The Free Programs

Right out of the box, Mac OS X comes with a healthy assortment of nearly 50 freebies: programs for sending email, writing documents, doing math, even playing games. Some are dressed-up versions of Mac programs that have been around for years. Others, though, are new programs that not only show off some of Mac OS X's most dramatic new technologies, but also let you get real work done without having to invest in additional software.

Note: Several of the freebie programs described here are also the subject of other books in this series, including *iMovie 6 & iDVD: The Missing Manual* and *iPhoto 6: The Missing Manual.* By popular request (and, in some cases, indignant request), this chapter now includes concise crash courses in these programs. But the full scoop on each of these powerful programs—including tips, tricks, customization advice, troubleshooting chapters, and so on—requires a whole other book.

Your Free Mac OS X Programs

You've got a broad assortment of programs in the Applications folder in the main hard drive window. The Applications→Utilities folder holds another couple dozen mini-programs that handle such workaday jobs as setting up printers and network connections, fixing problems on your hard disk, and monitoring the behind-the-scenes processing performed by your Mac whenever you launch and run programs.

All of these programs have been either written expressly for Mac OS X (*Cocoa* applications) or adapted for it (*Carbonized*—see page 170). This chapter guides you through every item in your new software library, one program at a time. (Depending on your Mac model, you may find other programs in your Applications folder. Apple

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occasionally includes software of its own, or from other companies, to spice up the collection for, say, iMacs or Power Macs.)

Tip: A reminder: You can jump straight to the Applications folder in the Finder by pressing Shift-⌘-A (the shortcut for Go→Applications), or by clicking the Applications folder icon in the Sidebar. You might consider adding the Application folder's icon to the right side of your Dock, too, so that you can access it no matter what program you're in. Shift-⌘-U (or Go→Utilities) takes you, of course, to the Utilities folder.

Address Book

The Address Book is a database that stores names, addresses, email addresses, phone numbers, and other contact information. Address Book is described beginning on page 694.

AppleScript

This folder contains all of the scripts and tools described in Chapter 8.

Calculator

The new Calculator is far more potent than the humble, black-and-white, four-function program—the last remaining bit of the Mac OS's original 1984 design—that chugged along until 2002. The Tiger Calculator can act as a scientific calculator for students and scientists, a conversion calculator for metric and U.S. measures, and even a currency calculator for world travelers.

The little Calculator widget in the Dashboard is quicker to open, and it's great for quick four-function number crunches. But the standalone Calculator program is far more powerful. For example:

- The calculator has three modes: Basic, Advanced, and—new in Tiger—Programmer (Figure 10-1). Switch among them by choosing from the View menu (or pressing ⌘-1 for Basic, ⌘-2 for Advanced, or ⌘-3 for Programmer).

Tip: You can also cycle among the three modes by repeatedly clicking what, on most windows, is the Zoom button (the green round dot at upper-left). It's a first for the Mac—a Zoom button that changes function each time you click it—but it's kind of neat.

- You can operate the calculator by clicking the onscreen buttons, but it's much easier to press the corresponding number and symbol keys on your keyboard.

- As you go, you can make Calculator speak each key you press. The Mac's voice ensures that you don't mistype as you keep your eyes on the receipts in front of you, typing by touch.

    Just choose Speech→Speak Button Pressed to turn this feature on or off. (You choose *which* voice does the talking in the Speech panel of System Preferences.)

Tip: If you have a laptop, don't miss the embedded numeric keypad, superimposed on the right side of the keyboard and labeled on the keys in a different color ink. When you press the Fn key in the lower-left corner of the keyboard, typing these keys produces the numbers instead of the letters. (You can also press the NumLock key to *stay* in number mode, so you don't have to keep pressing Fn.)

- Press the C key to clear the calculator display.

- Once you've calculated a result, you can copy it (using Edit→Copy, or ⌘-C) and paste it directly into another program.

- The Calculator even offers Reverse Polish Notation (RPN), a system of entering numbers that's popular with some mathematicians, programmers, and engineers, because it lets them omit parentheses. Choose View→RPN to turn it on and off.

Tip: How cool is this? In most programs, you don't need Calculator or even a Dashboard widget. Just highlight an equation (like 56*32.1-517) right in your document, and press ⌘-Shift-8. Presto–Mac OS X replaces the equation with right answer. This trick works in TextEdit, Mail, Entourage, FileMaker, and many other programs.

Figure 10-1:
The Calculator program offers a four-function Basic mode, a full-blown scientific calculator mode, and a programmer's hex calculator (shown here).

The first two modes offer a "paper tape" feature (View→Show Paper Tape) that lets you correct errors made way back in a calculation.

To edit one of the numbers on the paper tape, drag through it, retype, and then click Recalculate Totals. You can also save the tape as a text file or print it, by choosing File→Save Tape As, or File→Print Tape.
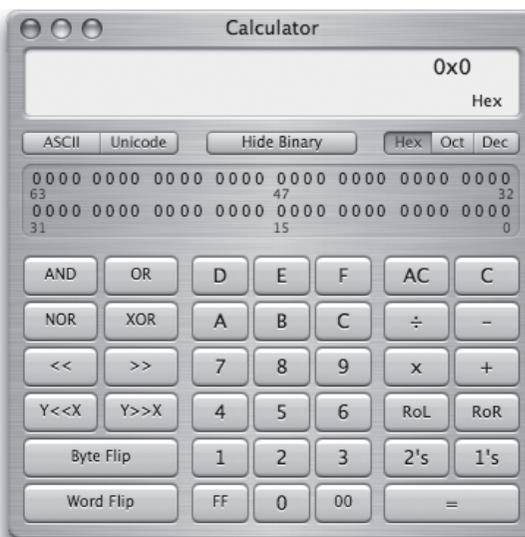
Conversions

Calculator is more than a calculator; it's also a conversion program. No matter what units you're trying to convert—meters, grams, inches, miles per hour—the Calculator is ready. Truth is, the Units Converter in Dashboard is simpler and better than this older Calculator feature. But if you've already got the Calculator open, here's the drill:

1. **Clear the Calculator (for example, type the letter C on your keyboard). Type in the starting measurement.**

   To convert 48 degrees Celsius to Fahrenheit, for example, type *48.*

2. **From the Convert menu, choose the kind of conversion you want.**

   In this case, choose Temperature. When you're done choosing, a dialog box appears.

3. **Use the pop-up menus to specify which units you want to convert to and from.**

   To convert Celsius to Fahrenheit, choose Celsius from the first pop-up menu, and Fahrenheit from the second.

4. **Click OK.**

   That's it. The Calculator displays the result—in degrees Fahrenheit, in this example.

The next time you want to make this kind of calculation, you can skip steps 2, 3, and 4. Instead, just choose your desired conversion from the Convert→Recent Conversions submenu.

Calculator is especially amazing when it comes to *currency* conversions—from pesos to American dollars, for example—because it actually does its homework. It goes online to download up-to-the-minute currency rates to ensure that the conversion is accurate (choose Convert→Update Currency Exchange Rates).

Tip: If you Control-click the Calculator's results display, the shortcut menu offers an option called Large Type. If you choose it, you get *huge, enormous, gigantic* type, superimposed upon a smoky background window for contrast—a great way to make sure the peons in the back row can see the answer.

Chess

Mac OS X comes with only one game, but it's a beauty (Figure 10-2). Chess is a traditional chess game played on a gorgeously rendered board with a set of realistic 3-D pieces. You can rotate the board in space, as described in Figure 10-2.

The program is actually a 20-year-old Unix-based chess program, GNU Chess, that Apple packaged up in a new wrapper.

Playing a Game of Chess

When you launch Chess, you're presented with a fresh, new game that's set up in Human vs. Computer mode—meaning that you (the Human, with the light-colored pieces) get to play against the Computer (your Mac, on the dark side). Drag the chess piece of your choice into position on the board, and the game is afoot.

If you choose Game→New Game, however, you're offered a pop-up menu with choices like Human vs. Computer, Human vs. Human, and so on. If you switch the pop-up menu to Computer vs. Human, you and your Mac trade places; the Mac takes the

white side of the board and opens the game with the first move, and you play the black side.

Tip: The same New Game dialog box also offers a pop-up menu called Variant, which offers three other chess-like games: Crazyhouse, Suicide, and Losers. The Chess help screens (choose Help→Chess Help, click "Starting a new chess game") explains these variations.

Figure 10-2:
You don't have to be terribly exact about grabbing the chess pieces when it's time to make your move. Just click anywhere within a piece's current square to drag it into a new position on the board (shown here in its Marble incarnation). And how did this chess board get rotated like this? Because you can grab a corner of the board and rotate it in 3-D space. Cool!

On some night when the video store is closed and you're desperate for entertainment, you might also want to try the Computer vs. Computer option, which pits your Mac against itself. Pour yourself a beer, open a bag of chips, and settle in to watch until someone—either the Mac or the Mac—gains victory.

Chess Prefs

Choose Chess→Preferences to find some useful controls like these:

• **Style.** Apple has gone nuts with the computer-generated materials options in this program. (Is it a coincidence that Steve Jobs is also the CEO of Pixar, the computer-animation company?)

In any case, you can choose all kinds of wacky materials for the look of your game board—Wood, Metal, Marble, or *Grass* (?)—and for your playing pieces (Wood, Metal, Marble, or *Fur*).

- **Computer Plays.** Use this slider to determine how frustrated you want to get when trying to win at Chess. The further you drag the slider toward the Stronger side, the more calculations the computer runs before making its next move—and, thus, the harder it gets for you to outthink it. At the Faster setting, Chess won't spend more than five seconds ruminating over possible moves. Drag the slider all the way to the right, however, and the program may analyze *each move* for as long as 10 fun-filled hours. This hardest setting, of course, makes it all but impossible to win a game (which may stretch on for a week or more anyway).

  Choosing the Faster setting makes it only mildly impossible.

- **Speech.** The two checkboxes here let you play Chess using the Mac's built-in voice-recognition features, *telling* your chess pieces where to go instead of dragging them, and listening to the Mac tell you which moves it's making. Page 559 has the details.

Tip: If your Chess-playing skills are less than optimal, the Moves menu will become your fast friend. The three commands tucked away there undo your last move (great for recovering from a blunder), suggest a move when you don't have a clue what to do next, and display your opponent's previous move (in case you failed to notice what the computer just did).

Saving Your Games

You can choose Game→Save Game to save any game in progress, so you can resume it later.

To archive the moves making up an entire game instead, use the Game Log command, which displays the history of your game, move by move. A typical move would be recorded as "Nb8 – c6," meaning the knight on the b8 square moved to the c6 square.

NOSTALGIA CORNER

Death to the Clock?

Hey! Where's the Clock? I used to love that little Mac OS X app.

Mac OS X no longer comes with a program called Clock in your Applications folder.

However, if it's a clock you want, it's a clock you shall have; Tiger has two of them for you–not counting the one in the menu bar.

Clock 1 is one of the Dashboard widgets (page 196).

To find Clock 2, open System Preferences, click Date & Time, click the Clock tab, turn on "Show the date and time," choose "View in: Window," and "View as: Analog." There's your old friend, floating in its own little window like always.

The advantage of Clock 2 is that you can keep it open along with your other programs, rather than disappearing as soon as you close Dashboard.

Equipped with a Chess list document, you could recreate an entire game, move by move.

Tip: If you open this window before you begin a new game, you can see the game log fill in the moves as they happen.

Dictionary

For word nerds everywhere, the Dictionary (and Thesaurus) is one of Tiger's most welcome enhancements. For the first time, the Mac system software comes with a handy way to look up word definitions, pronunciations, and synonyms. To be precise, Mac OS X comes with an electronic version of the entire *New Oxford American Dictionary* and *Oxford American Writers Thesaurus.*

Figure 10-3:
When you open the Dictionary, it generally assumes that you want a word's definition. *If you prefer to see the Thesaurus at startup time instead (to look up a word's synonyms), choose Dictionary→Preferences—and drag* Oxford American Writers Thesaurus *upward so that it precedes* New Oxford American Dictionary. *That's all there is to it!*
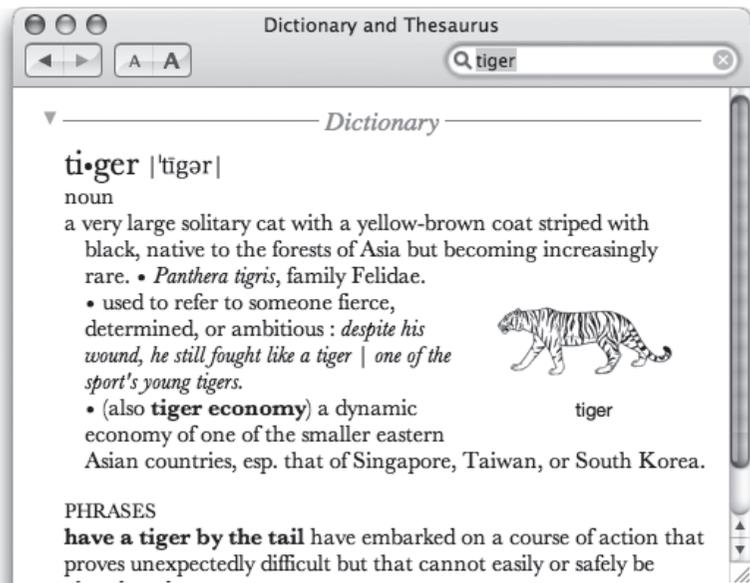
Mac OS X also comes with about a million ways to look up a word:

• **Double-click the Dictionary icon.** You get the window shown at top in Figure 10-3. As you type into the Spotlight-y search box, you home in on matching words; double-click a word, or highlight it and press Enter, to view a full, typographically elegant definition, complete with sample sentence and pronunciation guide.

Tip: And if you don't recognize a word in the definition, double-click that word to look up *its* definition. You can then double-click again in *that* definition—and on, and on, and on.

(You can then use the History menu, the Back and Forward buttons on the toolbar, or the ⌘-[and ⌘-] keystrokes to go back and forward in your chain of lookups.)

It's worth exploring the Dictionary→Preferences dialog box, by the way. There, you can choose U.S. or British pronunciations, adjust the font size, and indicate whether you prefer synonyms or definitions.

- **Press F12.** Yes, the Dictionary is one of the widgets in Dashboard (page 190).

- **Control-click a highlighted word in a Cocoa program.** From the shortcut menu, choose Look Up in Dictionary. The Dictionary program opens to that word. (If opening the entire Dictionary application seems a bit overkill, visit its Preferences dialog box and choose "Open Dictionary panel." Now you get a handy panel that pops right out of the highlighted word instead.)

- **Point to a word in any Cocoa program and press Control-⌘-D.** That keystroke makes the definition panel sprout right from the word you were pointing to. (The advantage here, of course, is that you don't have to highlight the word first.)

Tip: Here's a trick for the informationally thirsty Mac fan (or speed reader). Once you've invoked the Control-⌘-D keystroke, keep the Control and ⌘ keys pressed. Now drag the cursor across the text. As you push the mouse around, the definition pops up for every word you touch.

Got a big screen or poor eyesight? Then bump up the type size. Dictionary's toolbar has bigger/smaller buttons, and there's a Font Size pop-up menu in the Preferences window.

DVD Player

DVD Player, your Mac's built-in movie projector, is described in Chapter 11.

Font Book

For details on this font-management program, see Chapter 14.

Front Row

If your Mac came with a thin white remote control, see page 572.

GarageBand

For a starter course on Apple's homemade-music machine, download the free iLife Mini Manual that's available at *www.missingmanuals.com*.

iCal

In many ways, iCal is not so different from those "Hunks of the Midwest Police Stations" paper calendars people leave hanging on the walls for months past their natural life span. But iCal offers several advantages over paper calendars. For example:

- It can automate the process of entering repeating events, such as weekly staff meetings or gym workout dates.

- iCal can give you a gentle nudge (with a sound, a dialog box, or even an email) when an important appointment is approaching.

- iCal can share information with your Address Book program, with Mail, with your iPod, with other Macs, with "published" calendars on the Internet, or with a Palm organizer. Some of these features require one of those .Mac accounts described in Chapter 19, and some require iSync (Chapter 19). But iCal also works fine on a single Mac, even without an Internet connection.

- iCal can subscribe to other people's calendars. For example, you can subscribe to your spouse's calendar, thereby finding out when you've been committed to after-dinner drinks on the night of the big game on TV.

Working with Views

When you open iCal, you see something like Figure 10-4. By clicking one of the View buttons on the bottom edge of the calendar, you can switch among these views:

- **Day** shows the appointments for a single day in the main calendar area, broken down by time slot.

