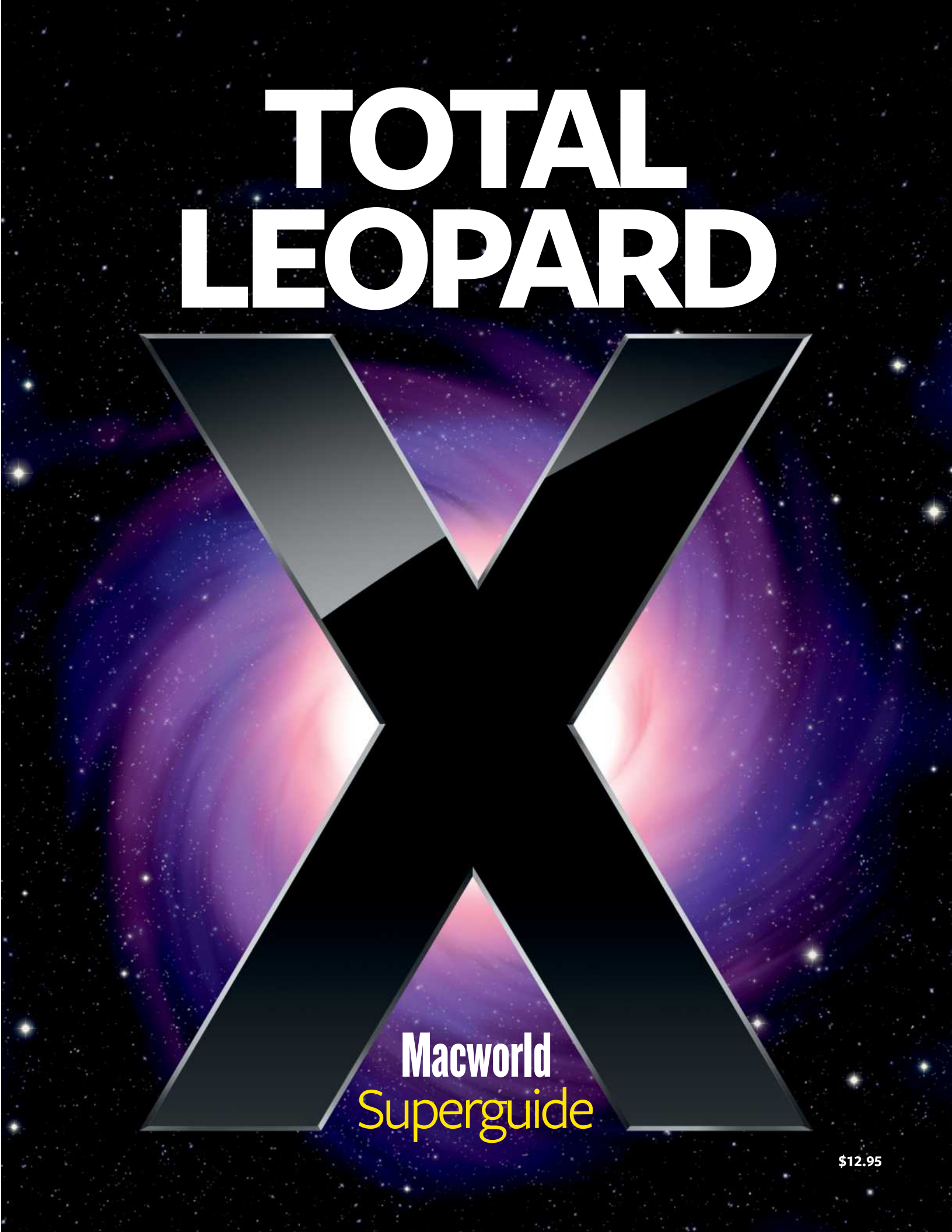
# TOTAL LEOPARD



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# FOREWORD

When it comes time to release a new version of Mac OS X, Apple realizes that most users don't buy upgrades just because they're available. That's why Apple touts the fact that Leopard includes more than 300 new features—and offers a Web site outlining each one (macworld.com/3233).

Will any one user take advantage of every one of the 300-plus features on Apple's list? Not likely. But that's not really the point. For Leopard to be worth its $129 cover price, you need only find the small subset of those 300 features that appeals to you. For example, most users won't care that you can now view the OS in Russian and Polish—but speakers of Russian and Polish sure will. And almost nobody would buy Leopard just for AutoFS, a new technology that prevents the Finder from spinning its wheels when it loses contact with a remote file server—but those in the know will certainly include it on a list of reasons to upgrade.

In the case of Leopard, much of Apple's marketing power has focused on one feature: Time Machine. And really, I can't argue. Time Machine manages to make backing up your data slightly less boring, and I mean that as a huge compliment. In fact, Time Machine's file-rollback system has already begun to change the way I interact with my files. Within three days of using Time Machine, I discovered that I was tossing items in the Trash more often, confident that if I really needed one of them, I could retrieve it from my backup.

Another game-changing feature of Leopard is Quick Look, which lets you peer into files to see their contents directly from the Finder. It's one of those simple features that will make most Mac users more productive—that is, as soon as we unlearn that reflexive double-click and replace it with a quick tap of the spacebar.

And in my mind, one of the most impressive features of Leopard is one that Apple really isn't touting—mostly because it's kind of embarrassing. The marquee feature of Tiger, 36 long months ago, was Spotlight, the technology that let you find anything on your Mac just by typing a few words in a search box. But that first version of Spotlight was inflexible and slow. Apple has massively upgraded Spotlight in Leopard—and for the better. It's more flexible and a *lot* faster. Spotlight might have ended up being a bit of a disappointment in Tiger, but it has really come into its own in Leopard.

But the list doesn't stop there. In addition to these big-name features, Apple has also included updates to Mail, iCal, iChat, and numerous other built-in programs that many Mac users rely on every day. If you haven't found a favorite feature or set of features in Leopard yet, keep thumbing through the pages of *Total Leopard*. I'm confident that you'll find new features that will impress you. And our large collection of Mac OS X tips and tricks will make you a happier, more efficient Mac user.

—Jason Snell, editorial director, *Macworld*
San Francisco, January 2008

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# Installing Leopard

## Find the Best Upgrade Strategy While Avoiding Pitfalls

Most of us face the prospect of upgrading an operating system with a mixture of excitement and dread. True, an upgrade brings cool new ways to work. But when you install a major version of OS X, you're also essentially gutting your Mac and replacing its virtual insides.

Luckily, Apple has improved the upgrade experience with each new cat, making the process much less daunting. But despite the installer's useful guidance, it doesn't make all its options obvious, and its help sometimes falls short. Here's a guide to making the upgrade process as trouble-free as possible.

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PHOTO COURTESY OF APPLE

# Upgrade the Smart Way

Apple has worked to make installing Leopard as easy as possible—pop in the disc, restart your Mac, and click through a few screens. But if you're not careful, you can bypass some of the installation process's most useful options.

## Before You Begin

A little prep work can save you a lot of hassle down the road.

### WHAT YOU NEED

The two most important things you need before you start are a compatible Mac and a complete backup of all your data.

Leopard requires a Mac with an Intel or a PowerPC G4 or G5 processor (G4 processors must be at least 867MHz), a DVD drive, built-in FireWire, at least 512MB of RAM, and at least 7GB of free hard-drive space. (We recommend at least 1GB of RAM and at least 10GB of free disk space.)

To protect yourself from mishaps, it's a good idea to *clone* your hard drive, which creates an identical copy of your Mac's hard drive that you can use as a bootable backup, instead of just backing up data piecemeal. You can create a clone with a utility such as Shirt Pocket's $28 SuperDuper (www.shirt-pocket.com) or Bombich Software's Carbon Copy Cloner (www.bombich.com; payment requested). If anything goes wrong with the upgrade, you can start up from the clone, restore its data to your Mac's hard drive, and be back where you started with nothing lost but time (for instructions, see "Create a Bootable Backup").

### PREPARE FOR THE UPGRADE

Here are a few steps you should take before installing:

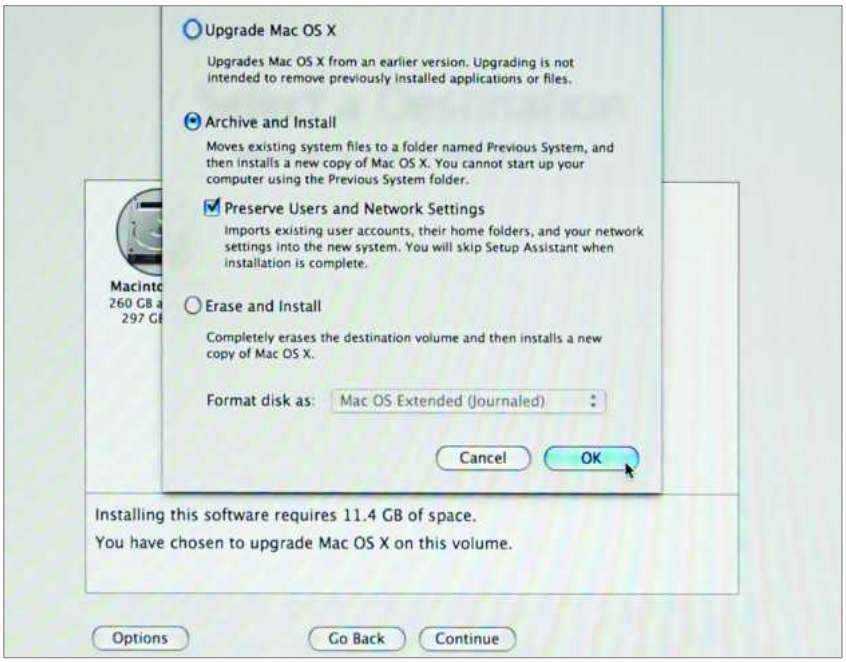
**DOUBLE-CHECK YOUR BACKUP** You can never be too careful. Make sure you can boot from your backup by actually using it to start your Mac.

**CHECK VENDOR WEB SITES** See whether the programs you use most are compatible with Leopard—this includes items listed under Login Items in the Accounts preference pane, third-party preference panes, and third-party system add-ons. If new versions are available, download them now. (Ideally, you should install the new versions before upgrading to Leopard; however, some may still require reinstallation afterward.)

**CHECK THE HEALTH OF YOUR DISK** Use Disk Utility to verify and, if necessary, repair your hard drive. The easiest way to do this is to boot your Mac from the Leopard Install disc; when you get to the Welcome screen, choose Utilities: Disk Utility.

## Customize the Installation

The actual installation procedure is pretty straightforward—you just follow along as the Installer walks you through the process. But if you're not careful, you may overlook some useful options.




**All Roads Lead to Leopard** When you click on the Options button in the Select A Destination screen, you can choose from several installation methods.

## CHOOSE YOUR INSTALLATION METHOD

After you select the drive on which you want to install Leopard, click on Options. This is where you choose your installation method: Upgrade, Archive And Install, or Erase And Install. Here's what each option does:

**UPGRADE MAC OS X** This option keeps your older version of OS X but installs new versions of any system files that have changed in Leopard. Although in theory this should be safe for everyone, third-party add-ons, as well as damaged system files that aren't replaced, can cause problems. We recommend this option only for new Macs being upgraded right out of the box.

**ARCHIVE AND INSTALL** This method installs a complete version of Leopard, using none of your older OS X files. However, it keeps all of your older system files on your hard drive—in a folder labeled with the date you installed Leopard—just in case you need one of them. This method avoids many problems with third-party add-ons and old system files. We recommend choosing the Preserve Users And Network Settings option, because this brings your existing user accounts and all user data into Leopard.

**ERASE AND INSTALL** This method erases your entire hard drive—deleting all your data—and installs Leopard. (It should go without saying that you *must* have a backup of your data if you choose this option.) This is useful if your current OS X installation has been having problems, as Erase And Install eliminates any disk or file corruption. (Choose the Format Disk As Mac OS Extended [Journaled] option.) But unless you really want to start from scratch, you'll need to either re-create your user accounts in Leopard and restore your data from your backup after installation, or use OS X's Setup Assistant to transfer the accounts and data over from another computer or from a full backup. (The latter procedure nearly replicates an Archive And Install installation with the Preserve Users And Network Settings option selected—but also provides a newly formatted, problem-free hard drive.)

**INSTALL MAC OS X** You'll see this option—*instead* of Upgrade Mac OS X—only if you choose a volume in the Destination pane that doesn't already have an upgradeable version of OS X installed. In that case, Install Mac OS X and Erase And Install will be your only choices.

**OUR RECOMMENDATION** We recommend Archive And Install (or Erase And Install, combined with restoring your data from a full backup using Setup Assistant) for most users.

Note that the Archive And Install option requires much more hard-drive space than the Upgrade Mac OS X option. It may also require a bit of manual file transferring, described later.

## PICK WHAT NOT TO INSTALL

In the next screen, click on Customize. You can opt not to install several items in order to save hard-drive space. Select any item in the Package Name list to view information about that item at the bottom of the window. Here are some things you might skip:

## CREATE A BOOTABLE BACKUP

If the upgrade process goes horribly wrong, the quickest way to get up and running again is with a *clone*—a bootable backup that's an exact copy of your original hard drive. If disaster strikes, you simply start up from the clone drive and you're back in business. (Alternatively, you can erase your original drive, restore the clone to the original, and reboot from the original, keeping the clone as a backup.)

**What You Need** To create a bootable backup, you'll need a second hard drive that can fit all the data that's on your main drive (see our review of FireWire drives at macworld.com/0923). You'll also need some spare time; this type of backup can take several hours to run.

**Creating the Backup** Because OS X relies on many files that are ordinarily invisible or that have special ownership and permissions settings, you can't create a bootable backup by simply dragging files from one hard disk onto another. You need special software to do the job for you. The best tool for making bootable duplicates is Shirt Pocket's $28 SuperDuper (★★★★★; macworld.com/2325). SuperDuper is accurate and easy to use. A solid second choice is Mike Bombich's free Carbon Copy Cloner (★★★★½; macworld.com/3156; payment requested), which also does the job but has a trickier interface.

**After Disaster Strikes** When the time comes to start your Mac from the backup drive, make sure the drive is connected and powered up. Turn on your Mac and hold down the option key until icons of the available startup drives appear. Select the clone drive's icon and then click on the right arrow icon to continue.

Once you're running the system from the clone drive, attempt to repair your main drive using Apple's Disk Utility (/Applications/Utilities). Assuming your original drive isn't physically damaged, you can then use the same process to copy your clone drive back onto the original drive to restore it to a bootable state.

**PRINTER DRIVERS** If you click on the expansion triangle and deselect drivers for any brand of printers you don't own, you can save several gigabytes of space. However, if you use a laptop and need to print from the road, having all these drivers may be useful.

**ADDITIONAL FONTS** If you don't need the listed fonts, deselect this item.

**LANGUAGE TRANSLATIONS** If you don't need to run OS X in languages other than English, deselect this item. Alternatively, expand the item and deselect particular languages.

**X11** This option lets you use software that requires the X11 Unix windowing system. Although you might be tempted to skip it, it takes up only about 100MB and installing it means that if you find a cool program that requires X11, you'll be able to run that software without digging out your OS X Installation disc.

### FINISHING UP

After you've made your choices, click on Install on the Install Summary screen; then the installation will begin. The process can take a while—especially the step when the Installer checks the Installation DVD. (If you've previously used this disc to install Leopard, and therefore know that it's error-free, you can click on Skip to bypass this step.)

## After You're Done

If you upgraded using the Archive And Install option and chose to preserve user accounts and network settings, you should be up and running pretty much where you left off. If you chose not to preserve user accounts and network settings, or if you used the Erase And Install option, the Setup Assistant will give you the opportunity to transfer files from another Mac, another drive on the current Mac, or a backup volume. You can transfer user accounts, network and other settings, programs, and other non-system data.

### CHECK IN WITH PROGRAMS

Whichever process you used to upgrade, you'll want to check your favorite programs to make sure they're working properly. You may need to enter registration or serial numbers for some. Other programs may require re-installation (particularly those that install files in the /Library or /System/Library folders). Also keep an eye out for misbehaving programs; you may not be able to use them until the developers release compatible updates.


**Fill In the Gaps** If you chose the Erase And Install option, your files and settings won't have made the switch with you. Leopard's Migration Assistant gives you the option of transferring files from another Mac or a backup.

### NO FILES LEFT BEHIND

If you used the Archive And Install method, to finish up we recommend navigating to the Previous Systems folder on your hard drive and opening the folder with the installation date (for example, 2007-11-08_1100). Browse through its subfolders to make sure all your files were moved properly. For example, even if you used the option to preserve user accounts, the files inside the Shared user folder don't get moved. You'll likely want to copy them to the new /Users/Shared folder. (If you use the Setup Assistant to transfer files, the Shared folder's contents do get transferred.)

Also check inside the /Library folder in the Previous Systems folder, paying special attention to the contents of Contextual Menu Items and QuickTime. If the Library folder contains files that the programs you use require, or third-party system add-ons that you want to continue using, you may want to transfer them manually to the same location in the current /Library folder. However, first make sure that the software is compatible with Leopard. (It may be easier to simply reinstall this software, thus ensuring you have all the necessary support files.)

# 7 Upgrade Fixes

You're ready to take the leap and upgrade to Leopard. Unfortunately, you may wind up in trouble even before your feet hit the ground. Leopard is prone to an assortment of installation headaches. Here are seven such potential sources of pain—and their remedies:

## ERASE REQUIRED?

You may find that the Leopard Installer permits only the Erase And Install option, while the more commonly used Upgrade and Archive And Install options are frustratingly unselectable. This can happen if you have used Micromat's TechTool Pro 4 (version 4.5.3 or earlier) to install an eDrive on your Mac.

The simple fix is to remove the eDrive (by starting up from the TechTool Pro 4 disc and clicking on the Remove eDrive button) and run the Leopard Installer again. After you're done, you can reinstall an eDrive if you want to by using a Leopard-compatible version of TechTool Pro (version 4.6.1 or later; www.micromat.com).

## STUCK AT THE BLUE SCREEN

After you update to Leopard and restart your Mac, you might find yourself stuck at a blue screen. Don't panic. A possible cause is an old version of Unsanity's free Application Enhancer software (www.unsanity.com).

One way to fix the glitch is to reinstall Leopard using Archive And Install. An easier approach is to restart your Mac in single-user mode (by holding down ⌘-S during startup) and delete the problematic files (go to Apple's help article at macworld.com/3181 for detailed instructions). To avoid the problem before it happens, uninstall Application Enhancer before updating to Leopard.

## WHEN THE INSTALLER JUST SAYS NO

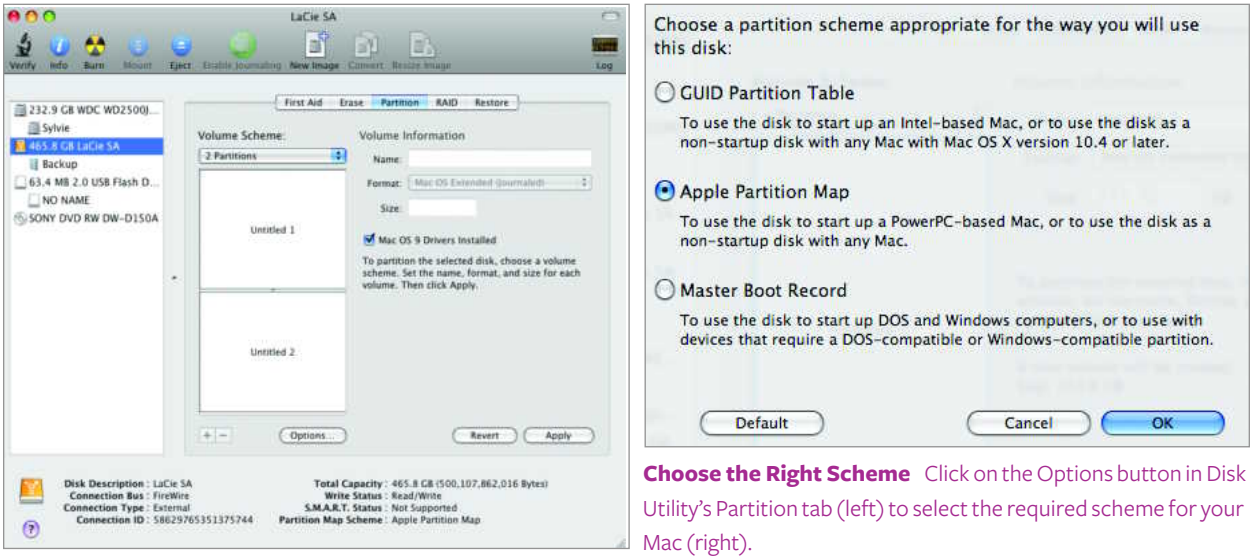
If you try to install Leopard on a disk and the Installer refuses with a message that says "You cannot install Mac OS X on this volume...Mac OS X cannot start up from this volume," the likely cause is that the drive's partition scheme is incompatible with your Mac model. In particular, a PowerPC-based Mac requires a disk that uses the Apple partition map scheme; an Intel-based Mac requires a GUID Partition Table scheme.

To check the current scheme for a disk, launch Disk Utility and select the name of the disk itself (not a volume on the disk). At the bottom of the window, you should see a Partition Map Scheme item. If the disk has the wrong scheme for your Mac, you need to repartition the disk. Unfortunately, this erases your drive, so make sure you have a backup first.

To do the repartition, click on the Partition tab for the drive in Disk Utility. Next, choose a Volume Scheme (most likely you'll select a number to match the current number of partitions). Now the key step: click on the Options button and select the desired partition scheme (see "Choose the Right Scheme"). Finally, give the volumes names, as desired, and click on the Apply button.

## SETUP ASSISTANT KEEPS ASSISTING

The Setup Assistant runs at the end of the Leopard installation, guiding you through the final steps of readying your account. So far, so good. The problem is that the Setup Assistant may keep




**Choose the Right Scheme** Click on the Options button in Disk Utility's Partition tab (left) to select the required scheme for your Mac (right).

popping up on *every* restart. If so, the solution is to do a safe boot. When you arrive at the login window, do not log in. Instead, click on the Restart button. This time let the restart proceed as normal. The Setup Assistant should no longer appear.

## THE VANISHING HOME DIRECTORY

Here's one that will get your heart to skip a beat: after upgrading to Leopard, your home folder may no longer appear in the Users folder. Keep calm. Your Home folder is still there (after all, you successfully logged into your account, right?). It's just hiding. To make it visible again, launch Terminal and type `chflags nohidden ~/` followed by return.

## LOGIN LETDOWNS

If you can't log in to your account at all after updating to Leopard, one potential culprit is an account password with more than eight characters that was originally created when using OS X 10.2.8 or earlier. If that's your only account, you're going to have to restart in single user-mode (hold down ⌘-S during startup) and follow the instructions from Apple's Web site (macworld.com/3185). However, if you have at least one account that you can log in to, the easier fix is to install Apple's Login & Keychain Update 1.0 (macworld.com/3213). Log in to that account and select Apple Menu: Software Update to download it.

## ADMINISTRATOR DEMOTED

After you install Leopard, you may find that your administrator (admin) account has become a standard account. There are multiple solutions to this disturbing demotion of status. If there is another admin account already set up on your Mac, and you can log in to it, do so. Next, go to the Accounts system preferences pane, access your account listing, and enable the option to Allow User To Administer This Computer.

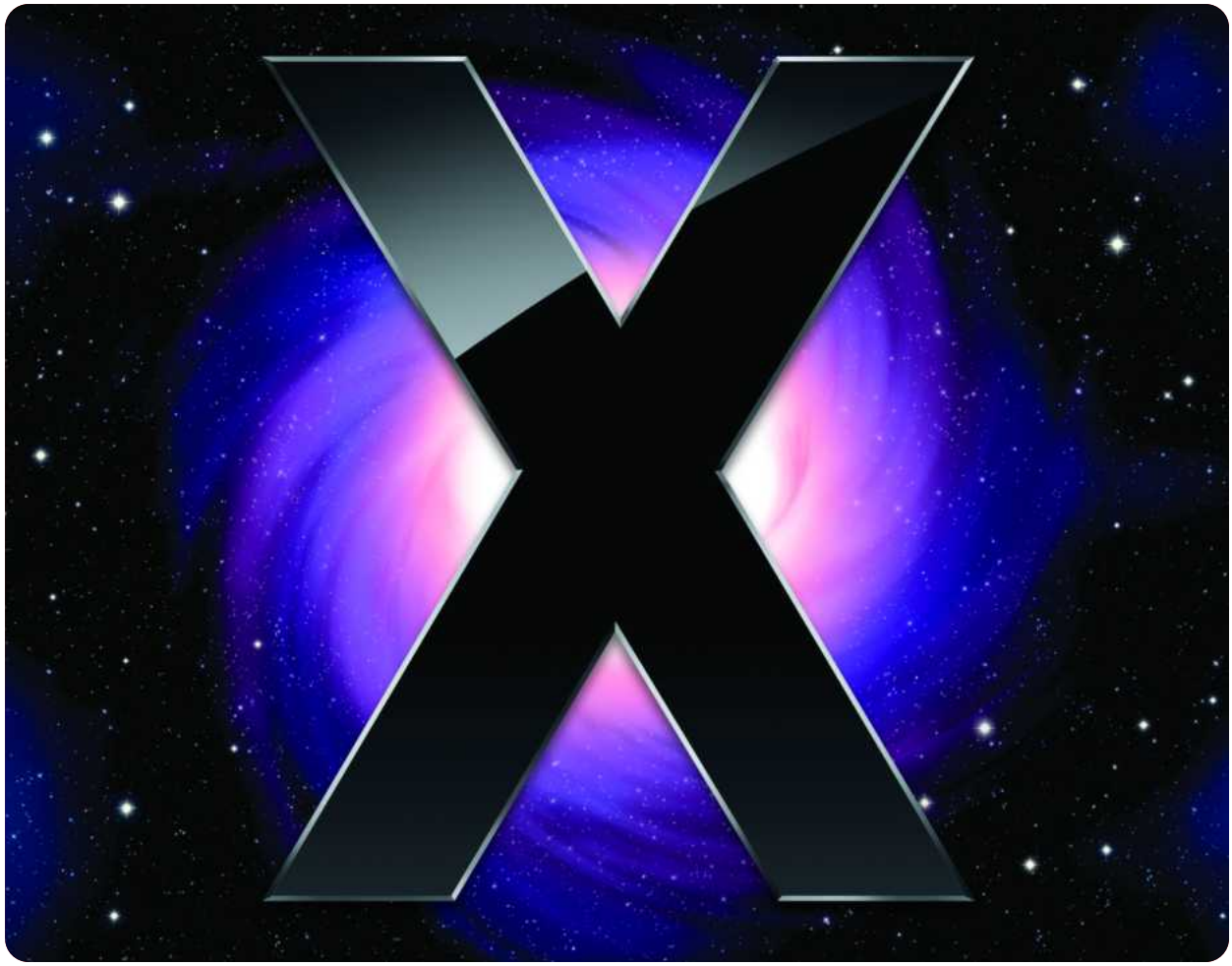
If no other admin accounts exist on your computer, there's no easy way to get your administrator powers back. You can enable the root user, log in as root, and make the same change to your account (read the Apple help document at macworld.com/3327 for details).

Another option is to restart in single-user mode (holding down ⌘-S during startup) and follow the prompts to type the commands provided there to gain write access to the drive. After doing so, type

```
rm "/var/db/.AppleSetupDone"
```

Press return (note the space between `rm` and `"/var`). Next, type `reboot` and press return to restart your Mac. You will arrive at the Setup Assistant screen, the screen that appears when you first set up a new Mac.

From here, create a new account (using a different name than any existing accounts). After logging in to this account, which should automatically be an admin account, go to the Accounts preferences pane, select your original account, and select the Allow User To Administer This Computer option. Log out and log back in to your original account. If you'd like, you can then return to Accounts preferences, select the new account you created, and delete it.



# Inside Leopard

## Get Up to Speed with OS X's Best New Tools and Hidden Features

Leopard is the fifth major update to Mac OS X—and one of the biggest. In fact, it has more than 300 new features by Apple's count. Leopard is, all at once, a major change to the Mac interface, a sweeping update to numerous included programs, a serious attempt to improve Mac OS security, and a vast collection of tweaks and fixes.

With all these new features, it can be hard to know where to start. Some additions—like the new menu bars and Dock—scream out at you as soon as you turn on your newly upgraded Mac. But others—like support for multiple desktops with Spaces—require a bit more digging. So let us guide you through the most significant changes (and a few of our favorite hidden gems) and show you how to put Leopard's best new features to work today.

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# The Finder and the Dock

The Finder is such an integral part of OS X that most of us don't even think of it as a program. It runs from the moment you log in until the time you log out, handling all your file management tasks. Because of its prominence, the first thing most Leopard users will notice upon upgrading is the Finder's new look. Gone are the bright, colorful folder icons of previous versions. In their place, you'll find a look that is uniformly blue and gray, and a Dock that now resembles a reflective shelf (active programs are represented by a subtle white glow rather than a black arrow). But once you get beyond the look, you'll find other, more substantive changes.

## QUICK LOOK

Although Quick Look is actually a systemwide feature—available in Mail, Spotlight's results window, and Time Machine—you'll end up using it most often in the Finder.

Quick Look lets you view a file without going to the trouble of opening it in its related application. Instead, click once on the file and press the spacebar (or control-click and select Quick Look from the contextual menu). A new window will open and display the file's contents. This window is scrollable (for multiple-page documents), resizable, and movable. The double-arrow icon at the bottom of the screen switches the view to full-screen mode. If you're viewing an image, a camera icon lets you add the file to your iPhoto library (see "Take a Peek").


**Take a Peek** To quickly see what image this is without launching an extra program, select it in the Finder and press the spacebar.

**TIP**

### ZOOM IN QUICK LOOK

Want to get a closer look at something in an image or PDF file while viewing it in Quick Look? You can thanks to a hidden shortcut.

To zoom in on a PDF, click inside the PDF file, and then press ⌘-equal sign (=). To zoom out, press ⌘-minus sign (-).

Images, confusingly, use a different method of zooming. To zoom in on an image, option-click on the area you want to enlarge. To zoom out, shift-option-click on the window.

With both PDFs and images, once zoomed in, you can move around with your scroll wheel, trackpad scrolling, or the good old-fashioned drag thumbs in the scroll bars.

Better yet, you have full Finder control in this window and can use all the normal Finder menus and keyboard shortcuts. For instance, if you decide you'd like to open a document after checking it out in Quick Look, just press ⌘-O. To close the Quick Look window, press the spacebar again.

You can use Quick Look with nearly any kind of file. Text files, movies, Adobe Photoshop images, PDFs, Microsoft Office 2004 documents, image files, and even MP3s all show (and in the case of movies and audio files, play) in the Quick Look window. If you use a third-party program with a proprietary file format, however, you may not be able to use Quick Look on its files—at least not until its developer updates it to provide a Quick Look preview.

By the way, you don't need to close the Quick Look window before moving on to another file. The feature works just like an inspector window: its contents are constantly refreshed as you select new targets. This makes it great for browsing multiple items in a hurry; just open the Quick Look window once, then point and click until you find the file you're looking for.

## COVER FLOW

Another improvement that helps you browse files more quickly is the Finder's new Cover Flow view, which looks just like it does in iTunes. When you click on the Cover Flow button (or press ⌘-4) in a Finder window, you'll get a scrollable preview of every file or folder in the currently selected location—making it a great way to quickly browse for an image or a movie in a crowded folder (see


**The Finder's New Look** In Leopard, you can now search for files using Cover Flow mode A, control the grid B in Icon mode, view the path of your files C, and open stacks of documents D.

"The Finder's New Look"). And as with Quick Look, you can page through PDFs and text files and play movie files (but not audio files).

## STACKS

Leopard gives you a new way of looking at folders stored on the right end of the Dock. In previous versions of OS X, clicking on a folder kept there opened a navigable pop-up menu. In OS X 10.5, you'll get what's known as a *stack*—a visual representation of the folder's contents. If the folder contains just a few items, you'll see the stack presented as a curving column of icons; if it gets too crowded, the default view is a pop-up window full of icons. You can switch between either of these views by control-clicking on the stack's Dock icon and choosing View: Show As: Fan (or Grid). You can also control the sort order, selecting from Name, Date Added, Date Modified, Date Created, and Kind. For instance, you may want your Downloads stack to be a fan sorted by date added, but your Projects stack to be a grid sorted by name.

## IMPROVED FINDER WINDOWS

In addition to the new Cover Flow view, Finder windows in Leopard received several smaller changes that should make navigating your hard drive much easier.

**STRIPED LIST VIEW** The Finder's List view now sports stripes—rows in list view windows now alternate between white and light blue backgrounds (you can't customize the color selections), making it much simpler to read wide windows.

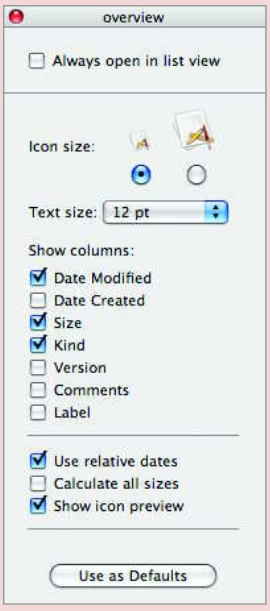
**CUSTOM GRIDS** In the Icon view mode, the big news is the return of customizable grid spacing. That's right—you're no longer stuck with the OS X default (really wide) grid-spacing setting. Instead go to View: Show View Options and drag the Grid Spacing slider to the left. If you tighten spacing up a bit from the default, you can see many more icons in the same amount of space, with no loss of readability.

If you're looking to take advantage of those new grid options, you may notice that the Snap To Grid check box has disappeared from the View Options window. Not to worry. You now access the option from the Arrange By pull-down menu.

**BETTER SORTING** When working in the Column view mode, you can now use the View Options menu to change the sort

TIP

## SET YOUR DEFAULTS




Once you've set up your Finder window just the way you like it, you may want to use those settings for every subsequent window. In OS X 10.4 you did this by opening the View Options window and choosing from two options (This Window Only or All Windows). But you won't find these options in Leopard. Instead, the View Options window in Leopard includes a new Use As Defaults button (this option *isn't* available for Column view). Unless you click on that button, changes you make to the Finder window will apply only to the current window.

order. Press ⌘-J and then use the very handy new Arrange By pop-up menu to sort the column windows by name, date modified, date created, size, kind, or label. Unfortunately, these settings are global, so you can't have one Column view window sorted by name and another sorted by date modified.

**ONE-CLICK SEARCHES** A new Search For section in the Finder's Sidebar offers a number of handy saved searches—to help you quickly find items modified today, yesterday, or in the past week, and to show all movies, images, or documents.

Even more useful than the canned searches is the ability to add your own searches to the Sidebar's Search For section. After you create a search in the Finder, click on the Save button, and you'll see a new Add To Sidebar option. You can also remove or rearrange searches within the Sidebar by clicking and dragging.

**PATH BAR** The path bar (View: Show Path Bar) gives you a bread crumb trail that shows your location in your Mac's folder hierarchy. To see this info in previous versions of OS X, you had to either use the Path button on any Finder window's toolbar or ⌘-click on the title of the Finder window. In Leopard, however, the path bar remains visible from session to session, so you can see the path at all times.

Even better, you can drag and drop an object onto any folder in the path bar, and the dropped object will be moved (if it's on the same drive) or copied (if it's on another drive) to that folder. You can also access the path bar by using a basic contextual menu. Control-click on any file or folder to see it. Using this pop-up menu, you can open the selected item, open its parent folder, or display its Get Info window.

# 3 DOCK TRICKS

Love it or hate it, the new Dock will certainly get your attention. Here are some ways to make it work the way you want.

## SIMPLY THE DOCK

If you don't like the Dock's new shelf motif with its heavy drop shadows and reflections, try moving it to the side of your screen instead of the bottom. Your Dock will appear as 2-D icons on a translucent gray background. You can change this setting by opening the Dock preferences. But for even faster access to your Dock settings, simply control-click on the small divider between application icons and folders in the Dock. The resulting contextual menu lets you change not just the Dock's position, but also settings for magnification, hiding, and special effects.

