Inspector window appears (Figure 15-8).



Changes you make in the Terminal Inspector window affect only the active window, so you can change each open window independently. Clicking Use Settings as Default, on the other hand, applies the changes to the active window and all subsequent Terminal windows you open.

# POWER USERS' CLINIC term Files

Once you've got a few windows open—your main Terminal window, a couple of *man* (user-manual) windows, a *top* window showing all the running programs, and so on—you may get dizzy just looking at the seas of black-on-white type. One easy solution is to customize the colors, fonts, and positions of your favorite windows, and then make Terminal take a snapshot of that configuration.

A Terminal .term file stores the size, location, and visible/ invisible status of all windows that are open when you create the .term file. It also stores each window's preference settings, including its Font, Title Bar, and Colors settings. (It doesn't store any text in these windows.) Once you've saved a startup file, you can open it again anytime to replicate your saved window layout in Terminal.

To create a .term file, choose Terminal Window Settings. Set up your preferences the way you like *them*, and then choose File Use Settings as Defaults. Then open and arrange Terminal windows the way you like *them*, using the Terminal Inspector, if you like, to make different settings for different windows.

Next, choose File Save. Use the pop-up menu in the Save dialog box to choose whether you want to save the settings for only the Main window (the active window) or for all windows. In this same dialog box, you can also choose to have the saved .term file opened when Terminal launches. (If so, the settings stored with the .term file override any settings you've made in the Terminal Inspector.)

You can even include a command line for Terminal to run when this .term file is opened. Just click "Execute this command," type the command into the box, and, if you want the Terminal window to stay opened when the command's done, also turn on "Execute command in a shell."

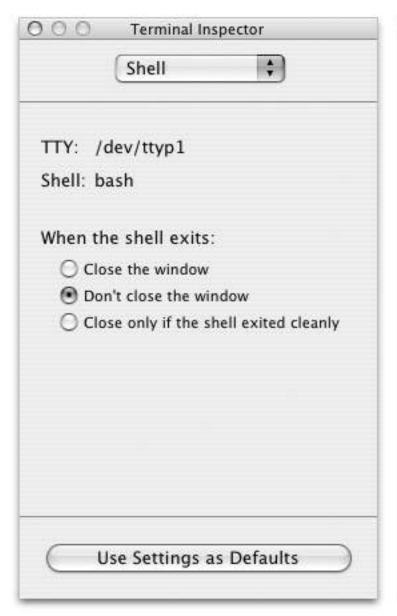
The best place to store .term files is in your home directory's Library/Application Support/Terminal folder. (You may have to create the Terminal directory yourself.) Files saved there appear automatically in the File Library menu for quick access.

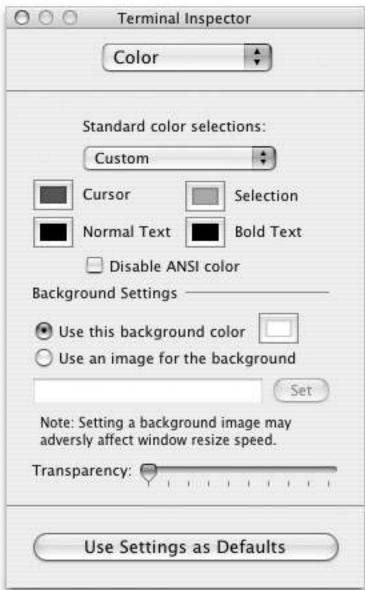
Using the pop-up menu at the top, you can choose any of the following panels:

#### 15.5.1.1 Shell

When you're finished fooling around in Terminal, you end your session either by closing the window, or more properly, by typing *exit* (or pressing Control-D) at the prompt. The "When the Shell Exits" setting determines what happens when you do that.

To access the Terminal Inspector, choose Terminal Window Settings (or press ##-I). This window is like a Preferences dialog box with many panes, which you navigate by choosing from the pop-up menu at the top. Two of its panels are shown here.





#### 15.5.1.2 Processes

Shell commands can take some time to complete. If you close a Terminal window before its work is finished, you cancel the process and lose your work. The options here let you configure Terminal to monitor such active processes, and warn you if closing the window or quitting will sacrifice any work.

#### 15.5.1.3 Emulation

These options pertain to Terminal's impersonation of a traditional, metal-and-silicon terminal. Among the most useful options:

- Option click to position cursor. This selection lets you move your insertion point on the command line by Optionclicking.
- Visual Bell. Terminal generally beeps to let you know when you've typed something it can't understand. If you're keeping your roommates awake with constant beeping, then select Visual Bell here, which quietly flashes the Terminal window instead

#### 15.5.1.4 Buffer

As your command line activity fills the Terminal window with text, older lines at top disappear from view. So that you can get back to these previous lines for viewing, copying, or printing, Terminal offers a *Scrollback Buffer*, which sets aside a certain amount of memory to store previous lines and adds a scroll bar so you can access them.



Although it may be tempting to set the buffer to *Unlimited*, restrain yourself; you'll only increase Terminal's memory use. 10,000 lines should be plenty.

## 15.5.1.5 Display

Here's where you control what the insertion point looks like, along with settings like these:

- **Text.** No matter what font you choose for your future Terminal sessions, note that characters in successive rows of text will line up with each other, monospaced as though they're all Monaco or Courier.
- Anti-aliasing. Select here to turn on font smoothing if you find that easier to read.

#### 15.5.1.6 Color

People who spend long hours in Terminal revel in its ability to serve as a software chameleon, changing its look to suit offbeat tastes (and sore eyes). For example, you can specify the colors of the type and background by selecting a predetermined set from the "Standard color selections" pop-up menu. Or, if you're truly discriminating, you can dream up your own color schemes by clicking the color swatches and making selections from the Color Picker (Section 4.10.4).

If you're truly an extremist, you can click "Use an image for the background" (and then the Set button) to choose a picture file to fill your background instead.



Actually, there's a more entertaining way to choose a background color. Choose Font Show Colors; in the Colors dialog box, choose the color you want. Finally, drag the color rectangle at top into any empty area of the Terminal window (or into one of the "color wells" in the Terminal Inspector window). Boom! It changes color to match.

You can also make your Terminal windows translucent, a sure way to make novices fall to their knees in awe. Just drag the slider to the right and watch the background of the active window nearly disappear, like the Cheshire Cat, leaving only text.

Is this really useful? You'd have to do quite a bit of stretching to imagine how. Still, the effect is really neat, especially when you consider the drop shadows and other lighting effects that are still visible at the window edges.



This effect looks especially cool if you make the Terminal window black with white or yellow writing.

#### 15.5.1.7 Window

The Dimensions boxes affect the width in characters (columns) and height in lines (rows) of new Terminal windows. (Of course, you can always resize an existing window by dragging its lower-right corner. As you drag, the title bar displays the window's current dimensions.)

In the Title section, turn on the elements that you'd like the current Terminal window to display in the title bar. Remember, your preferences can be different for each Terminal window; you might therefore want the windows' title bars to identify the differences.

#### 15.5.1.8 **Keyboard**

These controls let you choose keyboard shortcuts that help you navigate your Terminal window, or that send strings of canned text to the shell. As your Unix prowess grows, these shortcuts will become more useful.

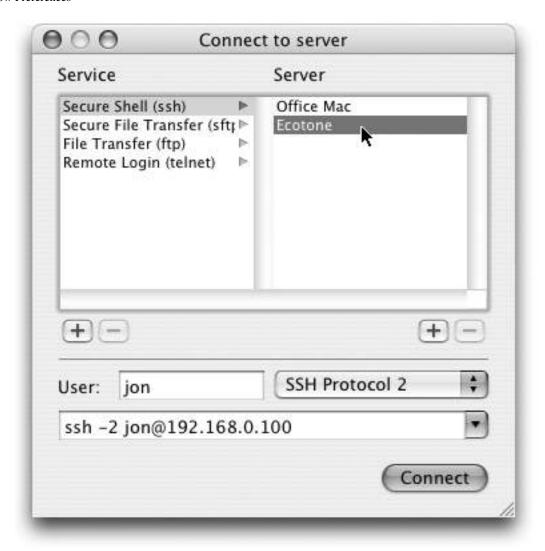
#### 15.5.2 Connect to Server

When you use Terminal to connect to other computers across a network—a common Terminal task—you use commands like ssh and ftp in conjunction with another computer's IP address. For example, you might type ssh 192.168.43.76.

The trouble is, these IP addresses are hard to remember—and they may actually change over time. In Panther, though, Apple has brought the magic of Rendezvous—a networking feature in which Macs announce their presence to the network, using their plain-English names—to Terminal. Now you can browse other Panther computers on your network just as you'd browse them in the Finder (Chapter 12).

To get started, choose File Connect to Server. Continue as shown in Figure 15-9.

From the left side, choose the service you want; from the right, you can choose from a list of Panther machines whose Remote Login and FTP checkboxes are turned on in the Sharing panel of System Preferences. Type your account name into the User box. As you adjust the connection options, the box at the bottom shows the Unix command that you're building. Click Connect to open a new Terminal window and send that command inside it.





Even if the remote machine isn't running Panther, you can still add its address to the Server list manually by clicking the + button below it. Likewise, all command lines entered in the bottom field get added to the pop-up menu beside it, allowing you to quickly reconnect without having to use the browse list at all.





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## 15.6 Terminal Tips and Tricks

After you've used Terminal awhile, you may feel ready for a few of these power tips.

### 15.6.1 Switching Windows

You can switch among your various Terminal windows by pressing **#**-1, **#**-2, and so on (up to **#**-9). You'll be able to identify the windows easily if you choose to include the Command key in the title bars (use the Window section of the Terminal Inspector).

#### 15.6.2 Default .term File

After you've changed Terminal's preferences, it's not easy to get the factory settings back—unless you first save them in a . term file.

If you've already made changes to your Terminal's preferences, quit Terminal and temporarily remove its *property list* (preferences) file, called com.apple.Terminal. plist, from your Home folder Library Preferences folder. Drag it out of the Finder window to the desktop, for example.

Next, reopen Terminal, where you'll find that all original settings have been restored. Save this window as a .term file named Default (see Section 15.5). Finally, quit Terminal and replace the newly created property list file (com.apple.Terminal. plist) with the one you removed initially.

When you next open Terminal, you'll have your old preferences back—and a new Default item in your Library menu that will always open a factory-fresh Terminal window. (You may even consider *locking* the Default startup file, by opening its Get Info dialog box in the Finder and turning on the Locked checkbox.)



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#### 15.7 Double-Clickable Unix Tools

Most people are used to thinking of Unix applications as programs you run from within Terminal. Many, though, appear in the Finder as regular old icons—and in Panther, you can open them by double-clicking, just as you would a traditional Mac OS X program. This trick isn't very useful for commands that require flags. But for some, like *cal*, clicking provides a quick way to run the program, especially if you keep it in your Dock.

To double-click a Unix program, though, you first have to *find* it—and that may not be easy. Mac OS X's Unix directory structure is labyrinthine indeed.

But why not ask Terminal where the program is? You can do exactly that using the *which* command: *which* cal, for example. Terminal responds with /usr/bin/cal, telling you that cal resides in the /usr/bin directory.

To get there, use the *open* command in Terminal, like this: *open /usr/bin*. A Finder window opens revealing the *cal* icon. Drag the icon to the right side of the Dock.

From now on, when you click that Dock icon, a new Terminal window opens, automatically displaying this month's calendar. You've shaved several precious seconds off the time it would have taken you to open iCal.



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# **Chapter 16. Fun with Unix**

<u>Chapter 15</u> shows you the basics of using the command line instead of the Finder for getting around and manipulating files and directories. But nobody would use Terminal if all it could do was move files around. Terminal, like Unix, is much more powerful than that.

This chapter, which assumes that you're already familiar with the Unix commands introduced in <u>Chapter 15</u>, offers guided tutorials for performing more specialized tasks—some of which you *can't* do in the Finder. These procedures, and the commands you need to perform them, are also starting points for further learning.



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## **16.1 Changing Permissions with Terminal**

Permissions is a largely invisible, but hugely important, Mac OS X and Unix feature. The behind-the-scenes permissions setting for a file or folder determines whether or not you're allowed to open it, change it, or delete it. Permissions are the cornerstone of several important Mac OS X features, including the separation of user accounts and the relative invulnerability of the operating system itself.

You can get a good glimpse at the permissions settings of a file or folder in the Get Info box; see Section 12.2.10 for a discussion. But even there, you're not seeing *all* of the permission settings Unix provides, and every now and then, you might want to. Suppose, for example, that you're a teacher in charge of a computer lab containing 25 Macs. On each computer, you've created Standard accounts (see Chapter 11) for five students each, for a total of 125 student accounts.

Soon after the students start using the lab, you notice a bit more giggling and frantic typing then you'd expect from students researching Depression-era economics. Younonchalantly stroll to the end of the room and do a quick about-face at one of the desks. Aha—iChat! Horribly depressed by the comments you read there regarding your fashion sense, you vow to keep students from using that application ever again.

You have several options:

- **Delete iChat from the Applications folder.** Unfortunately, the Computer Club meets in your classroom after school, and its members routinely use iChat to communicate. (Talking out loud, after all, is so twentieth century.)
- **Use Account Limitations.** You could open System Preferences, click Accounts, click Limitations, turn on Some Limits, and turn off the iChat checkbox. Repeat 124 times.
- **Use Terminal.** Go to a Mac, fire up Terminal, and type a quick command to turn off iChat's *execute permissions* for Standard account holders. (This process won't affect the Computer Club, because its members all have Administrator accounts.) Repeat only 24 times.

In fact, if walking to each machine is too much work, you could even use the *ssh* technique described in <u>Chapter 21</u> to run the command *remotely* from a single machine, while seated in the comfort of your own teacher's chair.

It'll take several pages to work through this example. But in the process, you'll learn an amazing amount about Terminal and the Unix underpinnings of Mac OS X.

## 16.1.1 Looking at Permissions

In general, when you double-click a file icon in the Finder, it opens either as a program or opens into a program (if it's a document).

But as noted in <u>Section 4.2</u>, most Mac OS X application icons in the Finder are really folders *posing* as single files. Inside the folder, or package, are all the files that application depends on to run, including the *actual* application file itself, the one that opens when you double-click the package icon. If you turn off the *execute permission* for that inner nugget, you prevent it from running—and, as in this classroom example, you can turn it off only for certain kinds of account holders.

To inspect the permissions for iChat, open the Applications folder. Control-click the iChat icon. From the contextual menu that appears, choose Show Package Contents. When you do, a new Finder window opens, revealing the contents of the iChat application package.

Open the Contents MacOS folder, and inside you'll find the individual iChat program file. (Nobody would ever bother opening iChat by double-clicking *this* icon, but it's possible.) You *could* inspect its permissions by highlighting the inner iChat icon and then choosing File Get Info. Expand the Ownership and Permissions section, and then the Details section.

Now try the same thing the Unix way. To view the ownership and permissions information within Terminal, use the *Is* command like this:

ls -l /Applications/iChat.app/Contents/MacOS

The -/ flag produces a long list—an expanded display showing extra information about each item in the directory, in this case its single iChat file.

Terminal's response is something like this:

total 592

-rwxrwxr-x 1 root admin 302080 27 Sep 03:04 iChat

Thanks to the *-l* option, the first line displays the grand total size of all the loose files in the directory: 592. (It's measured in 512-byte blocks. If you also included the *-k* flag, you would see this measurement in kilobytes.)

Next you see the name of the one inhabitant of the MacOS directory: *iChat*. (If there were more, you would see each item on its own line.)

But what on earth is *-rwxrwxr-x?* Is Terminal having a meltdown?

Not at all; you're just seeing more Unix shorthand, listed in what are supposed to be helpful columns. <u>Figure 16-3</u> breaks down the meaning of each clump of text.

- **Type.** The first character of the line indicates the *file type*—usually **d** (a directory), **I** (a *symbolic link*—the Unix version of an alias), or, as in this case, a **hyphen** (a file).
- **File Mode.** Rammed together with the type (like this: *rwxrwxr-x*) is a string of nine characters. It indicates, in a coded format, the actual access permissions for that item, as described in the next section.
- Owner. Terminal's response also identifies the account name of whoever owns this file or directory, which is usually whoever created it. Remember that *root* means that Mac OS X itself owns it. That's why even administrators generally aren't allowed to delete directories that bear "root" ownership.

#### **NOTE**

In the Finder's Get Info windows, you may see ownership listed as *System*. That's Apple's kinder, gentler term for *root*.

• **Group.** After the owner comes the name of the *group* that owns this file or directory. "Wheel," as in "big wheel," indicates the group with the highest powers (administrators are not part of this group); the "admin" group contains all administrators.

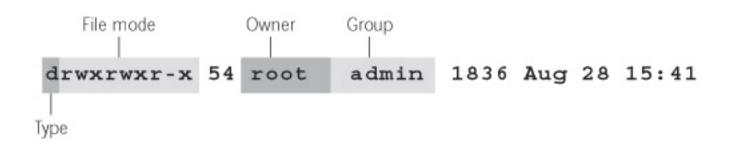
#### NOTE

If you inspect the icons in a Home directory, you'll find that they belong to a group that's named after your account. When you created an account named *chris*, Mac OS X created a *chris* group (with only one member), and makes every new icon part of it.

Everything in Chris's Home directory, then, has *chris* as both owner and group, which ensures greater security than previous versions of Mac OS X. (In those versions, everyone belonged to a common group called *staff*, and everyone's files were owned by that group. In fact, if you've upgraded from Jaguar, you'll find that your old Home-folder icons are still owned by the *staff* group.)

• **Pathname.** At the end of the line (following the file's size and date) comes the path of this file or directory, relative to the listed directory.

Here's one magnified line of what the Is -al command produces. The parts you care about are in gray.



#### 16.1.2 File-Mode Code

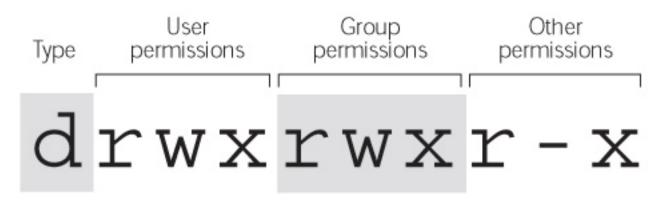
To understand the coded nine-character file mode section, you need a good grasp of the topics covered in <u>Chapter 11</u>. There you'll find out that as you create new files and directories, you can specify who else is allowed to see or make changes to them. In fact, you can specify these permissions for three different categories of people: the owner (usually yourself), your group (<u>Section 12.4</u>), and everyone else.

The file mode column is made of three subcolumns (<u>Figure 16-2</u>), which correspond to those same three categories of people: *owner*, *group*, and *everybody else*.

Within each sequence, three characters describe the *read (r), write (w),* and *execute (x)* permissions that this person or group has to this file or directory (more on these concepts in a moment). A hyphen (-) means, "Nope, this person isn't allowed this kind of access." In <u>Figure 16-2</u>, you can see that, if you were the owner of this file, you could do everything you want to it—because there are no hyphens.

If you look very closely and move your nose right up against the screen, you'll see that the filemode column isn't just a string of random letters—it's three distinct sets of information that tell

#### you who's allowed to do what.



There's an x in all other columns too, meaning that *anyone* can execute (launch) this file. Since there's also a w in both the owner and group columns, those user categories could, in theory, even make changes to the file (although there would never be a reason to do so).

The three forms of access—read, write, and execute—have slightly different meanings when applied to files and directories:

- Read access to a *file* means that someone can open and read it. (In the case of a program like iChat, the system needs to "read" the file on your behalf in order to run it.) Read access to a *directory* (folder), on the other hand, just means that someone using Terminal can see a list of its contents using a command like *ls*.
- Write access to a *file* means that someone can modify and save changes to it. Write access to a *directory* means that someone can add, remove, and rename any item the folder contains (but not necessarily the items within its subdirectories).

#### NOTE

Turning off write access to a certain file doesn't protect it from deletion. As long as write access is turned on for the *folder it's in*, the file is still trashable.

To protect a certain file from deletion, in other words, you must also worry about the access settings of the *folder* that encloses it.

• **Execute access**, when applied to an application, means that people can run that particular program. (In fact, Unix distinguishes applications from ordinary files by checking the status of this setting.)

Of course, you can't very well "run" a directory. If this *x* bit is turned on for a directory, it's called the *searchable* bit (as opposed to the *execute access* bit), and it means that you can make it the working directory, using the *cd* command. You still can't see what's in the folder if you don't also have read permissions, but you're welcome to read or copy a file in it as long as you know its full pathname.

## **16.1.3 Group Detective Work**

Back to the task of keeping iChat from launching. The *x* in every user category tells you that anyone can run this program. Your mission, should you choose to accept it, is to change these settings so that one class of account holder can run iChat (Admin), but not another (Standard).

As you've seen, every file's set of permissions identifies both an owner and a group. The group that owns the iChat file is *admin*. As you would expect, the Admin class of users is part of the *admin* group, so Administrators and anyone else in the *admin* group will have no trouble running the program.

You just have to make sure that no other account holders—Standard ones—are also part of the *admin* group. That's easy enough to find out.

To find out what Unix groups you belong to, type groups in Terminal and press Enter. On the next line, Terminal types out a list of the groups that include your account; if you have an Administrator account, it's probably admin, appserverusr, appserveradm, plus the one named for your account (chris, for example).

But you want to find what groups incorporate *Standard* account holders. To find out what groups someone else's account belongs to, type *groups robin* (or whatever the account name is). You'll probably see that Robin belongs *only* to the Robin group. And, in fact, you would find this to be true for all Standard account holders.

All right then: The *admin* group contains only Admin users. As far as permissions are concerned, then, Standard account holders fall into the *everyone else* category.

You just need to turn off iChat's execute permissions for *everyone else*, then, to complete your task. Doing so will only allow the file's owner (root) and members of its group (admin) to execute the file (that is, to open the program). All other account holders—that is, Standard account holders—will be out of luck. They'll actually have to pay attention in class.

#### 16.1.3.1 chmod (Change Mode)

The Unix command for changing file modes (permissions) is *chmod* (for change mode).

Here's the command you'll use on the iChat file:

chmod o-x /Applications/iChat.app/Contents/MacOS/iChat

And here's how to understand it.

The command line begins, naturally, with the *chmod* command itself, and ends with the pathname of the iChat file.

In between are three characters that make up the three parts of a mode-change clause: o-x.

The first character, *o*, represents the class of user that the change affects. In this spot, you can type *u* to symbolize the file's owner, *g* for its group, *o* for other (everyone else), and *a* to indicate all three classes at once.

The second character represents the operation to perform, which in most cases is to either to add a permission (use the + symbol) or remove one (use the - sign).

The final character specifies which permission to change: *r* for read, *w* for write, or *x* for execute.

The complete *chmod* command provided above, then, says: "Remove the execute permissions for others," which is precisely what you want to do.

## 16.1.4 Permission to Change Permissions

If you actually try the *chmod* command described above, however, you'll get only an error message ("Operation not permitted").

Only the *owner* of an item can change its permissions. And you're not iChat's owner; *root* is (that is, Mac OS X itself).

So how do you solve the problem? One solution would be to turn on the root account as described in <u>Section 11.8</u>, and then log on as *root*. Then you'd be the superuser and could do any darned thing you like. But not only is that a lot of time and hassle, involving a trip to the NetInfo Manager program and logging out, but it's also an extreme step; turning on the root account always entails a security risk.

Instead, you could always open the Get Info window for the iChat application file, make yourself the owner, and then type in your name and password to prove you're an administrator. Then open Terminal, use the *chmod* command now that you're the file's owner, return to the Finder, open Get Info again, and change the file's permissions back to *root*.

But for a Unix guru, that's an *awful* lot of steps for something that should take only a few keystrokes. As it turns out, the final possibility is quick and easy, which explains its popularity in Unix circles. It's the *sudo* command.

#### 16.1.4.1 sudo

sudo is a great command name. Technically, it's short for superuser do, which means that you're allowed to execute any command as though you'd logged in with the root (superuser) account—but without actually having to turn on the root account, log out, log back in again, and so on.

It's also a great command name because it looks as though it would be pronounced "pseudo," as in, "I'm just *pretending* to be the root user for a moment. I'm here under a pseudonym." (In fact, you pronounce it "SOO-doo," because it comes from *superuser do*. In the privacy of your own brain, though, you can pronounce it however you like.)

#### **NOTE**

Only people with Administrator accounts can use the *sudo* command.

If you have the root account—or can simulate one using *sudo*—you can override any permissions settings, including the ones that prevent you from changing things in the Applications directory (like iChat).

Finally, you're ready to change the permissions of that infernal iChat application file. To use *sudo*, you must preface an entire command line with *sudo* and a space. Type this:

sudo chmod o-x /Applications/iChat.app/Contents/MacOS/iChat

Taken slowly, this command breaks down as follows:

- **sudo** "Give me the power to do whatever I want."
- chmod. "Change the file mode..."
- o-x. "...in this way: remove execute permission for others..."
- /Applications/iChat.app/Contents/MacOS/iChat /. "...from the file called iChat, which is inside the Applications iChat.app Contents MacOS folder."

The first time you run *sudo*, you're treated to the characteristic deadpan humor of programmers worldwide: "We trust you have received the usual lecture from the local System Administrator. It usually boils down to these two things: 1) Respect the privacy of others, and 2) Think before you type."

In other words, *sudo* is a powerful tool that lets you tromp unfettered across delicate parts of Mac OS X, so you should proceed with caution. At the outset, at least, you should use it only when you've been given specific steps to follow, as in this chapter.

Now *sudo* asks for your usual login password, just to confirm that you're not some seventh-grader up to no good. If you are indeed an administrator, and your password checks out, *sudo* gives you a five-minute window in which, by prefacing each command with *sudo*, you can move around as though you're the all-high, master root account holder. (If you don't use sudo again within a five-minute span, you have to input your password again.)

Now whenever anyone who isn't an administrator tries to open iChat, its icon bounces just once in the Dock before dying painlessly.

To restore its original permissions, use the same command, but replace the - with a +, like this:

sudo chmod o+x /Applications/iChat.app/Contents/MacOS/iChat

#### **NOTE**

Whenever Mac OS X's Repair Permissions function is run (either automatically—which happens each time you install a Mac OS X update—or manually, using Disk Utility), iChat returns to its original permissions settings. You'll have to rerun the command if you want its protections in place.

## 16.1.5 Protecting Files En Masse

It could happen to you. You've got yourself a folder filled with hundreds of files—downloaded photos from your digital camera, for example. Most are pretty crummy, but the ones you took in Tahoe (and therefore have *Tahoe* in their file names) are spectacular. You want to protect those files from deletion without having to turn on the Locked checkbox (Section 2.8) of every file individually.

Here again, you *could* operate in the Finder, just like ordinary mortals. You could use the Find command to round up all files with *Tahoe* in their names, highlight all of them in the search results window, choose File Get Info, and turn on Locked, thus protecting all of them at once. But doing it the Unix way builds character.

#### **UP TO SPEED**

## **Beware the Dread Typo**

Use *sudo* with caution, especially with the *rm* command. Even a single typing error in a *sudo rm* command can be disastrous.

Suppose, for example, that you intended to type this:

sudo rm -ri /Users/Jim/Pictures

—but you accidentally inserted a space after the first slash, like this:

sudo rm -ri /Users/Jim/Pictures

You've just told Terminal to delete all data on all drives!

Because of the extra space, the *rm* command sees its first pathname argument as being only /, the root directory. The -r flag means "and all directories inside it."

Good thing you added the -i flag, which instructs Mac OS X to ask you for confirmation before deleting each directory. It's almost always a good idea to include -i whenever you use sudo with rm.

History buffs (and Unix fans) may remember that Apple's first iTunes 2 installer, released in October 2001, contained a tiny bug: the tendency to erase people's hard drives. (Oops!) Apple hastily withdrew the installer and replaced it with a fixed one. But behind the scenes, an improperly formed *rm* command was the culprit.

When you turn on a file's Locked checkbox, Mac OS X turns on an invisible switch known to Unix veterans as the user *immutable flag*. Not even the superuser is allowed to change, move, or delete a file whose user is turned on.

The command you need to change such flags is *chflags*—short for *change flags*, of course. You can always read its *man* manual (see <u>Section 15.4.1</u>) to learn all the different flags it can change; for now, though, all you care about is the user immutable flag.

You can follow the *chflags* command with three arguments: its own option flags, the file flags, and the pathname of the file whose flags are being changed. In this case, the flag you care about is called *uchg* (short for *user changeable*; in other words, this is the immutable flag).

To protect all of the Tahoe shots in one fell swoop, then, here's what you'd type at the prompt:

chflags uchg ~/Pictures/\*Tahoe\*

The asterisks are wild cards that mean, "all files containing the word Tahoe in their names." So in English, you've just said, "Change the immutable flag (the Locked checkbox setting) for all the Tahoe files in my Pictures folder to 'locked.'"



To *unlock* a file, thus turning off its *uchg* flag, just add the word "no," like this: *chflags* **no** *uchg* ~/ *Pictures*/\**Tahoe*\*.

# GEM IN THE ROUGH .command Files

You can help to combat repetitive stress syndrome by saving any long, often-typed, command line as a . command file. Double-clicking the file will open a new Terminal window, perform the command, and then exit the shell—all automatically.

Creating .command files requires two steps.

First, create a new document in a text editor like TextEdit. (Check TextEdit Preferences to make sure you create a *plain-text* document.)

Type in the entire command that you want to memorialize (*sudo chmod o+x /Applications/iChat.app/Contents/MacOS/iChat*, for example). Save the document with a name ending with the *.command* extension—for example, *iChatOff .command*. (As a bonus, documents with this extension appear with a spiffy icon in the Finder.)

Next, you'll need to make that file itself executable by using the *chmod* command, as described previously. If, for example, you want only the owner of the iChatOff.command file to be able to execute it (that is, you), you would type: *chmod u+x iChatOff.command*.

Thereafter, you can simply double-click the .command file to open and run it. (Since you used the *sudo* command in this example, you'll first have to provide your password.)

If the object of the .command file's attention sits in the same location on each Mac, you could even burn the iChatOff. command to a CD, roam to each machine, insert the CD, and double-click the .command file, thus further reducing the amount of effort required to apply its magic to many Macs.

To see the results of your handiwork, you can always switch to the Finder, where you'll see that the Tahoe files now have their Locked checkboxes turned on. Or, to confirm your work right in Terminal, issue this command: *Is -lo ~/Pictures* (or any other path to a folder containing locked items). That's the familiar *Is* (list) command that shows you what's in a certain directory, followed by an *-l* flag for a more complete listing, and an *-o* flag that produces a "flags" column in the resulting table.

In any case, Terminal might spit out something like this:

total 830064

-rw-r-r-1 chris chris - 158280000 Jun 16 20:05 Sunset.jpg

```
-rw-r-r-1 chris chris uchg 58560000 Jun 16 20:05 NewMoon.jpg
-rw-r-r-1 chris chris uchg 107520000 Jun 16 20:05 Tahoe.jpg
-rw-r-r-1 chris chris uchg 100560000 Jun 16 20:05 Buddy.jpg
```

The fifth column, the product of the -o flag, lists any file flags that have been set for each file. In this case, three of the files are listed with **uchg**, which represents the user immutable (locked) flag. (The hyphen for the first listed file means "no flags"—that is, not locked.)







## 16.2 Enabling the Root Account

Only one person is allowed to clomp through any Mac OS X directory, unfettered and unrestricted: whoever holds the *root* (superuser) account. There are two ways to turn on this usually hidden account: the NetInfo way (see <u>Section 11.8</u>) and the Unix way.

To enable the root account in Terminal, all you have to do is make up a password for the dormant account using the passwd command.

Normal account holders can use *passwd* to change their own passwords (although the Accounts pane of System Preferences strikes most people as a more direct way to do so). To change your own password, for example, just type *passwd* and press Enter. You'll be asked to type your old password, and then the new one twice.

#### NOTE

As you type your old and new password, no typing appears onscreen. That's a safeguard against people peeking over your shoulder as you type.

The superuser, on the other hand, can change *anyone's* password—including the root account's password. Fortunately, so can an administrator using *sudo*, like this:

sudo passwd root

At this point, *sudo* will prompt you for *your* password to confirm that you're actually an administrator. After you've entered it, the *passwd* utility will prompt you to enter a new password for the root account. Make it a good one: no spaces, at least four characters long.



If you ever lose the root account password, you can set up a new one by starting up the Mac from the Mac OS X installer CD. From the Installer menu, choose Reset Password.

Once the root account has a password, you can use it to log in with the user name *root*, exactly as though it's a normal account. When you do, you'll find that the root account's Home folder isn't in the Users folder like everyone else's; instead, it's in the private var folder. You'll also find, of course, that you have complete freedom to modify, move, or change access privileges for any file and folder on your system.

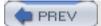
#### NOTE

Not only is your system at risk of inadvertent damage when you log in as root, but some applications may behave oddly when run by the root account. Therefore, you should log in to Mac OS X as the superuser only when you have a specific job to do, and log out as soon as you've completed the task.



< Day Day Up >





< Day Day Up >



### 16.3 Nine Useful Unix Utilities

So far, you've read about only a handful of the hundreds of Unix programs that are built into Mac OS X and ready to run. Yes, *Is* and *sudo* are very useful tools, but they're only the beginning. Here's a rundown of some more cool (and very safe) programs that await your experimentation.



If you don't return to the \$ prompt after using one of these commands, type q or, in some cases, quit; then hit Enter.

#### 16.3.1 bc

Mac OS 9, Mac OS X, and Windows aren't the only operating systems that come with a basic calculator accessory; Unix is well equipped in this regard, too.

When you type bc and hit Enter, you get a copyright notice and then...nothing. Just type the equation you want to solve, such as 2+2, or 95+97+456+2-65, or (2\*3)+165-95\*(2.5\*2.5), and then press Enter. On the next line, bc instantly displays the result of your calculation.

(In computer land, \* designates multiplication and / represents division. Note, too, that *bc* solves equations correctly; it calculates multiplication and division before addition and subtraction, and inner parentheses before the outer ones. For more *bc* tricks and tips, type *man bc* at the prompt.)

#### 16.3.2 kill

Mac OS X offers no shortage of ways to cut the cord on a program that seems to be locked up. You can force quit it (Section 4.1.2), use Activity Monitor (Section 9.25.1.1), or use *kill*.

The *kill* program in Terminal simply force quits a program, as though by remote control. (It even works when you telnet or SSH into your Mac from a remote location, as described in <u>Chapter 21</u>.) All you have to do is follow the *kill* command with the ID number of the program you want to terminate.

And how do you know its ID number? You start by running *top*—described in a moment —whose first column shows the PID (process ID) of every running program.



Unless you also use *sudo*, you can *kill* only programs that you "own"—those that are running under your account. (The operating system itself—*root*—is always running programs of its own, and it's technically possible that other people, dialing in from the road, are running programs of their own even while you're using the Mac!)

When you hear Unix fans talk about *kill* online, they often indicate a number flag after the command, like this: *kill* -9. This flag is a "non-catchable, non-ignorable kill." In other words, it's an industrial-strength assassin that accepts no pleas for mercy from the program you're killing.

If you check *top* and find out that BeeKeeper Pro's process ID is 753, you'd abort it by typing *kill* -9 753 and then pressing Enter.

#### 16.3.3 open

What operating system would be complete without a way to launch programs? In Mac OS X's version of Unix, the command is easy enough: *open -a*, as in *open -a Chess*. The *-a* flag allows you to specify an application by name, regardless of where it is on your hard drive. You can even specify which document you want to open into that program by adding a space and then the document's name, like this: *open -a* Preview *MyGraphic.tif*.



The -e flag opens any text document in TextEdit, like this: *open -e Diary.txt.* This shortcut saves you from having to specify TextEdit itself.

The real utility of this command might not be apparent at first, but imagine doing something like this in the Finder: Select from a folder of hundreds of HTML files those that contain the word "Sequoia" in their file names and preview them all with the OmniWeb browser, regardless of what application they're actually associated with. You could do it with the help of the Finder's Find command, but that would take quite a few steps. In Terminal, though, you just switch to that directory (using the *cd* command) and type, *open -a OmniWeb \*Sequoia\**. Done!

Of course, you may not often find use in simply *launching* programs and documents this way. But you can see how useful *open* can be when you're writing automated scripts for your Mac, like those used by the *cron* command scheduler program (Section 16.4.1.5).

### 16.3.4 ps

The *ps* (process status) command is another way to get a quick look at all the programs running on your Mac, even the usually invisible ones, complete with their ID numbers. (For the most helpful results, use the *-a, -u, -x,* and *-w* flags like this: *ps -auxw.* For a complete description of these and other flags, type *man ps* and hit Enter.)

#### 16.3.5 shutdown

It's perfectly easy to shut down your Mac from the menu. But using *shutdown* in Terminal has its advantages. For one thing, you can control *when* the shutdown occurs, using one of these three flags:

- **Now.** You can safely shut down by typing *shutdown now*. (Actually, only the root user is allowed to use *shutdown*, so you'd really type *sudo shutdown now* and then type in your administrator's password when asked.)
- Later today. The -h flag means, "shut down at the time I specify." Typing sudo shutdown -h 2330, for example, shuts down your machine at 11:30 p.m. today (2330 is military-time notation for 11:30 p.m.).
- Any time in the next 100 years. To make the machine shut down at 5:00 p.m. on November 5, 2004, for example, you could type *sudo shutdown 0411051700*. (That number code is in year [last two digits]:month:date:hour:minute

format. So 0504051700 means 2005, April 5, 5:00 p.m.)



Once you set the auto-shutdown robot in motion, you can't stop it easily. You must use the *kill* command described above to terminate the *shutdown* process itself. To find out *shutdown*'s ID number in order to terminate it, use the *top* or *ps* command.

There are still more useful flags. For example:

- The -r flag means "restart instead of just shutting down," as in sudo shutdown -r now.
- You can use shutdown to knock all connected network users off your machine without actually shutting down. Use the -k flag, like this: *sudo shutdown -k now*.

One of the most powerful uses of *shutdown* is turning off Macs by remote control, either from across the network or across the world via Internet. That is, you can use *telnet* or *SSH* (both described in Chapter 21) to issue this command.

## 16.3.6 gnutar, gzip, zip

You know how Mac OS X 10.3 can create compressed .zip archive files? (If not, check Section 2.10.3.)

Well, as it turns out, you can "stuff" files from within Terminal, too. Actually, you don't encounter StuffIt files much in the Unix world, since they're a Macintosh convention. You're much more likely to run across *tar* (for combining) and *gzip* (for compressing) files. And in Windows, people are most familiar with *zip* files (for combining and compressing).

Terminal lets you stuff and combine files in these formats with the greatest of ease. To compress a file, just type *gzip*, a space, and then the pathname of the file you want to compress (or drag the file directly from the desktop into the Terminal window). When you press Enter or Return, Mac OS X compresses the file.

"Tarring" a folder (combining its contents into a single file) is only slightly more complicated. You have to specify both the resulting file's name, followed by the actual directory pathname, like this: *gnutar -cf Memos.tar /Users/chris/Memos*. Add the -z flag if you want to tar *and* compress the folder: *gnutar -czf Memos.tar.gz /Users/ chris/Memos*.

To combine and compress files using *zip*, just specify a name for the zip file and the names of the items to zip, like this: *zip StaffordLake.zip Stafford\** (which would cram all files in the working directory whose name begins with *Stafford* into a single archive).

To zip a *folder*, include the -r flag as well: *zip -r Memos /Users/chris/Memos*.

In any case, if you switch to the Finder, you'll see that the file or folder you specified is now compressed (with the suffix .gz), combined (with the suffix .tar), or both (with the suffix tar.gz or .zip).

Unfortunately, none of these utilities handles *resource forks* properly (<u>Section 15.3.5</u>). (The Finder's Create Archive command does, though.) If you can't bear to be away from Terminal, you can use *hfstar*, a Unix utility that properly combines files with resource forks. (You can download it from *www.metaobject.com/Products.html*.)

You can also use these utilities to open combined and compressed files, but they can easily overwrite existing items of the

same name if you're not careful. Use Stufflt Expander to eliminate that worry.

#### NOTE

The *gzip* command deletes the original file after gzipping it. The *gnutar* and *zip* commands, on the other hand, "stuff" things but leave the originals alone.

## 16.3.7 top

When you type *top* and press Enter, you get a handy table that lists every program that's currently running on your Mac, including the obscure background ones you may not even know exist (<u>Figure 16-3</u>). (To be more specific, you get the top 20 or so. Make the window taller to see the rest.)

The top display remains onscreen, automatically updating itself as you work, until you type q to quit the program. The plain-English program names are in there somewhere...

000		Teri	mina	al - b	ash (tt	yp1)				
Processes: 69 to Load Avg: 1.31, SharedLibs: num : MemRegions: num : PhysMem: 95.4M v VM: 6.04G + 80.4M	0.51, 0 = 113, = 10574, vired,	.39 ( resident resident 440M act	CPU ( = 56 t = ive,	usage: 5.0M co 191M - 119M	10.8% ode, 4.3 19.9M inacti	user, 37M dat privat ve, 65	18.3% s a, 19.5 e, 167	M LinkE M share	dit d	2
PID COMMAND	%CPU	TIME	#TH	#PRTS	#MREGS	RPRVT	RSHRD	RSIZE	VSIZE	н
1800 top	12.4%	0:22.15	1	16	26	368K	492K	744K	27.1M	н
1799 bash	0.0%	0:00.01	1	12	15	176K	928K	768K	18.2M	н
1798 login	0.0%	0:00.03	1	13	37	144K	484K	504K	26.9M	н
1796 bash	0.0%	0:00.01	1	12	16	184K	928K	784K	18.2M	
1795 login	0.0%	0:00.03	1	13	37	144K	484K	504K	26.9M	П
1786 lookupd	0.0%	0:00.14	2	33	59	348K	1.04M	1.12M	28.5M	н
1781 pppd	0.0%	0:00.06	1	17	36	208K	1.07M	952K	27.9M	п
1708 Mail	0.0%	1:08.28	7	152	255	11.2M	21.1M	24.7M	273M	п
1702 httpd	0.0%	0:00.00	1	9	81	68K	1.61M	316K	27.8M	п
1608 bash	0.0%	0:00.01	1	12	16	168K	928K	1.29M	18.2M	1
1607 login	0.0%	0:00.03	1	13	37	144K	484K	1.97M	26.9M	1
1606 Terminal	0.0%	0:02.55	3	60	115	1.50M	7.64M	13.4M	147M	1
1602 Finder	0.0%	0:01.83	1	88	125	2.38M	16.1M	8.85M	158M	U
1601 SystemUISe	0.0%	0:02.01	1	290	201	1.63M	9.05M	6.30M	148M	
1600 Dock	0.0%	0:00.54	2	70	106	592K	10.3M	2.82M	138M	,
1596 pbs	0.0%	0:00.79	2	32	41	616K	1.71M	4.79M	44.4M	-

You also get statistics that tell you how much memory and speed (CPU power) they're sucking down. In this regard, top is

similar to Activity Monitor, described in Section 9.25.1.1.



If you type *top -u*, you get a list sorted by CPU usage, meaning the power-hungry programs are listed first. If your Mac ever seems to act sluggish, checking *top -u* to see what's tying things up is a good instinct.



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## 16.4 Where to Go from Here

This crash course in Unix should give you a first helping of guidance—enough to perform some genuinely useful tasks in Mac OS X, and to acquire a feeling for how Unix commands work.

There's a lot more to learn, however. As you peruse beginner-level Unix books and Web sites (see <u>Appendix E</u>), for example, you'll gradually become familiar with a variety of important terms and tools.

#### **16.4.1 Aliases**

Don't be confused: Aliases in Unix have nothing to do with traditional Macintosh icon aliases. Instead, Unix aliases are more like text macros, in that they're longish commands that you can trigger by typing a much shorter abbreviation.

# POWER USERS' CLINIC Secrets of Virtual Memory

The *top* command's table offers a fascinating look at the way Mac OS X manages memory. In the "VM" section, for example, you'll see current statistics for *pageins* and *pageouts*—that is, how many times the virtual-memory system has had to "set down" software code for a moment as it juggles your open programs in actual memory. (These numbers are pointed out in <u>Figure 16-3</u>.)

The pageins and pageouts statistics are composed of two different numbers, like this: 45451(0) pageins, 42946(0) pageouts. The big number tells you how many times your Mac has had to shuffle data in and out of memory since the Mac started up. The number in parentheses indicates how much of this shuffling it's done within the last second.

This is the number to worry about. If it stays above zero for a while, your Mac is gasping for RAM (as the hard-drivethrashing sounds and program-switching delays are probably also telling you).

In the listing of individual programs, the last four columns provide details about the memory usage of each listed program. The one you care about is the RPRVT (Resident Private) column, which shows how much memory each program is actually using at the moment. (If you remember the About This Macintosh memory graph of Mac OS 9, then you probably remember the filled portion of the memory bars. That's what this number tells you: how much memory each program is actually using.) This number goes up and down as you work, and that's the miracle of Mac OS X: Programs don't just grab a chunk of memory and sit with it; they put RAM back in the pot when they don't need it.

For example, remember the command for unlocking all the files in a folder? (It was *sudo chflags -R nouchg [pathname]*. To unlock everything in your account's Trash, for example, you'd type *sudo chflags -R nouchg ~/.trash*.)

Using the *alias* command, however, you can create a much shorter command (*unlock*, for example) that has the same effect. (The *alias* command takes two arguments: the alias name you want, and the command it's supposed to type out, like this: *alias unlock='sudo chflags -R nouchg ~/.trash'*.)

On the down side, aliases you create this way linger in Terminal's memory only while you're still in the original Terminal window. As soon as you close it, you lose your aliases. When you get better at Unix, therefore, you can learn to create a . bash\_profile or .bashrc file that permanently stores all your command aliases.

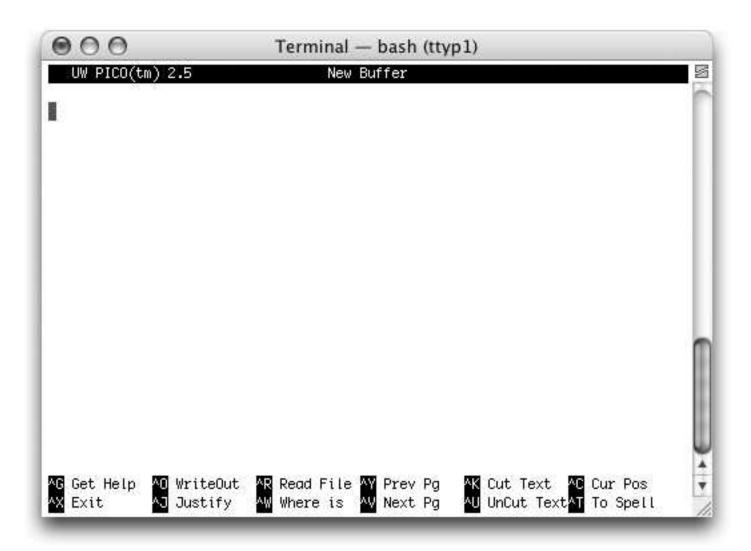
#### 16.4.1.1 pico, emacs, vim

One way to create and edit text files containing aliases (and to perform other command- related tasks) is to use *pico*, a popular text editor (see <u>Figure 16-4</u>).

As you'll discover just by typing *pico* and pressing Enter, *pico* is a *full-screen* Unix application. You enter text in *pico* much as you do in TextEdit or SimpleText, yet *pico* is filled with features that are especially tailored to working with Unix tasks and commands.

Nor is that the only text editor that's built into the Unix under Mac OS X. Some Unix fans prefer the more powerful and complex *vim* or *emacs*, in the same way that some people prefer Microsoft Word to AppleWorks.

A new pico session. One key difference between pico and, say, TextEdit: To scroll, you must use the up and down arrow keys, or the Prev Pg and Next Pg commands—not the Terminal scroll bar.



#### 16.4.1.2 date

Used all by itself, the date command simply displays the current date and time. However, you can use its long list of date "conversion specifications" (enter *man date* to see all of them) to format the date string in any conceivable way. Begin the string with a + and then enter the formatting you like, mixing in any regular text as well, like this:

```
office-mac:~ chris$ date +"I can't believe it's already week %V of %Y, here in the %Z time zone. But what do you expect on a %A at%1:%M %p?"
```

I can't believe it's already week 45 of 2003, here in the PST

time zone. But what do you expect on a Monday at 8:25 PM?

#### NOTE

Be careful about using *date* with *sudo*. If you do, and accidentally forget the leading +, you'll *reset* your Mac's built-in clock.

#### 16.4.1.3 grep

The *grep* program is *a filter*, a powerful program designed to search data for text that matches a specified pattern. It can pass on the processed result to another program, file, or the command line itself.

Specify the text pattern you want *grep* to search using a notation called *regular expressions*. For example, the regular expression *dis[ck]* will search for either *disk* or *disc*. Another example: To search for lines containing the file names *Yosemite1. mov*, *Yosemite2.mov*, and *Yosemite3.mov*, you could tell *grep* that you're looking for *Yosemite[1-3]\.mov*.

# **GEM IN THE ROUGH Eliza, I Have Issues with My Mother**

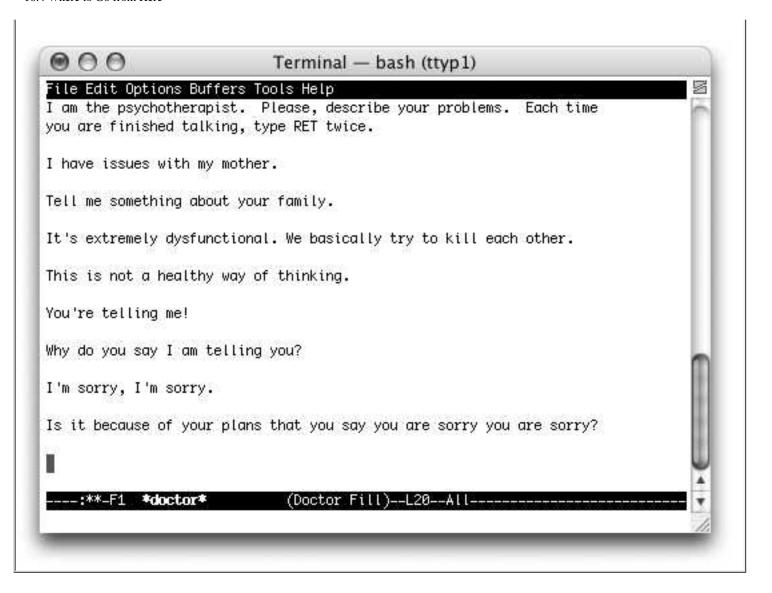
Therapy, whether it's about your frustrations with your Mac or any other subject, is expensive. Still, it feels good to talk to someone about whatever's bothering you—and Mac OS X is ready to listen.

Hidden in the *emacs* text-editing program is a fully unlicensed automated psychoanalyst named Eliza. To enter her office, open Terminal, type *emacs* and press Enter. After the introductory screen has appeared, press Shift-Esc, type *xdoctor*, and then press Enter.

"I am the psychotherapist," Eliza begins. "Please, describe your problems. Each time you are finished talking, type RET twice." (She means, "Press the Return key twice.")

As you can see from this illustration, she isn't exactly Sigmund Freud. But she's very entertaining, and surprisingly responsive.

When your session is finished, press Control-X and then Control-C to exit Eliza and emacs.



But *grep* can search much more than just file and directory names. Its search material can be part of any file, especially plain text files. The text files on your Mac include HTML files, log files, and—possibly juiciest of all—your email mailbox files. Using grep, for example, you could search all your Mail for messages matching certain criteria with great efficiency.

#### 16.4.1.4 find

Now that the Finder can actually find files again, you might wonder why you would need to use the Unix *find* command. Well, for one, *find* takes file searching to a whole new level. For example, you can find files based on their permissions, owner name, flag settings, and of course any kind of name pattern you can think of using regular expressions.

Also, like most other Unix commands, you can "pipe" the *find* command's list of found files straight into another program for further processing. You might do this to change their names, convert them to other formats, or even upload them to a network server.

Perhaps best of all, since you can run find with *sudo*, you can look for files existing *anywhere* on your hard disk, regardless of directory permission settings.

To find all files in your Home directory with "Bolinas" in their names, for example, you would use this command:

16.4 Where to Go from Here

find ~/ -name '\*Bolinas\*'

Or, to ignore capitalization:

find ~/ -iname '\*Bolinas\*'

And this command will search for all the *locked* files in your Home directory:

find ~/ -flags uchg

#### 16.4.1.5 cron

This little Unix program can trigger certain commands according to a specified schedule, even when you're not logged in. People use *cron* to trigger daily backups or monthly maintenance, for example. You program your unattended software robot in simple text files called *crontabs*.

Mac OS X comes set up to run *cron* automatically. (If you open the Activity Monitor program in your Applications Utilities folder, you'll see it listed among the administrator processes that your Mac is continually running.)

In fact, it comes with three under-the-hood Unix maintenance tasks already scheduled —a daily *cron*, a weekly *cron*, and a monthly *cron*. They come set to run at 3:15 a.m., 4:30 a.m., and 5:30 a.m., however. If your Mac isn't generally turned on in the middle of the night, these healthy *cron* jobs may never run.

You can either leave your Mac on overnight every now and then or, if you're feeling ambitious, change the time for them to run. A glance at *man crontab* shows you how. (Hint: It involves using *sudo pico* and editing the system crontab file (/etc/crontab).

#### 16.4.1.6 curl

With *curl*, all you need is a file's URL, and you can download it from an FTP site or Web server, without launching an FTP program (or enduring a single pop-up ad). To download the entire "Missing CD" for the second edition of this book (see the inside back cover), you could just type this:

```
curl -O http://examples.oreilly.com/macosxmm2/macosxmm2_all.zip
```

When the download is complete, you see a note in the Terminal window, and the downloaded file appears right there in your working directory.

You can also use this command to *upload* a file, using the *-T* flag. To add something to the Incoming folder of an anonymous FTP site, for example, use this command line:

```
curl -T BigBasin.sit ftp://anonymous@ftp.coast-photo.com/Incoming
```

In this case, the name of the file you're uploading is BigBasin.sit, and the FTP site is ftp.coast-photo.com.

You'll be asked for a password, which for anonymous access is, by convention, your email address, and then the upload begins.

#### 16.4.1.7 sips

Sips (Scriptable Image Processing System), an Apple Unix utility included with Panther, lets you process graphics files like TIFF, JPEG, and GIF files from within Terminal. You can use *sips* to get more information about such files (type, size, or attached ColorSync profile), for example, or to remove or attach ColorSync profiles.

Better still, *sips* can *modify* the images by scaling, rotating, flipping, or converting them to other formats (like PNG, Photoshop, or PICT). You can also generate custom Finder icons for image files without them.

Though there's no manpage for *sips*, you can view its two help screens to learn more. Type *sips -h* to get general help, and *sips -H* to see the list of image file properties that *sips* can work with.

For example, to flip a digital photo called TenLakes.jpg vertically (and saving the flipped version with the name *TenLakesFlipped.jpg*), type this:

```
sips -f vertical TenLakes.jpg-out TenLakesFlipped.jpg
```

(If you fail to include the—*out* option and a new filename, *sips* will permanently transform the original image file instead of spinning out a new one.)

You can even include multiple *sips* actions in one command. So, for example, to make the same flip but also transform the file into a TIFF file, enter this:

sips -f vertical -s format tif TenLakes.jpg—out TenLakesFlipped.tif

#### 16.4.1.8 telnet, ftp

Telnet and FTP aren't exclusively Unix programs, of course. Techies from all walks of operating-system life have used telnet for years whenever they want to tap into another computer from afar, and FTP to deliver and download software files. Details on both are in Chapter 21.



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## 16.5 Putting It Together

All of the Unix syntax and vocabulary presented in this chapter and <u>Chapter 15</u> is all well and good, and it will give you the rosy glow of having mastered something new. But it still doesn't *entirely* explain why Unix gives programmers sweaty palms and dilated pupils.

The real power of Unix comes farther down the road—when you start stringing these commands together.

Suppose, for example, you want to round up all the TIFF image files related to your Yosemite project, scale them to a common size, convert them to JPEG files, and copy them to an FTP site. How would you go about it?

You could, of course, use the Finder's Find command to search for all TIFF files that have "Yosemite" in their names. But what if your images were named otherwise but kept in folders with Yosemite in their names? You would have to find those folders first, and then the TIFF files within them.

You could perform the next step (scaling and converting the image) either manually or by a preprogrammed script, using a program like Photoshop or even iPhoto. Once the images were all done, you'd need to collect them and then use your favorite FTP program to upload them to the server.