  If you choose iCal→Preferences, you can specify what hours constitute a workday. This is ideal both for those annoying power-life people who get up at 5 a.m. for two hours of calisthenics, as well as for the more reasonable people who sleep until 11 a.m. before rolling out of bed.

Tip: iCal provides a quick way to get to the current day's date—choose View→Go to Today, or press ⌘-T.

- **Week** fills the main display area with seven columns, reflecting the current week. (You can establish a five-day work week instead in iCal→Preferences.)

- **Month** shows the entire month that contains the current date. Double-click a date number to jump to the day view for that date.

Tip: To save space, iCal generally doesn't show you the *times* of your appointments in Month view. If you'd like to see them anyway, choose iCal→Preferences, click General, and turn on "Show time in month view."

- **List view** is available as a split-screen option that you can summon while using any of the three main views. You open the list view by clicking the little list-view icon, third from right at the bottom of the iCal window. It offers you a tidy chronological list of everything you've got going on, from today forward.

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Tip: If your mouse has a scroll wheel, you can use it to great advantage in iCal. For example, when entering a date, turning the wheel lets you jump forward or backward in time. It also lets you change the priority level of a To Do item you're entering, or even the time zone as you're setting it.
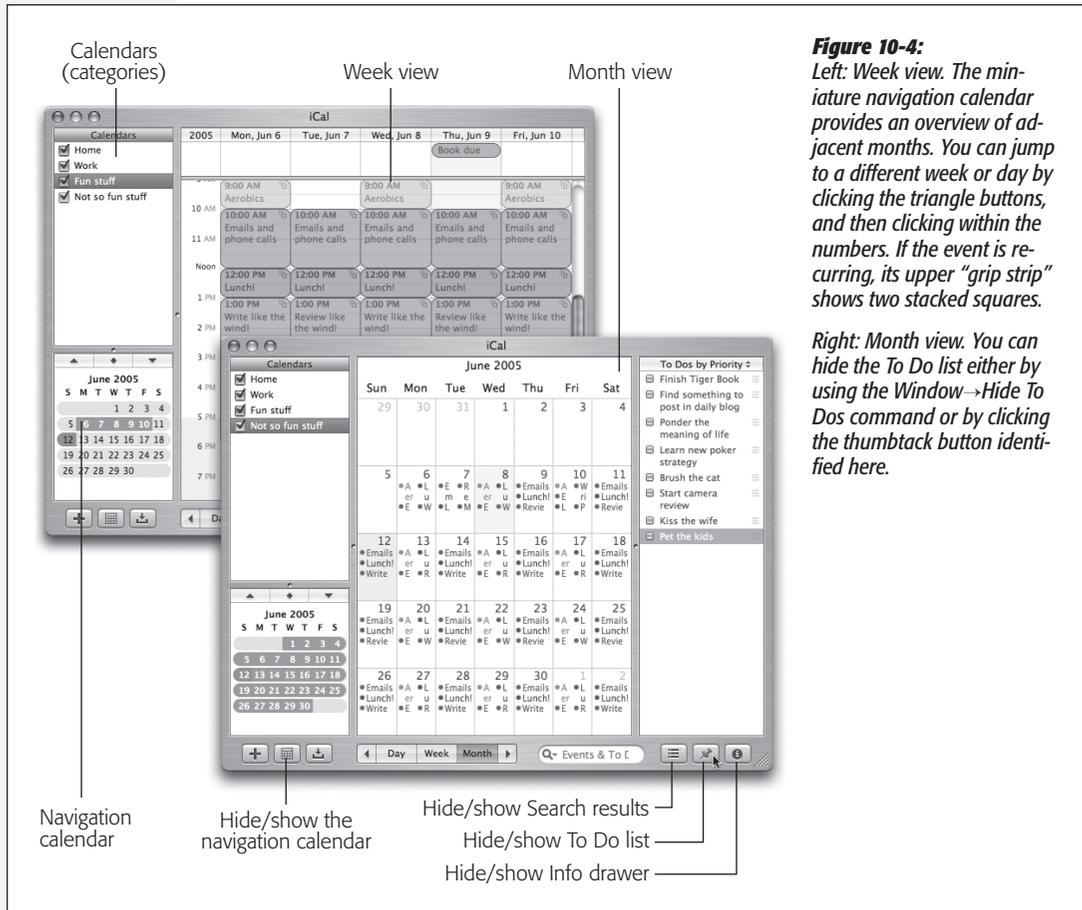

Figure 10-4:
Left: Week view. The miniature navigation calendar provides an overview of adjacent months. You can jump to a different week or day by clicking the triangle buttons, and then clicking within the numbers. If the event is recurring, its upper "grip strip" shows two stacked squares.

Right: Month view. You can hide the To Do list either by using the Window→Hide To Dos command or by clicking the thumbtack button identified here.

Making an Appointment

The basic iCal calendar is easy to figure out. After all, with the exception of one unfortunate Gregorian incident, we've been using calendars successfully for centuries.

Even so, there are two ways to record a new appointment: a simple way and a more flexible, elaborate way.

The easy way

You can quickly record an appointment using any of several techniques, listed here in order of decreasing efficiency:

- Double-click the appointed time on the calendar, in any view. A colored box appears; this is where you type the name for your new appointment.

- When viewing a day or week view, drag vertically through the time slots that represent the appointment's duration, and then type inside the newly created colored box.

- Using the month view, double-click in a blank area of the appropriate date's square, and then type in the newly created colored bar.

- Choose File→New Event (or press ⌘-N). A new appointment appears on the currently selected day, regardless of the current view.

- In any view, Control-click a date and choose New Event from the shortcut menu.

Unless you use the drag-over-hours method, a new event believes itself to be one hour long, but you can adjust its duration by dragging the bottom edge vertically. Drag the dark top bar up or down to adjust the start time.

In many cases, that's all there is to it. You have just specified the day, time, and title of the appointment. Now you can get on with your life.

The long way

The information drawer shown in Figure 10-5 contains all the details for a certain appointment. (If it's not already open, you can open a selected event's drawer using any of the techniques described in Figure 10-5.) Using this drawer, you can create far more specific appointments, decked out with far more bells and whistles.

For each appointment, you can Tab your way to the following information areas:

- **Subject.** That's the large, bold type at the top—the name of your appointment. For example, you might type *Fly to Phoenix.*

- **Location.** This field makes a lot of sense; if you think about it, almost everyone needs to record *where* a meeting is to take place. You might type a reminder for yourself like *My place,* a specific address like *212 East 23,* or some other helpful information like a contact phone number or flight number.

- **all-day.** An "all-day" event, of course, refers to something that has no specific time of day associated with it: a holiday, a birthday, a book deadline. When you turn on this box, you see the name of the appointment jump to the top of the iCal screen, in the area reserved for this kind of thing (see Figure 10-4).

- **from, to.** You can adjust the times shown here by typing, clicking buttons, or both. Press Tab to jump from one setting to another, and from there to the hours and minutes of the starting time.

  For example, start by clicking the hour, then increase or decrease this number either by pressing your up and down arrow keys or by typing a number. Press Tab to highlight the minutes and repeat the arrow buttons-or-keys business. Finally,

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press Tab to highlight the AM/PM indicator, and type either *A* or *P*—or press the up or down arrow key—to change it, if necessary.

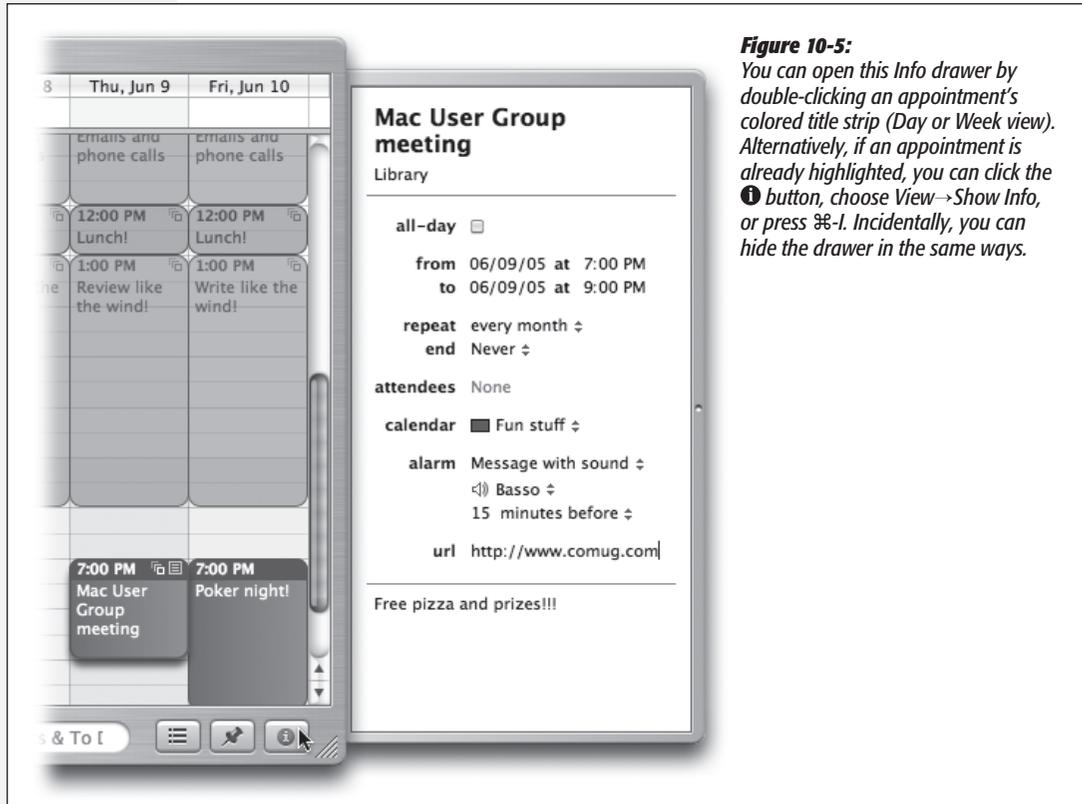*Tip:* If you specify a different ending date, a *banner* appears across the top of the calendar.

- **repeat.** The pop-up menu here contains common options for recurring events: every day, every week, and so on. It starts out saying None.

  Once you've made a selection, you get an **end** pop-up menu that lets you specify when this event should *stop* repeating. If you choose "Never," you're stuck seeing this event repeating on your calendar until the end of time (a good choice for recording, say, your anniversary, especially if your spouse might be consulting the same calendar). You can also turn on "after" (a certain number of times), which is a useful option for car and mortgage payments. And if you choose "on date," you can specify the date that the repetitions come to an end; use this option to indicate the last day of school, for example.

- **attendees.** If the appointment is a meeting or some other gathering, you can type the participants' names here. If a name is already in your Address Book program, iCal proposes auto-completing the name for you. (Alternatively, you can use the

"attendees" label as a pop-up menu; choose Open Address Book, find the person you want, and drag the name directly into the attendees spot.)

If you separate several names by commas, iCal automatically turns each into a shaded oval pop-up button. You can click it for a pop-up menu of commands like Remove Attendee and Send Email. (That last option appears only if the person in your Address Book has an email address, or if you typed a name *with* an email address in brackets, like this: *Chris Smith <chris@yahoo.com>.*)

Once you've specified some attendees, a Send button appears at the bottom of the Info drawer. If you click it, iCal fires up Mail and prepares ready-to-send messages, each with an *iCal.ics* attachment: a standard calendar-program invitation file.

Your guest will get an email message that says, "Chris Smith has invited you to the event: Company Hoedown, scheduled for Wednesday, February 02, 2005 at 3:00 PM. To accept or decline this invitation, click the link below."

Unfortunately, there generally *is* no link below unless your guests happen to use Mac OS X and Mail. It's a great idea for a feature, but extremely limited in scope at the moment.

If your lucky recipient *does* use Mail, clicking the *iCal.ics* attachment opens up a dialog box that offers Accept and Decline. When your guest clicks one of these buttons, an RSVP message goes back to you. Once Mail has downloaded the response, you've opened its attachment, and you've clicked OK, iCal updates the invitee's status in the Event Info window. You now see the word Pending, Accepted, or Declined next to each name. (Your guests, meanwhile, will be delighted to find that the appointment has automatically appeared on their calendars.)

Note: Attendees without email addresses disappear from the list the next time you open the event.

- **status.** The little icon next to each attendee's name changes as they accept or decline invitations.

- **calendar.** A *calendar,* in iCal's confusing terminology, is a subset—a category—into which you can place various appointments. You can create one for yourself, another for family-only events, another for book-club appointments, and so on. Later, you'll be able to hide and show these categories at will, adding or removing them from the calendar with a single click. Details begin on page 322.

Tip: Use this same pop-up menu to *change* an appointment's category. If you filed something in Company Memos that should have been in Sweet Nothings for Honey-Poo, open the event's information drawer and reassign it. Quick.

- **alarm.** This pop-up menu tells iCal how to notify you when a certain appointment is about to begin. iCal can send any of four kinds of flags to get your attention. It can display a message on the screen (with a sound, if you like), send you an email, run a script of the sort described in Chapter 8, or open a file on your hard drive. (You could use this unusual option to ensure that you don't forget a work dead-

line by flinging the relevant document open in front of your face at the eleventh hour.)

Once you've specified an alarm mechanism, a new pop-up menu appears to let you specify how much advance notice you want for this particular appointment. If it's a TV show you like to watch, you might set up a reminder only five minutes before airtime. If it's a birthday, you might set up a two-day warning to give yourself enough time to buy a present, and so on.

- **url.** What Apple really means here, of course, is *URL*—a Uniform Resource Locator, better known as a Web address like *www.apple.com.* If there's a URL relevant to this appointment, by all means type it here. Type more than one, if it will help you; just be sure to separate each with a comma.

- **Notes.** Here's your chance to customize your calendar event. You can type, paste, or drag any text that you like in the notes area—driving directions, contact phone numbers, a call history, or whatever.

Your newly scheduled event now shows up on the calendar, complete with the color coding that corresponds to the calendar category you've assigned.

What to Do with an Appointment

Once you've entrusted your agenda to iCal, you can start putting it to work. iCal is only too pleased to remind you (via pop-up messages) of your events, reschedule them, print them out, and so on. Here are a few of the possibilities.

Editing events

To edit a calendar event's name, double-click it.

To edit any of the appointment's other characteristics, you have to open its Info drawer, as described in Figure 10-5.

Tip: If you simply want to change an appointment's "calendar" category, you can bypass the Info drawer. Instead, just Control-click the appointment's name (or anywhere on its block), and choose the category you want from the resulting shortcut menu.

You don't have to bother with this if all you want to do is *reschedule* an event, however, as described next.

Rescheduling events

If an event in your life gets rescheduled, you can drag an appointment block vertically in its column to make it later or earlier the same day, or horizontally to another date in day or week view. (If you reschedule a recurring event, iCal asks if you want to change only *this* occurrence, or this *and* all future ones.)

If something is postponed for, say, a month or two, you're in trouble, since you can't drag an appointment beyond its month window. You have no choice but to open the Info drawer and edit the starting and ending dates or times—or just cut and paste the event to a different date.

Lengthening or shortening events

If a scheduled meeting becomes shorter or your lunch hour becomes a lunch hour-and-a-half (in your dreams), changing the length of the representative calendar event is as easy as dragging the top or bottom border of its block in any column view (see Figure 10-6).

Tip: In week view, if you've grabbed the top or bottom edge of an appointment's block so that the cursor changes, you can drag *horizontally* to make an appointment cross the midnight line and extend into a second day.

Figure 10-6:
You can resize any iCal calendar event just by dragging its border. As your cursor touches the bottom edge of a calendar event, it turns into a double-headed arrow. You can now drag the event's edge to make it take up more or less time on your calendar.

Printing events

To commit your calendar to paper, choose File→Print, or press ⌘-P. The resulting Print dialog box has been dramatically reworked in Tiger. Now you can include only a certain range of dates, only events on certain calendars, with or without to-do lists or mini-month calendars, and so on.