If you like the look of the simplified Dock but want to keep it on the bottom of your screen, try this simple Terminal command. Open Terminal (in /Applications/Utilities) and type these two commands, pressing return after each:

```
defaults write com.apple.dock
no-glass -boolean YES
killall Dock
```

After issuing the second command, your Dock will relaunch and sport the new look. (Using the same two commands, but changing the YES to NO, will return the Dock to its official Leopard appearance.) If you're not a fan of Terminal, you can also download an AppleScript that does the same thing by going to macworld.com/3311.

## QUICKLY NAVIGATE YOUR SYSTEM

Leopard's Dock has inherited a useful feature from the Finder: spring-loaded folders. Now when you drag an item

over a folder in the Dock, the folder will open momentarily in the Finder, allowing you to drop the item into a subfolder—or to dig even further down into sub-subfolders until you find the desired destination. Once you've dropped the file, the folder (as well as all subfolders) will close and return to its resting place in the Dock.

## CREATE AN APPLICATION STACK

One way to put Leopard's new Stacks feature to good use is by dragging your Applications folder to the Dock. When you do so and click on the folder, a grid appears, displaying all your programs. Click on one to launch it. You can also use this stack to quickly open documents in the program of your choice. Simply drag documents over this folder. When the pop-up window appears, drag the document on top of a compatible program—for example, drag a JPEG on top of Preview—to open that item. You can also drag a collection of documents into the Dock to add them as a stack.

# Time Machine

Backing up your data regularly can help protect you from dying hard drives, corrupted data, and accidental deletions. But while we all know we *should* back up our Macs, surprisingly few of us actually do. Apple is hoping to change that with Time Machine, OS X 10.5's built-in backup program. Using a unique 3-D interface, Time Machine attempts to turn the complex and sometimes confusing processes of backing up and restoring into simple, visual operations. Once activated, Time Machine works behind the scenes to automatically create time-based snapshots of your Mac, letting you instantly retrieve archived versions of files, folders, and programs.

## GETTING STARTED

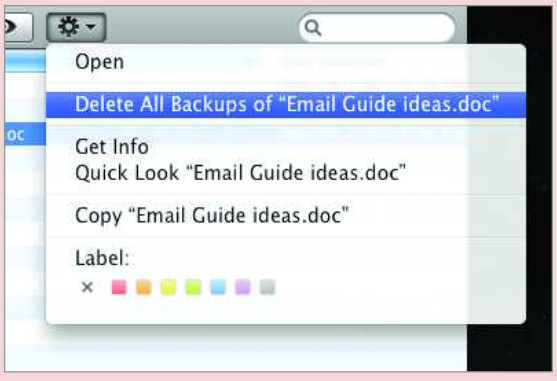
Backing up with Time Machine is easy: attach an internal or external hard drive with enough capacity to hold the entire contents of your Mac with room to spare (the more available space you have, the more versions of things you can keep), enable it for use with Time Machine, and then wait for the initial backup to finish.

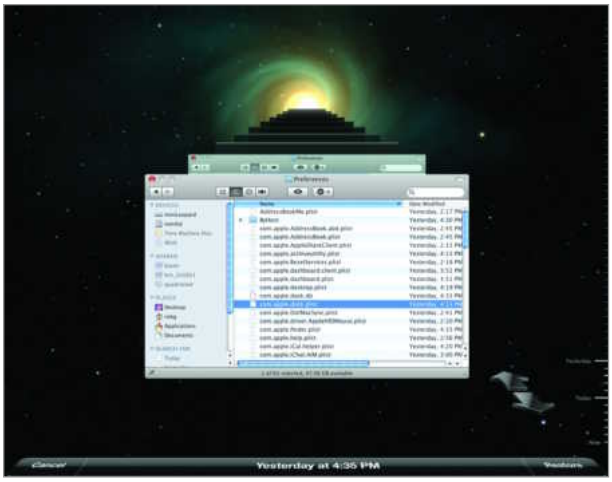
The initial backup process can take some time; but after that, you shouldn't notice significant slowdowns. If you do, you can tell Time Machine to take a break by clicking on the Off switch in the Time Machine preference pane.

TIP

### ERASE BACKUPS

Want to make sure no one can recover sensitive files from your Time Machine backup? Or perhaps you'd just like to make sure you never ever see that photo of your ex again? Open Time Machine, and using the top window, navigate to the file you want to remove. With the file selected, click on the gear icon in the Finder window and select the option to delete all instances of the file from all backups.




**Time Warp** When searching Time Machine's archive, use the scale along the side to jump to a specific date or click on the back arrow to jump to the last time a selected file was modified. When you find the file you want, click on Restore.

## FINDING FILES

When you need to retrieve something from your backup, click on the Time Machine icon in the Dock. You'll be transported to the Time Machine interface, which shows the frontmost window in the foreground and a line of archived versions of that window stretching back in time (see "Time Warp"). Simply use the timeline along the right side of your screen or the back arrow to "flip back" through time and find the files you want to restore. If you're looking for an older version of a file, highlight the file and click once on the back arrow. Time Machine will search through your backups and automatically stop at the point where the file was last modified. (For instruction on setting up and using Time Machine, see "Backing Up with Time Machine" in *Troubleshooting Your Mac*.)

## MAKING THE MOST OF TIME MACHINE

Time Machine isn't just for people who've accidentally deleted a file or lost work due to a hard-drive crash; with its ability to store historical versions of documents, it's also a great fit for anyone who needs to keep a record of a document's progress from rough draft to final form. It's not, however, a professional versioning solution. As your Time Machine disk fills up, older versions of files are deleted to make room for new ones.

Keep in mind that Time Machine doesn't work instantaneously—if you create a file and then delete it a few seconds later, Time Machine won't have time to create a backup copy of it. But that's not really what Time Machine is for. Think of it as a safeguard for all those priceless files you store on your machine.

# Spaces

One of OS X's best features—especially compared with older operating systems—is that *many* programs can run simultaneously; you don't have to quit each one when you're done in order to avoid running out of memory. But a consequence of this capability is that you can end up with many windows cluttering your screen.

In Leopard, Apple has addressed this issue with Spaces, OS X's version of virtual desktops. The idea behind virtual desktops is to convince your computer that it has more than one workspace, each of which can contain its own programs and windows. You can then navigate between these virtual workspaces to access their discrete items.

The appeal of virtual desktops is that they let you keep your workspace uncluttered. For example, if you're working on a Web site, you may have a Web browser, a photo application, and a Web-authoring program running; when working on a report, you might be using a word processor and a spreadsheet program. Browsing the Web and RSS feeds, answering e-mail, creating a podcast, or even just browsing files in the Finder—each task requires different software and different windows. Spaces lets you create a workspace containing just the tools and files needed for a task or project. Whereas you once had to quit and launch groups of programs, or hide and show various combinations of programs and windows to stay organized, Spaces provides on-screen organization via a keystroke or a menu selection.

Likewise, if you use virtualization utilities, such as Parallels Desktop or VMware Fusion, to run Windows applications or other operating systems on Intel Macs, you can use Spaces to dedicate a workspace to each OS you're running, letting you switch between operating systems with the press of a key.


**Defining Your Space** Use the Exposé & Spaces preference pane to set up how many workspaces you have and which programs are assigned to each.

## CREATING WORKSPACES

You enable Spaces in the Exposé & Spaces pane in System Preferences. By default, you have two workspaces, arranged horizontally; however, by clicking on the plus-sign (+) button for Rows or Columns, you can add additional rows or columns of workspaces, respectively—up to a maximum of four rows and four columns (16 workspaces). The organization of these workspaces doesn't affect how you work *within* each one; it affects only how


**Working with Spaces** Press F8 to see all of your workspaces at once—here we have two workspaces set up. Each space can have different programs and windows open.

you switch between them. (Spaces keeps your desktop and the Dock the same across workspaces; you can't have different Dock contents, different items on your desktop, or a different desktop picture in each workspace.)

### MOVING AROUND

You can switch between workspaces in a number of ways. The first is to use the assigned hot key (F8 by default, although you can change it) to get an Exposé-like, bird's-eye view of all your workspaces. The layout corresponds to the relative positions of the workspaces (see "Working with Spaces"). Click on one of the workspaces—or use the arrow keys to select one and then press return—to switch to it.

To move through your workspaces without invoking the bird's-eye view, press the control key and a directional arrow key (left, right, up, or down) to move to the next workspace in that direction. This method requires a good memory for how each of the spaces is arranged spatially. (These keyboard shortcuts are also configurable in the Exposé & Spaces pane.)

If you know the number assigned to a workspace in the Spaces preference pane, you can jump to that workspace immediately by pressing control-# (where # is that workspace's number). Alternatively, if a particular program has windows open in multiple workspaces, you can click on the program's icon in the Dock to cycle through the workspaces containing those windows (each click takes you to the next such workspace).

Whenever you switch between workspaces, a small, visual map of your workspaces will appear on the screen, showing which direction you're moving in and which workspace you're switching to.

## 6 WAYS TO SAVE TIME IN SPACES

Get the most out of Spaces with these quick tips:

### CREATE A HOT CORNER

You can assign Spaces' Exposé-like overview to a corner of your screen using the Hot Corners button in the Desktop & Screen Saver pane of System Preferences; moving your cursor to that screen corner will then bring up the overview of your workspaces.

### RELOCATE MULTIPLE WINDOWS

If you press F8 (to see the bird's eye-view of your spaces), you can drag windows from one workspace to another to quickly relocate them. Want to move *all* of a program's windows to a new space? Hold down the shift key as you click and drag on one of the windows. All of the others will follow.

### *REALLY* SEE ALL OPEN WINDOWS

If you use Exposé's All Windows mode (F9, by default) while in a workspace, it shows only those windows in the current workspace; however, if you first activate Space's overview mode (press F8) and *then* activate Exposé's All Applications mode, you'll see all windows in all workspaces. (Tip: If you then press the option key, you'll see each window's title.) You can then click on any window to go directly to it.

### GETTING RID OF SPACES

If you delete a workspace containing windows, those windows will be moved to the next workspace up (if you delete a row of workspaces) or to the left (if you delete a column).

If you *disable* Spaces, all windows in all spaces will be moved to workspace 1—your actual screen. This means you can try Spaces without worrying about messing up your system; if you decide you don't like it, turning it off simply combines your workspaces back into a single screen. However, if you later enable Spaces again, only windows belonging to applications specifically assigned (in System Preferences) to different workspaces will be automatically moved to those workspaces; the rest will remain in workspace 1 until you move them manually.

### WORKING WITH LAUNCHERS

Launcher utilities, such as LaunchBar, work well with Spaces. For example, LaunchBar's window appears in whichever workspace you're in when you activate LaunchBar; if you open an item that isn't currently open, it opens in the current workspace; if you open an item that's already open in another workspace, Mac OS X automatically switches you to that workspace and brings the chosen item to the front.

### CONSOLIDATE SPACES

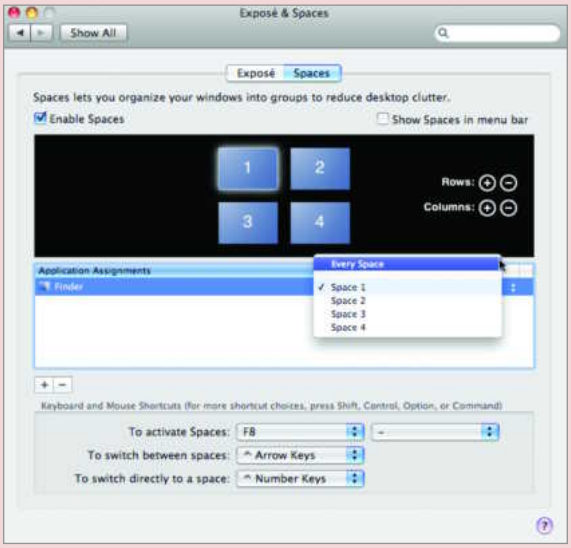
You can consolidate all your windows to a single workspace without disabling Spaces: just press F8 for the birds-eye overview, and then press C; pressing C again will restore the windows to their separate workspaces. (However, once you leave the birds-eye view, you won't be able to restore the windows.)

TIP

## PUT THE FINDER IN ALL SPACES

While Spaces is a very cool feature, one thing that can get annoying is how the Finder behaves—certain Finder-related events may shift your active space to one showing a Finder window. You can avoid this problem by assigning the Finder to every space. In Spaces' preferences pane, click on the plus sign to add a new assignment. When the file browser shows up, navigate to /System/ Library/CoreServices, click on Finder, and then click on the Add button. Back in the Application Assignments window, click on the Space column next to Finder, and set it to All Spaces. Now you'll see Finder windows in all of your spaces.

Even if you don't want the Finder in all spaces, it doesn't necessarily have to be in the first space; you can assign it to any space you like. If you have nine spaces, for instance, it might make the most sense to have Finder assigned to workspace 5, which is the central spot among your spaces.




### ADDING WINDOWS

You can choose from one of several ways to add a program or window to a workspace.

**EASY OPEN** The easiest way is to simply launch the program; it will appear in the active workspace. (If the program uses document windows, creating a new document will place its window in the current workspace.)

**MAKE ASSIGNMENTS** Spaces doesn't automatically remember open programs and windows when you log out. If you always want to use a program in a particular workspace, you can permanently assign the program to open in a particular workspace via the Spaces screen in System Preferences—click on the plus-sign (+) button beneath Application Assignments, select the desired program, and then click on Add. (Alternatively, you can drag the program's icon into the list.) Then, from the pop-up menu to the right, under Space, choose which workspace you want that application to appear in. From that point on, whenever you launch that program, Mac OS X will automatically switch to the appropriate workspace and open the program.

Note that if you assign a program to a particular workspace and then manually move it to a different workspace, that doesn't change the program's assigned workspace; after quitting the program, the next time you launch it, the program and all of its windows will again appear in the assigned workspace.

**BE INCLUSIVE** Alternatively, when assigning a program to a workspace, you can choose Every Space from the Space menu, and the selected application will appear in *every* workspace; its windows will follow you as you switch between workspaces. (Unfortunately, you can't do the same with just a particular document window.)

Whichever method you choose, note that error messages, floating dialogs, and notification displays (for example, Growl notifications and iTunes controllers such as CoverSutra) appear on the active workspace, even if they pertain to a program in a different workspace.

Spaces also comes with some strange behaviors. For example, when you're using Spaces, OS X's ⌘-backtick (`) shortcut, which toggles between open windows in the current application, doesn't work properly if those windows are spread between multiple workspaces; it cycles through only the windows open in the current workspace.

### SHUFFLE SPACES

You can also rearrange *workspaces*—for example, to keep your most frequently used spaces close to one another. Just activate Spaces' overview with the F8 key, click on any empty space in the desired workspace, and then drag it to a different location. The other workspaces will shift out of the way to accommodate the moved one. Note that that you can move a workspace only to an existing workspace location; you can't move it to a new row or column without first adding either a new row or column in System Preferences.

# Mail 3

For many of us, e-mail isn't just a convenient way to keep in touch, it's our main link to customers, coworkers, friends, and family. In Leopard, Apple has lavished significant attention on the built-in e-mail client, Mail 3, adding features that boost productivity, take over tedious tasks, and in some cases, simply look pretty.

## NOTES AND TO DO'S

No matter what else you use your Mac to do, chances are that your e-mail client is one of the programs you keep open almost all day long. As such, it tends to become a repository for more than just messages—reminders, to-do items, and other snippets of random information can clutter up even the tidiest of inboxes. Apple has attempted to address this issue by building in features to help manage notes and to-do items.

**NOTES** Have you ever opened a blank e-mail message to take notes in and then saved it as a draft or e-mailed it to yourself? Mail 3 eliminates the need for such workarounds by offering a new Notes feature.

When you click on the Note button in the toolbar (or press ⌘-control-N), a New Note window appears. Notes can handle colored text, graphics, and attachments, so you can keep everything you need to jot down close at hand, such as electronic flight confirmation details for an upcoming trip or directions to a friend's house (see "Don't Forget").

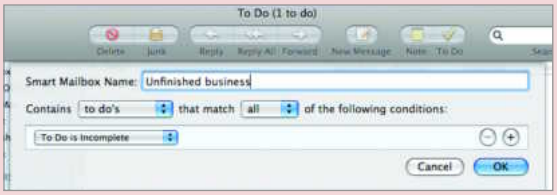

**Don't Forget** When you create a new note in Mail 3, you can add text, Web addresses, images, and almost anything else you need.

**TIP**

### FOCUS ON UNFINISHED TASKS

When you check off items in the To Do pane, they don't disappear; you have to manually delete them to get them out of the way. But what if you like keeping a record of your accomplished tasks?

In that case, create a smart mailbox just for your active to-do items. Select Mailbox: New Smart Mailbox and give the mailbox a name. From the Contains pull-down menu, select To Do's, click on the first condition, and choose To Do Is Incomplete.




All notes appear in the generic Notes mailbox. However, you can create additional mailboxes to further organize your notes—for example, keeping notes related to your job in one mailbox and notes about the kids' schedules in another. You can also group notes into smart mailboxes or folders, and access them via IMAP from a Mac, a PC, or an iPhone.

**TO DO'S** If an e-mail message or note contains action items, such as deadlines for a project or a reminder to pick up your daughter after school, Mail 3 lets you designate these as to-do items. You can create to-do items by highlighting text within a note or message and clicking on the To Do button in the message or note's toolbar. You can also make a to-do item from scratch by clicking on the To Do button at the top of the main window (or press ⌘-option-Y). You can set a due date, an alarm, and a priority. You can also assign the item to one of your iCal calendars.

Like notes, to-do items appear in their own mailbox. They also appear in iCal's To Do pane. This integration is great because it doesn't force you to switch back and forth (or require that you remember to add something to your calendar later). When you mark something as completed in Mail, it's marked as completed in iCal. The reverse is also true. You can send to-do items to others via e-mail. And because notes and to-do's are stored along with e-mail messages, you can access them from anywhere that you can access your e-mail.

## DATA DETECTORS

Mail 3 also simplifies the process of getting important contact information and event details out of e-mail messages and into your address book or calendar. The feat is accomplished with *data detectors,* which automatically identify snippets of text that you can perform an action on. For instance, if someone sends you an e-mail with an address in the body, hover your mouse over the address and Mail will highlight the text with a gray box. Click on the arrow that appears to the right of the text and Mail gives you the option of adding that address to a new or an existing contact in Address Book. You can also choose to view a map of the address.

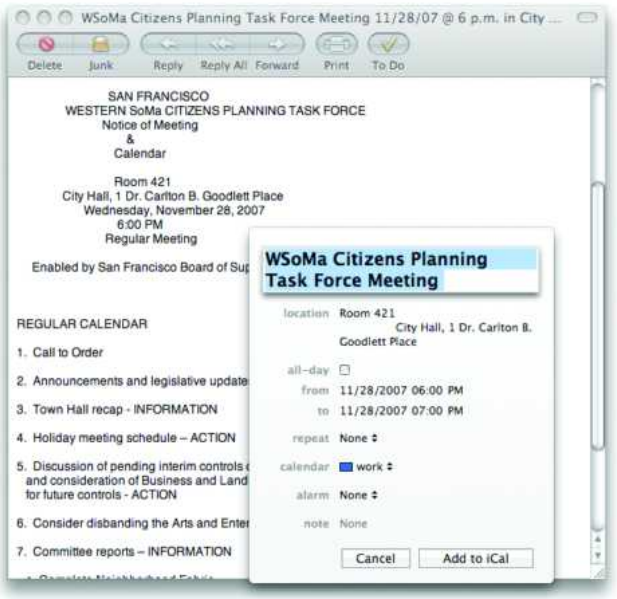
This is a great time-saver for people who like to keep their Address Books up-to-date. Clicking on a date or time will give you the option of creating a new event in iCal or opening the date in question so you can check your schedule (see "Fill It In"). What's more, Mail's data detectors are smart about gathering up information. If you opt to create a new contact from someone's address, Mail will search the e-mail for any other relevant contact information as well, including the sender's name, e-mail address, phone numbers, and so on. If you've chosen to add information to an existing contact, you'll see the new information in green. If everything looks correct, click on Add To Address Book to confirm.

## RSS

Apple now includes a way for users to check RSS feeds in Mail. When you choose File: Add RSS feeds, you can locate feeds you want to keep track of. New items in the RSS list show up similarly to new mail messages, with the total number of unread stories displayed on the folder.

Clicking on an RSS item opens a new window with a short teaser. Click on the Read More button to open the full story in Safari. The new RSS tab in Mail's preferences lets you choose your default RSS reader, and specify how often Mail checks for new stories and when older items are deleted.

If you want to keep track of stories that mention specific topics, such as San Francisco or Apple, you can use Mail's Smart Mailbox feature to filter your RSS feeds even further. Set the first condition to Message Type Is RSS Article, and then set up additional conditions as appropriate. For example, you might set the second set of conditions to read Entire Message Contains Leopard to round up any RSS articles about Apple's newest operating system.




**Fill It In** When Mail detects a date in your e-mail message, it gives you the option of creating a new event in iCal. Select that option and you'll get a small iCal window with all of the details filled in.

## SIMPLE ACCOUNT SETUP

One problem that many users have when starting off with an e-mail application is getting their accounts set up. Knowing all of the SMTP, POP, and IMAP servers can be daunting, especially if you have several accounts.

Apple's new account setup will allow many people to start using Mail by simply typing in an e-mail address. Mail already knows the settings for 30 of the most popular e-mail services, including Yahoo, AOL, Gmail, Verizon, AT&T, and Comcast. After you type in your e-mail address, Mail takes care of everything else for you. If you don't have one of the services that Mail automatically recognizes, you'll have to set up the accounts manually, just as you would with the previous version.

TIP

## KEEP AN EYE ON NEW ARRIVALS

In Mail's General preferences, you now have the option of displaying the total number of unread messages—for all folders, just the inbox, or just the specific smart mailbox—in the Dock. This is great for people who have many folders that they filter their e-mail into as it comes in. Your Dock count will now be correct, instead of showing only the number of messages in your inbox.


**Make It Pretty** Mail adds stationery templates for attractive HTML messages.

## ARCHIVE MAILBOXES

If you have several years' worth of e-mail that you don't want to throw away but that you also don't need constant access to, Mail provides a great compromise. You can now archive mailboxes with the click of a mouse. Simply place your older messages in a separate mailbox, and then select Archive Mailbox from the Mailbox menu.

## STATIONERY AND RICH FORMATTING

Mail's new Stationery feature is less focused on productivity than it is on sending attractive e-mail messages. Similar to features built into iWeb (part of Apple's iLife suite), Mail 3 lets you place images and text into HTML templates that you can then send to others via e-mail. Apple has included more than 30 professionally designed stationery templates (see "Make It Pretty"). The templates include fonts, and easy access to your photos. Most importantly, the templates use standard HTML, so all of your Windows-using friends can read them too.

## PRODUCTIVITY IMPROVEMENTS

In addition to adding new features, Apple has done a lot to help Mail users with day-to-day activities.

Whether you have tens of thousands of e-mails or just a few hundred, you'll appreciate Mail's improved search tool, which is not only significantly faster than previous versions but does a better job of finding the most relevant messages, to-do's, and notes.

Mail also now lets you duplicate a smart mailbox. Just control-click on the smart mailbox you'd like to duplicate, and select Duplicate. This comes in handy if you want a new mailbox similar to one you already have.

# STOP TODAY'S SPAM

By some estimates, spam now accounts for 80 percent of all e-mail sent. Mail's Junk Mail filter (in Mail's preference pane) can do some of the work of weeding out unsavory messages, but there's plenty you can do to help.

## NEVER RESPOND TO SPAM

Don't click on an unsubscribe link in a spam message. Don't write to tell a spammer to leave you alone. Don't even use your e-mail program's Bounce command to fake out junk senders. When you respond to an unwanted message, you let spammers know that your address is valid.

## TRAIN YOUR JUNK-MAIL FILTER

It's not enough to activate Mail's Junk Mail filter. You must correct it *every time* it makes a mistake—if all bad messages are marked as junk and all good messages are marked as not junk, your filter will be more accurate. (To change a message's designation, control-click on it and choose Mark: As Junk Mail or Mark: As Not Junk Mail.)

## DON'T VIEW IMAGES

Spammers can tell that you've read their messages by using a Web bug, a small graphic that your e-mail client downloads when you display a message with HTML formatting. To thwart Web bugs, turn off the display of HTML graphics. Open your Viewing preferences and deselect the Display Remote Images In HTML Messages option. If you receive a legitimate HTML-formatted message, you can easily download the images by clicking on the Load Images button in Mail.

## USE UNDERCOVER E-MAIL ADDRESSES

Use an alias to sign up for online newsletters, for example, or to post on message boards. If the alias becomes flooded with junk mail, delete it and create a new one. If you're a .Mac member, you can add up to five e-mail aliases to your account free. To use aliases in Mail, choose Mail: Preferences, click on the Accounts button, select your .Mac account, and click on Edit Email Aliases. After you've set up one or more aliases, they'll appear automatically in the From pop-up menu in Mail's message composition windows. To send a message using the alias as the From address, choose the alias from this menu.

If you don't use .Mac but do like the idea of having disposable e-mail addresses, check out spamgourmet (free; www.spamgourmet.com) and Sneakemail (free; premium account, $2 per month; www.sneakemail.com).

# iChat 4

Apple's instant messaging software, iChat, makes it easy to exchange quick notes with .Mac users or those on the popular AIM system. Each iteration of iChat has added new capabilities, and the Leopard version is no exception. iChat 4 picks up a number of interesting tools.

## iCHAT THEATER

Want to show off your vacation photos while having a video chat with your best friend? Or want to give a Keynote presentation to a business associate? To help you share visual information with others, the new iChat provides iChat Theater. This feature lets you display an iPhoto slide show, a Keynote presentation, a QuickTime movie, or anything else that works with Leopard's new Quick Look feature as part of your video chat.

To get started, choose Share A File With iChat Theater or Share iPhoto With iChat Theater from iChat's File menu. Select one or more files or an iPhoto library, event, or album, and then click on Share. You'll be prompted to invite someone to a video to complete the setup (see "More Than a Chat").

If you are already engaged in a video chat, you can also drag a group of files into the iChat video window and drop them on the Share With iChat Theater section. A Quick Look preview of the files will appear on your desktop—closing it removes the file from iChat Theater.

## FUNKY VIDEO EFFECTS

If you want to add a bit of humor to your next video chat, iChat now offers special effects straight out of OS X's Photo Booth program. Turn one of these effects on by clicking on the Effects button in the lower left of a video chat window or by selecting Show Video Effects from iChat's Video menu. You can appear to speak through a thermal camera or an X-ray machine, or distort your appearance with the comical bulge, twirl, stretch, or mirror effect.

TIP

## TURN iCHAT INTO A MUSIC CONTROLLER

If you have more than one Mac in your home and one of them is set up to play iTunes music, you can use iChat to control that playback from any Mac on the network. First, set up iChat to use Bonjour messaging (in Preferences: Accounts). On the iTunes-owning Mac, open iChat's Alerts preferences and set the Event menu to Message Received. Place a check mark next to the Run AppleScript option and select iTunes Remote Control.applescript from the pull-down menu. You can then send the iTunes-owning Mac these commands as chat messages from another Mac: `status`, `next`, `previous`, `mute`, `unmute`, `help`, `play`, and `pause`. Just type each one on a line of its own and press return; the iTunes Controller AppleScript on the other end will then tell iTunes what to do.

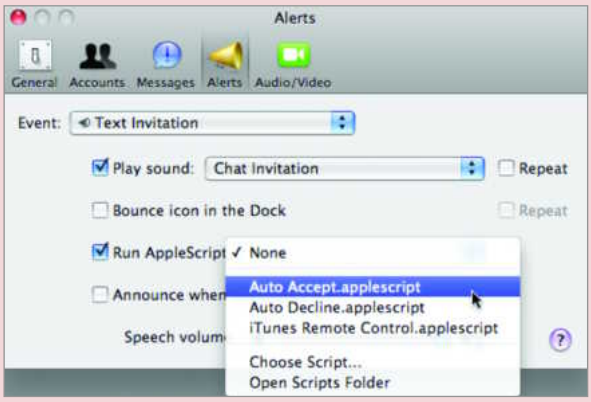

**More Than a Chat** You can turn your next video chat into a multimedia presentation with iChat Theater.

TIP

## AUTO-ACCEPT CHATS

iChat, being the good citizen that it is, pops up a dialog box whenever someone initiates a chat with you; you can use the dialog to accept or reject the chat request. But what if you're a sociable sort, and you always accept your chat invitations? In that case, the dialog box is nothing but a waste of time and energy that you'd rather do without. In Leopard you can get rid of it without actually clicking on the Accept button each time.

Open iChat's preferences and click on the Alerts tab. From the Event pop-up menu, select Text Invitation. Enable the Run AppleScript option and select Auto Accept.applescript from the pull-down menu. To do the same thing for video and audio chats, repeat the process selecting Video Invitation or Audio Invitation from the Event menu. (If you'd like to see the source for these scripts, you'll find them in the top-level Library: Scripts: iChat folder.)




iChat backdrops can also act like a green screen to put a fake background behind you so you appear to be floating in the clouds, standing on the moon, hanging out under water with fish, or traveling along a roller-coaster (see "Hide Your Clutter").

You can use Apple's built-in backdrops or add your own images or videos. You'll first need to make sure your background doesn't contain any movement and isn't the same color as your clothing or hair—the more contrast between you and the background, the better. Then simply step out of view of your iSight and select the option you want. When you come back into view, you'll see the cool effect in your preview window. (Keep in mind that these effects require a powerful processor.) By the way, if you find the image of yourself too distracting during a video chat, you can now remove the picture-in-picture view from iChat by selecting Hide Local Video from iChat's Video menu.

**Hide Your Clutter** Want to pretend you're somewhere else? iChat now lets you use fake backgrounds for your video chats.

### AUDIO AND VIDEO RECORDING

iChat has been able to save logs of your text chats for some time, and the latest version adds the ability to your multimedia chats. You can now record audio chats as AAC files and video chats as MPEG-4 files.

To do so, select Record Chat from the Video menu while engaged in an audio or video conversation. iChat will then ask the other participants for permission to record the chat. Once everyone has agreed, all parties will see a flashing red dot in the chat window to indicate iChat is recording. You can select Stop Recording from the same Video menu at any time. Once you close the chat window your recordings will appear in the iChats folder in your Documents folder. These recording features could be useful for inserting audio or video into podcasts, or just keeping a record of your conversations so you can prove that you were indeed right during a discussion with your sibling.

### MULTIPLE LOGINS

The previous version of iChat let you add several different accounts in iChat's Accounts preference pane, but only one could be active at any given time. iChat 4 does away with this limitation; you can now have multiple active accounts at the same time, each with its own buddy list. You can even drag and drop buddies from

TIP

## GO INCOGNITO

Want to see what your buddies are up to even when you don't have time to chat? iChat in OS X 10.5 lets you set your status to Invisible. You'll be online and logged in, but no one—not even your closest buddies—will know it.


**Many Voices** Reduce screen clutter by combining multiple chat windows into a single tabbed pane. When someone in a different conversation responds, a small text bubble pops up next to his or her name.

one list to another. When adding new accounts in iChat's Accounts preferences pane, be sure to turn on the Use This Account option under Account Information—you can activate as many accounts as you want.

There are also a few useful changes to the way you view your buddy lists. For example, you can animate buddy pictures by selecting Animate Buddy Pictures from iChat's General preferences and choosing an animated GIF as your buddy picture—your chat participants need to turn on the setting as well to see the animation. You can also manually reorder your buddies (instead of sorting only by first name, last name, or availability).

## TABBED CHATTING

When you chat with multiple people at once, navigating between all of the chat windows scattered around your screen can be confusing. iChat 4 makes managing these windows simpler by adding tabbed chats. Open iChat's Messages preference pane and enable the Collect Chats Into A Single Window option.

Now when you start a second conversation, your chat window will automatically expand and display the name and icon of each buddy you're conversing with in a blue-tinted pane to the left of the message window (see "Many Voices"). While you're chatting with one person, new replies from others will show up as speech bubbles next to their icons in the side pane—clicking on a person causes his or her bubble to vanish and brings you into an active chat with that person.

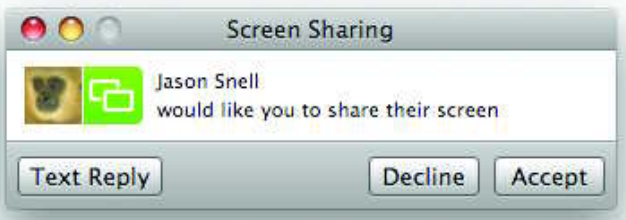
## RETURN TO CLOSED CHATS

You can also now have iChat watch your back if you absentmindedly quit the program while a chat is still in progress. From iChat's Messages preference pane, turn on the Remember My Open Chats Across Launch option. Now when you accidentally quit iChat in the middle of a conversation, relaunch iChat and the program will reestablish communication with the slighted parties.

## SHARE YOUR SCREEN

Taking a page from Apple's Remote Desktop software, iChat's Buddy menu gives you the option to share your screen with another user or request permission to get shared access to his or her screen (see "Screen Sharing").

Once you have access to a shared screen, you can control mouse movement, open folders and applications, or even drag files between computers. In addition to being a good way to collaborate with colleagues, it's also great for helping friends and family in your Mac-using circle troubleshoot problems (and it's easier to use than the Finder's Screen Sharing feature).




**Screen Sharing** You can now share your screen or take over someone else's—with his or her permission, of course.

## CHAT ANYWHERE

Did you know you can use iChat to send a message to any cell phone that's Short Message Service (SMS) enabled? Select File: Send SMS (or press⌘-shift-N). Enter the person's phone number and click on OK. The program will open up a new chat window for sending text messages to that number. Depending on what service provider your friend uses, he or she might be able to reply to your message from the cell phone.

If you'd like to get all of your iChat messages while you're away from your computer, it's pretty easy. The trick is that you need an AIM screen name, not a .Mac account. If you don't have one yet, visit my.screenname.aol.com and sign up for a free account. Then configure iChat to use your AIM screen name, if doesn't already, by visiting iChat: Preferences and clicking on Accounts. Click on the plus sign to add new account information.

Once you're logged in to iChat via your AIM screen name, visit AOL's Mobile page, mobile.aol.com. Click on Sign In and log in with your AIM screen name if necessary. Once logged in, click on Mobile Settings under your user name and follow the instructions. Once you enable forwarding, AIM will send all received iChat messages to your cell phone via SMS.

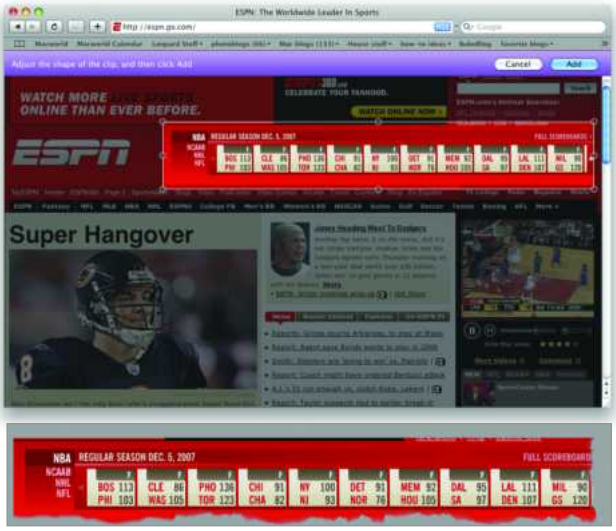
# Safari 3

Unlike with the rest of Leopard's new features, Mac users have been able to test-drive the latest version of OS X 10.5's Web browser for a while. Apple released Safari 3 as a public beta for Tiger users in June 2007. If you didn't try—or gave up on—the beta version of Safari in Tiger, you'll find many useful improvements in Leopard's version of Safari that make browsing a more pleasant experience. You'll also find one Leopard-only feature—Web Clips—that helps you keep tabs on your favorite spots on the Web without opening your browser.