But with a mastery of Unix, you could shave 12 minutes off of your workday just by changing to an empty working directory and typing this as one long line:

```
find ~ -type f -ipath '*yosemite*tif' -print0 | xargs -0 sips -Z
250 -s format jpeg-out . ; ftp -u ftp://ftp.coast-photo.com/Incoming *
```

Even after two chapters of Unix basics, that mass of commands probably looks a tad intimidating. And, indeed, if you've never programmed before, even the following breakdown may make your eyes glaze over. But even so, pieces of it should now look familiar:

• find ~ -type f -ipath '\*yosemite\*tif ' -print0 |. This segment searches your Home directory (~) for files (-type f) whose pathnames (-ipath, meaning "capitalization doesn't matter") contain the word Yosemite and end in tif. Remember, the asterisks here are wildcard characters, which stand for "any number of characters." The command so far makes a list of all matching files, which it keeps in its little head.

The *-print0* command formats this list of found files' pathnames, separating them with the *null character* (a special character that programmers use to indicate where one string of text ends and another begins) instead of the usual spaces. It lets the command work with pathnames that contain spaces, a common occurrence on Macs (but a rarity in Unix). You'll see how it does this shortly.

Then comes the *pipe* (the vertical bar), which you can use to direct the results (output) of one command into the input of another. In this case, it sends the list of found pathnames on to the next command.

• xargs -0 sips -Z 250 -s format jpeg—out .;. xargs is an argument builder. In this case, it builds an argument from the list of files it received from the *find* command and provides it to *sips* for processing. In other words, xargs hands a list of files to *sips*, and *sips* runs the same command on each one.

The -0 flag tells *xargs* that the pathnames are separated by the null character. (Otherwise, *xargs* would separate pathnames at each space character, which would choke *sips*.)

For each file it gets, *sips* first scales the image's largest dimension to 250 pixels, and its other dimension proportionally. (That way, any image will fit into a 250 x 250-pixel box on a Web page, for example.)

sips then sets the format (-s format) of the image to JPEG and saves it, with the correct .jpg extension, in the working directory (which is indicated by the single dot that follows—out).

The semicolon at the end of this fragment tells the shell to run the next command when it's finished with the previous one. So, once *sips* is done with each file it gets from *xargs*, the shell move on to this:

• ftp -u ftp://ftp.coast-photo.com/Incoming \*. The ftp utility included with Panther can work a lot like curl in the way it can upload and downloads files with a single command. In this case, the command uploads (-u) every file from the working directory (as specified by the asterisk—that is, all of the sips-processed files) to the Incoming directory of the coast-photo.com FTP site.

#### NOTE

As written, this command works only if you don't need a password to get into the FTP site. Otherwise, build your FTP account name and password into its address like this: ftp://chris:password@ftp.coast-photo.com/Incoming.

When you press Return or Enter after this gigantic command, Mac OS X scans all the directories inside your Home directory, rounds up all the Yosemite-related image, scales them, converts and renames them, and then uploads each to the FTP directory.

Once you've gained some experience with Unix commands and programs like these, you'll find it fairly easy to adapt them to your own tasks. For example, here's a more versatile command that searches a directory called Projects for all TIFF files modified after 6:00 that morning, converts them to thumbnail-sized jpegs and then plops into the images directory of your FTP-accessible Web server:

```
find ~/Projects -type f -iname *tif -newermt 6:00 -print0 | xargs -0 sips -Z 128 -s format jpeg—out . ; ftp -u ftp://carlos: birdie@ftp.coast-photo.com/htdocs/images *
```

Of course, not everyone's going to want to type out that entire command line every time. Fortunately, you don't have to; having read the box in <u>Section 16.1.5</u>, you know that you can just save the whole thing as a .command file—and run it thereafter just by double-clicking.

Trouble is, a new Terminal window comes with the working directory set to your Home folder—and you don't want your . command file to upload your entire life! Ideally, then, you should build a "change directory" command into the .command file. Change Terminal's attention to, say, a new, empty directory, which will collect the processed files. You should then include a final *move* command that will empty that directory when the rest of the command is done. That way, you'll again have an empty working directory for the next time you run the following command:

```
cd ~/Stage ; find ~/Projects -type f -iname *tif -newermt 6:00
-print0 | xargs -0 sips -Z 128 -s format jpeg-out . ; ftp -u
ftp://carlos:birdie@ftp.coast-photo.com/htdocs/images * ; mv * ~/Backup/
```

#### GEM IN THE ROUGH

## The Famous Animated-Desktop Trick

It was one of the first great Mac OS X hacks to be passed around the Internet: the classic "screen-saver-on-the-desktop" trick. In this scheme, your desktop shows more than some wussy, motionless desktop picture. It actually displays one of the Screen Effects animation modules.

Start by choosing the screen saver module you prefer, using the Screen Effects panel of System Preferences. (The one called "flurry" makes a good choice.)

Then, in Terminal, type: /System/Library/Frameworks/ ScreenSaver.framework/Resources/ScreenSaver Engine.app/Contents/MacOS/ScreenSaverEngine -background &

...and then press Enter. (Note that there are no spaces or Returns in the command, even though it appears broken onto more than one line here.)

Presto: The active screen saver becomes your desktop picture! Fall back into your chair in astonishment.

Once you've regained your composure, look in the Terminal window again. The number that follows the [1] in the following line is the *process ID* of your background desktop program (see <u>Section 16.3.7</u>).

You'll need that number when it comes time to turn *off* the effect, which is a good idea, since the desktop/screen saver business drains a massive amount of your Mac's processing power. The whole thing is a gimmicky showoff stunt you'll generally want to turn off before conducting any meaningful work.

To turn off this effect, type *kill* 496 (or whatever the process ID is) and then press Enter.

And if you get tired of typing out that long command, download xBack from <a href="www.gideonsoftworks.com/xback.">www.gideonsoftworks.com/xback.</a>
<a href="httml">httml</a>
<a href="httml">httml</a>
<a href="https://example.com/xback.">httml</a>
<a href="https://example.com/xback.">https://example.com/xback.</a>
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<a href="https://example.com/xback.com

With just a few more keystrokes, you could modify that command to collect some files, lock them, and place copies of each in every account holder's Home directory, as well as several different servers at the same time. What's more, it will email you a report when it's done. Using the *cron* command, you could even configure this routine to trigger itself automatically every day at 11:00 p.m. Considering the hundreds of Unix programs included with Mac OS X and the thousands of others available on the Internet, the possibilities are limitless.

For some guidance in picking up your Unix career from here, see Appendix E.



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## Chapter 17. Hacking Mac OS X

<u>Chapter 8</u> shows you how to customize your desktop picture, error beep, and screen saver. But beyond those simple modifications, Mac OS X offers only a subset of the tweakable features found in other operating systems. You can't record sounds, change the fonts used in the Finder, adjust the colors of your scroll bars, and so on.

If you're sneaky, creative, or just different, however, you can indeed perform more dramatic visual and behavioral surgery on your copy of Mac OS X—from changing the startup screen image to replacing the "poof" that appears when you drag something off the Dock with a new animation of your own. All you need is a few of Mac OS X's less obvious tools, or some free downloadable customizing software, and a few recipes like the ones in this chapter.

Some of these tricks are frivolous. Some are actually functional and useful. And although Apple sanctions not a one, all are perfectly safe.

#### NOTE

History has shown that Apple considers Mac OS X a work in progress. A huge number of the fun little hacks that worked in Mac OS X 10.1 stopped working in 10.2. All of the tricks in this chapter work in 10.3, but may well "break" in subsequent versions of Mac OS X. The Errata page for this book at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a> will keep you up to date.



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#### 17.1 TinkerTool: Customization 101

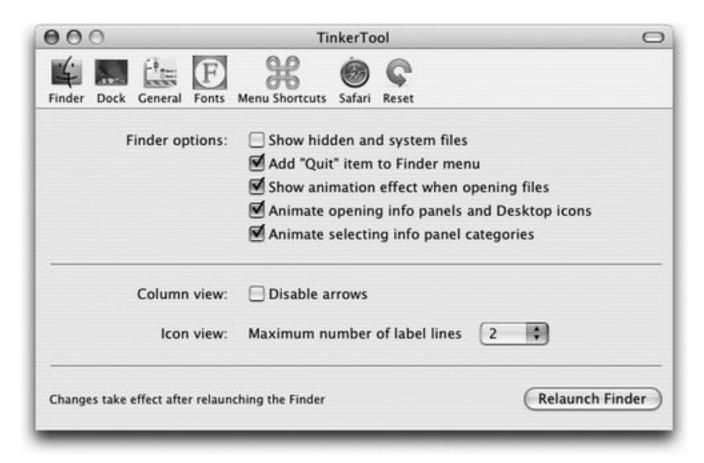
If you poke around the Mac OS X Web sites and newsgroups long enough, you'll find little bits of Unix code being passed around. One of them purports to let you change the genie animation that you see when you minimize a window to the Dock. Another eliminates the drop shadow behind icon names on your desktop. Yet another lets you change the transparency of the Terminal window (Chapter 15)—a cool, although not especially practical, effect.

If you really want to fool around with these bits of Unix code, go for it. You'll find most of these tidbits at Web sites like <u>www.</u> macosxhints.com.

The truth is, however, that there's no good reason for you to subject yourself to the painstaking effort of typing out Unix commands when easy-to-use, push-button programs are available to do the same thing.

TinkerTool 3, for example, is a free utility that offers an amazing degree of control over the fonts, desktop, Dock, scroll bar arrows, and other aspects of the Mac OS X environment.

TinkerTool is a double-clickable program that makes changes only to your account settings. (You can download it from the "Missing CD" page of <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>, among other places.)



Here are some of the highlights:

- **Kill the animations.** When you open any icon, expand a Get Info panel, and so on, you see little animated expansion effects. It's nice, but it takes time. TinkerTool can turn them off (see Figure 17-1).
- **Dock.** TinkerTool lets you gives hidden programs transparent icons on the Dock and specify the Dock's position on the screen—left, right, bottom, or *top*—and even whether it's centered or flush against one side of the screen. TinkerTool even unlocks a third option for the animation of windows collapsing onto the Dock. In addition to the standard Mac OS X choices (Genie and Scale), you also get something called Suck In (no comment).
- **Scroll bars.** TinkerTool gives you greater control over the placement of Mac OS X's scroll bar arrows—together at one end of the scroll bar, duplicated at both ends of the scroll bar, and so on.
- **Visibility.** TinkerTool can make the thousands of invisible Unix files appear as full-blooded icons. (Power users, you know who you are.)
- Fonts. TinkerTool lets you change the fonts for dialog boxes, menus, title bars, help balloons, and so on.

What's great about TinkerTool is that it's completely safe. It's nothing more than a front end for a number of perfectly legitimate Unix settings that Apple simply opted not to make available in the regular Finder. Furthermore, the changes you make using TinkerTool are stored in your own Home Library folder—that is, they affect only your account. Whatever changes you make don't affect the Mac experience for anyone else using your machine. And TinkerTool's Reset pane makes it easy to restore everything back to the way it was before you started fooling around.



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## 17.2 Redoing Mac OS X's Graphics

The professional interface artists at Apple use Photoshop, just like professional artists everywhere else. But in Mac OS X, they've made very little effort to cover their tracks. In Cocoa programs and even a few Carbonized ones, every element of the famous Aqua interface is nothing more than a Photoshop-generated graphics file.

The beauty of graphics files, of course, is that you can edit them. Maybe you just want to adjust the colors. Maybe you found a replacement graphic online. Or maybe you actually want to draw a new graphic from scratch. In each of these cases, using a program like Photoshop, Photoshop Elements, or GraphicConverter, you can dress up your own desktop in your own way.

In addition to a little artistic talent, all you need to know is how to open the graphics that constitute the interface of each program. The routine generally goes like this:

1. In the Finder, open the Applications folder. Control-click the icon of the program you want to edit; choose Show Package Contents from the contextual menu.

You may remember from <u>Chapter 4</u> that most Mac OS X programs may *look* like single icons, but are actually disguised folders containing all of their own support files.

You can choose almost any Cocoa program to edit in this way: Address Book, Chess, iChat, Mail, iPhoto, Safari, iDVD, iMovie, TextEdit, whatever.

2. Open the Contents Resources folder.

Inside are the objects of your search: the TIFF or PDF files that constitute the "face" of the program you're editing. (Sometimes they're one more folder down, in a folder representing your language-English.lproj, for example.)

When you're editing the Mac OS X Chess game, for example, you'll find a folder called Styles, which contains the graphics that create the game board and the textures that wrap around each of the pieces. There's nothing to stop you from swapping in photos of your friends' heads in their places. Figure 17-2 shows another example.

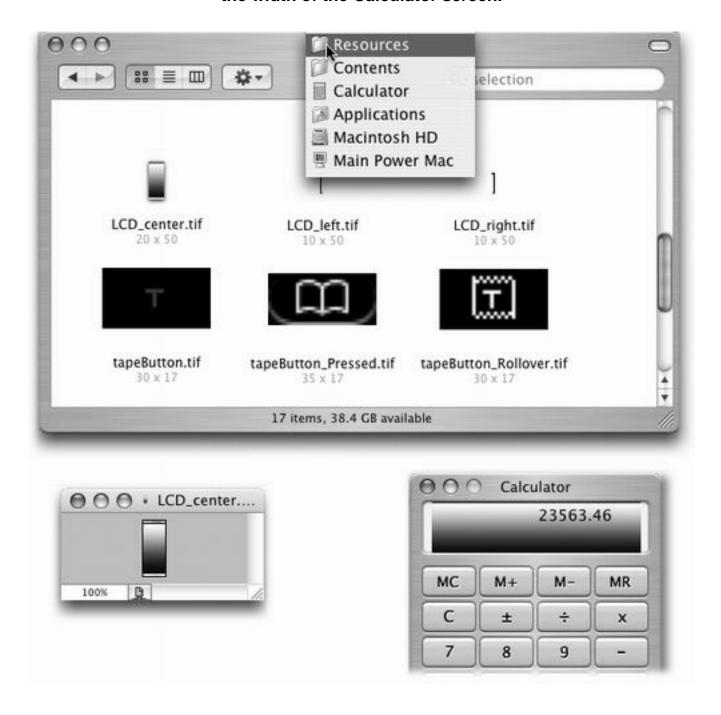
While you're at it, you may also want to open up Mac OS X's Mail program and redesign its toolbar icons. The sky's the limit!



If you think you may want to go back to the program's original look after your experiment, make a safety copy of these files before proceeding.

Top: Cocoa programs are nothing more than a bunch of artistically done Photoshop TIFF files, buried in the program's package—Contents—Resources folder. When you feel the need for change, go ahead and edit them—hey, it's your computer.

Bottom: When you're editing the Calculator program, you can edit the LCD\_center.tif, LCD\_right. tif, and LCD\_left.tif files (left) to change the look of the readout window (right). In this example, the "center" portion gets stretched as wide as necessary to fill the width of the Calculator screen.



3. Open the TIFF files in Photoshop.

Edit them brilliantly.

4. Save your changes.

The deed is done. You now have a program that you can decidedly call your own.

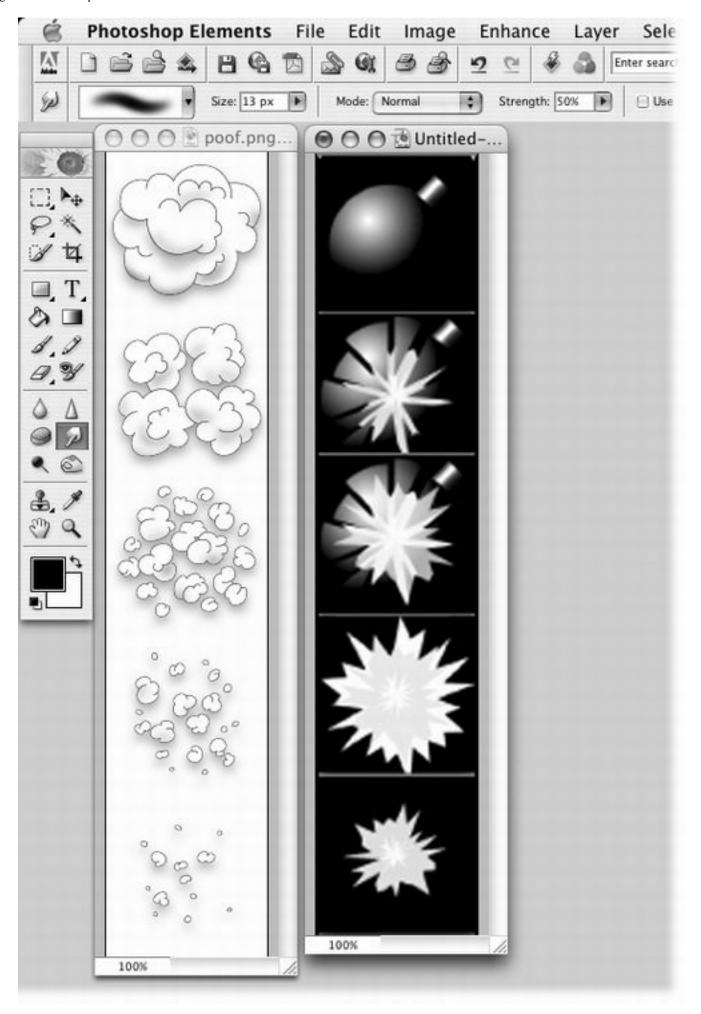
## 17.2.1 Editing the Trash and Finder Icons

You can edit the Finder dock icon and the Trash icons (empty and full) exactly as described above—but you have to peek into a different corner to find them. The Dock program, after all, isn't in your Applications folder; it's in your System folder. And in Mac OS X, the System folder is sacred territory, forbidden to humans. An error message will let you know that you're not allowed to edit the graphics files that make up Mac OS X itself (rather than its applications).

In this Mac OS X hack and in several others in this chapter, you'll have to find a way around this kind of OS self-protection. You can go about it in any of three ways:

- Restart in Mac OS 9, if your Mac is capable of it. Doing so bypasses the objections you'll get from Mac OS X as you try to hack the system.
- Log into Mac OS X as the root user, as described in Section 11.8.

The "poof" animation is nothing more than five individual frames of cartoon smoke, 128 pixels square. You'll find its file sitting inside the Dock package, as described in the previous section, alongside the finder.png and trash files. As shown here in Photoshop Elements, you can substitute any graphics you want, as long as you fit them evenly on this 640-pixeltall "film strip" (that is, 128 pixels times 5). Save, quit, and then restart.



 Here's a technique that's new to Panther: #-drag the icon you want out of the System folder, edit a copy of it (preserve the original, just in case), and then #-drag it back into place.

As soon as you begin to #-drag one of these sacred files, Mac OS X asks you to prove your hackworthiness by entering an administrator's name and password—and then it lets you proceed with your surgery.

In any case, to edit the Finder or Trash icons, you'd start by opening the System Library CoreServices folder. Control-click Dock and choose Show Package Contents from the contextual menu. The Dock window opens. Open the Contents Resources folder. These are the graphics you want to edit (as PNG graphics instead of TIFF): finder.png, trashempty.png, and trashfull.png.

#### 17.2.2 Replacing the Poof

When you drag an icon off the Dock or toolbar, it disappears with a literal puff of smoke—a cute, cartoon-like animation that Apple's been trying to work into its operating systems ever since the days of the Newton palmtop. Most people find this tiny, one-second display of interface magic charming and witty, but others argue that it demeans the dignity of the otherwise professional-looking Mac OS X.

If you follow that latter camp, you can replace the animation just by editing Apple's own five-frame "poof " animation. <u>Figure 17-3</u> shows the procedure.

### 17.2.3 The Startup and Login Screens

Yeah, yeah, sure, Mac OS X makes it easy to change the desktop picture. But what about the boring Mac OS X, Apple-logo picture that appears while the startup progress bar is chugging across the screen? And what about the default swirling blue desktop picture that appears behind the sign-in screen?

Open the System Library CoreServices SystemStarter\_folder. Control-click the QuartzDisplay.bundle icon and, from the contextual menu, choose Show Package Contents. In the resulting window, open the Resources folder to find the object of your quest: a file called BootPanel. pdf. You can edit this file to your heart's content in, for example, Photoshop. After you save changes and then restart, you'll find your new graphic in place.



Don't despair—you can make these look like anything you want. Here you go:

- The background behind the "Welcome to Mac OS X" sign is a JPEG graphic, called Aqua Blue.jpg, located in the Library Desktop Pictures folder. (Classic Aqua Blue. jpg was the standard desktop picture in Mac OS X 10.1.) You can open and edit this file directly—or replace it with another graphic having the same name and file format. At the next startup, you'll enjoy your new background.
- The sign-in screen graphic is only slightly harder to change. It involves bypassing Mac OS X's security shield, using any of the three techniques described in <u>Section 17.2.1</u>. Then see <u>Figure 17-4</u>.

## 17.2.4 Editing Your Menulets

You can colorize the little menu-bar symbols fondly called *menulets*, or even completely redesign their graphics. Like many other Mac OS X screen elements, these are nothing more than little tiny graphics saved in PDF format.

Here again, you can't save changes to them unless you (a) restart in Mac OS 9, (b) log in as the root user, or (c) #-drag the original files to the desktop, edit them, and then #-drag them back in. Open the

System Library CoreServices Menu Extras folder.

Here, you'll find individual files (actually packages) for almost every menulet: Battery, Clock, Displays, and so on. Open whichever one you want to customize (Airport. menu, for example) by Control-clicking it and choosing Show Package Contents. As usual, open the Contents Resources folder.

Inside are a number of TIFF files that represent the various forms your menulet might take; the Volume icon, for example, seems to emit different numbers of sound waves depending on your volume setting. Edit each of the graphics as you see fit. (The ones whose names are tagged with an *s* or *w* represent the inverted *highlighted* graphic, which you see when you actually click the menulet.)





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## 17.3 Replacing the Finder Icons

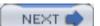
This one's easy: Just download CandyBar, a simple drag-and-drop program for Mac OS X 10.3. With no technical skill whatsoever, you can use this program to replace the icon pictures featured on your folders, your disks, and the Finder toolbar. It even comes with several collections of perky (but non-photorealistic) replacement icons (Figure 17-5).



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## 17.4 Rewriting the Words

Mac OS X stores the text and settings of its menus, dialog boxes, and other elements in special text files called *plist* (for Property List) files. They sit in one of the three Library folders (in your Home folder, the System folder, or the hard drive window).

The easiest way to edit them is to use Apple's Property List Editor, a program that came on your Mac OS X Developer CD. Once you've installed your developer tools as described in <u>Section 9.25.23</u>, you'll find Property List Editor in

Developer Applications.

There are hundreds of plist files, so some experimentation and patience is required. Most of the cool changes you can make to your plists can be made much more easily using TinkerTool, described at the beginning of this chapter. Here, however, is an example of a smaller change you can make this way.

To use CandyBar, just drag your new icons onto the appropriate slots. When you restart the Mac, you'll find your new icons in place. Restoring the original icons is equally simple.



## 17.4.1 Renaming the Trash

It's called Trash, but in Mac OS X, it looks more like an office wastebasket. When inspiration on the work you're *supposed* to be doing runs dry, consider remedying this discrepancy by changing the name of the Trash icon to something more appropriate.

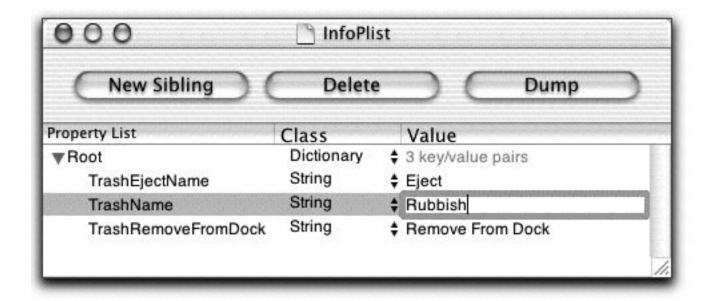
Click the Root triangle to view and edit the three settings, as directed in Figure 17-6.

Once you're finished making the change, choose File Save As, and save your edited plist document to the desktop. Now replace the original document (after making a safety copy, if you like) with your edited version, using any of the three techniques described in Section 17.2.1.

In any case, the next time you log in, you'll see your new name on the Trash.

Top: This simple file contains the name of the Trash icon on the Dock—and the name of the Eject icon that replaces it when you're dragging a disk. By double-clicking the text in the Value column, you can edit these descriptions to change the corresponding names.

Bottom: The resulting Trash has a very different name.



## 17.4.2 Rewording the Dock

Using the same routine described in the previous paragraphs, you can edit all of the commands that pertain to the Dock—both its commands in the a menu (Dock Preferences, Turn Magnification On, and so on) and the contextual menus that pop out of the Dock icons themselves. These wordings are in System—Library—Core Services—Dock.

app—Contents—Resources—English.lproj—DockMenus.plist. Click the flippy triangles to see the various commands you can rewrite.

## GEM IN THE ROUGH The Blob

It's one of the funniest, weirdest, and least useful of all Panther features. It's the Blob: a strange, floating, translucent sphere that, when clicked, triggers Panther's Exposé feature (the "F10" version).

Did Apple programmers put it in as a joke? Was it an early prototype, before they settled on the F10 key as the Exposé trigger? Is it an Easter egg? You decide.

In the meantime, here's how to unleash the Blob.

In Terminal (Chapter 15), type this all on one line:

defaults write com.apple.dock wvous-floater -bool true

Press Enter. Quit the Dock (use Activity Monitor, if you know how, or just log out and back in again). When the Dock next starts up, you'll find the Blob on your screen.

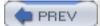
You can drag it around, click it to trigger the F10 function of Exposé, Option-click it to trigger the F9 function, Shift-click it to trigger Exposé in slow motion, or get rid of it by repeating the command above (but substitute false as the last word).

What you never can do is fully understand it.



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## Part V: Mac OS X Online

Chapter 18: Internet Setup, Firewall, and .Mac

Chapter 19: Mail and Address Book

Chapter 20: Panther's Internet Software Suite

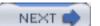
Chapter 21: SSH, FTP, VPN, and Web Sharing



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## Chapter 18. Internet Setup, Firewall, and .Mac

As Apple's programmers slogged away for months on the massive Mac OS X project, there was one spot where they must have felt like they were happily gliding on ice: networking and the Internet. For the most part, the Internet already runs on Unix, and hundreds of extremely polished tools and software chunks were already available.

Most people connect to the Internet using a modem that dials out over ordinary phone lines. But a rapidly growing minority connects over higher-speed wires, using *broadband* connections that are always on: cable modems, DSL, or corporate networks. This chapter explains how to set up each one (and how to use each with a wireless AirPort system).

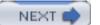
This chapter also describes some of Mac OS X's offbeat Internet featurettes: the iDisk, a backup or transfer disk that resides on the Internet; the other Apple .Mac account features, including HomePage, which lets you publish your own Web pages; Internet Connection Sharing, which lets several computers in the same household share a single broadband connection; and the system-wide Internet bookmarks known as *Internet location files*.



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## 18.1 The Best News You've Heard All Day

If you upgraded to Mac OS X 10.3 from an earlier version of the Mac OS, breathe easy. Mac OS X was kind enough to pick up your networking and Internet settings from that earlier installation. The moment you first see the Mac OS X desktop, you're ready to use the Internet (and skip the next two pages).

Read on, however, if you need to plug in the Internet settings manually. If you're setting up a new Mac, or if you've just used Mac OS X's "clean install" option (Appendix A), or if you simply want to create a new Internet account, you definitely have some typing to look forward to.



If you haven't yet set up an Internet connection, reading the next few pages will guide you through plugging the proper settings into System Preferences.

If you're more of a do-er than a reader, however, you may prefer the new "Assist me" button at the bottom of the Network pane of System Preferences. It asks how you want to connect to the Internet (by dial-up modem, DSL, cable modem, and so on), and then walks you through the process of typing in the settings, if necessary.



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## 18.2 Connecting by Dial-up Modem

If you intend to connect to the Internet via ordinary phone lines, courtesy of your Mac's built-in modem, you need to sign up for an Internet service. Hundreds of companies, large and small, would love to become your *Internet service provider* (ISP), generally charging \$20 per month for the privilege of connecting you to the great Internet.

Panther's new Network Status screen shows you how each of your network connections are doing at the moment (the status messages actually change as circumstances change). To adjust the network settings for a connection, double-click its "row."



A setup program for Earthlink, a popular ISP, presents itself as part of the Setup Assistant program that runs the first time you turn on a new Mac.

But if you aren't starting in such virgin territory (or if you want to sign up with a different ISP), you must plug a series of settings into the Network pane of System Preferences. You'll need to get this information directly from your ISP by consulting either its Web page, the little instruction sheets that came with your account, or a help-desk agent on the phone.

#### NOTE

The following instructions don't pertain to America Online. It comes with its own setup program and doesn't involve any settings in System Preferences.

#### **18.2.1 The PPP Tab**

Start by opening System Preferences and clicking the Network icon. You're shown the view pictured in <u>Figure 18-1:</u> a *Network Status* screen, new in Mac OS X 10.3, which summarizes the various ways your Mac can connect to the Internet or an office network, and how each connection is doing.

From the Show pop-up menu, choose Internal Modem. (Or just double-click the Internal Modem "row" of the status screen.) You should be facing the PPP tab, where you fill in the blanks like this:

- Service Provider. Type in the name of your ISP (EarthLink, for example).
- Account Name. This is your account name, as assigned by the ISP. If you're BillG@earthlink.net, for example, type *BillG* here.
- Password. Specify your ISP account password here. Turn on "Save password" if you'd rather not retype it every time you connect.
- Telephone Number. This is the local access number that your modem is supposed to dial to connect to your ISP.



If you need your Mac to dial a 9 or an 8 for an outside line (as you would from within a hotel), or \*70 to turn off Call Waiting, add it to the beginning of the phone number followed by a comma. The comma means "pause for two seconds." You can also put the comma to good use when typing in the dialing sequence for a calling-card number.

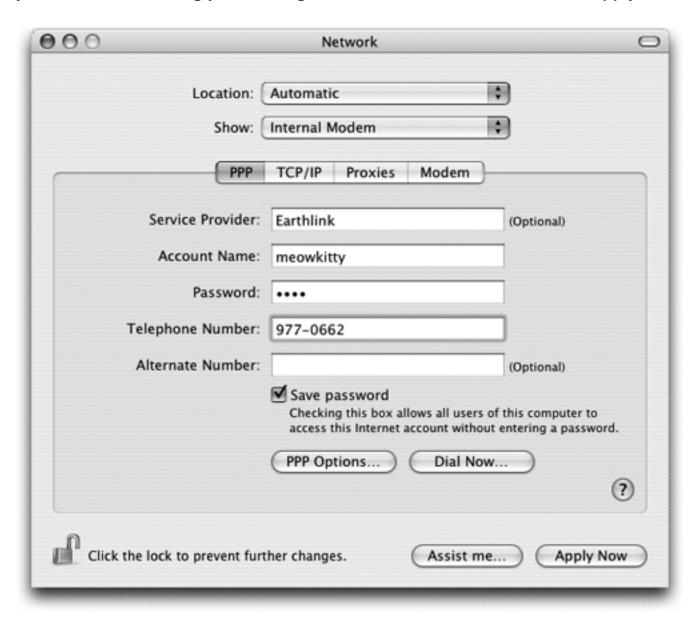
- Alternate Number. This blank lets you type in a number to dial if the first one is busy.
- **PPP Options.** Click this button to bring up a special Options dialog box. Here, for example, you can specify how long the Mac waits before hanging up the phone line after your last online activity, and how many times the Mac should redial if the ISP phone number is busy.



In the Session Options, one checkbox you'll almost certainly want to turn on is "Connect automatically when needed." It makes your Mac dial the Internet automatically whenever you check your email or open your Web browser. (Otherwise, you'd have to establish the Internet call manually, using the Internet Connect program described in <a href="Section 9.12">Section 9.12</a>. Only then could you check your email or open your Web browser.)

Even if several user accounts (<u>Chapter 11</u>) are set up on your Mac, they all share the same Internet connection settings. Only an administrator can make changes to the Internet dial-up settings. That's why the little padlock appears in the lower-left corner of the dialog box. When

you're finished making your settings, either close the window or click Apply Now.



#### 18.2.2 The Other Tabs

Most people using a dial-up modem can ignore TCP/IP and Proxies tabs altogether. (The TCP/IP tab comes already set to "Using PPP," which is what you want. And proxy servers are computers used primarily by corporations to accelerate or filter the delivery of Internet information. Of course, if you work in a corporation, you probably don't connect to the Internet with a dial-up modem anyway. If you are that rare exception, ask your network administrator to show you how to set up this screen.)

On the Modem tab, you specify which kind of modem you have. Most Mac OS X- compatible Macs have built-in Apple modems, which is why the pop-up menu already says "Apple Internal 56K Modem." If you, the heretic, have some other kind of modem, choose its name from the pop-up menu.



This list of modems corresponds to configuration files in your Library Modem Scripts folder. You can save some disk space and simplify your life by throwing away the scripts for all of the modems except the one you actually use.

Some of the other settings that can be handy include:

- Wait for dial tone before dialing. This is for you, North American laptop owners. Because the dial tones in certain
  foreign countries sound weird to the Mac, it therefore won't dial; it's still listening for that good old North American
  dial tone. In that case, turning off this checkbox makes the Mac dial bravely even though it hasn't heard the sound
  it's listening for.
- Dialing. Specify what kind of phone service you have—Tone, or in a few rural locations, Pulse.
- **Sound.** By clicking Off, you make your Mac dial the Internet silently, sparing sleeping family members or dorm roommates from having to listen to your modem shriek as it connects.

#### 18.2.3 Going Online

That's all there is to it. If you've turned on "Connect automatically when needed," your Mac dials and connects to the Internet automatically whenever an Internet-related program tries to connect (a Web browser or email program, for example).

Going online automatically (by launching an Internet program) is by far the most convenient method, but you can also go online on command, in one of these two ways.

Top: The quick way to dial or hang up is to use this menulet (which doesn't appear until you turn on "Show modem status on menu bar" in Internet Connect or on the Network pane's PPP screen).

Bottom: You can also go online (or disconnect) the long way—using Internet Connect.





If you didn't turn on that option, then you can make your Mac dial the Internet in one of two ways:

- **Using Internet Connect.** This little program is in your Applications folder. The main item of interest here is the Connect button, which makes the Mac dial. Once Internet Connect indicates that you're online, open your Web browser, email program, or other Internet software and get surfing.
  - If you're smart, however, you'll turn on the "Show modem status on menu bar" checkbox. It adds a tiny telephone icon—the Modem Status menulet—to the upper- right corner of your screen, which lets you completely bypass Internet Connect the next time you want to go online (Figure 18-3).
- **Use the menu-bar icon.** Just click the Modem Status menulet and choose Connect from the pop-up menu. Your Mac dials without even blocking your desktop picture with a window.

## 18.2.4 Disconnecting

The Mac automatically drops the phone line 15 minutes after your last activity online (or whatever interval you specified in

the PPP Options dialog box). In fact, if other people have accounts on your Mac (<u>Chapter 11</u>), the Mac doesn't even hang up when you log out. It maintains the connection so that the next person can surf the Net without redialing.

Of course, if other people in your household are screaming for you to get off the line so that they can make a call, you can also disconnect manually. Either choose Disconnect from the Modem Status menulet or click Disconnect in the Internet Connect window (both shown in Figure 18-3).



If you have more than one ISP, or if you travel between locations with your laptop, don't miss the Location feature. It lets you switch sets of dial-up modem settings—including the local phone number—with a simple menu selection. It's described in <u>Section 18.5</u>.



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### 18.3 Broadband Connections

If you have a cable modem, DSL, or office network, you're one of the lucky ones. You have a high-speed, broadband connection to the Internet that's always available, always on. You never have to wait to dial, disconnect, or download. You're connected to the Net via your Mac's Ethernet jack or AirPort connection, leaving its built-in modem benched.

### **18.3.1 Automatic Configuration**

The real beauty of most broadband connections these days is that they require *no setup whatsoever*. Take a new Mac out of the box, plug in the Ethernet cable to your cable modem, and you can begin surfing the Web instantly.

That's because most cable modems and DSL boxes automatically feed all of the necessary configuration settings to the Mac (including techie specs like IP address and DNS Server addresses), courtesy of a glorious feature called *DHCP*. This acronym means *dynamic host configuration protocol*, which is tech-ese for "we'll fill in your Network pane of System Preferences automatically."

#### **NOTE**

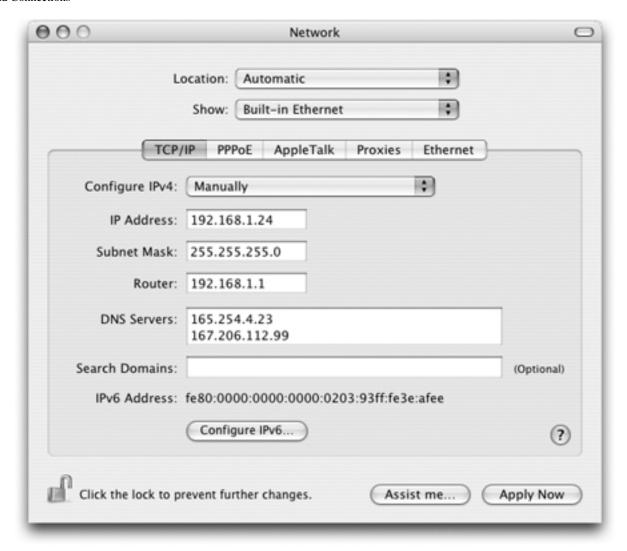
The bad news is that DHCP doesn't necessarily give you a single, unchanging IP address, which can make it more difficult to use the remote control features of Mac OS X, like dialing in from the road. There is a workaround, however; see <u>Section 21.1</u>.

## 18.3.2 Manual Configuration

If, for some reason, you're not able to surf the Web or check email the first time you try, it's conceivable that your broadband modem *doesn't* offer DHCP. In that case, you may have to fiddle with the Network pane of System Preferences, preferably with a customer-support rep from your broadband provider on the phone.

On the Network pane, from the Show pop-up menu, choose either AirPort or Built-in Ethernet, depending on how your Mac is connected to the broadband modem. Now you see something like <u>Figure 18-4</u>.

Don't be alarmed by the morass of numbers and periods—it's all in good fun. (If you find TCP/IP fun, that is.) In this illustration, you see the setup for a cablemodem account with a static IP address, which means you have to type in all of these numbers yourself, as guided by the cable company. The alternative is a DHCP server account, which fills most of it in automatically.



The next step is to make a selection from the Configure pop-up menu. Only your service provider can tell you exactly which settings to use, but you'll probably be asked to choose Manually. That is, your cable or phone company will tell you precisely which *IP address* (Internet address) to type in here. The bad news is that you'll also have to fill in all the other boxes here—Subnet Mask, Router, and so on—with cryptic numbers separated by periods.

On the other hand, look at the bright side: You've just been given a *static IP address*, an Internet address that is all your own and that won't change. Because your Mac has this one reliable address, several cool Mac OS X features are available to you. For example, it's easier to access your files from anywhere in the world, as described in Chapter 21.

That's all the setup—click Apply Now. If your settings are correct, you're online, now and forever. You never have to worry about connecting or disconnecting.







#### 18.4 AirPort Networks

AirPort is Apple's term for the 802.11 (Wi-Fi) wireless networking technology. If you have it, you'll remember having paid \$80 or \$100 for an AirPort card, which lets any modern Mac model communicate with an AirPort base station up to 300 feet away, much like a cordless phone. Doing so lets you surf the Web from your laptop in the TV room, for example, or share files with someone across the building from you. (Details in Section 12.1.)

Most people set up an AirPort base station in one of three ways:

- They go online by dialing via modem, which is built into the base station. The base station is plugged into a phone jack. Wireless Macs in the house can get online by triggering the base station to dial by remote control.
- They have a broadband modem, into which they plug the AirPort base station. Wireless Macs can surf using its connection through the air.
- They have a broadband modem, which they've plugged into an Ethernet hub (an inexpensive box with jacks for numerous computers, so they can communicate). They plug the broadband modem into the WAN (wide area network)port of the hub—not one of the regular Ethernet jacks—and plug the base station into one of the hub's regular jacks.

## POWER USERS' CLINIC PPPOE and DSL

If you have DSL service, you may be directed to click the PPPoE tab (in the Network pane of System Preferences). It stands for PPP over Ethernet, meaning that although your DSL "modem" is connected to your Ethernet port, you still have to make and break your Internet connections manually, as though you had a dial-up modem.

Fill in the PPPoE tab as directed by your ISP (usually just your account name and password). From here on in, you start and end your Internet connections exactly as though you had a dial-up modem, as described in <u>Section 18.2.3.</u>

You may discover that turning on PPPoE disables AppleTalk. If you need AppleTalk (for connecting to older Macs on the network, for example), here's a tip: On the Network pane of System Preferences, choose Show Network Configurations. Duplicate and rename your Ethernet setup. Set up the new configuration with AppleTalk on, using a manually assigned IP address (like 192.168.1.10).

Now your Mac can talk on two "networks" at once on the same Ethernet port—your DSL company and your older Macs on the network.

For the easiest AirPort network setup, begin by configuring your Mac so that it can go online the wired way, as described on the previous pages. Once it's capable of connecting to the Internet via wires, you can then use the Airport Setup Assistant (in your Applications Utilities folder) to transmit those Internet settings wirelessly to the base station itself. From then on, the base station's modem or Ethernet jack—not your Mac's—will do the connecting to the Internet.

Once your AirPort system is working, you can use the menu bar icon to turn off your AirPort

card (for battery savings in a laptop); to switch from one AirPort network to another (in schools or companies that have more than one, as shown here); and to check your wireless signal strength (by counting the "waves" coming out of the icon on your menu bar).



# FREQUENTLY ASKED QUESTION All the Firewall Checkboxes

Why can't I turn the checkboxes on the Firewall dialog box on or off?

These checkboxes are really only indicators, not controls. You can't turn them on or off by clicking—only by changing the setup on the Services tab.

The checkboxes here list certain *ports*—numbered tunnels for certain kinds of Internet traffic. Each service (iChat, iTunes Music Sharing, Personal Web Sharing, Personal File Sharing, and so on) conducts its business on a specific port.

For example, the Personal Web Sharing service watches port 80 for requests (from the Internet) for the Web pages you've created on your Mac, as described in <u>Chapter 21</u>. The Personal File Sharing service watches port 548 for requests to access shared folders and disks (<u>Chapter 12</u>).

That's why the only way to turn these checkboxes on or off is by visiting the Services tab of the Sharing panel. Whenever you turn on one of the services on the Services tab, Mac OS X turns on the corresponding checkbox on the Firewall tab automatically.

Likewise, turn the service off to close the port. (Turn off all of the services you don't need, so the bad guys can't use the corresponding ports to access your computer.)

It's important to note that you'll only need to keep ports open for those services you're *providing*, and not those you're using on other computers. For example, you don't need to keep port 80 open when you're accessing *other* people's Web pages, and you don't need to keep port 548 open if you're accessing other Macs on the network.

Incidentally, the Firewall pane lists only the services that come built into Mac OS X. As power users know, there are plenty of other network services worth running that aren't listed here: IRC, Retrospect, MSN Messenger, Timbuktu, and so on. You have to open their ports manually.

To do so, click New on the Firewall pane. The resulting sheet has a pop-up menu listing a handful of common services, and a text box showing the associated port for that service. If the service you would like to run is listed, choose it from the pop-up menu and click OK. You've just added a new checkbox to the Firewall pane.

If you don't see your service listed, choose Other in the Port Name pop-up menu. Enter the port number associated with that service and a description. If you don't know the correct port number to use, search the port database at *ports.tantalo.net* 

At that point, you can do all the controlling you like from the AirPort menulet (Figure 18-5).



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#### 18.5 The Firewall

If you have a broadband, always-on connection, you're connected to the Internet 24 hours a day. It's theoretically—though remotely—possible for some cretin to use automated hacking software to flood you with files or take control of your machine. Fortunately, Mac OS X 10.3's *firewall* feature puts up a barrier to such mischief.

Open the Sharing panel of System Preferences. Click the Firewall tab (<u>Figure 18-6</u>), and then click Start. That's almost all there is to it: you're protected.

This simple firewall doesn't let you create complex rules (preprogrammed guidelines that permit or deny certain kinds of Internet traffic). For that degree of flexibility, install a shareware program like Firewalk or Brickhouse (available from <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>, for example).



Only one complication may remain: If you're using Mac OS X's Internet connection sharing feature (<u>Section 18.8</u>), then it's important to turn on the firewall only for the *first* Mac—the one that's the gateway to the Internet. Leave the firewall turned off on all the Macs "downstream" from it.







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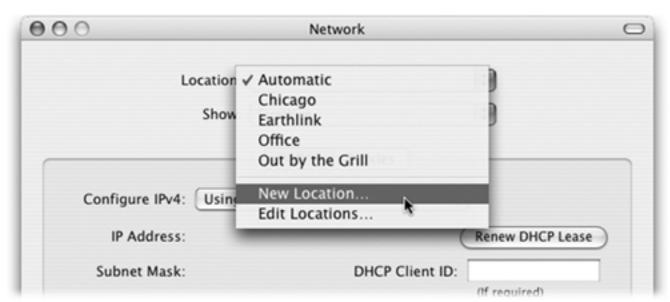
## 18.6 Switching Locations

If you travel with a laptop, you know the drill. You're constantly opening up System Preferences Network so that you can switch between Internet settings: Ethernet at the office, dial-up at home. Or maybe you simply visit the branch office from time to time, and you're getting tired of having to change the local access number for your ISP each time you leave home (and return home again).

The simple solution is the Location submenu. As <u>Figure 18-7</u> illustrates, all you have to do is tell it where you are. Mac OS X handles the details of switching to the correct Internet connection and phone number.

The Location feature lets you switch from one "location" to another just by choosing its name—either from the menu (top) or from this pop-up menu in System Preferences (bottom). The Automatic location just means "the standard, default one you originally set up." (Don't be fooled: Despite its name, Automatic isn't the only location that offers multihoming, which is described later in this chapter.)





## 18.6.1 Creating a New Location

To create a *Location*, which is nothing more than a set of memorized settings, open System Preferences, click Network, and choose New Location from the Location popup menu. You'll be asked to provide a name for your new location, such as *Chicago Office* or *Dining Room Floor*.

When you click OK, you return to the Network panel, which is now blank. Take this opportunity to set up the kind of Internet connection you use at the corresponding location, just as described on the first pages of this chapter. If you travel regularly, in fact, you can use Location Manager to build a long list of city locations, each of which "knows" the local phone number for your Internet access company (because you've entered it on the PPP tab).

A key part of making a new Location is putting the various Internet connection types (Ethernet, AirPort, Modem, Bluetooth) into the correct order. Your connections will be slightly quicker if you give the modem priority in your Hotel setup, the AirPort connection priority in your Starbucks setup, and so on.

In fact, if you use nothing but a cable modem when you're at home, you may want to create a location in which *only* the Ethernet connection is active. Conversely, if your laptop uses nothing but its dial-up modem when on the road, your Location could include *nothing* but the Internal Modem connection. You'll save a few seconds each time you try to go online, because your Mac won't bother hunting for an Internet connection that doesn't exist (see "Multihoming," below).

#### 18.6.2 Making the Switch

Once you've set up your various locations, you can switch among them using either the Location pop-up menu (in System Preferences Network) or the Location submenu, as shown in Figure 18-7. As soon as you do so, your Mac is automatically set to dial the new phone number or to connect using the different method.



If you have a laptop, create a connection called Offline. From the Show pop-up menu, choose Network Port Configurations; turn off *all* the connection methods you see in the list. When you're finished, you've got yourself a laptop that will *never* attempt to go online. This setup will save you the occasional interruption of a program that tries to dial but takes three minutes to discover you're on Flight 800 to Miami and have no phone line available.



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## 18.7 Multihoming

Speaking of different ways to get online, Mac OS X offers one of the coolest features known to Internet-loving mankind: *multihoming.* That's the ability to maintain *multiple simultaneous* network connections open—Ethernet, AirPort, dial-up, even FireWire. If one of your programs needs Internet access, and the first method isn't hooked up, the Mac switches to the next available connection—automatically.

This feature is especially ideal for laptops. When you open your Web browser, your laptop might first check to see if it's at the office, plugged into a cable modem via the Ethernet—the fastest possible connection. If not, it automatically looks for an AirPort network. Finally, if it draws a blank there, the laptop reluctantly dials the modem. It may not be the fastest Internet connection, but it's all you've got at the moment.

In short, for each location you create, you can specify which network connections the Mac should look for, and in which order. You can even turn off some connections entirely. For example, if you have a desktop Mac that's always connected to a cable modem, you may never want your Mac to dial using its built-in modem. In that case, you could turn off the modem entirely.

Here's how to go about using this multihoming feature:

1. Open System Preferences. Click the Network icon.

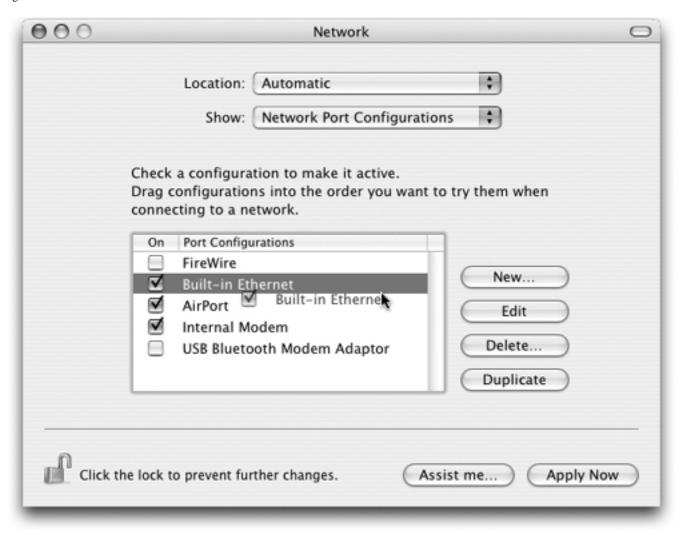
Panther's new Network Status screen (<u>Figure 18-1</u>) brings home the point of multihoming: You can have more than one network connection operating at once.

Make sure the appropriate location is selected in the Location pop-up menu.

2. From the Show pop-up menu, choose Network Port Configurations.

Now you see the display shown in <u>Figure 18-8.</u> It lists all the different ways your Mac knows how to get online, or onto an office network.

The key to multihoming is sliding the network connection methods' names up or down (and turning off the ones you don't intend to use in this location). You can also rename the different configurations by double-clicking them.



#### 3. Drag the items up and down in the list into priority order.

If you have a wired broadband connection, for example, you might want to drag Built-in Ethernet to the top of the list, since that's almost always the fastest way to get online.

At this point, you can also *turn off* any connections you don't want your Mac to use when it's in this location—the internal modem, for example.

#### 4. Click Apply Now.

Your Mac will now be able to switch connections even in real time, during a single Internet session. If lightning takes out your cable modem in the middle of your Web surfing, your Mac will seamlessly switch to your AirPort network, for example, to keep your session alive.







## 18.8 Internet Sharing

If you have cable modem or DSL service, you're a very lucky individual. Not only do you benefit from great speed when surfing the Web or processing email, but your connection is on full-time. You never have to wait for some modem to dial (screeching all the way), and wait again for it to disconnect. Too bad only one computer in your household or office can enjoy these luxuries.

Actually, it doesn't have to be that way. You can spread the joy of high-speed Internet to every Mac (and PC) on your network in either of two ways:

- **Buy a router.** A *router* (sometimes called a *residential gateway*) is a little box, costing about \$50, that connects directly to the cable modem or DSL box. In most cases, it doubles as a hub, providing multiple Internet jacks into which you can plug your Macs and PCs. As a bonus, a router provides excellent security, serving as a firewall to keep out unsolicited visits from hackers on the Internet. (If you use a router, *turn off* Mac OS X's own firewall, as described previously in this chapter.)
- Use Internet Sharing. Panther's Internet Sharing feature is the software version of a router, in that it distributes a single Internet signal to every computer on the network. But unlike a router, it's free. You just fire it up on the one Mac that's connected directly to the Internet—the gateway computer. (The Internet Sharing feature is also responsible for Mac OS X's software base station feature for AirPort Macs, as described in Section 18.8.1.)

But there's a downside: If the gateway Mac is turned off or asleep, none of the other machines can get online.

# FREQUENTLY ASKED QUESTION Internet Sharing Using a Modem

My eMac isn't anywhere close to a phone jack. Can I use Internet Sharing to get online via the dial-up modem of my upstairs Power Mac?

As long as your eMac is connected to the gateway machine via a network (Ethernet or AirPort), the answer is yes.

Think about it: Dial-up modems and Bluetooth cell phones may be listed in the Network panel of System Preferences, but they're only connections to the *Internet*, not connections to your *home network*.

If you want the gateway Mac to share its dial-up or Bluetooth connection with other machines on your network, therefore, the selected Location (<u>Section 18.5</u>) must list *both* the modem/Bluetooth connection *and* either Ethernet, AirPort, or FireWire.

The bottom line: If the Show pop-up menu in your Network panel shows only Internal Modem or only Bluetooth, then you won't be able to turn on Internet Sharing at all

Most people use Internet Sharing to share a broadband connection like a cable modem or DSL. But in fact, Internet Sharing works even if the gateway Mac connects to the Internet via dial-up modem or even a Bluetooth cell phone.

The only requirement is that the gateway Mac *also* has a network connection (Ethernet, AirPort, or FireWire) to the Macs that will share the connection.

#### 18.8.1 Turning on Internet Sharing

To turn on Internet Sharing on the gateway Mac, open the Sharing panel of System Preferences. Click the Internet tab and then click Start, as shown in <u>Figure 18-9.</u> (In most setups, you'll want to turn on Internet Sharing *only* on the gateway Mac.)

Ka-ching! Mac OS X's Internet Sharing button just saved you the cost of a \$50 hardware router. In this example, the Mac is connected a cable modem via Ethernet. But other Macs are connected to it via wireless AirPort and by a FireWire cable (Section 12.1.3.) And now they can get online, too, even though they're not directly connected to the cable modem.



To set up sharing, you have to specify (a) how the gateway Mac is connected to the Internet, and (b) how it's connected to the other Macs on your office network:

• **Share your connection from.** Using this pop-up menu, identify how *this Mac* (the gateway machine) connects to the Internet—via Built-in Ethernet, Internet Modem, or whatever. If you turn on AirPort, you create the *software* 

- base-station effect described in the next section.
- **To computers using.** Turn on the checkboxes to teach your Mac how the *other* Macs are connected to it—via what form of networking, in other words.

#### NOTE

Which checkboxes appear here depend on which kinds of Internet connections are turned on in the Network panel of System Preferences. If the gateway Mac doesn't have an AirPort card installed, for example, or if AirPort is turned off in the current configuration, the AirPort option doesn't appear.

Now visit each of the other Macs on the same network. Open the Network panel of System Preferences. Using the Show pop-up menu, choose AirPort, Built-in Ethernet, or FireWire—whichever reflects how each Mac is connected to your network. Then, from the Configure pop-up menu, choose Using DHCP. Leave everything else blank, as shown in <u>Figure 18-8</u>. Finally, click Apply Now.

As long as the gateway Mac remains turned on, you should find that both it and your other Macs can get onto the Internet simultaneously, all at high speed. (Even Windows PCs on the same network can also get online, as long as you set them up to use DHCP just as you did your "downstream" Macs.)

#### **NOTE**

If you're like most people, your gateway Mac has only one Ethernet port. How, you may wonder, can you plug in both the cable modem and the local network?

One approach is to install a second Ethernet card. The more economical approach: Connect the cable modem to the *Uplink* or *WAN* jack on your Ethernet hub. (On some hubs, an ordinary Ethernet port can be turned *into* an Uplink port if you flip a tiny switch.) Your gateway Mac plugs into the hub as usual.

# POWER USERS' CLINIC Internet Sharing as a Bridge

Ordinarily, only one Mac has Internet Sharing turned on—the one that's connected directly to the Internet.

There are, however, times when you might want another machine "downstream" to have it turned on, too. That's when you want to *bridge* two networks.

Consider the setup illustrated here, where there are really two different networks: one that uses AirPort, and another connected to an Ethernet hub.

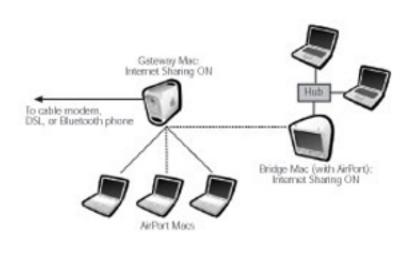
If you play your cards right, you can actually set things up so that all of these Macs can get online simultaneously, using a single Internet connection.

Set up the gateway Mac so that it's an AirPort base station, exactly as described on these pages.

Start setting up the *bridge* Mac the way you'd set up the other AirPort Macs—with AirPort selected as the primary connection method, and "Using DHCP" turned on in the Network panel.