Deleting events

To delete an appointment, just select it and then press the Delete key. If you delete a recurring event (like a weekly meeting), iCal asks whether you want to delete only that particular instance of the event or the whole series from that point forward.
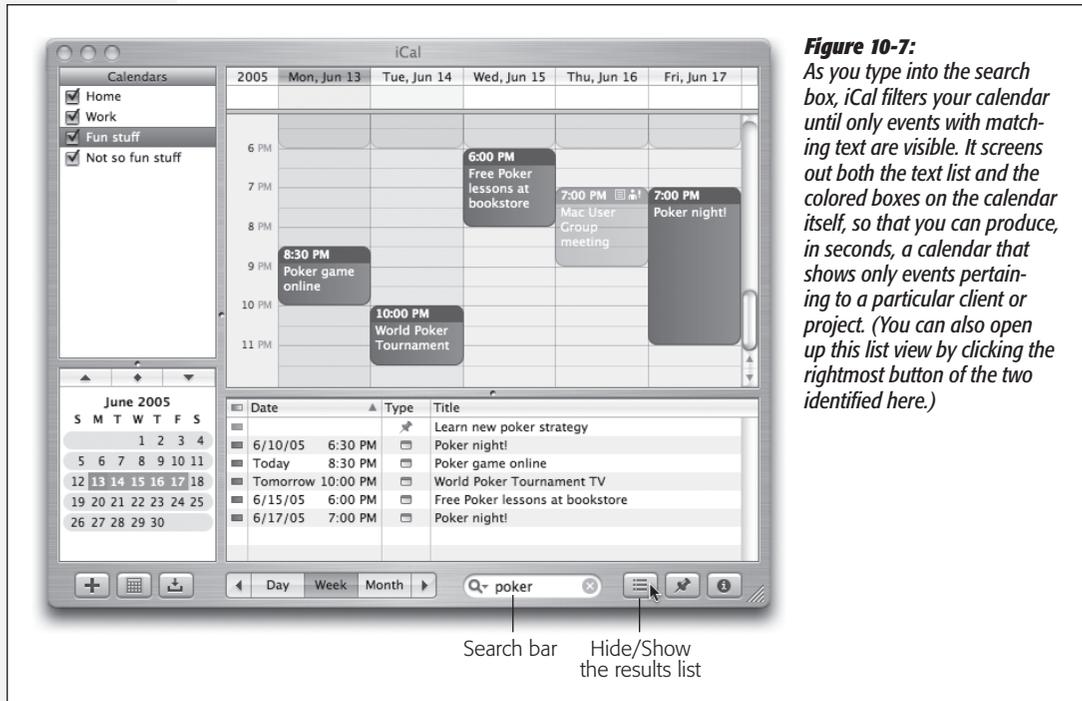

Tip: If you're a laptop-toting traveler, iCal can keep right up with your changing time zones. In iCal→Preferences, click the Advanced tab and turn on "Turn on time zone support." From now on, the Info drawer shown in Figure 10-5 offers a new pop-up menu for each appointment. Its Other command lets you tell it where you'll be on that day (you click to pinpoint your location on a tiny world map).

Then, as you travel, use the new pop-up menu of time zones in the upper-right corner of iCal's window. You'll see all of your appointments snap to the correct time slots for your current location, so that you're always on time and up-to-date.

Searching for Events

You should recognize the oval text box at the bottom of the iCal screen immediately: It's almost identical to the Spotlight box. This search box is designed to let you hide all appointments except those matching what you type into it. Figure 10-7 has the details.

Figure 10-7:
As you type into the search box, iCal filters your calendar until only events with matching text are visible. It screens out both the text list and the colored boxes on the calendar itself, so that you can produce, in seconds, a calendar that shows only events pertaining to a particular client or project. (You can also open up this list view by clicking the rightmost button of the two identified here.)

Search bar   Hide/Show the results list

The "Calendar" Category Concept

Just as iTunes has *playlists* that let you organize songs into subsets, and iPhoto has *albums* that let you organize photos into subsets, iCal has *calendars* that let you organize appointments into subsets. They can be anything you like. One person might have calendars called Home, Work, and TV Reminders. Another might have Me, Spouse 'n' Me, and Whole Family. A small business could have categories called Deductible Travel, R&D, and R&R.

To create a calendar, double-click any white space in the Calendar list (below the existing calendars), or click the + button at the lower-left corner of the iCal window. Type a name that defines the category in your mind.

Tip: Click a calendar name *before* you create an appointment. That way, the appointment will already belong to the correct calendar.

To change the color-coding of your category, click the ❶ button, or choose View→ Show Info (⌘-I). The Calendar Info drawer appears, looking a lot like the Event Info drawer. Here, you can change the name, color, or description of this category.

You assign an appointment to one of these categories using the pop-up menu on its Info drawer, or by Control-clicking an event and choosing a calendar name from the shortcut menu. After that, you can hide or show an entire category of appointments at once just by turning on or off the appropriate checkbox in the Calendars list.

Tip: The Tiger edition of iCal introduces the concept of calendar *groups:* calendar containers that consolidate the appointments from several *other* calendars. Super-calendars like this make it easier to manage, print, hide, show, print, and search subsets of your appointments.

To create a calendar group, choose File→New Calendar Group. Name the resulting item in the Calendar list; for the most part, it behaves like any other calendar. Drag other calendar names onto it to include them. Click the flippy triangle to hide or show the component calendars.

"Publishing" Calendars to the Web

One of iCal's best features is its ability to post your calendar on the Web, so that other people (or you, on a different computer) can subscribe to it, which adds *your* appointments to *their* calendars. If you have a .Mac account, then anyone with a Web browser can also view your calendar, right online.

For example, you might use this feature to post the meeting schedule for a club that you manage, or to share the agenda for a series of upcoming financial meetings that all of your co-workers will need to consult.

Figure 10-8:
If you click "Publish calendar on .Mac," iCal posts the calendar—the actual, viewable calendar—on the Web, as shown in Figure 10-9. If you click "Publish calendar on a private server," you have the freedom to upload the calendar to your own personal Web site, if it's Web-DAV-compatible. *In this case, your fans will be able to download (and subscribe to) the calendar, but won't be able to view it online.*
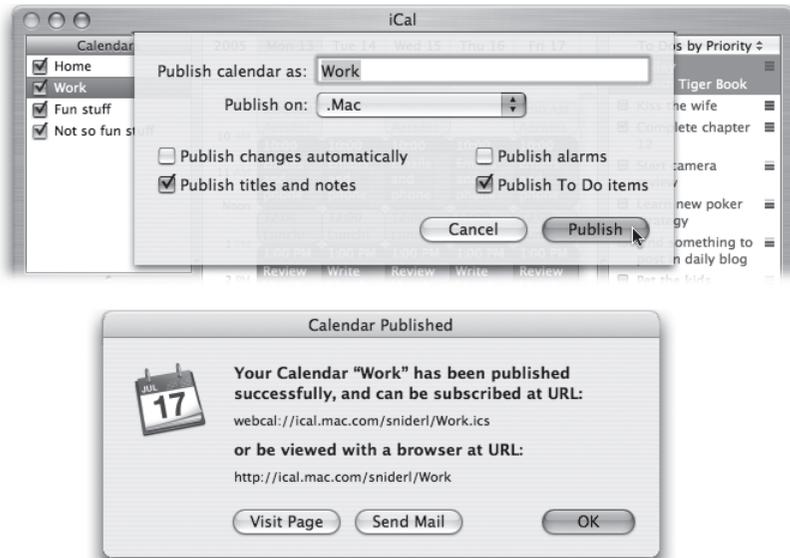
Publishing

Begin by clicking the calendar category you want in the left-side list. (To publish more than one calendar, create a calendar group.)

Then choose Calendar→Publish; the dialog box shown at top in Figure 10-8 appears. This is where you customize how your saved calendar is going to look and work. You can even turn on "Publish changes automatically," so whenever you edit the calendar, iCal connects to the Internet and updates the calendar automatically.

When you click Publish, your Mac connects to the Web and then shows you the Web address (URL) of the finished page, complete with a Send Mail button that lets you fire the URL off to your colleagues (Figure 10-8, bottom).

Subscribing

If somebody else has published a calendar, you subscribe to it by choosing Calendar→ Subscribe. In the Subscribe to Calendar dialog box, type in the Internet address you received from the person who published the calendar. Alternatively, click the Subscribe button on any iCal Web page (Figure 10-9, lower left).

Either way, you can also specify how often you want your own copy to be updated (assuming you have a full-time Internet connection), and whether or not you want to be bothered with the publisher's alarms and notes.
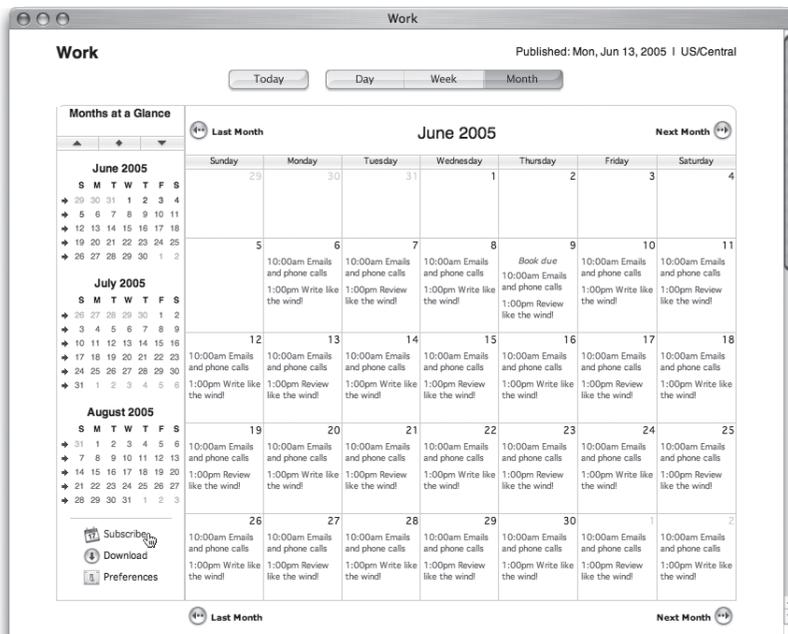

Figure 10-9:
Your calendar is now live on the Web. Your visitors can control the view, switch dates, double-click an appointment for details—it's like iCal Live! This feature of iCal is a brilliant solution to the old, "My spouse and I each have a Palm, but we can't see each other's calendars" problem. In conjunction with iSync (described starting on page 659), each person can now summon the other's calendar to the screen on demand.

When it's all over, you see a new "calendar" category in your left-side list, representing the published appointments.

Tip: Want to try it out right now? Visit *www.icalshare.com,* a worldwide clearinghouse for sets of iCal appointments. You can subscribe to calendars for shuttle launches, Mac trade shows, National Hockey League teams, NASCAR races, soccer matches, the *Iron Chef* and *Survivor* TV shows, holidays, and much more. You'll never suffer from empty-calendar syndrome again.

To Do Lists

iCal's Tasks feature lets you make a to-do list and shepherds you along by giving you gentle reminders, if you so desire (Figure 10-10).

Figure 10-10:
Using the To Do Info drawer (right), you can also give your note a priority, a calendar (category), or a due date. Tasks that come due won't show up on the calendar itself, but a little exclamation point triangle appears in the To Do Items list.
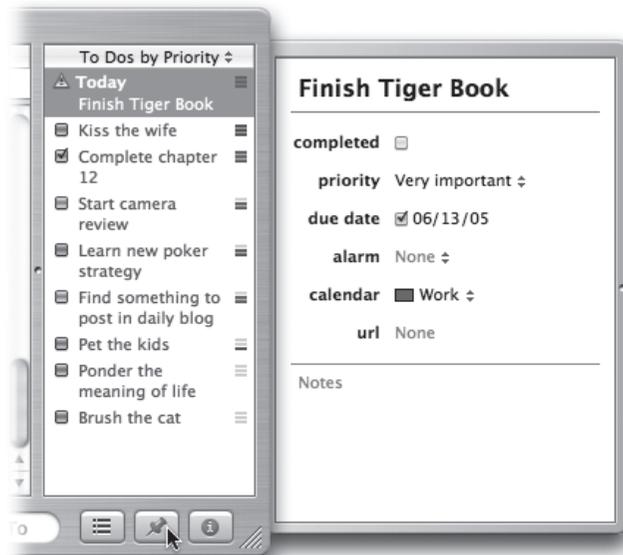
To see the list, click the pushpin button at the lower-right corner of the iCal screen. Add a new task by double-clicking in the To Do Items list that appears. In this same Info panel, you can also specify the task's priority, alarm, repeating pattern, and so on.

To change a task's priority, use the "priority" pop-up menu. To sort the list (by priority, for example), use the pop-up menu at the top of the to-do list. To delete a task, click it and then press the Delete key.

Tip: You have lots of control over what happens to a task listing *after* you check it off. In iCal→Preferences, for example, you can make tasks auto-hide or auto-delete themselves after, say, a week or a month. (And if you asked them to auto-hide themselves, you can make them reappear temporarily using the Show All Completed Items command in the pop-up menu at the top of the to-do list.)

iChat, iSync

For a briefing on the iSync utility, see Chapter 19. Details on the iChat instant-messaging program can be found in Chapter 21.

iDVD

You have iDVD only if you bought a new Mac containing a SuperDrive DVD burner, or you bought Apple's iLife software suite. iDVD lets you turn your digital photos or camcorder movies into DVDs that work on almost any DVD player, complete with menus, slideshow controls, and other navigation features. iDVD handles the technology; you control the style.

Sure, you can export your finished iMovie project back to a good old VHS cassette. But preserving your work on a DVD gives you a boatload of benefits, including better durability, dramatically better quality, no rewinding, duplication without quality loss, and cheaper shipping. (And besides, you can fit a lot more DVDs on a shelf than VHS tapes.)

Note: DVD players sold since 2002 are generally a safe bet for playing back homemade DVDs, but check the master player compatibility list at *www.videohelp.com* if you're in doubt. Some players are fussy about which DVD-R brand discs they play, too.

Here's the basic routine for converting an iMovie movie into a Blockbuster-style DVD. (The following pages describe iDVD 5, although other versions of iDVD are similar enough.)

Phase 1: Insert Chapter Markers

DVD *chapters* let viewers skip to predefined starting points within a movie, either using a Scene menu or pressing the Next Chapter or Previous Chapter buttons on the remote control. Thanks to the partnership of iMovie and iDVD, you can add markers that replicate this feature to your own movies.

1. **In iMovie, click the iDVD button to open the iDVD palette.**

   You'll find it among the other palette buttons, just to the right of the Effects button, as shown in Figure 10-11.

2. **Move the Playhead to the position for your new chapter. Click Add Chapter. Type a chapter title into the Chapter Title box.**

   Whatever you type here winds up as the chapter name in the finished DVD menu.

3. **Repeat step 2 until you've created all the chapters for your movie. Save your project.**

   If you've added a chapter in error, select it and then click Remove Chapter.

Phase 2: Hand Off to iDVD

Now you're ready to hand off the movie to iDVD, where you design your menu and burn your DVD.

Figure 10-11:
The iDVD palette lets you add, remove, and name chapters—and then publish your iMovies to iDVD. New iMovie chapters are numbered sequentially, as they appear in your movie from beginning to end. Chapter references appear in your timeline as small yellow diamonds just above the video track. iMovie can add up to 99 chapters per movie with the iDVD palette.
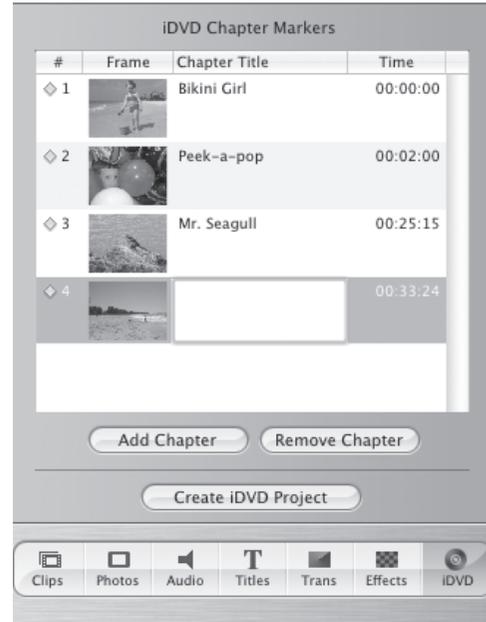
Save your project, and then click Create iDVD Project at the bottom of the chapter list. Your hard drive whirs, thunder rolls somewhere, and after a few minutes, you wind up in iDVD itself. You'll know when you get there: Empty postcards scroll slowly from right to left, confirming your arrival in iDVD land. (That's the Travel 1 *theme,* described in a moment.)

Tip: To turn off the Apple logo that appears in the lower-right corner of every iDVD Project, choose iDVD→ Preferences, click General, and turn off "Show Apple logo watermark."

Phase 3: Design the Menu Screen

- and the font for your buttons are all part of a *theme*—a unified design scheme that governs how the menus look and behave.

A wide range of canned themes awaits your inspection. To see them, click Customize to open the Customize drawer, if it isn't already open (Figure 10-12). Click the Themes button. Then, from the pop-up menu at the top of the drawer, choose All.