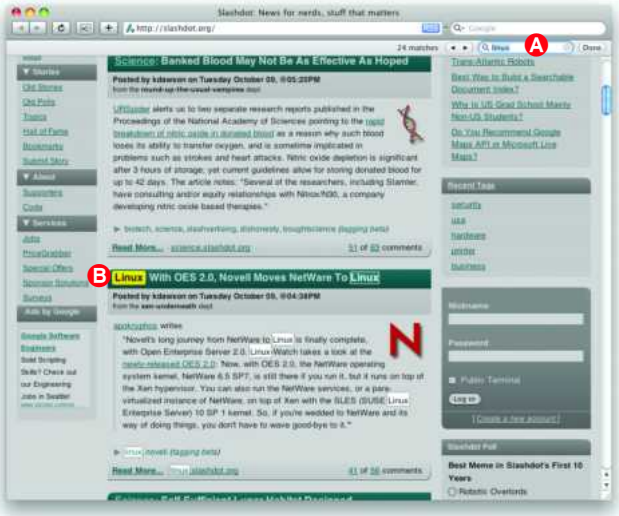
## WEB CLIPS

Do you find yourself repeatedly opening the same Web page to check for the latest sports scores, news updates, or forum posts? With Safari 3 and Leopard, you can save yourself the trip. Safari now lets you turn a portion of any Web page into an easily accessible Dashboard widget (called a *Web clip*). Once you've made your Web clip, you can just press F12 to see an up-to-date snapshot of that portion of the Web page.

The process of creating a Web clip is quite simple: with the page open in Safari, click on the new Open This Page In Dashboard toolbar button (it looks like a pair of scissors). The page will dim, except for a white rectangle. Move your mouse until the rectangle is over the area you'd like to turn into a Web clip, and then click the mouse button (see "Clipping Service"). You'll see a series of adjustment circles appear on the rectangle; drag them to adjust the selection area, and then click on the Add button. Dashboard will open, displaying your newly created widget. You can then click on the widget's info (*i*) button to choose a design theme for your widget. That's all there is to it—as long as you leave the widget open. Unfortunately, there's no way to save a user-created widget, so if you close the widget (by clicking on its *x* button), you'll have to start the process again.




**Clipping Service** The Web Clips feature lets you turn any portion of a Web page (top) into a Dashboard widget (bottom).




**Smarter Searches** Type a term into Safari's search bar A and the program immediately highlights the first match B.

## IMPROVED SEARCHES

If you've ever been frustrated by fruitlessly scanning a Web page for the information you're interested in, you'll appreciate Safari's improved search tool. Searching in Safari is now dynamic. Just press ⌘-F and begin typing your search query. Safari highlights all the matching terms on the page, adjusting its selections as you type more characters (see "Smarter Searches").

## BOOKMARK GROUPS OF TABS

You can now create a bookmark from a group of tabs in Safari, as you can in Firefox. For example, say you've been browsing the Web for a couple of hours and realize it'd be great to save the six tabs you've got open as a group for future use. All you need to do is select Bookmarks: Add Bookmark For These 6 Tabs, and then name the bookmark.

## MUCH MORE

Safari 3 also includes expanded controls for working with tabs, resizable text boxes, a way to recover from accidental window closings, and more. For advice on mastering these features and tips for improving your Web smarts, see the *Work the Web* chapter.

# iCal 3

Leopard's version of Apple's calendar program offers some nice new editing tools and a clean look. But the biggest news is that it now supports group scheduling—*if* you have access to the right server software.

## GROUP SCHEDULING

E-mail is no longer the only way to invite people to iCal meetings. The most significant change in iCal 3 is that it can now do group scheduling. That means you can schedule meetings with co-workers, check on when they're available, and book meeting resources (such as conference rooms and projectors), all from within iCal.

Let's say you're scheduling a meeting. After you fill in the attendees list, you can press shift-⌘-A to call up an Availability window, which will show you when invitees are free. That same window has a Next Available Time button; click on that, and iCal will find the next slot that works for everyone on your list.

To make group scheduling work, however, you need to be running the right server software on your network. That means it must be compliant with the CalDAV calendaring standard. Not surprisingly, the new version of OS X Server (Leopard Server) is. There are several other CalDAV servers out there; unfortunately, though Microsoft recently joined the CalDAV consortium, Exchange isn't (yet) one of them.

## CONSISTENT LOOK

The new iCal is visually much more consistent with the rest of OS X than in the past. Brushed metal gives way to solid gray. The frames separating the calendar list from the main calendar are gone. The search field moves from the center bottom to the upper right, where you'll find search fields in other applications.


**Easier Editing** iCal no longer makes you travel to the Event pane to add details for an appointment. Instead, double-click on a date and time and simply fill in the event's title. Press ⌘-E to edit additional details.

The changes aren't just cosmetic: the iCal sidebar, for example, gets new subsections for subscribed and workgroup calendars, making it feel more organized.

## EASIER EVENT EDITING

The editing interface has also changed. In the previous version of iCal, when you wanted to change the details of an appointment, you selected the appointment, which caused an editing window to slide out of iCal's side. In the new iCal, double-clicking an appointment summons a box to pop up right next to the appointment itself; to edit appointment details, you click on the Edit button in that box. (You can also select the appointment and press ⌘-E to cut down on clicks.)

Other nice tweaks: You can set a default alarm for all new appointments. You can also attach files to appointments now (when you invite attendees by e-mail, those files are sent as attachments). Even if you're only managing your own events, attaching related documents such as Google Maps means you'll have less searching to do when the event arrives.

TIP

### CREATE OVERLAPPING iCAL EVENTS

Do you need to track overlapping events in iCal—for instance, if your son has swim class from 4:30 to 6:30 p.m., while your daughter has soccer practice from 5:15 to 7 p.m.? When you're in Day or Week view (⌘-1 or ⌘-2), you could create a new event and then just drag and drop it to overlap the existing event. But here's an even quicker way: press and hold ⌘-option, and then just start dragging at the time you wish the new event to start—right on top of the existing event.

# Automator 2

Automator lets you create useful little programs that perform routine tasks—even if you know nothing about programming. You simply snap predefined actions together to create a workflow and save it as stand-alone application or a plug-in to OS X's contextual menu. OS X 10.5's new version of Automator makes creating these little programs even easier. It also adds advanced features for taking on more complex tasks. (For detailed advice on creating your own workflows, see the *Automate Repetitive Tasks* chapter.)

## GETTING OFF ON THE RIGHT FOOT

You'll notice one big change as soon you launch Automator. In OS X 10.4, you were immediately dumped into the work area, where you could start building your workflow from scratch. In Leopard, you're instead presented with a dialog box that offers a number of starting points—Custom, Files & Folders, Music & Audio, Photos & Images, and Text (see "Where to Begin"). Choose one, and several pop-up menus appear, asking where and how Automator should get content. Make your selections and click on Choose, and Automator will open with a couple of actions already showing in the workflow area. If you prefer to start with a clean slate, simply choose Custom.

## RECORDING ACTIONS

In the top right corner of Automator's interface (next to the Stop and Run buttons) is a new Record button. Click on it, and Automator activates the Finder and displays a small Recording dialog box. The recorder then captures your keystrokes and mouse actions—opening System Preferences and activating a specific pane, for example, or launching a program—letting you turn almost any task into a part of your workflow. While it won't allow you to do everything you might want to, it will let you work around some limitations of the built-in actions.

## NEW LIBRARIES AND ACTIONS

One complaint about the first version of Automator was that it didn't offer enough actions to be truly useful. The new version moves in the right direction by offering a number of practical new actions. There's Choose From List, which presents a pop-up list of options the user can choose from; Copy To Clipboard; Get Contents Of Clipboard; actions that hide or quit applications; and a slew of actions that work with RSS feeds.

Automator 2 also makes actions easier to find. Actions are now listed alphabetically within groups. Second, actions are sorted by function, not by application—so all photo-related actions are found in the Photos group. (If you preferred that older organization scheme, you can switch to it by selecting View: Arrange Actions By: Application.)


**Where to Begin** Automator 2 lets you specify what type of files you'd like to work with and where they'll come from before you begin your workflow.

Automator also gives you the power to create your own collections with the Smart Groups features. Similar to smart albums in iTunes or iPhoto, smart groups let you easily find items that meet certain criteria. For example, you could create a smart group called *Actions that find things* by creating the condition Name Begins With Find.

## VARIABLES

Another complaint about Automator 1.0 was that it limited you to choosing options Apple provided. If you wanted to work with some text, for instance, you had to figure out how to get it into Automator. The new version supports variables, which can be text or numbers. Automator includes a number of predefined variables for things such as the current date and time and the user's .Mac account name. There are also variables for storing text, file paths, shell scripts, and AppleScripts. The ability to use variables in workflows allows Automator to accomplish more-complex tasks than its predecessor could.

## OTHER NEW FEATURES

Automator has plenty of other smaller enhancements. In the workflow area, you can now expand workflows to show the results of each step within the workflow itself. Similarly, the log is now displayed within the Automator window. A Looping feature lets you repeat some portion of a workflow a specified number of times, which can be useful if you want to, for instance, repeatedly run a shell script that checks a Web connection.

# Preview 4

Preview may well be one of the most underappreciated programs in OS X. Many of us think of it only as a viewer for images and PDFs. But in fact, the program can do much more than just *view* these files. And in Leopard, Preview has gained even more power.

## WORKING WITH PDFS

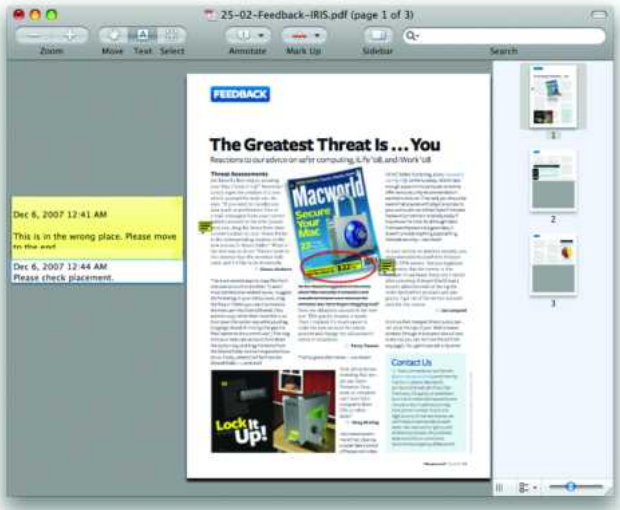
You downloaded a ten-page PDF, but you need only two of those pages. No problem. Preview now lets you delete individual pages from a multipage document. Simply select the page you want to remove in the sidebar and choose Edit: Delete Selected Page.

You can also rearrange the pages by dragging them around the sidebar or even merge multiple PDFs into one file. To do the latter, drag individual pages from the sidebar of one Preview window into the sidebar of another.

Users who often collaborate on documents or images will be pleased to know that Preview features improved annotation tools for commenting on documents. Notes no longer appear as separate text boxes floating over the document. Instead, you'll see a note icon that expands to show the comments to the side of the page (see "Change This"). The Mark Up tool lets you strike through, underline, or highlight text. The program also offers improved compatibility with annotations created in Adobe Acrobat.

## GRAPHICS POWERS

The previous version of Preview could handle basic image edits such as saturation, exposure, and cropping, but for anything more extensive you needed a true image editor. But Preview 4 can perform a surprising number of editing tasks.




**Change This** Collaborating on PDF documents is much easier in Preview 4. Comments appear as little note icons. You can also strike through text to make deletions.


**Bigger Is Better** Preview now offers an Adjust Size option similar to what you would find in an advanced image editor like Adobe Photoshop.

Of the program's new imaging tools, one of the most useful is the Adjust Size option (in the Tools menu). This gives you a dialog box similar to what you'll find in Adobe Photoshop or Photoshop Elements. Here you can adjust an image's resolution, set dimensions in inches and pixels, and resample the image to create a larger version (see "Bigger Is Better"). This is very handy for resizing images to a specified resolution or when significantly changing the size of an image.

Preview 4 also picks up some of the editing features from iPhoto '08, the image editor included as part of the iLife suite, including Temperature and Tint controls for correcting bad colors and an Auto Levels button that attempts to adjust the image's black and white points for you.

Want to remove the background from an image? The Select tool offers a number of interesting options for not only cropping images, but also creating alpha channels to mask out part of the image. You can crop images as an oval or use the Lasso Selection tool to draw your own shape. Once you've selected a part of the image, press ⌘-K to crop out any portion of the image outside of the selection.

The Extract Shape tool lets you paint a border around the edges of an object to select everything within, while the Instant Alpha tool selects masking areas based on tones; it's similar to Photoshop's Magic Wand tool.

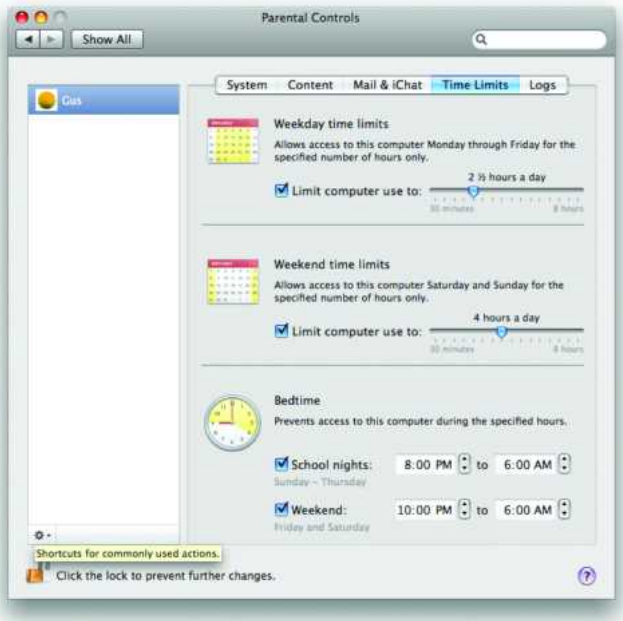
# Parental Controls

Previous versions of Mac OS X let you place basic limitations on non-administrative user accounts. For example, you could restrict access to certain programs and system settings, choose which Web sites users could visit, or even prevent Dictionary from displaying profanity. These limitations are useful not just to parents, but also teachers, IT departments, and businesses that offer public computer stations.

In Leopard, Parental Controls gets its own system preferences pane—reflecting not only the greater importance Apple has placed on this feature, but also the extent of its added powers. You can apply parental controls to any non-administrator account, including the guest account. When setting up a new account, select Managed With Parental Controls from the New Account pop-up menu; for existing accounts, check the Enable Parental Controls box.

## RESTRICTING PROGRAMS

The Parental Controls settings for a particular account are divided into five screens. The System screen lets you control the appearance of the Finder, select which programs are accessible, prohibit burning CDs and DVDs, and prevent changes to printer, Dock, and password settings.




**Limiting Computer Time** Leopard lets you enforce bedtimes and limits on computer usage by setting up time limits.

A new Content screen incorporates Tiger's Dictionary and Safari restrictions, but the latter have been improved in two ways. First, a new option is available for limiting access to adult Web sites automatically; Leopard includes a content filter that intercepts Web pages on the fly and determines if each is "suitable for kids." As with Tiger, you can create your own list of allowed sites, but Leopard makes the process much easier than before. Instead of having to log in to each account and configure Safari with your list of allowed sites, you enter the URLs and names of sites you want to allow—without having to leave your own account. This list of allowed sites overrides Leopard's standard content filter for these sites but uses the filter for all other sites.

The Mail & iChat screen lets you quickly create a *whitelist* of addresses that the user is permitted to exchange messages with; the Send Permission Requests To option automatically sends an e-mail whenever the user attempts to e-mail or chat with someone who isn't on the list.

## SETTING TIME LIMITS

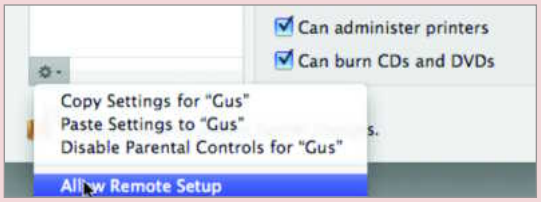
Want to make sure your daughter isn't chatting with friends when she should be studying or sleeping? A new Time Limits screen lets you restrict *when* and *for how long* each user has access to the Mac (see "Limiting Computer Time"). You can set separate time limits for weekdays and weekend days, and you can also restrict usage during certain hours. For example, you can restrict an

TIP

## CONTROL ACCESS

Don't want to make a trip to your son's room each time he needs access to a blocked Web site or wants to add a friend to his iChat list? When setting up his parental controls, click on the gear icon at the bottom of the user list and select Allow Remote Setup.

With this option enabled on a Mac, that Mac's non-admin accounts will appear in the Parental Controls user list on *other* Macs on your home network, allowing you to configure those accounts' Parental Controls setting over the network—a convenient option in a lab or home setting.

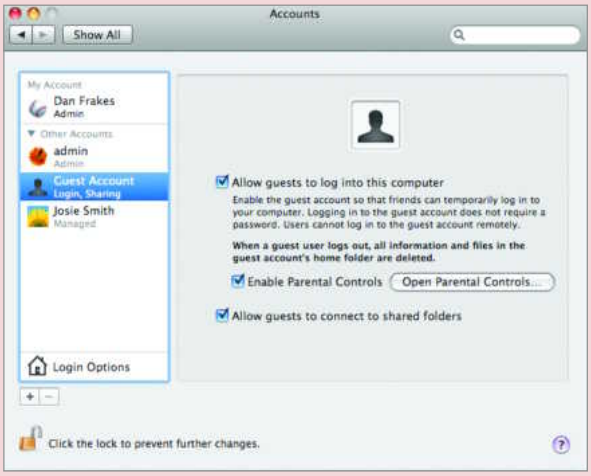


# CONTROL GUESTS, REMOTE COMPUTERS, AND INTRUDERS

Leopard also offers plenty of options for controlling who connects to your Mac and how:

## GUEST ACCOUNTS

The Accounts pane in Leopard's System Preferences has also received some fine-tuning. Most notable is the new guest account. When enabled, this account lets someone use your Mac temporarily without giving him or her access to your own account or going through the hassle of setting up a fresh account. A guest account doesn't require a password and doesn't have administrator access. Once the guest user logs out, all data and settings in that account's Home folder are deleted—the account is wiped clean for the next guest.




## SCREEN SHARING

It's late on a weeknight and your cousin calls you with a desperate plea for tech support. With the Screen Sharing feature in the Sharing preference pane, you can access your cousin's Mac without a personal visit. Screen Sharing lets other computers on a network (or on the Internet) access and control a Mac using VNC (virtual network computing). Although not new to Leopard, this feature used to be hidden away in the Access Privileges tab of Apple Remote Desktop—and as a result couldn't be enabled unless Apple Remote Desktop was turned on. In Leopard, Screen Sharing gets its own service listing.

## FILE SHARING

You've always been able to access files on another Mac over a network, or even over the Internet. But with previous versions of Mac OS X, it wasn't easy to decide *which* files and folders were accessible. In Leopard, you can now easily share specific folders and volumes on your Mac with other computers by simply adding them to the Shared Folders list and then choosing your sharing options; you can even control access to each share on an account-by-account basis (for instructions, see "Sharing Files and Folders" in the *Access Your Mac from Afar* chapter).

## SIMPLIFIED FIREWALL

OS X's firewall settings (which are now located in the Security preference pane) have changed considerably since Tiger. The new approach is easier to configure (for instruction, see "Securing Your Connections" in the *Troubleshooting Your Mac* chapter). However, this simpler configuration approach also removes the advanced settings that were accessible in Tiger. For example, there's no way to open or close a specific port, to restrict network access to TCP or UDP, or to configure the firewall for individual OS X services. To get these features, you'll need to install third-party firewall software such as Haynet's WaterRoof utility (payment requested; www.hanynet.com).

account to two hours per day of use during the week and three hours on weekend days, and block access completely from 8 p.m. to 7 a.m. on school nights and from 10 p.m. to 8 a.m. on weekends. (Unfortunately, you can't set up multiple ranges during the same day, for example, to disable access for a user from 8 p.m. to 7 a.m. *and* from 9 a.m. to 4 p.m.)

## KEEPING AN EYE ON ACTIVITY

To remain vigilant about who your kids are interacting with and what site they are visiting, you can use the Logs screen. From here you can monitor the activity of a controlled account, including a list of all visited Web sites, any blocked sites that the user attempted to access, programs used, and anyone with whom the user chatted using iChat. A pop-up menu lets you restrict the log view to the current day, or the past week, month, three months, six months, or year. You can also group the log display by date or by Web site.

Keep in mind that *any* user on your Mac with administrator status can change settings and—perhaps more important—view logs in the Parental Controls pane. Although this is likely not an issue in a home setting where it's OK for two or more adults to be able to keep an eye on controlled accounts, it could be a drawback in other situations—for example, if you're using Parental Controls in an office or educational setting. This is another reason you should give administrator status to accounts only when absolutely necessary.

# DVD Player

OS X's DVD Player application has a pretty simple purpose—letting you watch DVDs on your Mac. But that hasn't dissuaded Apple from making improvements in Leopard, which adds improved playback controls and additional safeguards for what type of movies can be played.

## PEACE OF MIND FOR PARENTS

Parents can now have DVD Player ask for authorization before playing any discs—giving you the chance to make sure the content is appropriate. To set this option select File: Get Disc Info and click on the Parental Controls tab. You'll need to enter the password for an administrator account to change the setting.

## IMPROVED PLAYBACK CONTROLS

You'll find several new controls for navigating your video files more quickly. The Go menu now offers Skip Back 5 Seconds (⌘-option-right arrow) and Skip Ahead 5 Seconds (⌘-option-left arrow) commands. You also have more control over slow-motion playback. Select Controls: Slow Motion to set the rate—you can choose from 1/2 speed, 1/4 speed, or 1/8 speed. Pressing the spacebar returns playback to normal speed.

When you're watching a DVD in a window, pausing playback brings up a progress slider, similar to the one in QuickTime or iTunes. This means you're no longer limited to using chapters or the fast forward or rewind options to get where you're going.

To access these controls in Full Screen mode, move your pointer to the bottom of the screen (entering Full Screen automatically removes the floating remote, which in Tiger required you to press the escape key or wait until it faded away on its own). A control bar pops up from the bottom with standard playback controls as well as a progress slider that you can use to scrub forward and backward through the movie. Click on the Chapter display to toggle between chapter info, elapsed time, and remaining time. Mousing to the top of the screen displays additional features, including chapter thumbnails, bookmarks, and video clips.

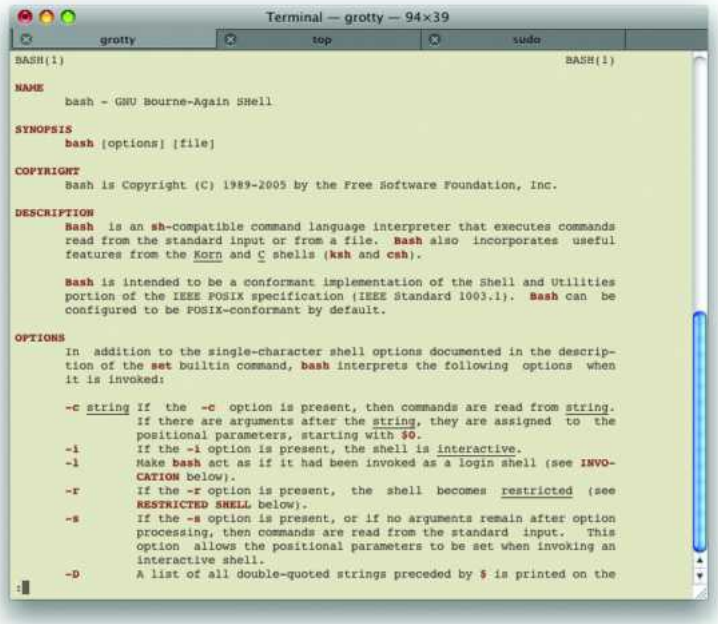
## EASIER VIDEO CLIPS

The video clips interface , which lets you identify favorite scenes of a DVD and then access them again later, is also much improved thanks to the Video Clips window. It now lets you scrub to your start and end points easily and with greater precision than before. Clicking on the pop-up menu at the top of the same window also gives you access to a Chapters option with thumbnail previews, similar to what you get at the top of the screen during full screen playback.

**At the Movies** When viewed in full-screen mode, Leopard's DVD player offers hidden controls at the top and bottom of the screen.

# Terminal 2

Terminal is the application that gives users direct access to OS X's Unix core. As such, it's not something that everyone uses every day. However, for Unix converts and people who like to use OS X's Unix programs, it's an essential application—and it's received a substantial upgrade in Mac OS X 10.5.




**Tidy Terminal** Terminal now lets you collect all your open windows into one tabbed interface.

## TABS

Like Safari and iChat, Terminal now sports a tabbed interface—press ⌘-T or choose Shell: New Tab, and you'll see a new tab appear at the top of your Terminal screen. Tabs are a great way to keep multiple information sources available at once, without crowding your screen.

Tabs in Terminal windows are quite flexible—you can click and drag them around within one window to rearrange them, drag them out of the tab bar to create new windows, or drop them into another Terminal window to transfer them. You can even take an open Terminal window without any tabs, show its tab bar (⌘-shift-T), and then drag that window into a tabbed Terminal window to turn the first window into a new tab.

## SETTINGS

You can customize the appearance of Terminal windows using the Settings pane of Terminal's preferences and save your custom designs for use on other windows. Then, using the improved Inspector, you can easily select a different look for each Terminal window—or tab—that you have in use.

Leopard also offers additional options for customizing the look of your screens. You can set the opacity level of selected, normal, and bold text; the background color; and the cursor independently—OS X 10.4's Terminal allowed setting the opacity of only the background color.

If you were a fan of using an image for your Terminal background, though, you'll be disappointed: that feature has been dropped in Mac OS X 10.5.

## WINDOW GROUPS

You can also create window groups—collections of open windows and tabs. You can set a window group as the default, so it opens when you launch Terminal, or you can switch between them using the Window: Open Window Group menu item. Unfortunately, there's no easy way to change which window group is the default without opening one and saving it again.

## INSPECTOR

The Inspector has been greatly simplified in 10.5. There are now only two tabs: Info and Settings. Info lets you change the title and size of a window or tab and shows a list of running processes. Settings lets you change the look of a window or tab by choosing one of your defined settings.

# 12 Hidden Features

With more than 300 new features, not all of Leopard's changes can be showstoppers, but there are plenty of smaller improvements that can have a big impact on how you work. Here are a few of our favorites.

## INSTANT THEATER

If your Mac came with a remote control, you can have it automatically launch Front Row whenever you insert a DVD, giving you a more theater-like experience. Open the CDs & DVDs system preferences and make sure that the When You Insert A Video DVD option is set to Front Row. By the way, anyone can now take advantage of Front Row's media interface to show slide shows, play music, or watch TV shows. If you don't have a remote control, you'll use your keyboard's arrow keys and return key to navigate the menus. Press escape to exit Front Row.

## ADD THE TIME TO YOUR SCREEN SAVER

In addition to offering some impressive new screen savers—including a Mosaic Display option, which uses your photo library to create mosaics of individual images—Leopard now lets you display the current time while the screen saver is active.

## PREVIEW YOUR FONTS

Want to compare the typefaces of several fonts side-by-side? Open the Font Book application, ⌘-click on each font you want, and then select File: Print. You'll get a nicely formatted preview of not just each font, but also each *face* of each selected font. Or click on the Preview button in the Print dialog box to see the document without printing.


**Font Previews** Font Book now makes it easy to print out previews of your fonts for reference.


**Screen Savers** The new Mosiac Display Style option uses your photos to create mosaics of each image in the selected album.

## CUSTOM KEYBOARDS

In the Keyboard & Mouse preference pane, the Modifier Keys tab—which lets you change the behavior of the control, option, ⌘, and caps lock keys—now lets you choose different settings for different keyboards. So, for example, if you use a Windows keyboard with your MacBook Pro at work, and a Mac keyboard at home, each can have its own modifier-key settings.

## SEE A MAP

Not sure how to get to your friend's new home? If you have his or her address in Leopard's Address Book, simply control-click (or right-click) on the address and choose Map Of. Safari will open with the address pinpointed in Google Maps. From here you can choose to get directions or search nearby for businesses.

## HEAR VOICES

Open Speech, click on the Text To Speech tab, select Alex from the System Voice pop-up menu, and click on Play. You'll probably be impressed by how lifelike Alex's voice is. To put Alex to good use, enable the Speak Selected Text When The Key Is Pressed option, click on Set Key, and choose a memorable key combination (for example, control-F9). Open a program such as Text Edit or Mail, highlight some text, and press that key combination to hear Alex pronounce your words trippingly on his virtual tongue.

## GET HELP

Instead of simply opening a minibrowser for a given program's help files, clicking on Help now displays a drop-down menu with a


**Get Help** Leopard's improved Help viewer uses a large animated arrow to show you how to access the appropriate menus.

search box and a list of key topics. Enter a search into the box, and Help searches the program for information that's related to what you've typed. But it doesn't just search the program's Help files; it also searches the program's menus. Click on a search result to immediately access that menu. If you just want to see where that menu command lives, hover your mouse over the search result. When you do, the Help system will show you the location of that command, along with a can't-miss-it colorful arrow symbol pointing at that menu item. Using these new features together, the Help system can actually help you use your Mac more quickly and efficiently, by making it much easier to find and use menu items.

## TURN SNAPSHOTS INTO ANIMATIONS

With Photo Booth you can use your Mac's built-in camera to take snapshots or short video clips of yourself. The new Burst mode lets you shoot four photos in quick succession, giving you a four-panel image similar to what you'd get from a real-world photo booth. If you want just one of the four images, you can track it down in your user folder's Library/Pictures folder. But here's the fun part: if you choose File: Export from Photo Booth, Leopard will turn your four-paneled image into an animated GIF—perfect for taking advantage of iChat's support for animated buddy icons.

## RESIZE PARTITIONS

In Leopard, you can use Disk Utility—the built-in application for formatting, analyzing, and repairing the hard drives on your Mac—to create and resize hard disk partitions on the fly, without having to erase your drive and start over. For people looking to create temporary workspaces for projects, or to boost productivity in Photoshop, this is a huge improvement. Leopard's Disk Utility also lets you resize disk images—a nice feature for those who use Disk Utility to make an empty disk image of, say 100MB, only to find later that they don't need that much space. They can now shrink it down to the proper size and regain that extra space.

## SMARTER DISMOUNTS

Leopard is also smarter about ejecting partitions. In the past, if you ejected a volume from a partitioned drive from your desktop, Mac OS X assumed you wanted to unmount all the partitions on that drive. With Leopard, you'll get the option of only unmounting the volume you selected, or the whole disk. (Hold down the control key when you eject a partition, and you can unmount that partition immediately, bypassing the dialog box.)

## SCROLL BACKGROUND WINDOWS

Have you ever gotten stuck trying to synchronize data between two windows, and found yourself tediously moving back and forth to scroll each window to the correct spot? Leopard now makes this task much easier. If you put your cursor over a nonactive window, you can use your trackpad or mouse's scroll wheel to scroll the page without having to click in it first.

# DIVE INTO DICTIONARY

With Leopard, Apple has added a few simple—but important—features that turn the basic Dictionary into a more practical reference tool. To begin with, working with the new Dictionary is more like using a browser than perusing a dictionary. For example, nearly every word you see in Dictionary functions like a hyperlink; click on that word, and you'll be taken to its dictionary entry. There are also more reference choices. In addition to the standard dictionary and thesaurus, you'll find a new Apple dictionary, which provides entries for computer-related terms. You can also search the online, user-edited encyclopedia Wikipedia. You'll need to have an Internet connection to use this feature, but Wikipedia searches happen right in the Dictionary program—not your browser.

A bookmark bar at the top of the window lists each of your reference libraries; click on one to restrict your search to just that type of reference, or choose All to broaden your search.


# Find Files Fast with Spotlight

## Use Leopard's Improved Search Tool to Track Down Anything

Want to open documents without navigating through nests of folders? Looking to dig up a long-lost e-mail from an old friend? Need a way to find all the files you worked on last Friday? Spotlight can help. First introduced in Tiger, Spotlight provides a quick and easy way to locate and open scattered files, missing documents, even applications, contacts, and events. And now that Leopard has arrived, Spotlight's searching prowess is more powerful than ever. With such useful additions as Boolean searches, new keywords to help you home in on a greater variety of content, and the ability to search by specific dates, Spotlight is an indispensable tool for finding anything you seek on your Mac. All you need to do is learn its tricks.

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# Spotlight 101

Performing a basic Spotlight search is a cinch. Click on the Spotlight icon (A) on the right side of the menu bar or press ⌘-spacebar to call up the Spotlight menu (B), and then type in one or more words—you don't have to worry about capitalization. Spotlight immediately starts presenting matches, looking for those search terms in your files' names, content, and hidden information called *metadata*. As you type in more of the word or phrase, Spotlight will refine its results.

## NAVIGATING THE SPOTLIGHT MENU

Spotlight sorts results into categories such as Documents, Folders, Images, and Messages. Depending on what you're searching for, you may also come across more application-specific groupings such as Contacts (for entries found in Apple's Address Book or Microsoft Entourage), Events & To-Dos (for iCal data), and Webpages (for Safari bookmarks and history).

Within each group, results are prioritized according to when they were last viewed or saved, so the things you've worked on recently will pop to the top of the list. The menu also highlights a result called Top Hit (C)—the one Spotlight considers most relevant, based on Apple's secret formula that takes into account file type, recent usage, and other criteria. If the item you're searching for turns out to be the top hit, you can open it simply by pressing the return key.

To launch a different file, use the up- or down-arrow keys to navigate to it, or click on it with your mouse. (For a list of handy keyboard commands, see "Spotlight Shortcuts.")

Some results open an application rather than an individual file. For example, clicking on an event displays the particulars in iCal,


while selecting a contact shows the details in Address Book (or Entourage if that's your contact manager of choice). What's more, some programs are extra smart when it comes to Spotlight queries. If Preview is your default PDF reader, for example, selecting a PDF file in a Spotlight search both opens the document *and* highlights the first occurrence of the word.

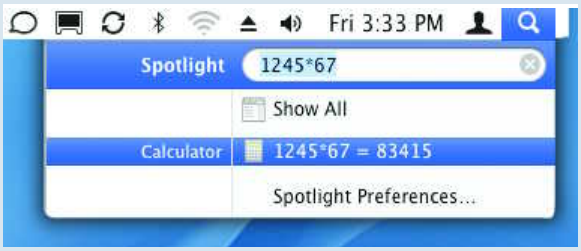
## SPOTLIGHT'S BAG OF TRICKS

Better search functionality is the main attraction of Leopard's new-and-improved Spotlight. But it also sports some clever new tricks that may come in handy.

**1. INSTANT DICTIONARY** What is a tarradiddle? Look it up in Spotlight. Whenever you type a word into the Spotlight menu, the definition appears in the list of results. Hover your cursor over the result to view the full definition in a tooltip.

**2. PROGRAM LAUNCHER** Applications now appear as the top hit, so you can launch them much more quickly. To fire up Safari, type `saf` into the menu and press return.

**3. MATH GENIUS** Type an equation into the Spotlight menu and let your Mac do your math. For example, type 2*2, and you'll get 4. If you need the area of a circle with a




diameter of 10 feet, type pi*10. Need the square root of 1024? Enter sqrt(1024). How about 64 squared? Just type pow(64,2).

Unfortunately, Apple has yet to publish a list of such commands, so you'll have to memorize the basics for now.

## CUSTOMIZING SPOTLIGHT

If you'd like to prioritize certain types of files over others, or if you want to exclude some sections of your Mac entirely, you can do so by choosing Spotlight Preferences from the bottom of the Spotlight menu.

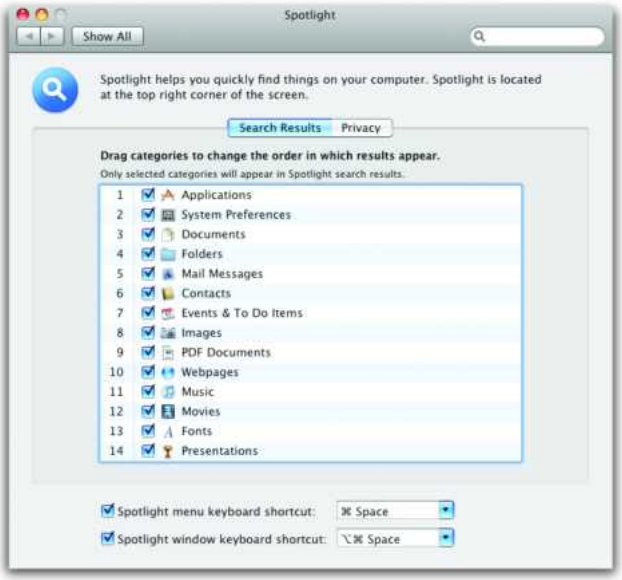
**SET CATEGORIES** The Spotlight menu displays categories according to the order in which they're set in the Search results section of Spotlight's preference pane (see "Customizing Categories"). You can drag categories around to alter the order in which they appear, or choose to not display certain groups at all by unchecking them in the list.