Then visit the bridge Mac's Sharing panel. Turn on Internet Sharing here, too, but this time select "To computers using: Built-in Ethernet."

The bridge Mac is now communicating on both networks. It uses the AirPort connection as a bridge to the gateway Mac and the Internet—and its Ethernet connection to share that happiness with the wired Macs in its own neighborhood



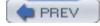
### 18.8.2 The Software Base Station Effect

If the gateway Mac has an AirPort card, turning on Internet Sharing (and "To computers using: AirPort") has another profound effect: It creates a *software* base station. The Mac itself is now the transmitter for Internet signals to and from any other AirPort-equipped Macs within range. You just saved yourself the cost of a physical, flying saucer Apple base station!



Internet Sharing can create the *opposite* effect, too: Instead of letting a wireless Mac piggyback on a wired Mac's connection, you can let a wired Mac share a *wireless* connection.

Suppose, for example, that you and a buddy both have laptops in a hotel lobby. You're online, using the hotel's WiFi network and your laptop's AirPort card. If you set up Internet Sharing appropriately, your buddy, who was too cheap to buy an AirPort for *his* laptop, can connect to yours via an Ethernet cable or even a FireWire cable—and surf along with you!



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### 18.9 .Mac Services

In January 2000, Apple CEO Steve Jobs explained to the Macworld Expo crowds that he and his team had had a mighty brainstorm: Apple controls *both ends* of the connection between a Mac and the Apple Web site. As a result, Apple should be able to create some pretty clever Internet-based features as a reward to loyal Mac fans. Later that same day, the Apple Web site offered a suite of *free* services called iTools.

Then the technology bubble burst.

These days, .Mac subscriptions (as they're now called) cost \$100 per year. For a full description, see Figure 18-10.

The .Mac features appear as buttons down the left side of the .Mac Web site. For example, the iCards feature lets you send attractively designed electronic greeting cards by email to anyone on the Internet. The Backup feature works in conjunction with a basic backup program that you can download from this site. Webmail, HomePage, a virus program, and features that synchronize your iCal and iSync data with other computers are the other second-tier features.

The best feature, however, is iDisk.



# 18.9.1 Signing Up for .Mac

Open System Preferences and click the .Mac icon. Click Sign Up.

You now go online, where your Web browser has opened up to the .Mac sign-up screen. Fill in your name and address, make up an account name and password, turn off the checkbox that invites you to get junk mail, and so on.

The final step is to return to the Internet pane of System Preferences. On the .Mac tab, fill in the account name and password you just composed, if necessary. You're ready to use .Mac.

#### 18.9.2 iDisk

The crown jewel of the .Mac services is iDisk, which creates a 100 MB hard-drive icon on your desktop. (For more money, you can opt for a bigger iDisk.) Anything you drag into the folders inside this icon gets copied to Apple's secure servers on the Internet. Meanwhile, on your end, it appears to work just like a hard drive.

In other words, iDisk can be a handy pseudo-floppy or pseudo-Zip drive. Better, in fact; because this backup disk is off-site, if a fire or thief destroys your office *and* your backup disks, your iDisk is still safe.

Furthermore, you can pull the iDisk onto *any* computer's screen—Mac or Windows —at your office, at your home, at your friend's house, so you don't need to carry around a physical disk to transport important files.

Best of all, the iDisk is extremely well integrated into Mac OS X. For example, when you're saving a document from within a program, you can save it directly onto your iDisk.

### 18.9.2.1 Pulling it onto your screen

Apple must really love the iDisk concept, because it has devised about 300 different ways to pull the iDisk icon onto your screen (Figure 18-11):

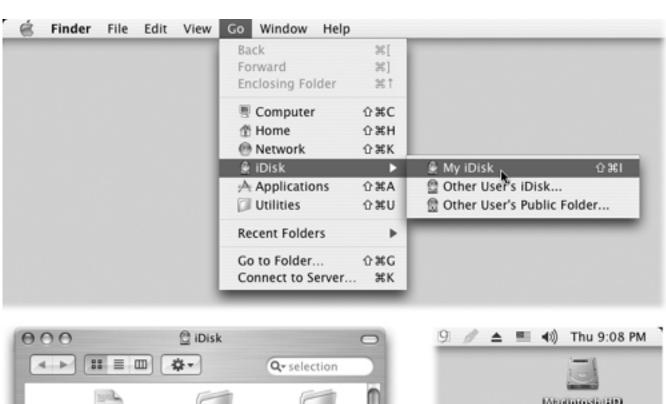
- Choose Go → iDisk → My iDisk (or press Shift- #-I).
- Click the iDisk icon in the Sidebar of a Finder window, or in the Sidebar of a Save or Open dialog box.
- Choose Go Connect to Server. At the bottom of the resulting dialog box, type <a href="http://idisk.mac.com/yourname">http://idisk.mac.com/yourname</a> (substitute your actual account name for <a href="yourname">yourname</a>). Press Enter. Type your .Mac name and password, if necessary, and then click Connect. (This is the quickest approach if you're using somebody else's Mac OS X machine.)
- Visit <u>www.mac.com</u> and click the iDisk icon. Type in your name and password, and then click Enter. Finally, click
  Open Your iDisk. (Clearly, this is a lot more work than the one-click methods already described. Use this technique
  when you're using a Mac OS 9 machine far from home, for example.)

At this point, the iDisk behaves like an external hard drive. You can drag files or folders from your hard drive into one of the folders that appear on the iDisk.

#### NOTE

You can't create your own folders in the iDisk's main window. You must put your files and folders into one of the folders *already on the iDisk*, such as Documents or Pictures. If you try to drag an icon directly into the iDisk window, or onto the iDisk icon, for example, you'll get an error message.

Choose Go iDisk (top) or click the iDisk icon in your Sidebar. When the iDisk finally appears (bottom right), double-click it—and wait—to see its contents (bottom left). Note that you can't create your own folders on this special disk; you must drag your files directly into one of the folders shown here.







# GEM IN THE ROUGH The Secret Software Stash

The Software folder on your iDisk is different from all the others. It holds an entire software collection you didn't even know you had.

Inside are various folders containing Apple software updates, the latest iLife programs like iMovie and iPhoto, hundreds of free MP3 files for use in your iMovie flicks, and demos of dozens of Mac OS X programs. After reviewing these programs, drag the software you want to your hard drive or your desktop. You can open or install it from there. (Fortunately, none of this eats into your 100 MB limit, and none of it is mirrored on your hard drive like your own iDisk stuff.)

Thereafter, you can retrieve or open whatever you copied to the iDisk. Open one of the folders on it; you can now open, rename, trash, or copy (to your hard drive) whatever you find inside.

## 18.9.2.2 Making the iDisk fast and synchronized

As you can imagine, copying files to and from a disk through a phone line (or even a cable modem) is very slow compared to copying them between hard drives on the same Mac. The iDisk has a reputation, therefore, of being very slow.

But in Mac OS X 10.3, the iDisk no longer needs to run at the speed of an anesthetized slug. Behind the scenes, Mac OS X 10.3 can keep a full, invisible *copy* of the iDisk's contents on your hard drive. When you add something to the iDisk, therefore, it *seems* to appear there instantly—even when you're not online—because all you've done is copy something onto a secret stash of your own drive. The Mac will begin the process of transmitting the copy to the *online* iDisk at the next opportunity.

In short, you can leave the iDisk's icon onscreen for as long as you like, even when you're offline.

To turn on this feature, see Figure 18-12.

## POWER USERS' CLINIC The iDisk from Windows

In the old days, you could only get to your iDisk from a Macintosh. These days, you can bring your iDisk onto the screen of any computer, even one running Windows or Linux.

The procedure varies by operating system, but the general idea is the same: You're going to create a new "hard drive" in your My Computer window whose icon represents the iDisk.

If you have Windows XP and plan to connect regularly, you can download the free iDisk Utility for Windows, which makes pulling up someone's iDisk a simple matter of a couple of clicks. Visit <a href="www.mac.com">www.mac.com</a> and click. Mac Downloads to find it.

Otherwise, here are the steps for different Windows versions:

Windows XP: Choose Tools Map Network Drive in any desktop window.

Windows 2000: Choose Tools Map Network Drive. Click "Web folder or FTP site."

Windows 98: Open My Computer. Double-click the Web Folders icon; double-click Add Web Folder.

In each case, you should now type in this address as the location to add: http://idisk.mac.com/yourname (where yourname is your .Mac member name), as shown here. When you're asked for a name and password, type in your usual .Mac name and password.

After a minute or two, you'll find the icon for your iDisk in the My Computer window, sitting there as though it's a hard drive attached to the PC. In Windows XP, for example, it's in the Network Drives category, called something like "Frank23 on 'idisk.mac.com.'"



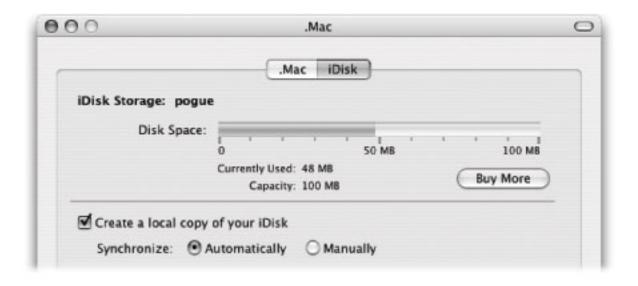


If you have more than one Mac in different locations (home and office, for example), you can keep your key files synchronized among all of them by turning on this automatic iDisk syncing on all of the machines. You've burned your last "Take Home" CD!

Top: To turn on iDisk syncing, open System Preferences, click .Mac, and turn on "Create a local copy of your iDisk."

Bottom: If you leave "Synchronize: Automatically" selected (best if you have a broadband connection), your Mac will keep your iDisk and your hard drive's copy updated to match each other, checking periodically for changes. (It will make the first copy as soon as you quit System Preferences.) If you opt for manual synchronization, (because you're using a dial-up connection, for example), you have to trigger your own syncs by clicking the little Sync button

next to the iDisk's name in the Sidebar. Note, too, that you can switch between automatic and manual syncing by clicking the iDisk in the Sidebar and then turning Automatic on or off in the Action menu.





#### 18.9.2.3 The Public folder

In general, whatever you put onto your iDisk is private and password-protected. There's one exception, however: Whatever you put into the *Public* folder on any iDisk can be seen, opened, and copied by any other .Mac member. All they need is

your member name—not your password. (Think of the iDisk Public folder as the long-lost twin of the Public folder in your own Home folder.)

The Public folder is terrific for storing family photos where anyone who's interested can look at them. It's also handy when you're collaborating; just post the latest drafts of your work in the Public folder for your co-workers to review.

To view someone *else's* Public folder, use one of these techniques (suppose the person's .Mac name is SkiBunny23):

- From Mac OS X 10.3. Choose Go iDisk Other User's Public Folder. Type in the person's member name and hit Return.
- Mac OS X 10.1 or 10.2. Choose Go Connect to Server. At the bottom of the dialog box, type http://idisk.mac. com/skibunny23/Public. Click Connect or press Enter. If a password is required, use public as the user name and, well, the password as the password.



Actually, there's a simpler way: Use iDisk Utility, described below.

• From Mac OS 9. Choose Chooser, click AppleShare, click the Server IP Address button, type idisk.mac. com in the Server Address box, and then click Connect. Type skibunny23; for the password, use public (unless the folder really is password- protected, in which case you should type the password you were given). Then click Connect. Select the iDisk and then click OK.

#### NOTE

Apple announced its intention to turn off AppleTalk access to the iDisk at the end of 2003. If this method no longer works, therefore, you'll have to search <u>www.versiontracker.com</u>, for example, to find a shareware program that carries on this function from Mac OS 9.

• From Windows. See the box in Section 18.9.2.2

After a minute or so, a new iDisk icon appears on your desktop, bearing that member's name. Double-click it to view its contents. You can copy these files to your hard drive, or double-click them to open them directly.

### 18.9.2.4 iDisk Options

If you open System Preferences and click the .Mac icon, you're offered a few interesting options, along with a graph that shows how full your iDisk is getting.

Here, you can also make these changes:

- Let people put stuff in your Public folder. Ordinarily, other people can deposit stuff into your Public folder as well as copy things out. If you'd rather set it up so that only *you* can drop things in there, click "Read only."
- Password-protect your Public folder. Probably a good idea if you decide to make your Public folder available for

deposits.

#### **NOTE**

These functions are available to pre-Panther people (and Windows people) if they visit <u>www.mac.com</u> click ". Mac Downloads," sign in, and download the program called iDisk Utility (or iDisk Utility for Windows).

#### 18.9.3 Email

Apple offers an email address to each .Mac member.

Of course, anyone who's able to *get* to the Apple Web site probably already *has* an email account. So why bother? The first advantage is the simple address: *YourName@mac.com*. And because .Mac is a Mac-only service, the odds are good that you'll be able to claim the name you want. No longer must you be known as *bgates28514@earthlink.net*. (Cultdom has its privileges.)

Second, Mac.com addresses are integrated into the Mail program that comes with Mac OS X, as you'll see in the next chapter. And finally, you can read your .Mac email from any computer anywhere in the world, via the <a href="www.mac.com">www.mac.com</a> Web site.

## 18.9.4 HomePage

Creating a Web page (an HTML document) isn't difficult. Using a program like Dreamweaver, GoLive, Netscape Composer, or even AppleWorks, you can design the text and graphics for a simple Web page in a single afternoon.

It's much more difficult, however, to figure out how to *post* that Web page—to hang it on the Internet where the world can see it. To do that, you need special software, several passwords and codes, and a lot of help from your ISP.

The .Mac HomePage feature eliminates all that hassle. All you have to do is drag your Web-page documents and graphics into the Sites folder on your iDisk (described in the previous section). Your Web page is instantly available for viewing by the 300 million people on the Internet.



You can create as many Web pages as you want. When you return to the HomePage screen, a list of your existing Web pages appears (complete with Edit Page and Delete Page buttons).

If you already know how to design Web pages, great; put the HTML documents and graphics you've created into the Sites folder of your iDisk.

Then tell your friends its Web address. Suppose that the Web page you designed is called *index.html*, and that your .Mac member name is SkiBunny. In that case, your custom-designed Web address is *homepage.mac.com/skibunny/index.html* (although most people can leave off everything after your member name).

And if you have no experience designing Web pages, you can use Mac OS X itself to help you:

- iPhoto and Image Capture can both turn photos downloaded from your digital camera into handsome art-gallery Web pages. After they've done so, drag the resulting HTML documents and image folders into your iDisk's Sites folder. Presto: you've got yourself a photo-gallery Web page.
- Sign into <u>www.mac.com</u> If you click HomePage, you'll find a large gallery of canned Web site design templates that
  you can easily fill up and post in cyberspace: photo albums, movie players, résumés, baby announcements, and so
  on.

When you finally click the Publish button at the top of the screen, new Web page (HTML) documents appear in the Sites folder of your iDisk. Also, your screen now displays your page's URL (Web address), which you can email to anyone who'd be interested. Unfortunately, it's not particularly catchy: it's along the lines of <a href="http://homepage.mac.com/YourMemberName/baby.html">http://homepage.mac.com/YourMemberName/baby.html</a>.

Finally, your Web page is available for anyone on the Internet to see. Corporations and professional Web designers may sniff at the simplicity of the result—but it takes *them* a lot longer than ten minutes to do their thing.

## **18.9.5 Backup**

.Mac membership also includes access to a program called Backup 2.0, which can give you an effortless, even automatic backup system for your most important files. It's also among the easiest-to-use backup programs ever written.

After you've downloaded the Backup program (from <u>www.mac.com</u>) and installed it, you'll find the Backup icon in your Applications folder. Opening it produces what you see in <u>Figure 18-13</u>.

Backup starts you out with Quick Picks—checkboxes for stuff Apple thinks you might want to back up, including some you might not think of (like Safari bookmarks). Incidentally, Backup requires an Internet connection; each time you back up, it checks in with the mother ship to con- firm that you're a .Mac member (although you can restore your stuff even if you're not).



Here's how to back up your stuff:

#### 1. Specify what to back up.

Turn on the Quick Pick checkboxes, for example (<u>Figure 18-13</u>), or drag folders and files right off your desktop into the Backup list. In general, you'll want to back up only the stuff in your Home folder. After all, you don't need to back up Mac OS X itself or your programs, because you have the original discs (right?).

To remove something from the list, click it and then press the Delete key.

As you build your list, Backup shows you how much space (or how many discs) you'll need.



If you click a folder, and then click the Info button (the round *i*), you're shown a list of the files *in* that folder, so that you can exclude certain files.

#### 2. Specify where you want Backup to put your safety copies.

The top pop-up menu lets you choose where you want to make your backup copy: on your iDisk, on a blank CD or DVD, onto a flash drive (Section 10.1.1.4), or on another hard drive—an external hard drive, an iPod, another computer on the network, or whatever. (If you have too much stuff to fit on your iDisk, you'll have to choose fewer files to back up. If you have too much stuff to fit on a CD or DVD, on the other hand, Backup can split the job across multiple discs.)

#### 3. Click Backup Now.

If you've opted to back up onto blank discs, Backup asks you to name the backup set (like *Essentials*, 2/2/04), then tells you when to insert new discs. (It's fine to use a combination of blank CDs and DVDs.)

In any case, Backup now whirls into action, making the safety copies (and replacing any earlier copies of them).



If you're backing up onto your iDisk or a hard drive, you can set up Backup to make *automatic* backups according to a schedule, just by clicking the Schedule Backups button. Backup will kick in at the scheduled time, assuming your Mac is on, your account is logged in, and the Backup program *isn't* already running. (To find out if your scheduled backup took place, choose File Show Log.)

If disaster should ever befall your files—dead hard drive, clueless spouse, overtired self—you'll be glad you went through this exercise. Insert the CD or DVD (or connect the hard drive or iDisk) and then use the appropriate Restore command from Backup's top pop-up menu. Turn on the Restore checkboxes next to the stuff you want, and then click restore Now.



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### 18.10 Internet Location Files

One of the least convenient aspects of using the Internet is having to remember the often cumbersome addresses for various Internet features. The Mac offers a clever way to manage and memorize these addresses: *Internet location files*. Figure 18-14 shows the procedure for creating one of these special clipping files.

The idea is simple: When you double-click an Internet location file, your Web browser opens automatically to that page, or your email program launches and generates a new, blank, preaddressed outgoing message.

To create an Internet location file, highlight an Internet address in any dragand- droppable program (like TextEdit or Stickies). Drag the highlighted text to your desktop, where it becomes an Internet location file.



In other words, an Internet location file is like a system-wide Bookmarks feature. You might consider gathering together the location files for Web sites you frequently visit, put them into a folder, and put that folder into the Dock. Do the same with addresses to which you frequently send email. Thereafter, you save a step every time you want to jump to a particular Web page or send email to a particular person—just choose the appropriate name from the Dock folder's pop-up menu.

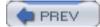


Rename your Internet location files. Doing so doesn't affect their original programming—they still take you to the same Web pages or email addresses—but it lets you substitute plain English names ("Bob Smith" instead of bsmith@earthlink.net, for example).

Although Web and email addresses are by far the most popular uses of the Internet location file feature, they're not the only ones. You can also create location files for the addresses of newsgroups (*news://news.apple.com*), FTP sites (*ftp.apple.* 

<u>com</u>), AppleShare servers (*afp://at/Engineering:IL5 3rd Floor*), AppleTalk zones (*at://IL5 2nd Floor*), and even Web pages stored on your Mac (*file://Macintosh HD/Website Stuff/home.html*).





< Day Day Up >



# **Chapter 19. Mail and Address Book**

Email is a fast, cheap, convenient communication medium; these days, anyone who doesn't have an email address is considered some kind of weirdo. If you do have one, though, you'll be happy to discover that Mac OS X includes Mail, a program that lets you get and send email messages—without having to wade through a lot of spam (junk mail). Mail is a surprisingly complete, refreshingly attractive program, much improved in Mac OS X 10.3, that's filled with shortcuts and surprises. And it's free.



< Day Day Up >







# 19.1 Setting Up Mail

What you see the first time you open Mail (by clicking its icon on the Dock, for example) may vary. If you've signed up for a Mac.com account (and typed its name into System Preferences as described in <u>Section 8.2</u>), you're all ready to go.

If you're using a regular Internet service provider (ISP) account instead, you'll confront the dialog box shown in <u>Figure 19-1</u>, where you're supposed to input the various settings to specify your email account. (Some of this information may require the help of your ISP's phone representative.) Here's the rundown:

- Full Name will appear in the "From:" field of the email you send. Type it just way you'd like it to appear.
- **Email Address.** This is the address you were assigned when you signed up Internet services, such as billg @microsoft.com.
- Account Type, Incoming Mail Server, Outgoing Mail Server (SMTP). Enter the information your ISP gave you about its mail servers: the type of server, the name of the incoming mail server, and the name of the outgoing mail server. The incoming server is often a POP3 server and its name is connected to the name of your ISP, such as popmail.mindspring.com. The outgoing mail server (also called the SMTP server) looks something like mail. mindspring.com.
- Outlook Web Access Server. This setting only appears if you choose Exchange for the Account Type. You can get the name of this server (also known as an Internet Information Server or IIS) from your network administrator.
- User Name, Password. Enter the name and password provided by your ISP.

Click OK when you're finished.

This dialog box lets you plug in the email settings provided by your ISP. If you want to add another email account later, choose Mail Preferences, click Accounts, and click the plus sign in the lower-left corner. Then enter all your information on the right side of the window.

Welcome to Mail	
	il accounts configured to use the following information to email.
Full Name:	dp
Email Address:	
Incoming Mail Server:	
Account Type:	POP 💠
User Name:	
Password:	
Outgoing Mail Server (SMTP):	
?	Quit OK

Now Mail offers to import your email collection from whichever email program you used before—Entourage, Outlook Express, Claris Emailer, Netscape, Mozilla, Eudora, or even a version of OS X's Mail program that's stored somewhere else. Importing is a big help in making a smooth transition between your old email world and your new one. <u>Figure 19-2</u> has the details.









# 19.2 Checking Your Mail

You get new mail and send mail you've written using the Get Mail command. You can trigger it in any of several ways:

- Click Get Mail on the toolbar.
- Choose Mailbox Get New Mail (or press Shift-#-N).

#### NOTE

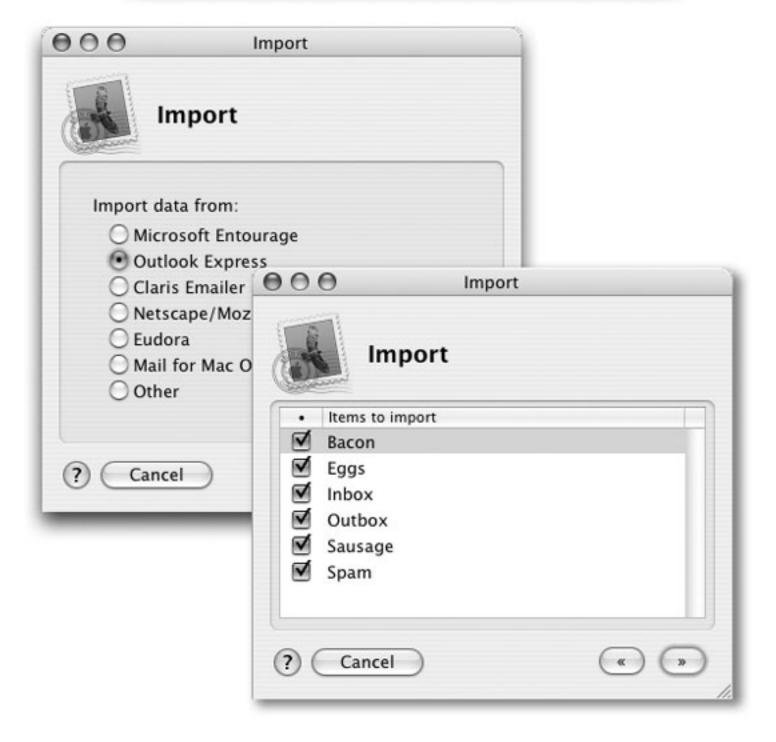
If you have multiple accounts, Get New Mail turns into a menu of its own. Choose "In All Accounts" to check all of your mailboxes at once, or check only a specific mailbox by selecting its name.

- Control-click (or right-click) Mail's dock icon, and choose Get New Mail. (You can use this method from any program, as long as Mail is already open.)
- Wait. Mail comes set to check your email automatically every few minutes. To adjust its timing or turn it off completely, choose Mail Preferences, click General, and choose a time interval from the "Check for new mail" pop-up menu.

Now Mail contacts the mail servers listed in the Accounts pane of Mail's preferences, retrieving new messages and downloading any files attached to those messages. It also *sends* any outgoing messages and their attachments.

If you click Yes (top), Mail offers to import your old email collection from just about any other Mac email program (bottom left). You can even specify which email folders you want to import (bottom right). When the importing process is finished (it can take a very long time) you'll find precisely the same folders already set up in Mail. (If you ever want to import mail from another program, choose File Import Mailboxes.)







The Activity window gives you a Stop button, progress bars, and other useful information.

Summon it by choosing Window Activity Viewer, or by clicking the spinning progress indicator that appears in the upper-right corner of the Mail window when it's checking for new messages.

#### 2.1 The Mailbox Drawer

Mail organizes your email into folders—*mailboxes*—at one side of the screen, in a sliding drawer (<u>Figure 19-3</u>). The Mailboxes icon on the toolbar opens and closes it. You may find the following mailbox folders, which are sometimes hidden by flippy triangles, in the drawer:

# UP TO SPEED

## POP, IMAP, Exchange, and Web-based Mail

When it comes to email, there are four primary flavors of *servers* (Internet computers that process email): *POP* (also known as POP3), *IMAP* (also known as IMAP4), *Exchange*, and *Web-based*. Each has its own distinct feeling, with different strengths and weaknesses. (AOL mail could be considered a fifth kind, but Mail can't work with it.)

**POP accounts** are the most common kind. A POP server transfers your incoming mail to your hard drive before you read it, which works fine as long as you're only using one computer to access your email.

If you want to take your email world along with you on the road, you have to copy the Mail folder in your Home Library folder into the corresponding location on your laptop's hard drive. When you run Mail on the laptop, you'll find your messages and attachments already in place.

**IMAP servers** are newer and have more features than POP servers, but aren't as popular or as common. IMAP servers store all of your mail online for you, rather than making you download it each time you connect. As a result, you can access the same mail regardless of the computer you use. IMAP servers remember which messages you've read and sent, to boot. (Your Mac.com account is an IMAP account, which is why you can access the mail in your Inbox repeatedly from any Mac in the world. As a bonus, you can read your .Mac email from any Web browser at <a href="www.mac.com">www.mac.com</a>.)

One downside to this approach, of course, is that you can't delete your email, or read it for the first time, unless you're online, because all of your mail is on an Internet server. Another disadvantage is that if you don't conscientiously manually delete mail after you've read it, your online mailbox eventually overflows. Sooner or later, the system starts bouncing new messages back to their senders, annoying your friends and depriving you of the chance to read what they had to say.

**Exchange servers** are central email hubs that are popular in corporations. Most of the time, employees tap into these servers using a Windows email program like Outlook. Corporate information-tech types like Exchange servers because they're easy to set up and maintain, and because they offer many of the same features as IMAP servers.

In Panther, for the first time, Mail can read and send email through Exchange servers as though your Mac were just another beige PC.

**Free, Web-based servers** like Hotmail also store your mail on the Internet, and you can use a Web browser on any computer to read and send messages. They're slower and more cumbersome to use than regular email accounts, but they're often free. Mail can't check Web-based accounts at all.

Some email accounts, however, let you check for new messages *either* with either a mail program *or* a Web browser. If you have a .Mac account, you'll find that your email system falls into this category—and Mail can certainly communicate with a .Mac account

• In holds mail you've received. If you have more than one email account, you can expand its flippy triangle to see the separate folders for your individual accounts. You'll see this pattern repeated with the Sent, Junk, and other mailboxes, too—separate accounts have separate headings under the main one.

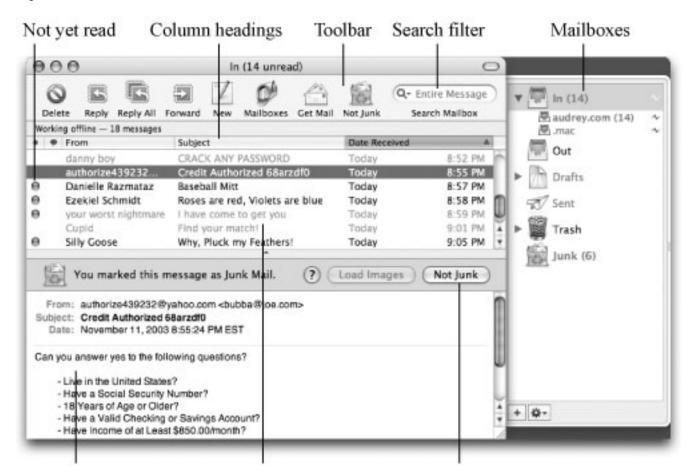


If you're not already online, you can click the small lightning-bolt icon next to the Inbox to connect and check that email account for new messages.

- Out holds mail you've written but hasn't yet been sent.
- Drafts holds messages you've started but haven't yet finished, and don't want to send just yet.
- Sent holds copies of messages you've sent.
- **Junk** appears automatically when you use Mail's spam filter, as described later in this chapter.
- On My Mac is a folder where you can file messages, within subfolders, from a standard ISP account (Earthlink, for example).
- **Trash** works a lot like the Trash on your desktop, in that messages you put there don't actually disappear. They remain in the Trash folder until you permanently delete them or move them somewhere else.

To see what's in one of these folders, click it once. The list of its messages appears in the top half of the main window. When you click a message name, the message itself appears in the bottom half of the main window.

The many panes of Mail. Click a mailbox icon in the drawer to see its contents in the upper-left pane. When you click the name of a message in the main list (or press the up and down arrow keys to highlight successive message names in that list), you see the message itself, along with any attachments, in the Preview pane.



Preview pane In brown: Junk mail Junk/Not junk button







# 19.3 Writing Messages

To send an email, click the New toolbar button. The New Message form, shown in <u>Figure 19-4</u>, opens. Here's how you go about writing a message:

1. Type the email address of the recipient in the "To:" field.

If somebody is in your address book (<u>Section 19.6</u>), just type the first couple letters of the name; Mail automatically completes the address. (If the first guess is wrong, just type another letter or two until Mail revises its guess.)

As in most dialog boxes, you can jump from blank to blank (from the "To:" field to the CC field, for example) by pressing the Tab key.

If you want to send this message to more than one person, separate their addresses with commas:bob@earthlink.net, billg@microsoft.com, steve@apple.com.

# POWER USERS' CLINIC The Mighty Morphing Interface

You don't have to be content with the factory-installed design of the Mail screen; you can control almost every aspect of its look and layout.

For example, you can control the main window's information columns exactly as you would in a Finder list view window—make a column narrower or wider by dragging the right edge of its column heading, rearrange the columns by dragging their titles, and so on. You can also control which columns appear using the commands in the View—Columns menu. Similarly, you can *sort* your email by clicking these column headings, exactly as in the Finder (click a second time to reverse the sorting).

The various panels of the main window are also under your control. For example, you can drag the divider bar—between the list of messages and the Preview pane—up or down to adjust the relative proportions, as shown here. In fact, you can get rid of the Preview pane altogether just by doubleclicking the divider line, double-clicking just above the vertical scroll bar, or dragging the divider line's handle all the way to the bottom of the screen. (Bring it back by dragging the divider line up from the bottom.)

You can also control the mailbox's drawer. Drag its outer edge inward or outward to make the drawer wider or narrower, for example. You can even make the drawer disappear or reappear by clicking the Mailboxes icon on the toolbar or by choosing View Hide Mailboxes (or Show Mailboxes) command.

If you'd like to swap the drawer to the other side of the main window, drag a message in the main message list horizontally toward the side where you want the drawer to appear.

Finally, you have full control over the toolbar, which works much like the Finder toolbar. You can rearrange or remove icon buttons (by #-dragging them); add interesting new buttons to the toolbar

(by choosing View—Customize Toolbar); change its display to show just text labels or just icons—either large or small (by repeatedly ##-clicking the white, oval, upper-right toolbar button); or hide the toolbar entirely (by clicking that white button or using the View—Hide Toolbar command).

Thanks for renewing!

Your Apple invoice # 9700539079

Oct 7

Avid FreeDV authorization key

Oct 7

Destry.tv>

EDT



If you send most of your email to addresses within the same organization (like reddelicious@apple.com, grannysmith@apple.com, and winesap@apple.com), Mail can automatically turn all other email addresses red. It's a new Panther feature designed to avoid sending confidential messages to outside addresses.

To turn on this feature, choose Mail Preferences, click Composing, turn on "Mark addresses not in this domain," and type the "safe" domain (like *apple.com*) into the blank.

2. To send a copy of the message to other recipients, enter the email address(es) in the CC field.

CC stands for *carbon copy*. Getting an email message where your name is in the CC line implies: "I sent you a copy because I thought you'd want to know about this correspondence, but I'm not expecting you to reply."

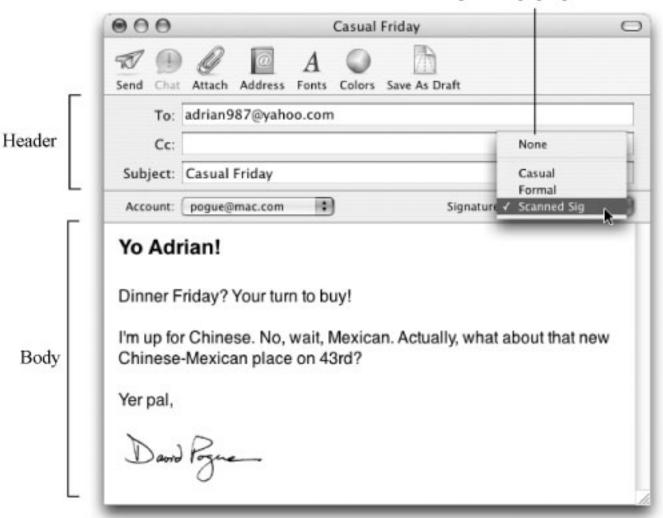


Here's a new Panther feature for you. If Mail recognizes the address you type into the "To:" or CC box (because it's someone in your Address Book), the name turns into a shaded, round-ended box button. Besides looking cool, these buttons have a small triangle on their right; when you click it, you get a list of useful commands (including Open in Address Book).

These buttons are also drag-and-droppable. For example, you can drag one from the "To:" box to the CC field, or from the Address Book to Mail.

A message has two sections: the header, which holds information about the message; and the body, the big empty white area that contains the message itself. In addition, the Mail window has a toolbar, which you can use to access other features for composing and sending messages. The Signature pop-up menu doesn't exist until you create a signature (Section 19.3.3).

## Signature pop-up menu



#### 3. Type the topic of the message in the Subject field.

It's courteous to put some thought into the Subject line (use "Change in plans for next week" instead of "Yo"). Don't leave it blank; you'll just annoy your recipient.

#### 4. Specify an email format.

There are two kinds of email: *plain text* and *formatted* (what Apple calls Rich Text). Plain text messages are faster to send and open, are universally compatible with the world's email programs, and are greatly preferred by many veteran computer fans. And even though the message is plain, you can still attach pictures and other files.

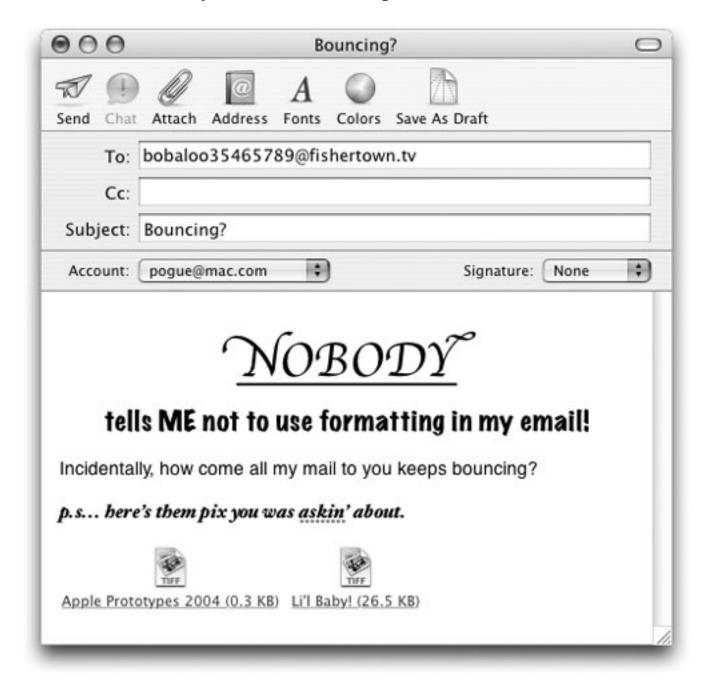
(Resourceful geeks have even learned how to *fake* some formatting in plain messages: They use capitals instead of italics [**GO HOME**] "smileys" instead of pictures [:-)], and pseudo-underlines for emphasis [**I \_love\_ Swiss cheese!**].)

By contrast, formatted messages sometimes open slowly, and in some email programs the formatting doesn't come through at all.

To control which kind of mail you send on a message-by-message basis, choose, from the Format menu, either

Make Plain Text or Make Rich Text. To change the factory setting for new outgoing messages, choose Mail Preferences; click the Composing icon; and choose from the Format pop-up menu.

If you really want to use formatting, click the Fonts icon on the toolbar to open the Font panel described in <u>Section 13.7.2.4</u>, or the Colors icon to open the Color Picker described in <u>Section 4.10.4</u>. The Format menu (in the menu bar) contains even more controls—paragraph alignment (left, right, or justify), and even Copy and Paste Style commands that let you transfer formatting from one block of text to another.





If you plan to send formatted mail, remember that your recipients won't see the fonts you use unless their machines have the same ones installed. Bottom line: For email to Mac and Windows fans alike, stick to universal choices like Arial, Times, and Courier.

#### 5. Type your message in the message box.

You can use all standard editing techniques, including copy and paste, drag-anddrop, and so on. If you selected the Rich Text style of email, you can even use word processor-like formatting (Figure 19-5).

As you type, Mail checks your spelling, using a dotted underline to mark questionable words (also shown in <u>Figure 19-5</u>). To check for alternative spellings for a suspect word, Control-click it. From the list of suggestions in the contextual menu, click the word you really intended, or choose Learn Spelling to add the word to the Mac OS X dictionary.



Adding a word to the dictionary in Mail also adds it to the dictionaries of all other OS X programs that use the global Mac OS X spelling checker, and vice versa. In other words, you won't have to teach "speciation" to Mail, Safari, *and* TextEdit—only to one of them.

(To turn off automatic spell check, choose Edit Spelling Check Spelling As You Type so that the checkmark disappears. If you want to spell-check a message all at once, choose Edit Spelling Check Spelling [#-;] after composing it.)

If you're composing a long email message, or if it's one you don't want to send until later, click the Save as Draft button, press #-S, or choose File --> Save As Draft. You've just saved the message in your Drafts folder. (It will still be there the next time you open Mail.) To reopen a saved draft later, click the Drafts icon in the mailbox drawer, and then double-click the message that you want to work on.

# UP TO SPEED Blind Carbon Copies—and Reply-To

A *blind carbon copy* is a secret copy. This feature lets you send a copy of a message to somebody secretly, without any of the other recipients knowing that you did so. To view this field when composing a message, choose View Bcc Header.

You can use the BCC field to quietly signal a third party that a message has been sent. For example, if you send your co-worker a message that says, "Chris, it bothers me that you've been cheating the customers," you could BCC your supervisor to clue her in without getting into trouble with Chris.

The BCC box is useful in other ways, too. Many people send email messages (containing corny jokes, for example) to a long list of recipients. You, the recipient, have to scroll through a very long list of

names the sender placed in the To or CC field.

But if the sender used the BCC field to hold all the recipients' email addresses, you, the recipient, won't see any names but your own at the top of the email. (Unfortunately, spammers have also learned this trick.)

# 6. Click Send (or press Shift-\mathbb{H}-D).

If you're not already online, your modem dials, squeals, connects to the Internet, and sends the message.



To re-send a message you already sent, Option-double-click the message in your Sent mailbox. Mail dutifully opens up a brand-new duplicate, ready for you to edit, readdress if you like, and then send again.

(The prescribed Apple route is to highlight the message and then choose Message Send Again, but that's not nearly as much fun.)

If you'd rather have Mail place each message you write in the Outbox folder instead of connecting to the Net when you click Send, choose Mailbox Go Offline. While you're offline, Mail will refrain from trying to connect, which is a great feature when you're working on a laptop at 39,000 feet. (Choose Mailbox Go Online to reverse the procedure.)

# 19.3.2 Attaching Files to Messages

Sending little text messages is fine, but it's not much help when you want to send somebody a photograph, a sound, or a Word document. To attach a file to a message you've written, use one of these methods:

• Drag the icons you want to attach directly off the desktop (or out of a folder) into the New Message window. There your attachments appear with their own hyperlinked icons (<u>Figure 19-5</u>), meaning that your recipient can simply click to open them.

The spot where you release the mouse in your message doesn't make a difference; Mail makes it look for all the world as though you can park the attached file's icon (or the full image of a graphics file) *inside* the text of the message, mingled with your typing. Don't be fooled, however; on the receiving end, all of the attachments will be clumped together at the end of the message.



Exposé (Section 4.3) was born for this moment. Hit the F11 key to make all open windows flee to the edges of the screen, revealing the desktop. Root around until you find the file you want to send. Begin dragging it; without releasing the mouse, press F11 again to bring your message window back into view. Complete your drag into the message window.

• Click the Attach icon on the New Message toolbar, choose File Attach File, or press Shift-A. The standard Open File dialog box now appears, so that you can navigate to and select the files you want to include. (You can choose multiple files simultaneously in this dialog box. Just #-click or Shift-click the individual files you want, just as though you were selecting them in a Finder window.)

Once you've selected them, click Choose File (or press Enter). You return to the New Message window, where the attachments' icons appear, ready to ride along when you send the message.

To remove an attachment, drag across its icon to highlight it, and then press the Delete key. (You can also drag an attachment icon clear out of the window onto your Dock's Trash, or choose Message Remove Attachments.)

If you have a high-speed connection like a cable modem, by the way, have pity on your recipient. A big picture or movie file might take you only seconds to send, but tie up your correspondent's modem for hours.

## 19.3.3 Signatures

Signatures are bits of text that get stamped at the bottom of your outgoing email messages. A signature may contain a name, postal address, a pithy quote, or even a scan of your *real* signature, as shown in Figure 19-4.

To create a signature, choose Mail Preferences, and then click the Signatures icon (Figure 19-6.). You can create any number of signatures by clicking the Add Signature button, which opens an editing sheet in which you can type your new signature and define a name for it.

Once you've created a signature or two, you can tack one of them onto your outgoing mail, either always or on a messageby-message basis.

• Always append a signature. On the Signatures preference screen (<u>Figure 19-6</u>, top), use the Automatically Insert Signature pop-up menu to choose the signature that you'd like to have in every email message. (You can always override this choice on a message-by-message basis.)



If you use the Select Signature pop-up menu to choose "In Random Order" or "In Sequential Order," Mail will choose a different one of these gems to grace the bottom of each email message that you send out. This is the way to rotate your quotes from, say, Monty Python, without seeming repetitive to your correspondents.

# POWER USERS' CLINIC Becoming Windows Friendly

In Panther, Apple introduced two features that make sending attachments more convenient than ever. First, you can compress your files and folders from right within the Finder-a great way to make your attachments take less time to send and receive (Section 2.10.3).

Second, Panther now lets you choose from two different formats for your attachments: normal or Windowsfriendly.

Normal attachments open correctly on both Macs and PCs. The trouble is, a normal attachment may show up on a PC accompanied by a useless, second attachment whose name starts with ".\_". (Your recipients should just ignore it.)

Windows-friendly attachments, on the other hand, always work correctly on PCs—but may not open at *all* on Macs. Unless you work in an all-Windows company, then, stick with the normal setting.

To use the Windows-friendly setting for an open message, choose Edit Attachments Send Windows Friendly Attachments. (If no message is open, the command says "Always Send Windows Friendly Attachments" instead). You can also adjust the setting on a per-email basis using the Send Windows Friendly Attachments check box at the bottom of the attachment dialog box.

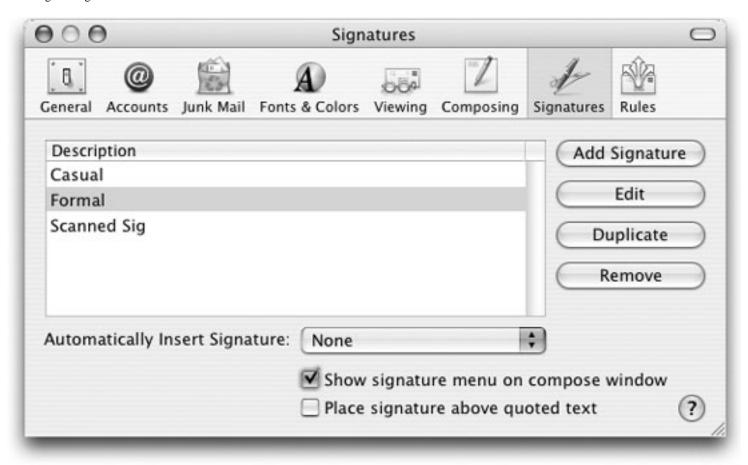
 Message by message. On the Signatures preference screen, turn on "Show signature menu on compose window." From now on, a Signature pop-up menu appears just above the message-body area on every outgoing email. When you choose from it, Mail pastes the signature into your message.



In Panther, a new option lets you specify where your signature goes when you're sending a reply. Ordinarily, your signature appears at the bottom of each message. But if you turn on "Place signature above quoted text" on the Signatures preference screen, your signature will always appear just above the "quoted back" text that Mail inserts when you reply to a message. The point is to save your recipient the pain of having to scroll past all your previous correspondence just to find your signature.

Top: Your list of signatures and the doorway to the signature-creation box.

Bottom: After typing some signature material, don't miss the Format menu, which you can use to dress up your signature with colors and other formatting. You can even drag or paste a picture into the signature box. Click OK when you're finished. (You'll be able to use formatted signatures only if you're sending Rich Text messages, of course.)







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# 19.4 Reading Email

Mail puts all the email you get into your Inbox; the statistic in parentheses after the word *In* lets you know how many of its messages you haven't read yet. New messages are also denoted by colorful, liquidy dots in the main list.



The Mail icon in the Dock also shows you how many new messages you have waiting—it's the number in the red circle, as shown in Figure 19-7.

Click the In folder to see a list of received messages. If it's a long list, press Control- Page Up and Control-Page Down to scroll. Click the name of a message once to read it in the Preview pane, or double-click a message (or, if it's selected, just press Return or Enter) to open it into a separate window.



Instead of reading your mail, you might prefer to have Mac OS X read it to you, as you sit back in your chair and sip your strawberry daiquiri. Highlight the text you want to hear (or choose Edit Select All), Control-click the selected text, and choose Speech Start Speaking from the contextual menu. You'll hear the message read aloud, in the voice you've selected on the Speech pane of System Preferences (Chapter 8).

To stop the insanity, choose Speech Stop Speaking from the same contextual menu.

Once you've viewed a message, you can respond to it, delete it, print it, file it, and so on. The following pages should get you started.

# GEM IN THE ROUGH All the Little Symbols

The first column of the main email list shows little symbols that let you know at a glance how you've processed certain messages. The most common one is, of course, the gelatinous blue dot (), which means "new message." (After reading a message, you can mark it once again as an unread message by choosing Message As Unread—or Control-clicking the message's name and choosing Mark As Unread from the contextual menu.)

You might also see these symbols, which represent messages that you've replied to (♠), forwarded (♣), redirected (♣), or flagged (♣).

In Panther, however the "replied to" and "forwarded" symbols aren't just indicators—they're *buttons*. When you see one of these symbols next to your original message, click it to jump straight to your reply (or forwarded message). You're spared the trouble of having to search through all your mailboxes.

Incidentally, you may have noticed that Mail marks a message as having been read the moment you click it. You can change it back to unread (by using its contextual menu)—but there's also a more permanent workaround.

But if you hide the Preview pane by double-clicking the divider bar just above it, Mail no longer marks messages "read" just because you clicked one in the list. (You can bring back the Preview pane by double-clicking just above the vertical scroll bar, or by dragging the divider bar back up from the bottom.)

## 19.4.1 Threading

Threading is one of the most useful mail-sorting methods to come along in a long time—and it's finally come to Mac OS X. When threading is turned on, Mail automatically groups emails with the same subject (like "Raccoons" and "Re: Raccoons"), as a single item in the main mail list.

To turn on threading, choose View Organize by Thread. If several messages have the same subject, they all turn light blue to indicate their membership in a thread (see <u>Figure 19-7</u>).

Threads have two parts: a heading (the subject of the thread, listed in dark blue) and members (the individual messages in the thread, listed in light blue and intended). Often, the main list shows only a thread's heading; click the flippy triangle to reveal its members.



Here are some powerful ways to use threading:

- View a list of all the messages in a thread by clicking its heading. In the Preview pane, you'll see a comprehensive inventory of the thread. You can even click a message's name in this list to jump right to it.
- Move all the members of a thread to a new mailbox by moving just its heading. You might find this useful, for example, when you've just finished a project and want to quickly file away all the email related to it. (As a bonus, a circled number tells you how many messages you're moving as you drag the heading.) You can even delete all the messages in a thread at once by simply deleting its heading.
- Examine thread members from multiple mailboxes. Normally, threads only display messages held in the same mailbox, but that's not especially convenient when you want to see both messages (from your In box) and your replies (in your Sent box). To work around that problem, click In and then #-click the Sent mailbox (or any other mailboxes you want to include). Your threads will seamlessly combine related messages from all of the selected mailboxes.
- Quickly collapse all threads by choosing View Collapse All Threads. If your main list gets cluttered with too many expanded threads, this is a quick way to force it into order. (If, on the other hand, your main list isn't cluttered enough, choose View Expand All Threads.)
- Send someone all the messages in a thread by selecting the thread's heading and clicking Forward. Mail automatically copies all the messages of the thread into a new message, putting the oldest at the top. You might find this useful, for example, when you want to send your boss all the correspondence you've had with someone about a certain project.

## 19.4.2 Adding the Sender to Your Address Book

Mail offers a timesaving feature: The Message Add Sender To Address Book command. Whenever you choose it, Mail memorizes the email address of the person whose message is on the screen. In fact, you can highlight a huge number of messages and add them all simultaneously using this technique.

Thereafter, you'll be able to write new messages to somebody just by typing the first couple letters of the name or email address.

# 19.4.3 Opening Attachments

Just as you can attach files to a message, so people often send files to you. Sometimes they don't even bother to type a message; you wind up receiving an empty email message with a file or two attached. Only the presence of the file's icon in the message body tells you that there's something attached.



Mail doesn't ordinarily indicate the presence of attachments in the main mail list. It can do so, however. Just choose View——Columns——Attachments. A new column appears in the email list—at the far right—where you'll see a paper-clip icon and the number of file attachments listed for each message.

Mail doesn't store downloaded files as normal file icons on your hard drive. They're actually encoded right into the .mbox mailbox databases described in <u>Section 19.4.12</u>. To extract an attached file from this mass of software, you must proceed in one of these ways:

- Control-click the attachment's icon, and choose Save Attachment from the contextual menu. You'll be asked to specify where you want to put it.
- Drag the attachment icon out of the message window and onto any visible portion of your desktop (or any visible

folder).

- Click the Save All button at the top of the email, or choose File Save Attachments. (If the message has more than one attachment, this maneuver will save all of them.)
- Double-click the attachment's icon, or single-click the blue name link underneath the icon. If you were sent a
  document (such as a photo, Word file, Excel file, and so on), it now opens in the corresponding program (Preview,
  Word, Excel, or whatever).



After the attachment is open, use the File Save As command to save the file into a folder of your choice. Otherwise, any changes you make won't be visible in the file except when you open it from within Mail.

Control-click the attachment's icon. From the contextual menu, you can specify which program you want to use for
opening it, using the Open With submenu.

### 19.4.3.1 When attachments don't open

Several factors may be at work if you're unable to open a file attachment. For starters, your correspondent's email program may have *compressed* or *encoded* the file to make it take less time to send. If you're having trouble getting a file to open, therefore, your first step should be to drag the attachment's icon onto that of Stufflt Expander, which is in your Applications Utilities folder. This little program can gracefully decode just about any geeky Internet file. (Real Mac OS X masters simplify their lives by parking Expander on the Dock for easy drag-and-drop access.)

If the file still won't open, then you may be dealing with a file from a Windows PC that requires a little more effort to open. For example:

# TROUBLESHOOTING MOMENT Dialup Blues

If you're among the 70 percent of the population who still connects with a dial-up modem, you may find that Mail is painfully slow at opening and reading email—and that it slows down other Internet programs, like your Web browser, whenever it checks for new mail.

Fortunately, you can take a few steps to speed up Mail (and, indirectly, your other Internet applications):

Cut back on mail checks. Choose Mail Preferences, click General, and change the "Check for new mail" pop-up to "Every hour," or even "Manually." That way, Mail won't tie up your phone line by trying to connect every five minutes.

Whenever you have a choice, don't sign up for HTML email. HTML mail takes far longer to arrive than plain email. Even though Mail in Panther uses Safari's super-fast HTML-displaying technology, formatted messages still take far more time to download. Therefore, if you ever sign up for companies' email updates (like Apple's eNews bulletin or the New York Times's Circuits newsletter), choose to receive the messages as text, not HTML.

Turn off graphics in formatted mail. If you have no choice but to receive HTML messages, the least you

can do is block the pictures, which are the biggest and slowest elements of a formatted message.

To do that, choose Mail Preferences, click Viewing, and turn off "Display images and embedded objects in HTML messages". From now on, you'll see a special Load Images button at the top of the Preview pane whenever you select an HTML message. If you feel that the empty boxes (where the graphics would have appeared) really deprive the message of its oomph, click that button to make Mail download all the images in the current message—this time, only because you've asked for them.

**Don't auto-download attachments.** If you use an IMAP, .Mac, or Exchange account, you can set up Mail so that it won't download attachments until you tell it to.

Open the Accounts pane of Mail's preferences, select your account, click Advanced, and choose "All messages, but omit attachments" from the pop-up menu in the middle. From now on, Mail won't save attachments unless you command it to do so.

- .exe denotes an executable file—in other words, a Windows program. By itself, your Mac can't run Windows programs, any more than a CD player can play 8-track tapes.
- .html. A file whose name ends in .html or .htm is a Web page. In the beginning, Web pages hung out only on the Internet. These days, however, you're increasingly likely to find that you've downloaded one to your Mac's hard drive (it may be a software manual for some shareware, for example). You can open it just by double-clicking; Mac OS X comes set to open all .htm and .html files in Safari.
- .vcf. A "business-card" file; see Section 19.6.2.1.

If you were sent a file with a three-letter code not listed here, you may well have yourself a file that can be opened only by a Windows program that you don't actually own. You might consider asking your correspondent to resend it in one of the more universal formats, such as the graphics formats JPEG and TIFF, or the text formats RTF and TXT. (Mac OS X opens all of these formats easily.)

## 19.4.4 Replying to a Message

To answer a message, click the Reply button on the message toolbar (or choose Message Reply, or just press **#**-R). If the message was originally addressed to multiple recipients, you can send your reply to everyone simultaneously by clicking the Reply All button instead.

In Rich Text-formatted Mail messages (not to be confused with RTF [Rich Text Format] word processing format, which is very different), a reply includes the original message, marked in a special color (which you can change in Mail Preferences) and with a vertical bar to differentiate it from the text of your reply. (In plain-text messages, each line of the reply is >denoted >with >brackets, although only your recipient will see them.) The original sender's name is automatically placed in the To field. The subject is the same as the original subject with the addition of Re: (shorthand for Regarding). You're ready to type your response.



A new message window opens, already addressed. As a courtesy to your correspondent, Mail places the original message at the bottom of the window, denoted by brackets or a vertical bar, as shown in <u>Figure 19-8</u>.



If you highlight some text before clicking Reply, Mail pastes only that portion of the original message into your reply. That's a great convenience to your correspondent, who now knows exactly which part of the message you're responding to.

At this point, you can add or delete recipients, edit the Subject line or the original message, attach a file, and so on.



Use the Return key to create blank lines in the original message. Using this method, you can splice your own comments into the paragraphs of the original message, replying point by point. The brackets preceding each line of the original message help your correspondent keep straight what's yours and what's hers.