Now scroll through the list of themes. You can click each one to see what it looks like in the main work area, or just rely on the thumbnail icons to get a sense of the theme's flavor.
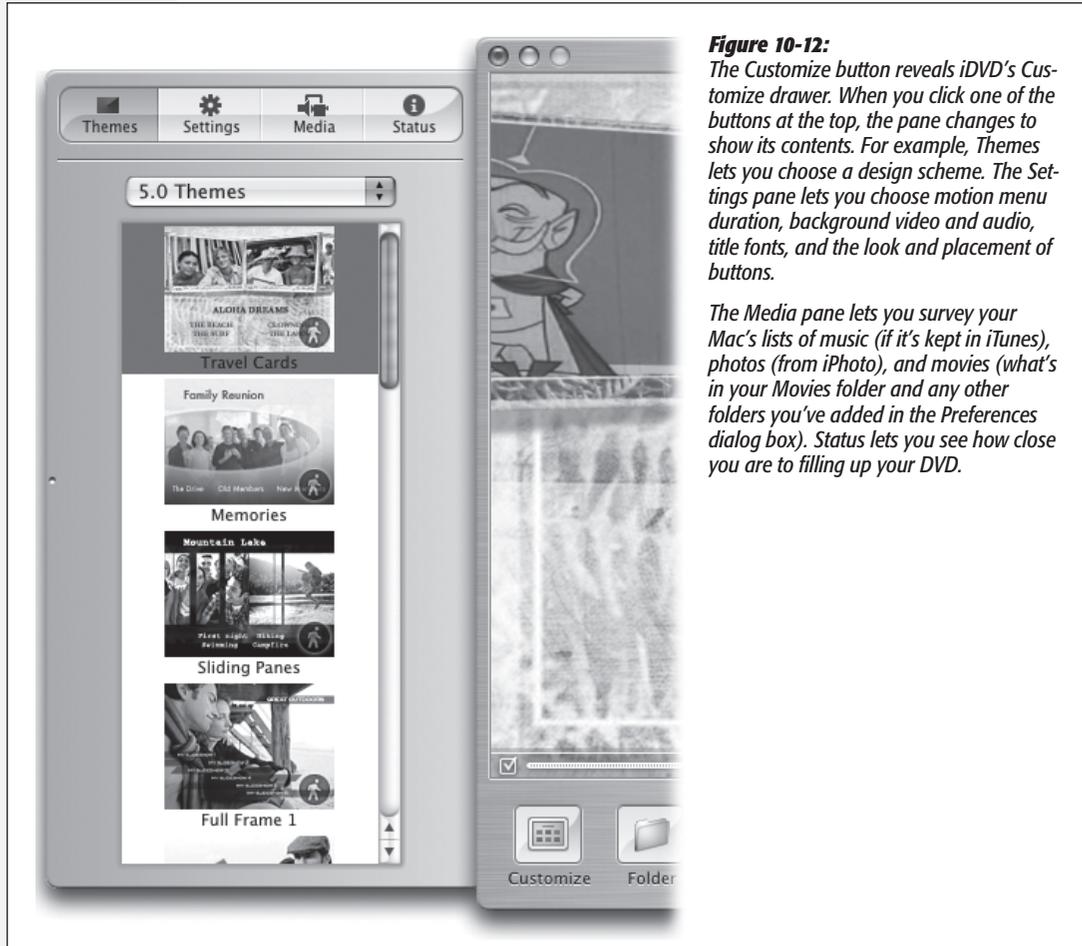
Figure 10-12:
The Customize button reveals iDVD's Customize drawer. When you click one of the buttons at the top, the pane changes to show its contents. For example, Themes lets you choose a design scheme. The Settings pane lets you choose motion menu duration, background video and audio, title fonts, and the look and placement of buttons.

The Media pane lets you survey your Mac's lists of music (if it's kept in iTunes), photos (from iPhoto), and movies (what's in your Movies folder and any other folders you've added in the Preferences dialog box). Status lets you see how close you are to filling up your DVD.

Select a theme by clicking its thumbnail. The main menu screen takes on your chosen theme instantly. If your DVD menu system has other screens—a scene-selection screen that lists your chapter markers, for example—choose Advanced→Apply Theme to Project, so that every screen looks alike.

Phase 4: Edit Titles and Buttons

On the main menu screen now before you, you'll find two buttons:

- **Play.** On the finished DVD, this button means, "Play the movie from the beginning."

- **Scene Selection.** On the finished DVD, this button takes your audience to a second screen, which is filled with individual buttons for the chapters you created. (This second screen may have arrows that lead to third and fourth screens, because iDVD can fit only six buttons per screen.)

You can edit these text buttons just as you would Finder icon names: Click inside the text to open up an editing box, type your changes, and then press Enter or Return.

Editing button names works almost the same way, except that you single-click the button first, and then click the text itself to open the editing box.

Phase 5: Burning Your DVD

Once your menu screens look pretty good, you're almost ready to burn the DVD. Before you use up a blank disc, however, you should test your creation to make sure that it works on the virtual DVD player known as the Macintosh.

- **Preview the DVD.** iDVD's Preview button lets you test your menu system to avoid unpleasant surprises. When you click it, iDVD enters Preview mode, which simulates how your DVD works on a regular DVD player. You even get a simulated remote control to help you navigate. Click Stop (the filled square) or reclick Preview to return to iDVD's Edit mode.

- **Check the length.** iDVD prefers to burn 60-minute DVDs, because they have the best quality. The instant you try to add the 61st minute of footage to your project, though, iDVD invites you to switch to 90-minute mode—at lower quality—or to delete some video from the project to make it fit within 60 minutes again.

When you've finished editing your disc and testing it thoroughly, it's time to proceed with your burn.

GEM IN THE ROUGH

Drop Zones

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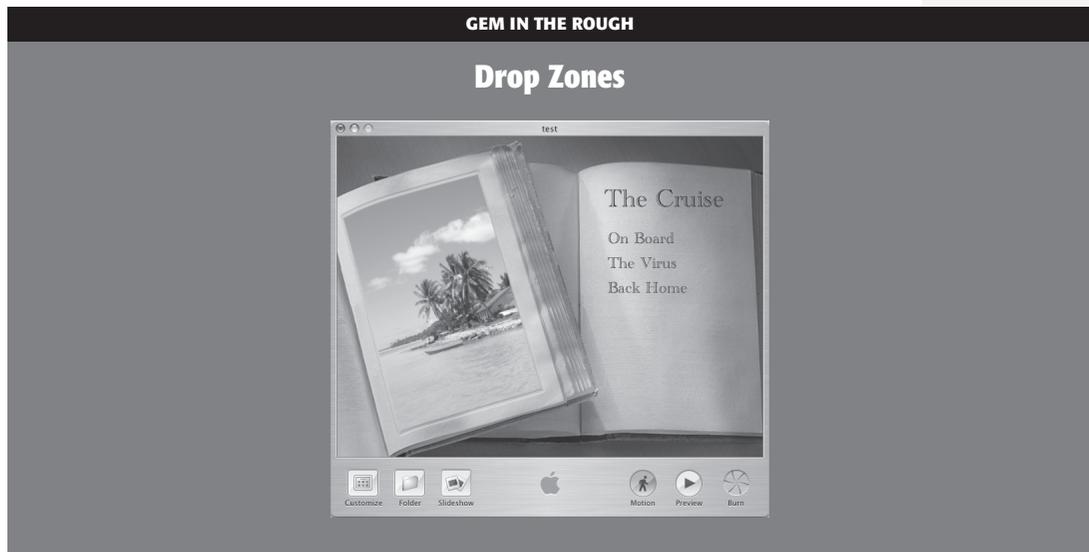
1. **Check your Motion setting.**

   The Motion button at the bottom of the window determines whether or not your finished DVD will have animated menus, buttons, and backgrounds, and whether or not music will play. If the Motion button is green, you get all of the above. If you turn the Motion button off (gray), then motion and audio features won't appear on the final disc.

2. **Choose File→Save. Click the Burn button twice.**

   The first click on the gray, closed Burn button "opens" it, revealing a throbbing yellow-and-black button. The second click begins the burning process.

3. **Insert a blank DVD-R disc when the Mac asks for it.**

   Be sure you're using the correct kind of blank DVD for the speed of your DVD burner. For example, don't attempt to burn 1x or 2x blanks at 4x speed.

   You can use DVD-RW (rewritable) discs, too, although they don't work in as many DVD players.

Tip: Depending on your Mac model, you may be able to use *either* blank DVD-R discs *or* blank DVD+R discs. (Yes, these are two different kinds—note the punctuation. They're essentially identical after burning—but some Macs can't burn DVD+R.) Your Mac may even be able to burn *dual-layer* DVDs (page 402).

To find out which kinds of discs your Mac can burn, open System Profiler (in your Applications→Utilities folder). Expand the Hardware triangle, and click the Disc Burning category.

At the right side of the display, you can see what kind of drive your Mac has: "CD-Write: -R, -RW" (you can record CDs), for example.

If it also says "DVD-Write: -R, -RW, +R, +RW," then you can burn CDs *and* DVDs—you have a SuperDrive.

After a while, or a bit more than a while, a freshly burned DVD automatically ejects from your SuperDrive.

Image Capture

This unsung little program is something of an orphan. It was designed to download pictures from a USB digital camera and then process them automatically (turning them into a Web page, scaling them to emailable size, and so on). Of course, after Image Capture's birth, iPhoto came along, generally blowing its predecessor out of the water.

Even so, Apple includes Image Capture with Mac OS X for these reasons:

- Image Capture makes it easy to download only *some* pictures from your camera (Figure 10-13). iPhoto, by contrast, always downloads the entire contents of your camera's memory card.

- Image Capture can grab images from Mac OS X–compatible scanners, too, not just digital cameras.

- Image Capture can download your *sounds* (like voice notes) from a digital still camera; iPhoto can't.

- Image Capture can turn a compatible digital camera into a Webcam, broadcasting whatever it "sees" to anyone on your office network—or the whole Internet. Similarly, it can share a scanner with all the networked Macs in your office.

You can open Image Capture in either of two ways. You can simply double-click its icon in your Applications folder or you can set it up to open automatically whenever you connect a USB digital camera and turn it on. To set up that arrangement, open Image Capture manually. Choose Image Capture→Preferences, click the General tab, and choose Image Capture from the "When a camera is connected, open" pop-up menu.

Figure 10-13:
Top: You can set up Image Capture to open automatically when you attach a USB camera to your Mac. One click (on Download All) transfers its pictures to your hard drive.

Bottom: If you click Download Some, you get this "slide-sorter" window, where you can choose the individual pictures you want to download, to rotate selected shots (using the buttons at the top), or delete shots from the camera. In slide-sorter view, Shift-click the thumbnails of the individual pictures you want. In list view, Shift-click or ⌘-click as though they're Finder list-view files.

Once Image Capture is open, it looks like Figure 10-13.

In Image Capture, you can use the following pop-up menus.

Download Folder

Use this pop-up menu to choose a destination folder for the pictures. Image Capture proposes putting photos, sounds, and movies from the camera into your Home folder's Pictures, Music, and Movies folders, respectively. When the downloading process is complete, Mac OS X opens the corresponding folder automatically, saving you the trouble of finding it.

Automatic Task

Download, schmownload—Image Capture is just warming up. It comes equipped to process the downloaded photos in several useful ways. For example:

- **None.** Translation: "Just download the pictures, please."

- **Build slide show.** After the download is complete, your screen goes black, and a smooth full-screen slideshow begins, featuring the newly downloaded pictures gracefully cross-fading one to the next (without musical accompaniment, alas).

- **Build web page.** Creates an actual, and very attractive, Web page of your down-loaded shots. Against a black background, you get thumbnail images of the pictures in a Web page document called index.html. (You'll find it in your Home folder→ Pictures→webpage folder, which also contains the graphics files incorporated into this HTML document.) Image Capture automatically opens up this page in your Web browser, proud of its work.

  Just click one of the small images to view it at full size, exactly as your Web site visitors will be able to do once this page is actually on the Web. (Getting it online is up to you, although Apple's HomePage feature—part of the .Mac subscription program described on page 651—is one of the easiest methods.)

  iPhoto offers more Web page options and better-looking results, but Image Capture is handy when you just need something quick and dirty.

GEM IN THE ROUGH

Image Capture Super-Prefs

Apple spared no expense on this baby. Lurking in the dialog box that appears when you click the Options button (shown in Figure 10-13) are some very powerful features. They're well worth exploring.

The Download Options controls, for example, let you set Image Capture to grab pictures automatically when you plug in the camera, saving you a click on the Download button.

Here's where you specify, too, that you want to delete the photos from the camera after they've been downloaded to the Mac—another step-saving option that prepares your memory card for more pictures.

The Information tab, meanwhile, tells you some highly specific technical details about the camera or scanner that's currently hooked up.

- **Crop to 3 x 5, fit to 3 x 5….** Each option here creates a photo gallery as a PDF document (page 518), ready to print out and then, presumably, to cut apart with scissors or a paper cutter. Each offers neatly arranged photos in the dimensions you've selected.

  And what if a photo doesn't precisely fit the proportions you've selected? The "crop to" options center each photo within the specified shape and then trim the outer borders if necessary. The "fit to" options *shrink* the photo as necessary to fit into the specified dimensions, sometimes leaving blank white margins.

Note: The "crop" commands never touch the actual downloaded photos. The downloaded image files themselves retain their full size and resolution.

- **Preview.** This option opens the fresh pictures in Preview (page 361), so that you can get a better (and bigger) look at them.

- **Other.** The beauty of the Image Capture system is that people can, in theory, write additional processing scripts. Once you've written or downloaded them, drop them into your System→Library→Image Capture→Automated Tasks folder. Then enjoy their presence in the newly enhanced Automatic Task pop-up menu.

Download Some, Download All

Clicking Download All, of course, begins the process of downloading the photos to the folder you've selected. A progress dialog box appears, showing you thumbnail images of each picture that flies down the wire.

Clicking Download Some, however, opens the picture browser shown at bottom in Figure 10-13. Now you can select the photos you want to download, rotate, or delete from the camera. (In icon view, you click and Shift-click to select a bunch of consecutive photos, and ⌘-click to add individual photos to the selection. In icon view, you can only click and Shift-click to select individual photos.)

Downloading from Across the Network

You're sitting in front of Macintosh #1, but the digital camera is connected to Macintosh #2 downstairs, elsewhere on the network. What's a Mac fan to do?

All right, that situation may not exactly be the scourge of modern computing. Still, downloading pictures from a camera attached to a different computer can occasionally be useful. In a graphics studio, for example, when a photographer comes back from the field, camera brimming with fresh shots, he can hook up the camera to his Mac so that his editor can peruse the pictures on hers, while he heads home for a shower.

To share your camera on the network, hook it up, choose Image Capture→Preferences, click the Sharing tab, turn on "Share my devices," and select the camera in question (Figure 10-14). (This trick works with scanners, too.)

On the other Mac, open Image Capture and choose Devices→"Browse devices." Open the flippy triangle, select the camera, click OK, and proceed to view and download the photos exactly as though the camera's connected to *your* Mac.