**EXCLUDE LOCATIONS** You've got lots of files on your Mac, but that doesn't mean you want Spotlight to search them all. You may want to keep some of your more sensitive files from turning up in a search (especially if you share a user account with someone else). Or perhaps it's just a matter of expediency: you don't want to waste time having Spotlight search backups or archives that live on a second partition or hard disk.

Spotlight indexes every drive you connect to your Mac: external hard disks, removable media (if they're writable), and even iPods (if they're set to appear as an external hard drive). You can, however, choose to exclude certain folders or volumes. In Spotlight's preference pane, click on the Privacy tab. If you want to exclude a folder or volume on your Mac (such as one containing sensitive information), drag it to this list, or click on the plus sign and select it.

If you want to exclude an external volume, first connect the drive, then add it to the list. When you do this, Spotlight deletes any current index for the folder or volume and adds this item to a list of areas it won't index or search.

If you need to search that external hard disk down the line, connect it, remove it from the Privacy list, and then wait while Spotlight reindexes the device.




**Customizing Categories** In Spotlight's System Preferences, you can choose the order in which categories appear in the Spotlight menu or hide categories completely. Click on the Privacy tab to hide certain folders or locations from Spotlight's watchful eye.

## SPOTLIGHT SHORTCUTS

Spotlight is all about productivity. To become a search whiz, learn these shortcuts for the Spotlight menu.

| | |
|---|---|
| **Display the Spotlight menu** | ⌘-spacebar |
| **Go to the first item in the next category** | ⌘-down arrow |
| **Go to the first item in the previous category** | ⌘-up arrow |
| **View the location of a file** | Hover your mouse over the file name |
| **Reveal a file's location in the Finder** | Highlight it and press ⌘-return or click it while holding down ⌘ |

## REBOOT SPOTLIGHT

Sometimes Spotlight refuses to find what you're looking for, even though you know the file exists. This problem occurs when Spotlight's indexes get out of sync. To set things right, try rebuilding the indexes, which forces Spotlight to scour your drive again and serve up the right search results.

Open the Spotlight pane in System Preferences. Click on the Privacy tab, then drag your hard drive to the list of locations that you *don't* want Spotlight to search. Wait a few seconds, then select the drive and click on the minus-sign button. By dragging the drive into this list, you force Spotlight to erase the index; when you remove it from the list, Spotlight notes that the drive is again available for indexing and starts chugging away at that task.

Keep in mind that if you have a ton of files, rebuilding the index may take quite a bit of time. While your hard drive is being indexed, you'll see a pulsing dot inside the Spotlight icon. If you try to use the Spotlight menu, you'll get a message saying that it's busy indexing your drive. Once it's finished, your searches should be more efficient.

# Creating Good Queries

On the surface, running a search in Spotlight is pretty straightforward. But if your search involves multiple terms, or if you need to narrow your results to dig up a particularly elusive file, it pays to know how to put together a good search query. By mastering a few simple tricks, you can limit your search to specific types of data, exclude terms, and more—giving you a better shot at locating exactly what you need.

## FIX YOUR PHRASING

Every Spotlight query is an AND search by default. This means the program looks for files containing *all* the words you type. For instance, if you enter **`time machine`**, Spotlight seeks out anything that contain both the words *time* and *machine*. That means the search will turn up any files that mention Leopard's new Time Machine feature, as well as e-mails from your IT administrator discussing the best time to swing by and fix your machine.

You can narrow down the search results by using quotes—this specifies that the words must appear next to one another. So if you type **`"time machine"`** Spotlight will only look for files that contain an exact match for the search string in quotes. It will find Time Machine.doc and any file containing the text *time machine*, but it will skip over that presentation on the evolution of machines through time (see "Words or Phrases"). You don't have to close the quotes either; typing only the first set of quotation marks tells Spotlight that the words following it are together. However, if you want to add more search terms after the phrase, you'll need to add the closing quotes.

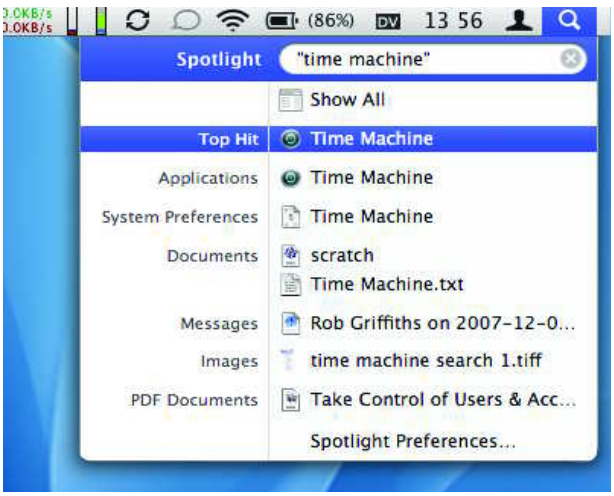
## APPLY BOOLEAN SEARCHING

One of the biggest additions to Spotlight is support for true Boolean searching, which uses logical operators (AND, OR, NOT) to refine a search.

For instance, if you type **`"time machine" OR morlocks`**, you'll see references to Leopard's backup tool, as well as any files related to H. G. Wells' fictional species. To find files that include *time machine* but make no mention of *H. G. Wells*, input **`"time machine" NOT Wells`**. Whenever you perform a Boolean search, make sure to type operators in all caps.

## USE METADATA

In addition to scouring your files' names and contents, Spotlight also peruses metadata—information about your files generated


**Words or Phrases** Typing **`time machine`** in the Spotlight search menu produces every file containing both words (left). Using quotes around both words limits the search to those files that fit the exact phrase—a much smaller group (right).


**Metadata Check** Want to know what secrets your files are hiding? The Get Info window displays a number of interesting tidbits about this TIFF, including what camera was used and the focal length. For information the file doesn't automatically track, you can add your own search terms in the Spotlight Comments field. Here we've indicated that this file is part of a presentation we're planning.

by the program or the device that created the file. For example, digital photos contain metadata for the camera's settings at the time the image was taken, including such information as the type of camera, focal length, color space, exposure time, and so forth. If you want to find all photos taken using a certain camera, just enter its name or model number into the search field.

**FINDING METADATA** To view what kinds of metadata a file is storing, select it in the Finder, press ⌘-I to open a Get Info window, and click on the triangle next to More Info (see "Metadata Check"). You're not limited to the metadata you see here, however; you can also add your own keywords to any file. In the Get Info window, click on the triangle next to Spotlight Comments. In the text field that appears, enter any keywords that might help you in future searches, such as the project to which the file is related or the last name of a person you associate with it. For example, by adding the comment **HOUSE07** to any files having to do with the purchase and remodeling of your new home, you'll be able to find all of those files in one shot.

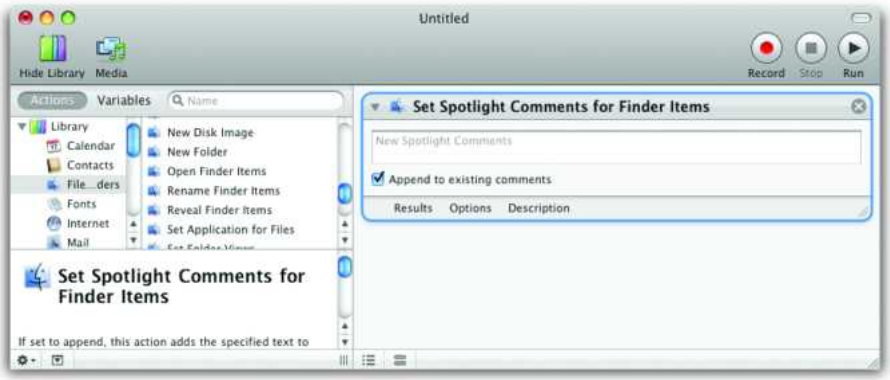
**AUTOMATE SPOTLIGHT COMMENTS** Want to avoid the tedium of assigning the same comments to multiple files? There's an easier way. Launch Automator, select Files & Folders from the Library column, and drag Set Spotlight Comments For Finder Items from the action list to the workflow pane. Click on Options and enable the Show This Action When Workflow Runs check box (see "Comments in Bulk"). Go to File: Save As Plug-In. Give the plug-in a name, such as Spotlight Comments, and select Finder from the Plug-In For pull-down menu. To put your new Automator workflow to use, simply control-click (or right-click) on the files. In the contextual menu that appears, select More: Automator: Spotlight Comments (or whatever you named your plug-in item). A dialog box appears, allowing you to append your comments to dozens of files at once.

## KEY IN ON KEYWORDS

Even if you know what you're looking for, the number of search results you get can sometimes be overwhelming. To help limit searches to certain file types or time periods, use one of the many useful keywords that Spotlight understands. Place the appropriate keyword before your search term, separated by a colon. Make sure that you don't accidentally insert a space before or after the colon—a common mistake.

**SEARCH FOR FILE NAMES** If you generally know the name of the file you're looking for, you can limit your search to just file names by using the *name:* keyword. For instance, when you type **`name:machine`** Spotlight will find only files that contain the word *machine* in the name (though your search results may also turn up bookmarks, iCal events, and other such items). As with regular search queries, you'll need to use quotes to identify phrases—for example, **`name:"time machine"`**.

**FIND AN AUTHOR** If you can't remember the contents of a file, but you know the name of the person who created it, you can try to find it using the *author:* keyword. To look for a document that




**Comments in Bulk** Adding Spotlight keywords doesn't have to be a hassle. This Automator action lets you apply comments to dozens of files simultaneously.

TIP

## SAVE A TRIP

There's an easy way to perform a Spotlight search from within Web pages and documents. If you come across a word or phrase you'd like to use as a search query, highlight the text, control-click on the selection, and choose Search In Spotlight from the contextual menu. (Not all progams offer this.) This opens a Finder window and launches an AND search for the selected text.

was generated by your boss, Herbert, enter **`author:herbert`** into the search field. There's just one catch: Spotlight will only be able to find files produced by programs that save this attribute, such as Mail, iChat, Word, Excel, Pages, Numbers, and a few others.

**CHECK THE DATE** Looking for a file that was created during a specific time period? Spotlight has a handle on dates. Typing **`date:today`** will bring up any files you created, read, received or opened today. You can also use the *date:* command with *yesterday* and *tomorrow,* though for the latter, Spotlight restricts its results to iCal events and to-do items.

The latest version of Spotlight also gives you the ability to specify more parameters (whether a file was created or modified on a certain date), as well as enter an exact date or a range of dates. You can type **`created:12/25/07`** to find files authored on that date; enter **`modified:< 11/30/06`** to look for files changed before that particular day; or type **`created:1/1/06-12/31/06`** to locate files created between these two dates. Unfortunately, *date:* keywords don't seem to work correctly all the time, so don't count on this aspect of Spotlight to work perfectly.

**SEARCH BY KIND** One of the most useful ways to narrow down a search is by using the *kind:* keyword. This allows you to distill a big, overwhelming query by restricting your list of results to a certain file format. For instance, if you type **`time machine kind:pdf`**, Spotlight will pull up only PDF files containing the words *time* and *machine*. You can also limit your search to e-mail messages, music files, system preferences, applications, and more.

While the original Spotlight only recognized a limited number of file types, the Leopard version provides the option of looking for files created by specific applications, in addition to certain file formats. You can search for **`kind:mp3`** or **`kind:tiff`** to find files in those formats, as well as **`kind:pages`** or **`kind:powerpoint`**, which will return only documents created in those programs. For a list of useful keywords you can use, see "More Kinds Than Ever." But remember, in order for the keywords to work, you must have the appropriate categories enabled in Spotlight's preferences.

## MORE KINDS THAN EVER

Unlike in Tiger, where Spotlight only dealt with a limited number of *kind:* keywords, the application now recognizes anything that displays in the Finder's Kind column. Here's a list of *kind:* keywords that may come in handy.

| | |
|---|---|
| **Aliases** | kind:alias |
| **Applications** | kind:application, kind:applications; kind:app |
| **Audio** | kind:audio |
| **Bookmarks** | kind:bookmark, kind:bookmarks |
| **Browser history** | kind:history |
| **Contacts** | kind:contact, kind:contacts |
| **E-mail messages** | kind:email, kind:emails, kind:mail message |
| **Folders** | kind:folder, kind:folders, kind:fol |
| **Fonts** | kind:font, kind:fonts |
| **iCal Events** | kind:event, kind:events |
| **iCal To Do Items** | kind:todo, kind:todos, kind:to do |
| **Images** | kind:image, kind:images |
| **JPEG files** | kind:jpeg |
| **Keynote files** | kind:keynote |
| **Movies** | kind:movie, kind:movies |
| **MP3 files** | kind:mp3 |
| **Music** | kind:music |
| **Numbers documents** | kind:numbers |
| **Pages documents** | kind:pages |
| **PDF files** | kind:pdf, kind:pdfs |
| **PowerPoint files** | kind:powerpoint |
| **Preference panes** | kind:preference, kind:preferences |
| **Presentations** | kind:presentation, kind:presentations |
| **QuickTime files** | kind:quicktime |
| **TIFFs** | kind:tiff |
| **Word documents** | kind:word |

# Advanced Searches

Finding the files you need isn't always a simple case of typing a few words or doing a keyword search. Sometimes you need to use multiple criteria to narrow down the results; other times you may want to run a broad search—for example, every music file on your hard drive that's been encoded at 320 Kbps. For larger or more complex searches, open up a Finder window and run your query from there. (Note that Tiger's dedicated Spotlight results window—which appeared when you chose Show All Results—is now a thing of the past.)

There are many advantages to running a search from within a Finder window. First, you have access to a wider range of attributes and search criteria. Second, you can add multiple criteria to define your searches more precisely. Plus, you have more options for sorting and viewing your results.

## STARTING A SEARCH

There are several ways to access Spotlight via the Finder. You can open up a generic Finder window and use the search box at the top; press ⌘-F to convert any open Finder window to a search window; or press ⌘-option-spacebar to open up a brand-new search window. You can also access the Finder window after you've started a query in the Spotlight menu (useful if you've begun a search but you're having trouble narrowing down your results). Choose Show All at the top of the menu and Spotlight will display the results of that search in a Finder window.

If the Finder displays your search results in icon view, you'll probably want to switch to list view to get a better look at your results. To do this, click on the List View button in the Finder toolbar; you can then select the column headers to sort by name, kind, or date. If you prefer a more graphical approach, switch to Leopard's new cover flow view to look at previews of your files.

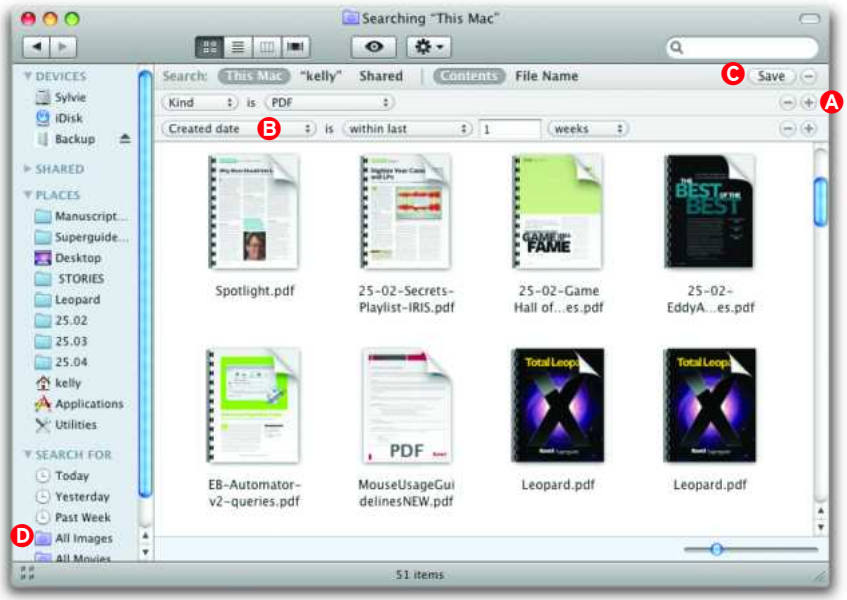
## HONE YOUR SEARCH

The Finder window's search bar contains several options for tailoring your results. You can click on the File Name button (a new option in Leopard), which forces Spotlight to search only for file names rather than names and contents. Or you can click on This Mac to change the target of your search from the folder you were in when you started searching to your entire Mac. If your computer is connected to other Macs, click on the Shared button to search any networked machines as well. When connected to other Leopard machines, Spotlight will search both file names and file contents. But when connected to a Mac running Tiger (OS X 10.4), Spotlight will search only file names.

## ADD CRITERIA

On the right-hand side of the search bar, you'll see a plus sign button. Clicking on it brings up two pull-down menus; the first is set to *Kind* by default and the second to *Any*. However, there are many more options to choose from.

To help narrow down your results, start by selecting one of the criteria in the first menu, such as Created Date, Last Opened Date, or Name. Or choose Other to call up tons more options, including Authors, Audio Bit Rate, Email Addresses, Recipients (those who received a certain file), Layers (names of Photoshop layers), and much more. Click on the check box next to an item if you want it




**Word Search** When you need more searching power, press ⌘-F to search in a Finder window. For example, here we're running a search that collects all the PDF files we've created in the past week. Click on the plus sign A to add a new condition to your search and then configure the pull-down menus B as needed. When you're done, you can click on Save C to store the search in the Sidebar D for future use.

TIP

## TAKE A QUICK LOOK

If your search turns up several likely candidates, use Leopard's Quick Look feature to take a peek inside each one without going through the hassle of opening any additional programs. With the first search result highlighted in the Finder search window, simply press the spacebar. Once you've activated Quick Look, you can click on other files to immediately see their contents.

to appear in the main pull-down menu so you can easily access it again. As you select different options, the second menu changes dynamically to allow you to set the appropriate parameters (such as dates, numbers, and so on).

If you're looking for a particular type of file, keep the first menu set to Kind, then use the Any menu to select from Images, Documents, Movies, and more. (It's the same as using the *kind:* keyword, only you don't need to remember the keywords or manually type them in.) You can access more file types by choosing Other from the Any menu, then entering a kind of file in the text field, such as *Excel* or *MP3*.

### COMBINE MULTIPLE QUERIES

Sometimes a search requires more than one set of criteria in order to summon up the results you want. Finder-window searches allow you to specify as many parameters as you'd like.

Say you want to search for all Word documents you've created or modified in the last month. To do this, leave the first menu set to Kind, then choose Other from the Any menu. Type **`Word`** in the text field; this will limit the search to Microsoft Word documents. Click on the plus sign in the search bar to add another search parameter. Set the first two pull-down menus to Last Modified Date Is Within Last, enter 1 in the box, and select Months from the last menu. Spotlight will display all files you created or updated within the past month.

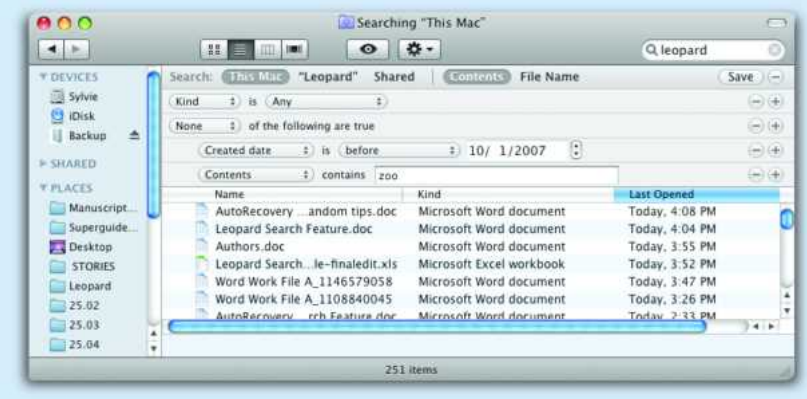
### SAVE SEARCHES FOR LATER

What if you plan to search for the latest Word files once a month so you can back them up? There's no reason to manually type in the same commands again. To save yourself some work, preserve the searches you run regularly as *smart folders*.

To save your current search as a smart folder, click on the Save button in the search bar, enter a name for the folder, and select a location to save it to. Enable the Add To Sidebar check box if you want to make your smart folder a permanent fixture in that locale. From now on, whenever you open this smart folder, Spotlight will run the search again and update the results with any new files that fit the criteria.

If you want to change your search, or add or remove criteria, simply open up the smart folder, click on the action button (the gear icon), and select Show Search Criteria. Note that in Leopard, several default smart folders appear in the Search For section of the Finder's Sidebar, including Today, All Documents, and All Images. You can use the existing folders as they are, or modify them to suit your needs.

## ADD BOOLEANS TO FINDER SEARCHES




You can use Booleans by typing them in, of course, but if you're more visual by nature, you can also use a hidden feature in the Finder's search window to create Boolean searches—without ever typing AND, OR, or NOT.

In the Finder search window, click on the plus sign and use the pull-down menus to set up your first condition. At this point you would typically click on the plus sign again to add your second condition. But to add a Boolean search term to your next condition, *option-click* instead. The plus sign will turn into an ellipsis (...) and you'll get a new conditional pull-down menu with options for Any (OR), All (AND), or None (NOT).

Now just add conditions to this new indented section to create a Boolean search. This trick adds a lot of power to your Finder searches; just remember you can only option-click after you have at least one criterion already created for your search.


# Work the Web

## Take Control of Safari 3 with These Tricks and Tips

While new features like Time Machine and Spaces may hog the spotlight, Leopard also brings welcome improvements to the programs Mac users rely on every day—including OS X's Web browser, Safari.

Safari 3, which was available as a public beta before Leopard's release, adds a number of new features that help you search the Web more efficiently (for an overview of Safari's most significant changes, see the *Inside Leopard* chapter). But like any task you repeat all the time, it can be easy to fall into a rut and miss some of the best shortcuts and new additions. Use these expert browsing tips to get the most out of Safari 3.

TABLE OF CONTENTS

# Better Browsing

Sure, browsing the Web is easy, and you probably have all the basics down cold. But with the right shortcuts and tricks you can browse even faster. These tips will transform you from an amateur browser to a pro in no time.

## REOPEN CLOSED WINDOWS

Worried your boss will catch you checking celebrity gossip at work? Stay alert and quickly close any open browser windows by pressing ⌘-W. And if you weren't done with that Britney item, don't fret. Safari 3 includes a Reopen Last Closed Window option. Choose History: Reopen Last Closed Window, and your last-viewed page will open up again (see "Making History Repeat Itself").

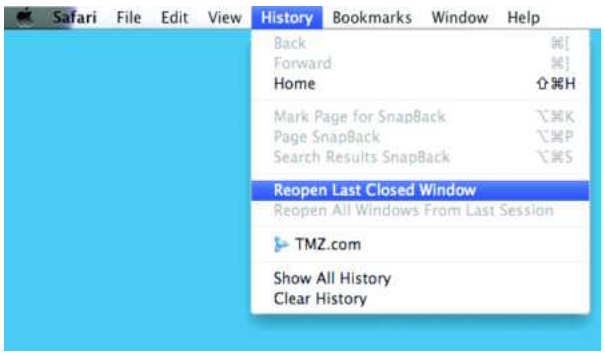
If you want *all* of your windows back—for example, if Safari crashed—Safari 3 can help you there, too. Select History: Reopen All Windows From Last Session. The program will bring back all windows and tabs you had open when you were last using Safari.

## CUT DOWN ON CLICKS

There's no need to click on the back arrow repeatedly when you want to return to a page that you checked out earlier. Instead, click on and hold either arrow to see a list of the names of the pages you've visited. If you prefer to choose from a list of URLs, option-click and hold. Select a page from the list to hop there right away. Press ⌘ as you select one to open the page in its own tab.

## DO THE TIME WARP

Want to find a page that you visited last week? That's a job for the History menu. Unfortunately, scrolling through that menu, and its many submenus, can take excessive amounts of time and patience. For a faster alternative, consider searching your browsing history instead.




**Making History Repeat Itself** When you choose History: Reopen Last Closed Window, the last page you were viewing opens right up again.

In Safari, select Bookmarks: Show All Bookmarks (or just click on the bookmark icon on the Bookmarks bar). Choose History in the Collections column, and click in the newly revealed search box. Type what you remember of the site's name or URL (you can even type just the end of the domain—for instance, `.org`). As you type more information, the list of sites will shorten. Double-click on one to open it. You can follow the same procedure to search a specific bookmark collection, RSS feeds, and even your Address Book.

You can also use Leopard's Spotlight to search Safari's cache for the actual content of sites you've visited.

## DIG UP FORGOTTEN PASSWORDS

From filling in your name and address to remembering your Amazon.com password, Safari's AutoFill feature works pretty well. (Go to Safari: Preferences and click on AutoFill to enable.) Occasionally, though, you might need to fill in a password yourself or give one to another person. If you can't recall the magic word, don't worry—that's what Keychain Access is for. Launch this utility (/Applications/Utilities) and then use its search field to home in on a desired site (or server). Double-click on an entry to open it. In the Attributes tab, select the Show Password option and enter your administrator password. Your password for the site will appear.

## EASIER PRIVATE BROWSING

Safari's private browsing feature lets you browse without leaving any tracks—clearing your history, downloads window, AutoFill, and search boxes at the end of each session. If you're a frequent user of this feature, you're probably tired of the "Are you sure?" confirmation dialog box that appears every time you use it. To bypass the confirmation dialog, just hold down the option key when you select Safari: Private Browsing, and let the surreptitious surfing begin.

## RESIZE TEXT BOXES

Don't you hate those Web sites with tiny fill-in forms? Seems many places don't know that monitors are larger than 13 inches now, and that it's possible to type more than 80 characters on a row. Safari 3 takes care of that problem with its resizable text entry boxes. This is especially useful if you spend a lot of time working on Web forms. Click and drag the bottom right hand corner of the text box and pick the size that works for you.

## PAGE LOADING: PIE VERSUS BAR

When Safari is loading a new page, it slowly fills the address field


**Easy as Pie** If you miss watching the old "pie chart" progress indicator while waiting for Web pages to load, get it back with one simple Terminal command.

with color to indicate its progress. Some people find this annoying, while new Mac users sometimes fail to recognize it as a progress bar. With a simple Terminal command, however, you can change Safari's behavior and have it present the more traditional "pie chart" progress indicator (see "Easy as Pie").

Start by making sure Safari 3 isn't running. Then launch Terminal, enter this command as a single line, and press return:

```
defaults write com.apple.Safari DebugUsePieProgressIndicator -bool true
```

The next time you launch Safari 3, you'll have the new progress indicator. If you ever want the old behavior back, quit Safari and repeat the above command, but replace `true` with `false`.

## TAKE CONTROL OF TABS

Tabbed browsing makes multitasking on the Web a breeze instead of a headache. Safari's tab feature (⌘-T) lets you open multiple Web pages without cluttering up your screen with multiple windows; instead, each page appears as a tab below the URL field. Safari 3 now makes it much easier to work with tabs; for example, you can drag and drop tabs to rearrange them. You can also drag a tab out of the tab bar to create a new window containing that tab.

If you want to turn multiple windows into tabs, Safari can help you there, too. Select the new Merge All Windows command in the Window menu. Safari will place them all in one new tabbed window, closing the other windows as it does so.

## IMMEDIATELY CLOSE TABBED WINDOWS

When you click on the red close button for a window with multiple tabs, Safari very nicely reminds you that you have more than one tab open (see "Yes, You're Sure") and asks if you're sure you'd like to close the window. But when you're certain you want to close the window, this dialog can be a bit of a pain, as it requires action on your part to clear it. So when you're *really* certain you want to close a multitabbed window, just hold down the option key before you click the red close button, and you won't get a warning. (Note: this will also close any other open Safari windows!)

## OVERRIDE FORM WARNINGS

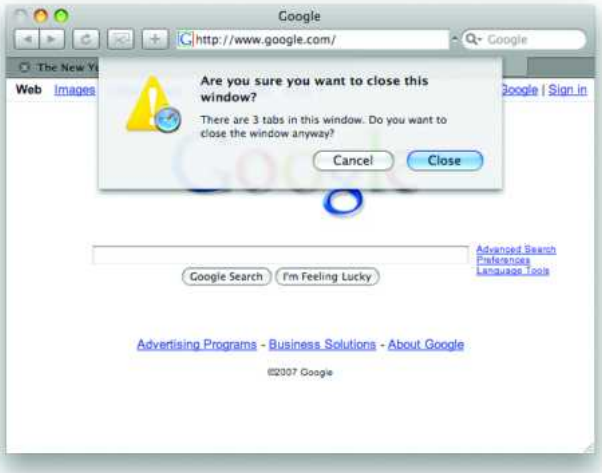
Safari will also warn you if you attempt to close a window with unsubmitted form fields that contain data. This is generally a good thing. However, some Web 2.0 sites that rely on Ajax can falsely trip the nonsubmitted form detector, leading to lots of annoying warnings that really aren't warnings at all. If you'd like to disable this feature, you can—but this is a permanent change, so you won't see *any* warnings in the future, even legitimate ones. To make this change, quit Safari, open Terminal, enter this command, and press return:

```
defaults write com.apple.Safari DebugConfirmTossingUnsubmittedFormText 0
```

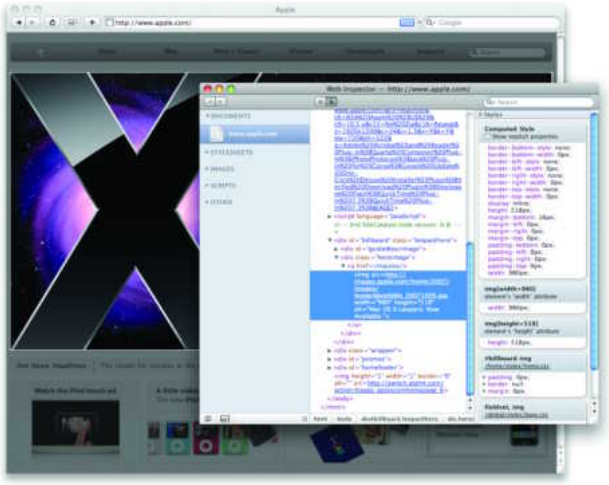
Relaunch Safari, and you'll never see another incomplete form warning. To get the warnings back, quit Safari, then repeat the above command, but replace the `0` at the end with a `1`.

## RESET SELECTED WEB DATA

Occasionally clearing out Safari's history, cache, and Web site icons can improve your browsing speed. Likewise, throwing away cookies can prevent potential privacy concerns. But doing this type of cleanup work in Safari 2 was an intimidating affair. Selecting Safari: Reset Safari brought up a scary dialog box, informing you that choosing this option would basically wipe out your cache, Downloads window, cookies, saved user names, passwords, other AutoFill information, and Google search entries. That was definitely *not* something you'd want to do for routine maintenance. Clicking on Cancel instead of Reset was usually the prudent thing to do.




**Yes, You're Sure** When you're certain you want to close the window, this dialog can be a pain. Bypass it by holding down the option key before you click the red close button.



**Inspector Gadget** The Web Inspector makes it easy to peek behind the curtain and see how HTML, CSS, and properties are being used to build a page.

In Safari 3, that task is much simpler. Instead of an all-or-nothing proposition, the Reset Safari dialog box now lets you choose which items to reset.

### DEBUG WITH WEB INSPECTOR

If you're a Web designer you may be familiar with Firefox's Firebug extension (www.getfirebug.com), which helps analyze and debug issues on Web pages. While Safari 3 doesn't have a tool as robust as Firebug built in, it does have the Web Inspector tool, which makes it easy to see how your HTML, CSS, and properties are being used to build your page. It's particularly handy for Web designers trying to troubleshoot problems with their pages.

To enable it, quit Safari and launch Terminal, then enter this command and press return:

```
defaults write com.apple.Safari
WebKitDeveloperExtras -bool true
```

Note that the Web Inspector may already be enabled on your machine if you have enabled the Debug menu in either Safari 2 or Safari 3.

Now launch Safari, control-click on any element on a Web page, and choose Inspect Element from the contextual menu to open the Web Inspector (see "Inspector Gadget"). To disable the Web Inspector, quit Safari and repeat the above command, but replace `true` with `false`.

## SPEED SURFING

There's no easier way to save time online than to learn the keyboard shortcuts for the browser actions you perform the most. Here are some of the most useful shortcuts for Safari .

| ACTION | SAFARI SHORTCUT |
|---|---|
| Open New Window | ⌘-N |
| Open New Tab | ⌘-T |
| Open Link In New Window | ⌘-option-click |
| Open Link In New Background Tab | ⌘-click [A] |
| Open Link In New Tab | ⌘-shift-click [A] |
| Stop Loading Page | ⌘-period (.) or escape |
| Reload Page | ⌘-R |
| Go Back One Page | ⌘-[ or ⌘-left arrow |
| Go Forward One Page | ⌘-] or ⌘-right arrow |
| Open Home Page | ⌘-shift-H |
| Select The Search Field | ⌘-option-F |
| Find Text In Page | ⌘- F |
| Select Next Tab | ⌘-shift-] or ⌘-shift-right arrow |
| Select Previous Tab | ⌘-shift-[ or ⌘-shift-left arrow |
| Add Bookmark | ⌘-D |
| Show Bookmarks | ⌘-option-B |
| Increase Text Size | ⌘-equal sign (=) |
| Decrease Text Size | ⌘-minus sign (-) |
| E-mail Contents Of Current Page | ⌘-I [B] |
| E-mail Link To Current Page | ⌘-shift-I |
| Scroll Down One Screen | page down or spacebar |
| Scroll Up One Screen | page up or shift-spacebar |
| Go To Bottom Of Page | ⌘–down arrow |
| Go To Top Of Page | ⌘–up arrow |
| View Downloads Window | ⌘-option-L |
| View Activity (Safari) Window | ⌘-option-A |

A These two shortcuts are reversed if you've gone to Safari: Preferences: Tabs and checked the Select Tabs And Windows As They Are Created option.

B This feature only works with Apple's Mail program.

# Managing Bookmarks and RSS Feeds

Understanding that good organization is key to pleasurable browsing, Apple has made some upgrades to how bookmarks and RSS feeds function. These tricks will help you take advantage of Safari's improvements.

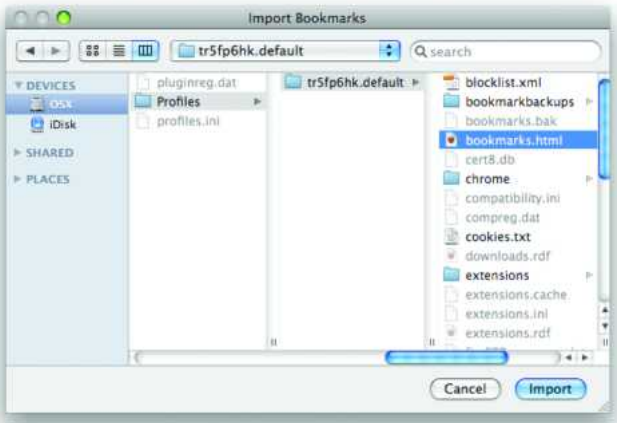
## IMPORT BOOKMARKS FROM OTHER BROWSERS

Want to import bookmarks from The Omni Group's OmniWeb or Mozilla Firefox into Safari? Just choose File: Import Bookmarks, navigate to the other browser's bookmark file, and click on Import (see "All Your Bookmarks, Together at Last"). When the import is finished, Safari will switch to its Bookmarks view, and you'll see a new bookmark collection—named with the import date—that contains the imported bookmarks. You can then move those bookmarks into folders or to Safari's Bookmarks bar, as you see fit.

The challenge is finding the bookmark file to import. If you use Firefox, look for the bookmarks.html file in *your user folder*/Library/Application Support/Firefox/Profiles/*string*.default (where *string* is a random string of characters that differs for every user). OmniWeb's bookmark file, bookmarks.html, is in *your user folder*/ Library/Application Support/OmniWeb.