When you're finished, click Send. (If you click Reply All in the message window, your message goes to everyone who received the original note, *even* if you began the reply process by clicking Reply. Mac OS X, in other words, gives you a second chance to address your reply to everyone.)

#### 19.4.5 Forwarding Messages

Instead of replying to the person who sent you a message, you may sometimes want to pass the note on to a third person.

To do so, click the Forward toolbar button (or choose Message Forward, or press Shift-£-F). A new message opens, looking a lot like the one that appears when you reply. You may wish to precede the original message with a comment of your own, along the lines of: "Frank: I thought you'd be interested in this joke about Congress."

Finally, address it as you would any outgoing piece of mail.

## 19.4.6 Redirecting Messages

A redirected message is similar to a forwarded message, with one extremely useful difference. When you *forward* a message, your recipient sees that it came from you. When you *redirect* it, your recipient sees the *original* writer's name as the sender. The message bears no trace of your involvement (unless the recipient thinks to choose View Message Long Headers). In other words, a redirected message uses you as a low-profile relay station between two other people.

Treasure this feature. Plenty of email programs, including Outlook and Outlook Express for Windows, don't offer a Redirect command at all. You can use it to transfer messages from one of your own accounts to another, or to pass along a message that came to you by mistake.

To redirect a message, choose Message Redirect Message, or press Shift- E. You get an outgoing copy of the message—this time without any quoting marks. (You can't edit redirected messages, since they're supposed to end up at their destination just as you received them.)

## 19.4.7 Printing Messages

Sometimes there's no substitute for a printout. Choose File ——Print, or press ##-P to summon the Print dialog box.

## 19.4.8 Filing Messages

Mail lets you create new mailboxes in the drawer. You might create one for important messages, another for all order confirmations from Web shopping, still another for friends and family, and so on. You can even create mailboxes *inside* these mailboxes, a feature beloved by the hopelessly organized.

The commands you need are all in the Mailbox menu. For example, to create a new mailbox folder, choose Mailbox New, or click the plus sign at the bottom of the drawer. Mail asks you to name the new mailbox. If you have more than one email account, it lets you specify which one will contain the new folder.



If you want to create a folder-inside-a-folder, use slashes in the name of your new mailbox. (If you use the name *Cephalopods/Squid*, for example, Mail will create a folder called Cephalopods, with a subfolder called Squid.)

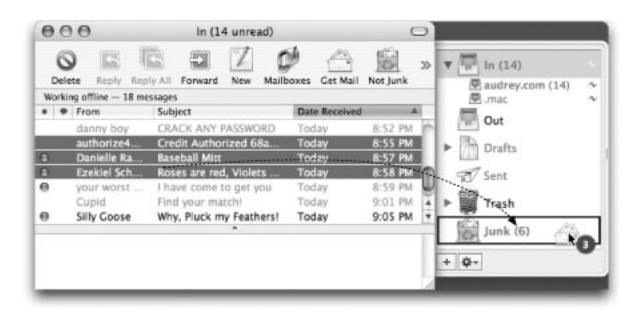
You can also drag the mailbox icons up and down in the drawer to place one inside another.

When you click OK, a new icon appears in the mailbox drawer, ready for use.

You can move a message (or group of messages) into a mailbox in any of three ways:

- Drag it out of the main list onto the mailbox icon (Figure 19-9).
- Highlight one or more messages in the list pane and then choose from the Message Move To submenu, which lists all your mailboxes.
- Control-click a message (or one of several that you've highlighted). From the resulting contextual menu, choose Move To, and then choose the mailbox you want from the submenu.

You can use any part of a message's "row" in the list as a handle; the little envelope cursor tells you that Mail knows what's happening. You can also drag messages en masse onto a folder. If you Optiondrag a message into a folder, you make a copy, leaving the original message where it is.



## 19.4.9 Flagging Messages

Sometimes you'll receive email that prompts you to some sort of action, but you may not have the time (or the fortitude) to face the task at the moment. ("Hi there...it's me, your accountant. Would you mind rounding up your expenses for 1993 through 2003 and sending me a list by email?")

That's why Mail lets you *flag* a message, summoning a little flag icon in a new column next to a message's name. These indicators can mean anything you like—they simply call attention to certain messages. You can sort your mail list so that all your flagged messages are listed first (click the flag at the top of the column heading), for example.

To flag a message in this way, select the message (or several messages) and choose Message As Flagged, or press Option-#-L, or Control-click the message's name in the list and choose Mark As Flagged from the contextual menu. (To clear the flags, repeat the procedure, but use the Mark As Unflagged command instead.)

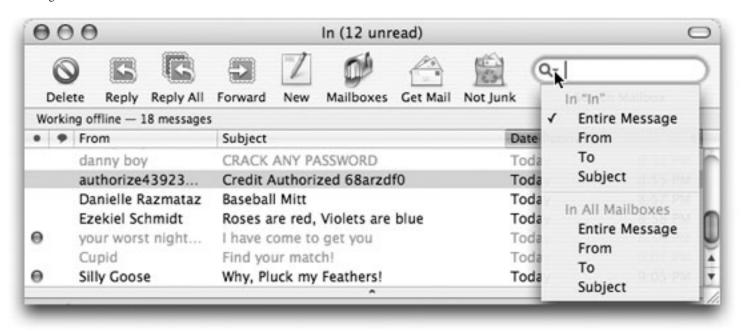
## 19.4.10 Finding Messages

As noted earlier in this chapter, you can sort the columns in your main email list just by clicking the headings (From, Subject, Date & Time, and so on).

But when you deal with masses of email, you may find it easier to process your messages using any of Mail's three message-finding methods.

Top: Use the pop-up menu to specify how you want to filter your email list (message body, sender, recipient, or subject), and whether you want to search just the current mailbox or all mailboxes. Type the text you're looking for in the search box.

Bottom: As you type, Mail shrinks the list of email messages in real time, so that you're looking at only the ones matching what you typed. (In this case, messages with the word of in the subject line.) To return to seeing all of your messages, click the tiny X at the right side of the search box.





### 19.4.10.1 Finding messages within a mailbox

See the little text box in the upper-right corner of your main mail window? You can use it to hide all but certain messages, as shown in Figure 19-10.



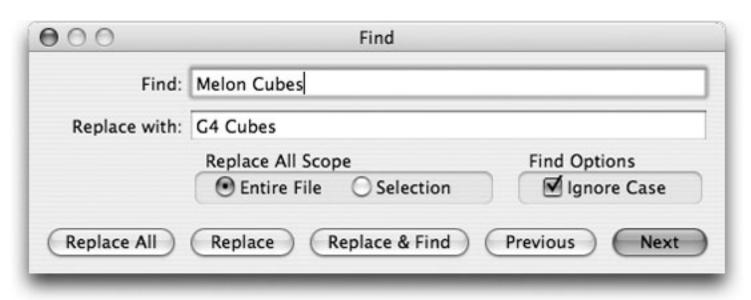
You can also set up Mail to show you only certain messages that you've *manually* selected, hiding all others in the list. To do so, highlight the messages you want, just as though they're icons in a Finder list view. Then choose View Display Selected Messages Only. (To see all of them again, choose View Display All Messages.)

#### 19.4.10.2 Finding text within an open message

You can also search for certain text within a single message. Choose Edit Find Find (or press #-F) to bring up

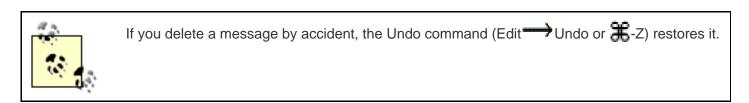
the Find panel (Figure 19-11).

The Find panel works just as it might in a word processor, except that the Replace function works only on messages that you have written yourself—Mail doesn't let you change the words of mail you've received. (Lawyers would have a field day with that in court.)



#### 19.4.11 Deleting Messages

Sometimes it's junk mail. Sometimes you're just done with it. Either way, it's a snap to delete a selected message, several selected messages, or a message that's currently before you on the screen. You can press the Delete key (with or without the key), click the Delete button on the toolbar, choose Edit Delete, or drag messages out of the list window and into your Trash mailbox—or even onto the Dock's Trash icon.



All of these commands move the messages to the Trash folder. If you like, you can click its icon to view a list of the messages you've deleted. You can even rescue messages by dragging them into any other mailbox (right back into the Inbox, if you want).

#### 19.4.11.1 Emptying the Trash folder

Mail doesn't vaporize messages in the Trash folder until you "empty the trash," just as in the Finder. You can empty it in any of several ways:

- Click a message, or a folder, within the Trash folder list and then click the Delete icon on the toolbar (or press the Delete key). Now it's really gone.
- Choose Mailbox == Erase Deleted Message (#E-K). (If you have multiple accounts, choose Erase Deleted

Messages In All Accounts.)

- Control-click the Trash mailbox icon and choose Erase Deleted Messages from the contextual menu. (Mail now sports an Action pop-up icon, too, just like in the Finder toolbar. It's at the bottom of the mailboxes drawer. You can also choose Erase Deleted Messages from this pop-up menu, for example.)
- Wait. Mail will permanently delete these messages automatically after a week.

If a week is too long (or not long enough), you can change this interval. Choose Mail Preferences, click Accounts, and select the account name from the list at left. Then click Special Mailboxes, and change the "Erase deleted messages when" pop-up menu. (If you choose Quitting Mail from the pop-up menu, Mail will take out the trash every time you quit the program.)

#### 19.4.11.2 Method 2: Deleted mail turns invisible

Mail offers a second—and very unusual—method of deleting messages that doesn't involve the Trash folder at all. Using this method, pressing the Delete key (or clicking the Delete toolbar button) simply hides the selected message in the list. Hidden messages remain hidden, but don't go away for good until you use the Rebuild Mailbox command described in the box on the facing page.

If this arrangement sounds useful, choose Mail Preferences, click Accounts, select the account from the list on the left, click Special Mailboxes, and turn off the checkbox called "Move deleted messages to a separate folder" or "Move deleted messages to the Trash mailbox" (depending on what kind of account you have). From now on, messages you delete simply vanish from the list.

They're not really gone, however. You can bring them back, at least in ghostly form, by choosing View Show Deleted Messages (or pressing 1-L). Figure 19-12 shows the idea.

Using this system, in other words, you never truly delete messages; you just hide them.

The grayish type indicates deleted messages. (It may be difficult, in this grayscale illustration, to see the difference between brown junk mail and gray deleted mail, but you'll see it on your screen.) You can bring any of these messages back from the world of the dead by reversing the preference in Mail Preferences. The gray type turns to black, and the message is brought back to life once again.



At first, you might be concerned about the disk space and database size involved in keeping your old messages around forever like this. The truth is, however, that Mac OS X is perfectly capable of maintaining many thousands of messages in its mailbox databases. Meanwhile, there's a huge benefit to this arrangement: Almost everyone, sooner or later, wishes they could resurrect one deleted message or another—maybe months later, maybe years later. Using the hidden-deleted-message system, your old messages are always around for reference.

When you do want to purge these messages for good, you can always return to the Special Mailboxes dialog box and turn the "Move deleted mail to a separate folder" checkbox back on.

## 19.4.12 Using Message Rules

Once you know how to create folders, the next step in managing your email is to set up a series of *message rules* (filters) that file, answer, or delete incoming messages *automatically* based on their contents (such as their subject, address, and/or size). Message rules require you to think like the distant relative of a programmer, but the mental effort can reward you many times over; message rules turn Mail into a surprisingly smart and efficient secretary.

## 19.4.12.1 Setting up message rules

Here's how to set one up:

1. Choose Mail Preferences. In the Preferences dialog box, click the Rules icon.

The Rules dialog box appears, as shown at top in Figure 19-13.

#### 2. Click Add Rule.

Now the dialog box shown at bottom in Figure 19-13 appears.

## TROUBLESHOOTING MOMENT Secrets of the Mbox Files

As noted earlier in this chapter, Mail keeps your messages in a series of mailbox database files in your Home Library Mail Mailboxes folder, inside folders named for your accounts. (The files within—Outbox, Sent Messages, and so on—are *packages*, as described in Section 4.2. To see the actual .mbox files inside of one, Control-click its icon and choose Show Package Contents.)

Knowing this permits you to perform a number of interesting tricks. First of all, now you know what files to back up for safekeeping.

Second, you now have yourself a beautiful monthly archiving system. Each month, create a new mailbox folder in Mail, named for that month (like "June2004.mbox"). Drag into it all the mail you want to archive, and then back up just that mailbox file from your hard drive—instant archiving system! (If you ever want to work with these messages again, just drag that .mbox file back into your Home — Library — Mail folder before opening Mail.)

Third, now you know which files to copy to your laptop to maintain email continuity when you travel

#### 3. Use the Criteria options to specify how Mail should select messages to process.

For example, if you'd like the program to watch out for messages from a particular person, you would set up the first two pop-up menus to say "From" and "Contains," respectively.

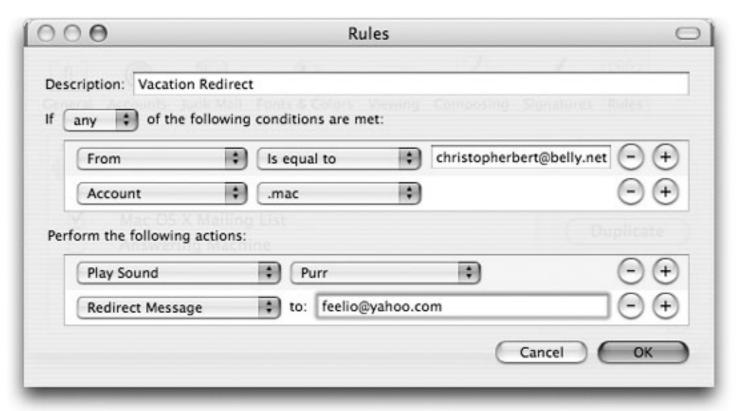
To flag messages containing *loan,* \$\$\$\$, XXXX, !!!!, and so on, set the pop-up menus to say "Subject" and "Contains."

In fact, you can set up *multiple* criteria here, so that you flag messages whose subjects contain any one of those common spam triggers. (If you change the "any" pop-up menu to say "all," then *all* of the criteria must be true for the rule to kick in.)

Top: Mail rules can screen out junk mail, serve as an email answering machine, or call important messages to your attention. All mail message rules you've created appear in this list. (The color shading for each rule is a reflection of the colorizing options you set up, if any.)

Bottom: Double-click a rule to open the Edit Rule dialog box, where you can specify what the rule does.





4. Specify which words or people you want the message rule to watch for.

In the text box to the right of the two pop-up menus, type the word, address, name, or phrase you want Mail to watch for—a person's name, or \$\$\$\$, in the previous examples.

5. In the lower half of the box, specify what you want to happen to messages that match the criteria.

If, in Steps 1 and 2, you've told your rule to watch for junk mail containing \$\$\$\$ in the Subject line, here's where you can tell Mail to delete it or move it into, say, a Junk folder.

With a little imagination, you'll see how the options in this pop-up menu can do absolutely amazing things with your incoming email. Mail can colorize, delete, move, redirect, or forward messages—or even play a sound when you get a certain message. (Consider, for example, what happens when you go on a trip. By setting up the controls as shown in <a href="Figure 19-13">Figure 19-13</a>, you have specified that messages your boss, Chris Herbert, sends to your .Mac account are to be redirected to your vacation email address, *feelio@yahoo.com*. The rest of the mail will just have to wait until you're home again.)

#### 6. In the very top box, name your mail rule. Click OK.

Now you're back to the Rules pane (<u>Figure 19-13</u>, top). Here you can choose a sequence for the rules you've created by dragging them up and down. Here, too, you can turn off the ones you won't be needing at the moment, but may use again one day.



Mail applies rules as they appear, from top to bottom, in the list. If a rule doesn't seem to be working properly, it may be that an earlier rule is intercepting and processing the message before the "broken" rule even sees it. To fix this, try dragging the rule up or down in the list.



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## 19.5 The Anti-Spam Toolkit

Many of the improvements Apple made in the 10.3 version of its Mail program are tiny tweaks. For example, the mailbox drawer has an Action menu like the Finder's; Mail is faster at checking for new messages; and you can start an instant-messaging conversation with the person who sent you an email by choosing Message Reply with iChat.

## POWER USERS' CLINIC The Email Answering Machine

If you're going on vacation, you can turn Mail into an email answering machine that sends a canned "I'm away until the 15th" message to everyone who writes you.

To do so, set the first set of pop-up menus in the Rules dialog box so that they say Account and the name of your account. In the bottom half of the dialog box, select Reply to Message from the pop-up menu. Click "Reply message text" and type your boilerplate reply in the resulting box.

Important: If you subscribe to mailing lists, set up another mail rule that intercepts and files them *before* your answering- machine rule kicks in. Otherwise, you'll incur the wrath of the other Internet citizens by littering their email discussion groups with copies of your auto-reply message.

## 19.5.1 Using the Junk Mail Filter

One of Panther's most exciting enhancements isn't new at all, but rather an upgrade —to Mail's Junk Mail Filter. You'll see its effects the first time you check your mail: A certain swath of message titles appears in color. These are the messages that Mail considers junk.

#### **NOTE**

Out of the box, Mail doesn't apply its spam-targeting features to people whose addresses are in your address book, to people you've emailed recently, or to messages sent to you *by name* rather than just by email address. You can adjust these parameters in Mail Preferences Junk Mail tab.

This is a very good thing; today, over 50 percent of all email is spam, and the problem will only get worse. At the moment, technological tools are the most promising weapon you have to fight back.

During your first couple of weeks with Mail, your job is to supervise Mail's coloring job. That is, if you get spam that Mail misses, click the message and then click the Junk button at the top of its window (identified in <u>Figure 19-3</u>), or the Junk icon on the toolbar. On the other hand, if Mail flags legitimate mail as spam, slap it gently on the wrist by clicking the Not Junk button. Over time, Mail gets better and better at filtering your mail.

The only trouble with this so-called Training mode is that you're still left with the task of trashing the spam yourself. Once

Mail has perfected its filtering skills to your satisfaction, however, open Mail's preferences, click Junk Mail, and click "Move it to the Junk mailbox." From now on, Mail automatically files what it deems junk into a Junk Mail box, where it's much easier to scan and delete the messages en masse.



In the Rules dialog box shown in Figure 19-13, you can see that Apple performs its magic using a Junk *rule*. By editing it, you can make the sieve more or less restrictive. For example, you could click the plus sign next to one of the conditions, and then choose Account from the new pop-up menu, so that the junk mail filter applies only to one of your email accounts.

Also, don't miss the "Trust Junk Mail headers set by your Internet Service Provider" option in the Junk Mail pane of the preference window. If you turn on that checkbox, Mail will take your ISP's word for it that certain messages are spam, giving you a *double* layer of spam protection.

## 19.5.2 More Anti-Spam Options

The Junk filter goes a long way toward cleaning out the spam from your mail collection. But it doesn't catch everything. If you're overrun by spam, here are some other steps you can take:

- Don't let the spammers know you're there. If you choose Mail Preferences, click Viewing, and turn off "Display images and embedded objects in HTML messages," Mail saves you time, because graphics are big and slow to download. It also shields you from unexpected free samples of pornographers' wares.
  - But it also thwarts a common spammer tactic by blocking graphics that appear to be embedded in a message, but actually get retrieved from a Web site somewhere, letting the spammers know that their message has fallen on fertile ground—a live sucker who actually looks at these messages.
- Rules. Set up some message rules, as described in <u>Section 19.4.12</u>, that auto-flag messages as spam that have subject lines containing trigger words like "Viagra," "Herbal," "Mortgage," "Refinance," "Enlarge Your..." and so on.
- Create a private account. If you're overrun by spam, consider sacrificing your address to the public areas of the
  Internet, like chat rooms, online shopping, Web site and software registration, and newsgroup posting. Spammers
  use automated software robots that scour every public Internet message and Web page, recording email
  addresses they find. That's how they got your address in the first place. Using this technique, at least you're now
  restricting the junk mail to one, secondary mail account. (Reserve a separate email account for person-to-person
  email.)

Here are some suggestions, meanwhile, for avoiding landing on spammers' lists in the first place:

- **Don't ask for it.** When filling out forms online, turn off the checkboxes that say, "Yes, send me exciting offers and news from our partners."
- Fake out the robots. When posting messages in a newsgroup, insert the letters NOSPAM somewhere into your email address. Anyone replying to you via email must delete the NOSPAM from your email address, which is a slight hassle. Meanwhile, however, the spammers' software robots will lift a bogus email address from your newsgroup posts.
- Never reply to spam. Doing so identifies your email address as an active one, and can lead to even more unwanted mail. Along the same lines, never click the "Please remove me from your list" link at the bottom of an email unless you know who sent the message.

## TROUBLESHOOTING MOMENT Rebuilding Your Mail Databases

As noted earlier in this chapter, Mail keeps your messages in a series of mailbox database files in your Home Library Mail Mailboxes folder.

Over time, you add and delete hundreds of messages from these database files. Inevitably, some digital sawdust gets left behind, resulting in peculiarities when addressing messages or general Mail sluggishness. You also wind up with *massive* message files hidden on your hard drive, which can consume hundreds of megabytes of disk space. That's a particular bummer if you like to copy your message databases to your laptop when you go on a trip.

Fortunately, it's easy enough to *rebuild the message databases*. Doing so cleanses, repairs, and purges your message files. As a result, you wind up with a much more compact and healthy database.

To rebuild an email database, highlight it in the mailboxes "drawer" in Mail. (Highlight several, if you like.) Then choose Mailbox Rebuild. Mac OS X takes several minutes (or hours, depending on the sizes of your mailboxes) to repair and compact your database.

And for goodness' sake, don't *order* anything sold by the spammers. If only one person in 500,000 does so, the spammer makes money.



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#### 19.6 Address Book

Address Book is Mac OS X's little-black-book program—an electronic Rolodex where you can stash the names, job titles, addresses, phone numbers, email addresses, and Internet chat screen names of all the people in your life (Figure 19-14). Of course, Address Book can hold other contact information too, such as birthdays and anniversaries, as well as any other scraps and tidbits of personal data you'd like to keep at your fingertips.

The big question: Why isn't this program named iContact? With its three-paned view, soft rounded buttons and brushed-aluminum style windows, it certainly looks like a close cousin of iPhoto and iTunes.



Once you make Address Book the central repository of all your personal contact information, you can call up this information in a number of convenient ways:

- You can launch Address Book and search for a contact by typing just a few letters in the Search box.
- When you're composing messages in Mac OS X's Mail program, Address Book automatically fills in email addresses for you when you type the first few letters.



If you choose Window Address Panel from within Mail, you can browse all of your addresses without even launching the Address Book program. Once you've selected the people you want to contact, just click the "To" button to address an email to them.

- When you use iChat to exchange instant messages with people in your Address Book, the pictures you've stored of them automatically appear in chat windows.
- Address Book can send its information to an iPod, giving you a little white "little black book" that fits in your shirt
  pocket, can be operated one-handed, and comes with built-in musical accompaniment. (The easiest way is to use
  iSync, described at the end of <a href="Chapter 18">Chapter 18</a>.)
- If you have a Bluetooth cellphone, Address Book can exchange information with your phone and even dial it for
  you. Incoming calls to your phone wirelessly trigger Address Book to display the number or name of the caller.
  Using the same wireless connection, you can also exchange contact info between Address Book and Palmcompatible handhelds.

You can find Address Book in your Applications folder or (on a fresh installation of OS X) in the Dock.

## 19.6.1 Creating Address Cards

Each entry in Address Book is called a *card* —an electronic version of a paper Rolodex card, with predefined spaces to hold all the standard contact information.

To add a new person to your collection, choose File New Card, press R-N, or click the + button beneath the Name column. Then type in the contact information, pressing the Tab key to move from field to field (that is, text box to text box), as shown in Figure 19-15.

If one of your contacts happens to have three office phone extensions, a pager number, two home phone lines, a cellphone and a couple of fax machines, no problem—you can add as many fields as you need. Click the little green + buttons when editing a card to add more phone, email, chat name, and address fields. (The buttons appear only when existing fields are filled.) Click a field's name to change its label; you can select one of the standard labels from the pop-up menu (Home, Work, and so on) or make up your own labels by choosing Custom, as seen in the lower portion of this figure.





If you find yourself constantly adding the same fields to new cards, check out the Template pane of Address Book's Preferences (Address Book Preferences). There, you can customize exactly which fields appear for new cards.

Each card also contains a freeform Notes field at the bottom, where you can type any other random crumbs of information you'd like to store about the person (spouse's name, embarrassing nicknames, favorite Chinese restaurant, and so on).

#### 19.6.1.1 Editing an address

When you create a new address card, you're automatically in Edit mode, which means you can add and remove fields and change the information on the card. To switch into Browse Mode (where you can view and copy contact information but not change it), click the Edit button or choose Edit Edit Card (#-L). You can also switch *out* of Browse Mode in the same ways.



Regardless of what mode you're in—Edit or Browse—you can *always* type, drag, or paste text into the Notes field of an address card.

This example shows three other kinds of fields that you can plug into your address cards. The phonetic first/last name fields (shown at top) let you store phonetic spellings of hardto-pronounce names. The other two fields store birthdays and screen names for instant messaging networks (like Jabber and Yahoo). To add fields like these, choose from the Card Add Field menu.



### 19.6.1.2 Adding addresses from Mail

You can also make new contacts in the Address Book directly from the Mail program, saving you the trouble of having to manually type names and email addresses. Select an email message in Mail, then choose Message Add Sender to

Address Book (or press **#**-Y). Presto: Mac OS X automatically adds a new card to the Address Book, with the name and email address fields already filled in. (Later, you can edit the card in Address Book to add phone numbers, street addresses, and so on.)

#### 19.6.2 Importing Addresses

The easiest way to add people to Address Book is to import them from another program from a program like Entourage, Outlook Express, or Palm Desktop.

Address Book isn't smart enough to read an Entourage or Outlook Express database, though—it can only import files in *vCard* format, or the less common LDIF format. But Mac OS X 10.3 comes with a handy AppleScript that lets you import addresses from six of the most popular contact manager programs: Entourage, Outlook Express, Palm Desktop, Eudora, Claris Emailer, and Netscape. Just choose Import Addresses from the new Script menu at the top of the screen, and follow the prompts. A minute or two later, you'll have all your old contacts safely transferred into Address Book.

#### 19.6.2.1 About vCards

Address Book can exchange contact information with other programs primarily through *vCards*. vCard is short for *virtual business card*. More and more email programs send and receive these electronic business cards, which you can easily spot by the .vcf extension on their names.

If you ever receive an email to which a *vCard file* is attached, drag the .vcf file into your Address Book window to create an instant entry with a complete set of information. You can create vCards of your own, too: just drag a name out of your Address Book and onto the desktop (or into a piece of outgoing mail).



In addition to letting you create vCards of individual entries, Address Book makes it easy to create vCards that contain several entries. To do so, just #-click the entries in the Name column that you want included, and drag them to the desktop. There, they'll appear all together-as a single vCard. You can even drag an item from the Group column to the desktop to make a vCard that contains all the group's entries.

# WORKAROUND WORKSHOP The Windows-to-Address Book Journey

Getting names and addresses out of one Mac program and into another is one thing, but what if your contacts are stored on a Windows PC running Microsoft Outlook—the most-used contact manager in the world?

Fortunately, there is a way to grab all those phone numbers and email addresses and slide them into Address Book without having to manually re-enter any of it—but the journey isn't exactly a one-click operation. Outlook for Windows, it turns out, can't export contacts as .vcf files (the format that Address Book requires for import) as a group—only one by one. And who's got the time for that?

The easiest way is to *email yourself* all your contacts. (For reasons known only to a handful of Microsoft engineers, Outlook can't export contacts as vCards, but it can email them as vCard *attachments*.) Select all your contacts in Outlook, and then choose Action Forward as vCard. You'll end up with an email

containing lots of little .vcf attachments.

Send this email to yourself, then open the message and drag the attached .vcf files straight into Address Book. (If you have more than a couple hundred contacts, you might want to do them in a few batches.)

There's one other option, but it requires that you have either Outlook Express or Entourage on your Mac. Use Outlook's Export command to create a tab-delimited text file containing all your contacts, then copy the text file to your Mac. Address Book can't do anything with this text file, but Outlook Express and Entourage can.

Choose File Import in either program to get the process going. You'll have to step through an ugly Import dialog box to map the Outlook fields to the Mac program, but you should be able to successfully get all your contacts transferred intact. The final step is to use Address Book's Import Addresses script, as described above, to move the addresses from Outlook Express or Entourage into Address Book.

## **19.6.3 Adding Pictures**

You can dress up each Address Book entry not only with textual information, but also with a photo. Whenever you're editing somebody's address book card, just drag a digital photo—preferably 64 pixels square, or a multiple of it—into the "picture well" just to the left of the person's name, as shown in <u>Figure 19-15</u>. Or double-click the picture well and browse to a picture by clicking Choose. (No matter how you select a picture, though, Address Book shows you the standard Images dialog box-see Figure 11-1 for a full explanation.)

You don't necessarily have to use a photo, of course. You could add any graphic that you want to represent someone, even if it's a Bart Simpson face or skull and crossbones. You can use any standard image file in an address card—a JPEG, GIF, TIFF, or even a PDF.

From now on, if you receive an email from that person, the photo shows up right in the email message.



If you've got your snapshots organized with iPhoto, it's particularly easy to add a picture to any address card. Drag directly from the main iPhoto window to the picture frame on the address card to insert it.

## 19.6.3.1 Replacing and removing a picture

To replace a photo that you've attached to an address card, just drag a new image on top of the old one. If you want to get rid of an existing picture without replacing it, select the card, then choose Card——Clear Custom Image (or press Delete).

## **19.6.4 Groups**

A *group* is a collection of related address cards, saved under a single descriptive name. Organizing your contact entries into groups can make them much easier to find and use—especially when your database of addresses climbs into the hundreds. For example, if you regularly send out a family newsletter to 35 relatives, you might gather the address cards of

all your assorted siblings, cousins, nieces, nephews, uncles, and aunts into a single group called Family. When addressing an outgoing message using Mail, you can type this group name in one quick swoop. As a bonus, a person can be a member of as many different groups as you want.

## POWER USERS' CLINIC Cool Group Tricks

Dragging cards into and out of groups can be a great way to spend an afternoon, but groups can actually be powerful time-savers. For example, if a card is selected in the Name column, you can quickly identify *all* the groups it belongs to by simply pressing the Option key.

Also, if you've created a lot of groups, it can be very difficult to find a specific one-especially because Address Book's Search box looks only for individual cards. To get around this limitation, click in the Group list and then type the first few letters of a group's name. Address Book jumps right to the first matching group.

You can even add groups to *other* groups. You might find it useful to keep a Nieces group and a Nephews group, for example, but to keep both groups inside a master Family group. To do this, you'd ##-click Nieces and Nephews in the Group list, and then Option-drag them onto the Family group. Now, whenever you select Family, you'll see both groups listed among the rest of the cards; double-click either group to see its members.

To create a group, click the + button at the bottom of the Group column in the Address Book window, or choose File—New Group (or press Shift-#-N.) Type a name for the newly spawned group icon in the Group column, and then populate it with address cards by dragging entries from the Names list into the group. If you're familiar with iTunes or iPhoto, you'll feel right at home doing this; It's just like adding photos to an album, or songs to a playlist. Clicking on a group name automatically locates and displays (in the Names column) all the names that are a part of that group—and hides any that aren't.



To turn a set of address cards into a group very quickly, select multiple entries from the Names column —by either Shift-clicking the names (to make contiguous selections) or clicking (for non-contiguous selections)—and then choose File —New Group From Selection. You end up with a new group containing all the selected names.

## 19.6.4.1 Removing someone from a group

To take someone out of a group, first click the group name, and then click the person's name in the Name column and press the Delete key. If you want to remove the person from Address Book itself, click Delete in the resulting dialog box. Otherwise, just click "Remove from Group"; Address Book will keep the card, but remove it from the currently selected group.

#### **NOTE**

If you selected "All" in the Group column, rather than a specific group, OS X doesn't even give you the "Remove from Group" option in the dialog box that appears when you press Delete. Instead, it just lets you

confirm whether you do, in fact, want to permanently remove the card.

#### 19.6.5 Finding an Address

You can search for an Address Book entry inside the currently selected group just by typing a few letters of a name (or address, or any other snippet of contact information) in the capsule-shaped Search box (see <u>Figure 19-17</u>). To search *all* your contacts instead of just the current group, first click All in the Group list.

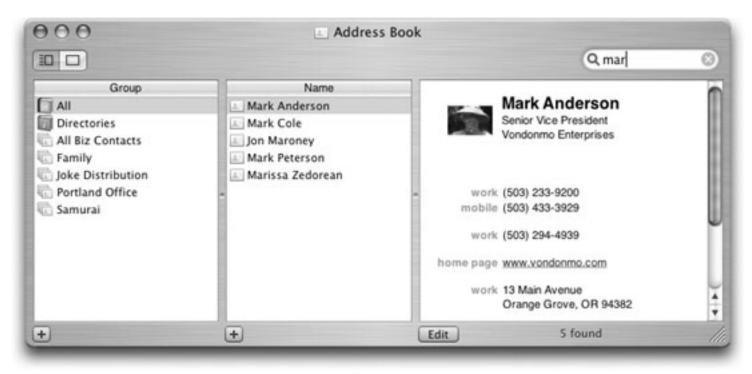


You can press **#**-F to jump directly to the search field and start typing. Your savings: one mouse click.

If Address Book finds more than one matching card, use the up and down arrow keys to navigate through them. (You can also press Return to move forward through the matching entries or Shift-Return to move backward.)

Once you've found the card you're looking for, you can perform some interesting stunts. If you click the label of a phone number ("home" or "office", for example), you see the Large Type option: Address Book displays the number in an absurdly gigantic font that fills the entire width of your screen, making it all but impossible to misread the number as you dial the phone from across the room. You can also click the label of an email address to create a pre-addressed email message, or click a home page to launch your Web browser and go to somebody's site. Clicking an address label even gives you the option of getting a *map* of the address via your Web browser (Figure 19-18).

As you type, Address Book filters your social circle and displays the number of matching address cards at the very bottom of the window. (Ordinarily, Address Book displays the number of cards in the currently selected group there.) The records themselves appear in the Name column; the first of the matching card entries appears in the far-right pane.



You can also copy and paste (or drag) address card info into another program or convert it into a Sticky Note.

The options that become available when you click the field labels on an address card vary according to field type. Pop-up menus let you send email, open Web pages, or view a map, depending on the field you've clicked.



## 19.6.6 Changing the Address Book Display

You can't do much to customize Address Book's appearance, but the Preferences panel (Address Book Preferences) gives you at least a couple of options in the General pane that are worth checking out:

- Display Order. Choose to have names displayed with the first name followed by the last name, or vice versa.
- Sort By. Sort the entries in Address Book by either first or last name.
- Font Size. Choose from Regular, Large or Extra Large. Unfortunately, you can't change anything else about the font used in the Address Book; the color, face and style are all locked down.

## 19.6.7 Printing Options

When you choose File Print, you're presented with a somewhat awkward window that combines the capabilities of traditional Print and Page Setup dialog boxes. From here, you can choose from two different printing approaches in the Style pop-up menu: Mailing Labels or Lists.

 Mailing Labels. One of the most useful new features in Panther's Address Book is its ability to print addresses on standard sheets of sticky mailing labels—Avery, for example—that you buy at office-supply stores. From the Page pop-up menu, indicate which kind of label paper you're using; type the identification number from the paper's package in the blank on the right. In the Label tab, customize the color, font style, and image to be used for each card, and then click Print.



As you manipulate settings, you can see your changes in the preview pane on the right. If the preview is too small for you to see, use the Zoom slider (it doesn't affect your printout).

If you want to access the traditional Print dialog box (to fine-tune how much ink your printer uses, for example), click Advanced Options. Then, once you're ready to return to Address Book's special dialog box, click Standard Options.

## POWER USERS' CLINIC Automatic Notifications

In earlier versions of OS X, notifying friends and family that your email address had changed was one of life's most dreaded tasks. Fortunately, in Panther's Address Book, this process has been simplified to a single step.

All you have to do is visit the General pane of Address Book's Preferences and turn on "Notify people when my card changes." From now on, whenever you change the information in your own address card (including your home address, email address, or phone number), Address Book will ask you whether you want to send a notification email-almost like a virtual change-of-address card.

In the resulting dialog box, choose which groups of people you want to notify, and then personalize the outgoing message. When you click Send, Address Book delivers an email to all the people in the groups you chose, attaching your new vCard (Section 19.6.2.1). When your recipients get the email, they can simply drag the vCard into their own Address Books to update their information about you.

(And if you ever want to *manually* send updates to your contacts, just choose File Send Updates.)

Lists. If all you want is a paper backup of your Address Book entries, this is the setting you should choose. In the
Attributes list, turn on the checkboxes of the fields you want printed. Specify a type size in the Font Size pop-up
menu, and click Print.

No matter which mode you choose, the only cards that will be printed are the ones that were selected when you chose File Print. If you want to print *all* your cards, therefore, make sure to select "All" in the Group column before you print.

#### 19.6.8 Addresses

When you think about it, the contents of your Address Book may represent *years* of typing and compiling effort. Losing all that information to a corrupted database—or a hard drive crash—could be devastating. Here are two ways to protect your Address Book data:

• Use the Backup command. Periodically choose File Back up Database in Address Book. If something goes wrong—say, a batch of important contacts get inadvertently deleted—you can go back to a previously saved

- version to rescue the data by choosing File Revert to Database Backup.
- Make a backup copy of your entire Address Book database. Open your Home Library Application Support folder. Copy the entire AddressBook folder to another disk—burn it to a CD, download it to your iPod, or upload it to a file server, for example. Now your contact data is safe even in the event of a hard drive crash.

#### 19.6.9 Address Book and Bluetooth

Address Book can do far more than just store, retrieve, and display phone numbers. It can actually *dial* them using your cellphone, thanks to the Bluetooth wireless technology.

#### 19.6.9.1 Getting Bluetooth-enabled

To make Address Book talk to the outside world in this way, you have to *pair* it with a Bluetooth-enabled cellphone. (And your Mac, of course, must have a Bluetooth adapter, like the one that comes preinstalled on new PowerBooks.) Once you've turned on all the hardware, your cellphone and Mac have to "find" each other on the wireless network—a task managed by the Bluetooth pane of System Preferences.

Once your computer and phone have mated for life, open Address Book. You'll see a Bluetooth logo in the Address Book window, letting you know that your phone and computer "see" each other and that you can now make calls and send cellphone messages from your computer.

#### 19.6.9.2 Dialing with Address Book

To make a phone call, click any phone-number field label on an address card and choose Dial from the pop-up menu. Then pick up your cellphone and wait for the person you're calling to answer.

You can also use Address Book to send SMS text messages directly to other cellphones. (SMS stands for "short message service," and refers to the feature of cellphones that lets you send and receive short text messages.) To send an SMS message, click a phone number field label on an address card and choose Send SMS Message from the popup menu. Type your message and send it off. (Of course, this works only if the phone you're calling is capable of receiving SMS messages.)

#### 19.6.9.3 Receiving calls

Once your cellphone and Mac have met, Address Book can notify you of incoming calls, too. It's Caller ID on the Mac!

When a call comes in, a window opens (assuming Address Book is open), showing the caller's number in jumbo type. If it's somebody in your Address Book, you even see the caller's name.

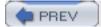
Click Answer and then pick up your cellphone to begin your conversation. If you click Send to Voicemail instead, your phone stops ringing and you dump the caller into your cell service's answering machine, just as though you'd pressed the Voicemail button on the phone.

Sometimes, you may prefer to send the caller to voice mail *and* create a new SMS message to reply. In that case, click Send SMS Reply. This way, you shut up the ringing phone while your family is sleeping, but still manage to type out a reply (like "It's 3:35 AM, for God's sake! What are you doing!?").



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## Chapter 20. Panther's Internet Software Suite

Apple is unabashedly intrigued by the possibilities of the Internet. With each new release of Mac OS X, more clever tendrils reach out from the Mac to the world's biggest network. There's the Safari Web browser, of course, but also Sherlock, iCal (Mac OS X's calendar program), iSync (which keeps your address book, calendar, and to-do list synchronized with your cellphone, iPod, PalmPilot, and other Macs), and iChat AV (an America Online-compatible instant-messenger/voice chat/videoconferencing program, which non-Panther peons must buy for themselves at \$30).

This chapter tackles each item in this motley crew.



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#### 20.1 Sherlock

Sherlock is like a Web browser that's specifically fine-tuned to bring you certain popular kinds of up-to-date Web info, without the waiting, without the navigation hassle, and without the ads.

The Sherlock *channels* (indicated by icons on its toolbar) bring Web information directly to your Sherlock window, formatted for maximum impact: graphs when you search for stock prices, QuickTime previews when you search for movies, maps when you search for flights, and so on.

Here's how the channels work.

#### **20.1.1 Internet**

The Internet channel simply means, "search the Web." You type what you're looking for into the "Topic or Description" box, and then press Enter (or click the green magnifying-glass button). After a moment, you see a tidy list of Web sites that match what you looked for, sorted by relevance, at the outset.

By double-clicking one of the matches, you fire up your Web browser to visit that site.

Here's what you can do with one of these results:

- Read the first paragraph. Click one of the Web pages listed in the search results. At the bottom of the window, Sherlock displays the first paragraph or so of text that appears on that Web page.
- Go to the Web page. Double-click one of the listings to launch your Web browser and visit the corresponding page.
- Create an Internet location file. If you think you might like to visit one of these Web sites later, drag it out of the
  list and onto your Dock or desktop, where it becomes an Internet location file (see Section 18.10). You can also
  drag it directly into the toolbar or favorites lists of Internet Explorer Favorites or Safari, where it becomes a
  bookmark for that browser.

Of course, in the age of Safari and its built-in Google search bar, this aspect of Sherlock might not seem so impressive. Still, Sherlock offers one key benefit—or at least one key difference: It can search at least six search engines simultaneously (listed at the bottom of the window).

#### 20.1.2 Pictures

Need a photo of something? Type whatever you're looking for into this channel's "Picture Topic or Description" box—Santa Claus, October squash, Keanu Reeves—and then press Enter. In a flash, you see thumbnails of photographs from Web pages all over the Internet that match your search (see <u>Figure 20-1</u>). Double-click one to view it on the actual Web page in your browser, so that you can download it—and pay for it.

If you are a busy graphic designer with the money to pay for professionally captured, professional- resolution digital images, this channel can be very useful. It's like having the searchable catalogs of several stock-art companies at your fingertips.



Note, by the way, that you only get to see a few pictures at a time. Watch the phrase next to the green magnifying-glass icon; if it says "Click again for more pictures," you're not yet seeing all of them. Keep clicking until it says "No pictures found." *Now* you're seeing everything Sherlock found.



For noncommercial use, the Image Search tab of Google.com is far more powerful. It finds far more pictures on the topic you're seeking, because it grabs them from *thousands* of everyday Web pages, rather than limiting its search to commercial stock-photo companies. (Yes, you should ask for permission from these Web sites before using pictures of theirs for some other purpose.)

#### 20.1.3 Stocks

This one is amazing. Type the name or stock symbol of a company into the box, and then press Enter. (If Sherlock isn't sure which company you meant, you'll see a list of matching companies so that you can click the right one.)

In a moment, you're shown not only the current stock price and accompanying statistics, but also headlines relating to the company and a graph of its stock performance.

Here's some of the fun you can have with this module:

- Double-click the row of stock information to go to the company's Lycos financial- information page in your Web browser. Much more statistical detail appears here.
- Click one of the headlines to view the full article in the area at the bottom of the window. You can select this text and copy it.
- From the Chart pop-up menu, choose Week, Year, or Intraday (meaning "just today so far") to change the graph.
- Each time you add a stock name, your list of stocks grows. To remove one, just click its row and then press the Delete key.
- You can manipulate the columns of stock information just as you do in the Finder: click a heading to sort the list of stocks by that criterion (Symbol, Last Trade, or whatever). And you can drag these headings horizontally to rearrange them.



To preserve a stock graph, drag it to your desktop, where it becomes a picture clipping that you can file away for future use.

#### **20.1.4 Movies**

For the movie fan, this single Sherlock feature might be worth the entire price of Mac OS X. It makes finding a movie or theater in your neighborhood so easy and efficient that Moviefone.com looks positively antique by comparison. As you can see in <u>Figure 20-2</u>, it's an instantaneously updated database of movies and show times for your neighborhood.



Check out the two buttons in the lower-left. The Address Book button puts the address of the selected theater into your Address Book, and the button next to it shows you all the information about the theater (location, phone number, driving directions, and so on).

Type your city and state—or just your zip code—into the text box at the top, and then press Enter. After a moment, you'll see a list of movies playing near you—in the first column. Click one to see the theaters where it's playing (in the second column); click one of those to see today's show times (in the last column). Meanwhile, you even see the address of the theater, the movie poster, the movie's rating and length, a description, and—if you wait long enough—even the QuickTime trailer for the movie, if any. Life is sweet.



The only thing stopping this module from becoming an international smash hit is that...well, it doesn't work internationally. At the moment, it knows only about movie theaters in the United States.

#### 20.1.5 Phone Book

A Yellow Pages of every business and organization in the entire United States wouldn't be especially convenient. In fact, it would probably occupy your entire living room. And yet think of the convenience of having such a thing. You could instantly find the closest Chinese restaurant, hospital, or all-night drugstore, even if you're a laptopcarrying road warrior in a strange city.

Well, now you can. Into the Business Name or Category box, type whatever it is you're looking for, exactly as though it's a heading in the Yellow Pages business directory. You could type *drug store*, *cleaning service*, *health club*, *tailor*, *library*, or whatever. (Alternatively, click the blue arrow next to this box to see a list of services Sherlock already knows about.)

Then, in the Find Near box, you can type:

- A zip code.
- A city and state name (like *Cleveland, OH*). Sherlock automatically fills out the rest of the name it thinks you're typing, based on its huge database of towns.
- The name of someone in your Address Book program. As you type, Sherlock completes the name it thinks you're matching—and then, when you press Return or Enter, shows you local matching businesses based on that

person's Address Book address. (Enter your name to get directions from your house...get the idea?)

When you press Enter, Sherlock not only shows you a list of businesses and organizations that meet your criteria, but it also shows you the phone number, the address, and even a map.



Sherlock will find you a list of local *drug stores*, but it doesn't know anything about *drugstores*. The point is to try a couple of different search terms until you find some "hits."

You can also type a name, zip, or city into the Driving Directions From box to get turn-by-turn driving directions from that spot to the business whose name you've highlighted in the results list. If you choose File Print, or click the Print button above the map, Sherlock does the right thing. It creates a beautifully formatted page that identifies the currently highlighted business, its address and phone number, driving directions, and the map, all ready to print and take with you. This, ladies and gentlemen, is progress.

#### 20.1.6 eBay

This one is for you, auction freaks. Into the Item Title box, type whatever it is you're looking for—*ceramic angel, Babe Ruth baseball card, PowerBook G4*, or whatever. When you press Enter, Sherlock displays a list of all matching items from the eBay Web site currently on auction, complete with description, number of bids, remaining time for the auction, and more. Use the pop-up menus on this screen to further narrow the listing by specifying price ranges, categories, geographical regions, and so on.

Two different mechanisms let you sort the results, slicing and dicing them to feed your obsession. Using the pop-up menu to the right of the "priced between" boxes, you can specify that the items appear listed by price, by time remaining in the auction, and so on. Or you can click the column headings (Title, Price, Bids, or Ends).

If one of the items catches your eye, click its name and then click Track Listing (bottom right). From now on, you can view your list of especially interesting items by switching the Search/Track button to Track mode. (All other items are hidden until you click Search again.)

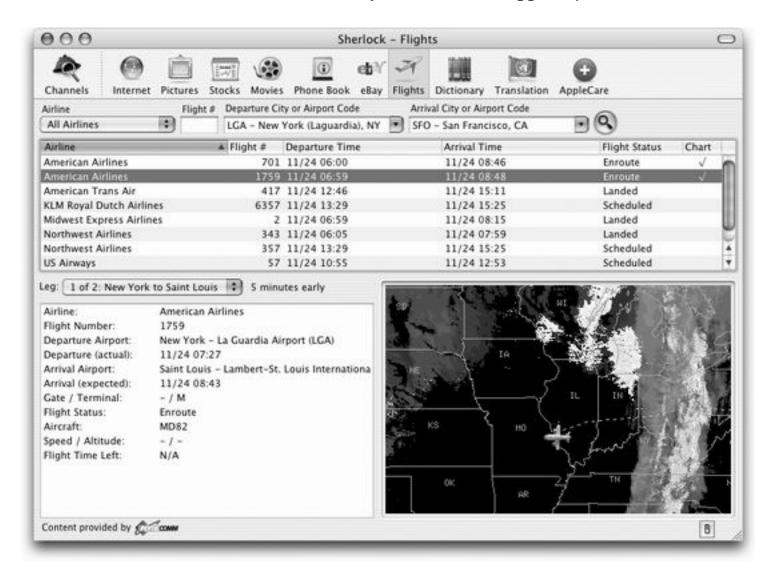
All of this is especially useful if you're a real eBay aficionado. You know, in that case, that most of these deals are made or broken in the final moments of the auction, as all the patient vultures jump in. Now, thanks to Sherlock, you can keep your eye on all of your auctions at once.

## **20.1.7 Flights**

The Flights module is actually two modules in one.

- Flight Finder. If you're planning a trip, Sherlock can show you a list of flights that match your itinerary. Just type the arrival and departure cities into the appropriate boxes—or use the pop-up menus provided—and then press Enter. This is precisely the tool to use when a friend or relative is flying in and you're unsure of the flight number or airline. (New in Panther: A Leg pop-up menu that lets you inspect individual legs of a multi-flight journey.)
- Flight Tracker. If you already know a flight number, Sherlock can tell you whether or not it's going to be on time, which airport terminal to go to, and even where (on the map) the flight is at the moment. See <a href="Figure 20-3">Figure 20-3</a> for an example.

If you know the airline and flight number, use the controls at the top of the window to specify them. You'll be shown the schedule, airport, date, flight time remaining, type of airplane, and so on. If you don't have a specific flight number, plug in the departure and arrival cities, using the resulting list to find your flight. If the flight is en route, you see a map of its progress, as shown here. (Hit the lower-right light switch to tell Sherlock the continent you live on, which affects which airlines and airports Sherlock suggests.)



## 20.1.8 Dictionary

Never again will your family gatherings devolve into heated arguments over Scrabble. Now you have a powerful, instantaneous, electronic dictionary built right into your operating system. Just type a word into the Word to Define box and then press Enter.

In seconds, you see what looks like a photocopy of the relevant page from the *American Heritage Dictionary*, complete with phonetic spelling, syllabication, every conceivable word-form variant of the word, and (at the lower half of the window) even synonyms, if there are any. For dedicated word nerds, this feature is indisputably convenient, handy, useful, suitable, expedient, clever, nimble, and slick.

#### 20.1.9 Translation

The next time you travel abroad, plan your trip so that your laptop always has highspeed wireless Internet access wherever you go (yeah, right). You'll be able to use this module to translate your utterances—or those of the natives—to and from about seventeen languages.

Just type the sentence or paragraph into the Original Text box, choose the language direction you want from the central pop-up menu, and then press Enter. In a flash, the bottom of the window shows the translation.

Of course, these translations are performed by automated software robots on the Web. As a result, they're not nearly as accurate as what you'd get from a paid professional. On the other hand, when you're standing in the middle of a strange city and you don't know the language—and you desperately need to express yourself—what Sherlock provides may just be good enough.



Your first instinct may be to assume that this module is designed for translating things you want to say into the local language. However, you may find it even more useful for translating foreign language paragraphs—from email or Web pages, for example—into your *own* language so that you can read them.

#### 20.1.10 AppleCare

This module gives you a direct line to Apple's Knowledge Base, a huge collection of answers, troubleshooting tips, and feature explanations for every Mac model ever made. It's based on the same technical library consulted by Apple's techsupport representatives, by the way, so you may as well check it before you call the Apple help line.

The trick is to use just a few words in the Topic or Description box—you might type *Mac OS X Simple Finder*, for example, or *Windows networking*. When you press Enter, you see a list of the articles from the library. Click one to read the article in the bottom half of the window.



< Day Day Up:







## 20.2 iChat AV

iChat AV, which you got free with Panther but costs \$30 to the less enlightened who still use Mac OS X 10.2, is a combo communications program that does three things:

• **Instant messaging.** If you don't know what instant messaging is, chances are there's a teenager near you who does.

It's like live email. You type messages to friends and colleagues in a chat window, in real time, and they type replies back to you. Instant messaging can be a great way to converse with the privacy of email but the immediacy of the phone.

In this regard, iChat is a lot like AOL's popular Instant Messenger (AIM) and Buddy Chats. In fact, iChat lets you type back and forth with any of AIM's 150 million members (it speaks the same "chat" language), which is a huge advantage. But iChat's visual design is pure Apple.

- Free long distance. If your Mac has a microphone, and so does your buddy, the two of you can also chat *out loud*, using the Internet as a free long-distance telephone.
- Free videoconferencing. The "AV" in the name stands, of course, for audio-video. If you and your buddy each have broadband Internet connections and a FireWire camera—like Apple's own iSight camera, or (if your Mac has a G4 or G5 chip) even a digital camcorder—the two of you can conduct one-on-one *video* chats. It's the perfect way to keep in touch when you're on the road—and about \$99,900 less expensive than professional videoconferencing gear.

#### 20.2.1 Two Chat Networks

iChat lets you reach out to fellow chat partners on two different networks:

- The Internet. If you've signed up for a .Mac account (the free kind or the paid kind) or a free AOL Instant Messenger account, you can chat with anyone in the 150-million-member AOL Instant Messenger network.
- Your own local network. Thanks to the Rendezvous technology described in <u>Section 12.2.10.1</u>, you can communicate with other Macs on your network without signing up for anything at all—and without being online. This is a terrific feature when you're sitting around a conference table, idly chatting with colleagues using your wireless laptop (and the boss thinks you're taking notes).

These two kinds of chats operate in parallel. Each network (AIM and Rendezvous) has its own separate Buddy List window and its own chat window. The File menu offers separate commands for connecting to each network ("Log In to AIM" and "Log In to Rendezvous").

Otherwise, however, chatting and videoconferencing work identically on both networks. Keep that in mind as you read the following pages.

# 20.2.2 Signing Up

When you open iChat for the first time, you see the "Welcome To iChat" window (<u>Figure 20-4</u>). To use iChat via the Internet, you need an *account*. Fortunately, these accounts are free, and there are a couple different ways to acquire one.

If you're already a member of Apple's .Mac service (<u>Chapter 18</u>), your Mac.com user name and password appear here automatically. If not, you can access iChat in either of two ways: via a *free* .Mac account or with a *free* AIM account.

#### 20.2.2.1 A Free .Mac Account

Although Apple charges \$100 for an annual .Mac subscription, you can get an iChatonly account for free. Details are in Figure 20-4. (You'll sign up for a free iChat account name, and you'll also get 60 days of the more complete .Mac treatment described in <a href="Chapter 18">Chapter 18</a>. When your trial period ends, you'll lose access to all of the other stuff that .Mac provides, but you'll get to keep your iChat name.)

#### NOTE

If your .Mac name is *missingmanualguy*, you'll actually appear to everyone else as *missingmanualguy*@*mac.com*. The software tacks on the "@mac.com" suffix automatically, which adds a certain unwieldiness to your "handle."

The rest of the setup process offers you the chance to fine-tune your video camera, if you have one. Another screen asks, "Do you want to turn on Rendezvous messagiChat ing?" As noted above, that refers to chats with other people in your building, on your network. Your answer here doesn't really matter; if you decline, you can always choose iChat Log Into Rendezvous later.

Top: The Welcome screen explains the concept of iChat AV. When you click Continue, you arrive at the "Set up a new iChat account" screen. To sign up for a free, iChat-only .Mac account, click the "Get an iChat Account" button, proceed to Apple's iChat Signup Web page, type in your name and email address, and make up a screen name and password for yourself. Once that's done, return to this dialog box, fill in your freshly minted iChat address (which ends with "@mac. com") and password, and click Continue.



#### 20.2.2.2 An AIM Account

You don't have to have a .Mac name to use iChat; you can use an AOL Instant Messenger (AIM) name instead. From the Account Type pop-up menu on the Welcome to iChat screen, choose AIM Account. From here, choose the category that fits you:

- You're a paying AOL member. Enter your AOL screen name and password, and click OK.
- You've used AOL Instant Messenger (AIM) before. You can use your AIM screen name and password here.
- You've never used AOL or AIM. You may still have a valid chat name if you've ever created a screen name at Netscape.com or one of the Time Warner Web sites (*People*, *Time*, and *Sports Illustrated* magazines, plus CNN. com), all of which are part of the same megalithic corporate AOL family.
- None of the above. If you've racked your brain and can't come up with an AOL account name and password, don't
  worry—you can get one for free. Open your Web browser and go to <u>my.screenname.aol.com</u> Click "Get a Screen
  Name" to make up an AOL screen name.