Downloading from Across the Internet

You can also share your camera's contents with *the whole Internet,* assuming your Mac has its own, publicly accessible IP address (page 644). Figure 10-14 has the details for the setup.
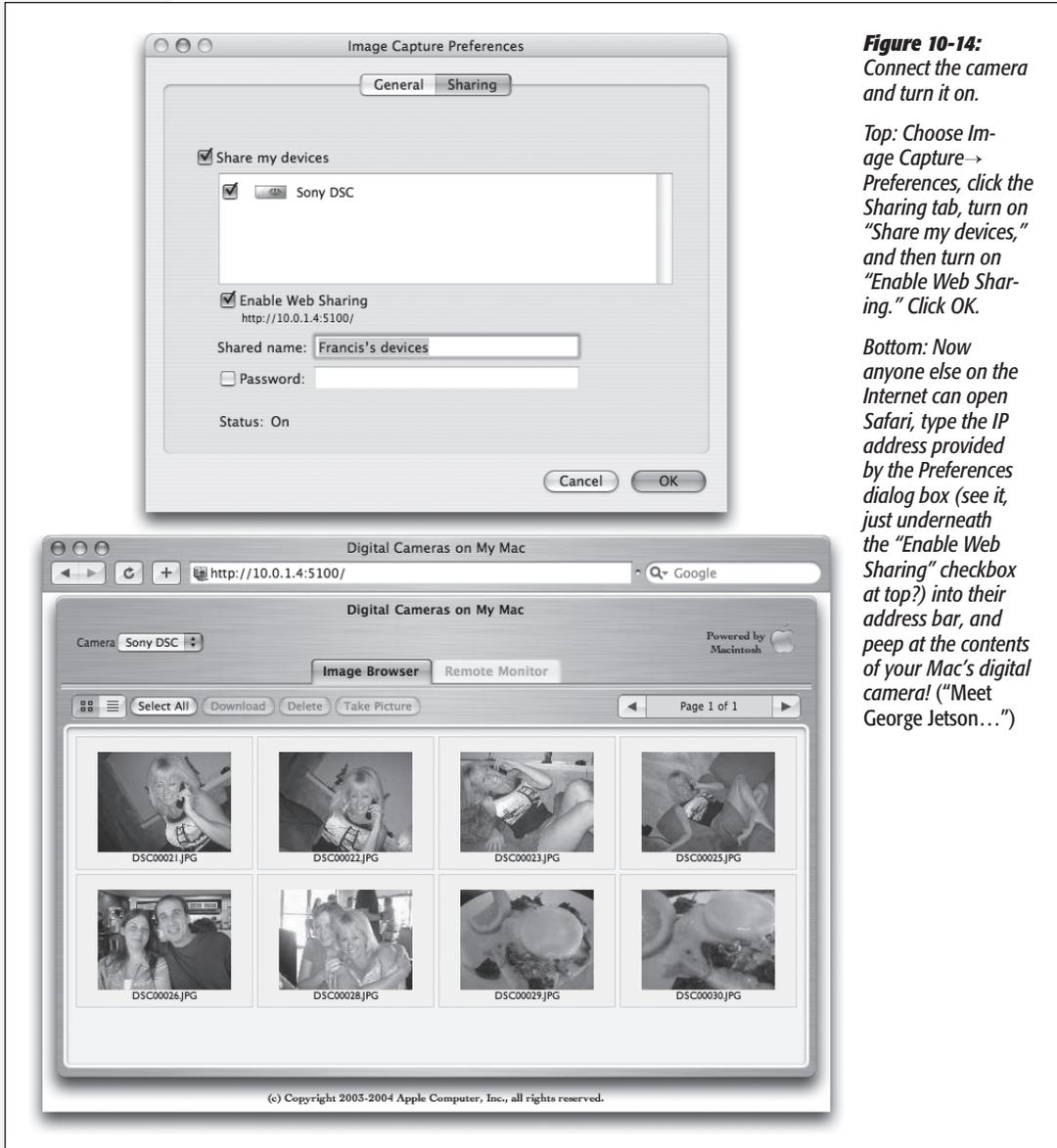

Figure 10-14:
Connect the camera and turn it on.

Top: Choose Image Capture→ Preferences, click the Sharing tab, turn on "Share my devices," and then turn on "Enable Web Sharing." Click OK.

Bottom: Now anyone else on the Internet can open Safari, type the IP address provided by the Preferences dialog box (see it, just underneath the "Enable Web Sharing" checkbox at top?) into their address bar, and peep at the contents of your Mac's digital camera! ("Meet George Jetson…")

Image Capture as Web Spycam

All digital cameras can share what's currently on their memory cards via the Internet as previously described. If you have one of a few newer models, in fact, you can actually *control the camera remotely.* You can spy on whatever's in the room where the camera is, taking snapshots on demand. (Can you say, "Babysittercam"?)

Note: Some of the Webcammable cameras are the Canon A60, A70, S400, S50/60/70, and G5; HP C618 and 912; Kodak DC280, DC4800, DC5000; and Nikon D1, D1X, and D1H—and their successors.

To set this up, begin as shown in Figure 10-14. Then, if your camera is one of the compatible models, the Remote Monitor tab (shown dimmed in Figure 10-14) springs to life, along with the buttons labeled Delete, Take Picture, and so on.

Clicking Take Picture captures a picture exactly as you would if you'd been next to the camera and pressed the shutter button.

If you click the Remote Monitor tab, you see, at full size, whatever the camera is seeing; the image is updated once every minute. (The pictures are blasted to you via the Internet, but not captured onto the memory card.) Click the light-switch icon to change the shutter interval.

Figure 10-15:
Assuming your scanner is compatible with Mac OS X (that is, if it's TWAIN-compatible), this preview window appears automatically when you turn on the scanner and open Image Capture. Open the drawer to specify the dimensions and resolution you want. Click Overview if you need to repeat the preview. Next, drag across the image to indicate which part you want to capture (otherwise, the Scan button is dimmed), and then click Scan when you're ready to go.

Click here to open the drawer   Zoom in/Zoom out
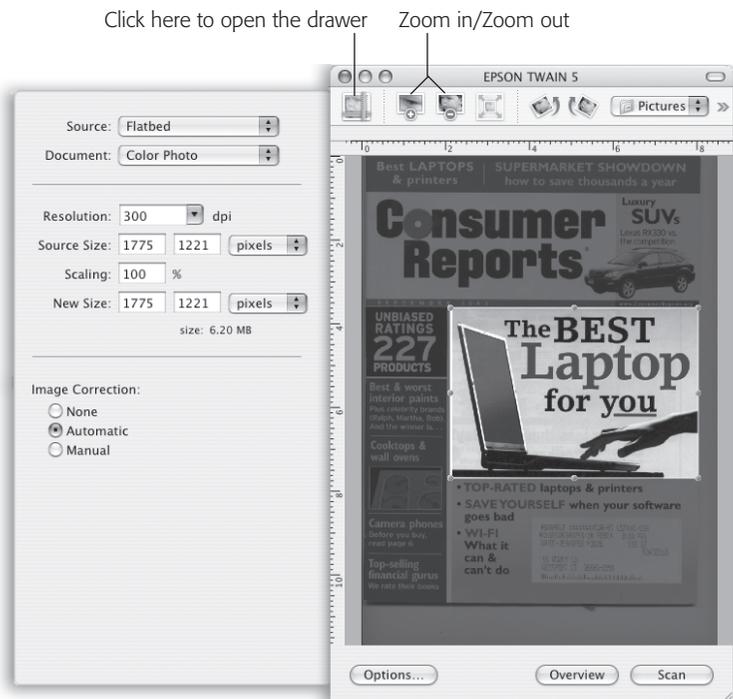
Scanning

Assuming you haven't changed the "Open scanner window when Image Capture is launched" setting (in Image Capture→Preferences→Scanner), you should see the window shown in Figure 10-15 as soon as you turn on your scanner and fire up Image Capture.

iMovie

If you have a digital camcorder and a few hours of free time—all right, a few weekends of it—iMovie helps you make astonishingly high-quality, fully edited movies. Digital video is great: You can transfer the footage back and forth between the Mac and the camcorder a hundred times, and never see any deterioration in quality. The latest version of iMovie can even edit high-definition footage (from HDV camcorders like Sony's HDR-HC1).

Note: Although this writeup covers iMovie HD, other versions of iMovie work similarly.

Monitor · Clips pane

South Dakota (DV–NTSC)

Scrubber bar · Playhead · Volume · Pane buttons

Clip Viewer/Timeline Viewer switch · Camera/Edit Mode switch · Home, Play, Full Screen · Clip Viewer (Movie Track) · Free space · Project Trash

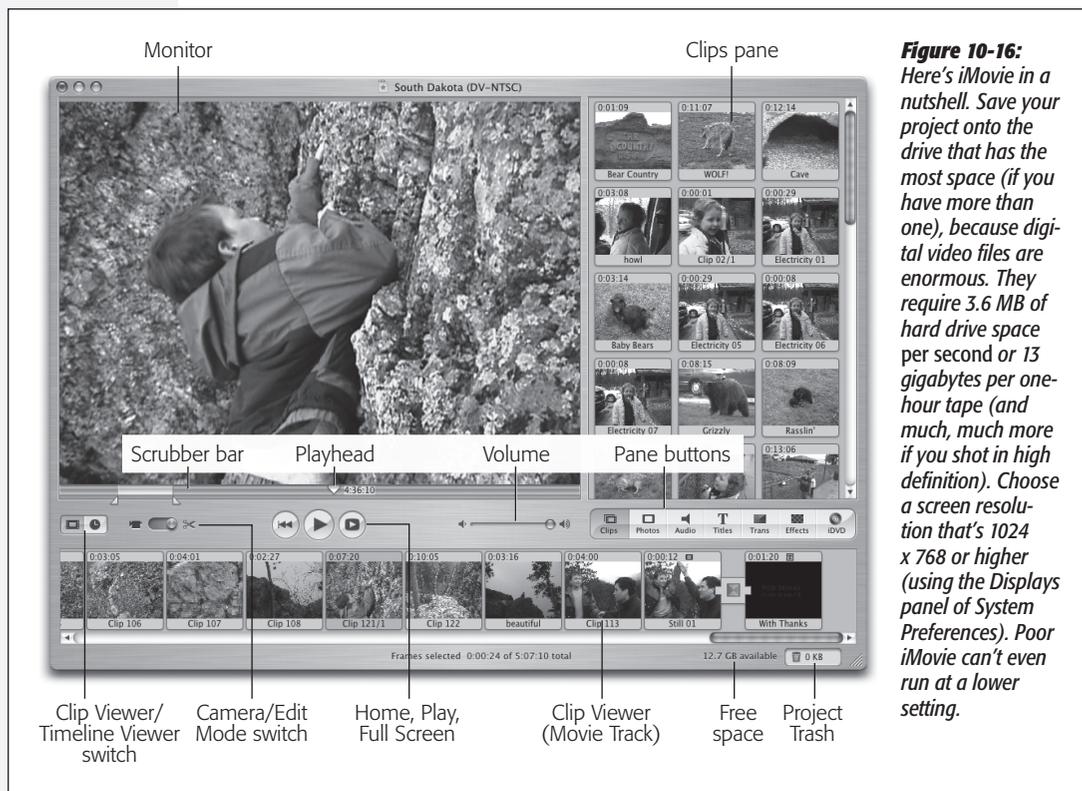Frames selected 0:00:24 of 5:07:10 total · 12.7 GB available · 0 KB

Figure 10-16:
Here's iMovie in a nutshell. Save your project onto the drive that has the most space (if you have more than one), because digital video files are enormous. They require 3.6 MB of hard drive space per second or 13 gigabytes per one-hour tape (and much, much more if you shot in high definition). Choose a screen resolution that's 1024 x 768 or higher (using the Displays panel of System Preferences). Poor iMovie can't even run at a lower setting.

Phase 1: Set Up iMovie

The first time you run iMovie, it asks you whether you want to open an existing iMovie file (called a *project*) or start a new one. After that, each time you launch iMovie, it automatically opens up the movie you most recently worked on.

If you click Create Project, you're asked to select a name and location for the movie you're about to make. (You can ignore the "Video format" pop-up menu; iMovie auto-detects what kind of camcorder you have once you begin importing footage.) Once you've saved your project, you finally arrive at the main iMovie window (Figure 10-16).

Phase 2: Import Camcorder Footage

After you've shot some footage, connect the camcorder to the Mac using a FireWire cable. If you have the proper cable, the six-pin connector fits your Mac, and the much smaller end (the four-pin connector) goes into the FireWire connector on your camcorder, which, depending on the brand, may be labeled FireWire, i.Link, DV In/Out, or IEEE 1394.

Put the camcorder into VTR mode, also known as VCR or Playback mode. If necessary, click iMovie's Camera button, identified in Figure 10-16.

The Monitor window says, "Camera Connected." Now you can click the Play, Rewind, Fast Forward, and other buttons on the screen to control the camcorder. Scan your tape to find the sections that you want to include in your edited movie.

Every time you click the Import button—or tap the Space bar—iMovie imports the footage you're watching, saving it as a series of digital-video movie files on the Mac's hard drive. For each scene, iMovie creates what looks like a slide in the Clips pane, as shown in Figure 10-16. That's a *clip*—a single piece of footage that makes up one of the building blocks of an iMovie movie. Its icon is a picture of the first frame. On the clip's upper-left corner, you can see the length of the clip expressed as "seconds: frames." (There are roughly 30 frames per second in North American video or HDTV; 25 in the European format.)

GEM IN THE ROUGH

Automatic Scene Detection

If you let the tape continue to roll, you'll notice that each time a new scene begins, a new clip icon appears in the Clips pane.

iMovie is studying the date and time stamp that DV camcorders record into every frame. When iMovie detects a break in time, it assumes that you stopped recording,—if only for a moment—and therefore that the next piece of footage should be considered a new shot. It turns each new shot into a new clip.

If you'd prefer manual control over when each clip begins and ends, choose iMovie→Preferences, click Import, and turn off "Start a new clip at each scene break."

How iMovie organizes its files

Every time you save a project file, iMovie creates an icon that bears your project's name. But it's not really a document icon. It's a *package* icon, which, to Mac OS X aficionados, is code for "a thinly disguised folder." It opens up like a document when double-clicked—but if you Control-click it and, from the shortcut menu, choose Show Package Contents, you can open it instead like a folder and survey the pieces that make up an iMovie movie. (Don't move, rename, or delete the components, however.)

If you open, edit, and even save a project made by a previous iMovie version, though, it remains in the older project format: a regular folder (called, for example, Disney Trip) containing an iMovie *document* (with the same name) and a Media folder that contains all of your video clips. You can turn such a project into the newer package format for convenience, if you like, by choosing File→Save As.

Phase 3: Arrange the Clips

As you're building your movie, you can store your clips in either of two places: the Clips pane or the storyboard strip—the *Movie Track,* for want of an official name—at the bottom of the window (Figure 10-16). You put clips on the Clips pane before deciding what to do with them and drag them down to the Movie Track once you've decided where they fit into your movie.

The Movie Track can appear in either of two ways, depending on which button you click (the film strip or the clock):

- **Clip Viewer.** In this view (the filmstrip button), each clip appears as an icon, like a slide on a slide viewer. Each is sized identically, regardless of length.

- **Timeline Viewer.** Here (the clock button), each clip is represented by a horizontal bar whose length is proportional to the amount of time it occupies in the whole movie. Parallel bars below the clips indicate the soundtracks playing simultaneously.

You can do several things to a clip, whether it's in the Clips pane or the Movie Track. For example:

- **Select a clip.** Click a clip's icon to view its first frame and, below on the Movie Track, its duration relative to the whole movie.

  To highlight several consecutive clips in the Movie Track, click one clip, and then Shift-click the last one, or ⌘-click to select several that aren't adjacent. In the Clips pane, you can also drag diagonally across a batch of them.

- **Play a clip.** To play a highlighted clip, press the Space bar. You can also drag the *playhead* (see Figure 10-16) to view earlier or later parts of the clip. By pressing the right and left arrow keys when playback is stopped, you can view your clip one frame at a time, as though you're watching the world's least interesting slideshow.

Tip: Adding the Shift key to your arrow-key presses is often more useful, since it lets you jump *10* frames at a time. The Page Up/Page Down keys jump to the beginning and end of the clip.

- **Reorganize the clips.** You can drag clips from cubbyhole to cubbyhole on the Clips pane. In fact, you can drag a clip (or even a mass of highlighted clips) onto an *occupied* cubbyhole. iMovie automatically creates enough new cubbyholes to hold them all, and shuffles existing clips out of the way if necessary.

- **Trash a clip.** You can get rid of a clip either by selecting it and then pressing the Delete key or by dragging it directly onto the project Trash icon (once again, shown in Figure 10-16).

The iMovie Trash has a lot in common with the Finder's Trash or the Windows Recycle Bin. Like them, it's a safety net. It's a holding tank for clips, photos, and sounds that you intend to throw out. They're not really gone, though, until you use the File→Empty Trash command (Shift-⌘-Delete).

You can open the Trash "folder," look over and even play back the clips inside, and rescue or delete individual audio and video clips without emptying the whole Trash.

To open the Trash window, click the Trash icon or choose File→Show Trash.

The fact that you can open the Trash window isn't the only startling change in iMovie HD. You should also be aware that emptying the Trash saves your file—and when you save your file, *you lose the ability to Undo your previous steps.* Emptying the Trash also disables the Revert to Saved command and vaporizes whatever's on your Clipboard. (You can still use the Revert Clip to Original command, however.)

FREQUENTLY ASKED QUESTION

Why Emptying the Trash Doesn't Restore Disk Space

When I emptied the Trash, the little "free disk space remaining" counter didn't change at all! I had 532 megs available before I emptied the Trash, and the same amount after!

In iMovie HD, you can use the Revert Clip to Original command any time, even after emptying the Trash, even months or years later. You can also add back a missing chunk from the middle of a clip that you'd previously lobotomized–again, even after emptying the Trash. You can chop, truncate, split, and shorten clips to your heart's content, and at any time, restore what you'd eliminated. (In previous iMovie versions, emptying the Trash meant that portions you cut from clips were gone forever.)

Unfortunately, these features work because iMovie quietly preserves the entire copy of every clip you import. If you split a clip in half, drag the second part to the Trash, and then empty the Trash, you don't get back one single byte of disk

space. iMovie is hanging onto the entire original clip, just in case you change your mind someday.