## HOP TO THE RIGHT BOOKMARK

Sure, you can access your bookmarks from your browser's Bookmarks menu, but that requires a bunch of clicks. You can do the same thing from the one-click Bookmarks bar, but it can get crowded fast. If you keep a lot of Safari bookmarks, use Spotlight (⌘-spacebar) to search for the right one. Type either the name of the bookmark or part of the URL in the Spotlight search field. Do you have too many hits? To narrow the field, include the text `kind:bookmark` in your search. To open a bookmark, click on it in the Spotlight menu.




**All Your Bookmarks, Together at Last** To import bookmarks from The Omni Group's OmniWeb or Mozilla Firefox into Safari, just choose File: Import Bookmarks, navigate to the other browser's bookmark file, and click on Import.

## SYNC YOUR BOOKMARKS

If you use many computers but just one browser, a number of tools can help you sync your bookmarks so they're the same wherever you go. Among its other features, Apple's $100 .Mac service (www.mac.com) lets you sync your Safari bookmarks across different Macs. You can even access all your Safari bookmarks online from the .Mac Web site—so they are available no matter what computer you're using. To turn this feature on, go to Safari: Preferences, click on Bookmarks, and select Synchronize Bookmarks With Other Computers Using .Mac. Repeat these steps on your other Mac. (In the .Mac preference pane, you'll see that you can also synchronize calendars, contacts, keychains, accounts in Apple's Mail, and more.)

Similarly, Google's free Google Browser Sync (macworld.com/2360), lets you synchronize bookmarks, passwords, cookies, history, tabs, and windows. It can even encrypt some of your sensitive data, such as passwords and cookies, so you don't have to worry about them floating around on the Web.

## SOCIAL BOOKMARKING

Take things a step further with del.icio.us (http://del.icio.us). This social bookmark manager lets you add bookmarks to a personal Web page (see "So Delicious "). But that's just the beginning. When you view your bookmarks, you can see how many other people have bookmarked the same pages, and then check their lists to find other interesting Web sites. You can also share your bookmarks.

Add new bookmarks to del.icio.us by using a *bookmarklet* button that's automatically added to your Bookmarks bar or toolbar when you sign up. Or upload all the bookmarks you've already saved in your browser. Many RSS readers offer a one-click Add To del.icio.us feature as well, so while you're checking the news, you can add interesting articles to your online list.

## CREATE SPEAKABLE SAFARI BOOKMARKS

Speakable commands are a great way to open up Web pages fast and while on the move. First, make sure speech recognition is


**So Delicious** Del.icio.us lets you add bookmarks to a personal Web page, view and share your bookmarks, see how many other people have bookmarked the same pages, and then check their lists to find other interesting Web sites.

enabled. To do this, open Leopard's Speech system preferences. In the Speech Recognition tab, click on the On button next to Speakable Items. A small round window will appear; that's the speech recognition controller. Click on the small arrow at the bottom of the circle and choose Open Speech Commands Window from the drop-down menu. Now launch Safari, click on the triangle, and you'll see Safari's speech commands library. You'll see a list of commands you can make speakable, including Make This Page Speakable, which we will use to make speakable bookmarks.

Load the page you want to turn into a speakable bookmark, then press and hold the escape key (or whatever keys you've set to activate speech recognition) and say "make this page speakable" (see "Talk to Me"). If you do it right, you'll hear a "whit" sound as the system recognizes you've sent it a command. In the dialog that appears, enter a short, easily pronounced name into the text box, and then click on OK.

## SHORTEN RSS SUMMARIES

Love the convenience of using Safari as your RSS reader, but hate plowing through the lengthy article summaries it provides? No problem. To change the length of Safari's RSS summaries, drag the Article Length slider that appears below the Search Articles field. If you drag the slider all the way to the left, you'll see only headlines.

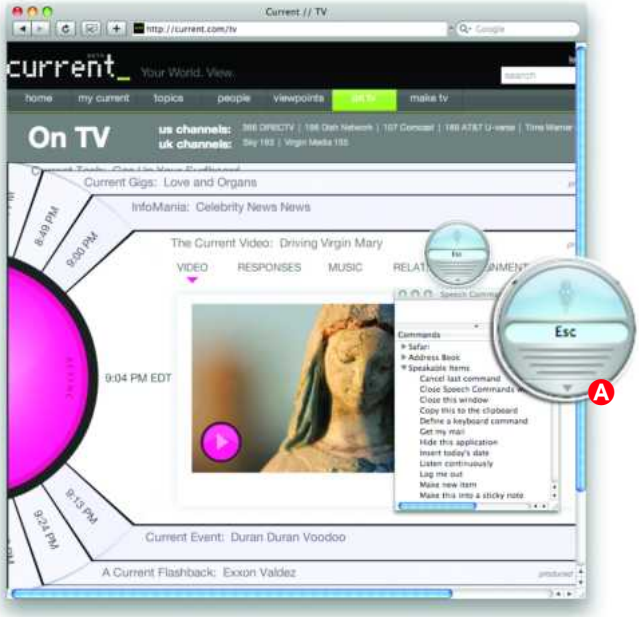
## KEEP TRACK OF SAFARI'S FEEDS

One handy way to keep track of your RSS feeds is to save them in a folder on Safari's Bookmarks bar. To create the folder, choose Bookmarks: Show All Bookmarks. Select Bookmarks Bar in the Collections column. Click on the plus sign (+) below the Bookmarks Bar window. Double-click on the folder that appears and name it. Drag and drop your existing RSS feeds into the new folder. Choose Bookmarks: Hide All Bookmarks to return to the browsing window. The next time you're looking at a feed page, click on the Add Bookmark link under Actions, and in the dialog box that appears, select your RSS folder from the Safari pull-down menu.

Now you'll be able to see at a glance how many new articles are waiting for you—Safari totals up articles from all the feeds in the folder. Click on the folder to see a number next to each individual feed's name. If you want to view all the RSS feeds on one page, select View All RSS Articles from the bookmark folder's pull-down menu. Select Open In Tabs, and each feed will open in its own tab.

## CREATE A PERSONALIZED CLIPPING SERVICE

When you view an RSS feed (or group of feeds), you can use the Search Articles command to find articles that contain a particular word or phrase. Even better, you can bookmark the search results to create a live search feed. After it's set up, Safari will do all the legwork—keeping an eye on the included feeds, watching for new articles containing your search terms, and notifying you when it finds something. Voilà: a customized RSS feed.




**Talk to Me** When you launch Safari, click on the triangle A, and you'll see a list of commands you can make speakable, including Make This Page Speakable.

# Working with Downloads

Gone are the days of a desktop cluttered with downloads. In Leopard, managing downloads is a no-brainer. Every random file you download from Safari is automatically collected in your Downloads folder, conveniently located on the Dock. Safari 3 has also added new tools that make it easier to manage images, files, and PDFs.

## KEEP TRACK OF ONLINE PURCHASES

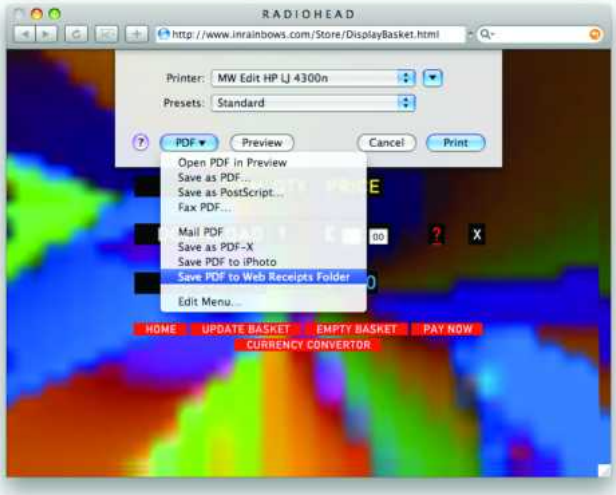
The next time you buy something online, don't bother to jot down the confirmation number on an easy-to-lose sticky note. Press ⌘-P when the site displays the receipt (see "Make Your Accountant Happy"). In the Print dialog box that appears, click on PDF and select Save PDF To Web Receipts Folder from the drop-down menu. Leopard creates a PDF of your receipt and saves it in *your user folder*/Documents/Web Receipts.

## ADD WEB IMAGES TO IPHOTO

Spot a nifty image while you're browsing your favorite blog and want to keep a copy of it in iPhoto? Control-click (or right-click) on it and choose Add Image To iPhoto Library. The image will be instantly imported into iPhoto (see "Get the Picture").

## CHOOSE A DESKTOP IMAGE, WINDOWS STYLE

If you'd like to use an image you find online as your Desktop background, you now can (something Windows users have been able to do for years). Control- or right-click on an image (perhaps




**Make Your Accountant Happy** Keep an organized file of all your online receipts. Pressing ⌘-P when the site displays the receipt, click on PDF and select Save PDF To Web Receipts Folder from the drop-down menu.


**Get the Picture** Take pictures from the Web to iPhoto quickly. Just control-click (or right-click) on a picture and choose Add Image To iPhoto Library.

something from macdesktops.com) and choose Use Image As Desktop Picture from the contextual menu. Safari will download and save the image (as Safari Desktop Picture.jpg in *your user folder*/Library/ Safari folder) and set the Desktop to use the newly saved image. Keep in mind that if you use an image that's smaller than your monitor's resolution, you'll get some pretty ugly blurring as OS X attempts to expand the image to fill the screen. To prevent scaling, use images that are at least as large as your monitor's resolution, which you can see in the Displays System Preferences pane.

## SAVE IT FOR LATER

Bookmarking a site is easy, but it isn't the most dependable way to preserve a Web page. Content can be changed and sites can be taken down. Luckily, Safari's Save As command includes a Web Archive option, which allows you to save an exact copy of an entire page, including images and other embedded content (see "Save an Entire Page").

## SEND WEB PAGES

Want to send someone a link to a Web page? Press ⌘-shift-I (or choose File: Mail Link To This Page). Your default e-mail program will open and create a new message that contains the URL and has the Web page's title in its subject field. Just fill in the recipient's address, add a note if you want, and click on Send.


**Save an Entire Page** The Save As command includes a Web Archive option, which saves nearly everything on the page—including images.

If you use Apple's Mail, Safari also lets you send the contents of a Web page—to do so, press ⌘-I (or select File: Mail Contents Of This Page). This is great if they would otherwise have to register to see the page on their own, but keep in mind that most people would rather receive just a URL than a huge e-mail message full of links and images.

## HALT THOSE DOWNLOADS

Ever started to download something and then regretted it because the file was bigger than you expected? With Safari's Downloads window, you can stop and restart downloads whenever you need bandwidth. To stop a download, just click on the X icon next to the file's listing in the Downloads window. Click on the resulting orange arrow icon to restart it. You can also restart downloads by double-clicking on the *.download* file that's in your downloads folder on your Dock. (Not all downloads will restart from where they left off; some will start over from the beginning.)

## DISCOVER A DOWNLOAD'S ORIGIN

To find out where you got a file you downloaded with Safari, select the file in the Finder and then choose File: Get Info (or press ⌘-I). The Info window's Spotlight Comments field will display the URL of the page you downloaded the file from.

## DISABLE PDF VIEWING

If you click on a link to a PDF document in Safari, the browser automatically loads the PDF in its current window. If you'd rather view the PDF in Preview or Acrobat, or download it, you have to wait for it to load and then manually save it to your hard drive.

But you can make Safari save PDFs to your default download folder. Here's how: quit Safari, launch Terminal, and type the following:

```
defaults write com.apple.Safari
WebKitOmitPDFSupport -bool YES
```

Press return and then relaunch Safari. It will now download PDF documents to your hard drive. You can revert to Safari's default PDF behavior by entering the command above with `NO` instead of `YES`.

# Search Smarter

Count up the number of Web sites you visit every day, and you'll quickly realize that learning even a few simple ways to streamline your surfing could save you loads of time. These basic tricks will make taking Safari 3 for a spin an even more enjoyable experience.

## DRAG IT TO THE WEB

In many programs, clicking on a URL will open the page in your default browser. But if you come across a program that doesn't behave this way, here's a quick way to open the Web address in Safari: simply highlight the URL and drag it straight to an open Safari window to open it, replacing the current page. You can also drag the URL to Safari's Dock icon to open it in a new tab.

## GET MORE RESULTS IN GOOGLE

If Google doesn't find what you want in its first ten results, clicking through multiple results pages can be tedious. You can get more results per page by visiting www.google.com, clicking on the Preferences link, and choosing a larger number from the Number Of Results pop-up menu.

## INCLUDE QUOTATION MARKS

If your search term is actually a phrase, put it in quotes, like this: `"Milky Way"`. Doing so eliminates any pages that contain just *milky* or only *way*. This trick is also good for names (`"Dan Rather"`) and lyrics (`"Mary had a little lamb"`), and for ensuring that your search engine doesn't ignore common and small words such as *a, and,* and *the*. Many search sites consider these words superfluous unless you specify that they're part of a phrase. So typing `"to be or not to be"` can get you vastly different results than `to be or not to be`.

## BE NEGATIVE

When you put a minus sign in front of a word in your query, search engines ignore pages that contain that word—which is a fantastic way to weed out irrelevant pages and focus your results. For example, in your search for information on the Milky Way galaxy, eliminate words such as chocolate and candy. The whole query looks like `"Milky Way" -chocolate -candy`. The results of that search won't include any pages mentioning either chocolate or candy (see "When Being Negative Is Good").

## USE WILDCARDS

A wildcard is a symbol—usually an asterisk (*) but sometimes a question mark (?)—that stands in for words or partial words you don't know. For instance, if you can't remember just what size lamb Mary had, enter `"Mary had a * lamb"`. Your search results are likely to start with instances of Mary had a little lamb, but they could also include variations, such as Mary had a tasty lamb.

Some search engines—unfortunately, not Google—let you use a wildcard to substitute for part of a word, such as "G* Bush"—which gives you results including George Bush. This is an indispensable trick when you can't remember how to spell something.


**When Being Negative Is Good** Putting a minus sign in front of a word in your query is a fantastic way to weed out irrelevant pages and focus your results.

## ASK AN ANSWER

When you have a question—"What color is Brad Pitt's hair?"—


**Advanced Googling** Almost all search engines can run an advanced search, which lets you specify additional conditions to narrow your results.

what you really want to find is the answer. Therefore, your best bet is to search for the answer: `"Brad Pitt's hair is *"`. (If you search for a specific question, you'll find other pages asking the same thing.) Wildcards and quotation marks can also come in handy in these queries, though you may have to try a few variations to find what you're looking for; for example, `"Brad Pitt has * hair" -facial`.

### TRY AN ADVANCED SEARCH

Almost all search engines can run an advanced search (look for a link on the home page), which lets you specify additional conditions to narrow your results. Different engines offer different options, but common choices include date ranges (good for filtering out current or stale news); domains (a nice way to narrow your search if you're looking for, say, pages from nonprofit companies); and languages (if you want only sites in Farsi, this is the way to get them).

Advanced search pages often let you block adult content from your results as well. However, this "safe searching" can occasionally block legitimate pages, so if you're having trouble finding something, repeat your search without blocking content (see "Advanced Googling").

## FIND THE GOOD STUFF FAST

As the Web grows larger every day, you can easily sink hours into a frustrating failed search. Refine your searches and get more from the Web with these tools.

### GET AN ANSWER

When you're looking for answers and related information, try Ask.com. For example, if you type `What's the capital of France?` into its search box, the first entry on the response page answers your question and provides links to more info, including the World Factbook, a page of maps, and more. If you pose the same question on Google, you get your answer, but it's mixed in with a bunch of results involving France and capital markets.


**Mighty Maps** ProgrammableWeb helps you search for interesting *mashups*, or Web applications that bring together data from different sources.

### SEARCH THE BLOGOSPHERE

When you want to find out what bloggers are chirping about, or to find one person's blog, Google Blog Search (blogsearch.google.com) is the tool to use. Search for a topic (`personal finance`, for example) to get a list of blogs about it. Or search for a person (say, `MC Hammer`) to get a list of blogs by that person, along with sites that mention him and sites where he has posted comments.

Links along the left side of the results page let you narrow your results by date—handy if you're looking for a particular post by a prolific blogger, or if you're trying to find a bunch of blogs commenting on a past event. Still not finding what you want? For an alternative blog search, try Technorati (www.technorati.com).

### GET MORE THAN JUST DIRECTIONS

Google Maps (maps.google.com) is a great tool for mapping your route. But what if you want a map that shows you where all the parking garages in Manhattan are located—and then lets you compare daily or monthly rates? (Try www.nyc-garages.com.) Or what if you need a map that lets you calculate the per-passenger greenhouse-gas emissions created by an airline flight between any two U.S. airports? (Go to macworld.com/2351.) To find hundreds of maps with integrated information (many also have calculators), head to ProgrammableWeb (www.programmableweb.com) and click on the Mashups tab. (A *mashup* is a Web site or Web application that brings together content from more than one source.) Click on any of the Top Tag links listed on the right side of the page to find great sites (see "Mighty Maps"). Or if you're looking for something specific, such as a map of affordable parking in New York City, click on the Search tab and type a term into the search field.

### FIND OLD WEB PAGES

When the page you want is no longer live, the Wayback Machine (www.archive.org) can be a boon. Search by URL, and the site gives you links sorted by the date that the Wayback Machine indexed the page. Click on a link to head to the Wayback Machine's cached copy of that page. On the bottom of the Advanced Search page, you'll find tips for searching the archive, which, as of this writing, includes about 55 billion Web pages.


# Automate Repetitive Tasks

## Learn How to Set Up Time-Saving Workflows in Automator 2

According to sci-fi novels, we should all have our own personal robots by now to run errands, bring in groceries, and generally take care of monotonous tasks. Alas. But while your Mac can't pick up the dry-cleaning, it can at least take control of those tedious tasks that seem to fill so much of your day. The secret is Automator, Leopard's automation assistant. Automator lets you quickly create small programs (called *workflows*) that handle repetitive tasks—all without knowing anything about programming. You simply drag and drop predefined actions into the order you want and select Run. Automator 2, which is part of OS X 10.5, has a number of enhancements—including variables, loops, new actions, and the ability to record mouse actions—which add even more power and flexibility to the automation process.

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# Learning the Basics

The beauty of Automator is that you don't need to know how scripting works to automate complex tasks. Instead, you simply break down a task into a sequence of actions, and then snap those actions together like a stack of Lego blocks.

Since the best way to learn Automator is to use it, we'll step you through the process of building a simple workflow from start to finish. Assume, for example, you're a photographer for the local paper. Each day, the boss asks you to send her a contact sheet with small versions of that day's best shots. She then uses this sheet to decide which images to use in the paper. You can do this by hand, of course, but it gets quite tedious after a while. With Automator you can get the job done with a few clicks of your mouse.


**Starting Points** When you start a new workflow, Automator helps you get off on the right foot by letting you specify what type of files you want to gather.

## SET YOUR STARTING POINT

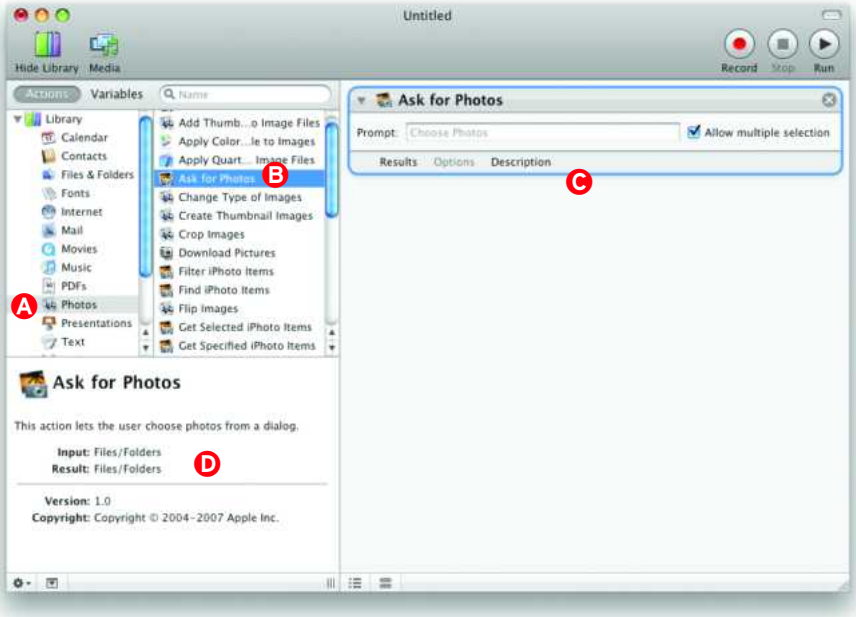
When you launch Automator, you're greeted with the new Starting Points screen, which lets you specify which type of files you'd like to work with (see "Starting Points"). In this case you would click on Photos & Images.

Set the Get Content From pop-up to My iPhoto Library, and set the bottom pop-up menu to Ask For Photos And Albums When My Workflow Runs. Click on Choose, and Automator opens a window in which you'll build your workflow. Unless you picked Custom from the Starting Points pane, Automator will have pre-populated your work area with the first action.

## BUILDING THE WORKFLOW

The Automator interface is divided into four sections (see "Getting Acquainted"). The leftmost column lists general categories of actions and variables arranged in libraries. Click on a library entry and the actions or variables included in that collection will appear in the second column. Below these columns is a brief description of the selected item. The large area on the right is where you'll build your workflow.

To create your workflow you'll drag actions one by one from the second column to the bottom of your workflow. The




**Getting Acquainted** To build your workflow, click on a library item A to open relevant actions, and then drag the appropriate action from the Action column B to the work area C. The information pane D offers a description for the selected action.

workflow will mimic what you'd do by hand when creating your contact sheet: select images from iPhoto, create the contact sheet, and mail it. (It's a good idea to save your workflow using File: Save after each step. For now, just save it to the Desktop with a simple name; we'll rename and move it later.)

**STEP ONE: SELECT PHOTOS** The first thing you'll do is customize the Ask For Photos action that Automator placed in the work area for you. This action displays your iPhoto library in a window so you can select one or more images from it, and then passes those images to the next step in your workflow.

Click in the box next to Prompt, and type the phrase you'd like to see when Automator displays the image selection window (for example, *Please select today's favorite photos*). Make sure the Allow Multiple Selection box is checked so you can choose more than one picture.

**STEP TWO: CREATE CONTACT SHEET** Next you want to take the photos you collected with the first action and use them to create a contact sheet. Click on the PDFs entry in the Library column, and then drag the New PDF Contact Sheet action into the work area below the existing action. Set the Save As field to something useful, such as Daily Contact Sheet, and use the Where pull-down menu to choose a location for the resulting file. (If you select Other from this menu, you can create a folder just for your contact sheets.) Set the Paper Size and Columns as you wish.

**STEP THREE: RENAME THE FILE** Because you don't want to overwrite previous contact sheets each time you save a new one, you'll need to make sure each contact sheet is uniquely named. Select Files & Folders in the Library pane, and then drag the Rename Finder Items action to the bottom of your workflow. When you drop the action, Automator warns you that this action will change the name of an item in the Finder and offers to add an intermediate action that duplicates your files. As we're just changing a file name, we're not really at risk of losing anything, so there's no need to copy the file—click on the Don't Add button.

To add the date to the file name, set the first pop-up to Add Date Or Time. Leave the Date/Time menu set to Created and set the Format menu to Month Day Year. Set the other options to match your personal preferences.

## RECORD ACTIONS

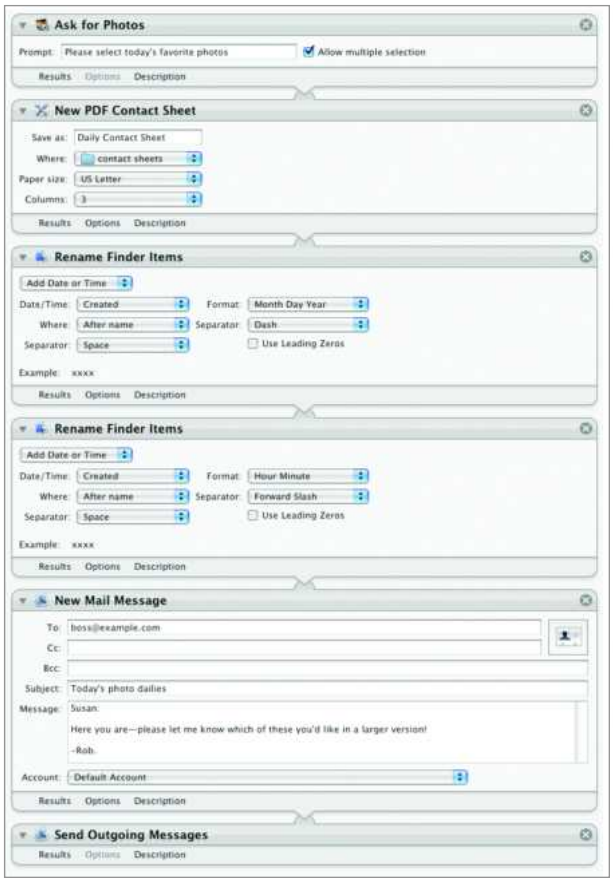
Automator 2 includes the ability to record your actions and incorporate them into your workflows. While this feature can be useful to add actions that Automator doesn't include, you should understand how it works before you try recording.

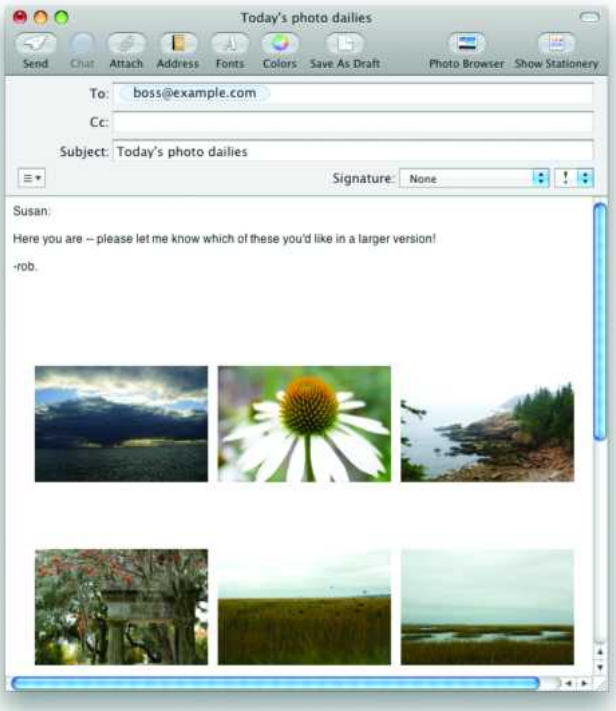
To use the recording mode, you must first open Leopard's Universal Access system preferences and select the Enable Access For Assistive Devices option. Return to Automator and click on the Record button in the toolbar, next to the Stop and Run buttons.

In record mode, Automator literally records every single mouse click and key press—including typos. So you'll want to make sure you know what you plan on doing before you start. Also keep in mind that Automator doesn't add any intelligence to the recordings. For instance, if you want to record an action that involves switching to iChat, you shouldn't record yourself pressing ⌘-tab (the keyboard shortcut for OS X's application switcher) until iChat is the active application. Doing so will only record a series of ⌘-tabs, and who's to say where iChat will be in relation to Automator when you run the script the next time? Instead, click on Record, and then click on iChat's icon in the Dock—this will record the activation of iChat.

You may also find that Automator's recording tools don't work everywhere. Try to record actions in Front Row, for instance, and you won't wind up with anything useful.


**Record** Using the Record function, you can script tasks. Here we're telling Camino to load a Web page, and then viewing the browser's History page. Sure, you can do the first step directly in Automator, but the second wouldn't be possible without recording.




**Final Workflow** The image on the left shows what the completed workflow should look like. Keep in mind that some of your options may be slightly different. Clicking on the Run button produces an e-mail message with an attached PDF file of your selected images (right).

If you create more than one contact sheet per day, the date alone may not be enough to uniquely identify your file. In this case, you can also append the time to the file name. To do this, drag another copy of the Rename Finder Items action into your workflow (and again click on Don't Add in the warning dialog box). Leave the Date/Time menu set to Created, but this time, set the Format menu to Hour Minute. This appends the time to the date.

**STEP FOUR: OPEN E-MAIL** Now you need to place the contact sheet into an e-mail message. Click on the Mail Library entry, and drag the New Mail Message action to the bottom of your workflow. This action won't actually send the e-mail, just create it.

Although you'll eventually want to place your boss's e-mail address in the To field, you should test your workflow first by sending the e-mail to yourself. Once you know everything is working the way you want, you can replace your e-mail address with that of your boss. Set the rest of the fields here as you wish.

**STEP FIVE: SEND E-MAIL** Your final step is to send off the e-mail. In the Mail Library, drag the Send Outgoing Messages to your workflow, and save it again. Your mail message will now be sent automatically when the workflow runs (see "Final Workflow").

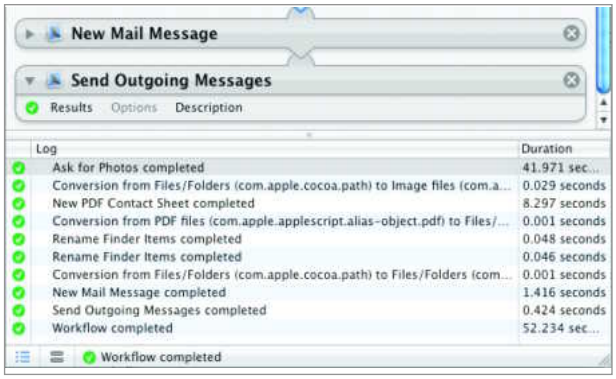
## TESTING THE WORKFLOW

It's now time to make sure you built your workflow correctly. To see what's happening as the workflow progresses, select View: Log (see "Mission Accomplished"). A Log pane pops up from the bottom of the window. Next, click on the Run button at the top of the Automator window. Select some images (using ⌘-click) from

TIP

### FIND THE RIGHT FINDER

One of the easiest Automator mistakes you can make is using Files & Folders: Get Specified Finder Items when you mean Files & Folders: Get Selected Finder Items. Get Specified Finder Items lets you enter a list of files and folders for the workflow before you even run the workflow. (The only way to change the items is to go back and change the Get Specified Finder Items action in the workflow pane.) By contrast, the Get Selected Finder Items action operates on whichever files and folders are selected in the Finder when you run the workflow. That's much more convenient, since you don't have to modify the action itself when you want it to work with different files.




**Mission Accomplished** To follow your workflow's progress, open the Log pane.

the window that appears, and click on Choose.

As Automator works, entries will appear in the log display, and you'll see green check marks next to each completed step. When the workflow finishes, you should have an e-mail waiting for you with the selected images. If not, return to your workflow and look for red *X*s in the log display—these indicate where the workflow failed (see "Troubleshooting Your Workflows" later in this chapter for more advice). If everything worked as intended, return to your workflow, find the New Mail Message action, and replace your e-mail address with your boss's.

## SAVING YOUR WORKFLOW

Right now, you have a workflow that works great, but you have to launch Automator to use it. To really save time, you can skip that step, too. Automator can save your workflow in a number of ways: as a workflow (which you've been doing), as a double-clickable application, or as a plug-in for the Finder, iCal, and so on.

**PLUG-INS** If you choose to save your workflow as a plug-in, you can access it from specific programs. For example, you need to send the contact sheet at a specific time each day, you might want to save the workflow as a plug-in for iCal. Select File: Save As Plug-in, and set the Plug-in For pop-up menu to iCal Alarm. Name it something like *Send Today's Pix,* and Automator turns your workflow into a new iCal alarm. In the iCal pane that appears, click on Edit and set the alarm to repeat every weekday at a given time. Now your workflow will run automatically at that same time every day.

**APPLICATIONS** Since you will have to be at your computer anyway to select the photos for your workflow, it may make more sense to save this workflow as an application you can run on your own schedule. To do that, just select File: Save As. Pick a name and a location for your new program, and set the File Format pop-up menu to Application. After Automator saves the new program, you can drag the program to your Dock, to the Finder Sidebar, or to the Finder's toolbar for fast, easy access. Now when you want to run the workflow, you simply double-click on the application icon.

TIP

## PUT YOUR FOLDERS TO WORK

Folder actions—scripts that are set in motion whenever you drop files into a designated folder—are another useful way to weasel out of repetitive tasks. For instance, if you deal with tons of graphics, it might be handy to employ a folder action that can automatically convert and rename files whenever you drag them to a certain folder. Unfortunately, OS X doesn't include a built-in AppleScript that performs both of these tasks. But with Automator, you can easily turn any workflow into a folder action. Here's how:

In Automator, create the workflow you want to use as a folder action. Once you're finished, go to File: Save As Plug-in and give your workflow a name. Choose Folder Actions from the Plug-in For pop-up menu. In the Attached To Folder menu, select the folder you want to attach the action to. If the folder isn't listed, select Other to locate it or to create it.

If you see an Enable Folder Actions option, select it. If you don't, no worries—this means that folder actions have already been enabled. Click on Save. From now on, OS X will trigger your action whenever you add items to that folder.

But cooler still is what's going on behind the scenes. When you save a workflow as a folder action plug-in, Automator actually creates *two* items. First, it saves the workflow as an application (rather than a workflow) and places it in *your user folder*/Library/Workflows/Applications/Folder Actions. At the same time, it creates an AppleScript that it stashes in *your user folder*/Library/Scripts/Folder Action Scripts. When prompted, the system triggers the AppleScript as a folder action, and the script in turn launches the Automator workflow it's tied to.

Once the workflow is saved as a plug-in, attaching the same action to another folder is a cinch. Control-click on any folder and select Configure Folder Actions from the contextual menu. In the Folder Actions Setup window, click on the plus-sign (+) button to add the folder you want to attach the action to; then choose the correct script from the list of available scripts.

Instead of a five- to ten-minute daily grind, your contact sheet task is now a simple double-click away, and takes but a minute or so to handle each day. That's the power of Automator.

# Using Variables and Loops

Once you have a handle on creating basic workflows, you can begin to take advantage of some of Automator 2's more advanced tools. Among the most useful: variables and looping. Unfortunately, unless you're an experienced scripter, they're also potentially the most confusing.

In the previous version of Automator, workflows were linear: each action passed information to the next in sequence. With variables, workflows can be much more dynamic: you can define the output of one action as a variable, which can be stored for later use by another action. Automator includes dozens of built-in variables, such as dates, times, and system information. Looping lets you repeat actions or groups of actions a set number of times.

To illustrate Automator's variables and looping features, we'll create two sample workflows. For each step, we've identified actions by category and then name. For example, Mail: Get New Mail would indicate that you should click on the Mail library, find the Get New Mail action on the right, and then drag it into the workflow pane. To download the complete versions of either workflow, go to macworld.com/3259.

## LISTEN TO THE DAILY MAC NEWS

This workflow uses Automator's built-in variables (along with Leopard's new RSS feed actions) to locate online news articles, convert their text to dated audio files, and add those files to a dated playlist in iTunes so you can listen to them every day.

**INTERNET: GET SPECIFIED URLS** By default, this action is configured with the URL www.apple.com. Double-click on Apple in the Bookmark column, and change it to the name of the news source you're using. Press Tab and enter the source's URL (be sure to include `http://`). In this example, we'll use `Macworld` and `http://www.macworld.com`, but you can of course use any news source you like.

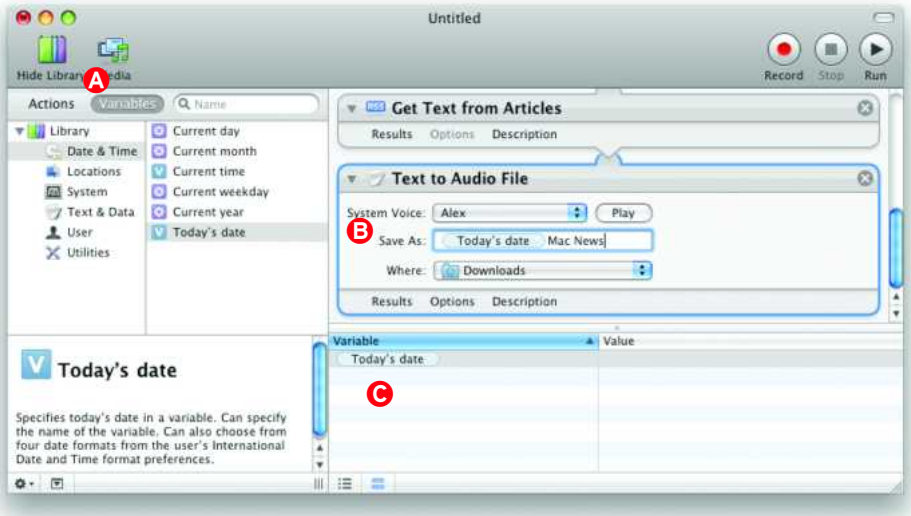
**INTERNET: GET FEEDS FROM URLS** This action gets any RSS feeds from the Web address you provided above.