Once you've signed up, you can enter your new name and password in the Welcome to iChat screen. You're almost ready to go!

#### NOTE

To inspect or change your AOL name, visit the iChat Preferences Accounts pane.

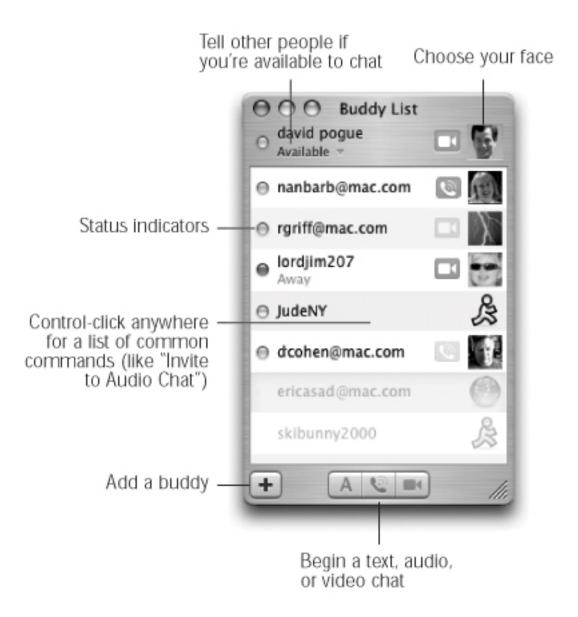
# 20.2.3 The Buddy List

Once you've entered your account information, you're technically ready to start chatting. All you need now is a chatting companion, or what's sweetly called a (*buddy* in instant-messaging circles. Fortunately, iChat comes complete with a Buddy List window in which you can house the chat "addresses" for all your friends, relatives, and colleagues out there on the Internet.

#### NOTE

There's a very similar list for chatting on your office network, by the way: the Rendezvous list. The following discussion deals mainly with the Buddy List window, though, because *you* can't put any names into your Rendezvous list. Anyone who's on the network (and running iChat) appears automatically in the Rendezvous list, courtesy of the Rendezvous technology.

The Buddy List is where you store the names of everyone you know who uses iChat or AOL Instant Messenger. Click the + button to add a new buddy, either by connecting your buddy to the name of someone in your address book or by adding a brand-new buddy from scratch (by clicking New Person). The telephone icon tells you that the buddy has a microphone, and is ready for a free Internet "phone call." If you see a movie-camera icon, you can have a fullscreen, high-quality video chat with that person, because they, like you, have a camcorder or FireWire camera and a high-speed Internet connection.



# 20.2.4 Making a List

When you start iChat, your Buddy List automatically appears (Figure 20-5). (If you don't see it, choose Window Buddy List [for AIM buddies] or Window Rendezvous [for local office network buddies].)

Adding a buddy to this list entails knowing that person's account name, whether it's on AIM or Mac.com. Once you have it, you can either choose Buddies—Add a Buddy (Shift-#-A) or click the + button at the bottom-left corner of the window.

Out slides a sheet attached to the Buddy List window, offering a window into the Address Book program (Chapter 19). Scroll through the list until you find the name you want (or enter the first few letters into the Search box), click the name, and then click Select Buddy.

If your chat companion isn't already in your Address Book, click New Person and enter the buddy's AIM or .Mac address. You're adding this person to both your Buddy List and Address Book.

# 20.2.4.1 Mysteriously self-appearing names

If you've used AIM before, you may find that you've already got buddies in your list. That's because AIM accounts store their buddy lists on AOL's computers, so that you can keep your buddies even if you switch computers.



As you accumulate buddies, your Buddy List may become crowded. But if you choose View—Show Offline Buddies to turn off the check mark, you'll only see your *currently online* buddies in the Buddy List—a much more meaningful list for the temporarily lonely.

# 20.2.5 Let the Chat Begin

As with any conversation, somebody has to talk first. In chat circles, that's called *inviting* someone to a chat.

You're being invited to a chat! Your buddy wants to have a typed chat (top left) or a spoken one (top right). To begin chatting, click the invitation window, type a response in the bottom text box if you like (for text chats), and click Accept (or press Enter).

Click Block to lock out the person sending you messages—a good trick if someone's harassing you.



# 20.2.5.1 They invite you

To "turn on your pager" so that you'll be notified when someone wants to chat with you, run iChat. Hide its windows, if you like, by pressing ## -H.

When someone tries to "page" you for a chat, iChat comes forward automatically and shows you an invitation message like the one in <u>Figure 20-6</u>. If the person initiating a chat isn't already in your Buddy List, you'll simply see a note that says "Message from *[name of the person]*."

#### 20.2.5.2 You invite them

To invite somebody in your Buddy List to a chat:

- For a text chat, double-click the person's *name*, type a quick invite ("You there?"), and press Enter.
- To start an audio or video chat, click the microphone or movie-camera icon in your Buddy List (shown in <u>Figure 20-5</u>).

To initiate a chat with someone who *isn't* in the Buddy List, choose File New Chat With Person. Type the account name of the person and click OK to send the invitation.

Either way, you can have more than one chat going at once. Real iChat nerds wind up with screens overflowing with individual chat windows. Juggling them all, and keeping them all current, is just part of the fun.

# 20.2.6 Text Chatting

A typed chat works like this: Each time you or your chat partner types something and then presses Enter, the text appears on *both* your screens (<u>Figure 20-7</u>). iChat displays each typed comment next to an icon, which can be any of these three things:

# UP TO SPEED

# **Chat vs. Instant Messaging**

Double-clicking someone in your Buddy List invites them to *instant message* you. You're not inviting them to *chat* with you, which is technically different.

Not much different, though. One of the few differences: You can name a chat.

For example, you might be asked by friends to join a particular chat already in progress, in a named chat room. Maybe you're a member of a fantasy football league, and your preseason draft is taking place in an AOL chat room.

To join an existing named chat, choose File Go to Chat. Type the name of the chat you want to join, and click OK.

To create your *own* named chat, choose File Go to Chat, type a unique name for it, and click OK. Then you'll be in an empty chat room. Tell your friends the name of the room you've created, or just drag their icons out of the Buddy List and into the chat's Participants list to invite them.

Or, to invite someone to chat without having to set up a name for the "room," Control-click a name in the Buddy List and choose Invite to Chat from the contextual menu.

- A picture they added. If the buddy added her own picture—to her own copy of iChat or AOL Instant Messenger—it will be transmitted to you, appearing automatically in the chat window. Cool!
- A picture you added. If you've added a picture of your buddy to the Buddy List or Address Book, you see it here instead. (After all, your vision of what somebody looks like may not match his own self-image.)
- **Generic.** If nobody's done icon-dragging of any sort, you'll get a generic icon— either a blue globe (for .Mac people) or the AOL Instant Messenger running-man (for AIM people).

To choose a graphic to use as your own icon, click the square picture to the right of your own name at the top of the Buddy List. From the pop-up palette of recently selected pictures, choose Edit Picture to open the pop-up image-selection palette described on <u>Section 11.3.2</u>. Feel free to build an array of different graphics to represent yourself—and to change them in mid-chat, using this pop-up palette, much to the delight or confusion of your conversation partner.

As you chat, your comments always appear on the right. If you haven't yet created a custom icon, you'll look like a blue globe or an AOL running man. You can choose a picture for yourself either in your own Address Book card or right in iChat.



#### 20.2.6.1 In-chat fun

Typing back and forth isn't the only thing you can do during a chat. You can also perform any of these productivity stunts:

• Open the drawer. Choose View Show Chat Participants to hide or show the "drawer" that lists every person in your current chat. To invite somebody new to the chat, click the + button at the bottom of the drawer, or drag the

person's icon out of the Buddy List window and into this drawer.

- Format your text. You can press # -B or # -I to make your next typed utterance bold or italic. Or change your color or font by choosing Format > Show Colors or Format Show Fonts, which summons the standard Mac OS X color or font palettes. (If you use some weirdo font that your chat partners don't have installed, they won't see the same typeface.)
- **Insert a smiley.** When you choose a face (like Undecided, Angry, or Frown) from the quick-access menu of smiley options (at the right end of the text-reply box), iChat inserts it as a graphic into your response.

On the other hand, if you know the correct symbols to produce smileys—where :) means a smiling face, for example —you can save time by typing them instead of using the pop-up menu. iChat converts them into smiley icons on the fly, as soon as you send your reply.

• Send a file. Choosing Buddies Send a File lets you send a file to all the participants of your chat.

Better yet, just drag the file's icon from the Finder into the box where you normally type. (This trick works great with pictures.)

Either way, this is a fantastic way to transfer a file that would be too big to send by email. A chat window never gets "full," and no attachment is "too large" to send.

This method halves the time of transfer, too, since your recipient gets the file as you upload it. They don't have to wait 20 minutes for you to send the file, and then another 20 minutes to download it, as they would with email or FTP.

Note, though, that this option isn't available in old versions of the AOL Instant Messenger program—only new versions and iChat.



If you've opened the Participants drawer, you can drag files from the Finder onto individual participants' names in this drawer to send files directly to them.

• **Get Info on someone.** If you click a name in your Buddy list and then choose Buddies Get Info, you get a little Info window about your buddy, where you can edit her name, email address, and picture. (If you change the picture here, you'll see *it* instead of the graphic your buddy chose for herself.)

If you choose Actions from the Show pop-up menu, meanwhile, you can make iChat react when this buddy logs in, logs out, or changes status—for example, by playing a sound or saying, "She's here! She's here!"

- **Send an Instant Message.** Not everything in a chat session has to be "heard" by all participants. If you choose Buddies Send Instant Message, you'll get a *private* chat window, where you can "whisper" something directly to a special someone behind the other chatters' backs.
- Send Direct Message. A Direct Message (Buddies Send Direct Message) is exactly like an Instant Message, except that it's exclusively for sending notes to other people using iChat. It sends a message Mac to Mac, rather than via AOL's central server (which is what happens during an Instant Message session). For anyone who lies awake worrying that some disgruntled AOL engineer is peeking in on the instant-message traffic passing through AOL's computers, Direct Messaging is a more private channel.
- Send Email. If someone messages you, "Hey, will you email me directions?" you can do so on the spot by choosing Buddies Send Email. Your Mail program opens up automatically so that you can send the note along.
- Send an SMS message to a cellphone. If you're using an AIM screen name, and you know somebody who has a

cellphone capable of receiving SMS (Short Message Service) notes, try this wacky variation: Choose File New Chat with Person. In the address box that pops up, type +1 and the full cellphone number. For (212) 555-1212, you'd type this: +12125551212.

Press Enter to return to the chat window. Type a very short message (a couple of sentences, tops) and then press Enter. Obviously, you won't be able to carry on much of an interactive conversation this way—the only response you'll get is from AOL's computers, letting you know that your message has been sent. But what a great way to shoot a "Call me!" or "Running late—see you tonight!" or "Turn on channel 4 right now!!!" message to someone's phone.



When you minimize the iChat message window, its Dock icon displays the icon of the person you're chatting with—a handy reminder that they're still there.

## 20.2.6.2 Popping the Balloons

The words you might have for iChat's word-balloon design might be "cute" and "distinctive." But it's equally likely that your choice of words includes "juvenile" and "annoying."

Fortunately, behind iChat's candy coating are enough options that you'll certainly find one that works for you (see <u>Figure 20-8</u>).

You can even change iChat's white background to any image using View—Set Chat Background. Better yet, find a picture you like and drag it into your chat window; iChat immediately makes it the background of your chat. To get rid of the background and revert to soothing white, choose View—Clear Chat Background.

# GEM IN THE ROUGH The Chat Transcript

Every now and then, you'll wish you could *preserve* a chat for all time: a particularly meaningful conversation with a friend, lover, or customer-service agent.

On the iChat Preferences Messages panel, you can turn on "Automatically save chat transcripts."

From now on, the text of your conversations is automatically saved in your Home Documents iChats folder. To view a chat later, just double-click its icon. It opens within iChat, compete with all colors and formatting.

Even if you don't turn on this "Automatically" checkbox, you can always save individual chats in progress by choosing File Save a Copy As.



Ordinarily, messages you type aren't "broadcast" until you actually press Enter. But if you prefer the adrenaline rush of a live, watch-my-letters-appear-as-I-type-them effect, choose iChat Preferences. Turn on "Send text as I type." (As noted in the dialog box, this feature works only in Rendezvous chats—that is, chats on your own network, usually within the same building.)

iChat can look like almost anything. Here, for example, is what a chat looks like with the balloon effect turned off (giving you colored rectangles instead), and with balloons and pictures turned off. You can even hide the names, if you like. You make these changes for a chat in progress using the View menu. You can also change the color and typeface settings, meanwhile, in the iChat Preferences Messages panel.



## 20.2.7 Audio and Video Chats

iChat becomes much more exciting when you exploit the "AV" part of its name. Even over a dial-up modem connection, you can conduct audio chats, speaking into your microphone and listening to the responses from your speaker.

But if you and your partner both have broadband Internet connections, an even more impressive feat awaits. You can conduct a free video chat, viewing your partner in a window as crisp, clear, bright and smooth as television—as big as your screen, if you like.

Apple offers this luxurious experience only if you have luxurious gear: a video camera with a FireWire connector. That can be an ordinary digital camcorder (as long as your Mac has at least a G4 chip inside), a golf-ball Webcam that connects via FireWire instead of USB, or the iSight, Apple's cylindrical camera-microphone appliance.

You can tell what kind of equipment your buddy has by the green telephone or camcorder icon next to his name in the Buddy List.

- To begin an audio chat: Click the telephone icon next to the buddy's name, or highlight someone in the Buddy List and then click the microphone icon at the bottom of the list, or (if you're already in a text chat) choose Buddies Invite to Audio Chat.
  - Once your invitation is accepted, you can begin speaking to each other. The bars of the sound-level meter let you know that the microphone—which you've specified in the iChat—Preferences—Video tab—is working.
- To begin a video chat: Click the camera icon next to the buddy's name, or highlight someone in the Buddy List and then click the camcorder icon at the bottom of the list, or (if you're already in a text chat) choose Buddies Invite to Video Chat.

A window opens, showing *you*. This Preview mode is intended to show what your buddy will see. (You'll probably discover that you need some kind of light in front of you to avoid being too shadowy.)



You don't both need the same gear. If only you have a camera, for example, you can choose Buddies Invite to One-Way Video Chat (or Audio Chat). Your less-equipped buddy will see or hear you, but will have to type in response.

Once your buddy clicks Accept, the chat can begin (see Figure 20-9).

That's you in the smaller window. To move your own mini-window, click a different corner, or just drag yourself around with the mouse. If you need to blow your nose or do something else unseemly, Option-click the microphone button to freeze the video and mute the audio. Click again to resume.



Here's what you'll discover about audio and video chatting:

- Although the audio is full-duplex (you can hear and speak simultaneously, like a phone but unlike a walkie-talkie),
   there may be a delay, like you're calling overseas on a bad connection.
- If your conversation partners seem unwilling to make eye contact, it's not because they're shifty. They're just looking at *you*, on the screen, rather than at the camera —and chances are you aren't looking into your camera, either.
- This cutting-edge technology can occasionally present cutting-edge glitches: The video quality deteriorates, the transmission aborts suddenly, the audio has an annoying echo, and so on. To find a tidy list of problems and solutions, choose Help iChat Help and click the Solving Problems link.
- If you use iChat AV with a camcorder, you can set the camera to VTR (playback) mode and play a tape right over the Internet to whoever is on the other end! (The video appears flipped horizontally on your screen, but looks right to the other person.)



You can't record audio or video, or at least not without a screen-recording shareware program like SnapzPro X (<u>www.ambrosiasw.com</u>). But you can capture a still "photo" of a video chat by -dragging the image to your desktop, or by choosing Video Take Snapshot (Option--S).

## 20.2.8 iChat Tweaks

If you've done nothing but *chat* in iChat, you haven't even scratched the surface. The iChat Preferences dialog box gives you plenty of additional control. A few examples:

• **General pane.** If you turn on **Show status in menu bar**, you bring the iChat *menulet* to your menu bar. It lets you change your iChat status (Available, Away, and so on), whether you're in iChat or not.

And if you turn off **When I quit iChat, set my status to Offline**, then quitting iChat doesn't actually log you out. When someone wants a chat with you, iChat will open automatically.

- Accounts pane. If you have more than one AIM or .Mac account, you can switch among them here. Your passwords are conveniently saved in your Mac OS X Keychain.
- **Messages pane.** The Messages preference panel lets you design your chat windows—the background color, word balloon color, and typeface and size of text you type.

If you want to set a special background image for your chats, you can do that, too—just drag a graphics file into the chat preview box on this pane. You can revert to a white background by choosing View——Clear Background.

- Alerts pane. Here, you can choose how iChat responds to various events. For example, it can play a sound, bounce its Dock icon, or say something out loud whenever you log in, log out, receive new messages, or whatever.
- **Privacy pane.** If you're worried about being interrupted by people who *think* they're your buddies but are horribly, horribly confused, you can limit your visibility.

The "Allow anyone" setting means that anyone can chat with you. (You still have one small level of privacy, even at this level: If you turn off "Allow anyone to see that I am idle," nobody will know when you've stepped away from your Mac to make a sandwich.)

The other privacy levels permit only people in your Buddy List to see and chat with you, only certain people whose names you type, nobody (Block Everyone), or everybody but people on a list that you type (Block Specific People).

• Video pane. This is where you get a preview of your own camera's output, limit the amount of bandwidth (signal-hogging data) the camera uses (a troubleshooting step), and specify that you want iChat AV to fire up automatically whenever you switch on the camera.



< Day Day Up >







# 20.3 iCal

In many ways, iCal is not so different from those "Hunks of the Midwest Police Stations" paper calendars we leave hanging on our walls for months past their natural life span. But iCal offers several advantages over paper calendars. For example:

- It can automate the process of entering repeating events, such as weekly staff meetings or gym workout dates.
- iCal can give you a gentle nudge (with a sound, a dialog box, or even an email) when an important appointment is approaching.
- iCal can share information with your Address Book program, with Mail, with your iPod, with other Macs, with "published" calendars on the Internet, or with a Palm organizer. Some of these features require one of those .Mac accounts described in <a href="Chapter 18">Chapter 18</a>, and some require iSync (described later in this chapter). But iCal also works just fine on a single Mac, even without an Internet connection.

# 20.3.1 Working with Views

When you open iCal, you see something like <u>Figure 20-10</u>. By clicking one of the View buttons on the bottom edge of the calendar, you can switch among any of these views:

- Day shows the appointments for a single day in the main calendar area, broken down by time slot.
  - If you choose iCal Preferences, in fact, you can specify what hours constitute workday. This is ideal both for those annoying power-life people who get up at a.m. for two hours of calisthenics, and for the more reasonable people who sleep until 11 a.m. before rolling out of bed and heading over to the home office in the den. This same dialog box lets you limit the number of hours visible in each Day view (choose from the "Show \_\_\_ hours at a time" pop-up menu); as you make this number lower, the time slots get larger, for your nearsighted pleasure.
- Week fills the main display area with seven columns, reflecting the current week. (You can change the display to a five-day work week instead in iCal Preferences.)
- Month shows the entire month that contains the current date. Double-click a date number to jump to the day view for that date.



iCal provides a quick way to get to the current day's date—choose View——Go to Today, or press #\_-T.

# 20.3.2 Making an Appointment

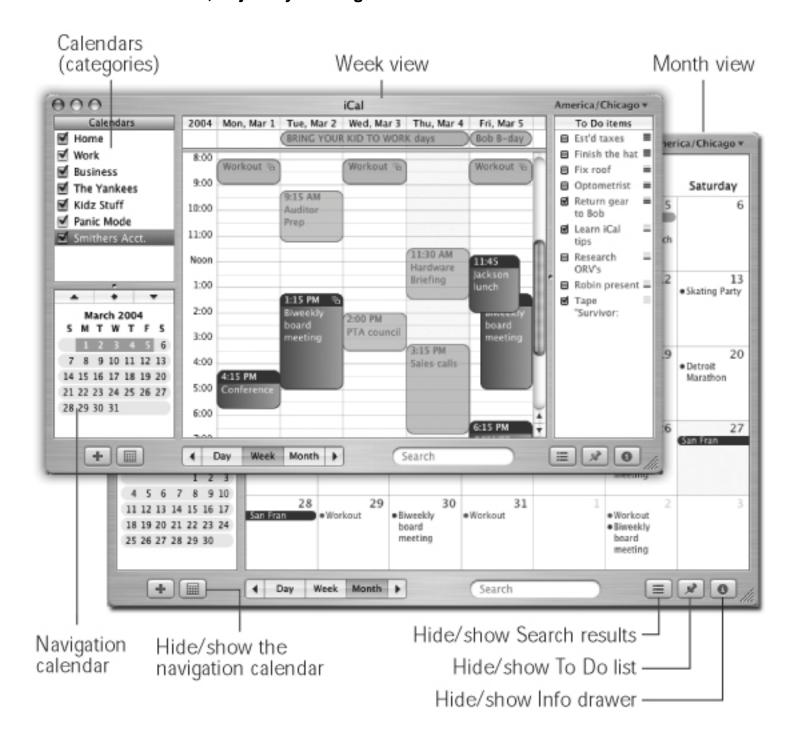
The basic iCal calendar is easy to figure out. After all, with the exception of one unfortunate Gregorian incident, we've been using calendars successfully for centuries.

Even so, there are two ways to record a new appointment: a simple way and a more flexible, elaborate way.

Left: Week view. The miniature navigation calendar provides an overview of adjacent months. You can jump to a different week or day by clicking the triangle buttons (or using them as pop-

up menus), and then clicking within the numbers. If the event is recurring, its upper "grip strip" shows two stacked squares.

Right: Month view. You can hide the To Do list either using the Window—Hide To Dos command, or just by clicking the thumbtack button identified here.



## **20.3.2.1 The easy way**

You can quickly record an appointment using any of several techniques, listed here in order of decreasing efficiency:

 Double-click the appointed time on the calendar, in any view. A colored box appears, where you type the name for your new appointment.

- When viewing a day or week view, drag vertically through the time slots that represent the appointment's duration, and then type inside the newly created colored box.
- Using the month view, double-click in a blank area of the appropriate date's square, and then type in the newly created colored bar.
- Choose File New Event (or press #-N). A new appointment appears on the currently selected day, regardless of the current view.
- In any view, Control-click a date and choose New Event from the contextual menu.

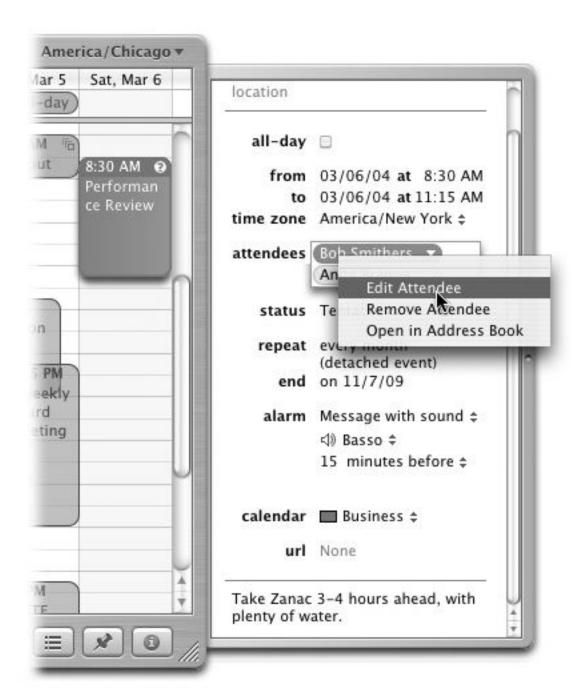
Unless you use the drag-over-hours method, a new event believes itself to be one hour long, but you can adjust its duration by dragging the bottom edge vertically. Drag the dark top bar up or down to adjust the start time.

In many cases, that's all there is to it. You have just specified the day, time, and title of the appointment. You can get on with your life.

## **20.3.2.2 The long way**

The information drawer shown in <u>Figure 20-11</u> contains all the details for a certain appointment. (If it's not already open, you can open the drawer by clicking the gray i button at the lower-right corner of the window.) Using this drawer, you can create far more specific appointments, decked out with far more bells and whistles.

You can open this Info drawer by double-clicking a calendar square or dragging through a swath of hours on any day or week view (background, left). The ending date information is generally dimmed except for events that span more than one day (and to make an event do that, you must turn on "all day").



For each appointment, you can Tab your way to the following information areas:

- **Subject.** That's the large, bold type at the top—the name of your appointment. For example, you might type *Fly to Phoenix.*
- **location.** This field makes a lot of sense; if you think about it, almost everyone needs to record *where* a meeting is to take place whenever such an appointment comes up. You might type a reminder for yourself like *My place*, a specific address like *212 East 23*, or some other helpful information like a contact phone number or flight number.
- **all-day.** An "all-day" event of course, refers to something that has no specific time of day associated with it: a holiday, a birthday, a book deadline. When you turn on this box, you'll see the name of the appointment jump to the top of the iCal screen, in the area reserved for this kind of thing (see <u>Figure 20-10</u>).



If you turn on "all-day," you can use the "to" date to specify a different ending date. The result is a *banner* across the top of the calendar, like the one shown in Figure 20-10.

• from, to. You can adjust the times shown here by typing, clicking buttons, or both. (Press Tab to jump from one setting to another, and from there to the hours and minutes of the starting time.)

For example, start by clicking the hour, then increase or decrease this number either by pressing your up and down arrow keys, or by typing a number. Press Tab to highlight the minutes, and repeat the arrow buttons-or-keys business. Finally, press Tab to highlight the AM/PM indicator, and type either A or P—or press the up or down arrow key—to change it, if necessary.

attendees. If the appointment is a meeting or some other gathering, you can type the participants' names here. If a name is already in your Address Book program, iCal proposes auto-completing the name for you; if you type in fresh names and separate them by commas, iCal automatically turns each into a shaded oval pop-up button, as shown in <a href="Figure 20-11">Figure 20-11</a>. You can click it for a pop-up menu of commands like Remove Attendee and Send Email. (That option appears only if the person in your Address Book has an email address, or if you typed a name with an email address in brackets, like this: Chris Smith <chris@yahoo.com>.)



You can also drag people out of your Address Book list directly into this Attendees area.

The word Attendees is itself a pop-up menu, too. If you use it to choose Send Invitations, iCal fires up Mail and prepares ready-to-send messages, each with an *iCal.ics* attachment: a standard calendar-program invitation file.

Your guest will get an email message that says, "Chris Smith has invited you to the event: Company Hoedown, scheduled for Wednesday, February 02, 2005 at 3:00PM. To accept or decline this invitation, click the link below."

Unfortunately, there generally *is* no link below unless your guests happen to use Mac OS X and Mail. It's a great idea for a feature, but extremely limited in scope at the moment.

If your lucky recipient *does* use Mail, clicking the *iCal.ics* attachment opens up a dialog box that offers Accept and Decline. When your guest clicks one of these buttons, an RSVP message goes back to you. Once Mail has downloaded the response, you've opened its attachment, and you've clicked OK, iCal updates the invitee's status in the Event Info window. You'll see the word Pending, Accepted, or Declined next to each name. (And your guests, meanwhile, will be delighted to find that the appointment has automatically appeared on their calendars.)

- **status.** You can use this pop-up menu to classify the appointment as Tentative, Confirmed, or Cancelled. A corresponding icon appears next to the event's name on your calendar.
- **repeat.** The pop-up menu here (which starts out saying None) contains common options for recurring events: every day, every week, and so on.

Once you've made a selection, you get an **end** pop-up menu that lets you specify when this event should *stop* repeating. If you choose "Never," you'll be stuck seeing this event repeating on your calendar until the end of time (a good choice for recording, say, your anniversary, especially if your spouse might be consulting the same calendar). You can also turn on "after" (a certain number of times), which is a useful option for car and mortgage payments. And if you choose "on date," you can specify the date that the repetitions come to an end; use this

- option to indicate the last day of school, for example.
- alarm. This pop-up menu tells iCal how to notify you when a certain appointment is about to begin. iCal can send the three kinds of flags to get your attention: It can display a message on the screen (with a sound, if you like), send you an email, or open a file on your hard drive. (You could use this unusual option to ensure that you don't forget a work deadline by making the relevant document fling open in front of your face at the eleventh hour.)
  - Once you've specified an alarm mechanism, a new pop-up menu appears to let you specify how much advance notice you want for this particular appointment. If it's a TV show you like to watch, you might set up a reminder only five minutes before airtime. If it's a birthday, you might set up a two-day warning to give yourself enough time to buy a present, and so on.
- calendar. A calendar, in iCal's confusing terminology, is a subset—a category—into which you can place various appointments. You can create one for yourself, another for family-only events, another for book-club appointments, and so on. Later, you'll be able to hide and show these categories at will, adding or removing them from the calendar with a single click.



Use this same pop-up menu to *change* an appointment's category. If you filed something in Company Memos that should have been in Sweet Nothings for Honey-Poo, open its information drawer and reassign it. Quick.

- **url.** What Apple really means here, of course, is *URL*—a Uniform Resource Locator, better known as a Web address like <u>www.apple.com</u>. If there's a URL relevant to this appointment, by all means type it here. Type more than one, if it will help you (separating each with a comma).
- **notes.** Here's your chance to customize your calendar event. You can type, paste, or drag any text that you like in the notes area—driving directions, contact phone numbers, a call history, or whatever.

Your newly scheduled event now shows up on the calendar, complete with the color coding that corresponds to the calendar category you've assigned.

# 20.3.3 What to Do with an Appointment

Once you've entrusted your agenda to iCal, you can start putting it to work. iCal is only too pleased to remind you (via popup messages) of your events, reschedule them, print them out, and so on. Here are a few of the possibilities.

# 20.3.3.1 Editing events

To edit a calendar event's name, double-click it.

To edit any of the appointment's other characteristics, you have to open its Info drawer, as described in the previous section. To do that in day or week view, doubleclick the top bar (where its time appears); in month view, double-click the dot before the name.

Or, in any view, highlight an event's name and then click the round blue i button in the lower-right corner of the iCal window.



If you simply want to change an appointment's "calendar" category, you can bypass the Info drawer. Instead, just Control-click the appointment's name (or anywhere on its block), and choose the category you want from the resulting contextual menu.

You don't have to bother with this if all you want to do is reschedule an event, however, as described next.

## 20.3.3.2 Rescheduling events

If an event in your life gets rescheduled, you can drag an appointment block vertically in its column to make it later or earlier the same day, or horizontally to another date in day or week view. (If you reschedule a recurring event, iCal asks you if you want to change only *this* occurrence, or this *and* all future ones.)

If something is postponed for, say, a month or two, you're in trouble; you can't drag an appointment beyond its month window. You have no choice but to open the Info drawer and edit the starting and ending dates or times—or just cut and paste the event to a different date.

## 20.3.3.3 Lengthening or shortening events

If a scheduled meeting becomes shorter or your lunch hour becomes a lunch hourand- a-half (in your dreams), changing the length of the representative calendar event is as easy as dragging the top or bottom border of its block in any column view (see Figure 20-12).



In Week view, if you've grabbed the top or bottom edge of an appointment's block so that the cursor changes, you can drag *horizontally* to make an appointment cross the midnight line and extend into a second day.

You can resize any iCal calendar event just by dragging its border. As your cursor touches the bottom edge of a calendar event, it turns into a horizontal line with arrows above and below. You can now drag the event's edge to make it take up more or less time on your calendar.



# 20.3.3.4 Printing events

To commit your calendar to paper, choose File Print, or press **#**-P. In the resulting Print dialog box, choose iCal from the lower pop-up menu to look over your printout options—for example, to print only a certain range of dates (a welcome improvement in Panther).

# 20.3.3.5 Deleting events

To delete an appointment, just select it and then press the Delete key. In the confirmation dialog box, click Delete (or press Enter). If you delete a recurring event (like a weekly meeting), iCal asks whether you want to delete just that particular instance of the event, or the whole series from that point forward.



If you're a laptop-toting traveler, iCal can keep right up with your changing time zones. In iCal Preferences, turn on "Turn on time zone support." From now on, the Info drawer shown in <u>Figure 20-11</u> offers a new pop-up menu for each appointment. Its Other command lets you tell it where you'll be on that day (you click to pinpoint your location on a tiny world map).

Then, as you travel, use the new pop-up menu of time zones in the upper-right corner of iCal's window. You'll see all of your appointments snap to the correct time slots for your current location, so that you're always on time and up to date.

# 20.3.4 Searching for Events

You should recognize the oval text box at the bottom of the iCal screen immediately: it's almost identical to the one in Preview, iTunes, the Finder toolbar, and so on. This search box is designed to let you hide all appointments except those matching what you type into it. Figure 20-13 has the details.

# 20.3.5 The "Calendar" Category Concept

Just as iTunes has *playlists* that let you organize songs into subsets, and iPhoto has *albums* that let you organize photos into subsets, iCal has something called *calendars* that let you organize appointments into subsets. One person might have calendars called Home, Work, and TV Reminders. Another might have Me, Spouse 'n' Me, and Whole Family. A small business could have categories called Deductible Travel, R&D, and R&R. They can be anything you like.

To create a calendar, double-click any white space in the Calendar list (below the others), or click the + button at the lower-left corner of the iCal window. Type a name that defines the category in your mind.

To change the color-coding of your category, click the i info button, or choose Window Show Info (**3**-I). The Calendar Info drawer appears, looking a lot like the Event Info drawer shown in Figure 20-11. Here, you can change the name, color, or description of this category.

You assign an appointment to one of these categories using the pop-up menu on its Info drawer, or by Control-clicking an event and choosing a calendar name from the resulting contextual menu. After that, you can hide or show an entire category of appointments at once just by turning on or off the appropriate checkbox in the Calendars list.



Click a calendar name *before* you create an appointment. That way, the appointment will already belong to the correct calendar.

As you type into the search box, iCal filters your calendar until only events with matching text are visible. It screens out both the text list and the colored boxes on the calendar itself, so that you can produce, in seconds, a calendar that shows only events pertaining to a particular client or project. (You can also open up this list view by clicking the button identified here at right.)



# 20.3.6 "Publishing" Calendars to the Web

One of iCal's best features is its ability to post your calendar on the Web, so that other people—or you, using a different computer—can subscribe to it, which adds *your* appointments to *their* calendars. If you have a .Mac account, then anyone with a Web browser can also *view* your calendar, right online.

For example, you might use this feature to post the meeting schedule for a group or club that you manage, or to make clear the agenda for a series of financial meetings coming up that all of your coworkers will need to consult.

## 20.3.6.1 Publishing

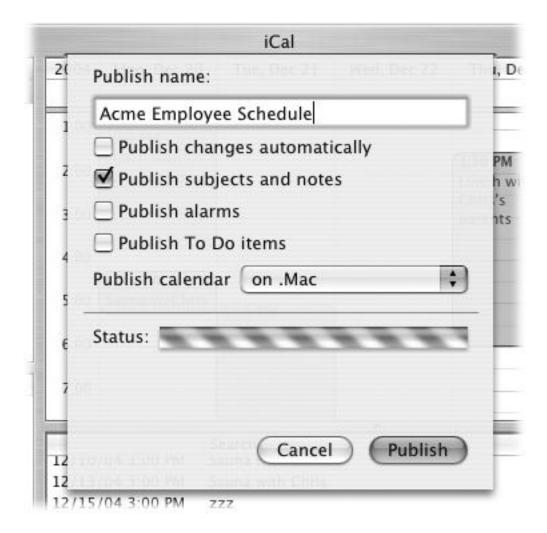
Since iCal can publish only one "calendar" (category) at a time, there's no way to publish *both* your corporate appointments *and* your personal ones. Begin, then, by clicking the calendar category you want in the left-side list.

Then choose Calendar Publish; the dialog box shown in <u>Figure 20-14</u> appears. Here you customize how your saved calendar is going to look and work. You can even turn on "Publish changes automatically," so that whenever you edit the calendar, iCal connects to the Internet and updates the calendar automatically.



CalSync (\$5, <u>www.itoast.de/eng/calSync</u>) lets you publish your calendars to any FTP server and have them updated automatically, in full subscribable form.

If you click "Publish calendar on .Mac," iCal posts the calendar —the actual, viewable calendar —on the Web, as shown in <a href="Figure 20-15">Figure 20-15</a>. If you click "Publish calendar on a WebDAV server," you have the freedom to upload the calendar to your own personal Web site, if it's WebDAV-compatible. In this case, however, your fans will be able to download (and subscribe to) the calendar, but won't be able to view it online.

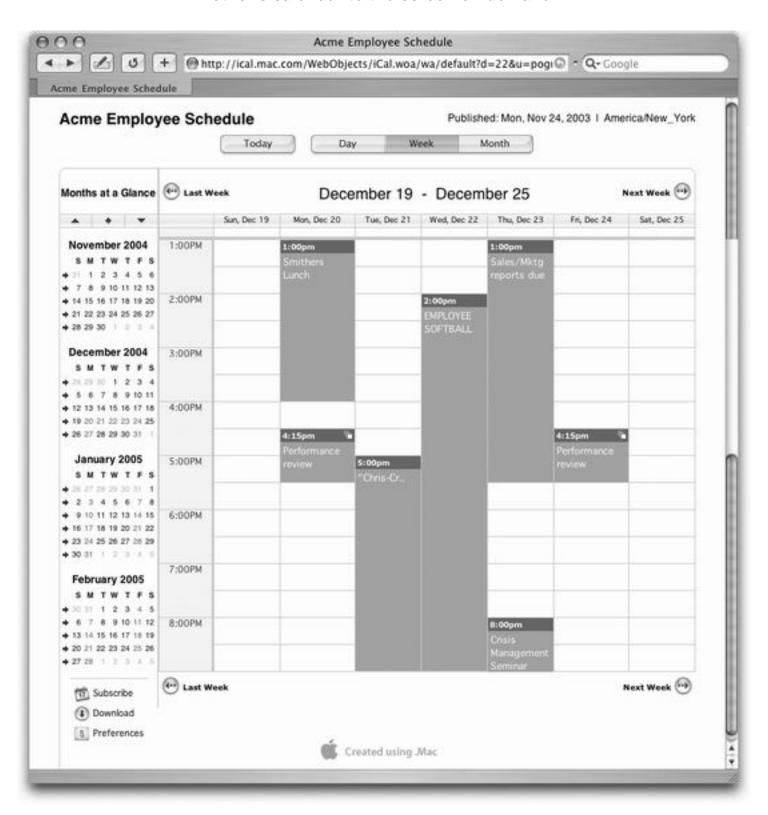


When you click Publish, your Mac connects to the Web and then shows you the Web address (URL) of the finished page, complete with a Send Mail button that lets you fire the URL off to your colleagues.

## 20.3.6.2 Subscribing

If somebody else has published a calendar, you subscribe to it by choosing Calendar Subscribe. In the Subscribe to Calendar dialog box, type in the Internet address you received from the person who published the calendar. Alternatively, click the Subscribe button in any iCal Web page (shown in Figure 20-15 at top right).

Your calendar is now live on the Web. Your visitors can control the view, switch dates, doubleclick an appointment for details —it's like iCal Live! This feature of iCal is a brilliant solution to the old, "My spouse and I each have a Palm, but we can't see each other's calendars" problem. In conjunction with iSync (described later in this chapter), each person can now summon the other's calendar to the screen on demand.



Either way, you can also specify how often you want your own copy to be updated (assuming you have a full-time Internet connection), and whether or not you want to be bothered with the publisher's alarms and notes.

When it's all over, you see a new "calendar" category in your left-side list, representing the appointments from the published calendar.

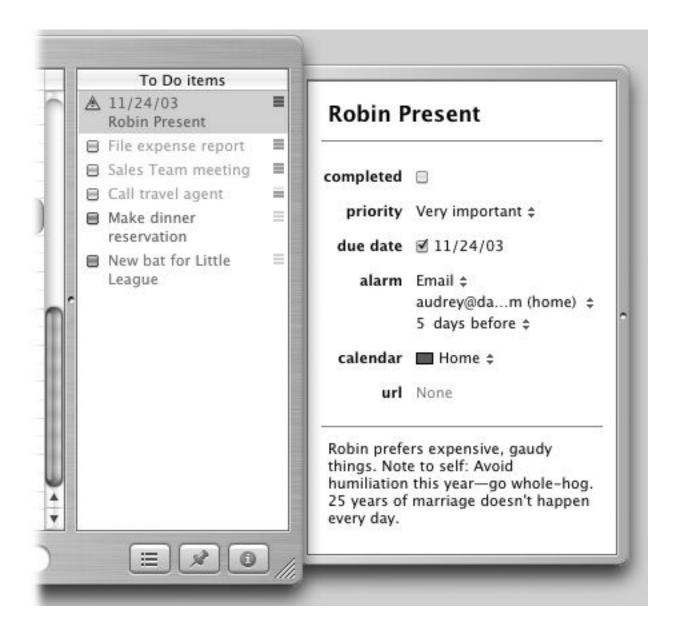


Want to try it out right now? Visit <u>www.icalshare.com</u>, a worldwide clearinghouse for sets of iCal appointments. You can subscribe to calendars for shuttle launches, Mac trade shows, National Hockey League teams, NASCAR races, soccer matches, the *Iron Chef* and *Survivor* TV shows, holidays, and much more. You'll never suffer from empty-calendar syndrome again.

## **20.3.7 To Do Lists**

iCal's Tasks feature lets you make a To Do list and helps to shepherd you along by giving you gentle reminders, if you so desire (Figure 20-16).

Using the To Do Info drawer (right), you can also give your note a priority, a calendar (category), or a due date. (Tasks that come due won't show up on the calendar itself, but a little exclamation-point triangle appears in the To Do Items list.)



To see the list, click the little pushpin button at the lower-right corner of the iCal screen. Add a new task by double-clicking in the To Do Items list that appears.

To change a task's priority, click the set of three horizontal bars to the to-do item's right. With each click, you add a bar, corresponding to three priority levels, and the list re-sorts itself accordingly. (You can change the sorting order by Control-clicking anywhere in the list and using the Sort By command.) To delete a task, click it and then press the Delete key.







# 20.4 iSync

If Apple ever had evidence to back up its "digital hub" hype, iSync is it.

This attractive, simple program is designed to keep the calendars and phone lists on your various computers, Palm organizer, cellphone, and even your iPod in perfect synchronization, sparing you the headache of the modern age: inputting the same information over and over again. (See <u>Figure 20-20</u>.)

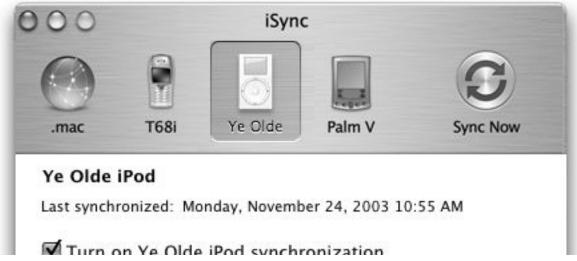
Here's what it can keep synched:

• A Bluetooth phone. iSync can keep your cellphone and Mac up-to-date with each other's calendar, Address Book, and to-do list. Of course, this requires that your Mac has a Bluetooth adapter (Section 6.2.5). And it requires a certain amount of technical setup (creating a phone profile, pairing the phone with your Mac, opening iSync and choosing Device Add Device, and selecting the phone). You'll find detailed instructions in the iSync Help screens.



Apple lists the phones that are officially compatible with this feature at <a href="www.apple.com/isync/devices">www.apple.com/isync/devices</a> . <a href="https://devices.ntml">https://devices.ntml</a>. If your phone isn't on The List, don't miss <a href="www.taniwha.org.uk">www.taniwha.org.uk</a>, a Web page that's loaded with drivers and installation instructions for specific phone models.

Top: For each gadget, you can specify which iCal calendar categories you want synched, which contacts, and (for a .Mac account) whether or not you want the synching to be automatic. Bottom: The Safeguard window warns you about exactly how many changes you're about to make. (You can turn off this confirmation box in the iSync Preferences dialog box.) You can also revert your setup to the last sync, or back up all your data, using commands in the Devices menu. Even with all these safeguards, synchronization can be a tricky business. Just remember never to sync a device with more than one Mac. Similarly, sync only one of each device type (phone, Palm, or iPod) with a certain Mac. Otherwise, iSync may get hopelessly confused as to what's most current.



Automatically sy	nchronize when iPod is c	onnected
Contacts		
Synchronize:	All contacts	*
☑ Calendars		
All		
Selected:	<b>✓</b> Home	
	<b>✓</b> Work	
	☐ Kidz Stuff	
	Panic Mode	



• Other Macs. This part requires a .Mac account, but it can be fantastically useful. It means that you and a colleague, or you and a spouse, or you and yourself at the office, can keep your Macs' calendars, Address Book, and even Safari bookmarks in sync, using the Internet as an intermediary. Delete a phone number at work, and you'll find it deleted on your Mac at home, too.

To set this up, open iSync and click the .Mac icon. Click Register, type a name for your Mac, and then click

Continue.

• A Palm organizer. iSync can also keep iCal and Address Book synched with a Palmcompatible organizer. It doesn't do the work itself; it relies, behind the scenes, on Palm's own HotSync software, which must be installed and properly configured beforehand.

Once that's done, open HotSync Manager in your Palm folder. Choose HotSync Conduit Settings. Double-click the item named iSync, and turn on "Enable iSync for this Palm device."

Click OK and quit HotSync Manager. You've just told Palm's own synching software to butt out. From now on, iSync will handle synching your Mac's info with its Address Book, Date Book, and To Do List. (To edit and sync Notes, you still need Palm Desktop.)

Finally, in iSync, use the Devices Add Device command to make iSync "see" your Palm, which you've put into its cradle, attached to its cable, or (if it's a Bluetooth Palm) made discoverable. To start the synchronization, press the physical HotSync button on the palmtop's cradle, cable, or HotSync screen. (Clicking iSync's Sync Now button never affects the Palm—only the iPod, phone, and .Mac connections.)

• An iPod. Connect the iPod to the Mac, and help iSync find it using the Devices Add Device command. Now it's simple to consult your little black book on your little white block. (Current iPod models include the calendar-display feature. If you have an older iPod, you can download the calendar module for it from the Apple Web site. Note, too, that the synching is one-way: iSync copies your calendar and phone book to the iPod, but of course you can't use the iPod to add to, edit, or delete any of this information.)

When you open iSync, its toolbar shows the icons of any synchable devices connected to your Mac at the moment. Click the appropriate gadget on the toolbar—your iPod, for example—to see the synching options available. Turn on the checkboxes you want, and then click the Sync Now button. After asking what you want to do with each kind of data—"This is the first time you're syncing your bookmarks. What do you want to do for this sync? (Merge, Keep, Erase?)"—iSync does the deed.



Actually, you don't have to open iSync to trigger the synching—once you've installed the iSync menulet.

In iSync, choose iSync Preferences and turn on "Show iSync in menu bar." From now on, you can get the synching under way by choosing Sync Now from the yin-yang arrow symbol on your menu bar.

iSync is plenty smart when it comes to resolving conflicts among your gadgets. For example, if you edit somebody's home phone number on your Palm, and your spouse simultaneously edits the same person's office number on the Mac, iSync will smoothly incorporate both changes into all copies of your address book. Unless you and your spouse *both* change the home number in different ways; then iSync will present a Resolve Conflicts button. Click it, and choose which info you believe should prevail.



< Day Day Up >







## 20.5 Safari

If you want to get something done right, you have to do it yourself.

Or at least that must be what Apple was thinking when it wrote its own Web browser, which so annoyed Microsoft that it promptly ceased all further work on its own, time-honored Mac browser, Internet Explorer.

Safari is beautiful, very fast, and filled with delicious features. It's not, however, Internet Explorer, and so some Web sites—certain banking sites, for example—still refuse to acknowledge its existence (workarounds coming later in the chapter). For the near term, therefore, it's worth keeping Internet Explorer on hand for those situations when Safari can't get its foot in the door.

## 20.5.1 Browsing Basics and Toolbars

Navigating the Web requires little more than clicking buttons and/or those underlined blue phrases, as shown in <u>Figure 20-</u>18.

The Safari window offers tools and features that let you navigate the Web almost effortlessly; these various toolbars and buttons are described in this chapter. One difference that may throw you: When you're loading a Web page, the progress bar appears as a colored stripe that gradually darkens the Address bar itself, rather than in a strip at the bottom of the window.



You probably know the drill when it comes to Web browsers: When you click an underlined *link* (or *hyperlink*) or a picture button, you're transported from one Web page to another. One may be the home page of General Motors; another may contain critical information about a bill in Congress; another might have baby pictures posted by a parent in Omaha. Several hundred million Web pages await your visit.



Text links aren't always blue and underlined. In fact, modern Web designers sometimes make it very difficult to tell which text is clickable, and which is just text. When in doubt, just move your cursor over some text. If the arrow changes to a pointing-finger cursor, you've found yourself a link.

Some of the other Safari tips that may not be obvious:

• **Graphics worth saving.** When you see a picture you'd like to keep, Control-click it and choose Download Image to Disk from the contextual menu. Safari promptly stores it as a new graphics file on your hard drive containing the picture you saved. (You'll find it in whatever download folder you specify on the Safari Preferences General tab.)



You can also save a graphic to the desktop just by dragging it there, right out of the Safari window.

• **Scroll bars.** Use the scroll bar to move up and down the page—or to save mousing, press the Space bar each time you want to see more. Press Shift-Space to scroll *up*. (The Space bar has its traditional, space-making function only when the insertion point is blinking in a text box or the address bar.)

You can also press your up- and down-arrow keys to scroll. Page Up and Page Down scroll in full-screen increments, while Home and End whisk you to the top or bottom of the current Web page. And if your mouse has a scroll wheel, it works, too.

## 20.5.2 Safari Toolbars

Many of Safari's most useful controls come parked on toolbars and buttons that you summon or hide by choosing their names from the View menu. Here's what they do:

#### **20.5.2.1 Address Bar**

When you type a new Web page address (URL) into this strip and press Enter, the corresponding Web site appears. (If only an error message results, then you may have mistyped the address, or the Web page may have been moved or dismantled —a relatively frequent occurrence.)

Because typing out Internet addresses is so central to the Internet experience and such a typo-prone hassle, the address bar is rich with features that minimize keystrokes. For example:

- You don't have to click in the address bar before typing; just press ##-L.
- You can highlight the entire address, ready to be typed over with a new one, by clicking the very upper edge of the address-bar text box. Or click the small icon just to the left of the current address. Or triple-click in the Address bar.
- You don't have to type out the whole Internet address. You can omit the <a href="http://www and .com">http://www and .com</a> portions; Safari will fill in those standard address bits for you. To visit NYTimes.com, for example, a speed freak might press #-L to highlight the address bar, type <a href="https://www.and.com">nytimes</a>, and then press Enter.



You're sitting in front of your Web browser and you suddenly realize you need to look up an appointment in iCal. What do you do?

The power users open other programs right from within Safari by typing *ical://* in the address bar—or *ichat://, addressbook://*, or *sherlock://*—and then pressing Return or Enter.

You can even type *mailto:* to open a new outgoing email message in Mail, or *mailto:* steve@apple.com to pre-address that outgoing message.

• When you begin to type into the address bar, the auto-complete feature compares what you're typing against a list of Web sites you've recently visited. Safari displays a drop-down list of Web addresses that seem to match what you're typing. To spare yourself the tedium of typing out the whole thing, just click the correct complete address with your mouse, or use the down arrow key to reach the desired listing and then press Enter. The complete address you selected then pops into the address bar.



You might wonder why the View menu even offers you the chance to hide the address bar. After all, if it were hidden, how could you use the Web?

Simple: Even with this bar hidden, you can briefly summon it by pressing **#**-L. Type the address you want, and then press Enter to make the bar disappear again. That's good news for people with small screens.

# GEM IN THE ROUGH Let AutoFill Do the Typing

Safari can also remember user names, passwords, and other information you type into the text boxes you encounter in your Web travels.

To turn on this feature, visit the Safari Preferences AutoFill tab. If you turn on "Using info from my Address Book card," then whenever you're supposed to fill in your shipping address on a Web form, you can click the AutoFill button to have Safari fill in the blanks for you automatically. (If you don't see the little AutoFill button—see Figure 20-19—choose its name from the View menu.)

Alternatively, just click in a text box—"Name," for example— and start typing. As soon as Safari recognizes a familiar scrap of your contact information, it fills out the rest of the word automatically. (If it guessed wrong, just keep typing.)

If, in Preferences, you turn on "User names and passwords," then each time you type a password into a Web page, Safari offers to memorize it for you. It's a great time and memory saver, even though it doesn't work on all Web sites.

When you want Safari to "forget" your passwords—for security reasons, for example—revisit that

Safari Preferences AutoFill tab. Click one of the Edit buttons, and delete the Web site names for which your information has been stored.

You can summon or dismiss a number of individual buttons on the address bar, in effect customizing it (Figure 20-19):

• Back/Forward. Click the Back button to revisit the page you were just on. *Keyboard shortcut:* Delete, or **#**-left arrow, or **#**-left bracket.

Once you've clicked Back, you can then click the Forward button (or #-right arrow, or #-right bracket) to return to the page you were on *before* you clicked the Back button. Click (and hold on) the Back button for a drop-down list of *all* the Web pages you've visited during this online session. (That pop-up menu lists the sites by name, as in "New York Times on the Web." To view the actual addresses instead, Option-click (and hold on) the Back or Forward button.)



Instead of click-and-holding the Back or Forward button for these tricks, you can save a half a second of waiting by adding the Control key as you click.

You summon or hide these buttons by choosing their names from the View menu. Some of them lack text labels, but all offer tooltip labels that you can read by pointing to the button without clicking.



- **Home.** Click to bring up the Web page you've designated as your home page (in Safari Preferences General).
- AutoFill. Click this button to make Safari fill in Web order forms with your name, address, and other information.

See the box on the facing page.

- Text Size. You can adjust the point size of a Web page's text using these buttons (or by pressing ##-plus and ##-minus). When you visit a Web site designed for Windows computers, whose text tends to look too small on Mac screens, you might want a bigger size.
- **Stop/Reload.** Click the Stop button to interrupt the downloading of a Web page you've just requested (by mistake, for example). *Keyboard shortcut:* Esc or #- period.

Once the page has finished loading, the Stop button turns into a Refresh button. Click this circular arrow if a page doesn't look or work quite right, or if you want to see the updated version of a Web page (such as a stock ticker) that changes constantly. Safari re-downloads the Web page and reinterprets its text and graphics. *Keyboard shortcut:* **#**-R.

• Add Bookmark. When you find a Web page you might like to visit again, click this button, or press ##-D, or choose Bookmarks Add Bookmark, or drag its tiny icon in the Address bar directly onto your Bookmarks bar.

As shown in <u>Figure 20-20</u>, Safari offers to add this Web page's name (or a shorter name that you specify for it) either to the Bookmarks menu, or to the Bookmarks *bar* described below. The next time you want to visit that page, just choose its name.



Press Shift-#-D instead to add the bookmark to the menu instantly, no questions asked, no dialog box presented.

You can rearrange the commands in your Favorites menu easily enough: Just choose Bookmarks Show All Bookmarks (Option-#-B), or click the tiny book icon shown in Figure 20-20. In the resulting organization window, drag the bookmarks up and down.

For more dramatic management tasks—to edit, rename, or delete your Favorites, for example—also see <u>Figure 20-</u>20.



Click the tiny triangle at the left end of the Google bar to produce a pop-up menu of your most recent searches.

**Bonus Tip:**If you Control-click a highlighted word or phrase on a Web page, you can choose Google Search from the contextual menu to run a search directly.

• **Bug.** Ladies and gentlemen, Apple at its most humble. This insect-shaped button opens a tiny "Dear Apple" box, where you can tell Apple about a Safari feature or Web page that wouldn't work. If you click Options, you can even opt to send Apple a screen illustration of, for example, a screwy Web-page layout that Safari delivered.

#### 20.5.2.2 Bookmarks bar

The Bookmarks menu is one way to maintain a list of Web sites you visit frequently. But opening a Web page listed in that menu requires *two mouse clicks*—an exorbitant expenditure of energy. The Bookmarks bar (View Bookmarks Bar), on the other hand, lets you summon a few *very* favorite Web pages with only *one* click.

Figure 20-20 illustrates how to add buttons to, and remove them from, this toolbar.



As shown in <u>Figure 20-20</u>, you can drag a link from a Web page onto your Bookmarks bar. But you can also drag a link directly to the desktop, where it turns into an *Internet location file*. Thereafter to launch your browser and visit the associated Web page, just double-click this icon whenever you like.