The only time emptying the Trash actually frees up disk space, in fact, is if you've put an entire clip into it. (Even then, you may have to empty the Finder Trash to complete the transaction.) If even one frame of it appears in the Timeline, iMovie still preserves the entire original clip on your hard drive.

So what if you imported a 40-minute tape all in one clip and you intend to work with only the first five minutes' worth? Will that iMovie project occupy 40 minutes' worth of space on your hard drive forever?

Yes, unless you export the entire movie project as a full-quality DV clip and then reimport it.

• **Trim a clip (Clips pane, Clips viewer).** Unless you have some godlike ability to control precisely when the subjects of your life—your pets, your children, your geysers—are at their most video-worthy, you probably don't need to preserve every frame of your captured footage for future generations.

To target footage for deletion, click a clip, position your cursor within the Scrubber bar, and drag horizontally until the triangle handles surround the footage you want to keep (Figure 10-16). If you choose Cut or Clear from the Edit menu, iMovie promptly trims away whatever was highlighted between the triangles.

If you choose Edit→Crop instead, iMovie deletes whatever was *outside* the high-lighted portion.

Tip: Here's a quick trick for highlighting only the first portion of a selected clip: Shift-click within the Scrubber bar at the point where you'd like the selection to *end.* Instantly, iMovie highlights everything from the left end of the clip to the position of your click.

• **Trim a clip (Timeline viewer).** Drag the edges of a clip's colored bar inward to shorten it from either end. (Drag outward again if you change your mind.)

Phase 4: Assemble the Movie

Drag the edited clips out of the Clips pane and into the correct order on the Movie Track, exactly as though you're building a storyboard or timeline. (To magnify the Timeline Viewer for a better look, drag the slider at the lower-left corner of the window. It adjusts the relative sizes of the bars that represent your clips.)

Play as you go

As you work, you'll want to play back your movie to check its flow. You may discover that, in the context of the whole movie, some clips are too long, too short, in the wrong order, and so on.

• To play back your entire Movie Track, press the Home key, which means Rewind. When you tap the Space bar, iMovie plays your movie from the beginning, one clip after another, seamlessly.

• To play back only a certain chunk of the movie, first select the clips you want, then click the Play button or press the Space bar.

• The Play Full Screen button (the darkened triangle to the right of the round Play button) makes the playback—even if it's already under way—fill the entire computer screen. To interrupt the movie showing, click the mouse or press any key on the keyboard (except the Space bar, which pauses or resumes playing the movie).

Note: The quality of the full-screen playback may look a tad grainy. Don't panic. When you transfer your finished movie back to your camcorder for TV playback, you get crystal-clear playback.

Phase 5: Transitions, Effects, Titles, Audio, and Photos

Professional film and video editors have at their disposal a wide range of *transitions*—special effects that smooth the juncture between one clip and the next. For example, apart from a simple *cut*, the world's most popular transition is the *crossfade* or *dissolve*, in which the end of one clip gradually fades away as the next one fades in.

iMovie offers a long list of transitions, of which crossfades are only the beginning. To see them, click the Trans button (Figure 10-17).

Figure 10-17:
Click the name of the transition you want. Use the slider above the Transitions palette to specify how many seconds long you want the transition to last. (One second is fairly standard.) Once you've done so, drag the name *of the transition into the Movie Track, between the two clips. They scoot apart to make room for the new transition icon that appears.*

Preview screen
Direction control
Duration slider
Transitions list
Transitions button
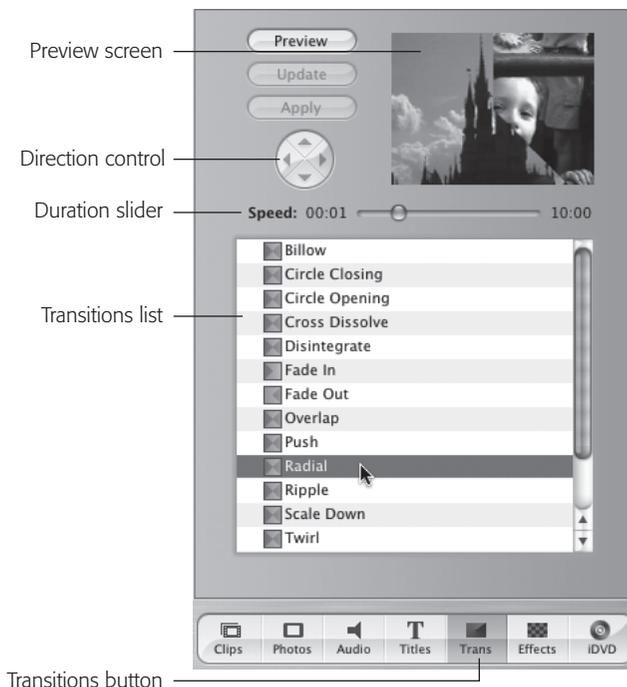
When you drag a transition into your Movie Track, the Mac now creates the crossfade—*renders* it—by superimposing the end of one clip with the beginning of the next. When the red progress bar is finished, click in your timeline just before the transition, press the Space bar to play, and marvel in your new ability to make home movies look pro.

Tip: You can continue working on other parts of your movie, or even switch into another Mac OS X program, while the rendering is going on.

To delete a transition, click its icon in the timeline and then press Delete. To edit it (by changing its length, for example), click its icon, return to the Transitions palette, make the adjustment, and then click Update.

Effects

The Effects button summons a panel full of additional visual effects. Most are designed to create actual special effects that simulate fog, rain, earthquakes, lightning, flashbulbs, and bad LSD. (Most are weird and distracting. Use sparingly.)

To apply an effect, first specify which region of footage you want to be affected. iMovie can apply effects only to entire clips. It may have to split your clip at the endpoints of the selection and then apply the effect to the central clip.

Then, on the Effects pane, specify when the effect should begin and end (use the Effect In and Effect Out sliders), its intensity, and so on. Finally, click Apply. As usual, the rendering telegraphs its progress with a miniature red progress bar on the selected clip.

If you click a clip and then press the Delete key, you're saying: "Throw away the effect. Bring back my original, unmodified clip." To adjust the start time, stop time, or other parameters of a special effect, you must first delete the effect altogether, and then reapply it using new settings.

Tip: It's perfectly possible to *combine* effects by applying first one, and then another. For example, after using the Black & White effect, you may want to use the Brightness & Contrast control to adjust its gray tones. You can even apply a single effect repeatedly, intensifying its effect. For instance, you could apply Rain twice at different intensities to add depth to your simulated deluge.

If you click such a clip, you can retrace your steps, removing one effect after another with each press of the Delete key.

Titles and credits

To add rolling credits, opening titles, subtitles, or MTV-style music video credits to your masterpiece, start by clicking the Titles button. A list of title animation styles pops up. In the tiny text box underneath the list, type the text you want to appear. (Some of the effects, like Rolling Credits, offer *pairs* of text blobs; see Figure 10-18.)

If you want to insert this title *before or after* a clip (as credits, say), so that the text appears on a black background, turn on the Over Black checkbox. If you'd rather have the text appear *on top of* the video, leave that box unchecked. (Superimposing a title usually breaks the clip in half. The part with the title superimposed is now one clip, and the unaffected part is separate.)

Click the Preview button to see what the title will look like. Adjust the timing slider above the list, and then drag the name of the title type (such as Centered Title) into the Movie Track.

To eliminate a title, click its icon in the timeline and then press Delete. To edit, click its icon, make changes in the Titles palette, and then click Update.
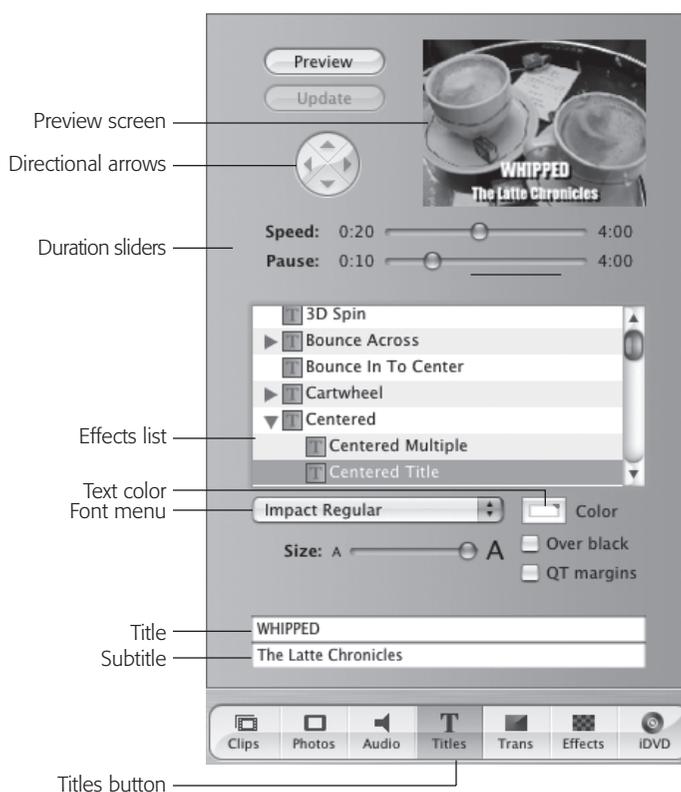
Audio

The top horizontal band of the Timeline Viewer displays the *video* component of your movie. For the most part, you won't do much with this strip when you're editing audio; its primary purpose is to show where you are in the movie.

The two skinnier horizontal strips underneath it are your playground for audio clips (Figure 10-19); they play in tandem. Each audio track can hold sound from any of these sources:

Figure 10-18:
After you've typed in a couple of pairs of text lines, click the + button to tack on yet another pair to your credits. The program automatically adds the dots and lines up the names (just like real live credits!), or places the subtitle beneath the main title, as shown here.

Preview screen
Directional arrows
Duration sliders
Effects list
Text color
Font menu
Title
Subtitle
Titles button

- **iTunes tracks.** When you click the Audio button, iMovie displays your complete iTunes music collection, including playlists, making it easy for you to choose background music for your flick. Double-click a song to listen to it; drag its name onto one of the audio tracks to use it in your movie.

- **Narration.** This can be anything that you've recorded with your microphone. Drag the Playhead to a spot just before you want the narration to begin, click the round Record Voice button on the Audio pane, and begin to speak. You can watch the video play as you narrate. (If the level meter isn't dancing as you speak, check the selected sound source in the Sound panel of System Preferences.)

- **Sound effects.** From the pop-up menu at the top of the Audio pane, choose iMovie Sound Effects. Now you can add any of iMovie's sound effects (laughing, crickets, and so on) to your movie just by dragging them into an audio track.

- **MP3, WAV, AAC, and AIFF audio files.** Import these popular music formats using the File→Import command.

- **Music from a CD.** You can insert a standard audio CD and transfer a song into iMovie to serve as the music for a scene. (Its contents appear in the Audio palette, and iTunes usually opens automatically to help you catalog the CD.) As usual, drag the name of a song to an audio track to install it there.

- **Your camcorder audio.** You can turn the ordinarily invisible audio portion of a video clip into an independent sound clip, which you can manipulate just like any other kind of sound clip (great for creating voice-overs, echoes, audio flashbacks, and so on). To do that, highlight the audio clip and then choose Advanced→Extract Audio.

Tip: You can use the three checkboxes at the right end of these tracks to control which ones play back. When you want to isolate only one track for playback, turn off the other two checkboxes.
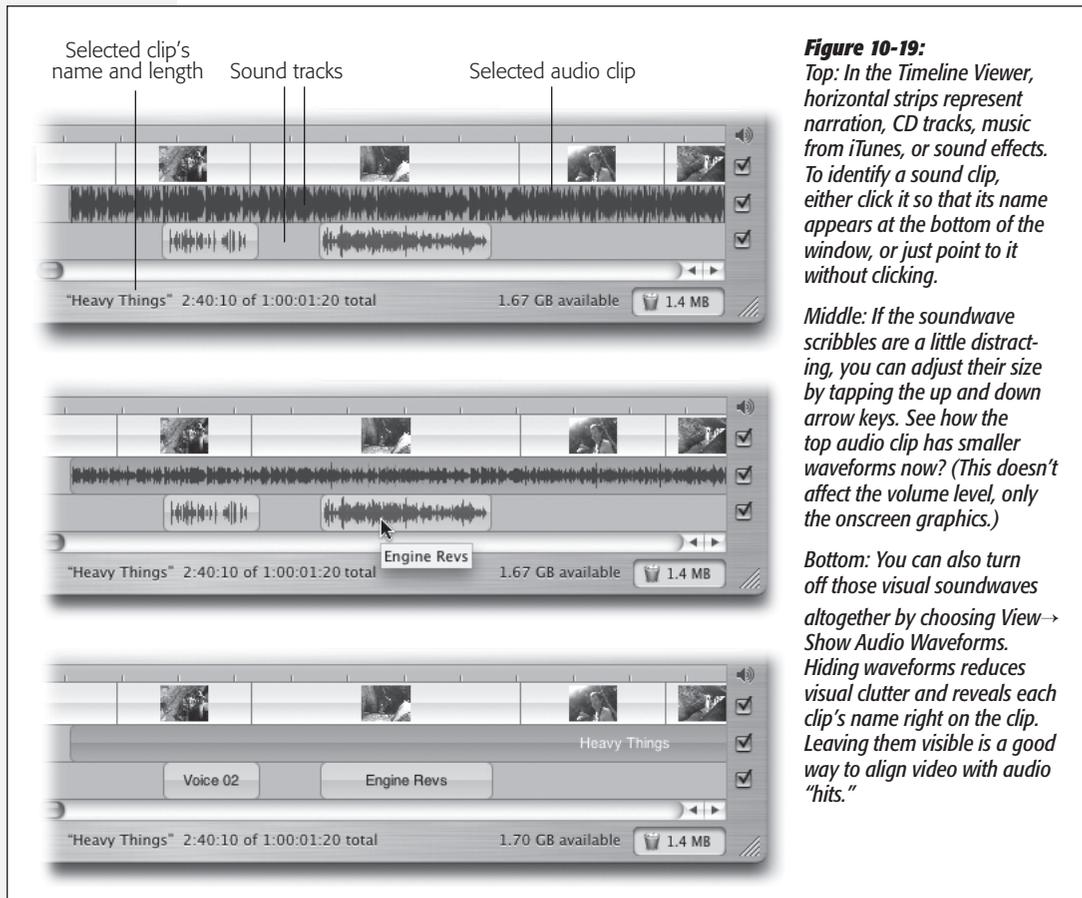

Selected clip's name and length — Sound tracks — Selected audio clip

Figure 10-19:
Top: In the Timeline Viewer, horizontal strips represent narration, CD tracks, music from iTunes, or sound effects. To identify a sound clip, either click it so that its name appears at the bottom of the window, or just point to it without clicking.

Middle: If the soundwave scribbles are a little distracting, you can adjust their size by tapping the up and down arrow keys. See how the top audio clip has smaller waveforms now? (This doesn't affect the volume level, only the onscreen graphics.)

Bottom: You can also turn off those visual soundwaves altogether by choosing View→ Show Audio Waveforms. Hiding waveforms reduces visual clutter and reveals each clip's name right on the clip. Leaving them visible is a good way to align video with audio "hits."

Fortunately, you can do more with your audio clips than just insert them into the Timeline Viewer. You can lengthen them or shorten them, make them fade in or out, shift them to play earlier or later in time, and even superimpose them. Best of all, you can make their volume rise and fall over the length of the clip.

- **Whole-clip volume adjustments.** To make a selected clip louder or quieter, use the Clip pop-up menu at the bottom edge of the window. You can make it so quiet that it's absolutely silent, or you can boost it to 50 percent louder than the original.

- **Volume adjustments within a clip.** You can also make the volume of a clip rise and fall along its length. For example, you can "pull back" the music when somebody is speaking, and then bring it back to full volume in between speeches.

  When you choose View→Show Clip Volume Levels (⌘-Shift-L), a horizontal line appears on every audio and video clip, stretching from edge to edge. This line is a graph of the clip's volume.

  Click directly on the line and drag upward or downward to produce a temporary volume fluctuation (Figure 10-20).

Note: When Show Clip Volume Levels is turned on, you can't drag clips' edges to shorten or lengthen them in the Timeline Viewer.