**INTERNET: GET TEXT FROM ARTICLES** In this step, Automator grabs the text of the site's RSS feeds. If you want to focus on certain topics, you can insert an Internet: Filter Articles action at the end of the Get Feeds From URLs action.

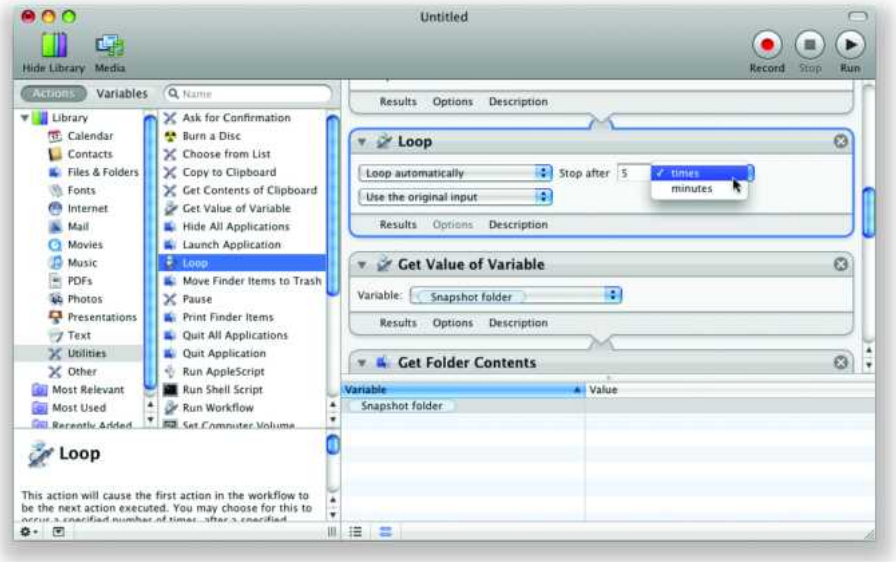
**TEXT: TEXT TO AUDIO FILE** This is where you use one of Automator's new predefined variables. To differentiate between individual articles after they've been converted to audio and imported into iTunes, you can add the current date to the name of each audio file. To do so, click on Variables (a button above the Actions column). From the Date & Time category, drag the Today's Date variable into the Save As field of the Text To Audio File action. After that variable, type `Mac News`. Then choose Downloads from the Where pop-up menu. When the workflow runs, Automator will insert the current date in front of each audio file's name. When you're done, click on Actions at the top of the Library list to go back to the Actions list.

**MUSIC: IMPORT AUDIO FILES** In this action, you can specify an encoder if you wish. Be sure to select the Delete Source Files After Encoding option; otherwise, the audio files will remain in your Downloads folder after being imported into iTunes.

**MUSIC: ADD SONGS TO PLAYLIST** One of the nice things about Automator's new variables is that once you've defined one, you can use it repeatedly throughout a workflow. If you look below your workflow you should see a list of the variables you've used (if you don't, select View: Variables to open the pane). You can drag any of the items in this list into the workflow as many




**Built-In Variables** Automator has its own set of predefined variables A, including dates and times, for use in your workflows. Here we've dragged the Today's Date variable into the Text To Audio File's Save As field B. This appends the current date to the file name. You can use the Variable pane C to access a workflow's variables for later actions.




**Looping Back** With the new looping action, you can tell Automator to repeat a sequence of actions as many times, or for as long, as you like.

times as you like. That makes it easy, for example, to create a new playlist just for today's news.

Drag the Add Songs To Playlist action to the workflow and in the menu to the left of the action, select New Playlist. Drag the Today's Date variable from the Variable list to the action's text field. Type something like `Mac News Headlines` after the variable, and you're done .

If you get an error when you try to add the Add Songs To Playlist action to your workflow, first make sure iTunes is open and that the program has no open dialog boxes.

## SEND SLIDE-SHOW GREETING

This workflow uses variables that you define yourself, as well as looping. It adds a personal touch to e-mail by using your built-in iSight camera to string together a series of snapshots as a stop-motion slide show. It then attaches your video to a Mail message.

**FILES & FOLDERS: NEW FOLDER** After dragging this action to your workflow, type the name `Snapshots` in the Name text field and leave the Where pop-up menu set to Desktop.

**UTILITIES: SET VALUE OF VARIABLE** After adding this action, click on the Variables button above the Actions column. From the Locations category, drag New Path onto the action's Variable pop-up menu. Again, a list of the variables used in your workflow should appear below your workflow. Double-click on the New Path variable that now appears in this list, and change its name to `Snapshots`.

**PHOTOS: TAKE VIDEO SNAPSHOT** First click on the Actions button to reveal the actions again, and then drag this action into your workflow. Select the Take Picture Automatically option, and drag Snapshots from the Variable list at the bottom of your workflow into the action's Where pop-up menu.

**FILES & FOLDERS: RENAME FINDER ITEMS** Whenever you insert this action, Automator asks you whether you'd like to insert a Copy Finder Items action first, to ensure that your original files aren't renamed. This isn't necessary, so click on Don't Add. Choose Current from the Date/Time pop-up menu and Seconds From 12 M from the Format pop-up menu.

**UTILITIES: LOOP** Here's where the looping comes in. In this case, the Loop action will return Automator to the beginning of the workflow a specified number of times. Set the first pop-up menu to Loop Automatically. Set the next pop-up menu to Times and type 5 into the text field there. Finally, set the last pop-up menu to Use The Original Input (see "Looping Back").

**UTILITIES: GET VALUE OF VARIABLE** After the loop finishes, this action will retrieve the name of the folder where you're storing these snapshots and pass it to the next action for further processing. Choose Snapshots from the action's Variable pop-up menu. To ensure that the output of the Loop action isn't appended to this, control-click on the action's title (Get Value of Variable) and choose Ignore Input from the contextual menu.

**FILES & FOLDERS: GET FOLDER CONTENTS** You won't need to change any settings here.

**PHOTOS: NEW QUICKTIME SLIDE SHOW** Type `Slide Show Greetings` in the Save As text field and drag the Snapshots variable into the Where pop-up menu. Next, set the slide duration to 1 second per image. Leave everything else as is.

**MAIL: NEW MAIL MESSAGE** Enter a greeting in the Subject field and whatever text you want into the Message field.

That's it: when you save and then run the workflow, your iSight camera will take a series of photos, then create a new Mail message with the video attached.

More important, you should now have some inkling as to how powerful—and how simple—variables and looping can be. If you poke around some more in that Variable list and play around with looping, you'll find plenty of ways to make new, more powerful Automator workflows.

# Troubleshooting Your Workflows

Automator is usually straightforward—you just drag the actions you want into whatever order you like and then click on Run. When something goes wrong, though, use these tips to get back on track.

## TO FIND MISTAKES, VIEW RESULTS

If something isn't working inside your workflow, there's a good chance that one of the actions is at fault. Luckily, you can track down such an error with the Results pane (see "Get Results"). Click on the Results button at the bottom of any action, and when you run your workflow you'll see what type of files the action passed along. Say you had a workflow designed to find iTunes songs. But when you run the action, you notice that the Results pane for the action is empty—this means the search wasn't finding any songs that matched your criteria and you should broaden your search.

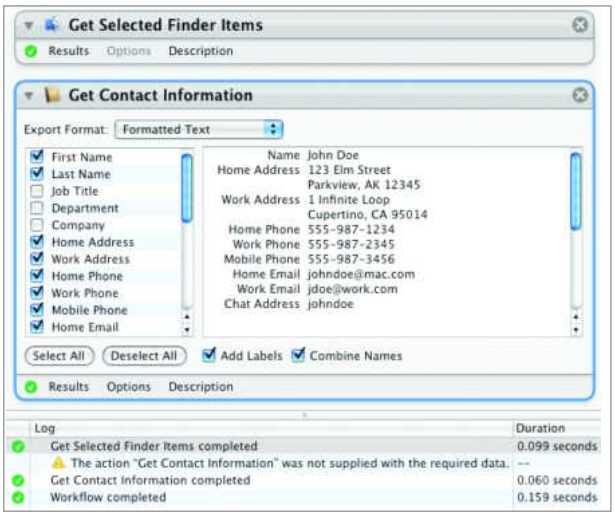
## WHEN IN DOUBT, DISABLE ACTIONS

If an action seems to be holding up your workflow or you're getting odd results, don't delete the action—disable it instead. To do so, control-click (or right-click) on the action's title in your workflow and select Disable from the contextual menu. Automator will skip over that action while you troubleshoot your workflow. When you're ready to re-enable the action, control-click on the action's title again and choose Enable. That's much easier than deleting and re-adding the action.

## PAUSE A WORKFLOW

If one of your workflows takes its sweet time, you might want Automator to notify you when some part of the workflow has completed. The trick is to insert the Utilities: Wait For User Action action *after* the relevant part of the workflow, forcing Automator to pause the entire workflow at that point. (You can also use this action to pause your workflow so you can make changes to whatever it's working on before proceeding.) Just remember to fill in something descriptive in the Message and Explanation fields: for example, "Hey there, the workflow just finished converting your images."


**Get Results** Clicking on the Results option at the bottom of an action can show you where things are going wrong. You'll see what files were passed on to the following action.




**Not So Fast** The Log pane here shows that the Get Contact Information action didn't get the files it needed to do its job.

## TRACK YOUR WORKFLOW'S PROGRESS

Normally, you can tell which actions in your workflow have run by the little symbols next to each one in the workflow pane. A green check box means the action has completed, a spinning progress indicator means the action is running, and when neither one appears, it means the action hasn't run yet. But to really see what's going on, choose View: Log. When you do, a drawer will open at the bottom of the Automator window. In it you'll see not only which actions have run (and which one is running right now), but also how *long* each action took. That's a great way to discover bottlenecks in your workflow. If your workflow fails, check the log for an exclamation point (see "Not So Fast"). This is a warning that one of your actions didn't get the type of input it needed. You may need to rearrange your workflow to make things work.

## TAKE CARE WHEN CHANGING IMAGES

Whenever you insert a Preview action that modifies images on your hard drive, Automator asks whether you'd like to insert *another* action—one that will make copies of the images—first. If you want to avoid image accidents, take Automator's advice. In the dialog box that appears, click on Add, and your workflow will use duplicate images instead.

# Access Your Mac from Afar

## Take Advantage of Leopard's New File Sharing and Screen Sharing Features

When you want to share files with others, you can always send them via e-mail or iChat. But it's far more efficient just to give your collaborators shared access to the files, folders, and volumes on your Mac and let them get the files themselves. If you move between multiple Macs (for example, at work and at home), just accessing files may not be enough—you may need to take complete control of your remote Mac to change settings, send e-mails, and more.

Mac OS X 10.5 makes both of these tasks much easier. We'll show you how to set up file sharing and .Mac screen sharing in Leopard, and explain what precautions to take to ensure you're not leaving the door open to troublemakers.

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# Sharing Files and Folders

Anyone who's needed to fetch an important document at home from a work computer knows the value of having immediate access to a computer that's not in the immediate area. Sharing files hasn't always been easy in OS X. Tiger and preceding versions of Mac OS X lacked some file-sharing features—such as sharing folders as networked volumes—found even in Mac OS 9, and the tools you used to configure file sharing weren't always as straightforward as they might have been.

The good news is that in Mac OS X 10.5, Apple has dramatically improved the tools you use to share all kinds of resources from your Mac across local networks and the Internet. And some of the biggest—and handiest—of these improvements are in the ways Leopard lets you share files, folders, and volumes. You can choose which folders and volumes you want to share, which users will get what kind of access, and which file-sharing protocol they'll use, all with drag-and-drop ease.

WARNING

### AVOID USER MISHAPS

Do not remove or modify the default users for the startup volume or for special folders like System or Library. Doing so could disable Mac OS X and require a boot from the startup DVD and a trip through Disk Utility's Repair Permissions tool.

## WHAT TO SHARE

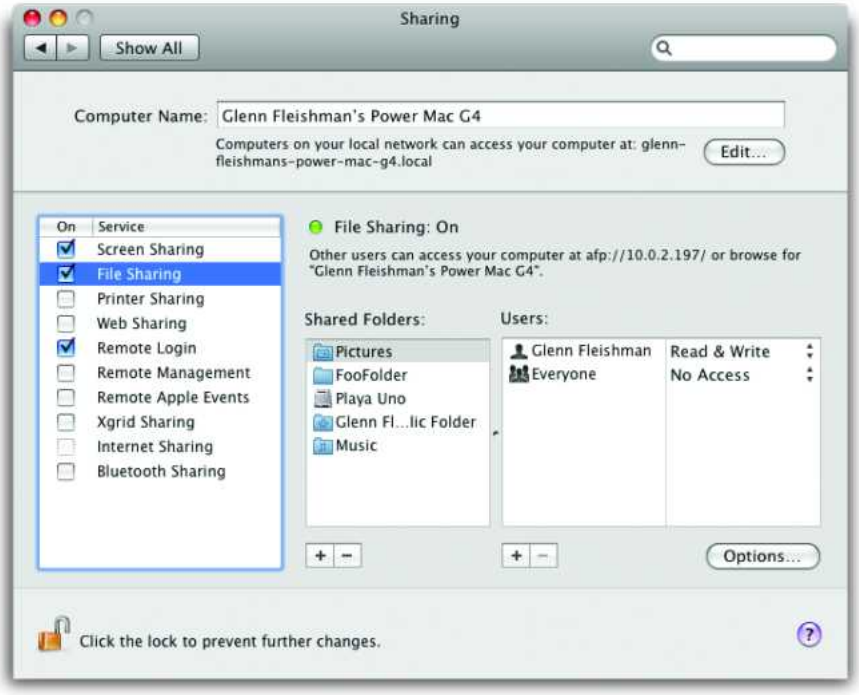
To get started, launch System Preferences, select the Sharing pane, and click on the File Sharing service check box in the Services list. At that point, you'll see two windows: Shared Folders and Users. As the name implies, you use that first one to share entire folders and volumes. You can add a folder or volume to the Shared Folders list in two ways: You can drag it from the Finder into the Shared Folders window or you can click on the plus sign and navigate to the folder you want to share (see "Share with Others").

Leopard lets you share any mounted volume—including disk images—that isn't itself a network volume. You can share an entire volume or any directory within it. By default, your public folder is already included in this list.

Note that you can also share folders and volumes in the Finder by selecting the item, choosing File: Get Info, and checking the General: Shared Folder box.

## WHO TO SHARE WITH

In previous versions of Mac OS X, if you wanted to share files with someone, you had to set up a new account, each with is own unique login and password. In Leopard, it's much simpler. Now




**Share with Others** In Leopard's Sharing preference pane, you can specify which folders and volumes you want to share, with whom, and how.


**Guest Access** You can give guests the ability to log into your Mac or restrict them to sharing files only.

you can add or remove users and groups in the Users list of the Sharing pane.

To remove someone, select the user or group and click on the minus-sign button. To add users, click on the plus sign. When you do so, you'll be presented with a list of the users and groups set up in the Accounts preference pane. There's an entry for your Address Book, too; you can choose any contact, click on Select, and set a password. This creates a Sharing Only account, which we'll discuss in more detail in a moment.

**SETTING UP NEW ACCOUNTS** In addition to the people in your Address Book and Accounts lists, Leopard lets you configure file access for some special classes of users.

If you look at the Accounts preference pane, you'll see a user named Guest (see "Guest Access"). This account lets other people use your Mac without compromising the security of your own account. But it also allows access to volumes you choose to share without a password. If you select Guest in the Accounts preference pane and check the Allow Guests To Connect To Shared Folders option, anyone with network access to your Mac will have password-free access to your shared folders. (The guest account can't access files via FTP.)

You can also set up a new type of account: Sharing Only. As the name implies, a sharing-only account can remotely access shared folders and volumes on the Mac on which the account is set up, but has no login privileges on that Mac.

You can create sharing-only users in the Accounts preference pane by creating a new account and selecting Sharing Only from the New Account drop-down. You can also create a new sharing-only user from the File Sharing pane by clicking on the plus-sign under the Users list and choosing New Person. (Sharing-only users can access remote volumes only via AFP, not FTP nor Samba.)

**SETTING LIMITS** Now for each folder or volume you added in Shared Folders, you can select and choose specific access rights that correspond to users or groups of users. When you select a shared item, the Users list to its right fills with any existing permissions. For a folder in your home directory, you are usually listed along with the special Everyone choice, which sets access for all accounts on the computer, including guest users.

You can specify one of four kinds of access rights—read only, read-write, write only, or no access—by using the drop-down menu to the right of the user or group name. Read-write access gives users complete creative and destructive rights to all files in the shared folder. Users with read-only access can view files and folders but can't change them. With write-only access, they can copy documents into the folder, but can't view its contents. (That's why Apple helpfully appends the phrase "Drop Box" to the Write Only entry.)

Drop boxes are useful when you're trying to let people submit information but you prefer to give them no other access to the system. By default, Mac OS X sets up a Public folder in each user's home directory that's shared: the folder is set to read only, and a Drop Box folder inside Public is set to write only.

## HOW YOU SHARE

With permissions for access set, you now need to choose which method—or *protocol*—you'll use to share files. Leopard, like Tiger and Panther before it, offers built-in support for Apple Filing Protocol (AFP), Samba, and FTP.

Leopard tremendously improves on previous versions of OS X by making all three services accessible from one central location. Unfortunately, you can't specify what you want to share according to sharing protocol. The permissions you grant to any given

volume, folder, user, or group stay the same no matter which sharing protocol you use. To specify how a given resource will be shared, click on the Options button in the File Sharing pane and select the protocol you want.

**USING AFP** Typically you'll want to use AFP when sharing among Mac users. Previous implementations of AFP used unencrypted passwords, which was a security risk, but this is no longer the case. Unfortunately, that means some older systems may not be able to connect to your Mac if you're using AFP. You may also run into trouble if setting up a Leopard server with AFP. To allow systems that aren't yet using Mac OS X to connect to a Leopard AFP server, you'll have to enable AppleTalk on the interface over which you're sharing—such as Ethernet. To do this, go to the Network preference pane, select the appropriate adapter, click on its AppleTalk tab, and turn that option on or off; note that only one adapter can have AppleTalk active at a time.

**USING SAMBA** Samba is the best option if you're sharing files among a mixture of Mac, Windows, and Linux or Unix systems. Samba passwords are stored in a weaker fashion than those used for Mac OS X. Apple warns you, rightly enough, about this problem. However, to exploit this weaker encryption, a cracker has to have access to the Samba password file; passwords in transit can't be cracked by known means.

**USING FTP** FTP offers the simplest, and most limited, access to your files. Leopard doesn't restrict FTP accounts to just viewing listed folders; the Shared Folders list is essentially ignored for FTP. Instead, FTP users can traverse all mounted drives to which they have at least read-only permission. But keep in mind that FTP doesn't encrypt passwords at all, so it's unsuitable to use on any public network.

## ACCESSING FILES

Once you've got file sharing set up, other users can access your Mac by selecting it from the Shared list in the Finder. By default,


**Choose Your Connection** You can use the Options pane to choose which protocol Leopard uses to communicate with other Macs.

Mac OS X will connect as a guest. If you want to connect as a non-guest user, select the Mac's name and click on the Connect As button in the top-right corner of the Finder window to enter the appropriate user name and password.

To connect to a server outside your local network, choose Go: Connect To Server from the Finder. Enter an IP address, a domain name, or even a Bonjour name to connect to AFP servers. (Not all IP addresses are publicly reachable outside the local network.) For SMB and FTP, precede the name with **`smb://`** or **`ftp://`**, respectively. For FTP you can also use a stand-alone file transfer program.

With both local and remote networks, Leopard no longer shows the mounted volumes on the desktop by default. To change this, choose Finder: Preferences and click on General, and then checked Connected Servers to show networked volumes on the desktop.

# Sharing Your Screen with Others

Back To My Mac is a new Leopard feature that performs the nifty magic of letting you remotely access another computer you own over a local network or the Internet, gaining access to its shared volumes and controlling its screen. Back To My Mac is a huge step forward for those people who maintain multiple mobile and fixed computers and need easy, secure access. Setting up Back To My Mac can be tricky, but if you meet all the requirements and follow these step-by-step directions, you will be connecting in no time.

## CHECK YOUR REQUIREMENTS

Using Back To My Mac requires an active .Mac subscription, and each machine you want to control needs to be logged onto the same account. Basic .Mac Membership is $100 a year. Unfortunately, at this time e-mail-only .Mac accounts (individual addresses purchased through an existing, full-feature .Mac account) don't work with Back To My Mac.

For each computer you're trying to connect, you'll need to have Mac OS X 10.5.1 installed with the latest software updates and have a broadband Internet connection. You should also make sure that your router is directly connected to your broadband modem, not one step removed in the network.

The service also requires either a public, routable IP address—a rare item on home networks and most work networks—or a broadband or Wi-Fi router that supports one of two port-mapping protocols that Apple relies on to punch through any gateways or routers on your local network: NAT-PMP (Network Address Translation Port Mapping Protocol) or UPnP (Universal Plug and Play).

## CONFIGURE YOUR ROUTERS

Before setting up Back To My Mac, you need to make sure your router has one of the required protocols built in and turned on and that it has the latest firmware installed. Firmware updates can be downloaded from the manufacturer's Web site.

NAT-PMP is an Apple-developed protocol available in all AirPort Extreme and Airport Express Base Stations and in some third-party routers (but not in the earlier AirPort Base Station models). UPnP is available on many third-party routers. To find out if your router is compatible with Back To My Mac, check the list of supported router devices and required firmware on Apple's Web site at macworld.com/3279.

To turn on NAT-PMP on your router, start by launching the AirPort Utility found in the Applications/Utilities folder. Select your base station from the list of devices on the left, and choose Base Station: Manual Setup. Now click on the Internet icon on the top of the window. Choose the NAT tab and turn on the Enable NAT Port Mapping Protocol option, if it's not already turned on. Finally, click on Update to restart the router with that setting (see "Enabling NAT-PMP").

Back To My Mac should also work with third-party Wi-Fi and broadband routers that support NAT-PMP or UPnP. Because all routers are different, we can't offer details for each. But if your router offers one of these protocols, you should find instructions for turning it on in the router's manual. In many cases, it may be enabled by default.

Repeat these steps on additional computers you'd like to connect using Back To My Mac.

**Two on One** When using Back To My Mac to control a remote Mac, the second Mac's screen appears in a separate window. You can use this window to open programs, browse files, change settings, and perform tasks.

## TURN ON BACK TO MY MAC

To prepare your machines for Back To My Mac, follow these steps on each computer you'd like to connect. Remember that you need to log in using the *same* .Mac account on each machine.

Open System Preferences and click on the .Mac icon. If you haven't already set up your account on this computer, click on the Account tab and enter your .Mac account and password. Leopard will validate the login and confirm your status. Now click on the Back To My Mac tab and click on the Start button.

## CONFIGURE YOUR SETTINGS

Now that you have Back To My Mac turned on, you need to decide how you'd like to use it. There are two ways to see other computers using Back To My Mac: file sharing and screen sharing. File sharing lets you browse a remote computer's hard drive in a Finder window, and drag, drop, copy, add, delete, or print folders and files. Screen sharing allows you to take the connection to the next level—viewing the remote computer's Desktop in a smaller screen within your own. In screen sharing mode you can launch programs, use shortcuts, and edit and manipulate files the same as you would on your local computer.

To enable these options, click on Open Sharing Preferences and turn on File Sharing, Screen Sharing, or both. When you select Screen Sharing, you can choose which users to enable or choose to allow all users remote access. Note that if you exclude your account, you won't be able to use it with Back To My Mac even if Screen Sharing is turned on.

Selecting the File Sharing option in the Sharing window brings up additional settings that allow you to choose specific volumes or folders to share, and set permission for who has access to those volumes or folders remotely (for a detailed explanation of these settings, see "Sharing Files and Folders" earlier in this chapter).

Since Back To My Mac cannot connect to a computer that is in sleep mode, you'll also need to open the Energy Saver preference pane and slide the Put The Computer To Sleep When It Is Inactive For option to Never. The display sleep settings can remain on.

## MORE .MAC TRICKS

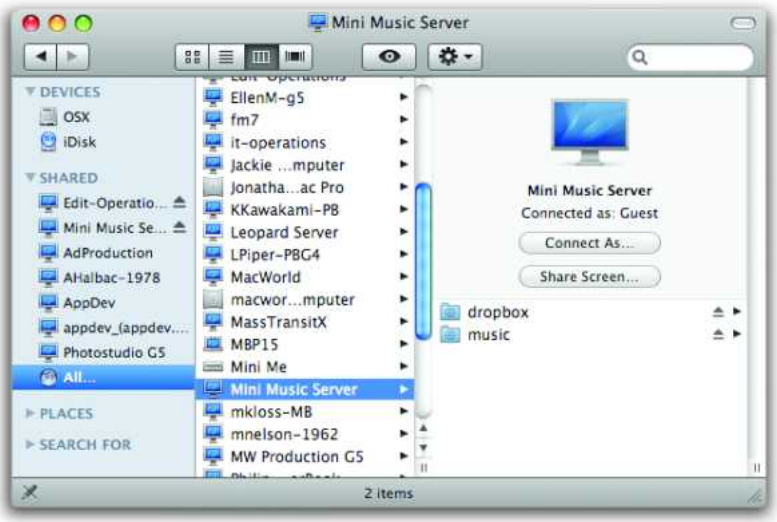
Back To My Mac isn't the only new feature that .Mac users can enjoy. You can now use it to sync more types of data—including Dashboard widgets, Dock contents, notes, preferences, and other settings—between multiple Macs running Leopard. This is great if you split your computing time between work and home or between a desktop and laptop.

The Account tab of the .Mac preferences also displays an expanded summary of your account, including storage limits, expiration date, and more.


**Stay in Sync** You can use the .Mac preference pane to sync widgets, notes, and more between multiple Macs.

## USING BACK TO MY MAC

To begin sharing with a remote or networked computer, open any




**Make a Connection** When enabled in your System Preferences, buttons for Share Screen and Connect As will appear under your remote computer in the Finder.

Finder window. The Sidebar's Shared section will list the computers you've properly set up to connect with using Back To My Mac. Click on the remote computer's name, which will appear as defined in the Sharing preference pane. The available volumes that are available to guest logins (password-free access) will appear in your Finder window. In the upper right, Share Screen and Connect As appear if you have screen sharing and file sharing turned on, respectively (see "Make a Connection").

For file sharing, click on the Connect As button and a list of available volumes appears in the Finder window. You can now browse your remote system and transfer files as you like between the two. This is the better choice if you only want to copy or paste files. For screen sharing, click on the Share Screen button and wait for a new remote screen to appear showing the screen of your other system. Be patient, as making the connection can sometimes take a minute.

## SAFETY TIPS

Even though Apple has put multiple levels of security in place to keep Back To My Mac users safe (See "How Back To My Mac Keeps You Secure"), you should still be vigilant about protecting your system. Here are some additional steps you can take to protect your computers. For more security information, see macworld.com/3281.

**EXPAND YOUR FIREWALL** The Leopard firewall doesn't prevent the use of Back To My Mac even when its most restrictive setting is applied to block all incoming connections. One solution is blocking UDP connections to port 4500 through a third-party firewall package. This will prevent Back To My Mac from functioning. Open Door Networks' DoorStop X ($49; www.opendoor.com) and Intego's NetBarrier X4 ($70; www.intego.com) can both block ports.

**PROTECT YOUR KEYCHAIN** You should also consider changing your Keychain password so it's not the same as your Mac OS X account's login password. Leopard will then prompt you for your Keychain password whenever you use Back To My Mac instead of connecting silently. You'll be prompted and have to deny NetAuthAgent whenever it asks for access, as well as entering your Keychain password as needed.

**REQUIRE PASSWORD** Finally, as a last layer of protection, check the box that says Require Password To Wake This Computer From Sleep Or Screen Saver in Security preferences. This will provide an additional password prompt should anyone nefarious try to access your computer using Back To My Mac.

## A WORK IN PROGRESS

Unfortunately, Back To My Mac may not work with every router or network setup, even if you've followed all of these directions. Apple admits that the service is something of a work in progress. What's especially frustrating is that unreachable remote comput-

# SCREEN SHARING

Don't have .Mac? No problem. Leopard actually offers several ways to access a remote system. Here's how they compare.

### FINDER

Over a local network, any computer that has screen sharing enabled advertises that fact via Bonjour. Open any Finder window, and select the computer you want to control from the Sidebar's Sharing list. If screen sharing is enabled, a Share Screen button should appear. Click on that and enter the appropriate user name and password for that computer.

### ICHAT AV 4

The latest version of iChat includes a screen sharing button at the bottom of the Buddies window. Select a buddy, and that button will (or won't) light up, depending on whether or not that contact is running Leopard with screen sharing enabled.

When that button is lit up, click on it and you'll be offered the choice to share your screen with your buddy or ask to share your buddy's screen. You can also right-click a buddy's name and select either Share My Screen or Ask To Share from the contextual menu. Just as with audio and video chats, the other party is presented with an accept or decline option whether you're asking to share his or her screen or offering your own to share.

Screen sharing in iChat is similar to, but distinct from, iChat Theater, which lets you share photos and presentations with a buddy.

### INTERNET

You can share the screen of a remote computer over the Internet, as long as it has a publicly reachable address—a rarity for most home users—using the Screen Sharing program hidden away in /System/Library/CoreServices. Launch that program, enter the IP address or domain name of the remote system, and you'll be prompted for login information.

## HOW BACK TO MY MAC KEEPS YOU SECURE

Since Back To My Mac opens up tremendous remote access to machines that are otherwise passively protected by Network Address Translation (NAT), Apple has put these security measures in place to keep your systems secure.

### .MAC PASSWORD AUTHENTICATION

Using Back To My Mac requires an active .Mac account that requires you to enter your account name and password in the .Mac preference pane. When you do so, Leopard uses a secure authentication process to validate your account information with .Mac, which, if successful, hands back a couple digital certificates that are used to validate sharing sessions cryptographically. These are kept in Keychain Access: they're named starting with your .Mac account name and then .Mac Sharing Key and .Mac Sharing Certificate.

### KERBEROS TICKETS

Back To My Mac relies on a somewhat obscure security system developed at MIT called Kerberos. Kerberos lets two parties who have previously identified themselves to each other—in this case, through digital certificates that Leopard has installed on each Back To My Mac computer—to validate each other's identity and share information securely. The system can issue tickets, which authorize specific access for specific periods of time.

In the case of Back To My Mac, the .Mac sharing key and certificate are used to validate one Back To My Mac computer to another, after which a ticket is issued that lasts for 10 hours and allows remote control or remote file sharing. Tickets can be viewed via Keychain Access by selecting Kerberos Ticket Viewer from the Keychain Access menu.

This new program lets you view entries, including those that have expired. For Back To My Mac, these entries start with "afpserver" for file sharing and "vnc" for remote screen sharing. (Kerberos is also now used with Bonjour for local network file sharing, using tickets that are issued after you log into a server with a password.)

You can use the Kerberos Ticket Viewer to delete tickets and extend their lifespan. If you've set up Back To My Mac on a computer that's not yours and want to make sure other users can't access your system, deleting the Kerberos ticket is the safest way to protect yourself.

### IPSEC TUNNELING

IPsec (short for IP security) is more commonly seen as part of the L2TP-over-IPsec (Layer 2 Tunneling Protocol over IPsec) virtual private network protocol that's used by Apple and other firms. IPsec lets two parties establish a secure connection. Back To My Mac uses this connection for screen sharing and file serving.

Each set of machines that have Back To My Mac enabled establishes its own secure tunnels. If you had five machines registered with Back To My Mac, and had file servers or screen sharing enabled among all of them—a pretty mammoth set of operations—you could have as many as 40 tunnels, two for each connection among each machine.

In general, the connection is formed only when a service is accessed; other Back To My Mac computers show up in the Shared area of the Sidebar even before you connect to them. The secured tunnels are created only when you access a file server or remote screen.

ers will likely appear in the Sharing list in the Finder's Sidebar. That's because Back To My Mac can publish the machine's availability to .Mac (a simple transaction), but the actual connection back in isn't available. Apple says it's working on the service to better interact with more routers and circumstances, so a connection that fails today may work tomorrow.

# Troubleshooting Your Mac

## How to Treat Common OS X Problems and Protect Your Data

Most of the time, your Mac is the picture of health—it crunches numbers, plays music, and tackles the most difficult tasks without so much as a hiccup. But hundreds, maybe thousands, of things can go wrong with such a complicated a system. With that in mind, Apple has included a user-friendly new backup program in Leopard called Time Machine. This chapter will help you prepare for the inevitable glitches with Time Machine and walk you step by step through fixes for common Mac problems.

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# Recovering from Common OS X Maladies

When trouble strikes, figuring out what exactly the problem is and where it's coming from is half the challenge. There are often several possible explanations for a single problem. With that in mind, we'll take a look at some of the most common Mac problems—including freezes, crashes, and startup woes—and walk you through the steps you should take to solve them.

## AN APPLICATION FREEZES

It happens to all Mac users sooner or later. You're about to select a menu command when suddenly your cursor turns into a beach ball that just spins and spins. You try everything from pounding on the keyboard to offering a sacrifice to the computer gods, all to no avail. Your application has frozen.

First some good news: usually, only one application freezes at a time. This means if you move your cursor away from the program's window, the beach ball should disappear and your Mac's behavior should return to normal. But you're still stuck with an application on ice.

When you can't access an application's Quit command, how do you get it to quit? Don't fret: OS X offers several alternative ways to *force quit* a program. You only need to use one, as they all do the same thing; however, you may find one method more convenient than another. Sometimes, one may work when another doesn't. Cycle through to find the best method for you.


**Quitters Sometimes Win** Frozen solid? Clicking on the Force Quit button should get your Mac's attention.

**FORCE QUIT** Go to the Apple menu and select Force Quit (or press its keyboard equivalent: ⌘-option-escape). This brings up the Force Quit Applications window (see "Quitters Sometimes Win"). You'll see a list of all your currently open applications. Typically, the name of the frozen one will be followed by the phrase "application not responding." Select the program's name and click on Force Quit.

In Leopard, if you force quit an application that the Mac claims was "not responding," a dialog appears informing you that the application quit "while unresponsive" (see "Sit Back, Relaunch"). It may be redundant feedback, but the dialog does offer the chance to send Apple a report of the problem.

**USE THE DOCK MENU** You can also force an application to quit from the Dock. Click and hold over the frozen application's Dock icon. When the contextual menu pops up, the item that normally reads Quit should say Force Quit. If it still just says Quit, release the mouse and start over, this time holding down the option key. This makes the Force Quit command appear.

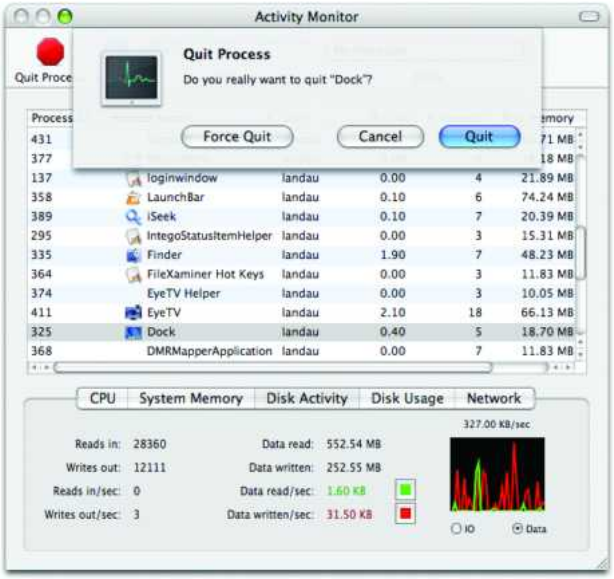
**USE ACTIVITY MONITOR** On rare occasions you may need to quit a program—such as the Dock—that doesn't have a Dock icon or appear in the Force Quit window (see "Force Quit the Dock"). In that case, launch Activity Monitor (it's in /Applications/Utilities). From the list in the main window, select the frozen application. From the Toolbar, click on the Quit Process button. In the dialog box that appears, click on Force Quit.