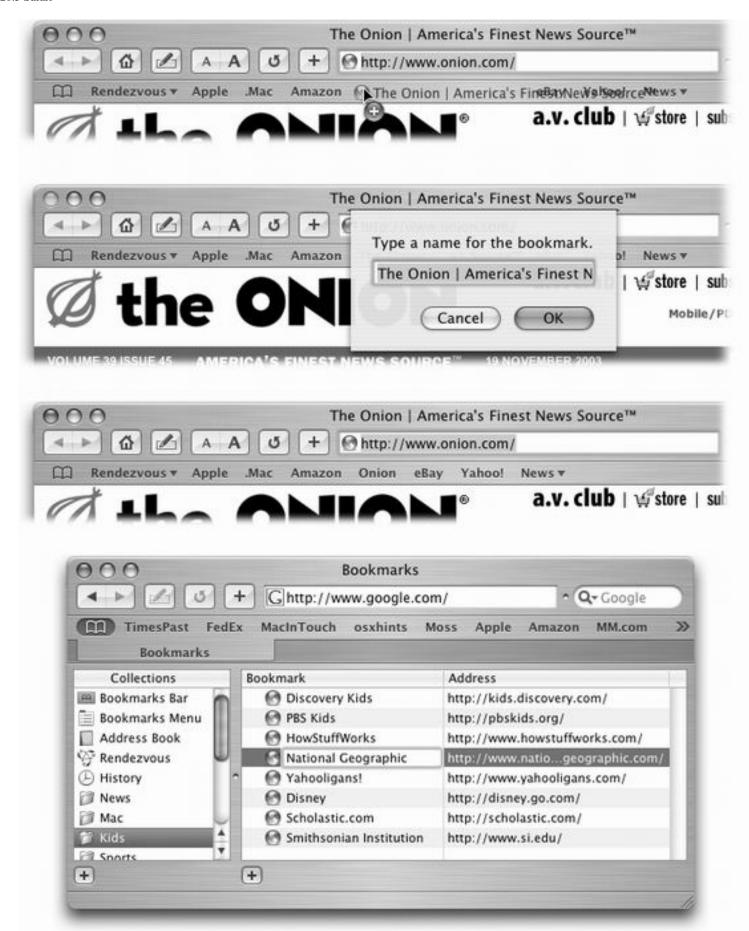
Better yet, stash a few of these icons in your Dock or Sidebar for even easier access.

Top: Once you've got a juicy Web page on the screen, you can drag its tiny page-logo icon from the address bar directly onto the Bookmarks bar.

Second from top: Safari realizes that you may prefer a shorter name to appear on the spacelimited bar, so it offers you the chance to type in a label you prefer.

Third from top: When you click OK, the new button appears on the bar, as shown here. (You can also drag any link, such as a blue underlined phrase, from a Web page onto the bar—or even an icon from your desktop!) To remove a button, drag it off the bar; to rearrange the icons, just drag them.

Bottom: Click the little book icon (circled) to open the Organize Bookmarks window. Here, you can drag names up or down to rearrange the list, or drag them into a "folder" that becomes a submenu in the Bookmarks menu (create one by clicking the + button below the list). You can edit a bookmark by clicking once on its name or URL, or delete one by pressing Delete.



### 20.5.3 Status Bar

The Status bar at the bottom of the window tells you what Safari is doing (such as "Opening page..." or "Done"); when you point to a link without clicking, the Status bar also tells you which URL will open *if* you click it. For those two reasons, it's a very useful strip, but it doesn't appear when you first run Safari. You have to summon it by choosing View Status Bar.

## 20.5.4 Tips for Better Surfing

Safari is filled with shortcuts and tricks for better speed and more pleasant surfing. For example:

### **20.5.4.1 SnapBack**

The little orange SnapBack button (), at the right end of the address bar or Google search bar, takes you instantly back to the Web page whose address you last typed, or whose bookmark you last clicked, or to your first Google results page. The point here is that after burrowing from one link to another in pursuit of some Google result or Amazon listing, you can return to your starting point without having to mash the Back button over and over again. (The Snapback button doesn't appear until you have indeed clicked away from the first page.)



At any time, you can designate your current page as the new SnapBack page, to which all subsequent SnapBacks on that site will take you. To do so, choose History Mark Page for SnapBack.

## 20.5.4.2 Stifle pop-ups and pop-unders

The ad banners at the top of every Web page are annoying enough—but nowadays, they're just the beginning. The world's smarmiest advertisers have begun inundating us with *pop-up* and *pop-under* ads: nasty little windows that appear in front of the browser window, or, worse, behind it, waiting to jump out the moment you close your browser. They're often deceptive, masquerading as error messages or dialog boxes; they'll do absolutely anything to get you to click inside them.

If this kind of thing is driving you crazy, choose Safari Block Pop-Up Windows, so that a checkmark appears next to the command. Yes, it's a war out there—but at least you now have some ammunition.

#### **NOTE**

This feature doesn't squelch small windows that pop up when you click a link—only windows that appear *unbidden*.

Even these, however, are sometimes legitimate (and not ads)—notices of new banking features, warnings that the instructions to use a site have changed, and so on. Be aware that Safari can't tell these from ads, and stifles them too.

## 20.5.4.3 Impersonating Internet Explorer

Sooner or later, you'll run into a Web site that doesn't work in Safari. The reason: When you arrive at a Web site, your

browser identifies itself. That's because many commercial Web sites display a different version of the page depending on the browser you're using, thanks to differences in the way various browsers interpret Web layouts.

But because you're using the relatively unknown Safari browser, your otherwise beloved Web site tells you: "Sorry, browser not supported."

In such times of trouble, you can make Safari *impersonate* any other browser, which is often good enough to fool the picky Web site into letting you in.

The key to this trick is Safari's Debug menu, which is generally hidden. You can make it appear in either of two ways:

- Download Safari Enhancer, a free program available on the "Missing CD" page at <u>www.missingmanuals.com</u>. It offers a simple checkbox that turns on the debug menu.
- Use the Terminal command *defaults write com.apple.Safari IncludeDebugMenu 1.* (Details on using Terminal in Chapter 15.)

When you next open Safari, the new Debug menu appears right next to Help. Most of its commands are designed to appeal to programmers, but the one you want—User Agent—is useful indeed. It lets Safari masquerade as a different browser. Choose User Agent—Mac MSIE 5.22, for example, to assume the identity of Internet Explorer for Macintosh.

#### NOTE

Unfortunately, there's a serious dark side to using this User Agent trick. If enough people pretend that they're using Internet Explorer, whoever created the Web site will never know how many people are actually using Safari—and will never get around to fixing the Web site in the first place.

Whenever you encounter a Web site that gives Safari trouble, therefore, you should also (a) notify Apple of the problem and (b) notify the Webmaster of the site you're trying to visit that you want Safari compatibility.

#### 20.5.4.4 Where am I?

As you dig your way down into a Web site, you may wish you could have left a trail of bread crumbs to mark your path. Ah, but Safari has already thought of that. As shown in <u>Figure 20-21</u>, you can access a secret menu that shows where you are on the Web site, matter how deeply nested your page is. To navigate back, just click the page that you'd like to see. This trick works even if you didn't actually burrow here step by step—that is, even if you typed this page's address in its entirety, jumping here directly.

If you #-click the title bar (centered just above the address bar), Safari displays the "ladder" of pages you descended to arrive at the current one.



### 20.5.4.5 Faster browsing without graphics

Graphics are part of what makes the Web so compelling. But they're also responsible for making Web pages take so long to arrive on the screen. Without them, Web pages appear almost instantaneously. You still get fully laid-out Web pages with all their text and headlines. But wherever a picture would normally be, you see an empty rectangle containing a generic "graphic goes here" logo, usually with a caption explaining what that graphic would have been.

To turn off graphics, choose Safari Preferences and click the Appearance tab, turn off "Display images when page opens," and close the Preferences window. Now try visiting a few Web pages and enjoy the substantial speed boost. (And if you wind up on a Web page that's nothing without its pictures, return to Safari Preferences, turn the same checkbox off, and reload the page.)

### 20.5.4.6 Viewing Web pages offline

You don't have to be connected to the Net to read a favorite Web page. You can *save* a certain Web page on your hard drive so that you can peruse it later—on your laptop during your commute, for example—just by choosing File—Save As.

## 20.5.4.7 Designate your home page

The first Web site you encounter when Safari connects to the Internet is an Apple Web site. This site is your *home page*. You'll probably find Web browsing more fun if you specify your favorite Web page as your home page.

To do that, navigate your way to the page you prefer. Google, or its news page <u>news.google.com</u>, is a good starting place; so is your favorite newspaper home page, or <u>www.macsurfer.com</u>, a summary of the day's Mac news coverage around the world, or maybe <u>www.dilbert.com</u> for today's Dilbert cartoon.

Then choose Safari Preferences, click the General tab, and click Set to Current Page (or type the address into the box).

## FREQUENTLY ASKED QUESTION Erasing Your Tracks

So, about this History menu: I'd just as soon my wife/husband/ boss/parent/kid not know what Web sites I've been visiting. Must that History menu display my movements quite so proudly?

True, some people find it creepy that Safari maintains a complete list of every Web site they've seen recently, right there in plain view of any family member or coworker who wanders by. To erase the History menu, choose History Clear History.

Of course, the History menu isn't the only place where you've left footprints. If you really want to leave no trace of your activities, choose Safari Reset Safari instead. That command *also* erases all other shreds of your activities: any *cookies* (Web-page preference files) you've accumulated, your list of past downloads, the *cache* files (tiny Web graphics files on your hard drive that a browser stores to save time when you return to the page they came from), and so on. This is good information to know; after all, you might be nominated to the Supreme Court some day.

Incidentally, you can also delete just *one* particularly incriminating History listing. Click the book icon at the left end of the Bookmarks bar; in the resulting Bookmarks organizer window, click History. Expand the relevant date triangle, highlight the offending address, and then press your Delete key. Click the book icon again to return to normal browsing.

You've just rewritten History.

If you can't decide on a home page, or your mood changes from day to day, use the "New windows open with" pop-up menu to choose Empty Page. Some people prefer this setup, which makes Safari load very quickly when you first open it. Once this empty window opens, *then* you can tell the browser where you want to go today.



In the Safari Preferences General tab, you can also choose Bookmarks. Then, whenever you open a new window or launch Safari, you can choose exactly which page you want to open by choosing from a tidy list of your bookmarks.

## 20.5.4.8 Return to the past

The History menu lists the Web sites you've visited in the last week or so, neatly organized into subfolders like "Earlier Today" and "Yesterday." (A similar menu appears when you click *and hold* on the Back or Forward button.) These are great features if you can't remember the URL for a Web site that you remember having visited, say, yesterday.

## 20.5.5 Tabbed Browsing

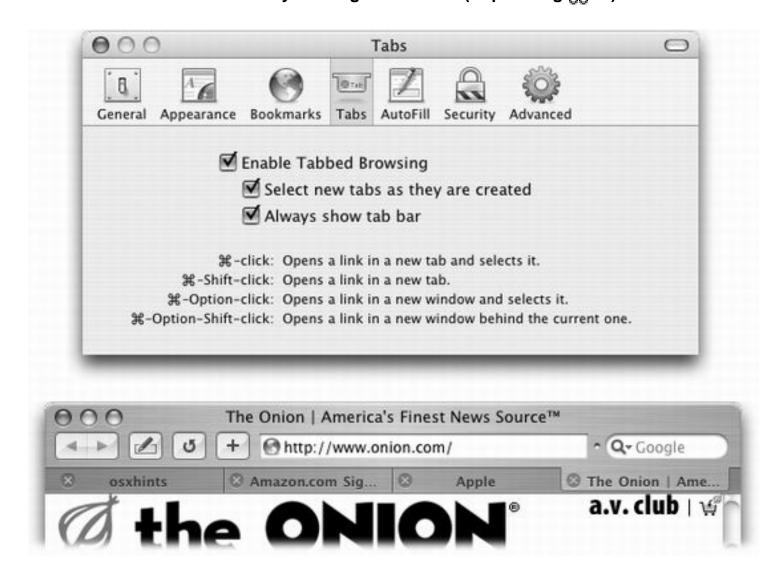
Beloved by hardcore surfers the world over, *tabbed browsing* is a way to keep a bunch of Web pages open simultaneously—in a single, tidy window. Figure 20-22 illustrates.

Turning on tabbed browsing unlocks a whole raft of Safari shortcuts and tricks, which are just the sort of thing power users gulp down like Gatorade:

If there's a certain set of Web sites you like to visit daily, put their bookmarks into one folder, using the Bookmarks organizer window (<u>Figure 20-20</u>). Then you can load all of them at once, into a single tabbed window, by Control-clicking the

Top: First turn on tabbed browsing in Safari's Preferences—Tabs window. (For best results, also turn on "Select new tabs as they are created.")

Bottom: Now, whenever you #-click a link, or type an address and press #-Return or #-Enter, you open a new tab, not a new window as you ordinarily would. You can now pop from one open page to another by clicking the tabs just under your Bookmarks bar, or close one by clicking its X button (or pressing #-W).



resulting "folder" in the Bookmarks menu and choosing Open in Tabs from the contextual menu.

The beauty of this arrangement is that you can start reading the first Web page while all of the others load into their own tabs in the background.



Click the book icon at the left end of the Bookmarks bar. In the Bookmarks organizer, click the Bookmarks Bar item in the left-side list. Now you can see an Auto-Tab checkbox for each listed folder.

If you turn this checkmark on, then you'll be able to open all the bookmarks in that folder into tabs, all at once, just by clicking the folder's name in the Bookmarks bar.

- If you Option-click a tab's X (close) button, you close all tabs *except* the one you clicked.
- If you Option-#-click a link, it opens in a separate window, rather than a new tab. (When tabbed browsing is turned off, you #-click a link to open a new window.)

## FREQUENTLY ASKED QUESTION Cookie Control

Help! I'm afraid of cookies!

Cookies are something like Web page preference files. Certain Web sites—particularly commercial ones like Amazon. com—deposit them on your hard drive like little bookmarks, so that they'll remember you the next time you visit. Most cookies are perfectly innocuous —and, in fact, are extremely helpful, because they help Web sites remember you. Cookies spare you the effort of having to type in your name, address, credit card number, and so on, every single time you visit these Web sites.

But fear is on the march, and the media fans the flames with tales of sinister cookies that track your movement on the Web. If you're worried about invasions of privacy, Safari is ready to protect you.

Once the browser is open, choose Safari Preferences Security tab. As you'll see, the buttons in this dialog box are like a paranoia gauge. If you click Never, you create an acrylic shield around your Mac. No cookies can come in, and no cookie information can go out. You'll probably find the Web a very inconvenient place, because you'll have to re-enter your information upon every visit, and some Web sites may not work properly.

A good compromise is "Only from sites you navigate to," which accepts cookies from sites you *want* to visit, but blocks cookies deposited on your hard drive by sites you're not actually visiting—cookies an especially evil banner ad gives you, for example.

Note, too, the Show Cookies button, which reveals the shockingly complete list of every cookie you've accumulated so far—and offers you the chance to delete the ones that don't look quite so savory.





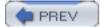
Deep in the guts of Safari is a neatly formatted page that lists nearly every keyboard shortcut in Safari.

To see it (so that you can print it), Control-click the Safari icon in the Finder. Choose Show Package Contents from the contextual menu, and then in the new window, open Contents Resources English.lproj. Finally, drag the icon called Shortcuts.html right into the Safari window.

• If you Shift-#-click a link, Safari opens that page in a tab *behind* the one you're reading. That's a fantastic trick when you're reading a Web page, see a reference you want to set aside for reading next, but don't want to interrupt whatever you're reading now.



Day Up >



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## Chapter 21. SSH, FTP, VPN, and Web Sharing

Email and Web surfing may be the most popular Internet activities, but the world's most gigantic network has many other uses. The general idea is always the same, though: letting one computer reach out and touch another.

Mac OS X offers a few features that embrace the more literal aspects of that notion. For example, you can turn your Mac into a *Web server*—an actual living Web site that anyone on the Internet can visit. This chapter also explores various advanced methods of manipulating your own Mac from the road, including *remote access* technologies like long-distance file sharing, FTP, SSH, and virtual private networking (VPN).

#### NOTE

Most of these technologies are designed for full-time Internet connections (cable modem or DSL, for example). If you have a dial-up modem, these features work only when you're actually online. Still, they may occasionally be useful even when you're not. You could always call up a friend and say, "Check out my Web site right now—here's the current IP address" or call someone back home to say, "I have to grab a file off my hard drive. Could you make the Mac on my desk go online?"



< Day Day Up >







## 21.1 Web Sharing

Using the Sharing panel of System Preferences, you can turn your Mac into a Web site (or *server*), accessible from the Web browsers of people on your office network, the Internet at large, or both.

This feature assumes, of course, that you've already created some Web pages. For this purpose, you can use Web-design programs (Macromedia Dreamweaver, for example, or the free Netscape Composer) or the File Save as Web Page command of a program like Microsoft Word. Or you could let Mac OS X build Web pages for you using iPhoto or Image Capture.

After you provide your friends and co-workers with your Mac's Web site address, they can view your Web pages, graphics, and documents in their own Web browsers. And whenever you're online, your Web site is also available to anyone on the Internet—but you don't have to pay a penny to a Web-hosting company.



Web sharing is also an easy and efficient way to share your Mac files with Windows PCs, either those on your office network or those on the Internet. No special software or translation is required, and posting your files on the Web page avoids all the usual complexities of sending files by email.

Don't mistake Mac OS X's Web Sharing feature, by the way, with the relatively feeble equivalent feature in Mac OS 9 or Windows, which are designed to handle only a handful of visitors at a time (and can't handle anything fancy like CGI scripts). Inside Mac OS X is *Apache*, one of the strongest and most popular Unix Web server programs—precisely the same one that drives 60 percent of the Internet's commercial Web sites.

## UP TO SPEED IP Addresses and You

Every computer connected to the Internet, even temporarily, has its own exclusive *IP address* (IP stands for Internet Protocol). What's yours? Open the Sharing pane of System Preferences to find out (see <u>Figure 21-1</u>). As you'll see, an IP address is always made up of four numbers separated by periods.

Some Macs with broadband Internet connections have a permanent, unchanging address called a *fixed* or *static* IP address. Clearly, life is simpler if you have a fixed IP address, because other computers will always know where to find you.

Most other Macs get assigned a new address each time they connect (a *dynamic* IP address). That's virtually always the case, for example, when you connect using a dial-up modem. (If you can't figure out whether your Mac has a static or fixed address, ask your Internet service provider.)

You might suppose that Mac fans with dynamic addresses can't use any of the remote-connection technologies described in this chapter. After all, your Mac's Web address *changes* every time you connect, making it impossible to provide a single, permanent address to your friends and co-workers.

The answer is a *dynamic DNS service* that gives your Mac a name, not a number. Whenever you're online, these free services automatically update the IP address associated with the name you've chosen (such as *macmania.dyndns.org*), so that your friends and colleagues can memorize a single address for your machine.

To sign up for one of these services, just go to their Web sites— <u>www.dyndns.org</u>, <u>www.dhs.org</u>, <u>www.dtdns.</u> com, www.hn.org, www.no-ip.com, and so on.

You'll also need to download and run a utility called an *update client*, which contacts your DNS service and keeps it up to date with your latest IP address, regularly and automatically. Check your DNS service's Web site for a list of compatible update clients.

Once you've got a fixed DNS name associated with your Mac, you'll be able to access it from elsewhere (provided it's online at the time) via File Sharing (<u>Chapter 12</u>), the screen-sharing program called Timbuktu, the Web Sharing and FTP features described in this chapter, and so on.

(If you have a fixed address, you can also pay a few dollars a year to register your own *domain name*, a bona fide address like *www.yournamehere.com*. To register one—or to find out if the name you want is taken—visit a site like *www.networksolutions.com*.)

The bottom line: If you build it, they won't necessarily come. But you'll have the capacity to handle them if they do.

## 21.1.1 Firing Up Personal Web Sharing

Here's how you turn your Mac into a low-budget Web site:

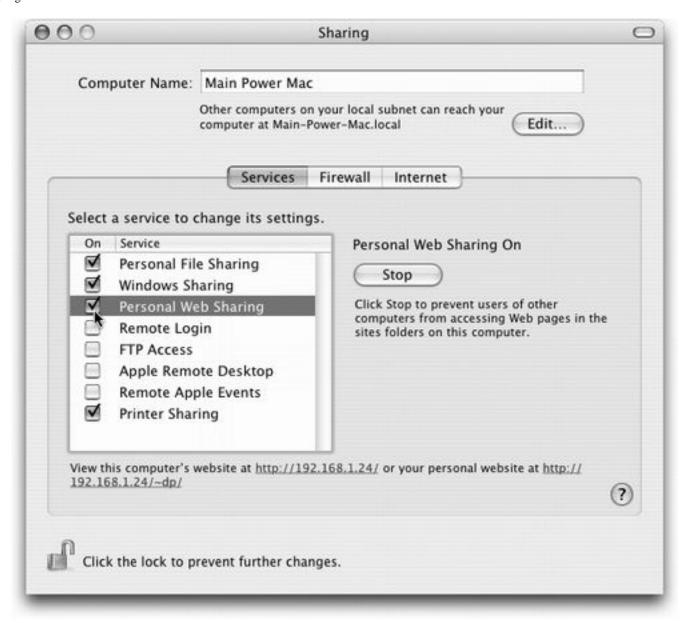
1. Put the HTML documents, graphics, and files you want to publish into your Home Sites folder.

Everyone with an account on your Mac has a Sites folder, and therefore the Mac can actually serve up lots of Web sites at once.

Your Web site's home page, by the way, must be named *index.html*. (Apple has already put an *index.html* document into your Sites folder, just to give you the idea; feel free to replace it.)

2. Open System Preferences; click Sharing. Turn on the Personal Web Sharing checkbox (Figure 21-1).

Use the Sharing System Preferences pane to make designated folders on your hard drive available to anyone on the Internet. Note your Mac's IP address, which appears here in blue underlined type. It's the basis for all of the fun Mac-sharing- over-the-Internet features described in this chapter.



You've just made the contents of your Web Pages folder available to anyone who connects to your Mac.



Take this opportunity to turn on Mac OS X's *firewall*, too (<u>Section 18.5</u>). You wouldn't want Internet hoodlums to take advantage of your open Web connection.

#### 3. Note your IP address.

In general, your Mac's Web address is based on its IP address (or Network Address). The Mac identifies this address for you at the bottom of the Sharing pane (see Figure 21-1).



If you connect to the Internet via dial-up modem, you won't see an IP address here until you're online.

#### 4. Email your new Web address to your friends and co-workers.

It might be, for example, http://111.222.3.44/~chris/ (the number is your IP address, and the name should be your short user name). Don't forget the final slash. Tell your friends to bookmark it so they won't have to remember this address, or use one of the DNS naming services described in Section 21.1.



That IP address with all the numbers is the one that people on the *Internet* need. If they have Mac OS X 10.2 or later, people on your local office network can use your Mac's Rendezvous name to connect instead. (To read or change its Rendezvous name, open the Sharing pane of System Preferences, and click Edit.)

They could, for example, type *http://office-mac.local/~chris* into their Web browsers, where *office-mac.local* is your Mac's Rendezvous name.

You've just put your folder-based Web page on the Internet for all to see—that is, all who know your secret Web address. Maybe you'll want to distribute the address only to other people on your office network, using your tiny Web site as a distribution source for documents. Or maybe you'll want to go whole-hog, hosting an e-commerce Web site (read on).

#### 21.1.2 The Mac's Own Web Site

The instructions above show you how to create a Web site in your Home Sites folder. In other words, they guide you through the process of creating a *personal* Web site.

But if you have an Administrator account (<u>Chapter 11</u>), you can also put your Web pages into the main hard drive window's Library WebServer Documents folder. This is your Mac's *main* Web site folder, and its address is simply <a href="http://111.222.3.44/">http://111.222.3.44/</a>. That is, it's just your IP address, no user name needed. (Of course, if you have a DNS name for your Web server, you can use that, as well. And here again, if people will be connecting from across your office network rather than the Internet, they can replace the IP number with your Mac's Rendezvous name.)

Working with this primary Web site folder is only slightly different from the personal ones described above. Because you're now working inside an official Mac OS X system folder, you must mind your *privileges* (Section 12.2.10). Using the

File Get Info command, you should set up the permissions of any folders and documents *inside* the Library WebServer Documents folder (an Images folder, for example) like this:

Owner: Read & Write

• **Group:** Read & Write (or Read Only, if you don't want other administrators to have access)

• Everyone: Read Only

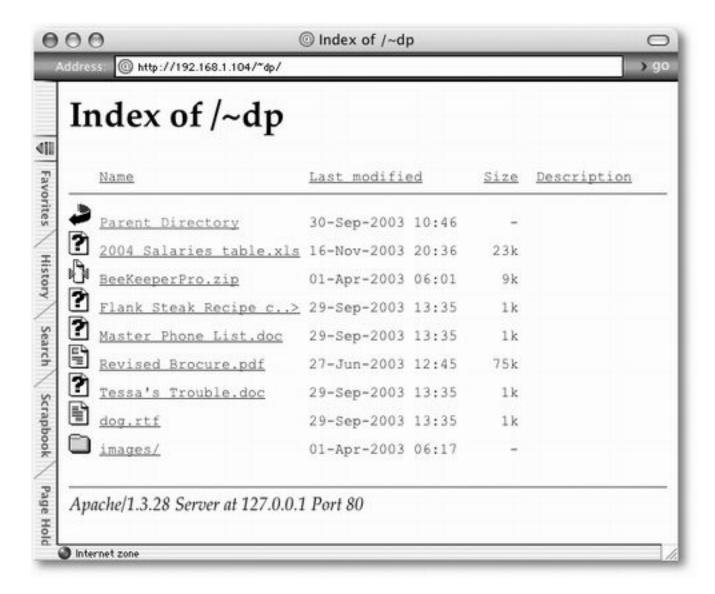
You've just ensured that your visitors will be allowed to see your Web documents—and that random Internet hoodlums can't

make any changes to them.

## 21.1.3 The Easiest Way to Distribute Files

Here's a handy secret: If there isn't a document whose name is *index.html* in your Sites folder (or Library WebServer Documents folder), then visitors see, in their browsers, a handy list of the files that *are* in that folder (see Figure 21-2).

Here's a great way to make files available to other people on your network or collaborators across the Internet. Just put your files into the Sites or Library Web- Server Documents folder and make sure nothing is named index. html. The Parent Directory link takes you to the folder that contains this one—if you've been given access to it, that is.



This is a terrific convenience: It offers a quick, simple way for you to make a bunch of documents available for downloading. All your visitors have to do is click one of these file names. It downloads immediately, no matter what kind of computer your Web visitor is using.



If one of the files listed is a graphic, like a JPEG or GIF file, it appears right in the browser window. Tell your visitors to Alt-click or Option-click the link to download it instead.

## 21.1.4 Browser Navigation of Your Own Mac

Once you've turned on Web Sharing, you can navigate the folders of your own machine right from within a browser—just use *localhost* as the "Web address."

To see what's in your own Sites folder, for example, type <a href="http://localhost/~chris/">http://localhost/~chris/</a> (or whatever your short account name is) into your browser's address bar. Or to see what's in the Library WebServer Documents folder, <a href="http://localhost/">http://localhost/</a> is all you need.



Actually, in any address that involves the word *localhost* (like the previous examples), you can leave out the word *localhost* to save a little typing. But keep all the slashes that surround it. For example, *http:///* is enough to see the list of documents in your Mac's main Web-pages folder.

# POWER USERS' CLINIC CGI Scripts

A *CGI script* (Common Gateway Interface) is a program—written in a language like Perl, AppleScript, or Python—that runs right on your Web page. You've seen these on many a Web page: Web-visitor counters, interactive polls, shopping forms, and so on. Apple even includes a few of them with Mac OS X; they're in your System—Library—Perl—[version number]—CGI Scripts folder, for example.

If you've got a CGI script of your own that you'd like to incorporate into your Web page, copy it into your Library WebServer CGI-Executables folder (this means you, administrators). The script's Web address becomes <a href="http://111.222.3.44/cgi-bin/scriptname">http://111.222.3.44/cgi-bin/scriptname</a>. (Substitute your actual IP address and the real name of the script file, of course.)

Unfortunately, you won't get far testing out your CGI script, because it comes with its "execute" permissions turned *off*. To turn them on again, you need to use the *chmod* (change mode) command.

You can use a permission-changing shareware program like SuperGetInfo, available from the "Missing CD" page of <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>, or you can do the job in Terminal, as described in <a href="https://www.missingmanuals.com">Section 16.1.4</a>. (In this case, you'd type <a href="https://www.missingmanuals.com">sudo chmod 755 test-cgi</a>.)

The *chmod* command is a quick way to change access privileges—including Execute permission, which isn't available in the File Get Info window.

The 755 business is a long story, which you can read at any Terminal prompt by typing man chmod and

hitting Enter. In short, however, this code is shorthand for "Change the permissions so that everyone else can read and execute (but not make changes to) this file"—just what you want for a CGI script.

After hitting Enter, you're ready to proceed. Now *sudo* asks for your administrator's password. Once you've entered it, press Enter; the deed is done. You can test your script either on the same Mac (*http://localhost/cgibin/test-cgi*) or on another one across the network or across the Internet

But why stop at HTML documents? You can see the contents of *any* folder on your Mac, just by typing its folder pathname. For example, to see what's in your Documents folder, type *file:///Users/chris/Documents/* into your browser's Address bar. You get a tidy list like the one shown in <u>Figure 21-2</u>, revealing what's in that folder. Click a link to open it. (If you're using Safari, you open a Finder window revealing the folder's contents instead.)

## 21.1.5 More on Apache

As noted above, Apache is the most popular Web-serving software in the world. As you can well imagine, it's powerful, reliable—and very technical. It is, after all, a Unix program.

You can read more at any of these sources:

- **The Apache manual.** To open it up, type <a href="http://localhost/manual/">http://localhost/manual/</a> into your browser's address bar. You won't get far reading this thing if you haven't spent some time at a technical college, but at least you'll know what you're up against.
- Apache: The Definitive Guide. A book from O'Reilly.
- MacOSXHints.com. Dozens of Mac OS X fans have posted specific Apache-tweaking tips and ticks at <u>www.</u> macosxhints.com.

Note, too, that \$350 will buy you a graphic front end for the various Apache settings, in the form of Tenon's iTools program (no relation to Apple's old iTools service). It still requires an understanding of the technical aspects of Web hosting, but at least it spares you from having to type out Unix commands to make your changes.



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#### 21.2 FTP

FTP sites (file transfer protocol) store pieces of software that can be accessed from the Internet. If you've heard of FTP at all, it was probably under one of two circumstances—either you've downloaded software from an Internet FTP site, or you've created and maintained your own Web site.

## 21.2.1 Uploading and Downloading from FTP Sites

Hooking into an FTP site generally requires an FTP *client program* that runs on the kind of computer you use (Mac, Windows, or whatever). On Mac OS X, popular FTP client programs include the shareware programs Fetch, Interarchy, and Captain FTP, and the free RBrowser Lite (which is available from the "Missing CD" page at *www.missingmanuals.com*).

Using these programs, Web designers, for example, can view a list of all the text and graphics documents, sitting there on an Internet-connected computer somewhere, that make up their Web pages. When they want to update one of those pages, they add it to this list; to delete a Web page, they remove it from this list.

## 21.2.2 Just Downloading from FTP Sites

If you're just going to *look at* and *download* files (but not upload or delete any), you don't even need a special FTP program like Fetch. You can get to the files much more directly using one of these two methods:

• Any old Web browser will work. Open Internet Explorer, for example, and type <a href="ftp.apple.com">ftp.apple.com</a> (or whatever the address is) into the address bar. A dialog box asks for an account name and password, if they're required. Once you're in, you see a list of everything on the FTP server, displayed much like the list shown in Figure 21-2.

#### **NOTE**

Safari works slightly differently. Instead of presenting a list of files, it switches to the Finder and presents the contents of the FTP site as a window full of standard file icons.

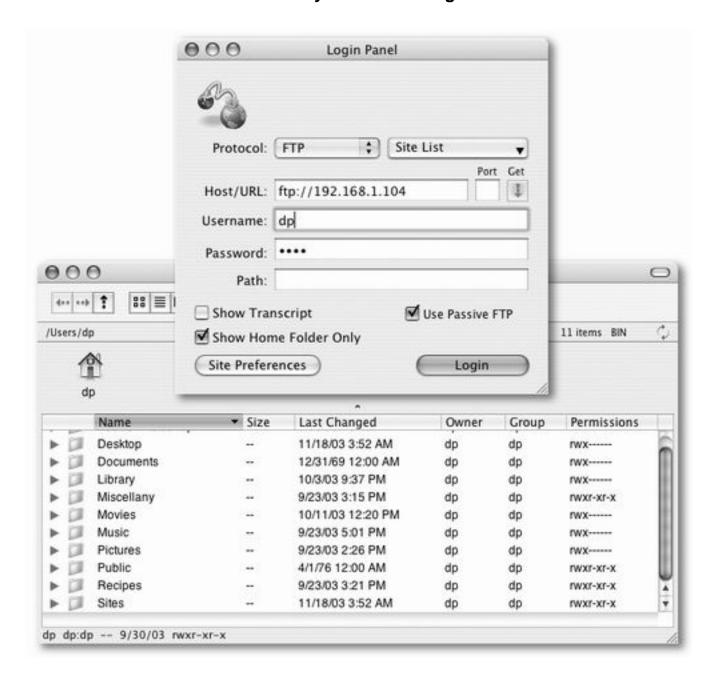
 Using the Finder's Go Connect to Server command, you can mount read-only FTP volumes right on your desktop, much like a public iDisk.

In the Connect to Server dialog box, just enter the address of the FTP server you would like to mount-<u>ftp.apple.</u> <u>com</u>, for example. You'll soon see the ftp.apple. com icon appear on your desktop just like your other disks. Open it up and drag out whatever you want to download.

Top: To access your Mac OS X machine from across the Internet, fire up RBrowser Lite and use the address ftp://111.222.33.4 (or whatever your IP address is). Be sure the first pop-up menu says FTP, not Public FTP—otherwise, you won't be offered the chance to type in your account name and password.

Bottom: Once you're looking at an FTP server's contents, you can drag files from your desktop

into the list. Copy them to your Mac by dragging them out of the list onto your desktop, or open them by double-clicking.



## 21.2.3 Becoming an FTP Server

Thanks to Mac OS X and its Wonder Unix, you can also turn your own Mac *into* an FTP site. Once again, the key is the Sharing pane of System Preferences; this time, just turn on the FTP Access checkbox.

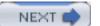
Once again, the key to your own Mac is its IP address, as shown at the bottom of the System Preferences pane. At this point, you, or other people you trust, can connect to your FTP server by running an FTP program like RBrowser (see <u>Figure 21-3</u>) or just typing *ftp://111.222.33.4* into their Web browsers.



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## 21.3 Connecting from the Road

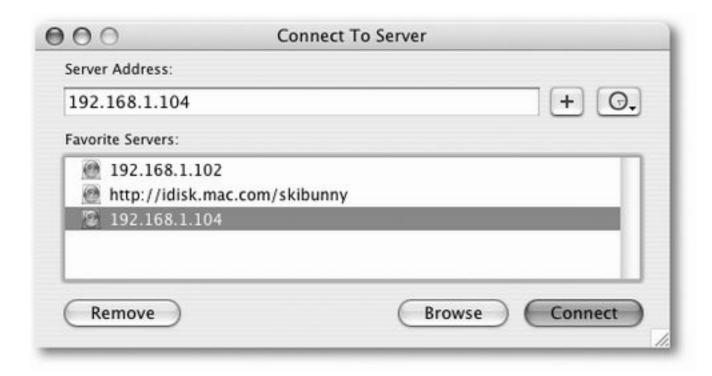
You can also connect to your Mac's regular File Sharing feature (<u>Chapter 12</u>) from over the Internet. This feature is a blessing to anyone who travels, whether with a laptop or to a branch office, because you'll never be up the creek without a paddle if you discover that you left an important file at home.

To connect over the Internet, make sure that you've set up the home-base Mac for file sharing, as directed in <u>Chapter 12</u>. Then, once you're on the road, go online and proceed like this:

1. Choose Go Connect to Server.

The Connect to Server dialog box appears, as shown in Figure 21-4.

The Connect to Server dialog box lets you type in the IP address for the shared Mac to which you want access. (Ensuring that the shared Mac is turned on and connected to the Internet is the network administrator's problem.)



2. Type in the IP address (or domain name) of the Mac to which you want to connect, and then click Connect (or press Enter).

If you don't know the shared Mac's IP address, pick up the phone and call somebody in the office there. That person can find out the shared Mac's IP address by opening the Network pane (or Sharing pane) of System Preferences.

And if you've signed up for a DNS naming service as described in Section 21.1, you can type your Mac's domain

name instead.

### 3. Enter your name and password, and then click Connect.

From here, it's just as though you were connecting to another computer on your office network (<u>Section 12.2.3</u>), although it's a good bit slower. But when you're in Hong Kong and need a document from your Mac in Minneapolis, you may not care.









### 21.4 Remote Access with SSH

Are you a geek? Take this simple test at home. Do you get excited about Mac OS X's ability to permit SSH access?

If you answered "What's SSH?" or "I'm *already* being quiet," then the following discussion of Unix remote control may not interest you. To be sure, SSH is not a program with a graphic user interface (icons and menus). You operate it from within a program like Terminal by typing commands, exactly as described in <u>Chapter 15</u>.

If you're willing to overlook that little peccadillo, though, SSH (Secure Shell) is an extremely powerful tool. It lets you connect to your Mac from anywhere—from across the network or across the Internet. And once you're connected, you can take complete control of it, copying files, running commands, rearranging folders, or even shutting it down, all by remote control.

## 21.4.1 Getting In

Here's how you go about using SSH:

1. Set up your Mac by opening the Sharing panel of System Preferences, and then turning on the Remote Login checkbox.

You've just told the Mac it's OK for you (or other people with accounts on your machine) to connect from the road. Quit System Preferences.

2. Go away.

# FREQUENTLY ASKED QUESTION Connecting Through a Router

I want to connect to my home network from the road. Trouble is, I have a router that shares my broadband modem with a bunch of Macs. How do I get into one specific Mac? It doesn't really have a "real" IP address, because the router is sharing the cable modem's signal!

It's possible—just complicated.

Most home broadband routers offer a feature called *port forwarding*, in which signals intended for a specific *port* (Section 18.4) on the router (port 22 for *ssh*, for example) get passed on to whichever computer on the network you've designated to receive it. (You specify this using the router's management software.) You can specify a different machine for different ports: all port-80 communications goes to one machine doing Web serving, for example; all 548 goes to another machine doing file sharing, and so on.

Even if you're enough of a technical mastermind to set up this port-forwarding business, however, you still won't be able to access two *different* machines using the same port. For some services, including *ssh* and Timbuktu, you can work around this limitation by logging into the machine specified for port forwarding, and then from *that* machine, log into the others on the rest of the network.

You can move to another machine on the network, or another computer on the Internet. Once you're online with that other machine, you can contact your homebase machine from within a program like Terminal.



It doesn't have to be Terminal, and it doesn't have to be a Mac. You can get *SSH client* programs for almost any kind of computer, including Windows and Mac OS 9.

For pre-Mac OS X Macs, for example, you can try MacSSH or NiftyTelnet SSH, both of which you can download from <a href="www.missingmanuals.com">www.missingmanuals.com</a>. To find SSH programs for Windows, visit <a href="www.versiontracker.com">www.versiontracker.com</a>, click the Windows tab, and search for SSH.

#### 3. At the \$ prompt, type ssh -I chris 111.222.3.44 . Press Enter.

Instead of *chris*, substitute your short account name (as you're known on the Mac you're tapping into), and replace the phony IP address shown here with your real one. (If your Mac back home has a domain name unto itself, such as *macmania.com*, you can type that instead of the IP address.)

If all goes well, the *ssh* command acknowledges your first successful connection by displaying a message like this: "The authenticity of host '172.24.30.189 (172.24.30.189)' can't be established. RSA key fingerprint is d9:f4:11: b0:27:1a: f1: 14:c3:cd:25:85:2b:78:4d:e7. Are you sure you want to continue connecting (yes/no)?" (This message won't appear on subsequent connections.) You're seeing SSH's security features at work.

#### 4. Type yes and press Enter.

Now you see one more note: "Warning: Permanently added '172.24.30.189' (RSA) to the list of known hosts." You're then asked for your account password.

#### 5. Type your account password and press Enter.

You're in. Issue whatever commands you want. You can now conduct a full Unix Terminal session as described in <a href="https://www.chapters.15">Chapters 15</a> and <a href="https://www.chapters.15">16</a>—but by remote control.



For a list of options you can use in SSH, type *ssh* at the prompt (nothing more) and press Enter.

## FREQUENTLY ASKED QUESTION Where Did Telnet Go?

How do I telnet into my Mac OS X machine?

*telnet* and *ssh* are very similar in concept. But the problem with *telnet* is that it's more susceptible to hackers.

The *ssh* networking program, on the other hand, is extremely secure, immune to all kinds of the hacker attacks you may have read about: IP spoofing, IP source writing, DNS spoofing, and so on. That's why Apple replaced its *telnet* feature with *ssh* beginning in Mac OS X 10.1.

Apple also hopes that Unix-savvy Mac fans will recognize *ssh* to be a superior replacement for such remote control Unix programs as *rlogin*, *rsh*, and *rcp* (via *scp*), for that matter.

## 21.4.2 Remote Control Program Killing

home-mac:~ chris\$ ssh 172.24.30.182

One of the most common uses of SSH is quitting a stuck program. Maybe it's a program that doesn't respond to the usual Force Quit commands—maybe even the Finder or Terminal. Or maybe, having just arrived in Accounting on the fifth floor, you realize that you accidentally left your Web browser, open to Dilbert.com, up on your screen in clear view of passersby.

In any case, you'd fire up Terminal and proceed like this (what you type is shown in bold; responses are in normal type):

```
The authenticity of host '172.24.30.182 (172.24.30.182)' can't be established. RSA key fingerprint is d9:f4:l1:b0:27:la:f1:l4:c3:cd:25:85:2b:78:4d:e7.

Are you sure you want to continue connecting (yes/no)? yes

Warning: Permanently added '172.24.30.182' (RSA) to the list of known hosts.

chris@172.24.30.189's password: fisheggs
```

Last login: Thu Nov 13 17:23:38 2003

Welcome to Darwin!

office-mac:~ chris\$ top

The *top* command, as described in <u>Chapter 15</u>, displays a list of running programs. After a block of memory statistics, you might see a list like this:

2	294 top	6.5%	0:01.10	1	16	26	276K	416K	652K	27.1M
2	293 bash	0.0%	0:00.03	1	12	15	168K	856K	768K	18.2M
2	92 login	0.0%	0:00.01	1	13	37	140K	408K	492K	26.9M
2	91 Terminal	0.0%	0:05.50	3	60	115	2.99M	5.41M	6.59M	149M
2	287 HotKey	0.0%	0:00.34	4	151	78	760K	2.24M	2.67M	96.5M
2	283 Finder	0.0%	0:02.04	2	89	162	3.95M	17.1M	15.5M	165M
2	282 SystemUISe	0.9%	0:01.51	2	241	327	3.03M	7.85M	8.54M	158M
2	281 Dock	0.0%	0:00.24	2	77	132	780K	10.7M	2.80M	139M

As you can see, the Finder is process number 283. If that's the stuck program, then, you could quit it like so:

office-mac:~ chris\$ kill 283

Or if you're sure of the program's exact name, just use the *killall* command with the program's name instead of its process ID. To handle a stuck Finder, you would type this:

office-mac:~ chris\$ killall Finder

Either way, the Finder promptly quits (and relaunches in a healthier incarnation, you hope). You could also, at this point, type *shutdown -h now* to make your Mac, elsewhere on the network, shut down. (Terminal doesn't type any kind of response.)

If you ended your SSH session by shutting down the other Mac, you can just close the Terminal window now. Otherwise, type *exit* to complete your SSH session.



If you're intrigued by the notion of accessing your Mac from across the Net, try out Memora Server. It lets you—or selected family and friends—listen to music, open photos, or watch movies stored on your Mac OS X machine, from any Web browser on any machine. A three-week trial is available at <a href="https://www.memora.com">www.memora.com</a>.



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## 21.5 Virtual Private Networking

After reading the previous pages, you might assume that it's a piece of cake for business people to connect to their corporate networks across the Internet from wherever they happen to be: their homes, hotel rooms, or local Starbucks. But even though the steps on the preceding pages work fine if you're dialing into your *home* machine, they'll probably fail miserably when you want to connect to a corporate network. There's one enormous obstacle in your way: Internet security.

The typical corporate network is guarded by a team of steely-eyed administrators for whom Job Number One is preventing access by unauthorized visitors. They perform this job primarily with the aid of a super-secure firewall that seals off the company's network from the Internet.

So how can you tap into the network from the road? One solution is to create a hole in the firewall for each authorized user—software that permits incoming Internet traffic only from specified IP addresses like your Mac's. Unfortunately, this setup isn't bulletproof, security-wise. It's also a pain for administrators to manage.

Another solution: You could dial directly into the corporate network, modem-to-modem. That's plenty secure, but it bypasses the Internet, and therefore winds up being expensive. (Want proof? Try this simple test: Make a call from the Tokyo Hilton to the Poughkeepsie Sheet Metal home office. Have a look at your hotel bill when you check out.)

Fortunately, there's a third solution that's both secure and cheap: the *Virtual Private Network*, or *VPN*. Running a VPN allows you to create a super-secure "tunnel" from your Mac, across the Internet, and straight into your corporate network. All data passing through this tunnel is heavily encrypted; to the Internet eavesdropper, it looks like so much undecipherable gobbledygook.

And it's cheap—whether you're accessing the Internet via your home DSL, a local ISP number from a hotel, or wirelessly from your stool at Starbucks.

Remember, though, that VPN is a corporate tool, run by corporate nerds. You can't use this improved Mac OS X 10.3 feature without these pieces in place:

• A VPN server. This is a big deal. If your tech department tells you they don't have one, then that's that—no tunneling for you.

If they do have one, then you'll need to know the type of server it is. Mac OS X's VPN software can connect to VPN servers that speak *PPTP* (Point to Point Tunneling Protocol) and *L2TP/IPsec* (Layer 2 Tunneling Protocol over the IP Security Protocol), both relatives of the PPP language spoken by modems. Most corporate VPN servers work with at least one of these protocols.

You'll also need to know the Internet address of your VPN server (for example, vpn.ferrets-r-us.com).

- An account on the remote network that allows VPN access. Your remote network can be set up in many
  different ways, but in every case, you'll still need to confirm with your network administrator that your account on it
  allows VPN access.
- All necessary account information. Make sure you have all the scraps of connection information you'll need to
  dial in. That would include your user (account) name, at the very least. You may also need an NT Domain name;
   VPN servers are often part of Microsoft Windows NT networks, which won't let you in until you know this domain
  name.

Some networks also may require that you type in the currently displayed password on an RSA SecurID card,

which your administrator will provide. This James Bondish, credit card-like thing displays a password that changes every few seconds, making it rather difficult for hackers to learn "the" password. (If your network doesn't require a SecurID card, you'll need a **standard password** instead.)

Finally, if your office offers L2TP connections, you'll need yet another password called a **Shared Secret** to ensure that the server you're connecting to is really the server that you intend to connect to.

## 21.5.1 Making the VPN Connection

Once you know everything's in place, you connect to the corporate network as follows:

#### 1. Connect to the Internet.

Connect the way you normally do—via cable modem, DSL, office network, modem, AirPort, or whatever.

#### 2. Open Internet Connect.

It's in your Applications folder.

#### 3. Click the VPN toolbar button (Figure 21-5).

The Mac asks you to choose either L2TP or PPTP. Find out which system your company's network uses, and then proceed.

#### 4. Click L2TP or PPTP, and then click Continue.

The toolbar icon's name will then change to reflect your choice. (If you ever need to use the other protocol, choose File New VPN Connection; you'll be prompted to choose again.)

You're on your way to joining the corporate network—from thousands of miles away. Virtual private networking is ideal for the paranoid (because it's very secure) and the cheap (because you're using the Internet as a giant wire connecting you to your home).



#### 5. Enter the VPN server address, your VPN account name, and your password. Click Connect.

If you need to enter a SecurID password or shared secret, click the Configuration pop-up menu, choose Edit configurations, and type them into the configuration sheet.

If all goes well, several status messages go by. The last one says, "Connected To" and gives the IP address of the network equipment you've reached out and touched.

At this point, you're connected to the corporate network. You can perform the same network-related tasks you could if you were actually in that office: check your email, view internal corporate Web pages, access internal FTP servers, make printouts on laser printers thousands of miles away, and so on.

You generally can't *browse* things, though. That is, depending on your network, you might not be able to click the Network icon in your Sidebar to view a list of the other computers on the office network, or open Printer Setup Utility to see a list of networked printers.

In this case, to access these services, you must know their IP addresses. For example, to connect to a shared folder on another computer, choose Go—Connect to Server, type its network address, and press Enter.



To connect to a shared folder on a Windows machine, the address looks like this: smb://111.222.33.4/sales-docs. Of course, you'd substitute the correct IP address for the dummy one shown here, and insert the actual name of the shared folder. (You can also use its *DNS name* instead of the IP address, if you know it, like this: smb://big-blue-server.ferret-lan.com/sales-docs.) Classic programs can use your VPN connection, too.

6. When you're finished accessing the remote network, return to Internet Connect. In the VPN Connection window, click Disconnect.

Once you're finished with the tunnel, it's a good idea to close it, if only because accessing other Web sites can be very slow while you're connected to the VPN.



Turning on "Show VPN status in menu bar" adds a VPN menulet to your menu bar, giving you a quick way to start and stop subsequent connections.

#### 21.5.2 The Fine Points of VPN

For all the wonders of VPN, here are some possible complications:

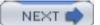
- If you're using a *router* at home (a little box that shares one cable modem or DSL box with several computers), it might not be able to handle the tunneling protocols, or it might not have that feature turned on. Check the router's manual, or ask its manufacturer for more information.
  - For example, the first-generation (silver) AirPort base stations can't handle VPNs at all. Neither do the second-generation, white models *unless* you've upgraded to version 2.0.4 or later of the Airport software. (The current, AirPort Extreme base stations work with VPNs just fine.)
- If the corporate network doesn't seem to like your name and password, you might need to add your NT domain name and a *backwards* slash to the beginning of your account name (like this: *dom01\msmith*) before trying again.
  - If you're able to make the connection, but experiencing trouble reaching services by their DNS names (for example, big-blue-server.com), your Mac could be having difficulty finding the right DNS server. Working with your network administrator, open the Network pane of System Preferences. From the Show pop-up menu, choose the correct VPN interface (PPTP or L2TP); enter the desired DNS server addresses in the DNS Servers box. Click Apply Now, and then try the VPN connection again.
- If you're still having problems using the VPN, look at the *logs* (automatically kept technical records) for clues to share with your network administrator. To view these records, open Internet Connect and choose Window——Connection Log.



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## Part VI: Appendices

Appendix A: Installing Mac OS X 10.3

Appendix B: Troubleshooting

Appendix C: Where'd it Go? (For Mac OS 9 Users)

Appendix D: Where'd it Go? (For Windows Users)

Appendix E: Where to Go From Here

Appendix F: Master Mac OS X Secret Keystroke List



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## **Appendix A. Installing Mac OS X 10.3**

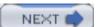
If your computer came with Mac OS X 10.3 already installed on it, you can skip this appendix—for now. But if you're running an earlier version of the Mac OS and want to savor the Panther experience, this appendix describes how to install the new operating system on your Mac.



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## A.1 Getting Ready to Install

For starters, you need to make sure that you and your Mac have what it takes to handle Mac OS X—specifically:

- A Macintosh that came with a G3, G4, or G5 processor. In other words, a Power Mac G3 (but not the old beige ones), Power Mac G4, or Power Mac G5; an iMac or eMac; a PowerBook G3 (except the very first model, the one bearing a six-color Apple logo) or PowerBook G4; or an iBook. (According to Apple, Macs with G3 or G4 upgrade cards don't qualify.) You can bend the rules a little, however; see the box on the next page.
- Plenty of free hard disk space. You need at least 2 GB free to install the full Mac OS X—more if you install the
  Developer Tools, less if you decline to install the full 1 GB of printer drivers (more on this in a moment).
- A lot of memory. Remember that when you use Mac OS X, you may sometimes have to run Mac OS 9 (in the form of the Classic simulator) simultaneously. One modern operating system takes a lot of RAM; two of them require even more. Apple recommends at least 128 MB of memory, but Mac OS X absolutely *loves* memory. For the greatest speed, install 256 MB, 512 MB, or more if you can afford it (and these days, you probably can).
- The latest version of Mac OS 9. Once again, Mac OS X and Mac OS 9 will be coexisting on the same computer. You'll have the best luck if you upgrade your copy of Mac OS 9 (version 9.2.2, which Apple says is the final version) before installing Mac OS X.
- The latest firmware. Firmware describes the low-level, underlying software instructions that control the actual circuitry of your Mac. Every now and then, Apple updates it for certain Mac models, and it's very important that your Mac has the absolute latest. The Software Update control panel of Mac OS 9 is supposed to alert you automatically when such updates become available. (These updates are also available for download at <a href="https://www.apple.com/support/downloads">www.apple.com/support/downloads</a>, of course.)

All that, believe it or not, is the easy part. The more difficult part is assessing whether or not you'll actually be *happy* in Panther. Are the programs you use available in Mac OS X versions? Will your scanner and printer work? As noted in <a href="Chapter 5">Chapter 5</a>, you want to minimize returning to Mac OS 9 just to run some program or piece of add-on equipment that hasn't yet been adapted for Mac OS X.

## A.1.1 The Partitioning Question

In the coming months and years, you'll save yourself a lot of trouble and time if you keep Mac OS 9 and Mac OS X on two different drives. This kind of setup offers several advantages:

- It's much easier to switch between the two operating systems at startup time. (You may hear this feature called dual booting.)
- Troubleshooting Mac OS 9 or Mac OS X is much easier.
- You don't have to see, and try to distinguish, your Mac OS 9 and Mac OS X folders all mixed together in the single hard drive window (two Applications folders, two System folders, and so on).

# WORKAROUND WORKSHOP Installing Mac OS X on Forbidden Macs

Apple says that you can't install Mac OS X except on models with G3, G4, or G5 processors. The truth is a little bit more complicated: The Mac OS X *installer* doesn't run on any models except those, but Mac OS X itself can indeed be made to work. All you need is a patch to make the installer work, and a few pieces of software in the System folder.

That's exactly the point of XPostFacto, a free program that lets Mac OS X operate on certain pre-G3 Macintosh models, including these: Macintosh 7300, 7500, 7600, 8500, 8600, 9500, 9600, and certain clones (Umax S900 and J700, and Power Computing PowerWave and PowerTower Pro).

There are a few glitches along the way; for example, you can't reboot into Mac OS 9.2 (although you can use it for Classic). For rebooting purposes, pretty much the only solution is to keep a separate partition with Mac OS 9.1 on it.

Even so, if your Mac has enough speed and memory, there's no reason why you shouldn't be able to enjoy Mac OS X and all the cool new programs that run only on it. Just don't call Apple asking for technical support.

You can download XPostFacto (and get your questions answered) at <a href="mailto:eshop.macsales.com/OSXCenter">eshop.macsales.com/OSXCenter</a>

The easy and expensive way to achieve this happiness is, of course, to install Mac OS X on a second hard drive (like an iPod).

Fortunately, there's also a free method: *partitioning* your Mac's main hard drive—dividing its surface so that it shows up on your desktop with two different icons and two different names. You can keep Mac OS 9 on one, and Mac OS X on the other. Now you can live like a king, enjoying all the advantages of people who have two separate hard drives.

Unfortunately, partitioning your hard drive requires first *erasing it completely*. And that, of course, involves copying all of your files and programs onto some kind of backup disk first—and then copying them back onto the hard drive when the process is over. Ponder this compromise, weighing it against the advantages of partitioning.

If you decide that all that backing up, erasing, and copying is too much hassle to merit the payoff, no harm done. It's perfectly OK to install Mac OS X right onto your Mac OS 9 hard drive. You'll find instructions for both methods in the coming pages.

#### NOTE

You may *have* to partition your hard drive if you have certain older Mac models: a PowerBook that lacks USB jacks, a beige Power Mac G3, or an iMac with a CD tray. If your Mac model is one of these, here's the strange little footnote to the installation instructions: you must install Mac OS X onto a partition that's "within" the first 8 GB of the disk. If your hard drive is smaller than 8 GB as it is, never mind—you don't have to partition. If it's larger, however, run Disk Utility as described below to create smaller partitions.