Figure 10-20:
Each "knot" in the line (the round handle) represents a new volume level that sticks until the end of the clip or the next volume level, whichever comes first. To remove a volume change, click the orange "knot" to select it, and then press the Delete key.
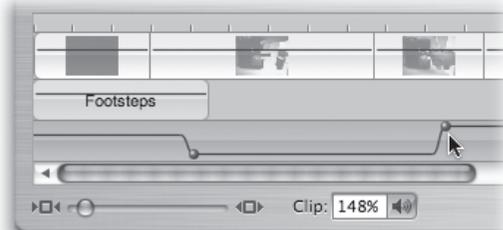
Photos

You might want to import a graphics file into iMovie for any number of reasons—to use as a less distracting still image behind your titles and credits, for example, or to create a video photo album. If you keep your pictures in iPhoto, a useful feature awaits.

When you click the Photos button (Figure 10-21), you're shown the contents of your entire iPhoto Library. Using the pop-up menu, you can even limit your view to the contents of one iPhoto *album* or another.

Once you've pinpointed the picture you want, use the controls at the top of the Photos palette to specify the amount of time the photo will remain on the screen. If you like, you can also turn the *Ken Burns effect,* where the "movie camera" pans and zooms smoothly across photos, in essence animating them and directing the viewer's atten-

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tion. (Ken Burns is the creator of PBS documentaries like *The Civil War* and *Baseball,* which use this effect in abundance.)

Finally, drag the photo out of the thumbnail palette and into the Movie Track. The other clips scoot out of the way to make room, and the photo becomes, in effect, a new silent video clip with the duration you specified. (If you turned on the Ken Burns effect, iMovie takes a few moments to render the animation. The familiar red progress bar inches across the face of the clip.)

Note: If you don't routinely keep your photos in iPhoto, you can also import a graphics file, or even a QuickTime movie, from your hard drive by choosing File→Import.
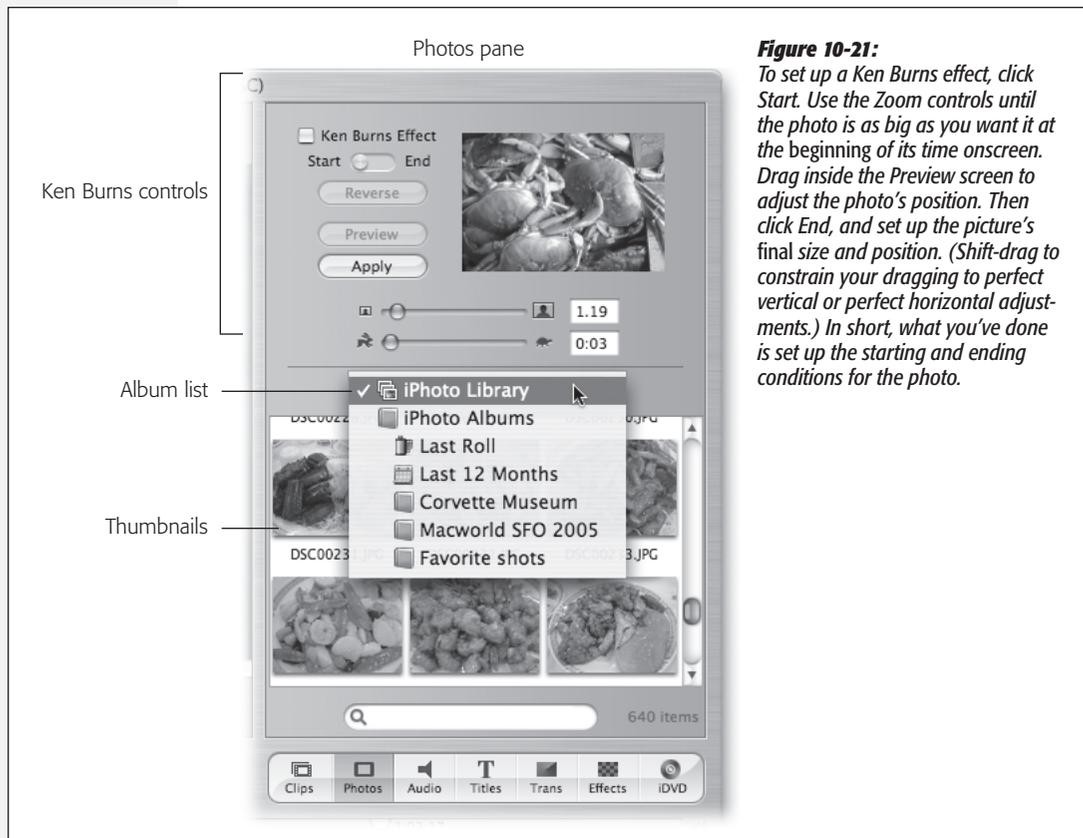

Photos pane

Ken Burns controls

Album list

Thumbnails

Figure 10-21:
To set up a Ken Burns effect, click Start. Use the Zoom controls until the photo is as big as you want it at the beginning *of its time onscreen. Drag inside the Preview screen to adjust the photo's position. Then click End, and set up the picture's* final *size and position. (Shift-drag to constrain your dragging to perfect vertical or perfect horizontal adjustments.) In short, what you've done is set up the starting and ending conditions for the photo.*

Phase 6: Meet Your Public

When the movie's looking good on your Mac screen, you're ready to distribute it to the adoring masses. iMovie offers three ways to do that:

- **Export it as a QuickTime movie.** Choose File→Share. Click QuickTime at the top of the dialog box, and choose a quality setting from the pop-up menu: Email,

CD-ROM, or Expert (that is, manual settings for compression, frame rate, and size).

- **Play it back to your camcorder.** Put the camcorder into VTR or VCR mode, connect the FireWire cable to your Mac, choose File→Share, and click the Videocamera button.

  From there, by connecting your camcorder to a VCR, you can copy the movie onto a regular VHS tape for submission to the Sundance film festival, Cannes, or your mother.

- **Email it.** The movie you export with these settings is fairly blurry, and the size of the QuickTime screen is closer in size to a Wheat Thin than a Cineplex.

  Still, the resulting QuickTime file is relatively tiny. At about 1 MB for a minute-long movie, it's within the realm of possibility that you could email this thing to somebody without incurring their wrath. And iMovie makes it easy for you; after compressing the movie, it opens your email program (whichever one you've selected in the Share dialog box's pop-up menu), creates a new outgoing message, and attaches the movie. Address and send.

- **Post it on the Web.** By far the easiest way to post your movies on the Internet is to use one of Apple's $100-per-year .Mac accounts (Chapter 19). In iMovie, you can post your finished masterpiece on a .Mac Web page with little more than a couple of clicks. Choose File→Share; in the resulting dialog box, click HomePage. Type a name for your movie and then click Share.

  iMovie springs into action, compressing your movie to Web proportions and uploading it to the .Mac Web site. (This is not a particularly quick process.)

  When the uploading is complete, you're asked for your .Mac name and password and offered about a dozen standard iMovie Web-page templates, such as Invite, Baby, and so on; click the "theater" style you prefer. Finally, on the "Edit your page" page, fill in the movie title, description underneath the movie, and so on. Your movie is now live on the Web!

- **Turn it into a DVD.** If your Mac came equipped with a SuperDrive (a drive that reads and records both CDs *and* DVDs), you can create professional-quality DVD discs just like the ones that come out of Hollywood. See "iDVD," earlier in this chapter, for complete instructions.

Internet Connect

Internet Connect is primarily designed for people who connect to the Internet via dial-up modem, but it's also handy for managing AirPort and Bluetooth connections. Here's what you can accomplish with Internet Connect:

- Click Connect to dial out using your current modem settings.

- Once you're hooked up, check the status display to confirm whether or not your modem successfully connected to your ISP—or if you've been disconnected.

- You can also check your connection *speed* to find out if you're really connected at 56 K (ha!).

- A timer shows how long you've been connected.

- Internet Connect keeps a log of your connection activity (choose Window→Connection Log). Reading this log is about as exciting as reading random entries from the White Pages. Nonetheless, if you're having serious connection problems, it can be a useful troubleshooting tool.

- The "Show modem status in menu bar" checkbox (on the Internal Modem panel) lets you use a menu bar icon to dial and observe your connections—without using Internet Connect at all.

Even then, you don't really need Internet Connect to get online. If your dial-up settings are configured correctly, your Mac automatically dials whenever you launch a program that requires one (such as Safari).

What else is Internet Connect good for?

- Internet Connect is your gateway to Virtual Private Networking, a feature that lets you tunnel into corporate networks from the road (page 751).

- You can use it to initiate PPPoE (PPP over Ethernet, a connection required by certain DSL modems).

- If you use your Bluetooth-equipped Mac to dial the Net using a Bluetooth-equipped cellphone as a wireless modem in your pocket (man, is that cool!), you can once again use Internet Connect to start and stop the connection. See Chapter 13.

- Internet Connect now incorporates the setup programs for AirPort wireless networks (Chapter 13).

iPhoto

Once you're hooked on using a digital camera, your free, filmless photos pile up quickly. Before you know it, you have 6,000 pictures of your kid playing soccer. Just organizing and keeping track of all these photos is enough to drive you insane.

Apple's answer to all these problems is iPhoto, a simple and uncluttered program designed to organize, edit, and distribute digital photos without nightmarish hassles. Here's the executive summary of iPhoto 5.

Importing Pictures

Plugging a USB camera into your Mac is the easiest way to transfer pictures into iPhoto. The whole process practically happens by itself.

1. **With your camera turned off, connect it to your Mac using the USB cable that came with it.**

iPhoto opens automatically as soon as you switch on the camera (unless you've changed the factory settings in Image Capture).

Note: If this is the first time you've ever run iPhoto, it asks if you *always* want it to run when you plug in the camera. If you value your time, say yes.

2. **Turn on the camera.**

iPhoto detects that there are new photos available for download. The entire screen changes to show you a "Ready to import" message, and your camera's icon appears in the Source list at the left side.

3. **If you like, type in a *roll name* and description for the pictures you're about to import.**

Each time you import a new set of photos into iPhoto—whether from your hard drive, a camera, or a memory card—that batch of imported photos is called a *film roll.*

Typing in a name for each new batch as you import it—*Disney, First Weekend, Baby Meets Lasagna*—will help you organize and find your pictures later on. Use the Description box for more elaborate textual blurbs, if you like. You could specify who was on the trip, the circumstances of the shoot, and so on.

4. **Turn on "Delete items from camera after importing," if you like.**

If you turn on this box, iPhoto automatically deletes all photos from your camera's memory card once they're safely on the Mac. Your card is now ready for you to fill with more pictures. (iPhoto doesn't delete your pictures until *after* it has successfully copied them all to the Photo Library.)

5. **Click the Import button.**

If you chose the auto-erase feature, you see a final "Confirm Move" dialog box, affording you one last chance to back out of that decision.

A different message appears if you're about to import photos you've *already* imported, offering to skip the duplicates.

In any case, iPhoto swings into action, copying each photo from your camera to your hard drive. You get to see them as they parade by.

When the process is over, your freshly imported photos appear in the main iPhoto window, awaiting your organizational talents. You can now turn off your camera and unplug it.

Tip: You can also import photos, or even folders or disks full of them, by dragging their icons (or the disk or folder icons) directly into the iPhoto window.

Organizing Photos

You now see a neatly arranged grid of thumbnails (Figure 10-22). You're looking at what iPhoto refers to as your *Library*—your entire photo collection, including every last picture you've ever imported. Use the Size slider at lower right to adjust the thumbnail size.
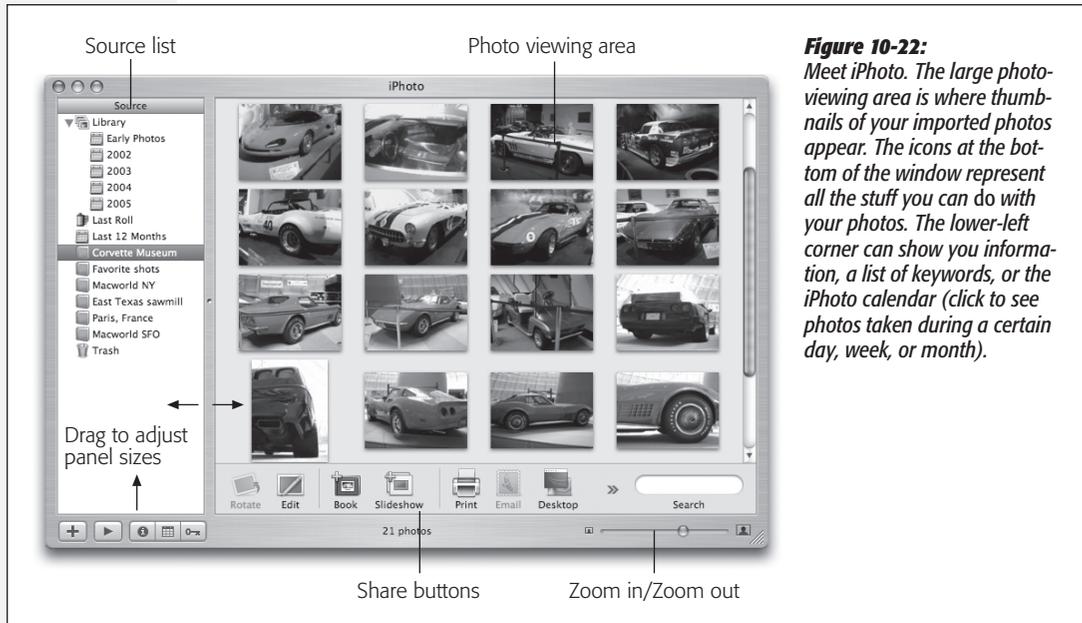

Source list

Photo viewing area

Drag to adjust panel sizes

Share buttons

Zoom in/Zoom out

Figure 10-22:
Meet iPhoto. The large photo-viewing area is where thumbnails of your imported photos appear. The icons at the bottom of the window represent all the stuff you can do with your photos. The lower-left corner can show you information, a list of keywords, or the iPhoto calendar (click to see photos taken during a certain day, week, or month).

Last Roll

Most of the time, you'll probably work with the photos that you just downloaded from your camera. That's the purpose of the roll-of-film icon called Last Roll. With one click, iPhoto displays only your most recent photos, hiding all the others. To return to the grand overview of all your pictures, click the Library icon at the top of the Source list.

Deleting photos

As every photographer knows—make that every *good* photographer—not every photo is a keeper. To delete a photo, click its icon and then press the Delete key. Instead of deleting the photo immediately, iPhoto lets it sit there in the Trash, awaiting permanent disposal via the Empty Trash command.

Whatever pictures you erase this way also disappear from any albums you've created. (Deleting a photo from an *album* is different, as described in a moment.)

Albums

An *album* is a subset of pictures from your Photo Library, grouped together for easy access and viewing. It's represented by a little album-book icon in the Source list.

(If you've used playlists in iTunes or folders in Mail, you'll recognize the concept.) Albums make finding photos much faster. Furthermore, only in an album can you drag your photos into a different *order*.

Tip: You can also plop several albums into a single *folder* in order to tidy up your Source list. Create a folder by choosing File→New Folder.

To create an iPhoto album, choose File→New Album (⌘-N), or click the + button in the iPhoto window, below the album list. A dialog box appears. Type in a descriptive name (*Yellowstone 2005, Edna in Paris,* or whatever), click OK, and watch as a new photo album icon appears in the Source list. (See Figure 10-23.)

Tip: You can also drag a thumbnail (or a batch of them) from the photo-viewing area directly into an empty portion of the Source list. In a flash—well, in about three seconds—iPhoto creates a new album for you, named Album-1 (or whatever number it's up to). The photos you dragged are automatically dumped inside.

In fact, you can drag a bunch of graphics files, or a folder full, from the *desktop* into the Source list. In one step, iPhoto imports the photos, creates a new photo album, names it after the folder you dragged in (if that's how you did it), and puts the newly imported photos into that album.

Figure 10-23:
There's no limit to the number of albums you can add, so make as many as you need to logically organize all the photos in your Photo Library. New albums are always added to the end of the list, but you can change the order in which they appear by simply dragging them up or down in the list.

To rename an album, double-click its name or icon (or, if it's already highlighted, just press Return). A renaming rectangle appears, with text highlighted and ready to be edited.

To add photos to an album, drag them onto its icon.

Putting photos in an album doesn't actually move or copy them. You're just creating *references* to, or aliases of, the photos in your master Photo Library. In other words, each photo can appear in as many different albums as you want.

Deleting photos or albums

To remove a photo from an album, click the album name to view its contents, click the photo you want to remove, and then press Delete. The thumbnail disappears from the album, but it's not really gone from iPhoto.

To delete a selected *album,* choose Photos→Delete Album or press the Delete key. Deleting an album doesn't delete any photos, just the references to those photos. Even if you delete *all* your albums, your Photo Library remains intact.