## BOUNCING BACK FROM CRASHES

Just as unwelcome as the application freeze is the application crash. In this case, you're not trying to force a program to quit; you're trying to *prevent* it from quitting on its own. When an application crashes, you typically see a dialog box informing you that the application has "unexpectedly quit" (see "Sit Back, Relaunch"). As with application freezes, the good news is that these crashes rarely bring down an entire Mac—they usually just affect the one application. But you still want to end this ailment. Try these methods, one by one, until the problem disappears:

**STEP 1: RELAUNCH** The "unexpectedly quit" dialog box includes a Relaunch button. Click on it to launch the application again. With any luck, the crash will not recur.

**STEP 2: SAFE RELAUNCH** If the crash happens again, curse your luck and wait for the dialog box to reappear. You'll notice a slight difference now—the message text says that the application unexpectedly quit after it was relaunched. You have the same Relaunch button here.




**Force Quit the Dock** How do you quit something—say, the Dock—that doesn't appear in the Force Quit window? Use Activity Monitor.

If you click the button this time, however, the application should not immediately relaunch. Instead, another dialog will appear (see "Sit Back, Relaunch") offering two relaunch options: Reset And Relaunch or just Relaunch.

If you click on the Reset And Relaunch button, this should initiate a *safe relaunch* of the application. OS X disables the application's current preferences file and replaces it with a new default file.

Applications use preferences files to store the changes you make to the program's settings—using the Preferences dialog box, for example. But if preferences files become damaged they can precipitate a crash. (Preferences files are stored in *your user folder*/Library/Preferences and typically are named after their matching application.)

If the safe relaunch eliminates the crash, quit the program (File: Quit). At this point, another dialog box will appear and ask whether you want to keep the new settings. Click on Yes to keep the new settings and reset any custom preferences—a price worth paying if it puts an end to the crashes. If you instead prefer risking a return to your prior custom settings, click on No.

Unfortunately, in Leopard, the safe relaunch process doesn't always work. It's possible that the Reset and Relaunch button, or the dialog asking if you want to save the new settings, might not appear. And even if it does, clicking on Safe Relaunch may only give you a regular relaunch.

## DEALING WITH RECURRING PROBLEMS

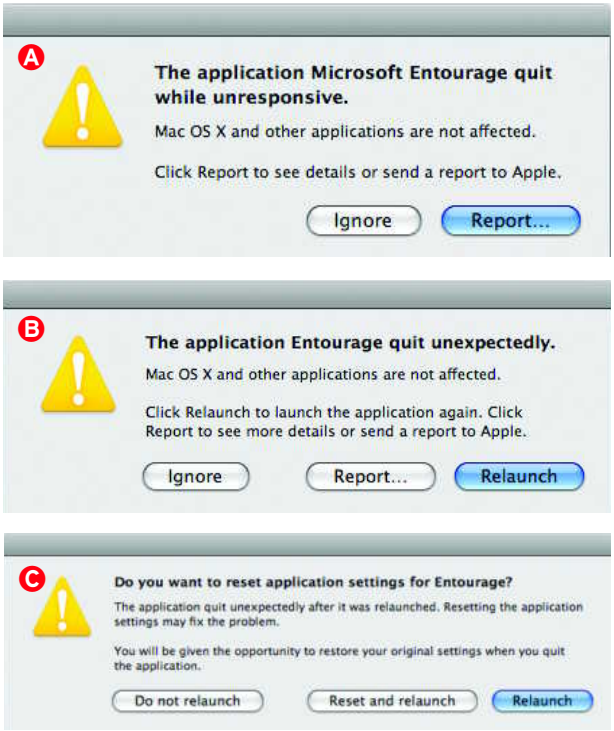
If your crashes persist, or if your applications begin misbehaving in other ways, it's time to move on to a time-tested set of potential fixes. Try the steps in order until one works.

**STEP 1: RESTART YOUR MAC** Select the Restart command from the Apple menu. It's amazing how often this simple act resolves a problem. If the crash is so bad that you can't get Restart to work, press and hold your Mac's power button until the machine shuts off. As a *last* resort, pull the power cord.

**STEP 2: CHECK FOR CONFLICTS AND BUGS** Make sure the application doesn't have a conflict with the version of OS X you're using. For example, if you just updated to Leopard, you may also need to update the problem program. Check the company's Web site for details. While you're there, check to see if the site has a support section. You may find that your problem is common enough that the company has already posted a solution.

**STEP 3: LOG IN AS A DIFFERENT USER** You've installed new programs and you've tweaked preferences—is it one of the millions of changes you've made to your system that's giving your Mac a stomachache? You can find out by logging in as a different user. If you've never created a second account, now is the time to do so (see "Set Up a Troubleshooting Account").

If the crash doesn't occur when you're logged in as the other account, it means the cause is a file in your user folder, rather than a more general issue with OS X. Accept this as good news, as it usually means the problem can be fixed without something as drastic as reinstalling all of OS X or erasing your entire drive.




**Sit Back, Relaunch** Dialog A appears in Leopard after you force quit an application. Dialog B comes up when an application crashes. Clicking on Relaunch brings up dialog C, with the option to reset and relaunch. Resetting should temporarily revert the application's preferences to their default values.

The cause is most likely a corrupt or conflicting file somewhere in your user folder's Library folder—either a preferences (.plist) file, a font, a cache file, a plug-in, or some other support file (often found in the Application Support folder).

You can use utilities to isolate the specific cause. For instance, check for corrupt fonts with Font Book's Validate Font command, identify corrupt .plist files using Jonathan Nathan's Preferential Treatment (free; Jon Nathan Software, www.jonn8.com), and delete corrupt cache files with Northern Softworks' Leopard Cache Cleaner ($12; www.northernsoftworks.com). Ultimately, it might take some good old trial-and-error to ferret out the culprit.

**STEP 4: USE DISK UTILITY** If the problem program was installed as part of Mac OS X, go to /Applications/Utilities and launch Disk Utility. From here, select your startup volume and click on the First Aid tab. Finally, click on Repair Disk Permissions (see "Seeking First Aid" for instructions).

**STEP 5: UNINSTALL AND REINSTALL THE PROGRAM** Still stuck? Uninstall the program by going to the Applications folder and dragging the program's folder to the Trash. If you had to double-click on an installer to install a program, rerun the installer. In most cases, after you launch it you'll see that there's an uninstall option. Run this.

Now reinstall the program. If an Installer utility came with the program, use it—otherwise, you may not properly install key components of the software, and that in itself could be the cause of a crash.

**STEP 6: CHECK CONSOLE LOGS** Launch OS X's Console utility (/Applications/Utilities). If you don't see a list of logs in the left column, click the Show Log List button in the toolbar. From the list on the left side, locate the CrashReporter folders (in ~/Library/Logs and /Library/Logs). In here you'll find a .crash.log file for every application on your Mac that has ever crashed.

In the log file with the name of your problem program, you might find a clue to the cause of the crash—for example, a reference to a plug-in that may be the ultimate cause of the conflict. Look carefully at any section with a header including the word "Crashed" (such as "Thread 0 Crashed"). The output in the All Messages item under Log Database Queries may also provide a clue as to the cause of a crash.

Leopard's new version of Console lets you save log queries, enabling you to build a filter and look at only those log entries that match your filter. To create a new query, choose File: New Log Database Query, and then enter the criteria you want. When you save the query, it will appear in the Console sidebar, right above the list of log files. For more advice on using Console, see "Tracking Down Trouble with the Console" at macworld.com/3302.

**STEP 7: REINSTALL OS X** If your sleuth work has not paid off, it may be time to bring out your OS X Installation DVD and start from scratch. Select the Archive And Install option. If this installs an older version of OS X than you are currently using (such as 10.5.0, when you are now running 10.5.1), use the Software Update system preference to immediately update to the latest versions of all Apple software.

TIP

## SET UP A TROUBLESHOOTING ACCOUNT

Mac troubleshooting experts recommend that you create an additional "clean" user account—one that you leave entirely untouched after setting it up. The reason? Should things get wonky in your main account, you can switch to this troubleshooting account to see if the problem exists there as well. If it doesn't, you know something is wrong with your main account—a corrupted preference or font, for example. Knowing where the problem lies can help you solve it.

With that in mind, launch the Accounts preference pane, click on the lock icon, and enter your administrator's password to unlock Accounts. Click on the plus-sign button at the bottom of the list of accounts and create a new Standard account (one that doesn't have administrator permissions, so it doesn't let you install applications or alter certain system settings). Give it an intuitive name such as Troubleshooting. If your Mac misbehaves, switch to this account and see if the problem stops.

## CPR FOR STARTUP PROBLEMS

What strikes the most fear into the hearts of Mac users? When the computer fails to start up at all. It's hard not to wonder if you'll ever see the contents of your hard drive again—especially if you also failed to back up your drive.

If your Mac *seems* to start up normally but stalls at some point before the desktop appears—indication that the problem isn't with your monitor or your power—use these guidelines for reuniting with your data. Try each step in turn until one succeeds:

**STEP1: PATIENCE** Sometimes the Mac will take an unusually long time to start up. Take a deep breath, head to the kitchen, and wait awhile to see if the Mac rights itself.

**STEP 2: RESTART AGAIN** OK, you got a cup of coffee and read the newspaper's front page, but your Mac *still* hasn't started. Try restarting one more time. Things often work better the second time around.

**STEP 3: DO A SAFE BOOT** Restart and immediately hold down the shift key until the sundial icon shows up at the gray screen to initiate a safe boot. Eventually, the login screen appears

with the words "Safe Boot" below the words "Mac OS X." This means you have initiated a shotgun collection of potential fixes. OS X runs a disk repair command, deletes potentially corrupted font cache files, disables files called extensions (located in the System folder), and prevents items in your Login Items list (in your Accounts system preferences pane) from loading.

If you succeed in getting your Mac to start up in this minimalist mode, restart immediately (this time without activating Safe Boot). The disk repairs and cache cleaning alone may have fixed the problem.

**STEP 4: INVESTIGATE YOUR LOGIN ITEMS** If you're still in trouble after a post-safe boot restart, it's going to take some

## SEEKING FIRST AID

When simple measures such as restarting fail to patch up your Mac, it's time to call on Disk Utility's First Aid tools. To Launch Apple's Disk Utility, go to /Applications/Utilities, click on the First Aid tab, and select the name of the volume you want to fix from the list on the left side of the window (see "Patch Things Up").


**Patch Things Up** Use Disk Utility's First Aid tab to repair disk permissions or make more general disk repairs.

**WHAT TO FIX?** Decide if you need to Repair Disk Permissions or Repair Disk. They're quite different and you may want to run both.

Repair Disk Permissions fixes faulty permissions settings for all files installed as part of a Mac OS X installation. OS X uses Unix permissions settings to determine your read and write access to files. If Mac OS X programs won't open or are acting oddly, a permissions problem can be the culprit. You can only repair disk permissions on a disk with OS X installed.

On the other hand, you can run Repair Disk on any volume, even one without Mac OS X installed. This tool attempts to repair problems in a disk's directory, which keeps track of where everything on your disk is physically stored. This kind of repair can potentially fix almost any ailment, from an inability to open a document to a complete failure to start up.

If you selected Repair Disk, and the Disk Utility claims to have found errors but fixed them, select Repair Disk again, just to make sure. If Disk Utility finds errors it is unable to fix, you'll need a more powerful repair utility, such as Alsoft's DiskWarrior ($80; Alsoft, www.alsoft.com) or Micromat's TechTool Pro ($98; Micromat, www.micromat.com). Make sure you have the lastest Leopard-compatible version.

**VERIFY OR REPAIR?** Disk Utility gives you a choice of Verify Disk or Repair Disk. When you verify, the utility checks for problems but doesn't make any repairs, even if problems are found. This is useful if you don't want to risk modifying your disk yet (perhaps because you want to back up first).

**REPAIR DISK BUTTON DIMMED?** When you try to choose the current startup volume, the Repair Disk button is dimmed. The most common way to fix this problem is to restart from the Leopard Install DVD (or the Install DVD that came with your Mac). Insert the DVD and then hold down the C key at startup. This will make your Mac boot from the system software on the DVD instead of the software on your hard drive. Select Disk Utility from the Utilities menu, choose your regular startup volume, and click on Repair Disk.

Verify Disk, on the other hand, *can* be selected, even for the current startup volume. If a verify gives your startup volume a clean bill of health, you've avoided the hassle of restarting and booting from a DVD just to run Repair Disk.

**ENABLE JOURNALING** Verifying the current startup volume, or *live verification*, will only work for volumes with *journaling* enabled. Check the Disk Utility toolbar to make sure journaling is enabled for your disk volumes. If the Enable Journaling button in the Disk Utility toolbar is dimmed, the feature is already turned on. If it's not, click on the button.

Unfortunately, live verification, which first appeared in Tiger, still has bugs in Leopard. For example, false error messages occasionally appear. Ignore any error that says "Incorrect size for file temp."

detective work to figure out what's going on. For example, if the crash occurs after you've logged in to your account (and the desktop background has appeared), the most likely cause is a Login Items conflict.

To check for this, go to the Preferences folder inside the Library folder of your Home directory. Locate the file named "loginwindow.plist" (not "com.apple.loginwindow.plist"). Now, make a copy of the file and store it in another location (such as your desktop).

Next, go to the Accounts system preference pane, select your account name, and click on the Login Items tab. Select the top item in the list and click the minus-sign (-) at the bottom of the Login Items window. Next, log out (Apple menu: Log Out *user name*) and then back in. Continue removing items one by one until the crash stops occurring. When it does, it's a good bet that the login Item you last deleted is the culprit.

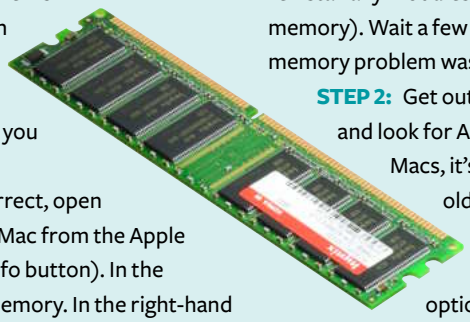
At this point, replace the active loginwindow.plist file with the copy you made. Return to the Login Items window in Accounts. Your complete list of login items should be back. Delete just the likely culprit item, log out, and log back in.

**STEP 5: REPAIR THE DISK** Mac still not starting up properly? When you do a safe boot, OS X attempts to repair your disk, but it offers no feedback as to what happened. You don't know if it found and fixed problems or if it ran into problems it *couldn't* fix. If

## IS YOUR MEMORY BAD?

If you can't find a software explanation for persistent crashes or corrupted files, you may need to look to your hardware—especially if you've recently added new memory to your Mac. For starters, you'll need to confirm that the memory you installed is both alive and kicking and the right type of RAM for your Mac. Luckily, checking both of these things is a snap.

**IS IT ALIVE?** Select About This Mac from the Apple menu, and see how much memory it reports. If it's not the amount you expect, your new RAM module is either dead or improperly installed. To find out which is the case, go through the installation again, making certain that the module clicks into its slot properly. If the memory still doesn't register, you probably have a defective module.



If the amount of RAM seems correct, open System Profiler (select About This Mac from the Apple menu and then click on the More Info button). In the Contents pane, select Hardware: Memory. In the right-hand pane, you should see a list of all your installed memory. Check the Size, Type, and Speed columns. Make sure these specs match those of the RAM you intended to buy. To confirm that this type of RAM will work with your system, check your Mac's documentation or use MacTracker (www.mactracker.ca), a free application that details specifications for every Mac model released.

Ah, but what if your Mac won't start? In that case, pay attention to the startup sounds when you turn on the Mac. Unusual beeps instead of the normal startup tone likely mean defective memory. For details, borrow someone else's Mac and check out Apple's Knowledge Base article (macworld.com/1167).

**ON AGAIN, OFF AGAIN** If all the specs check out, you may have the dreaded intermittent-memory problem—it works fine most of the time but has occasional hiccups. A hiccup at a particularly bad moment can result in anything from a corrupted document to a system crash.

What makes these problems so infuriating is that they're so hard to diagnose. You have to wait for the next hiccup, which could be minutes or days away. Thankfully, you aren't helpless. Here are the things you can do:

**STEP 1:** Remove the memory you just installed (and reinstall any modules you took out to make way for the new memory). Wait a few days. If the symptoms disappear, a memory problem was the likely cause.

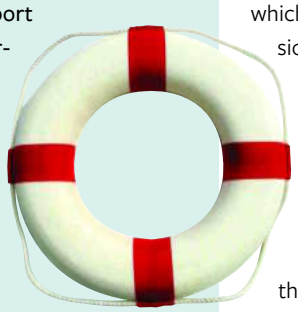
**STEP 2:** Get out the discs that came with your Mac and look for Apple Hardware Test. With recent Macs, it's on the Install and Restore DVD. With older Macs, it's on a separate Hardware Test CD. Insert the DVD and restart your Mac while holding down the option key. A screen will appear, listing all bootable volumes. One of them should be named Apple Hardware Test. Select it and click on the right-arrow button to launch the utility. You will have a choice of a Quick Test or an Extended Test. Choose Extended Test. One advantage of Hardware Test is that you can use it even if you can't launch OS X. But if your problem is too intermittent, Hardware Test may not test long enough to detect it.

**STEP 3:** Get Kelley Computing's free Rember (macworld.com/1082). This utility can test your memory for any length of time. Enable its Infinite option, and it will test forever (or until you click on Stop). This allows you to run a test that lasts for days. After stopping, check the log output to see if it found any errors.

TIP

## FIND MORE HELP

This guide to OS X first aid should help you through most common crises. But if your Mac is still sickly, your next step is to check out Apple's Support page (macworld.com/1167) or a general troubleshooting site, such as MacFixIt (www.macfixit.com). It also never hurts to Google some relevant search terms and see what you get—sometimes you'll find creative cures this way.



If home remedies don't work, it's time to call the doctor. New Macs come with 90 days of telephone support and one year of service coverage. Apple's extended warranty—AppleCare Protection Plan ($149 to $349, depending on your Mac model; macworld.com/1169)—gives you three years of telephone support and service. Call 800-275-2273 or visit your local Apple store (www.apple.com/retail/) for help.

the safe boot fails to fix the problem and login items have been ruled out as a cause, try using Disk Utility's First Aid to repair the disk (see "Seeking First Aid" for instructions).

**STEP 6: DISCONNECT PERIPHERALS** If you're still having problems, try disconnecting all USB and FireWire devices (except your Apple-supplied keyboard and mouse). Restart the Mac yet again. If you can start up, you may have had a conflict between OS X and one of the disconnected devices.

You may be able to reconnect all the devices and use them, but if you leave them connected, your Mac may fail to start up the next time you try. The only way to cure this problem is by updating the device's driver software or firmware. (*Firmware* is the set of programming instructions stored on the hardware itself; it remains unchanged unless specifically modified by a firmware updater utility.) Check the company Web site for details.

**STEP 7: RESET PRAM** Restart the Mac yet again. This time immediately hold down the ⌘-option-P-R keys until the Mac chimes a second time. This resets the information in the Mac's Parameter RAM (PRAM) to its default values, which can solve certain startup problems. PRAM is a special area of RAM where data is retained even after shutting down the Mac. PRAM stores an assortment of systemwide parameters, such as time zone setting and speaker volume.

**STEP 8: REINSTALL OS X** If all else has failed, start over with a fresh installation of OS X. This is often the only cure if your symptom is a persisting blinking question mark icon at startup, which indicates that your Mac doesn't believe there's a valid version of OS X is installed on your drive.

## TREAT PANIC ATTACKS

It's an ominous sign indeed: your screen just turned a shade darker and a message appeared—in several languages—informing you that you must restart your Mac. Your Mac is suffering from *kernel panic*. Despite the name, there's no need to panic if you experience it. Just follow these five steps:

**STEP 1: RESTART** First, restart your Mac as requested. Near the end of the startup, a "this application has unexpectedly quit" message will appear. Don't worry: your Mac is merely informing you that OS X itself quit unexpectedly prior to your restart.

**STEP 2: CHECK FOR UPDATES** Like application crashes, kernel panic problems often vanish after a restart. If not—and if the onset of the panic is linked to a specific application—there's almost certainly a fatal bug in that software. Contact the maker for an updated version or for technical support.

**STEP 3: AX NEW HARDWARE** Have you recently added RAM or a PCI card to your Mac? Regard such additions with suspicion, especially ones that add a kernel extension with the word *Driver* in its name to your Mac's /System/Library/Extensions folder. These can be potential sources of kernel panics. If you recently added a card or peripheral to your Mac, try removing it to see if that eliminates the panic.

**STEP 4: TRY A SAFE BOOT** If the kernel panic occurs at apparently random moments or during startup, try a safe boot. Restart and immediately hold down the shift key until the sundial icon shows up at the gray screen.

**STEP 5: REINSTALL OS X** If the safe boot succeeds but kernel panic strikes again when you boot normally, a file in the /System/Library/Extensions folder is generally the cause. The file was probably installed by a third-party application. The simplest approach here is to reinstall OS X via an Archive And Install, and then reinstall your third-party software only as needed until you find one that triggers the panic.

# Backing Up with Time Machine

Everyone knows they *should* back up their data, but too few actually do. Leopard's Time Machine hopes to remedy that. No longer must you learn complex software just to keep your data safe from perils like accidental deletion, disk errors, or theft. Instead, plug in a hard drive, click on a button, and Time Machine takes care of it for you. Learn exactly what Apple's newest backup program can and can't do and how to integrate it into your backup strategy.

## HOW TIME MACHINE WORKS

Time Machine copies the files on your computer to a destination you designate—an external hard drive, a second drive inside your Mac, an extra partition on your internal hard disk, or a network server. Then, once per hour, the program runs again, updating your backup to include whatever files have changed since last time.

With each hourly backup, Time Machine makes what amounts to a snapshot of your entire system at that moment. If you look through the folders on your backup disk, you'll see what appears to be a complete copy of all your files for each of numerous backup sessions. But to some extent that's an illusion; Time Machine copies to your backup disk only those files and folders that are different from the ones in your previous backup. Using a bit of Unix magic known as *hard links*, Time Machine can store just one copy of a file or folder but make it appear to be in several places at once. That way, your disk doesn't fill up with multiple copies of files that haven't changed.

Time Machine keeps all of the day's backups for 24 hours, but then it begins to delete older versions to save space. You can count on it to keep the first backup of any given day for an entire month. Even after a month, it preserves the first backup of each week until your disk is nearly full. Only at that point does the program begin purging files from your oldest weekly backups. The net result is that you can see your files as they looked at many points in the past, though not *all* points in the past.

## DECIDE HOW YOU'LL USE TIME MACHINE

Before setting up Time Machine, it's important to figure out what kind of user you're going to be. Most users fall into one of three categories: those for whom Time Machine can serve as a *sole* backup; those who should use Time Machine along with other backup methods; and those who should avoid Time Machine altogether. Here's how to figure out where your needs lie.

**USE TIME MACHINE ONLY** If you haven't been backing up your data at all, clearly Time Machine is a lot better than your previous plan. Using Time Machine alone is only recommended in a few circumstances: if you have more than one external hard drive on which Time Machine can store its backups and you can keep one of them safely offsite at all times; if you don't mind the thought of spending several hours restoring a backup in the event of serious problems; or if you have two or more Macs running Leopard, so you can quickly switch to another computer if your main hard drive fails.

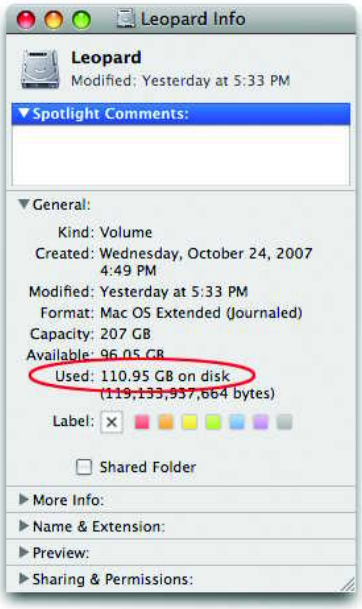
**USE TIME MACHINE AND THEN SOME** Time Machine does have some limitations that could dissuade you from using it on its own (see "Shortcomings: What Time Machine Can't Do"). Luckily, in many cases, adding one additional element will do the trick. For instance, if you also want a bootable duplicate of your hard disk, you can use any of numerous programs to create one separately. (For instructions, see "Easy Mac Backups" at macworld.com/2596.) You must store your duplicate on its own drive or partition in order for it to be bootable. If your external drive is large enough, you can use Disk Utility to create an extra partition just for the duplicate. If you have only a single external hard drive but want to store an extra copy of your data offsite, one possibility is to supplement your hard disk–based Time Machine backups with online backups.

If you use FileVault and want to be able to restore individual files from your home folder more easily, you can use Prosoft Engineering's Data Backup 3 ($99; www.prosofteng.com), Memeo's LifeAgent ($30; www.memeo.com), CrashPlan Pro ($60 plus monthly online backup costs; www.crashplan.com), or other software that provides file-by-file encryption to back up those files safely while you're logged in.

**SKIP TIME MACHINE** Avoid Time Machine altogether if you don't have, and can't obtain, a sufficiently large hard drive. Likewise, pass if you want to back up to optical media (recordable CDs or DVDs). If security concerns demand that your backups be encrypted, Time Machine is not for you.

**USE WITH AN EXISTING SYSTEM** What if you already had a perfectly good backup system in place prior to installing Leopard? Should you ditch it and use Time Machine instead? Keep the existing system and add Time Machine? Or combine the best elements of each?

Without a doubt, adding Time Machine to your backup strategy makes sense if you've only been making bootable duplicates of your




**Size It Up** To see how much hard drive space you're using, select your drive in the Finder and look at the Used figure in the Get Info window.

drive. As useful as those are, they provide no way to recover multiple older versions of any given file, or files deleted before your most recent backup.

If you have been using another program to do essentially the same thing Time Machine does—store archives of your files on an external hard disk—then you should indeed consider switching to Time Machine for that task. Time Machine makes restoring files easier than any other backup program. It also requires virtually no attention or intervention while it runs; and it intelligently recycles space on your disk by deleting the oldest backups. (And don't forget, it also comes free with your operating system.)

However, in some circumstances, the path of least resistance may be to stick with your existing backup scheme. For instance, that's probably the case if you use a client-server backup system, such as EMC Insignia' s $129 Retrospect Desktop 6.1 (♦♦♦♦; www.emcinsignia.com), to store your backups on a network server that's unsuitable for Time Machine. Likewise, if you back up one or more computers to an AirPort Disk or other network-attached storage (NAS) device, Time Machine's incompatibility with these may prove to be a killer. It might also be easiest to stick with your current system if your job requires you to preserve copies of every backup you make, disk space notwithstanding, or if the cost of obtaining the additional disk space needed for Time Machine is prohibitive.

## HOW TO SET UP TIME MACHINE

Time Machine can (for some users at least) be set up and turned on with a single click. But you may need to do some manual configuration to get it to work the way you want.

**STEP 1: CHOOSE A HARD DRIVE** Time Machine can store your backups on an external hard drive, or a second internal drive on a Mac with more than one. Although you can also use Time

## SPACE SAVERS

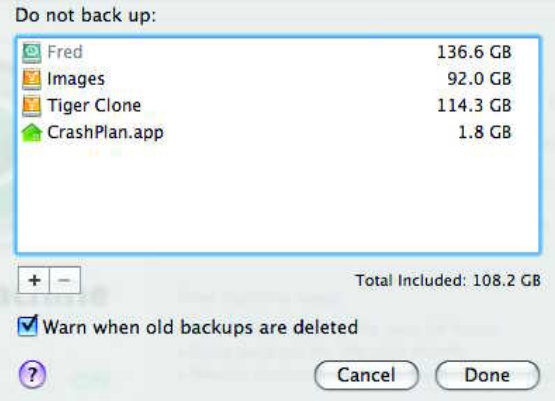
If your backup disk is too small to hold all the files on your startup disk, you can tell Time Machine not to back up some of them. Click on the Options button in the Time Machine preferences pane. Drag the items you want to exclude into the Do Not Back Up list from the Finder, or click on the plus (+) button, navigate to a file or folder, and click on Exclude (see "Exclude Extras"). Here are some suggestions for items you might exclude:

**SYSTEM FILES** The files that make up OS X itself—including Safari, Preview, and iCal—take up nearly 10GB. To exclude all of them, add your /System folder to the Do Not Back Up list. Click on Exclude All System Files when prompted. Excluding these files means Time Machine will be unable to restore your entire disk—so be sure to keep a separate bootable duplicate.

**LARGE MEDIA FILES** Video files and, to a lesser extent, audio files, can take up an enormous amount of space. Consider excluding video and audio files if they can be recovered another way like—ripping them from CDs.

**VIRTUAL MACHINE DISK IMAGES** If you use the $80 Parallels Desktop 3 (♦♦♦♦; www.parallels.com) or $80 VMware Fusion 1 (♦♦♦♦; www.vmware.com) to run Windows on your Mac, you may have one or more large disk image files that contain an entire Windows installation. Because these files change every time you do anything in Windows, you should exclude them and back them up separately. Parallels disk images (.hdd) are in *your user folder*/Documents/Parallels/*virtual-machine-name*. Fusion disk images ( .vmwarevm) *are* in *your user folder*/Documents/Virtual Machines.

**INSTALLERS** Downloaded software can chew up disk space quickly. Exclude your Downloads folder to give Time Machine more breathing room.




**Exclude Extras** To save space on your backup disk, add files or folders to Time Machine's Do Not Back Up list.


**One-Click Backup** When you attach an external hard drive to a Mac running Leopard, you'll see this alert, which lets you set up and turn on Time Machine with one click.

Machine with an extra partition on your main drive, it's not a good idea—your computer's performance will suffer, and your backup is vulnerable to any problem that affects your disk.

Make sure the hard drive you choose has enough available space. Begin by checking on how much space is currently occupied on your startup disk (see "Size It Up"). Select the disk in the Sidebar of a Finder window and choose File: Get Info. In the General section next to the word Used you'll see how much space your data is using. Now, multiply that number by 1.2; the result is the *minimum* amount of disk space Time Machine can work with. However, more space is always better because it enables Time Machine to retain backups that go further into the past. A backup disk with at least 1.5 times as much free space as is occupied on your startup is recommended (see "Space Savers").

Time Machine works best when it has an entire disk, or at least a partition on a disk, all to itself. So if you have a suitably large drive that's completely blank or can be erased, that's ideal. You can use Disk Utility (in /Applications/Utilities) to erase a disk, or to divide an existing disk into multiple partitions—one of which you'll devote to Time Machine. However, be aware that repartitioning a disk with Disk Utility erases all its contents.

**STEP 2: MAKE A CONNECTION** When you first plug in a hard drive that's suitably partitioned and formatted, Time Machine will display an alert asking if you want to use that disk for backups (see "One-Click Backup"). If the drive you plug in has more than one partition, you can choose the volume you want from a pop-up menu. Now, click on Use As Backup Disk—that's the one-click setup—to turn on Time Machine and set it to use that destination.

If no alert appears, or if you want to choose a network volume as your destination, open the Time Machine system preferences pane and click on the Choose Backup Disk button (which switches to Change Disk after your initial selection). Select the volume you want to use and click on Use For Backup. Follow the same procedure if you want to use more than one backup disk and switch between them; after connecting the new drive, select it in the Change Disk dialog.

## HOW TO USE TIME MACHINE

There are a variety of ways to use Time Machine—some straightforward (restoring an old file) and others more advanced (backing up over a network). Here are the basics, as well as some tips for avoiding common pitfalls.

**QUICKLY RESTORE FILES** To retrieve a file or folder from your backups, click on the Time Machine icon in the Dock. Click on the timeline to the right of the screen to zoom to earlier views of a particular folder until you find the version of the file you want (see "Time Warp"). Select the file or folder, click on the Restore button and your file comes back to the present.

**RESTORE AN ENTIRE DISK** Although it's more time-consuming, Time Machine can also return your entire disk (including OS X itself) to its state at some point in the past. To restore your whole disk from a Time Machine backup, follow these steps:

First, start up from your Leopard Install DVD (you can choose the DVD as your startup volume by holding down the C key as you restart). After the language selection screen, choose Utilities: Restore System From Backup. Click on Continue, select your Time Machine backup disk, and click on Continue again. If the disk contains backups for more than one computer, select the one you


**Time Warp** Click the arrows, or use the navigation bar on the right, to zoom back in time to an earlier version of a folder.

want from the Restore From pop-up menu. Then select the particular backup you want to restore (most likely the one at the top of the list) and click on Continue. Select your internal disk, click on Restore, and confirm your choice. Note that Time Machine assumes the drive you're restoring to is blank. If it isn't, you can erase it prior to restoring your backup by choosing Utilities: Disk Utility and clicking on the Erase Disk button on the Erase tab.

**USE A NETWORK VOLUME** In addition to backing up to an external USB or FireWire drive, you can use Time Machine to back up multiple Macs in your home or office to a network volume. However, Apple has placed a number of restrictions on Time Machine's network support, most of which involve the computer that's sharing the hard disk you'll use as your destination.

For starters, the drive must be partitioned using the Apple

## SHORTCOMINGS: WHAT TIME MACHINE CAN'T DO

When it comes to storing *archives*—copies of your files as they existed at numerous points in the past—Time Machine is unparalleled in its simplicity, but compared with other Mac backup programs, Time Machine has a number of missing features:

**DOESN'T MAKE BOOTABLE DUPLICATES** Even though Time Machine backs up every file on your disk to another hard drive, you can't start up your computer from your Time Machine backup. That means if your internal hard drive is damaged or corrupted, you'll have to spend hours restoring your data before you can get back to work.

**DOESN'T GIVE MUCH CONTROL** You can tell Time Machine to ignore particular files or folders by adding them to its Do Not Back Up list. But you can't exclude files based on a pattern (for example, all movie files over 2GB in size or all files with the extension .dmg). In addition, you can back up your files to only one destination at a time, and you can't opt to back up some files to one disk and others to a different one. Time Machine's hourly/daily/weekly backup schedule, likewise, is fixed. You can turn backups on or off (see "Easy as It Gets"). You can't, however, adjust the schedule without using a command-line hack or third-party software, such as Stefan Klieme's free TimeMachineScheduler (www.klieme.com).

**DOESN'T USE OPTICAL DISCS** Time Machine can store its data only on a hard disk, not CDs or DVDs.

**DOESN'T USE AIRPORT DISKS** If you have a hard drive attached to your AirPort Extreme base station—or for that matter, any network-attached storage (NAS) device—Time Machine won't recognize it.

**DOESN'T COMPRESS FILES** Time Machine needs a significant amount of disk space, and although it doesn't store duplicate copies of identical files, it doesn't compress your files, either. If you have tons of data and only a modest amount of storage space, Time Machine may not be for you.

**DOESN'T USE ENCRYPTION** Anyone with physical access to your Time Machine backup disk will be able to read all your files. If you can't guarantee the security of that disk and you work with confidential files, you should think


**Easy as It Gets** The Time Machine pane of System Preferences has just a handful of controls, including a cartoonishly large On/Off switch.

twice before using Time Machine. Files that were already encrypted, such as FileVault disk images, do remain encrypted in your backup—but that brings us to...

**DOESN'T WORK WELL WITH FILEVAULT** Time Machine backs up FileVault-encrypted user folders only when you're logged out—and does not permit file-by-file restoration of your FileVault data using the Time Machine program. In other words, Apple expects you to restart using your Leopard Install DVD and completely restore your disk if you want to recover even a single file. (That said, you can manually mount a Time Machine disk image and use the Finder to copy a single file if you wish.)

**DOESN'T INCLUDE OFF-SITE PROTECTION** In addition to those specific problems, Time Machine may provide you with a false sense of security. After all, someone who breaks into your office and steals your Mac will probably pick up the hard drive sitting next to it, too. Likewise, disasters like fires and floods won't spare your backup drive. If you're really serious about protecting important data, it's best to include some sort of off-site backup—for example, using an online backup service or storing a bootable duplicate at your sister's house—in your plan.