#### A.1.2 How to Partition

If you decide to partition your drive, on the other hand, here's how to do it:

1. Back up everything worth preserving.

Burn it onto CDs, copy it onto another Mac over the network, email it to yourself, whatever it takes—just remember that you're about to erase the hard drive completely.

2. Insert the Mac OS X CD. Double-click the Install Mac OS X icon. Click the Restart button.

Your Mac restarts, booting up from the Mac OS X CD. After a moment, the Installer screen appears. However, you *don't* want to install Mac OS X just now, so don't click Continue.

3. Choose Installer - Open Disk Utility.

The Disk Utility program opens.

4. Click the Partition tab. Partition your hard drive as shown in Figure 9-28 (which appears in <u>Section</u> 9.25.13.1).

Actually, you can create more than two partitions, if you see any value in it.



How do you decide how big to make the partitions? If you expect to use your Mac OS 9 System Folder primarily as the basis of your Classic environment (see <a href="Chapter 5">Chapter 5</a>), its partition can be fairly small, maybe 2 GB or so. Particularly if you're an iMovie fan, give the Mac OS X partition as much space as you can, so your DV files will have somewhere to go.

If you expect to restart your Mac in Mac OS 9 quite a bit, however (if indeed your Mac model *can* do that), you may want to divide the hard drive roughly in half, so that you'll have plenty of room no matter which operating system you're using.

5. Click OK. In the warning box, click Partition.

Now you've done it. Disk Utility erases your hard drive and divides it into the number of partitions you've specified. When the progress bar disappears, choose Disk Utility Quit Disk Utility. You arrive at the first Mac OS X installer screen; skip to step 3, below.



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#### A.2 Four Kinds of Installation

The Mac OS X installer can perform a number of different installations. For example, it can put a copy of Mac OS X 10.3 onto a hard drive that currently has:

- Nothing on it. If you one day have to erase your hard drive completely—because it's completely hosed, or, less
  drastically, because you've bought a new, empty external hard drive—this is how to do it. See "The Basic
  Installation," below, for a step-by-step guide.
- Mac OS 9 on the hard drive. Also see "The Basic Installation" below for a step-by-step explanation.
- Mac OS X 10.0 through 10.2. The 10.3 installer can turn your older copy of Mac OS X into the 10.3 version, in the
  process maintaining all of your older preferences, fonts, documents, accounts, and so on. See "The Upgrade
  Installation" in Section A.4

## WORKAROUND WORKSHOP

### The Panther "Up to Date" Upgrade Disk

When you buy Panther from a store, you get the installer described on these pages—the one capable of performing either an Upgrade installation or an "Archive and Install" (that is, a clean install).

You may have received a different set of CDs, however, thanks to Apple's Software Up-to-Date program. (That's where you pay only \$20 or so for the upgrade—an consolation prize offered to people who bought a new Mac only a few weeks before a major new Mac OS X version comes out.) You'll know if you have this set, because Disc 1 bears the label Upgrade Disc.

Trouble is, there's no Archive and Install option when you run this installer. After all, these discs are intended to *upgrade* the copy of Mac OS X that's already on your new Mac.

That doesn't mean, though, that you can't perform a clean install at all. If you use the Erase and Install option, you do indeed get a clean installation of Panther. You'll have to re-create your accounts and settings, but at least you'll wind up with the considerable stability benefits of a clean installation.

On the other hand, a substantial body of evidence (specifically, hundreds of moaning Mac fans online) points to the wisdom of performing a *clean install*, described next, rather than an upgrade installation. (Apple calls this the "Archive and Install" option.) A clean installation provides a healthier, more glitch-proof copy of 10.3. See "The Clean Install" in <u>Section A.5</u>

• Mac OS X 10.3. In times of dire troubleshooting, when nothing in Appendix B has helped, you can actually give yourself a *fresh copy* of 10.3, even though 10.3 is already on the hard drive. See "The Clean Install" in Section A.5



> NEXT





#### A.3 The Basic Installation

The installation process takes about an hour, but for the sake of your own psyche, you'll probably want to set aside a whole afternoon. Once the installation is over, you'll want to play around, organize your files, and learn the lay of the land.

#### A.3.1 Phase 1: The Installer

Here's how you install Mac OS X 10.3 onto a drive that doesn't have a version of Mac OS X on it already:

1. Insert the Mac OS X CD. Double-click the Install Mac OS X icon in the CD's main window. When the Restart button appears, click it.

The Mac starts up from the CD and takes you directly to the first Installer screen.

The installer will soon fall into a pattern: Read the instructions, make a couple choices, and click Continue to advance to the next screen. As you go, the list on the left side of the screen reveals where you are in the overall procedure.



You can back out of the installation at any time before step 6, just by choosing Installer—Quit Installer. When the Quit button appears, click it. Then eject the Mac OS X CD, either by holding down the mouse button while the computer restarts or, if you have a tray-loading CD drive, by pushing its eject button during the moment of darkness during the restart.

2. Work your way through the Select Language, Welcome, Important Information, and Software License Agreement screens, clicking Continue each time.

Important Information duplicates the Read Me file. The Software License Agreement requires you to click a button confirming that you agree with whatever Apple's lawyers say.

3. On the Select a Destination screen, click the disk or partition on which you want to install Mac OS X.

Icons for all of your disks (or partitions) appear on the screen, but ones that are off-limits to Mac OS X (like CDs and USB hard drives) appear dimmed, if at all.

Click the icon of the drive—or the partition, if you've created one to hold Mac OS X—that will be your new main startup drive.

#### NOTE

If a yellow, triangular exclamation point logo appears on a drive, it probably has a *newer* version of Mac OS X 10.3 on it. (Click it and read the message at the bottom of the dialog box to find out.) That's the

case if you're trying to do a clean install from a 10.3 CD, but you already have 10.3.1 on the hard drive, for example. No problem; you should be reading "The Clean Install" instructions in <u>Section A.5</u> anyway.

#### 4. Click Continue.

You arrive at the Easy Install screen. The easiest way to proceed here is to click Install. But you can save a few hundred megabytes of disk space if you take the time to click Customize.

The Installer shows you a list of the various chunks that constitute Mac OS X. A few of them are easily dispensable. For example, if you turn off Additional Asian Fonts, Language Translations (for Japanese, German, French, and so on), and the printer models that you don't own, you save a staggering 1.1 gigabytes. It's like getting a whole mini-hard drive for free (ka-ching!).

#### 5. Click Install.

Now you're in for a 45-minute wait as the Installer copies software onto your hard drive.

6. When the Mac restarts and the first CD pops out, insert Disc 2. When that's done, insert Disc 3, if you're asked for it.

Whether or not the third disc is required depends on which installation options you chose. Each time, the installer picks up right from where it left off.

When the installer's finished, you see a message indicating that your Mac will restart in 30 seconds. If you haven't wandered off to watch TV, click the Restart button to end the countdown and get on with it.

Mac OS X 10.3 is now installed on your Mac—but you're not quite ready to use it yet. See "The Setup Assistant" in <u>Section</u> A.6.

# TROUBLESHOOTING MOMENT Mix-and-Match Help files

One typical problem that can result from an Upgrade install (rather than a clean install) is that your Help Viewer program presents a scrambled mix of old and new Help screens. For example, you'll find help pages that refer to Key Caps, which doesn't exist in Mac OS X 10.3, but no reference to Font Book, which does.

The quick fix: Quit the Help Viewer program. Open your Home Library Caches com.apple.helpui folder, and throw away the Mac Help folder inside. Next time you open your Help program, you'll find only upto-date Panther information.

#### NOTE

This kind of installation doesn't give you certain categories of extra Mac OS X software: fonts for Asian languages, additional speech voices, Common Access Card Viewer (security-card reading software primarily

aimed at U.S. government employees), and X11 software.

To install these yourself, open your Mac OS X Install Disc 3 CD. Open the Packages folder, where you'll find individual installers for these items. Double-click the one you want.







## A.4 The Upgrade Installation

If Mac OS X version 10.0 through 10.2-point-anything is on your hard drive, the Mac OS X 10.3 installer can neatly nip and tuck its software code, turning it *into* version 10.3. Everything remains just as you had it: your accounts, folders, files, email, network settings, everything-else settings, and so on.

# TROUBLESHOOTING MOMENT Journaling

If you decide to erase your hard drive before installing Panther, you're offered a choice of two formats for your hard drive: "Mac OS Extended (Journaled)" and "Unix file System." If you choose the first option, you turn on a special, background feature of OS X known as file journaling.

When file journaling is turned on, your Mac keeps a personal diary of everything you do on your hard driveopening, saving, deleting files, and so on. Journaling offers two benefits: a shorter startup time and safety in the event of a crash.

Here's how it works: When you press the power button, Mac OS X checks to see whether your computer was shut down properly (by choosing ——)Shut Down for example, instead of just pulling out the plug).

If you didn't shut down properly, Mac OS X examines your hard drive the next time you start up to see if it needs repair. It has to scan the whole drive-which can take anywhere from a couple of minutes (if your hard drive is less than 10 GB) to a couple of hours (if your hard drive is more than 200 GB). Thanks to file journaling, however, Panther can tell what was happening when your computer shut down-and therefore spend a lot less time checking your hard drive.

There are some downsides to the journaled format, however. first, this procedure doesn't actually recover what you were working on when your Mac shut down; it can only try to keep files you already saved from getting corrupted. Second, file journaling can make it take slightly longer for your programs to save files.

Third, and perhaps most importantly, the journaled format is still relatively new. If your hard drive gets seriously damaged and your disk-repair program isn't compatible with file journaling, you could end up damaging your drive even more.

Mac OS X doesn't prevent you from having different hard drives with different formats, either. You can use the journaled format on your main hard drive, but not on your external fireWire drive—or vice versa. (If you ever want to change the format of one of your disks, use Disk Utility, although you'll have to erase all the information on the disk first.)

If you leave your Mac on all the time (if you run it as a Web server, for example), it's a good idea to use the journaled hard drive format. Keep in mind, too, that blackouts affect your hard drive just as much as pulling the plug. So if you live in Iraq, a solar-powered house, or anywhere else where power is inconsistent, journaling can be a lifesaver.

As noted earlier, this sophisticated surgery *occasionally* leaves behind a minor glitch here and there: peculiar cosmetic glitches, a checkbox that doesn't seem to work, and so on. If that possibility concerns you, a clean install is a safer way to go. (A clean install does, however, require a little more post-installation fiddling to reinstate your settings, notably your Internet and network preferences.)

If you're still game to perform the upgrade installation, follow the preceding steps 1 through 4. On the Select Destination screen, however, click Options.

Now you're offered four variations of the basic installation. The one you want is Upgrade Mac OS X. Click it and then click OK. Proceed with the previous step 5. (The button described there now says Upgrade, though, instead of Install.)









#### A.5 The Clean Install

In Mac OS 9 and Windows, the *clean install* is considered an essential troubleshooting technique. It entails installing a second System Folder or Windows folder—a fresh one, uncontaminated by the detritus left behind by you and your software programs.

In general, though, you and your software *can't* invade the Mac OS X System folder. The kind of gradual corruption that could occur in those older operating systems is theoretically impossible in Mac OS X, and therefore the need to perform a clean install is almost completely eliminated.

That's the theory, anyway. In fact, somehow or other, things do go wrong with your Mac OS X installation. Maybe you or somebody else has been fiddling around in Terminal and wound up deleting or changing some important underlying files. Certain shareware programs can perform deep-seated changes like this, too.

The point is that eventually, you may wish you could just start over with a new, perfect copy of Mac OS X. And now, thanks to the clean install ("Archive and Install") option, you can—without having to erase the hard drive first, as you did in earlier Mac OS X versions.

Start by following the preceding steps 1 through 4. On the Select Destination screen, though, click Options.

Now you're offered four kinds of installation. Turn on "Archive and Install." ("Preserve Users and Network Settings" should be on, too.)

This powerful option leaves all of your accounts (Home folders, documents, pictures, movies, Favorites, email, and so on) *untouched.* As the option's name implies, it also leaves your network and Internet settings alone. But it deactivates your old System folder (you'll find it, later, in a new folder called Previous System Folders) and puts a new one in its place. And that's exactly what you want.

Click OK and then continue with the previous step 5. When it's all over, you'll be confident that your Mac OS X installation is clean, fresh, and ready for action.



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## A.6 The Setup Assistant

When the Mac "comes to" after a basic installation, the first thing you experience is some jazzy music (a new theme for Panther), and the towering, gleaming X of the Panther logo. Then, once Apple has quite finished showing off its multimedia prowess, you arrive at a Welcome screen.

Once again, you're in for a click-through-the-screens experience, this time with the aim of setting up your Mac's various settings. After answering the questions on each screen, click Continue.

The number and sequence of information screens you'll encounter depend on whether you've upgraded an existing Mac or started fresh, but here are some of the possibilities:

- Welcome. Click the name of the country you're in.
- Personalize Your Settings. Click the name of the country you're in—or, more specifically, the country whose
  keyboard layout is the one you're used to. (Believe it or not, the "standard" computer keyboard isn't standard from
  country to country.)
- Your Apple ID. Here, you're offered the chance to type in, or create, an Apple ID—which is your email address. An Apple ID doesn't cost anything, but it makes life easier if you want to buy songs from the Apple Music Store, order gift books or prints from iPhoto, and so on. (If you have a .Mac account—see <u>Section 18.9</u>—put that account info here.) And if you'd rather not bother with any of this, click "Don't create an Apple ID for me."
- Registration Information. This is your chance to become a grain of sand on the great beach of the Apple database (and to set up your own "card" in Mac OS X's Address Book program). Click Continue.



If you're not interested in providing your personal information to Apple, or if you've already done so during a previous installation, press #-Q. A message offers you Skip, Shut Down, and Cancel buttons. If you click Skip, you jump straight ahead to "Create Your Account," below.

• A Few More Questions. This window includes two pop-up menus that let you tell Apple where your computer will be used (Home, Home Business, and so on) and what you do for a living. You'll also find buttons that let you accept or decline some exciting new junk mail from Apple and its partners. Click Continue.

The "Thank You" screen now appears, telling you that the information you've just supplied will be sent to Apple as soon as you connect to the Internet. Click Continue.

 Create Your Account. Most of the steps up to this point have been pretty inconsequential, but this is a big moment. You're about to create your account—your Administrator account, in fact, as described in Chapter 11.

All you have to do is make up a name, usually a short variation of your name (eight characters or fewer—no spaces) and a password (same deal). Choose carefully, because you can't easily change your account name later.

If you're the only one who uses your Mac, it's perfectly OK to leave the password blank empty.

What you come up with here is extremely important, especially if several different people use this Mac at different times, or if other people connect to it on a network. See <u>Section 11.3</u> for details on creating a password and a hint

that will help you remember it.

Click Continue.

#### **NOTE**

The rest of the setup process involves the creation of an Internet account. If your Mac was already connected to the Internet (in Mac OS 9 or Mac OS X), Mac OS X 10.3 is kind enough to absorb those settings and take you straight to the Select Time Zone screen described below.

Get Internet Ready. You can tell the setup program that you don't want to set up an Internet account right now.
 Otherwise, the buttons on this screen let you sign up for an EarthLink Internet account (which will wind up costing about \$22 per month) or indicate that you already have an Internet service.

For the purposes of these instructions, let's say that you decided not to sign up for an EarthLink account, which would introduce a detour in the setup process.

If you are the only person who uses your Mac—if it's your personal laptop, for example—none of this information is especially important. You'll never have to remember any of it. In fact, if security isn't an issue for you, you might want to consider leaving the Password field empty. (The Mac will warn you that this isn't a particularly secure scenario if you work on an office network, but you don't care. Having no password will make it easier for you to hook up your Mac to another one, as described in Chapter 12.)

Create Your Account	
With Mac OS X, everyone who uses the computer can have an account with their own settings and a place to keep their documents.	
Set up your account now. You can add accounts for others later.	
Name	Dennis Cohen
Name	Example: Mary Jones
Short Name:	dennisco
	Example: mjones  An alternate name for your account, used by some network services. Enter 8 lowercase characters or fewer, with no spaces.
Password	
3,200,000,000	The password for this account.
Verify:	
	Enter your password again, exactly as you typed it.
Password Hint:	
	Enter something that will help you remember your password.
	Go Back Continue

- How Do You Connect? Your choices are "Telephone modem" (your Mac's builtin dial-up modem), "Cable modem" (a cable modem connected directly to your Mac), "DSL modem" (a Digital Subscriber Line modem that's connected directly to your Mac), "Local network (Ethernet)," or "Local network (AirPort wireless)." The last two options refer to an office network or a *router* connected to your Mac, either with Ethernet wiring or a wireless AirPort card.
  - When you click Continue, you may be asked for specific information—the local access number, account name, and password, and so on—regarding your Internet account. See Chapter 18 for advice on filling in these settings.
- **Get .Mac.** You can read all about .Mac accounts in <u>Chapter 18</u>. The crown jewel, of course, is the 100 MB Internet-based backup hard drive called an iDisk. If you already have a .Mac account, click the appropriate button and fill in your account name and password. If not, you can create one now. (If you want to decline altogether, click the sneakily worded "I'll set up a .Mac membership later," which doesn't really mean that you have to.)
- Now You're Ready to Connect. If you click Continue, your Mac attempts to connect to the Internet and send your registration information to Apple.
- **Set Up Mail.** When the registration is complete, you're offered the opportunity to set up your email account. If you've just been through the .Mac business, your account information—that is, your *yourname@mac.com* email account information—is already filled in. You can jump right in to start using the Mac OS X Mail program (<a href="Chapter 19">Chapter 19</a>) without having to configure anything more.

To set up a different email account, click "Add my existing email account" and fill in the information on the right side of the screen.

• Select Time Zone, Set the Date and Time. These screens help you set your Mac's built-in clock—a surprisingly important step, because it determines how the files you create will know whether they are older or newer than other versions. (To change the date, either click on the calendar, or click its digits and then type over

# FREQUENTLY ASKED QUESTION Selective Installs

Whoops! I accidentally trashed my copy of the Calculator. How can I get it back? Do I have to reinstall the whole, seething, 2 GB mass of Mac OS X?

Fortunately, no. If you know the secret, you can install only specific components of Mac OS X without having to install the whole darned thing.

What you need is Pacifist, a shareware program that lets you install individual files and folders from the archipelago that is the collection of Mac OS X installation discs.

Technically, the Mac OS X installer is composed of dozens of sub-installers known as .pkg package files, which the installer opens one after another. That's the point of Pacifist—it lets you open an individual .pkg file.

Pacifist can also check existing installations and find missing or altered files. You can download it from the "Missing CD" page at <a href="https://www.missingmanuals.com">www.missingmanuals.com</a>

them using your keyboard. To change the time, you can either drag the clock's hands—fun!—or, again, click the digits above it and then retype.)

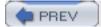
• Thank You. The final screen asks you to enjoy your Apple computer. (If you skipped the registration portion of the setup, it reminds you that you can turn in your info to Apple at any time, just by opening the Send Registration icon in your Home folder.)

When you click Done, you wind up at the Mac OS X desktop, just as described in Chapter 1.



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## A.7 Uninstalling Mac OS X 10.3

There isn't any easy way to remove Mac OS X if you decide that you don't like it.

The chief problem is that thousands of its pieces are invisible. Even if you start up the Mac from another disk and then drag all the visible Mac OS X folders to the Trash, you'll leave behind many megabytes of software crumbs that you can't see.

Here and there, in books and on Web sites, you'll find conflicting lists of these invisible files, along with elaborate steps for making them visible and then throwing them away. The truth is, however, that you'll save time by backing up the data that's worth preserving—your Home folder, Applications folder, Library folder, and whatever folders you use in Mac OS 9—and then erasing the hard drive or partition and reinstalling the operating system that you prefer.



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## **Appendix B. Troubleshooting**

Whether it's a car engine or an operating system, anything with several thousand parts can develop the occasional technical hiccup. Mac OS X is far more resilient than its predecessors, but it's still a complex system with the potential for occasional glitches.

If you're used to an older operating system, beware: very few pages of the traditional troubleshooting workbook apply to Mac OS X. Mac OS 9 veterans can forget about giving a program more memory, turning off system extensions, and rebuilding the desktop. Windows refugees can forget all about driver conflicts, IRQs, and the Registry.

In short, Mac OS X is a whole new world when it comes to troubleshooting.

It's safe to say that you'll have to do *less* troubleshooting in Mac OS X than in Mac OS 9 or Windows, especially considering that most freaky little glitches go away if you just try these two steps, one at a time:

- Quit and restart the wayward program.
- Log out and log back in again.

It's the other problems that will drive you batty.



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#### **B.1 Problems That Aren't Problems**

Before you panic, accept the possibility that whatever is frustrating you is a Mac OS X *difference*, not a Mac OS X *problem*. Plenty of "problems" turn out simply to be quirks of the way Mac OS X works. For example:

- My System Preferences controls are dimmed. As noted in <u>Chapter 8</u>, many of Mac OS X's control panels are offlimits to Standard account holders. That is, only people with Administrator accounts are allowed to make changes, as indicated by the padlock icon at the lower-left corner of such panels.
- I can't log in! I'm in an endless login loop! If the standard Login screen never seems to appear, it's because somebody has turned on the automatic login feature described in Section 11.4.1. The Login screen won't appear, giving you a chance to sign in with your own account, until somebody either turns off automatic login or chooses

  Log Out.
- I can't move or open a folder. Like it or not, Mac OS X is Unix, and Unix has a very strict sense of who, among the people who share a Mac over time, *owns* certain files and folders. For starters, people who don't have Administrator accounts aren't allowed to move, or even open, certain important folders. Section 11.2 has much more on this topic.

If whatever problem you're having doesn't fall into one of the preceding categories, then maybe something truly has gone wrong; read on.



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#### **B.2 Minor Eccentric Behavior**

Mac OS X itself is generally about as unstable as Mount Everest. It's the programs that most often cause you grief.

All kinds of glitches may befall you. Your desktop picture doesn't change when you change it in System Preferences. A menulet doesn't open when you click it. A program won't open—it just bounces on the Dock a couple of times and then stops.

When a single program is acting up like this, but quitting and restarting it does no good, try the following steps, in the following sequence.

#### **B.2.1 First Resort: Repair Permissions**

An amazing number of mysterious glitches arise because the *permissions* of either that item or something in your System folder have become muddled—that is, the complex mesh of interconnected Unix permissions described in Section 16.1.1.

When something just doesn't seem to be working right, therefore, open your Applications Utilities folder and open Disk Utility. Proceed as shown in Figure B-1.



Most Mac mavens, in fact, believe in running this Repair Permissions routine after running any kind of installer, just to nip nascent problems in the bud. That includes both installers of new programs and of Apple's own Mac OS X updates.

## **B.2.2 Second Resort: Look for an Update**

If a program starts acting up immediately after you've installed or upgraded to Mac OS X 10.3, chances are good that it has some minor incompatibility. Chances are also good that you'll find an updated version on the company's Web site.

#### **B.2.3 Third Resort: Toss the Prefs File**

Here we are in the age of Mac OS X, and we're still throwing away preference files?

Absolutely. A corrupted preference file can still bewilder the program that depends on it.

Click your hard drive's name in the left-side list; click the First Aid tab; click Repair Disk Permissions; and then read an article while the Mac checks out your disk. If the program finds anything amiss, you'll see messages like these. Among the text, you may recognize some Unix shorthand for read, write, and execute privileges (Section 16.1.1).



Before you go on a dumpfest, however, take this simple test. Log in using a *different account* (perhaps a dummy account that you create just for testing purposes). Run the problem program. Is the problem gone? If so, then the glitch exists only when *you* are logged in—which means it's a problem with *your* copy of the program's preferences.

Return to your own account. Open your Home folder Library Preferences folder, where you'll find neatly labeled preference files for all of the programs you use. Each ends with the file name suffix *.plist.* For example, com.apple.finder. plist is the Finder's preference file, com.apple.dock.plist is the Dock's, and so on.

Put the suspect preference file into the Trash, but don't empty it. The next time you run the recalcitrant program, it will build itself a brand-new preference file that, if you're lucky, lacks whatever corruption was causing your problems.

If not, quit the program. You can reinstate its original .plist file from the Trash, if you'd find that helpful as you pursue your troubleshooting agenda.

Remember, however, that you actually have *three* Preferences folders. In addition to your own Home folder's stash, there's a second one in the Library folder in the main hard drive window (which administrators are allowed to trash), and a third in the System Library folder in the main hard drive window (which nobody is allowed to trash—at least not without one of

the security-bypass methods described in the box on the facing page).

In any case, the next time you log in, the Mac will create fresh, virginal preference files.

#### **B.2.4 Fourth Resort: Log Out**

Sometimes you can give Mac OS X or its programs a swift kick by logging out ( Log Out) and logging back in again. It's an inconvenient step, but not nearly as timeconsuming as restarting the computer.

#### **B.2.5 Last Resort: Trash and Reinstall the Program**

Sometimes reinstalling the problem program clears up whatever the glitch was.

First, however, throw away all traces of it. Open the Applications folder and drag the program's icon (or its folder) to the Trash. In most cases, the only remaining piece to discard is its .plist file (or files) in your Home Library Preferences folder.

Then reinstall the program from its original CD or installer—after first checking the company's Web site to see if there's an updated version, of course.





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## **B.3 Frozen Programs (Force Quitting)**

The occasional unresponsive application has become such a part of Mac OS X life that, among the Mac cognoscenti online, the dreaded, endless "please wait" cursor has been given its own acronym: SBOD (Spinning Beachball of Death). When the SBOD strikes, no amount of mouse clicking and keyboard pounding will get you out of the recalcitrant program.

Here are the different ways you can go about *force quitting* a stuck program (the equivalent of pressing Ctrl-Alt-Delete in Windows), in increasing order of desperation:

- **Use the Dock.** If you can't use the program's regularly scheduled File Quit command, try Control-clicking its Dock icon and choosing Quit from the pop-up menu.
- Force quit the usual way. Choose Force Quit to terminate the stuck program, or use one of the other force-quit methods described in Section 4.1.3.
- Force quit the sneaky way. Some programs, including the Dock, don't show up at all in the usual Force Quit dialog box. Your next attempt, therefore, should be to open the Activity Monitor program (in Applications Utilities), which shows everything that's running. Double-click a program and then, in the resulting dialog box, click Quit to force quit it. (Unix hounds: You can also use the *kill* command in Terminal, as described in Section 16.2.)



If you find yourself having to quit the Dock more than once, here's an easier way: make yourself a little AppleScript (<u>Chapter 7</u>) consisting of a single line: *tell application "Dock" to quit*. Save it as an application. Whenever you feel that the Dock needs a good kick in the rear, double-click your little AppleScript.

• Force quit remotely. If the Finder itself has locked up, you can't very well get to Activity Monitor (unless it occurred to you before hand to stash its icon your Dock—not a bad idea). At this point, you may have to abort the locked program from another computer across the network, if you're on one, by using the SSH (secure shell) command. The end of <a href="Chapter 21">Chapter 21</a> offers a blow-by-blow description of how you might terminate a program by remote control in this way, either from elsewhere on the office network or even from across the Internet.



If all of this seems like a lot to remember, you can always force-restart the Mac. On most recent Macs, you do that by holding down the power button for a few seconds. If that doesn't work, press Control-#\*-power button.









## **B.4 The Wrong Program Opens**

As noted in <u>Chapter 4</u>, the way documents are linked to the programs that can open them is very different in Mac OS X than it was before. Some documents have invisible, four-letter type and creator codes that tell them which programs they "belong to." Other documents lack these codes, and open up in whichever program recognizes its file name extension (.doc or .txt, for example).

<u>Section 4.5.2</u> shows you how to choose which program opens a certain document (or kind of document). But that's not much help when you double-click a text document and have to sit there while SimpleText opens up—*in Classic*, mandating a 45-second wait.

# WORKAROUND WORKSHOP Fixing Permissions Problems

Sooner or later, when you try to move, rename, or delete a certain file or folder, you may get an error message like this—"The folder 'Junk' could not be opened because you do not have sufficient access privileges"—or this: "The operation could not be completed because this item is owned by Chris" (or by *root*, which means by Mac OS X itself).

What they're trying to say is, you've run into a permissions problem.

As noted in <u>Chapter 11</u>, Mac OS X is designed to accommodate a number of different people who share the same Mac over time. Nobody is allowed to meddle with other people's files or folders. But even if you're the solo operator of your Mac, you still share it with Mac OS X itself (which the error messages may refer to as *root* or system).

In any case, if you're confident that whatever you're trying to do isn't some kind of nihilistic, self-destructive act like trashing the Applications folder, it's easy enough to get past these limitations. Just highlight the recalcitrant file or folder and then choose File Get Info. In its window, you'll find an Ownership & Permissions panel that lets you reassign ownership of any icon to, for example, yourself (if you have an Administrator account, that is). Make sure your permission is "Read & Write." (Just don't perform this surgery on files in the System folder.)

Now you own that folder or file, and you can do whatever you like with it.

The simple rule to remember here is that *creator codes override file name extensions*. In other words, a file called Contract. txt generally opens in Mac OS X's TextEdit—*if* it doesn't have a four-letter creator code behind the scenes. If that same file has SimpleText's creator code (ttxt), however, it opens in SimpleText (and Classic) no matter what its file name is.

The quickest solution may be to strip away the type and creator codes. You can do that by dragging the troubled files' icons onto a program like Wipe Creator (available from the Missing CD page of <a href="www.missingmanuals.com">www.missingmanuals.com</a>). At that point, Mac OS X has only the document's file name extension to go on when choosing a program to open it.



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## **B.5 Can't Empty the Trash**

If you're having trouble emptying the Trash, start by holding down the mouse on the Trash icon itself. When you choose Empty Trash from the pop-up menu, Mac OS X empties the Trash without complaint, locked files and all.

If emptying the Trash gives you "Could not be completed because this item is owned by Marge," you're trying to move or delete another Mac account holder's stuff. As you know, that's a big no-no in Mac OS X.

In that case, just make yourself the new owner of the file or folder, as described in the box in Appendix B.4.



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### **B.6 Can't Move or Rename an Icon**

If you're not allowed to drag an icon somewhere, the error message that appears almost always hits the nail on the head: You're trying to move a file or folder that *isn't yours*. Again, the box in the <u>Appendix B.4</u> explains the solutions to this problem.





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## **B.7 Application Won't Open**

If a program won't open (if its icon bounces merrily in the Dock for a few seconds, for instance, but then nothing happens), begin by trashing its preference file, as described in <u>Appendix B.2.3</u>. If that doesn't solve it, reinstalling the program usually does.



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## **B.8 Startup Problems**

Not every problem you encounter is related to running applications. Sometimes trouble strikes before you even get that far. The following are examples.

#### **B.8.1 Kernel Panic**

When you see the cheerful, multilingual dialog box shown in <u>Figure B-2</u>, you've got yourself a *kernel panic*—a Unix nervous breakdown.

(In such situations, user panic might be the more applicable term, but that's programmers for you.)

Kernel panics are increasingly rare. If you see one at all, it's almost always the result of a *hardware* glitch—most often a bad memory (RAM) board, but possibly an accelerator card, graphics card, SCSI gadget, or USB hub that Mac OS X doesn't like. A poorly seated AirPort card can even bring on a kernel panic.

If simply restarting the machine doesn't help, detach every shred of gear that didn't come from Apple. Restore these components to the Mac one at a time until you find out which one was causing Mac OS X's bad hair day. If you're able to pinpoint the culprit, seek its manufacturer (or its Web site) on a quest for updated drivers, or at least try to find out for sure whether the add-on is compatible with Mac OS X.



This advice goes for your Macintosh itself. Apple periodically updates the Mac's *own* "drivers" in the form of a *firmware update*. You download these updaters from the Support area of Apple's Web site (if indeed Mac OS X's own Software Update mechanism doesn't alert you to its existence).

A kernel panic is almost always related to some piece of add-on hardware. And look at the bright side: At least you get this handsome dialog box in Mac OS X 10.3. That's a lot better than the Mac OS X 10.0 and 10.1 effect—random text gibberish super-imposing itself on your screen.

You need to restart your computer. Hold down the Power button for several seconds or press the Restart button.

Veuillez redémarrer votre ordinateur. Maintenez la touche de démarrage enfoncée pendant plusieurs secondes ou bien appuyez sur le bouton de réinitialisation.

Sie müssen Ihren Computer neu starten. Halten Sie dazu die Einschalttaste einige Sekunden gedrückt oder drücken Sie die Neustart-Taste.

コンピュータを再起動する必要があります。パワーボタンを数秒間押し 続けるか、リセットボタンを押してください。

00:03:93:D6:70:AE 192.168.001.101

There's one other cause for kernel panics, by the way, and that's moving, renaming, or changing the access permissions for Mac OS X's essential system files and folders—the Applications or System folder, for example. (See <u>Section 12.2.10</u> for more on permissions.) This cause isn't even worth mentioning, of course, because nobody would be that foolish.

### **B.8.2 Safe Mode (Safe Boot)**

All kinds of software nuggets load during the startup process. Some of them, you choose yourself (icons you add to the Startup Items list in the System Preferences Accounts pane). Others, you don't normally see: a large mass of *kernel extensions*, which are chunks of software that add various features to the basic operating system.

If you're experiencing startup crashes, some non-Apple installer may have given you one or the other of these that doesn't care for Mac OS X 10.3.

Mac OS 9 fans press the Shift key at startup to turn off the extensions. Windows fans press an F-key to start up in Safe Mode. Either way, the idea is the same: to turn off all non-essential system-software nubbins in an effort to get a sick machine at least powered up.

Although not one person in a hundred knows it, Mac OS X offers the same kind of emergency keystroke. It can come in handy when you've just installed some new piece of software and find that you can't even start up the machine; with this trick, you can at least turn on the computer so that you can uninstall the cranky program.

The trick is to *press the Shift key* as the machine is starting up. Hold it down from the startup chime until you see the words "Safe Boot" on the progress-bar box.

You'll find a long list of standard features inoperable: Mac OS X's sound software; laptop-specific features like PC cards, infrared, and internal modems; all USB gadgets except the keyboard and mouse; FireWire camcorders; and any feature

that didn't come from Apple. (The next time you restart, all of this goodness will be restored, assuming you're no longer clutching the Shift key in a sweaty panic.)

There's another use for the Shift key, too: If you press it later in the startup sequence—after logging in but before the desktop appears—you prevent any Finder windows from opening *and* your startup items.prevent your own hand-picked startup items from opening.

This, too, is a troubleshooting tactic. If some startup item crashes your Mac every time it opens, you can squelch it just long enough to remove it from your Startup Items list.



If you hold down the Shift key continuously from the startup chime all the way until the desktop appears, you turn off *both* kernel extensions *and* your startup items.

#### **B.8.3 Gray Screen During Startup**

Confirm that your Mac has the latest firmware, as described in the previous Tip. Detach and test all your non-Apple addons, also as described in the previous paragraphs. Finally, perform a disk check (see below).

#### **B.8.4 Blue Screen During Startup**

Most of the troubleshooting steps for this problem (which is usually accompanied by the Spinning Beachball of Death cursor) are the same as those described under "Kernel Panic" above. But there's one other cause to examine: a corrupted font file in your *Mac OS 9* System Folder.

To test for this problem, restart the Mac in Mac OS 9, open its System Folder (that's the folder called System Folder, not just System), and drag the Fonts folder to the desktop. Restart in Mac OS X. If the startup proceeds smoothly, you know you've got a damaged font file in that Fonts folder.

## **B.8.5 Forgotten Password**

If you or one of the other people who use your Mac have forgotten the corresponding account password, no worries: just read the box in <u>Section 11.4.2</u>.



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## **B.9 Fixing the Disk**

The beauty of Mac OS X's design is that the operating system itself is frozen in its perfect, pristine state, impervious to conflicting system extensions, clueless Mac users, and other sources of disaster.

That's the theory, anyway. But what happens if something goes wrong with the complex software that operates the hard drive itself?

Fortunately, Mac OS X comes with its own disk-repair program. In the familiar Mac universe of icons and menus, it takes the form of a program in Applications Utilities called Disk Utility. In the barren world of Terminal and the command line interface, there's a utility that works just as well but bears a different name: *fsck* (for file system check).

In any case, running Disk Utility or its alter ego *fsck* is a powerful and useful troubleshooting tool that can cure all kinds of strange ills, including these problems, among others:

- Your Mac freezes during startup, either before or after the Login screen.
- The startup process interrupts itself with the appearance of the text-only command line.
- You get the "applications showing up as folders" problem.

#### **B.9.1 Method 1: Disk Utility**

The easiest way to check your disk is to use the Disk Utility program. Use this method if your Mac can, indeed, start up. (See Method 2 if you can't even get that far.)

Disk Utility can't check the disk it's on. That's why you have to restart the computer from the Mac OS X CD-ROM (or another startup disk), and run Disk Utility from there. The process goes like this:

#### 1. Start up the Mac from the Mac OS X CD.

The best way to do that is to insert the CD and then restart the Mac while holding down the C key.

You wind up, after some time, at the Mac OS X Installer screen. Don't be fooled—installing Mac OS X is *not* what you want to do here. Don't click Continue!

### 2. Choose Installer Open Disk Utility.

That's the unexpected step. After a moment, the Disk Utility screen appears.



You could also skip steps 1 and 2 by starting up from an external hard drive, like an iPod onto which you've installed Mac OS X. Just run its own copy of Disk Utility to check your *Mac's* hard drive.

#### 3. Click the disk or disk partition you want to fix, click the First Aid tab, and then click Repair Disk.

The Mac whirls into action, checking a list of very technical disk-formatting parameters.

If you see the message, "The volume 'Macintosh HD' appears to be OK," that's meant to be *good* news. Believe it or not, that cautious statement is as definitive an affirmation as Disk Utility is capable of making about the health of your disk.

#### **NOTE**

Note: Don't be alarmed. The message's last line says "Repair completed" whether or not any repairing was done at all.

Disk Utility may also tell you that the disk is damaged, but that it can't help you. In that case, you need a more heavy-duty disk-repair program like Drive 10 (www.micromat.com) or DiskWarrior (www.alsoft.com).

#### B.9.2 Method 2: fsck at the Console

Disk Utility isn't of much use when you can't find the Mac OS X CD, when your CD drive isn't working, or when you're in a hurry to get past the startup problems that are plaguing your machine. In these cases, you'll be glad that you can boot into the Mac's raw Unix underlayer to perform some diagnostic (and healing) commands.

# POWER USERS' CLINIC Journaling vs. fsck

Mac OS X 10.3 comes with *journaling* turned on. As noted in <u>Appendix A.4</u>, journaling means that the Mac keeps a little diary about every tiny bit of hard drive activity. In event of a crash or freeze, the Mac knows precisely what was going on at the time, and precisely which files might have been damaged.

In theory, then, you'll never need *fsck* at all. After all, there's nothing to check. The Mac's journaling software is always on top of things—and, if the journal indicates that there was trouble saving a file, Mac OS X can finish or undo the change.

Even Apple concedes, however, that in the real world, things can still go wrong, even with journaling turned on.

That's why, when you attempt to use *fsck* as described on these pages, a message will inform you that, hey, you don't *need* to repair your disk. Thanks to journaling, there's no damage to repair.

If you decide to proceed on the off chance that something's gone wrong behind your journal's back, just use

the -f flag to force the disk check, like this: fsck -f.

Note, however, that you may see a series of *phony* error messages when you do this. If you see any of these messages, you should ignore them:

- "Volume bitmap needs minor repair"
- "Invalid volume free block count" or "block count changed from XX to YY"
- "Volume header needs minor repair"
- "Incorrect block count for file"

If you see any other error messages, though, let fsck go ahead and repair them.

Specifically, you'll be glad that you can run the Unix program fsck, for which Disk Utility is little more than a pretty faceplate.

Like any Unix program, *fsck* runs at the command line. You launch it from the all-text, black Unix screen by typing *fsck* and pressing Enter. (As discussed in the box on the facing page, you can also use *fsck* -f.)

You can't, however, just run *fsck* in Terminal. You have to run it when the usual arsenal of graphic-interface programs—like the Finder and its invisible suite of accessory programs—isn't running.

### B.9.2.1 Single-user mode (\mathbb{H}-S at startup)

The Terminal program is the best known form of Mac OS X's command line, but it's not the only one. In fact, there are several other ways to get there.

In general, you don't hear them mentioned except in the context of troubleshooting, because the Terminal program offers many more convenient features for doing the same thing. And because it's contained in a Mac OS X-style window, Terminal is not so disorienting as the three methods you're about to read.

All of these techniques take you into *console mode*, shown in <u>Figure B-3</u>. In console mode, Unix takes over your screen completely, showing white type against black, no windows or icons in sight. Abandon the mouse, all ye who enter here; in console mode, you can't do anything but type commands.

In console mode, your entire screen is a command line interface. Unix jockeys can go to town here. Everyone else can timidly type fsck -y after the localhost: /root # prompt—see this prompt on the very last line?—and hope for the best.

```
Found old device 0x0cdea00
IOFireWireDevice, ROM unchanged
                                 0x0xcdea00
                 0x0xcdea00.
IOFireWireDevice
                              ROM generation
Got boot device =
IOService:/Core99PE/pc@f20000000/AppleMacRiscPCI/mac-
io@17/KeyLargo/ata-4@1f000/KeyLargoATA/ATADeviceNub@0/IOA
TABlockStorageDriver/IOATABlockStorageDevice/IOBlockStorageDr
iver/QUANTUM FIREBALL CX13.6A
Media/IOApplePartitionScheme/Untitled
BSD root:
          disk0s9, major 14, minor 9
Rereading ROM up to 25 quads
devfs on /dev
        4.947: AppleUSBKeyboard[0xD0E80014::start
USB:
                                                    USB
                                                         Generic
Keyboard @ 3 (0x18110000)
Mon Nov 19 23:18:53 EST 2001
Singleuser boot -- fsck not done
Root device is mounted read-only
If you want to make modifications
run '/sbin/fsck -y'
                    first and then '/sbin/mount
localhost#
```

To get there in times of startup troubleshooting, press #-S while the Mac is starting up. (If you're stuck at the frozen remnants of a previous startup attempt, you may first have to force-restart your Mac; see the tip in Appendix B.4.)

Instead of arriving at the usual desktop, you see technical-looking text scrolling up a black screen as the Mac runs its various startup routines. When it finally stops at *the localhost* # prompt, you're ready to type commands. You're now in what's called *single-user mode*, meaning that the Unix multiple-accounts software has yet to load. You won't be asked to log in.

At the *localhost* # prompt, type *fsck* -*y* (note the space before the hyphen) and press Enter. (The *y* means "yes," as in "yes, I want you to fix any problems automatically.") If the Mac refuses because journaling is turned on (<u>Appendix A.4</u>), you can also type *fsck* -*fy* to force the disk check.



You've probably gone to this trouble for the sake of running *fsck*, the Unix disk-checking program. But you can also use *ls, cd, rm,* or any of the other Unix commands described in Chapters 15 and 16.

Now the file system check program takes over, running through five sets of tests. When it's complete, you'll see one of two messages:

• The volume Macintosh HD appears to be OK. All is well. Type *exit* and press Return to proceed to the usual Login screen and desktop.

• **File system was modified.** A good sign, but just a beginning. You need to run the program again. One *fsck* pass often repairs only one layer of problems, leaving another to be patched in the next pass. Type *fsck -y* a second time, a third time, and so on, until you finally arrive at a "disk appears to be OK" message.



Typing *exit* at the prompt and pressing Return is how you get back to the familiar Aqua world of icons and windows.

# FREQUENTLY ASKED QUESTION Viruses? What viruses?

One great thing about the old Mac OS was that there were hardly any viruses to worry about—all of the nasties seemed to be written for Windows. But now that we're using Unix, which has been around for 30 years and has a huge user base, is it time to worry again?

Nope. There are even fewer viruses for Unix than for the Mac OS.

You still need to be careful with Word and Excel macro viruses, of course. If you open a Word or Excel attachment sent by email from someone else, and a big fat dialog box warns you that it contains macros, simply click Disable Macros and get on with your life.

Otherwise, you have little to worry about. After three years, not a single Mac OS X virus has emerged—partly because virus writers have a smaller "audience" in Mac fans, and partly because Mac OS X is more difficult to hack.

Sleep well.



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## **B.10 Where to Get Troubleshooting Help**

If the basic steps described in this chapter haven't helped, the universe is crawling with additional help sources.

#### **B.10.1 Help Online**

These Internet sites contain nothing but troubleshooting discussions, tools, and help:

- MacFixIt (www.macfixit.com). The world's one-stop resource for Mac troubleshooting advice.
- Mac newsgroups (such as comp.system.mac). A newsgroup is an Internet bulletin board, which you can access
  using a program like Microsoft Entourage or Thoth (<u>www.thothsw.com</u>). If you're polite and concise, you can post
  questions to the multitudes here and get more replies to them than you'll know what to do with.
- Other Apple support resources (<u>www.apple.com/support</u>). Apple's help Web site also includes downloadable manuals, software updates, frequently asked questions, and many other resources.

The mother of all troubleshooting resources, however, is Apple's own Knowledge Base. This is the collection of 50,000 individual technical articles, organized in a searchable database, that the Apple technicians themselves consult when you call for help.

# TROUBLESHOOTING MOMENT The Reinstall

When some component is missing, your troubleshooting steps have failed, and Mac OS X continues to act up, consider reinstalling Mac OS X.

That's not a big deal at all. It involves inserting the Mac OS X CD, restarting the Mac, pressing the C key as the computer starts up, and proceeding with the installer as described in Appendix A.

The good news is that reinstalling Mac OS X doesn't touch your files, folders, or settings. It simply patches whatever holes have opened up in the Unix undercarriage of your operating system—which, every now and then, does you a world of good.

And what if you've updated your CDs' copy of Panther with little updates—Mac OS X 10.3.1, 10.3.2, and so on?

In that case, you'll have to do a clean install (that is, an "Archive & Install" as described in Appendix A). It gives you a brand-new Mac OS X System folder, neatly retiring the previous one (and, in fact, renaming it Previous System Folder).

Yes, your new, virginal System folder isn't the latest version of Mac OS X. But that's OK—it's now safe to install all of the updaters you've run since your Mac OS X CD was pressed. (If you were smart enough to save these updaters as described in <u>Section 8.21</u>, you won't even have to download them from the Web again.)

In no time (all right, in 35 minutes), you'll be right back where you were, this time without the glitches.

If you like, you can visit this library using your Web browser (<a href="http://kbase.info.apple.com">http://kbase.info.apple.com</a>) or right within Sherlock 3 (click the AppleCare icon). You can search it either by typing in keywords or by using pop-up menus of question categories.

#### **B.10.2** Help by Telephone

Finally, consider contacting whoever sold you the component that's making your life miserable: the printer company, scanner company, software company, or whatever.

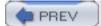
If it's a Mac OS problem, you can call Apple at 800-275-2273 (that's 800-APL-CARE). For the first 90 days following your purchase of Mac OS X (which, as far as Apple knows, is the date of your first call), the technicians will answer your questions for free.

After that, unless you've paid for AppleCare for your Mac (a three-year extended warranty program), Apple will charge you to answer your questions. Fortunately, if the problem turns out to be Apple's fault, they won't charge you.



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## Appendix C. The "Where'd It Go?" Dictionary (Mac Version)

This one's for you, veteran Mac fans. Even if you ultimately conclude that Mac OS X's stability, good looks, and security make it worth the switch, you'll do quite a bit of fumbling at first to find your way around.

Here's your complete guide to which of the classic Mac features survive in Mac OS X 10.3, which have moved around to confuse you—and which have bitten the dust.



Some commands are listed under the names of the menus in which they appear.

Applications, System Folder folders, and control panels are all listed under their own names.



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## C.1 ~ATM control panel

You won't find Adobe Type Manager (ATM) in Mac OS X. The ability to smooth out jagged edges on PostScript fonts is built in and no longer requires this separate control panel. See <u>Chapter 13</u> for more on fonts.



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## C.2 Appearance control panel

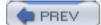
There's no longer a control panel called Appearance, but the best of its features are still around. Here's the rundown:

- Themes tab. Gone.
- Appearance tab. You'll find the equivalent pop-up menus (for text highlight color, and so on) in Mac OS X's System Preferences Appearance pane.
- **Fonts tab.** You can't change the fonts used by Mac OS X (at least not without the free TinkerTool program described in <u>Chapter 17</u>). You can, though, change the type size used by the names of icons, either in a single window or globally. Choose View View Options to see the controls.
- Desktop tab. Now you apply a picture to your desktop by opening the System Preferences Desktop & Screen Saver panel.
- **Sound tab.** On the Sound panel of System Preferences, you can turn on "Play user interface sound effects," which adds tiny, subtle sound effects to your mouse movements when you drag something off the Dock or empty the Trash.
- Options. The Smart Scrolling option is now in the System Preferences Appearance pane. There's no longer a "double-click title bar to windowshade the window" option, because the equivalent effect is always on in Mac OS X. (Double-clicking a title bar minimizes the window.)



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### C.3 Apple DVD Player

It's now called DVD Player, and it's in the Applications folder (if your Mac does, in fact, have a DVD player built in).







#### C.4 Apple Extras

There's no longer an Apple Extras folder, but several of the items that used to be in this folder live on in new locations. For example:

- The AppleScript folder is now in the Applications folder.
- Digital Color Meter, which used to be in the Monitor Extras folder, is now located in Applications Utilities. See Chapter 9.
- The Font Extras folder, which contained the FontSync control panel, is gone, but FontSync itself is alive and well. The AppleScripts that let you use FontSync sit in the hard drive's Library Scripts FontSync Scripts folder.
- The Mac OS Runtime for Java folder is gone, but the Apple Applet Runner, which was inside that folder, has been replaced with the Applet Launcher in Applications Utilities.

Most of the other Apple Extras items—miscellaneous folders like FireWire, Iomega, and Apple LaserWriter Software—have disappeared because they've been incorporated into Mac OS X itself.



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#### C.5 Apple ( ) menu

The menu is still in Mac OS X, but it's no longer customizable. Instead, it lists useful commands that you'll want to access no matter what program you're using: Sleep, Restart, Shut Down, and so on. The menu's quick-access icon launching features have now been taken over by the Dock (Chapter 3).

- About This Computer. This command's functions have been scattered across Mac OS X. To find out your Mac's system-software version, total installed memory, and processor type, choose About This Mac. For memory stats on running programs, go to Applications Utilities and open Activity Monitor. It shows you, perhaps, a little more information than you need, but the memory consumption listings are still there, updated in real time. (Mac OS X programs don't use a fixed amount of RAM; they constantly adjust as needed.)
- Apple System Profiler. Still in Mac OS X, now called System Profiler but better than ever—and it's in Applications—Utilities.
- Calculator. Dramatically revamped (see Chapter 9) and moved to your Applications folder.
- Chooser. Eliminated. Its two primary functions—choosing a printer and connecting to a network—have been moved to the Print dialog box (choose File—Print in any program) and the Network icon in the Sidebar, respectively.
- Control Panels. It's now called System Preferences (Chapter 8). You can get to it by clicking its Dock icon or by choosing
- Favorites. In Panther, Favorites have received a big demotion; see Section 2.6.



You can still access your Mac OS 9 Favorites, however; they're listed in the Classic menulet (Section 3.6).

- Key Caps. See "Key Caps," later in this appendix.
- **Network Browser.** Now you can browse your network from within any Finder window. Just click the Network icon in the left-side Sidebar, as described in Chapter 12.
- Recent Applications, Recent Documents, Recent Servers. Recent Applications and Recent Documents are now submenus of the Recent Items command. To see networked disks (servers) to which you've recently connected, choose Go Recent Folders or, for a network-only list, Go Connect to Server. In the Connect to Server box, the pop-up menu lists recently accessed servers.
- Remote Access Status. It's now called Internet Connect, and it's in your Applications folder.
- **Scrapbook.** Eliminated. The closest equivalent is Stickies (in your Applications folder), which can now accept graphics, sounds, and movies.
- **Sherlock 2.** To open Sherlock (now version 3), click its icon on the Dock. (You can always double-click it in the Applications folder, but that takes longer.)

You no longer use Sherlock to search for files, however. For that purpose, use the Search bar or File Find command described in Chapter 2. Sherlock 3 is now dedicated tool for certain Web searches (movies, stocks, flights, and so on).

• Speakable Items. To get the list of speakable commands that your Mac can understand, first turn on Speakable Items using System Preferences—Speech—Speech Recognition—On/Off. The round Speech Feedback

panel appears on your screen. Click the small black triangle at the bottom of the panel and choose the Open Speech Commands window (see <u>Chapter 14</u>).

• Stickies. Received a major update in Mac OS X, as described in Chapter 9. (It's in the Applications folder.)





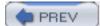


### **C.6 Apple Menu Options control panel**

You can specify how many recent items appear in the Recent Items list by opening System Preferences, clicking Appearance, and using the "Number of Recent Items" pop-up menus.









# C.7 AppleCD Audio Player

Replaced by the vastly superior iTunes (in the Applications folder). See Chapter 10.







# **C.8 AppleScript**

Apple's built-in scripting language for the Mac works in Mac OS X—and in Panther, the Finder is once again *recordable*. The Script Editor is in the Applications Apple- Scripts folder, and instructions are in Chapter 7.









# C.9 AppleTalk control panel

These networking controls are now in the System Preferences Network panel.









#### C.10 Application menu

Gone. You now use the Dock to see which programs you have running (the icons with little black triangles beneath them) and to switch between those programs. As noted in <a href="Chapter 4">Chapter 4</a> you can still use the Dock for many of the tricks the Application menu used to play.

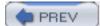
The Hide [application] and Hide Others commands, meanwhile, are now at the left end of the menu bar in the new Application menu—the one that bears the current application's name.



They're also in the Dock. Control-click a program's Dock icon to see the Hide option, and Option-click the icon to see the Hide Others option.









### **C.11 Audio CD AutoPlay**

This option—once a part of the QuickTime Settings control panel—has moved. When you insert a music CD, the iTunes program opens automatically (assuming you haven't changed the settings in the CDs & DVDs panel of System Preferences).

In the iTunes Preferences window, go to the General panel and choose Begin Playing from the "On CD Insert" pop-up menu.



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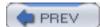




### C.12 Balloon Help

Balloon Help is officially retired, although *tooltips* (tiny rectangular pop-up labels) still appear in many programs when you point to some onscreen widget without clicking.







### **C.13 Battery Level**

The status of the battery in your PowerBook or iBook used to be displayed in the Control Strip. In Mac OS X, this indicator appears on the menu bar—immediately after you open System Preferences—Energy Saver and turn it on.





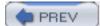




#### **C.14 Button View**

Reincarnated, sort of, as Simple Finder mode (Chapter 11).







#### C.15 Chooser

Replaced by the beefed-up Print dialog box, the Printer Setup Utility, and the Network icon in the Sidebar. See the menu entry above for more information.









# C.16 Clean Up command

Just where it always was, good as ever.



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#### C.17 Click-and-a-half

Mac OS X folders are spring-loaded: If you drag an icon onto one and don't let go of the mouse button, the window springs open around it so that you can continue your drag. But they still don't pop open automatically, as in Mac OS 9, when you hover over them after a "click-and-a-half"—when you double-click, then do another half-click, so that the mouse button stays down. (Sound complicated? Maybe that's why Apple killed it.)









#### C.18 CloseView

This control panel, which produced a magnified view of the Mac screen for visually impaired users, is back—now in an enormously enhanced, easy-to-use version. It's now found on the Universal Access pane of System Preferences, described in <u>Chapter 8</u>.









# C.19 **⊞**-Drag to scroll an icon-view window

Now you hold down Option and  $\ensuremath{\mathbf{\#}}$  to achieve this function.





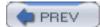




# C.20 Shift-第-3, Shift-第-4

These keystrokes still take pictures of your screen, with even more options available (Section 13.11).







### C.21 Collapse box

Windows don't collapse with a "window shade" action in Mac OS X, but you can *minimize* them, reducing them to icons that stay parked in the Dock until you need them. Click the yellow button on the left side of a window's title bar, or double-click the title bar, or press **#**-M, to minimize it.





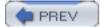




### C.22 ColorSync control panel

ColorSync color management settings are now set in the ColorSync Utility program, located in Applications Utilities.







#### C.23 Contextual Menu Items folder

Mac OS X makes extensive use of contextual pop-up menus, but adding new commands to them is usually a matter of running an installer, not dropping them into a certain folder yourself.

But to answer the question: The Mac OS X incarnation of the old Contextual Menu Items folder is the Library—Contextual Menu Items folder. (If this folder doesn't exist, you can create it.)







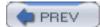


### **C.24 Control panels**

There are no control panels in Mac OS X. Instead, there's a program called System Preferences that handles the various hardware and software settings formerly configured with control panels. Choose System Preferences, or click the System Preferences icon on the Dock. (System Preferences is also in the Applications folder.)