# BACK UP MULTIPLE COMPUTERS WITH TIME MACHINE

If you have more than one Mac but don't want to use a separate hard drive to back up each one, Time Machine can help. You can use a single drive to back up multiple computers with Time Machine in either of two ways. Be sure you have enough free space on the drive—add up the space currently used on *each* of your computers and multiply the sum by 1.2 to find the minimum amount you'll need.

**SNEAKERNET** One approach is to attach a drive to one Mac, let Time Machine run, and then disconnect it and attach it to another Mac. Time Machine stores backups for each computer in a separate folder, so don't worry about one computer's backups overwriting, or getting confused with, the other's. Before disconnecting a drive, be sure to click on the eject icon next to its name in the Finder Sidebar. Moving a drive from one computer to another has the advantage of speed: backups will proceed much more quickly than over a network. However, each computer can add files to its backup only when the drive is attached to it.

**NETWORK BACKUPS** The other approach is to leave the drive connected to one of your Macs, share the drive using Personal File Sharing, and connect to it over the network (either a wired Ethernet network or a wireless AirPort network) with your other computers.

If you're backing up several computers over a network, keep in mind that backups are nearly always much slower than backups directly to FireWire or USB drives. Likewise, backups over AirPort networks are slower than backups over Ethernet; and backups using older AirPort protocols (802.11b and 802.11g) are slower than backups over 802.11n, the most recent standard for AirPort Extreme cards and base stations.

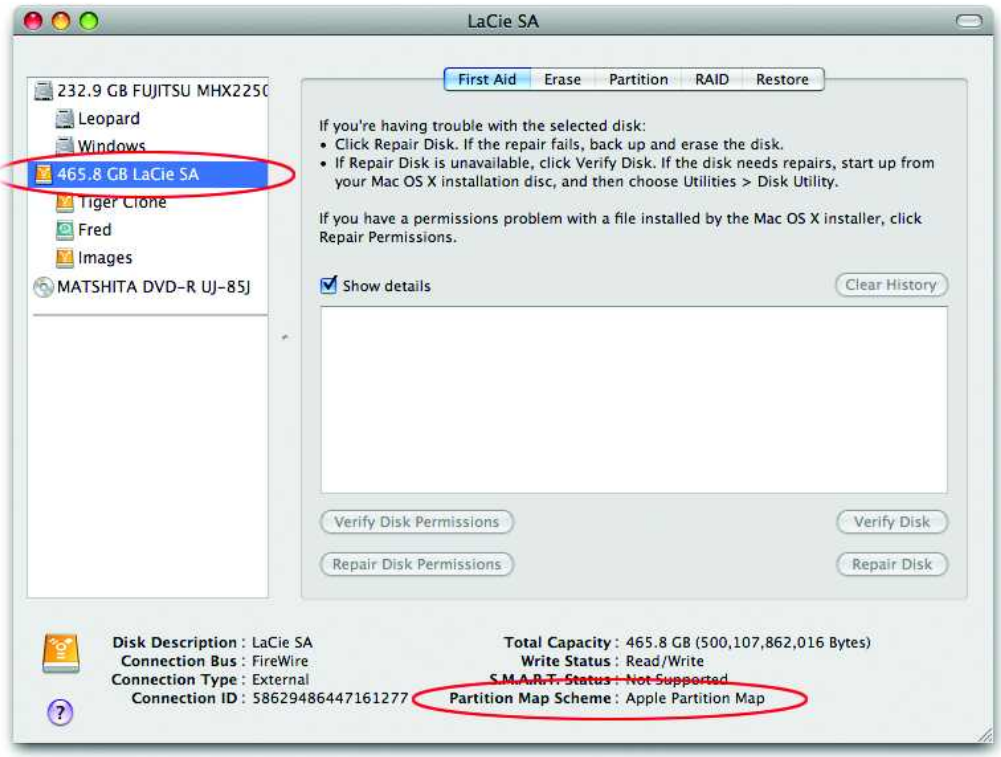
Also, when backing up or restoring files over the network, other network activities (such as downloading files) can slow down significantly. Finally, network backups require the computer sharing the disk to be turned on and awake. If that computer is turned off or goes to sleep, Time Machine must wait to resume backups until it reappears on the network.

Partition Map or GUID Partition Table scheme. The volume must be formatted as Mac OS Extended (Journaled). The computer to which the drive is attached must be running Leopard (client or server). The disk also must be shared using AFP, the default protocol for Personal File Sharing (rather than FTP or SMB). You can set this up by clicking on Options after selecting File Sharing in the Sharing system preferences pane.

Make sure that the disk is mounted in the Finder on the Mac you want to back up. To check on this, click on a computer name in the Sidebar of a Finder window, and look for a message at the top of the window that says Connected As: *your user name*. If it says Connected As: Guest, click on Connect As and enter the user name and password for the shared volume. Then double-click on the folder representing the disk you want to use for backups to ensure that it's mounted. (You may need to remount the disk after restarting your computer; to get OS X to do this automatically, add the volume to your list of login items in the Accounts pane of System Preferences.)

Finally, to tell Time Machine to use the network volume, click on the Change Disk (or Choose Backup Disk) button in the Time Machine preference pane, select the network volume in the list, and click on Use for Backup.

**RUN AUTOMATICALLY OR MANUALLY** Time Machine ordinarily runs in the background, updating your backup disk once per hour. If you aren't content with the hourly schedule and want to disable automatic operation temporarily (for example, to reduce disk noise or improve the performance of other disk-intensive tasks), click on the Off switch in the Time Machine preference pane. Whether that switch is in the On or Off position, you can force Time Machine to do an immediate backup by right-clicking (or control-clicking) on the Time Machine icon in the Dock and choosing Back Up Now from the contextual menu. Note that you do not need to turn off Time Machine before disconnecting or unmounting its destination disk. Time Machine stops automatically and will resume backing up to the destination disk once it is available again.




**Hidden Scheme** Select a hard drive icon in Disk Utility to see its partition map scheme, which applies to the entire drive.

**FORMAT UNRECOGNIZED DISKS** If you attach an external USB or FireWire drive and its volume(s) do not show up in Time Machine or backups proceed partway and then fail, one likely reason is that the drive was originally configured for Windows and Time Machine is unable to reformat the drive automatically for one reason or another. Ordinarily, Windows-formatted drives work fine in OS X, but Time Machine is pickier—it requires that destination volumes be formatted as Mac OS Extended (Journaled). In addition, the *partition map scheme* must support the format and size you want to use for your backup volume(s).

The partition map scheme describes how the drive stores its volumes. Drives originally set up for use on Windows usually use the Master Boot Record (MBR) scheme, as opposed to the Apple Partition Map (APM) scheme (the default for PowerPC-based Macs) or the GUID Partition Table (GPT) scheme (the default for Intel Macs). Although OS X supports MBR, there's a catch: Mac OS Extended volumes can be no larger than 512GB on a drive partitioned with the MBR scheme. So if you have, say, a 750GB or 1TB drive, you must repartition it to use the GPT or APM scheme before it can work with Time Machine.

Disk Utility (in /Applications/Utilities/) can tell you what your drive's partition map scheme and format are and it also lets you change them if they're incorrect. Open Disk Utility and select your external drive in the list on the left. In the lower right corner of the window, you should see the words Partition Map Scheme. If it says Master Boot Record and you have a backup volume larger than 512GB, you must repartition the drive (see "Hidden Scheme"). To check on the format of any volume on the drive, select that volume in the list on the left. At the bottom of the window, next to Format, you should see Mac OS Extended (Journaled) or Mac OS Extended (Case-sensitive, Journaled). If you see anything else, that volume must be reformatted.

First, a warning: repartitioning erases all the data on your drive; reformatting erases all the data on the volume, or volumes, you're changing. To repartition your drive, select its icon in the list and click on the Partition tab. Then choose the number of partitions you want (even if that number is one) from the Volume Scheme pop-up menu. Select each partition you just created, type in a name, and make sure the Format pop-up menu says Mac OS Extended (Journaled). Then click on Options. In the dialog box that appears, select GUID Partition Table if the drive will be used only with Intel Macs; choose Apple Partition Map if it will be used only with PowerPC Macs or with both processor types. Click on OK. Finally, click on Apply. In the confirmation dialog that appears, click on Partition.

If your drive's partition is correct but one or more volumes' format is not, select the volume you want to reformat in the list. Then, on the Erase tab, choose Mac OS Extended (Journaled) from the Volume Format pop-up menu and click on Erase. To confirm your choice, click on Erase in the dialog box that appears.

# Securing Your Connections

Part of keeping your Mac trouble-free is making sure it's protected from malicious hackers and programs. Hackers attempt to attack your computer over the Internet by finding vulnerable network ports and exploiting them. To prevent this from happening, you need a firewall.

Firewalls serve as gatekeepers between your Mac and the outside world by preventing unapproved connections to open ports on your computer or network. The average Mac, by default, doesn't open many ports in the first place. However, Leopard is a bit chattier than earlier versions of Mac OS X, thanks in part to some of its new file-sharing and screen-sharing features. And as you install and use programs on your system, you often open ports without realizing it. To keep your Mac safe, we recommend activating Leopard's firewall—even if you'll never need it.


**Case by Case** The Set Access For Specific Services And Applications option blocks traffic based on the target application instead of the port—the bottom half of the screen shows applications you've authorized to accept or deny incoming connections.

Note that the following instructions apply to OS X 10.5.1 or later, which include changes to how Leopard's firewall behaves. You can access this update from the Software Update pane of Leopard's system preferences.

## CONFIGURING THE FIREWALL

In previous versions of OS X, the firewall was found in the Sharing pane of system preferences. But in Leopard, you'll find these settings in the Security pane instead. From the Security pane, click on Firewall. You'll see three options. The first, Accept All Incoming Connections, is the default—and the least secure.

If you select the second option, Allow Only Essential Services, Leopard will block anything except a few default services such as Bonjour, network configuration (for DHCP), and IPsec (for VPN and Back to My Mac connections). Only use this option if you want to block everything else; this will prevent any file sharing, remote access, or other services activated elsewhere on your Mac. For example, this is a good setting to use when you're on potentially hostile networks, such as the ones at hotels, and don't want to go through the effort of manually turning sharing off.

The third firewall option, Set Access For Specific Services And Applications, represents a new approach to managing traffic in Leopard. Previous versions of OS X used a technology known as *stateful packet inspection*. Leopard still includes this technology; however, with the application firewall enabled, it's set to allow all traffic. The application firewall then works a level above to block traffic based on the target application (socket)—not the port.

Below the application-firewall option, you'll see a pane that lists any running network services. These are automatically set when you start services in the Sharing preferences pane. Below this list are programs you've authorized to accept or deny incoming connections. The first time you launch a program that uses networking, Leopard will ask if you want to allow or block incoming connections. That program is then added to the list. From here you can choose to allow or deny incoming connections for each individual program. For example, if you share iTunes at home, you can change the setting and manually block anyone from connecting when you're on a public network. (Keep in mind that the application firewall doesn't block any *outgoing* connections; a malicious program or careless user could still connect to hostile services and be compromised.)


# Must-Have Leopard Tools

## 30 Ingenious Programs to Help You Make Leopard Purr

Yes, Leopard is handsome, chock-full of useful new features, and includes a bunch of great software. But chances are it still can't do everything you want. Or maybe Leopard has the feature you need, but it doesn't work exactly the way you want. Thankfully, there's a lot of inexpensive third-party software out there just itching to add powerful new features to your Mac. Here are 30 of our favorite add-ons for Leopard. For even more suggestions, check out our Mac Gems Weblog at www.macworld.com/macgems.

TABLE OF CONTENTS

# System Tweaks

Mac software developers have spent long hours tinkering under OS X's hood to bring you these indispensable programs. If you've ever thought, "Wouldn't it be great if I could..." chances are someone has created a utility to do exactly that.

## DEFAULT FOLDER X

OS X's Open and Save dialog boxes are perfectly serviceable when it comes to finding files to open and designating where to save them. But you may eventually want more options, and Default Folder X (●●●●½) provides them. Default Folder X lets you assign a default folder for each application, so you don't spend as much time navigating through subfolders. In addition, it makes it easy to access recently or frequently used files and folders, as well as open Finder windows. For example, when you're in a navigation dialog box, you can click on an open Finder window, or choose one from Default Folder X's Windows menu, to immediately switch the dialog box to that folder. Default Folder X also remembers the last folder and file you worked with in each application, as well as the size and position of each dialog box ($35; St. Clair Software, macworld.com/1420).

## GROWL

Essentially a global notification system, Growl (●●●●½) allows *other* programs and system add-ons to provide notifications for actions and events. For example, a small overlay can appear on the screen when an RSS feed changes, when new e-mail is received, when a download finishes, or when the track changes in iTunes. You can choose the notification's appearance and tweak its settings. One of the best Growl add-ons is the included HardwareGrowler, which pops up a notification whenever something—a USB or FireWire peripheral, drive or network volume, or Bluetooth device—is connected or disconnected, or whenever a network connection is established or lost. It's especially great for diagnosing connection problems (free; Growl Project, growl.info).


## KEYCUE △

Keyboard shortcuts—such as ⌘-C for Copy—have long been a quick and easy way to access common program actions on the Mac. However, to learn all the various shortcuts for each program, you need an encyclopedic memory. KeyCue (●●●●½) lets you hold down the ⌘ key to pop up a window summarizing all the shortcuts for the current program's menu commands, organized by menu. It also displays custom menu shortcuts you've defined through OS X's Keyboard & Mouse preference pane and third-party utilities. When you press modifier keys, KeyCue highlights the shortcuts that are accessible via that combination of modifiers. The latest version even lets you click with your mouse cursor on any displayed command to activate it (€20; Ergonis, macworld.com/1424).

## RCDEFAULTAPP

Whenever you double-click on a document, or click on a URL link, Mac OS X opens that item with a default application. RCDefaultApp (●●●●●) gives you more control over this process. You can set a different default program for each of the main Internet protocols (Web, e-mail, newsgroups, and TP) and for each URL protocol—from AFP (Appletalk Filing Protocol) to WHOIS and everything in between. The utility's MIME Types settings let you choose the default application for each kind of MIME content—such as the Windows Media videos and PNG images you encounter on the Web. RCDefaultApp also lets you choose

## PAYMENT REQUESTED

Many useful programs and add-ons for Mac OS X are created by individuals or small developers who don't charge a set price for their software. Instead, they ask users to pay (some developers prefer the word *donate*) whatever the user feels the program is worth. For these types of products, we list the price as "payment requested." Note that even though you can use many of these products without paying, they aren't free; we encourage you to pay for the software, as doing so allows the developer to keep up the good work.

which program opens files with particular file-name extensions and file types. Finally, you can even disable types of files or protocols, such as URL schemes that pose security risks (free; Rubicode, macworld.com/0073).

## SERVICE SCRUBBER

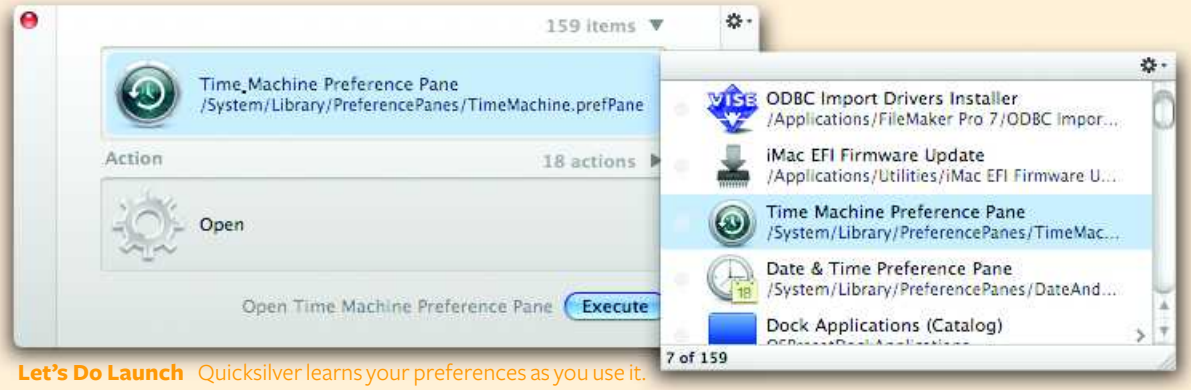
Services—available from the Services submenu of a program's main menu—is a useful feature of Mac OS X that lets you use one program's features from within another or send content from one program to another program that's better equipped to deal with it. For example, you can select text on a Web page in Safari and then choose Safari: Services: Mail: Send Selection to send that text to someone via e-mail. Unfortunately, the Services submenu can get quite unwieldy: OS X automatically adds to this menu services provided by any program in your Applications folder, as well as those provided through standalone Services plug-ins. Service Scrubber (★★★★½) gives you two ways to simplify Services. First, it lets you disable those services you never use, so you can trim down the submenu to the essentials, and then rename and rearrange what's left. Second, you can assign keyboard shortcuts to your favorite services, so you can use them without ever having to go to the Services submenu (payment requested; Peter Maurer, manytricks.com).

## SUPERDUPER

A useful approach to backing up your data is to create a *bootable clone*—an exact copy of your hard drive on another drive—so you can get back up and running in no time if disaster strikes. Unfortunately, you can't just copy an OS X drive via drag and drop—you need a cloning utility that understands all of OS X's peculiarities. SuperDuper (★★★★★) is both the best and the easiest to use. You simply choose a source drive and a destination drive, and then start the copy; you can even synchronize an existing clone with an original that has changed. SuperDuper also has a number of advanced—but still accessible—features, such as scheduling and the ability to save backup procedures as scripts ($30; Shirt Pocket, macworld.com/1422).

# WE LOVE LAUNCHERS

If you spend a lot of time working with files, and if you use more than a handful of applications, you'll eventually tire of having to load up the Dock with icons, or endlessly browse Finder windows to locate items. When that time comes, you'll want a launcher—a utility that lets you launch programs, open documents, and access stored data quickly and efficiently. And you've got a choice of three excellent launchers for OS X: **Butler** (★★★★★; payment requested; Peter Maurer, manytricks.com), **LaunchBar** (★★★★★; $20 to $39; Objective Development, macworld.com/0807), and **Quicksilver** (★★★★½; free; Blacktree, macworld.com/0809). The three programs do similar things in similar ways: you activate each utility via a keyboard shortcut (for example, ⌘-space) and then type a few letters of the desired item's name. A list of likely items will appear, and you choose one to open it or perform other actions on it. As long as you can remember the first few letters of an item's name, or even some part of its name, you can find it and open it. Even better, launchers learn what you want when you type a particular sequence of characters. (For example, you could train your launcher to know that *xl* means Microsoft Excel.) Launchers can even directly access items such as System Preference panes, Address Book contacts, iTunes tracks, and browser bookmarks. So which of the three should you choose? That's a matter of personal preference. Read the full *Macworld* reviews of these programs to get the scoop on which launcher best fits your needs (Butler, macworld.com/1246; LaunchBar, macworld.com/1010; and Quicksilver, macworld.com/1247); all three are free to try.




**Let's Do Launch** Quicksilver learns your preferences as you use it.


## TINKERTOOL AND TINKERTOOL SYSTEM △

Many Mac OS X utilities out there tweak OS X settings and features that, for whatever reason, Apple hasn't made easily accessible. Among these products, TinkerTool (♦♦♦♦) and TinkerTool System (♦♦♦♦½) are the best. Both provide access to many secret settings—for the Finder, the Dock, Exposé, Safari, and much more—as well as scores of system-maintenance and customization options. But unlike many similar utilities, the developer of these tinkering tools has removed much of their risk by separating safe actions from potentially risky ones. User-level preference settings are available via TinkerTool (which any user can run), whereas system-level and administrative settings and actions are limited to TinkerTool System, which only an administrator can use (TinkerTool: free; TinkerTool System, €7; Marcel Bresink, macworld.com/o885).

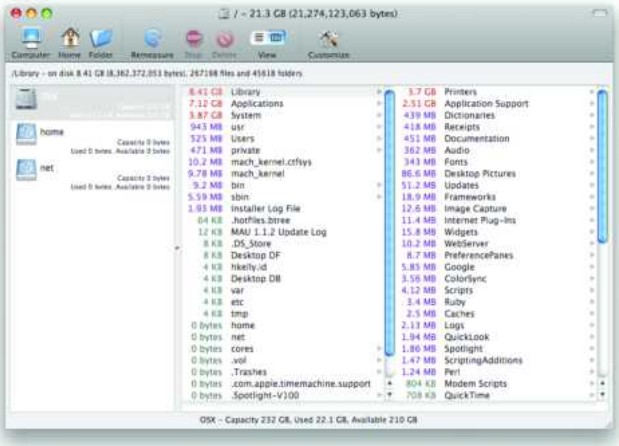
## WHATSIZE AND GRANDPERSPECTIVE ▷

Even though hard drives are getting bigger and bigger, many people still find themselves wondering, "Where did all my drive space go?" WhatSize (♦♦♦♦) and GrandPerspective (♦♦♦♦) help you solve this mystery by showing you exactly what's eating up all those bytes. WhatSize provides a hierarchical, columnar view of your hard drive, with the contents of each folder sorted—and color-coded—by size, so it's easy to see the biggest offenders in each folder. And the useful Table View feature lets you view, for example, only those files on your drive that are larger than 1GB. There's also a Browser view similar to the List view in the Finder.

GrandPerspective, on the other hand, shows a graphical display of your hard drive's space usage, with the largest files represented by the largest blocks. By default, files are color-coded by folder, making it easy to see not only which files but also which folders are taking up the most space; you can also color-code by file type, file name, and directory depth (WhatSize: $13; ID-Design, macworld.com/1400; GrandPerspective: payment requested; GrandPerspective Project, macworld.com/1398).

## WITCH

Mac OS X already lets you toggle between windows in the current application by pressing ⌘-backtick (`). Unfortunately, not all applications support this shortcut, and even among those that do, there's often no apparent logic to the order of window switching. Witch (♦♦♦♦½) brings logic to switching in OS X. By pressing Witch's customizable keyboard shortcut, you get an on-screen list of *all* open windows in *all* programs, organized by program. Press the shortcut until you get to the desired window and then release—unlike OS X, Witch shows you exactly which window you'll be switching to. You can also switch to minimized windows and perform commands on windows—such as minimize, close, and zoom—without first bringing them to the front (payment requested; Peter Maurer, manytricks.com).



# Surfer's Helpers

Kick your internet and networking experiences up a notch with these clever tools. From simple ways to surf safer, to sharing files faster, each piece of software will help you better optimize your time.

## 1PASSWORD

Most Web browsers can store user names, passwords, and other data, and then automatically plug them into Web forms when necessary. But 1Password (4½) extends this capability, letting you store more than one set of information per site, save passwords in one browser and use them in another, and create new passwords whenever you need to. You can even generate, store, and enter the password for a new site, all with a single click. 1Password relies on OS X's Keychain technology but uses its own keychain for extra security. In addition, 1Password protects you against phishing attempts and keyloggers, and optionally syncs its keychain using .Mac ($30; Agile Web Solutions, 1password.com).

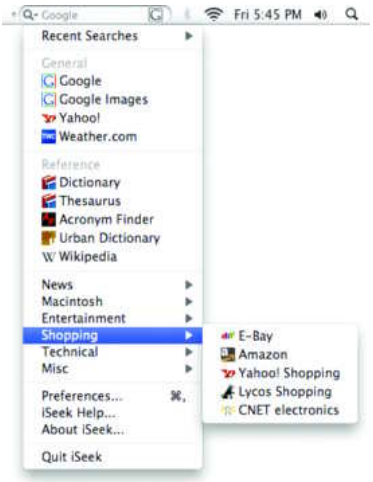
## BOOKIT

As much as you may like your favorite browser, you'll probably need to use others at times—for example, to test Web sites you've created, or simply because some sites work better in some browsers. Whatever the reason, keeping bookmarks organized *between* browsers can be a hassle. Bookit (4½) offers a solution: import bookmarks from the most popular Mac browsers, arrange them, and edit them—Bookit then synchronizes your browsers by writing identical bookmark files for each. And if you have multiple Macs, you can synchronize bookmarks across computers via File Sharing or .Mac ($12; Everyday Software, everydaysoftware.net/bookit).


## DROPCOPY △

Although connecting two local Macs for the purposes of sharing files is relatively easy, you still have to set up File Sharing and then manually connect from one Mac to the other, providing your name and password when prompted. That's a hassle if all you want to do is move a Microsoft Word document or a few photos from one Mac to another. DropCopy (4½) simplifies the process by letting you quickly send files directly to particular users on other computers via a simple "drop zone" on your desktop. Drag a file (or files) to the drop zone, and you'll see a list of all computers on your network that are running DropCopy; drag the file onto a user's name to immediately copy that file to his or her computer. DropCopy also allows you to send text messages to other computers and to copy the contents of the Clipboard on another computer with DropCopy installed (free for personal use, $25 site license; 10base-t Interactive, 10base-t.com).

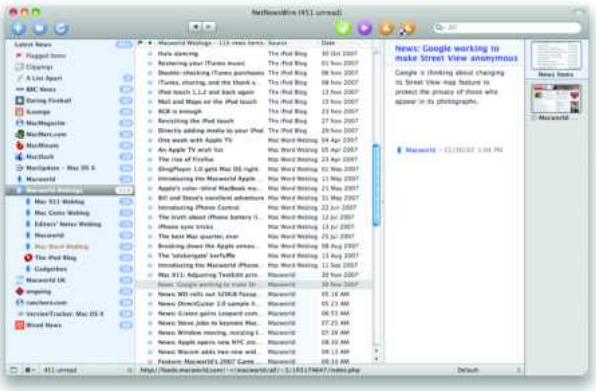
## iSEEK ▷




Most browsers have their own Search field, but if you do a lot of Web searching, you need iSeek (5). It lets you start Web searches from within any application without taking your fingers off the keyboard. Just press a user-defined keyboard combination, and iSeek's search field appears in the menu bar, ready for your input. With just a click or a keystroke, you can quickly choose from a bevy of possible search sites, including CNN.com, eBay, Google, NationalGeographic.com, Rotten Tomatoes, VersionTracker.com, and even iTunes. Type your search term and press return to see your search results appear in your Web browser or iTunes. You can even assign particular sites their own keyboard commands if you search them frequently. iSeek also automatically finishes previously searched text strings—helpful when you're searching for the same thing on multiple sites ($15; Ambrosia Software, macworld.com/1428).

## LITTLE SNITCH 2

A firewall can keep unwanted connection attempts from reaching your computer, but what about programs *on* your computer trying to send data *out*? Nowadays it seems as though more and more applications are phoning home—surreptitiously contacting the developer's (or other) servers for various legitimate, and not-so-legitimate, reasons. Even worse, Trojan-horse malware could send a hacker your personal or computer-related data over the Internet. Little Snitch (4½) will help you prevent these kinds of unsafe scenarios by monitoring outgoing traffic and alerting you



whenever it detects something fishy. You can then decide whether to permit the transmission—one time, until the program quits, or any time by the same program. Little Snitch takes a bit of patience as you configure it, one connection at a time, to your preferences. But once you get past the initial training, you'll only see its dialog box when a program—good or bad—is trying to connect to your computer behind the scenes ($25; Objective Development, obdev.at/littlesnitch).

## NETNEWSWIRE ◁

Safari and Mail's RSS-reading features are nice, but if you're serious about news feeds, you need a dedicated RSS reader. NetNewsWire (4½) organizes all your RSS feeds in a three-paned interface similar to Mail. New articles are highlighted and tallied in the application's Dock menu; choose an article title to view its contents in the main window. If you've got NetNewsWire installed on multiple Macs, you can sync your RSS subscriptions between them (Free; NewsGator, newsgator.com).

## SAFT

No matter how much you like your browser, there are surely things you wish it did. Saft (4½) is the jack-of-all-trades of Safari add-ons, providing over 50 new features. Among the most popular are ad blocking; full-screen browsing; site-specific search shortcuts; forcing auto-complete of Web forms; forcing JavaScript-induced windows to open in tabs in the current window; dated downloads folders; auto-hiding of the Downloads window; type-ahead searching; and laptop-optimized page scrolling ($12; Hao Li, haoli.dnsalias.com).

# Productivity Boosters

These nifty tools address the small inconveniences and repetitive tasks that add up over time. They're so efficient, you'll wonder how you ever did without them.

## FINDERPOP

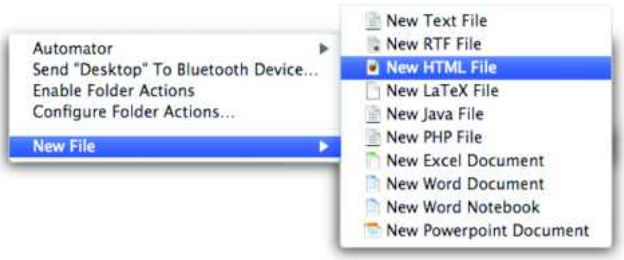
The Finder and Dock offer many ways to access files, but FinderPop (4½) provides several more that many people will find more convenient. If you right-click (or click and hold) on a folder in the Finder, you'll get a hierarchical list of that folder's contents. You can then drill down into subfolders until you find the file you want. To access items or aliases in the FinderPop Items folder (or your desktop), click on an empty area of the menu bar or right-click anywhere on the screen. You can get more information on or delete files, right from FinderPop's menus. You can even drop folders into the FinderPop Items folder (payment requested; Turly O'Connor, finderpop.com).


## JUMPCUT △

Ever wish you could paste text that you copied an hour ago? Or cringe because you just copied something to the Clipboard, replacing the content you'd forgotten to paste? Jumpcut (4½) makes all your recent copies and cuts available for pasting via a menu-bar menu or an easy-to-use, translucent on-screen display that appears via a user-defined keystroke (free; Steve Cook, jumpcut.sourceforge.net).

## MAGICAL

Mac OS X lets you display the time in the menu bar, but there's no easy way to show the date as well. MagiCal (4) does exactly this, while adding a handy, drop-down calendar that appears whenever you click on the date in the menu bar. Click on a day to view it in iCal (free; Charcoal Design, charcoaldesign.co.uk/magical).




## NUFILE △

One feature missing from Mac OS X that Windows users have long enjoyed is the ability to create a new document without first opening an application. NuFile (4) brings this useful Windows-inspired feature to OS X by letting you create a new file, in one of various document types, right from the Finder. Just right-click and choose the desired type of document from the New File submenu. NuFile creates the document in the current location. You can also add your own document types, and even document templates, to the menu (payment requested; Piti Ongmongkolkul, macworld.com/1418).

## TEXTEXPANDER

If you type the same text over and over, TextExpander (4½) can save you—and your fingers—hours of labor. It lets you assign abbreviations to snippets of text so that when you type an abbreviation, it's automatically expanded to the full text snippets. For example, you can set *homeadd* to expand to your full home address. TextExpander can also insert images, or a mix of text and images, and you can quickly create new snippets from selected text. TextExpander works system-wide, so your snippets are available in any program that lets you type text ($30; SmileOnMyMac, smileonmymac.com).

## TEXTSOAP

Text isn't always tidy. It's often littered with odd characters, returns, and quotation marks, especially when you get it from the Web or a PDF. The aptly-named TextSoap (4½) works magic on messy text. Simply paste text into the TextSoap window and then select your favorite *cleaner* (a set of rules that tells TextSoap exactly what to do with the text); your text is transformed and ready to be pasted. Available cleaners range from simple (removing forwarding characters [>] and manipulating case and formatting) to comprehensive (multiple operations in one click). You can even create your own custom cleaners. And with the program's support for services, a contextual-menu plug-in, and program-specific add-ons, you can take advantage of TextSoap's cleaners from within your favorite programs ($30 for standard or $40 for deluxe; Unmarked Software, unmarked.com).

# Smarter Media

Playtime is just as valuable as work time—maybe even more so. Let these media utilities teach you how to play smart and get the most out of your "me" time.


## HANDBRAKE △

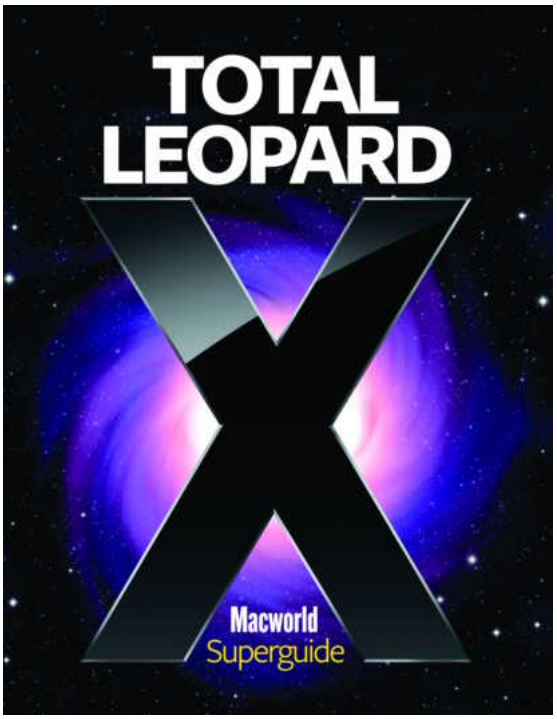
There are times you want to take DVDs you've purchased and convert them to a file format you can play on your Mac, iPod, iPhone, or AppleTV. Unfortunately, thanks to copy-protection technology, doing so isn't as easy as ripping a music CD in iTunes. But HandBrake (●●●●½) makes it almost as simple. Just insert a commercial DVD, choose from HandBrake's list of presets for movie-watching devices, and click on Start. After a period of time—which varies wildly depending on the speed of your Mac—you'll have a space-saving video file you can watch on your Mac or sync to your iPod, iPhone, or Apple TV. HandBrake is also flexible and powerful: a Queue feature lets you rip the episodes from a TV-show DVD in sequence, and advanced users can choose from among myriad tweaks, options, and settings to get exactly the video size and quality they want (free; Eric Petit, macworld.com/2468).

## SYNERGY ▷

iTunes' interface is great, but sometimes you want to be able to change tracks, switch playlists, or see who's singing the current song without jumping back and forth. You'll find many iTunes controllers and information displays out there, but Synergy (●●●●●) sports the best combination of features, interface, and ease of use. It has system-wide hot keys for playback and volume control, a snazzy, translucent informational display (track, artist, album cover, and so on) that fades in and out at the start of each track or at your command, and optional playback controls in the menu bar. A system-wide menu lets you choose playlists and recent tracks, and Synergy will grab album art from the Internet if it's not already in your library. You can even have Synergy run Apple Scripts on track changes (€5; Wincent Colaiuta, synergy.wincent.com).

## VISUALHUB

iTunes is great for grabbing music videos and last week's missed episode of your favorite TV show. But loads of video isn't provided by Apple, and, chances are, it's not in the right format to copy to a portable device (such as an iPod or iPhone), to watch on your Apple TV, or to use in an iMovie project. VisualHub (●●●●½) is a universal video converter that converts nearly any video format to your choice of DV, MP4, MPEG, AVI, WMV, or Flash. Even better for iPod, iPhone, and Apple TV owners—along with owners of Sony's PSP—VisualHub can convert to video files optimized specifically for the target device. If you have a movie that's chopped into multiple parts—a multipart MPEG-4 video you've downloaded from the Web, for example—VisualHub can even join the parts together, producing a single, converted video file. The impatient will be pleased that VisualHub converts video much faster than Apple's QuickTime Player, and the frugal will like that you don't have to purchase QuickTime Pro ($23; Techspansion, techspansion.com).










Nobody spends more time with Apple's computers and software than the writers and editors at *Macworld,* the world's foremost Mac authority.

Now *Macworld*'s team of experts take you inside Apple's latest operating system, Mac OS X 10.5, to help you master important new features, discover hidden tricks, and work around glitches—all to make sure you have the best Leopard experience possible.

Inside these pages you'll find all the information you'll need to set up Leopard smoothly and get started with its most important new features. Once you're comfortable in your new OS, use this book to master the Web with Safari 3, track down files with Spotlight's improved search tools, automate tedious tasks with Automator, and access files and programs from afar. Our experts also offer step-by-step advice on recovering from crashes, freezes, and other Mac ailments—and show you how to back up your system with Time Machine to ensure you can recover quickly from more serious problems. And because Mac OS X 10.5 doesn't do *everything,* we also recommend 30 inexpensive utilities that add useful features to your Mac.

Let *Macworld*'s experts show you how to get the most out of Leopard and your Mac.

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