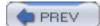


#### C.25 Control Strip control panel

The Control Strip is gone. However, several of its traditional features survive in the form of *menulets*—icon/pop-up menus in your menu bar that let you monitor and control dial-up settings, monitor resolution, color depth, sound volume, battery levels, date and time, and so on. You make these menulets appear using checkboxes in the corresponding panes of System Preferences (such as Sound, Energy Saver, and Date & Time), the Internet Connect application, and so on.









### C.26 Date & Time control panel

Replaced by the Date & Time panel in System Preferences.





# C.27 Desktop clippings

Text and picture clippings produced by dragging selected text and images to the desktop work just as they did in Mac OS 9.





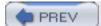


### **C.28 Desktop printers**

Desktop icons no longer represent each printer configured to work with your Mac. You can switch printers, see what printers you have available, or even set up a new printer using the top pop-up menu in the standard Print dialog box (choose File ——) Print in one of your programs).







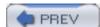


### C.29 Dial Assist control panel

Eliminated. Enter dialing information for dial-up modem connections in the PPP tab of the Internal Modem pane of the System Preferences Network panel.







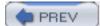


#### C.30 Disk First Aid

Disk First Aid is now a part of Disk Utility, located in the Applications Utilities folder. Open Disk Utility, click the disk you want to check, and click the First Aid tab.









#### C.31 Disk icons

Disk icons still appear on the desktop, but a checkbox in Finder Preferences now gives you the option of not having hard disks, network volumes, CDs, or other removable disks appear on the desktop.





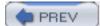




### C.32 Draggable window edges

You can drag a Mac OS X Finder window by any of its "brushed metal" areas—not just the edges.







### **C.33 Drive Setup**

Drive Setup is now a part of Disk Utility, in the Applications Utilities folder. Launch Disk Utility, click a disk name, and click the Erase or Partition panes.





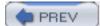




#### C.34 Edit menu

This Finder menu is alive and well, capable now of copying and pasting files from window to window.



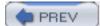




# C.35 Eject

Now located in the Finder's File menu, and even as a button in the Sidebar, instead of the now-defunct Special menu.





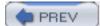


### **C.36 Empty Trash**

Moved to the Finder menu. You can also access the Empty Trash command by clicking and holding down the mouse button when pointing to the Trash icon in the Dock, by Control-clicking the Trash, or by pressing Shift-#-Delete.





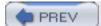




### C.37 Encrypt

You can no longer encrypt and lock individual files, at least not without add-on shareware. Of course, you can still password-protect folders (Section 9.25.12) or, indeed, your entire world of work and settings (Chapter 11).







## C.38 Energy Saver control panel

Now located in the Energy Saver panel of System Preferences.







#### C.39 Erase Disk

Erase Disk is no longer a Finder command. To erase a disk (or reformat it), use the Erase panel of the Disk Utility program, which is in the Applications Utilities folder.









#### **C.40 Extensions**

Traditional extensions, like the ones you had to turn on and off in Mac OS 9, don't exist in Mac OS X. For the most part, extension *conflicts*—the number one cause of crashes, freezes, and hangs on traditional Macs—are gone, too. This is a good thing.









# **C.41 Extensions Manager control panel**

No extensions means no Extensions Manager.





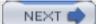


#### **C.42 Favorites**

Favorites have been demoted in Panther, thanks to the handiness of the Sidebar. See <u>Section 2.6</u> if you'd like to resurrect Favorites.





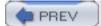


#### C.43 File Exchange control panel

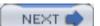
Eliminated. Mac OS X now understands and even *uses* the three-letter file extensions PCs use to recognize file types for better Mac/PC file compatibility. Still, if you want to remap a certain document so that it opens in a different program (a primary function of the old File Exchange program), proceed like this: Highlight its icon, choose File Get Info, open the Open With panel, choose a new program from the pop-up menu, and then click the Change All button.







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#### C.44 File menu

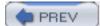
Most of the Finder's File menu has stayed the same, with the following exceptions:

- New commands have appeared, including New Finder Window (#:N) and Open With.
- The New Folder command has a new keyboard shortcut: Shift-
- The Encrypt command is gone.
- The Eject command has migrated over from the Special menu.
- Burn Disc was added, along with commands like Add to Sidebar, Secure Empty Trash, and Create Archive.



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# C.45 File Sharing control panel

Replaced by the Sharing panel of System Preferences.







## C.46 File Synchronization control panel

Eliminated. To keep a folder automatically backed up, use any of the dozens of Mac OS X backup programs listed at <u>www.</u> <u>versiontracker.com</u>, or use Apple's own Backup (included with a .Mac account).









#### C.47 Find Similar Files

This contextual menu item is no longer available.







## C.48 Finder (the application)

Mac OS X still has an actual Finder program, residing in System Library CoreServices. You can't do anything to the file, of course, other than take note of where it lives.









#### **C.49 Finder Preferences**

Moved from the Edit menu to Finder Preferences.



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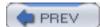




#### **C.50 Fonts folder**

Mac OS X doesn't have a Fonts folder—it has *five* of them. See <u>Chapter 13</u>.







## C.51 FontSync

The control panel, which was hidden away in the Apple Extras folder under Mac OS 9, is obsolete. The AppleScripts that allow you to create FontSync profiles are in your Library Scripts FontSync Scripts folder.









## **C.52 Force quitting**

You can still press Option-#-Esc to quit a locked-up program, but it's much easier and safer to do so in Mac OS X (Section 4.1.3).









## C.53 General Controls control panel

This control panel is gone, and so are the various options it offered. In Mac OS X, you can't change the insertion-point blinking rate, nor the number of times a menu command flashes when you select it. (Of course, you can still launch General Controls when you're using the Classic environment, as described in <a href="#">Chapter 5</a>.)







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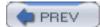


#### C.54 Get Info

It's still here, and better than ever (see <u>Chapter 2</u>). A few changes are worth noting: The Memory panel is gone for Mac OS X programs, because you no longer have to manually adjust the amount of memory needed for each program. Also, the Sharing panel is now called Ownership & Permissions, a new Name & Extension panel is available, and an "Open with application" panel (documents only) lets you decide which program opens when you double-click a certain document (or kind of document).







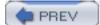


## **C.55 Graphing Calculator**

No longer included with Mac OS X. As noted in <u>Chapter 9</u>, however, a few basic graphic features are available in the regular Calculator program.









## **C.56 Grid Spacing**

Finder Preferences no longer offers the choice between Tight and Wide grid-spacing for icon views.







## C.57 Help menu

A trimmed-down Help menu retains its position in the Finder menu bar. It now contains a single item, Mac Help, which opens the Mac OS X Help system.







#### C.58 Hide commands

Commands for hiding the active program, or hiding everything else but the active program, have moved from the old Application menu (on the far right of the menu bar) to the new Application menu (the one on the left next to the menu) that bears the name of the frontmost program. Hiding the current program also now has an of- ficial keyboard shortcut (in most programs): #-H. And hiding all other programs has a keyboard shortcut, too, although it works in even fewer programs: Option-#-H.

Then there's Exposé, which can make the whole concept of hiding programs obsolete (Section 4.3).







## C.59 Info Strip

The Info Strip at the top of Finder windows now appears automatically at the *bottom* of every window, showing your available disk space and each folder's item count.







# C.60 Infrared control panel

Gone. Infrared networking doesn't work in Mac OS X.







#### C.61 Internet control panel

To change your preferred Web browser, you now open Safari (in your Applications folder) and choose Safari Preferences. To specify the email program you prefer, open Mail and choose Mail Preferences.

Mac OS X 10.3 no longer offers any way to choose a preferred FTP program or news reader. At least not without adding More Internet Options (a free System Preferences panel from <a href="https://www.monkeyfood.com">www.monkeyfood.com</a>).









#### **C.62 Internet Utilities**

No longer included. Some of the programs that used to be stored in this folder under Mac OS 9—such as StuffIt Expander—are now in the Applications Utilities folder.







## C.63 iTunes

An updated version of iTunes is in the Applications folder.





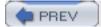


## C.64 Key Caps

Choose System Preferences; click International; click Input Menu. Turn on Keyboard Viewer (which is the new name for Key Caps). Now check your menu bar: There's the little flag icon, from which you can choose Keyboard Viewer whenever you need to look up a keystroke.









#### C.65 Keyboard control panel

The functions of this old control panel are split between two System Preferences panels. You can find the Key Repeat and Delay Until Repeat controls in the System Preferences Keyboard & Mouse panel. You switch keyboard layouts (for use with other languages) in the Input Menu pane of the System Preferences International panel.

The Function Keys feature of the Mac OS 9 Keyboard control panel isn't in Mac OS X; you can no longer open selected files or programs by pressing the F-keys at the top of your keyboard. (You can, however, now operate menus, open Dock icons, and navigate dialog boxes from the keyboard, as described in <u>Section 4.6</u>. And you can always use shareware like Keyboard Maestro to map your favorite keystrokes to your favorite programs.)









# C.66 Keychain Access control panel

Replaced by the Keychain Access program, located in Applications — Utilities.









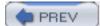
#### C.67 Label command

In Mac OS X 10.3, you can apply color or text labels to icons in Mac OS X just as you could in Mac OS 9. Use the File Color Label command to apply colors (or Controlclick an icon and choose from the contextual menu); specify the names you want for your labels in Finder Preferences Labels.



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# C.68 Launcher control panel

Replaced by the Dock.









## **C.69 Location Manager**

The control panel is gone. But in System Preferences Network, you can save various dialing and networking settings on a location-by-location basis using the Location pop-up menu. Thereafter, you can switch settings using the

Locations submenu. (Locations no longer store printer, volume, clock, and other settings.)







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#### C.70 Locked

You can still lock any file on your Mac by selecting its icon, choosing File Get Info and turning on the Locked checkbox in the Info window.









# C.71 Mac Help

Apple's help system is still accessible from the Help menu in the Finder's menu bar.





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#### C.72 Mac OS Runtime for Java

The old Apple Applet Runner has been replaced by Applet Launcher, which is in the Applications Utilities folder. See Chapter 9 for details.



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## C.73 Map control panel

Eliminated. You can set your Mac's location/time zone using the Time Zone pane of System Preferences Date & Time. But without the venerable Map control panel, there's no longer any way to calculate the distance between two cities.









## C.74 Memory control panel

Gone. Memory management in Mac OS X is a hands-off affair, as the system simply gives each running program as much memory as it needs without requiring you to adjust settings.







## C.75 Modem control panel

Replaced by the Modem pane in System Preferences Network pane.



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# **C.76 Monitors control panel**

Replaced by System Preferences Displays & Screen Saver.









# C.77 Mouse control panel

Replaced by System Preferences Keyboard & Mouse.









# C.78 Multiple Users control panel

Replaced, in a much more industrial-strength form, by System Preferences—Accounts (Chapter 11).









#### C.79 New Folder command

It's still in the File menu, but the keyboard shortcut has changed from ##-N (which now opens a new Finder window) to Shift-##-N.









### C.80 Note Pad

Gone. Use the new, improved Stickies to jot down quick notes.





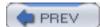


# C.81 Numbers control panel

Replaced by System Preferences International panel Formats tab.







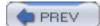


## **C.82 Open Transport**

Open Transport networking is built into Mac OS X, but there's no Open Transport extension, and nothing for you to turn on, toggle, or trigger. Configure your network settings using the System Preferences Network panel.









### C.83 Picture 1, Picture 2...

You can still capture pictures of your Mac screen by pressing Shift- -3 (for a fullscreen grab) or Shift- -4 (to grab a selected portion of the screen). However, the resulting image files, called Picture 1, Picture 2, and so on, now appear on the desktop instead of in the hard drive window—and in the more universal PDF format instead of PICT.









### C.84 Pop-up windows

To simulate a pop-up window in Mac OS X, drag a folder or disk icon onto the Dock. From now on, when you click-and-hold (or Control-click) its docked icon, a list of its contents sprouts upward, for your perusal pleasure.

Or just drag a window to any edge of the screen until only its title bar is visible. When you click the green Zoom button (or drag an icon onto the title bar), the window pops up just like a pop-up window of old.









## C.85 Preferences folder

Mac OS X stashes away its own preference files in numerous hidden locations, but the folder that contains your application preference settings is in the Users [your Home folder] Library Preferences folder. Preference files of this type (known in geek circles as *plist*, or property list, files) are even easier to identify in Mac OS X, because they clearly bear the application's name.





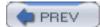




#### **C.86 PrintMonitor**

Obsolete. With Mac OS X, you monitor the queue of jobs waiting to be printed by clicking the Dock icon that resembles your printer. (This icon appears only while you're printing.)







## C.87 Put Away command

It's gone. To eject Zip disks, CDs, and other removable disks, use the Eject command (or the Eject key on your keyboard). To put away files you've dragged to the desktop, you must drag them back to their original locations manually (or use the Edit —) Undo command, if you remember to do so promptly).









# C.88 QuickTime Settings control panel

Replaced by the System Preferences — QuickTime panel.









#### C.89 Quit command

It's not in the File menu of your programs any more—it's in the Application menu (the one bearing the program's name).



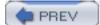




#### **C.90 Remote Access**

Replaced by Internet Connect, in the Applications folder.





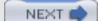


#### **C.91 Reset Column Positions**

Gone. If you scramble the order and size of columns in a list view, there's no one-shot way to undo the mess.







## C.92 Restart

Moved to the menu.







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# **C.93 Script Editor**

A beefed-up Mac OS X version of this AppleScript authoring program is now located in your Applications AppleScript folder.



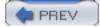






# **C.94 Scripting Additions**

Five scripting additions, which can add special functions to AppleScripts, are included with Mac OS X. They're now in System Library ScriptingAdditions.







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#### **C.95 Search Internet**

The Search Internet command in the Finder's File menu is gone. Instead, you can either type a search phrase into the Google Search box at the upper-right corner of a Safari Web-browser window, or use Sherlock by clicking its icon on the Dock (or in the Applications folder).





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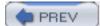


## **C.96 Security**

Under Mac OS 9, the Security folder was the home of two programs, Apple File Security and Apple Verifier, which were used to encrypt and lock files using the Finder's Encrypt command. Both security applications are gone, having been replaced by the vault-like Unix accounts system described in <a href="Chapter 11">Chapter 11</a>.









# **C.97 Select New Original**

Still lets you hook up aliases to new original files.







#### C.98 Set to Standard Views

This option, in Mac OS 9's View Options window, lets you apply a set of standard view settings simultaneously (as defined in Finder Preferences Views) to any folder window. In Mac OS X, you accomplish the same thing in the View Options window by switching the top option from "This window only" to "Global."







#### C.99 Sherlock

There's a new Mac OS X version in the Applications folder. You can launch it from there, or by clicking its Dock icon.

Don't use it forfindingfiles, however. These days, Sherlock searches only the Web. Use the File Find command, or the new Search bar at the top of each Finder window, forfindingfiles.





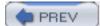
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#### C.100 Show All

Works just like in Mac OS 9—that is, it brings all hidden windows into sight—but has been moved from the old Application menu (on the far right of the menu bar) to the new Application menu, which bears the name of the program you're using.







# **C.101 Show Clipboard**

Unchanged from Mac OS 9.









# C.102 Show warning before emptying Trash

This option is now in Finder Preferences Advanced tab instead of the Trash's Get Info window.









## C.103 Shut Down

Moved to the menu.









#### C.104 Shutdown Items

There's no longer a Shutdown Items folder. In Mac OS X, there's no easy way to make certain icons open automatically when you shut down the machine.







# **C.105 Simple Finder**

Open System Preferences—Accounts pane, click the name of a Standard account, and then click Limitations. (See <a href="Chapter 11">Chapter 11</a> for details.)







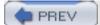


## C.106 SimpleSound

Apple no longer includes this sound-recording program with Mac OS X, although you can achieve the same purpose using iMovie (see <u>Section 14.2</u>).





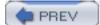




# C.107 SimpleText

Replaced by the vastly superior TextEdit program, in the Applications folder.





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### C.108 Size box

The button that lets you resize a window by dragging is still in the lower-right corner.





# C.109 Sleep

The Sleep command has moved to the menu.





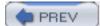


## **C.110 Smart scrolling**

Relocated from the Options pane of the Mac OS 9 Appearance control panel to System Preferences Appearance panel. The radio buttons in the middle of the panel control the placement of scroll arrows and the behavior of scroll bars.









# **C.111 Software Update control panel**

Replaced by System Preferences Software Update.









## **C.112 Sorting triangle**

This tiny triangle, which indicates whether columns in list views are sorted in ascending or descending order, no longer appears atop each window's vertical scroll bar. Instead, you reverse the sorting order for lists of information (such as Mail messages or Finder list view items) by clicking a column heading (such as Name or Date).







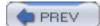


## C.113 Sound control panel

Replaced by System Preferences Sound. But the new Sound preferences don't allow you to record new Alert sounds. See Chapter 8 for more information.









## C.114 Special menu

Gone. This was the only Finder menu that was completely removed in Mac OS X. Most of the Special menu's commands now live in the File or menus.







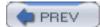


## C.115 Speech control panel

Replaced by System Preferences—Speech, which offers far more sturdy text-to-speech and speech-recognition powers.









## C.116 Spring-loaded folders

Mac OS X folders pop open automatically when you drag icons over them, just as in Mac OS 9.







## C.117 Startup Disk control panel

Go to the System Preferences Startup Disk panel to choose the disk and System folder—either Mac OS X or Mac OS 9—from which your Mac will start up next.







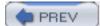


## C.118 Startup Items

The Startup Items folder is gone, but you can still set up programs (or disks, or documents, or any other icon) to open automatically at startup. Just drag those icons into the list in the System Preferences Accounts Startup Items tab.









# **C.119 Stationery Pad**

Works just as it did in Mac OS 9 and earlier. The Stationery Pad checkbox is in each file's Get Info window.







#### C.120 Stickies

A dramatically improved version of Stickies is in the Applications folder.





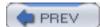


# C.121 Systemfile

You can't open it, modify it or move it, but Mac OS X does have a Systemfile, just like earlier Mac versions. You'llfind it in System Library CoreServices.









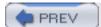
## C.122 System Folder

Mac OS X's System Folder is simply called System, and it sits in your main hard drive window. There's a big difference, however: In Mac OS X, you're forbidden to add, remove, or change anything inside.

(You probably still have a System Folder, too—the home of the Mac OS 9 system software needed by your Mac to run Classic applications.)









# C.123 TCP/IP control panel

Replaced by System Preferences Network panel.









# C.124 TCP/IP, AppleTalk

Configure your TCP/IP and AppleTalk settings in System Preferences Network.







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## C.125 Text control panel

Replaced by the System Preferences—International panel—Language pane. Choose the language you need from the Languages list box.







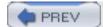


# C.126 Trackpad

Replaced by a tab in the System Preferences Keyboard & Mouse panel.









# C.127 USB Printer Sharing

You can share a USB inkjet printer with other Macs on the network, just as you could in Mac OS 9. On the Mac with the printer, open the Sharing panel of System Preferences. Turn on Printer Sharing.

On each of the other Macs, you can choose the shared printer from the pop-up menu at the top of the standard Print dialog



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#### C.128 View menu

The "as Columns" view replaces the "as Buttons" view, and there are new commands pertaining to the new Finder toolbar. Otherwise, the View menu hasn't changed much (<u>Chapter 1</u>).







## **C.129 View Options**

You still open View Options from the Finder's View menu. You'llfind only a few changes: In list views, Mac OS X offers a choice of two icon sizes instead of three. In icon views, Mac OS X gives you total control over the size of icons, which you can adjust using the Icon Size slider, plus the ability to add a color or photo to the background of the window.









# C.130 Warn before emptying

This option is now called "Show warning before emptying the Trash" and is located in Finder—Preferences—Advanced.









## C.131 Web Pages folder

There's no longer a Web Pages folder to store the Web pagefiles you publish using Personal Web Sharing. Instead, your public Web pages go in your Home Sites folder or the Library WebServer Documents folder, as described in Chapter 21.









# C.132 Web Sharing control panel

Replaced by a checkbox on the System Preferences—Sharing panel.









# C.133 Window collapsing

See "Collapse box."





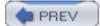




#### C.134 Zoom box

Windows in Mac OS X no longer have a zoom box. They have a green zoom *button*, which makes a desktop window just large enough to show you all of the icons inside it.







# Appendix D. The "Where'd It Go?" Dictionary (Windows Version)

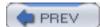
Maybe you were persuaded by the Apple "Switch" ad campaign. Maybe you just like the looks of today's Macs. Or maybe you've just had one IRQ conflict too many. In any case, if you're switching to Mac OS X from Windows, this appendix is for you. It's an alphabetical listing of every common Windows function and where to find it in Mac OS X. After all, an operating system is an operating system. The actual functions are pretty much the same—they're just in different places.



If this listing only whets your appetite for information about making the switch, read *Switching* to the Mac: The Missing Manual. In addition to an expanded version of this appendix, it also contains useful information on moving your files from the PC to the Mac, copying over your email, transferring your address book, and so on.









## **D.1 About [This Program]**

To find out the version number of the program you're using, don't look in the Help menu. Instead, look in the *application* menu next to the menu—the one that bears the name of the program you're in. That's where you find the About command for Macintosh programs.





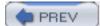




## **D.2 Accessibility Options control panel**

The special features that let you operate the computer even with impaired vision, hearing, or motor control are called Universal Access in Mac OS X. They're in System Preferences (see <u>Chapter 8</u>).



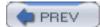




## **D.3 Active Desktop**

The Mac never displays Web pages directly on the desktop—and knowing Apple, that's probably a point of pride.







## D.4 Add Hardware control panel

The Mac requires no program for installing the driver for a new external gadget. The drivers for most printers, mice, keyboards, cameras, camcorders, and other accessories are preinstalled. If you plug something into the Mac and find that it doesn't work immediately, just install the driver from the included CD (or the manufacturer's Web site).







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## D.5 Add or Remove Programs control panel

Here's another one you just don't need on the Macintosh. Installing a program onto the Mac is described in <u>Section 4.10</u>. Removing a program simply involves dragging its icon to the Trash. (For a clean sweep, inspect your Home Preferences folder to see if any preference files got left behind.)









## **D.6 All Programs**

There's no Programs menu built into Mac OS X, like the one on the Windows Start menu. If you'd like one, drag your Applications folder onto the end of the Dock. Now its icon is a tidy pop-up menu of every program on your machine.





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## D.7 Alt key

On the Mac, it's the Option key. You can substitute Option for Alt in any keystroke in most popular programs. The Option key has a number of secondary features on the Mac, too: It hides the windows of one program when you click into another, and so on.







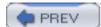


# **D.8 Automatic Update**

The System Preferences—Software Update panel does exactly the same thing.





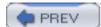




## D.9 Backspace key

It's in the same place on the Macintosh keyboard, but it's called the Delete key.







## **D.10 Battery Level**

The status of the battery in your PowerBook or iBook laptop now appears in the menu bar, rather than in the system tray. (If you don't see it, open System Preferences Energy Saver and turn it on.)







#### **D.11 BIOS**

You'll never have to update or even think about the ROM of your Macintosh (the approximate equivalent of the BIOS on the PC). It's permanent and unchanging. The very similar *firmware* of your Macintosh does occasionally have to be updated in order to work with a new version of the Mac operating system or some dramatic new feature—once every four years, perhaps. You'll be notified on the screen when the time comes.





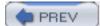


#### **D.12 Briefcase**

Mac OS X doesn't have anything like the Briefcase, a Windows invention designed to help you keep your files in sync between a laptop and a desktop computer. On the other hand, if you sign up for a .Mac account (<u>Chapter 18</u>), you get a program called Backup that is similarly designed to keep folders synchronized between two machines. And you can use iSync (<u>Chapter 20</u>) to keep your calendar, addresses, and other items synched between multiple computers.









### **D.13 Calculator**

The calculator program in Mac OS X is almost identical to the one in Windows XP, except that it can also perform conversions (temperature, distance, currency, and so on) and features an editable "paper tape." It sits in your Applications folder and is described in <a href="Chapter 9">Chapter 9</a>.









### **D.14 Camera and Scanner Wizard**

When you connect a digital camera or scanner to your Mac, either iPhoto or Image Capture opens automatically and prepares to download the pictures automatically. Details on Image Capture in <a href="Chapter 9">Chapter 9</a>, and on iPhoto in <a href="Chapter 10">Chapter 10</a>.

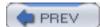




#### **D.15 CDs**

If your Mac keyboard has an Eject or F12 key in the upper-right corner, hold it down for a moment to open the CD/DVD drawer, or, if you have a slot-loading drive, to spit out the disc that's in it. If it's an older Mac keyboard without an Eject key, you can eject a CD (or any other disk) by Control-clicking its desktop icon and choosing Eject from the contextual menu. There are various other ways to eject a disk, but the point is that you never do so by pushing the Eject button on the disk drive itself.







## **D.16 Character Map**

This Windows program helps you find out what keys you need to press to trigger trademark symbols, copyright symbols, and other special characters. The equivalent on the Mac is called the Keyboard Viewer (Section 8.14.3)—but the new Character Palette (Section 8.14.2) is even easier to use.









### **D.17 Clean Install**

The Mac OS X 10.3 installer can give you a fresh, virginal copy of the operating system, just as the Windows installer can. Instructions are in Appendix A.









# **D.18 Clipboard**

The Mac's clipboard works much like the one in Windows. In the Finder, you can choose Edit Show Clipboard to see whatever you most recently copied or cut.









### **D.19 Command line**

In Mac OS X, the command line is alive and well—but it speaks Unix, not DOS. You get to it by opening Terminal, which is described in <a href="Chapters 15">Chapters 15</a> and <a href="16">16</a>.







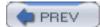


#### **D.20 Control Panel**

The Control Panel in Mac OS X is called System Preferences, and it's represented on the Dock by a little light-switch icon. As in Windows XP, you can view these icons either by category or in a simple alphabetical list: just choose either Organize by Categories or Organize Alphabetically from the View menu.









### D.21 Copy, Cut, Paste

When you're editing in a word processor or graphics program, the Mac OS X Cut, Copy, and Paste commands work exactly as they do in Windows.

At the desktop, however, there are a few differences. You can indeed copy icons and paste them into a new window using the Copy and Paste commands—you just can't *cut* them out of a window, as you can in Windows. On the other hand, Mac OS X offers a handy secondary feature: if you paste into a word or text processor instead of into another desktop window, you get a tidy list of the names of the icons you copied.









## D.22 Ctrl key

On the Macintosh, you generally substitute the f key in keystrokes that would normally involve the Control key. In other words, the Save command is now f-S instead of Ctrl-S, Open is f-O instead of Ctrl-O, and so on.









## **D.23 Date and Time**

You set your Mac's calendar and clock in the Date & Time panel of System Preferences.



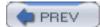




## D.24 Delete Key (Forward Delete

Desktop Mac keyboards have a forward-delete key (labeled *Del*) exactly like the ones on PCs. On Mac laptops, you trigger the forward-delete function by pressing the Delete key while pressing the Fn key in the lower-left corner of the keyboard.







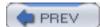
### **D.25 Desktop**

The Macintosh desktop is pretty much the same idea as the Windows desktop, with a few key differences:

- Disk icons show up on the Mac desktop as soon as they are inserted or connected. You don't have to open a window to see their icons.
- You change the desktop picture using the Desktop & Screen Saver panel of System Preferences.
- The Trash is an icon on the Dock, not loose on the desktop.









### **D.26 Directories**

Most people call them *folders* on the Mac.







## **D.27 Disk Defragmenter**

There's no such utility included with Mac OS X, although Norton Utilities for the Mac will do the job if you feel that it's essential to have your hard drive neatly defragmented. (A *defragmenting* program moves around the pieces of files on your hard drive in an effort to optimize their placement and speed of opening.)



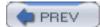




#### D.28 Disks

Working with disks is very different on the Mac. Every disk inside, or attached to, a Macintosh is represented on the screen by an icon. Mac OS X does have something like the My Computer window (choose Go Computer), but both the icons on the desktop and the icons in the Computer window reflect only the disks currently inserted in your Mac. You'll never see an icon for an empty drive, as you do on Windows, and there's no such thing as drive letters (because the Mac refers to disks, not to drives—and refers to them by name).







### D.29 Display control panel

The functions of the Windows Display Control Panel lurk in the Mac OS X System Preferences program—just not all in one place. You set up your desktop picture and screen saver using the Desktop & Screen Saver panel, and adjust your monitor settings using the Displays panel. (Mac OS X offers no equivalent to the Appearance tab in Windows, for changing the system-wide look of your computer.)



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### D.30 DLL files

The Macintosh equivalent of DLL files—shared libraries of programming code—are invisible and off-limits. As a result, no Macintosh user ever experiences DLL conflicts or out-of-date DLL files.





## **D.31 DOS prompt**

There's a command line in Mac OS X, but it's Unix, not DOS. For details, see Chapters 15 and 16.





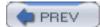


## **D.32 Drivers**

See "Add or Remove Programs."







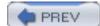


## D.33 End Task dialog box

If some Macintosh program is hung or frozen, you escape it pretty much the same way you would in Windows: by forcing it to quit. To bring up the Force Quit dialog box, you press Option-#-Esc as described in Section 4.1.3.









## **D.34 Exiting programs**

You can quit a program either by choosing Quit from the menu bearing its name (next to the menu), or by right-clicking its Dock icon (or Control-clicking) and then choosing Quit from the pop-up menu.









## **D.35 Explorer**

The Mac has its own "tree" view of the files and folders on your hard drive: list view. By expanding the "flippy triangles" of your folders, you build a hierarchy that shows you as much or as little detail as you like.

If you prefer the Explorer effect of clicking a folder in *one* pane to see its contents in the next, try Column view instead. Both views are described in <u>Chapter 1</u>.



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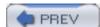


### **D.36 Favorites**

In Mac OS X, there isn't one single Favorites menu that lists both favorite Web sites and favorite icons. The Favorites menu of Internet Explorer, the Web browser, lists only Web sites, and the Favorites folder at the desktop (Section 2.6) lists only favorite files, folders, disks, and other icons.









## D.37 Faxing

Faxing is built into Panther; it's described in Chapter 13. (Hint: Choose File Print; click Fax at the bottom of the Print dialog box.)









## D.38 File Sharing

See Chapter 12 for an in-depth look at the Macintosh networking and file-sharing system.







## **D.39 Floppy Disks**

Floppy drives on Macs disappeared in about 1998. According to Apple, it's much more efficient to transfer files between machines using an Ethernet cable (<u>Chapter 12</u>), a CD that you burned (<u>Chapter 10</u>), or email (<u>Chapter 19</u>).

Of course, you can buy an external USB floppy drive for any Mac for about \$45.









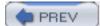
### **D.40 Folder Options**

The Folder Options control panel in Windows is a collection of unrelated settings that boil down to this:

- **General tab.** Exactly as in Windows, it's up to you whether or not double-clicking a folder opens up a second window—or just changes what's in the first one. On the Mac, you make these changes using the Finder—Preferences command. There you'll find the option called "Always open folders in a new window."
- View tab. Most of the options here don't exist on the Mac. For example, system files are *always* hidden on the Mac; you can't opt to make them visible (at least not without add-on shareware). You can, however, choose whether you want to see the file name extensions in your desktop windows (like .doc and .html). Choose Finder Preferences Advanced, and turn "Show all file extensions" on or off.
- **File Types tab.** Just as in Windows, you can reassign certain document types so that double-clicking opens them up in the program of your choice. But on the Mac, you can reassign either a whole class of files at once, as in Windows, *or* one file at a time. To do it, you use the Get Info window as described in Section 4.5.2.
- Offline Files. There's no equivalent feature on the Mac.







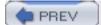


### **D.41 Fonts**

The Mac and Windows both use TrueType, PostScript, and Open Type fonts. (In fact, your Mac can even use the exact font files you had in Windows.) On the Mac, however, there are actually five different folders that can contain them. A complete discussion is in <u>Section 13.7</u>.









## **D.42 Help and Support**

At the desktop, choose Help Mac Help. In other programs, the Help command is generally at the right end of your menus, exactly as on Windows.









### **D.43 Hibernation**

The Mac can't hibernate at all, as modern PCs do, cutting all power but remembering what programs and documents you had open for a faster restart later. Sleep mode is the closest it gets (see "Standby Mode").







## **D.44 Internet Explorer**

Microsoft's Web browser is in your Applications folder. (Apple would prefer, of course, that you try Safari, its own Web browser.)







# **D.45 Internet Options**

On the Mac, you find the options for your Web browser by choosing Internet Explorer Preferences or Safari Preferences.







### D.46 IRQs

They don't exist on the Mac.





#### D.47 Java

This interpreter of tiny Web-page programs is alive and well in Mac OS X. See Section 9.25.14 for details.







### D.48 Keyboard control panel

You can make exactly the same kinds of settings—and more—on the Keyboard panel of System preferences.







### D.49 Logging in

The multiple-accounts feature of Mac OS X is extremely similar to that of Windows 2000 and Windows XP. In either case, you can, if you wish, create a requirement to log in with a name and password before using the computer. This arrangement keeps separate the documents, email, and settings of each person who uses the computer. (Chapter 11 tells all.)







# D.50 Mail control panel

Mac OS X comes with its own email program (see Chapter 19); all of its settings are contained within the program.





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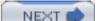
#### **D.51 Maximize button**

On the Mac, clicking the zoom button (the green button at the upper-left corner of a window) does something like the maximize button in Windows: it makes your window larger. On the Mac, however, clicking the zoom button never makes the window expand to fill the entire screen. Instead, the window grows—or *shrinks*—precisely enough to enclose its contents.









#### **D.52 Menus**

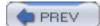
On the Macintosh, there's only one menu bar, always at the very top of the screen. The menus change depending on the program and the window you're using, but the point is that the menu bar is no longer inside each window you open.



Just because you don't see the little underlines in the menus doesn't mean you can't operate all of the menus from the keyboard, as in Windows. See Section 4.6 for details.







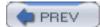


#### **D.53 Minimize button**

You can minimize a Mac OS X window to the Dock, just the way you would minimize a Windows window to the taskbar. You do so by double-clicking its title bar, pressing ##-M, choosing Window Minimize Window, or clicking the yellow Minimize button at the top left of a window. (Restore the window by clicking its icon on the Dock.)









### **D.54 Mouse control panel**

The equivalent settings await you in the Keyboard & Mouse panel of System Preferences.







## **D.55 My Computer**

The Mac's Computer window is very similar (choose Go Computer), in that it shows the icons of all disks (hard drive, CD, and so on). On the other hand, it shows *only* the disks that are actually inserted or connected (see "Disks").









### D.56 My Documents, My Pictures, My Music

The equivalent buckets for your everyday documents, music files, and pictures are the Documents, Pictures, and Music folders in your Home folder. (See <u>Section 2.1</u> for more on the Home folder.)





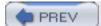




### **D.57 My Network Places**

To see your "network neighborhood," click the Network icon in the Sidebar (the panel at the left side of every Finder window). Click Local. All of the Macs and PCs on your network show up in the resulting list (see <u>Chapter 11</u>).





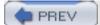


## **D.58 Network Neighborhood**

See the previous entry.







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### **D.59 Notepad**

There's no Mac OS X Notepad program. But give Stickies a try (Section 9.22).





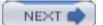


#### **D.60 Personal Web Server**

To find out how to turn your Mac into a state-of-the-art Web site, see <a href="Chapter 21">Chapter 21</a>.







### **D.61 Phone and Modem Options control panel**

To find the modem settings for your Mac, open System Preferences. Click Network, choose Internal Modem from the Show pop-up menu, and click the Modem tab.







### **D.62 Power Options**

To control when your Mac goes to sleep and (if it's a laptop) how much power it uses, use the Energy Saver panel of System Preferences (Chapter 8).







## **D.63 Printer Sharing**

To share a USB inkjet printer with other Macs on the network, open the Sharing panel of System Preferences on the Mac with the printer. Turn on Printer Sharing.

To use the shared printer from across the network, open the document you want to print, choose File Print, and choose the name of the shared printer from the first pop-up menu.



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### **D.64 Printers and Faxes**

For a list of your printers, open the Printer Setup Utility program in your Applications Utilities folder. For details on faxing, see "Faxing."







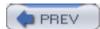


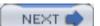
### D.65 PrntScrn key

You capture pictures of your Mac screen by pressing Shift-#-3 (for a full-screen grab) or Shift-#-4 (to grab a selected portion of the screen). Details in Section 13.11.









### **D.66 Program Files folder**

The Applications folder (Go Applications) is like the Program Files folder in Windows—except that you're not discouraged from opening it and double-clicking things. On the Macintosh, every program bears its true name. Microsoft Word is called Microsoft Word, not WINWORD.EXE.







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### D.67 Properties dialog box

You can call up something very similar for any *icon* (file, folder, program, disk, printer) by highlighting its icon and then choosing File Get Info. But objects in Macintosh *programs* generally don't contain Properties dialog boxes.









#### D.68 Recycle Bin

Mac OS X has a Trash icon at the end of the Dock. In general, it works exactly like the Windows Recycle Bin—and why not, since the Macintosh Trash was Microsoft's inspiration?—but there are a couple of differences. The Macintosh never autoempties it, for example. That job is up to you (the simplest way is to Control-click it, or right-click it, and choose Empty Trash from the contextual menu).

The Mac never bothers you with an "Are you sure?" message when you throw something into the Trash, either. The Mac interrupts you for permission only when you choose File Empty Trash—and you can even turn that confirmation off, if you like (in Finder Preferences).

To put icons into the Trash, drag them there, or highlight them and then press **#**-Delete.









## D.69 Regional and Language Options control panel

The close equivalent is the International panel of System Preferences.





## **D.70 Registry**

There is no registry. Let the celebration begin!







#### **D.71 Run command**

The Mac's command line is Terminal (Chapter 15).



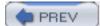




#### D.72 Safe Mode

You can press the Shift key during startup to suppress the loading of certain software libraries, but Mac OS X's "safe mode" isn't quite as massively stripped-down as Windows's Safe Mode.





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#### D.73 ScanDisk

Just like Windows, the Mac automatically scans and, if necessary, repairs its hard drive every time your machine starts up. To run such a check on command, open Disk Utility (located in the Applications Utilities folder), click the name of your hard drive, and then click the First Aid tab.







#### **D.74 Scheduled Tasks**

To schedule a task to take place unattended, use the *cron* Unix command in Terminal (<u>Section 16.4.1.5</u>), or one of the scheduling programs listed at <u>www.versiontracker.com</u>.





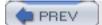


### D.75 Scrap files

On the Mac, they're called *clipping files*, and they're even more widely compatible. You create them the same way: Drag some highlighted text, or a graphic, out of a program's window and onto the desktop. There it becomes an independent clipping file that you can drag back in—to the same window, or a different one.









## D.76 Screen saver

The Mac's screen savers are impressive. Open System Preferences and click the Desktop & Screen Saver icon.





#### D.77 Search

In Mac OS X, you have two convenient ways to look for files. You can type into the Search bar at the top of every desktop window (Section 2.9), or you can choose File Find for a more complete search by almost any criterion, including words inside the files. Chapter 2 contains details.

To find Web sites, you use Sherlock (Chapter 20) or the Google Search box in the Safari browser.







#### **D.78 Shortcut menus**

They're called *contextual* menus in Mac parlance. You produce them by Control-clicking things like icons, list items, and so on. (If you have a two-button mouse, feel free to right-click instead of using the Control key.)







#### **D.79 Shortcuts**

On the Mac, they're known as aliases. See Section 2.5.





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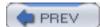


#### **D.80 Sounds and Audio Devices**

Open System Preferences; click the Sound icon. You may also want to explore the Audio MIDI Setup program in Applications Utilities.









### D.81 Speech control panel

The Mac's center for speech recognition and text-to-speech is the Speech panel of System Preferences. As <u>Chapter 14</u> makes clear, the Mac can read aloud any text in any program, and it lets you operate all menus, buttons, and dialog boxes by voice alone.









### D.82 Standby mode

On the Mac, it's called Sleep, but it's the same idea. You make a Mac laptop sleep by closing the lid. You make a Mac desktop sleep by choosing Sleep, or just walking away; the Mac will go to sleep on its own, according to the settings in the Energy Saver panel of System Preferences.









#### D.83 Start menu

There's no Start menu in Mac OS X. Instead, you stash the icons of the programs, documents, and folders you use frequently onto the Dock at the edge of the screen, or into the Sidebar at the left edge of every Finder window.

Exactly as with the Start menu, you can rearrange these icons (drag them horizontally) or remove the ones you don't use often (drag them away from the Dock and then release). To add new icons of your own, just drag them into place (applications go to the left of the Dock's divider line, documents and folders to the right).



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## D.84 StartUp folder

To make programs launch automatically at startup, include them in the list of Startup Items in the System Preferences—Accounts pane.









### D.85 System control panel

The Mac has no central equivalent of the System window on a Windows PC. But its functions have analogs here:

- General tab. To find out your Mac OS X version number and the amount of memory on your Mac, choose
   About This Mac.
- Computer Name tab. Open System Preferences, click Sharing, and edit your computer's network names here.
- Hardware tab. The closest thing the Mac has to the Device Manager is System Profiler (Section 9.25.20).
- Advanced tab. In Mac OS X, you can't easily adjust your virtual memory, processor scheduling, or user profile information.
- System Restore tab. This feature isn't available in Mac OS X.
- Automatic Updates tab. Open System Preferences and click Software Updates.
- Remote tab. These features are unavailable in Mac OS X.









### **D.86 System Tray**

The perfect Mac OS X equivalent of the system tray (also called the notification area) is the row of *menulets* at the upper-right corner of your screen; see <u>Section 3.6</u>.







#### D.87 Taskbar

Mac OS X doesn't have a taskbar, but it does have something very close: the Dock (<u>Chapter 3</u>). Open programs are indicated by a small black triangle beneath their icons on the Dock. If you hold down your cursor on one of these icons (or Control-click it, or right-click it), you'll get a pop-up list of the open windows in that program, exactly as in Windows XP.

Control-clicking a folder or disk icon on the Dock is even more useful. It produces a pop-up menu of everything inside that disk or folder—a terrific form of X-ray vision that has no equivalent in Windows.

On the other hand, some conventions never die. Much as in Windows, you cycle through the various open programs by holding down the # key and pressing Tab repeatedly.









### D.88 Taskbar and Start Menu control panel

To configure your Dock (the equivalent of the Taskbar and Start menu), choose Dock Preferences, or click the Dock icon in System Preferences.









## D.89 "Three-fingered salute"

Instead of pressing Ctrl-Alt-Delete to jettison a stuck program on the Mac, you press Option-#-Esc. A Force Quit dialog box appears. Click the program you want to toss, click Force Quit, confirm your choice, and then relaunch the program to get on with your day.









## **D.90 ToolTips**

Small, yellow identifying balloons pop up on the Mac almost as often as they do in Windows. Just point to a toolbar icon or truncated file name without clicking. (There's no way to turn these labels off.)







### D.91 TweakUI

The closest equivalent for this free, downloadable, but unsupported Microsoft utility for tweaking the look of your PC is TinkerTool for Mac OS X. It's described in <a href="Chapter 17">Chapter 17</a>.







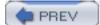
### **D.92 User Accounts control panel**

Like Windows 2000 and Windows XP, Mac OS X was designed from Square One to be a multiuser operating system, keeping the files, mail, and settings of each person separate. You set up and manage these accounts in System Preferences—Accounts (Chapter 11).



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### **D.93 Window edges**

You can enlarge or shrink a Mac OS X window only by dragging its lower-right corner—not its edges.





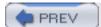


### D.94 Windows (or WINNT) folder

Mac OS X's operating system resides in a folder simply called System, which sits in your main hard drive window. Exactly as in recent Windows versions, you're forbidden to add, remove, or change anything inside. Also as in Windows, most of it is invisible anyway.









## D.95 Windows logo key

The Mac has no equivalent for the Windows logo key on most PC keyboards.







# **D.96 Windows Media Player**

The Mac comes with individual programs for playing multimedia files:

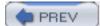
- QuickTime Player (<u>Chapter 14</u>) to play back movies and sounds.
- iTunes (Chapter 10) to play CDs, Internet radio, MP3 files, and other audio files. (As a bonus, unlike Windows XP, iTunes can even *create* MP3 files.)
- **DVD Player** (<u>Chapter 10</u>) for playing DVDs. If your Mac does, in fact, have a DVD player built in, this program is in the Applications folder.

Windows Media Player is, however, available in a Macintosh version, paradoxical though that may sound. You can download it from <a href="https://www.microsoft.com/mac">www.microsoft.com/mac</a>.



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### **D.97 Windows Messenger**

Mac OS X's voice- and videoconferencing software is called iChat AV, and it's described in Chapter 20.







### D.98 WordPad

The TextEdit program (in the Applications folder) is a word processor along the lines of WordPad. It can even open and save Word files, as WordPad can.







## D.99 Zip files

Zip files exist on the Mac, too, and you create them almost the same way: Control-click (or right-click) a file or folder and choose Create Archive from the contextual menu. See <u>Section 4.10</u> for a discussion of software compression standards on the Mac.









# Appendix E. Where to Go From Here

If read in a comfortable chair with good lighting, this book can be the foundation of a sturdy Mac OS X education. But particularly when it comes to mastering the Unix side of this operating system, years of study may await you still.









#### **E.1 Web Sites**

The Web is the salvation of the Mac OS X fan, especially considering the information vacuum that dominated Mac OS X's early days. The Internet was the only place where people could find out what the heck was going on with their beloved Macs. Here are the most notable Web sites for learning the finer points of Mac OS X.

#### E.1.1 Mac OS X

- <u>www.macosxhints.com</u>. A gold mine of tips, tricks, and hints. (So are the books spun off from it: *Mac OS X Hints—Jaguar Edition and Mac OS X Hints—Panther Edition*, due in early 2004.)
- <u>www.macintouch.com</u> An excellent daily dose of reporting about Mac questions, problems, and news.
- www.osxfaq.com. Unix tips and techniques, frequently asked questions, and links to useful sites.
- <u>www.resexcellence.com</u>. A rich resource of information on the underpinnings of Mac OS X, with a focus on changing them.
- <u>www.versiontracker.com</u> and <u>www.macupdate.com</u>. Massive databases that track, and provide links to, all the latest software for Mac OS X.
- www.apple.com/developer. Even if you aren't a developer, joining the Developer Connection (Apple's programmers' club) gets you an email newsletter and access to the discussion boards, which are a great place for hearing Mac news first—all for free. (Pay \$500 a year to become a Select member, and you get CDs mailed to you containing upcoming versions of Mac OS X.)
- <u>www.macobserver.com</u>. A good source for news and commentary about the Mac and related products.
- <u>www.macworld.com</u>. The discussion boards are an ideal place to find solutions for problems. When a bug pops up, the posts here are a great place to start.
- <u>www.macaddict.com</u>. Another great location for discussion boards.
- www.macfixit.com. The ultimate Mac troubleshooting Web site, complete with a hotbed of Mac OS X discussion.
- www.macdevcenter.comO'Reilly's own Mac site. Full of tutorials, news, and interesting weblogs (techie diaries).
- <u>www.geekculture.com</u>. A hilarious satire site, dedicated to lampooning our tech addiction—especially Apple tech.
   Perhaps best known for the David Pogue's Head icon for Mac OS X (geekculture.com/download/davidpogue.html).

Or perhaps not.

### E.1.2 Mac OS X-Style Unix Lessons and Reference

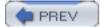
- <u>www.westwind.com/reference/OS-X/commandline</u> and all the other commands you can use in Terminal or the console.
- www.ee.surrey.ac.uk/Teaching/Unix. A convenient, free Web-based course in Unix for beginners.

#### **TIP**

Typing *unix for beginners* into a search page like Google.com nets dozens of superb help, tutorial, and reference Web sites. If possible, stick to those that feature the *bash* shell; that way, everything you learn online should be perfectly applicable to navigating Mac OS X via Terminal.









#### **E.2 Free Email Newsletters**

- The OS X list. Once you've signed up (at <a href="www.themacintoshguy.com/lists/X.html">www.themacintoshguy.com/lists/X.html</a>), your email In box will overflow with Mac OS X discussion, chatter, and discoveries. A great place to ask questions, both simple and difficult.
- TidBITS.com. A free, weekly Mac newsletter with lots of useful tricks, reviews, and news.
- **Apple's own newsletters.** At <u>www.apple.com/enews/subscribe</u>, you can sign up for free weekly newsletters on a variety of topics: music, QuickTime, programming, and so on.









### E.3 Advanced Books, Programming Books

By a happy coincidence, this book is printed and distributed by O'Reilly & Associates, the industry's leading source of books for programmers. And a big chunk of O'Reilly's catalog is dedicated to teaching Unix, especially intermediate and advanced Unix. If this book—particularly Chapters 7, 15, and Chapter 1616—has given you the programming bug or the Unix bug, here are some titles that apply:

#### E.3.1 Writing Software for Mac OS X

- Learning Cocoa with Objective-C, 2nd Edition, by James Duncan Davidson and Apple Computer, Inc. Covers the Cocoa frameworks, including examples that use the Address Book and Universal Access APIs (based on Mac OS X 10.2).
- Building Cocoa Applications: A Step-by-Step Guide by Simson Garfinkel and Michael Mahoney. For serious developers who want to write programs for the Mac OS X using Cocoa.
- Cocoa in a Nutshell by Michael Beam and James Duncan Davidson. A reference to the classes, functions, types, constants, protocols, and methods that make up Cocoa's Foundation and Application Kit frameworks, based on Jaguar (Mac OS X 10.2).
- Mac OS X Panther for Unix Geeks by Brian Jepson and Ernest Rothman. They're not kidding: This book is for people who already live and breathe Unix.

#### E.3.2 Unix Essentials

- Learning Unix for Mac OS X Panther. A tour of the Mac's Unix base, for the uninitiated. Includes descriptions of the hundreds of Unix programs that come with the Mac.
- Learning the Unix Operating System, 5th Edition, by Jerry Peek. A primer for Mac users who want to know a little more about Unix.
- Learning GNU Emacs, 2nd Edition, by Debra Cameron, Bill Rosenblatt, and Eric Raymond. A guide to the GNU emacs editor, one of the most widely used and powerful Unix text editors.
- Learning the vi Editor, 6th Edition, by Linda Lamb and Arnold Robbins. A complete guide to editing with vi, the text editor available on nearly every Unix system.
- *Unix Power Tools*, 2nd Edition, by Jerry Peek, Tim O'Reilly, and Mike Loukides. Practical advice about most every aspect of advanced Unix: POSIX utilities, GNU versions, detailed *bash* and *tcsh* shell coverage, and a strong emphasis on Perl.

#### E.3.3 OS X Administration

- Running Mac OS X Panther by James Duncan Davidson. This book reveals the inner workings of Panther.
- Mac OS X Hacks by Rael Dornfest and Kevin Hemenway. 100 no-nonsense, sometimes quick-and-dirty solutions
  to administering and taking full advantage of Web, Mail, and FTP serving, security services, SSH, Perl and shell
  scripting, compiling, configuring, scheduling, networking, and hacking.
- Mac OS X Unwired by Tom Negrino and Dori Smith. Covers the full spectrum of wireless capabilities of Mac OS X.
- Apache: The Definitive Guide, 2nd Edition, by Ben Laurie and Peter Laurie. Describes how to set up, and secure the Apache Web server software.
- Apache Cookbook by Ken Coar and Rich Bowen. A collection of configuration examples for all Apache users, from novices to advanced practitioners.
- Essential System Administration, 2nd Edition, by Aileen Frisch. A compact, manageable introduction to the tasks faced by everyone responsible for a Unix system.









# Appendix F. The Master Mac OS X Secret Keystroke List

Here it is, by popular, frustrated demand: The master list of every secret (or not-so-secret) keystroke in Mac OS X, including all of the keys you can press during startup. Clip and post to your monitor (unless, of course, you got this book from the library).









### F.1 Startup Keystrokes

Keys to Hold Down	Effect
С	Starts up from a CD
D	Starts up from the first partition
N	Starts up from network server
R	Resets the PowerBook screen
Т	Puts the Mac into FireWire Target Disk mode
Χ	Starts up in Mac OS X (if 9 is on the same disk)
Option	Shows icons of all startup disks, so you can choose one for starting up.
Shift-Option- <b>ૠ</b> -Delete	Starts up from external drive (or CD)
Option- <b>Ж</b> -P-R	Zaps the parameter RAM (PRAM). (Hold down until second chime.)
Option- <b>Ж</b> -O-F	Brings up Open Firmware screen.
<b>Ж</b> -∨	Shows Unix console messages during startup, logout, and shutdown
<b>ℋ</b> -s	Starts up in single user (Unix command-line) mode
Mouse down	Ejects a stuck CD or DVD
Shift	Just after powering up: Turns off kernel extensions (Section B.8.2)
Shift	Later, after logging in: Prevents Finder windows and startup items from opening. (They'll return the next time you start up.)









#### F.2 In the Finder

Option-#-W Closes all Finder windows

Right arrow, left arrow Expands or collapses a selected folder in list view

Option-right arrow Expands a folder in a list view and all folders inside it

Option-left arrow Collapses folder and all folders inside it

#-down arrow Opens the selected icon

Option-click the flippy triangle Expands or collapses all folders within that window

Tab Selects next icon alphabetically

Shift-Tab Selects previous icon alphabetically

業-Delete Moves highlighted icons to the Trash

Space bar Opens the disk or folder under mouse immediately (during a spring-

loaded folder drag)

Shift-**ૠ**-Q Logs out

Shift-Option-**#**-Q Logs out without confirmation box

Shift-#-Delete Empties the Trash

Shift-Option-**ૠ**-Delete Empties the Trash without confirmation box

Option-"Empty Trash" Empties the Trash without confirmation box

Option-#-drag Scrolls a Finder window in any direction (icon view)

Option-click the Zoom button Enlarges the window to full screen

Option-click Close button Closes all Finder windows

#-drag an icon Moves it into, or out of, the System folder (administrator password

required)



Up >





## F.3 Power Keys

(If the keyboard lacks an Eject key, substitute F12)

Control-Eject Brings up dialog box for shutdown, sleep, or restart

Option-#-Eject Puts the Mac to sleep

Control-Option
#-Eject Shuts down

Control-**ૠ**-power Forces a restart









### **F.4 Managing Programs**

F9 Shrinks and tiles all windows in all programs (Exposé)

Shift-F9 Shrinks and tiles all windows in slow motion

F10 Shrinks and tiles all windows in frontmost program

F11 Flings all windows in all programs to edges of screen,

revealing desktop

#-Tab Press and release: Switches back and forth between current

and previous open program

Press Tab repeatedly to cycle through them. (Add Shift to

cycle *backward* through open programs on the Dock.)

₩-~
 Switches to next open window in this program (add Shift to)

cycle in the opposite direction)

Option-\(\mathbb{H}\)-Esc Opens the Force Quit dialog box (to close a stuck program)

Shift-Option
#-Esc Force quits frontmost program (no dialog box)

Shift-**1** Captures the screen image as a PDF file on your desktop

Shift-**1** Produces a crosshair; drag to capture a selected portion of

the screen as a PDF graphics file. (Press Space to get the

"camera" cursor that snips out just a menu, icon, or window.)

☆ Space Switches keyboard layout (if more than one is installed)

Option-click a Dock icon

Switches to new program and hides previous one

Option-click a window Switches to new program and hides previous one

#-drag Rearranges or removes menulets or toolbar icons

#-click window title Opens a pop-up menu showing the folder path

Option-click the Minimize button Minimizes all windows (works in most programs)

Shift-click the Minimize button Minimizes window in slow motion

Option-**≇**-D Hides/shows the Dock

★-click a Dock icon
Reveals its actual Finder icon

Option-#-click a Dock icon Switches to this program and hides all others

Control-click a Dock icon Opens a contextual menu

#-drag an icon onto a Dock icon Prevents Dock icons from moving, so that you can drop your

icon onto one of them

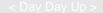
#-drag a Dock icon Drags the actual item

Option-#-drag an icon onto the Dock Forces a Dock program icon to open the icon you're dropping



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#### Colophon

The animal on the cover of *Mac OS X: The Missing Manual* is a panther, which is essentially a black leopard.

Due to a wrist ailment you really don't want to hear about, the author wrote the chapters of this book by voice, using Dragon Naturally Speaking on a generic Windows PC (a program he really, *really* wishes were available for the Mac). The Microsoft Word files were then transferred as quickly as possible across the network to a Power Mac G4, where they were spell-checked, illustrated, and transmitted to the book's editors. Ambrosia Software's Snapz Pro was used to capture illustrations; Adobe Photoshop and Freehand were called in as required for touching them up.

The book was designed and laid out in Adobe InDesign 3.0 on a PowerBook G4 and Power Mac G4. The fonts used include Formata (as the sans-serif family) and Minion (as the serif body face). The book was then generated as an Adobe Acrobat PDF file for proofreading, indexing, and final transmission to the printing plant.