Editing

The easiest way to open a photo for editing is to double-click its thumbnail (or highlight it and then click the Edit button at the bottom of the window). Unless you've changed iPhoto's settings, the photo opens in the main iPhoto window, scaled to fit into the viewing area.

iPhoto aficionados prefer, however, to use iPhoto's much smarter, but less obvious, methods that open each picture *in its own window*. For example, you can:

• Choose iPhoto→Preferences and, on the General pane, change the photo-opening setting. Under the "Double-click photo:" heading, select the "Opens photo in edit window" button. Then close the dialog box.

• Control-click a photo. Choose "Edit in separate window" from the shortcut menu. (If you choose "Edit in external editor," you can edit the photo in another program—Photoshop, for example, or whatever program you chose in the Preferences dialog box described above.)

When a photo opens in its own window, you can look at multiple full-size images at the same time—a critical feature when comparing a series of similar shots. And you can keep your other thumbnails in view, allowing you to easily open additional photos without closing the ones you already have open.

Opening a photo also summons these editing tools:

• **Enhance**. With one click, this tool endeavors to make photos look more vibrant by tweaking the brightness and contrast settings and adjusting the saturation to compensate for washed-out or oversaturated colors.

• **Cropping.** The cropping tool lets you cut away the outer portions of a photo to improve its composition or to make it the right size for a printout or Web page. Choose a fixed proportion from the Constrain menu, if you like, then drag across the photo to indicate how you want it cropped. Finally, click Crop.

• **Retouch.** This little brush lets you paint out minor imperfections like blemishes, freckles, and scratches.

- **Red-Eye.** This little filter gets rid of a very common photo glitch—those shining red dots that sometimes appear in a person's eyes as the result of flash photography. Who wants to look like a werewolf?

- **B & W.** Turns your color photos into moody black-and-white art shots.

- **Sepia.** Makes new photos look faded and brownish, for that old-time daguerreotype look.

- **Adjust.** Opens the new Adjust panel, whose sliders offer ridiculous amounts of control over color balance, exposure, and other parameters (Figure 10-24). (Some of its sliders are unavailable on Macs with G3 processors.)

Tip: By pressing and releasing the Control key, you can toggle between the "before" and "after" versions of the photo to assess the results of the enhancement. Remember, too, that no matter what changes you make to a photo, you can always restore it to its original camera condition—even years later—by clicking it and then choosing Photos→Revert to Original. That's a nice safety net, indeed.

Figure 10-24:
Top: Here's a promising landscape shot, along with its histogram—*a self-updating visual representation of the dark and light tones that make up your photograph. The amount of the photo's darker shades appears toward the left side of the graph; the lighter tones are graphed on the right side. Unfortunately, in this shot, much of the tonal information is bunched in the middle of the graph. As a result, the photo looks a little "flat," without much contrast.*

Bottom: Step one in the repair job, then, is to move the Exposure slider a little to the right to improve the midtones. Because the graph in the histogram is elongated as a result, you've also improved the contrast.

Sharing Your Pix

The payoff for all of this organizational effort is, of course, showing your photos to other people. iPhoto is endlessly talented in this department. After you select some photos or an album, here are the bottom-of-the-screen icons you can click:

Print

iPhoto can print out your photos on standard sizes of inkjet photo paper, or you can use a template that clusters several photos onto each sheet, saving paper and ink.

Slideshow

Onscreen slideshows are easy to set up, they're free, and they make your photos look fantastic. The Mac presents the pictures in full-screen mode—no windows, no menus, no borders—with your images filling every inch of the monitor. Each picture fades gently into the next, producing a smooth, cinematic effect. If you want, you can even add a musical soundtrack to accompany the presentation. And if you wiggle the mouse, you get a control bar that lets you rotate, delete, or rate each photo as it goes by.

Starting in iPhoto 5, you can try three different kinds of slideshows:

- **Instant.** Click an album (or highlight a group of thumbnails), and then Option-click the Play button under the Info pane. A moment later, your Mac's screen fades

Figure 10-25:
In this dialog box, you can adjust how fast the slides change, how you want the show to repeat, and which song (from your iTunes collection) you want as the slideshow's soundtrack. (Use the Music tab to choose any playlists that you've already created using iTunes, or hand pick them right here in iPhoto.)

to black and the show begins. If this is the first time you've triggered a slideshow from this album, J. S. Bach's *Minuet in G* plays in the background. When you've had enough, click the mouse or press almost any key.

- **Quick.** If you click the Play button (instead of Option-clicking), you get a dialog box where you can fine-tune the timing and music of the slideshow (Figure 10-25).

- **Saved.** A *saved* slideshow appears as an icon in your Source list. The beauty of this system is that you can tweak a slideshow to death—you can even set up different transitions, zooming characteristics, and speed settings for each individual slide—and then save all your work as an independent clickable icon, ready for playback whenever you've got company.

    The key to all of this is the Slideshow icon at the bottom of the iPhoto window. It tosses you into the Slideshow editing mode, which has some features of Edit mode and some features of regular old thumbnail-organizing mode.

Email

Full-size photos are usually too big to email. They take forever to download, they run the risk of exceeding your recipient's Inbox limit, and they open up much too large on your victims' screens. Fortunately, iPhoto can automatically send a scaled-down, reasonably sized version of your photo instead.

Start by choosing the email program you use in the iPhoto→Preferences→General pane, and then close the window. Next, highlight the photos you want to send, and click the Email icon on the panel at the bottom of the iPhoto window. In the resulting dialog box, choose a size for your photos. "Medium (640 x 480)" yields a file that will fill a nice chunk of your recipient's screen, with plenty of detail.

Finally, click Compose. iPhoto processes your photos and then opens your email program, creates a new message, and attaches your photos to it. Just type your recipient's email address into the "To:" box, and then click Send.

Order prints

This option uploads your selected photos and—for a fee—converts them into handsome Kodak prints that get mailed back to you.

Book

iPhoto's Book feature lets you design and order (via the Internet) a gorgeous, linen-covered, 8.5-x-11-inch hardbound book—or a softcover book in any of three sizes. All books are printed at a real bindery and shipped back to you in a slipcover. Your photos are printed on the glossy, acid-free, single- or double-sided pages, complete with captions, if you like.

Book prices start at $10. That's about the least you could hope to pay for a handsome, emotionally powerful gift *guaranteed* never to wind up in an attic, garage sale, or eBay.

Once you've selected an album or a batch of photos, click the Book button below the main picture area (Figure 10-22), or choose File→New Book. Now you see something like Figure 10-26: a dialog box in which you can specify what you want your book to look like. You can choose hardcover or softcover, single- or double-sided pages, and which design scheme you want.

Figure 10-26:
You can change these settings later, even after you've started laying out your book's pages. But if you have the confidence to make these decisions now, you'll save time, effort, and (if you want captions for your photos) possibly a lot of typing.

When you click Choose Theme, a message appears to let you know you have two choices for placing photos onto the book-page layouts: either click the Autoflow button (identified in Figure 10-27), which makes the Mac do the job for you—or drag photos individually into the placeholders. Click OK.

At this point, two things happen. First, a new icon appears in your Source list, representing the book layout you're about to create. You can work with it as you would other kinds of Source-list icons. For example, you can delete it by dragging it to the iPhoto Trash, rename it by double-clicking, file it in a folder by dragging it there, and so on.

Note: If you're used to previous iPhoto versions, this is a happy bit of news. It means that a book is no longer tied to an album. Therefore, rearranging or reassigning photos to the original album no longer wreaks havoc with the book design that's associated with it.

Second, you now see something like Figure 10-27. The page you're working on appears at nearly full size in the main part of the window. Up above, you see a set of thumbnails, either of your photos or of your pages (more on this in a moment); that's the *photo browser*. iPhoto has just turned into a page-layout program.
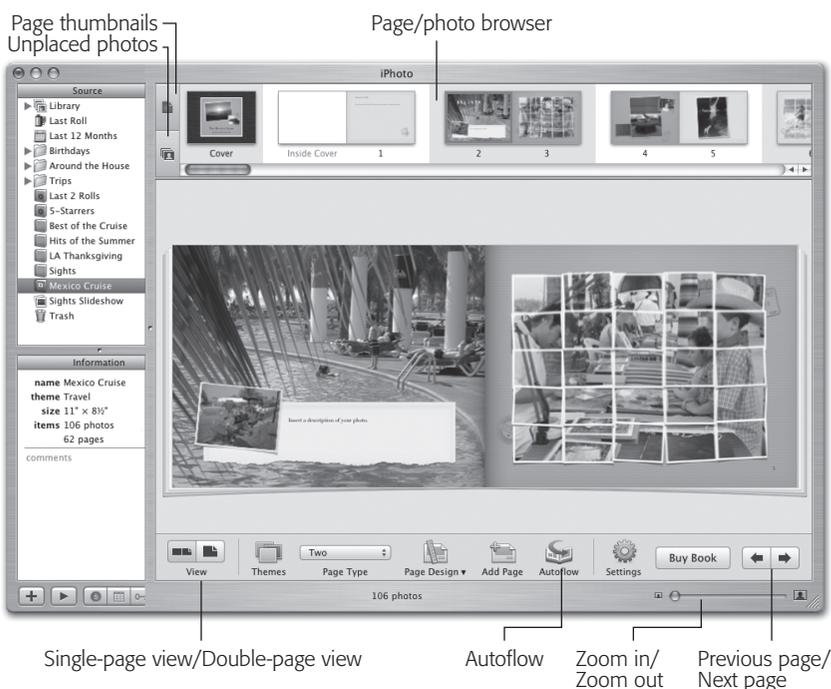
Once you've selected an album and a theme, the most time-consuming phase begins: designing the individual pages.

- **Choose a Page Type.** iPhoto always proposes varying the number of photos per page. Two-per-page on the first page, a big bold one on the next, a set of four on the next, and so on.

  If you approve of the photos-per-page proposal, great. Sooner or later, though, there will come a time when you want three related photos to appear on a page that currently holds only two. That's the purpose of the Page Type pop-up menu. It's a list of the different page designs that Apple has drawn up to fit the overall design theme you've selected: Cover, Introduction, One (photo per page), Two (photos), and so on.

- **Pick a layout variation.** Once you've chosen how *many* photos you want on a page, the Page Design pop-up menu becomes available to you. It contains tiny thumbnail representations of the various photo layouts available.

Figure 10-27:
In Book mode, there's a miniature page-layout program right in iPhoto. Note that the picture-size slider is still present. You can use it to zoom in or out from the page you're working on, which can be handy when you're editing text (including captions) at small type sizes. Also note the single-page/two-page switch at the lower-left corner. For books with two-sided printing, it lets you specify whether you want to edit one page at a time, or one two-page spread at a time.

Page thumbnails
Unplaced photos
Page/photo browser

Single-page view/Double-page view   Autoflow   Zoom in/ Zoom out   Previous page/ Next page

- **Lay out the book.** The key to understanding iPhoto 5's book-layout mode is real-izing that all photos are *draggable* (Figure 10-28). You can swap two photos by dragging one directly on top of the other; move a photo to a different page of the book by dragging it onto a different page in the photo browser; remove a photo from a page by clicking its icon and then pressing your Delete key (which makes its icon move up into the unplaced-photos area); add an unplaced photo to a page by dragging it out of the unplaced-photos browser onto a blank spot of the page; fill in an empty gray placeholder frame by dragging a photo onto it from the unplaced-photos area; and so on.

Tip: You can also enlarge or crop a picture, right there on the page, by double-clicking it. A tiny zoom slider appears above the photo, which you can use to magnify the picture or shift it inside its boundary "frame." For now, it's worth remembering that this trick is helpful when you want to call attention to one part of the photo, or to crop a photo for book-layout purposes without actually editing the original.

Photos aren't the only ones having all the fun. You can drag and manipulate the pages themselves, too. Here's how:

- **Move pages around within the book** by dragging their thumbnails horizontally in the photo browser.

- **Remove a page from the book** by clicking its photo-browser icon and then either pressing Delete or choosing Edit→Remove Page. (If you use the Delete-key method, iPhoto asks if you're sure you know what you're doing.) Note that removing a page never removes any *pictures* from the book.

- **Insert a new page into the book** by clicking the Add Page button at the bottom of the window, or by choosing Edit→Add Page.

Before blowing a bunch of money on a one-shot deal, you'd be wise to proofread and inspect it from every possible angle, either by printing it (File→Print) or by saving it as a PDF file (choose File→Print and, from the PDF pop-up button, clicking the Save as PDF button).

When you think your book is ready for birth, click Buy Book. After several minutes of converting your screen design into an Internet-transmittable file, iPhoto offers you a dialog box where you can choose a cover color (hardback books only), indicate the quantity, and place your order.

HomePage

If you have a .Mac account, you can turn an album or a selection of photos into an instant gallery on your Web page, complete with fast-downloading thumbnail images that your visitors can click to magnify. All you have to do is send your fans the Web address provided by the .Mac account.

Tip: If you already have a Web site (not a .Mac account), you can also generate an online gallery by choosing Share→Export and clicking the Web Page tab. iPhoto saves, to your hard drive, a complete set of HTML documents and linked, nested folders (containing both thumbnails and full-size images), ready to upload to your site. (You just won't have access to all of Apple's canned design schemes.)

Figure 10-28:
iPhoto's book-layout mode is absolutely crawling with tricks that let you move photos around, add them to pages, remove them, and so on.

The fun begins when you understand the difference between the page browser (top) and the unplaced-photo browser (bottom). For example, you can add new photos to your book only via the unplaced-photo browser. Use the page browser more as a navigational tool.
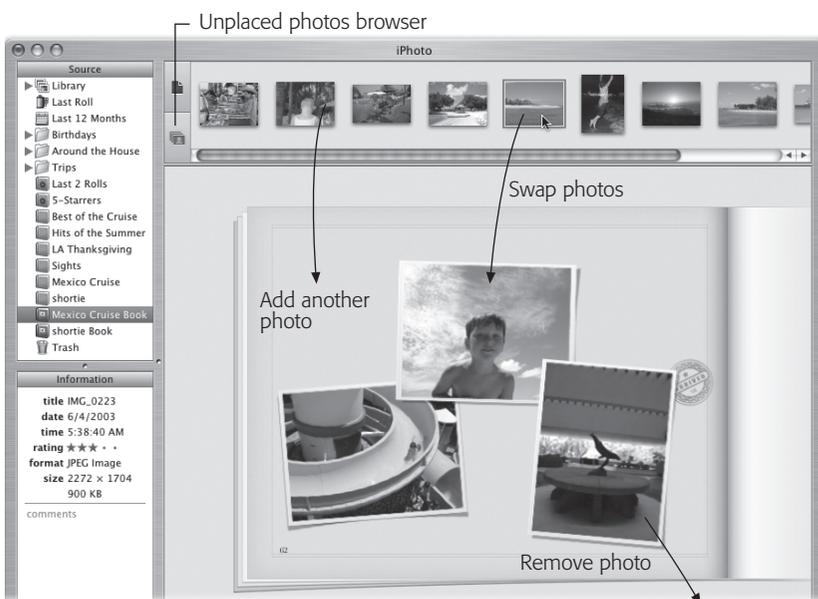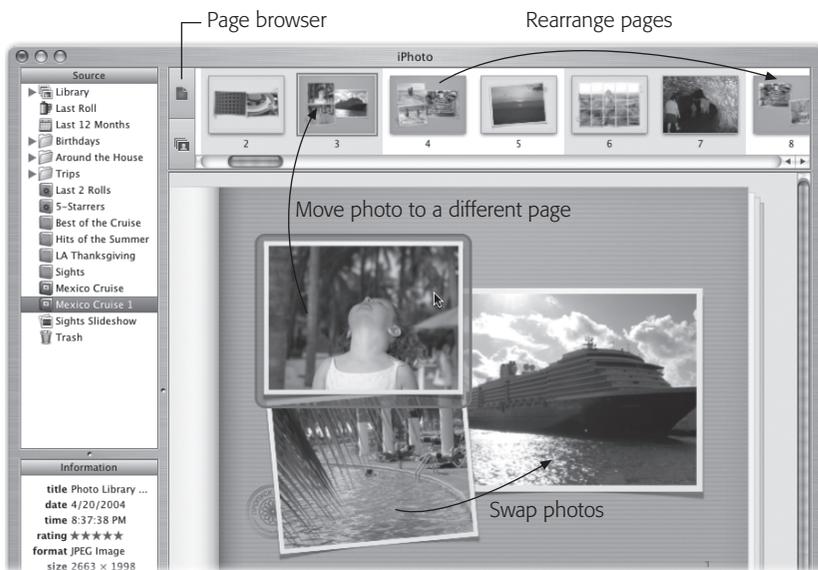
.Mac slides

When you send your photos out into the world as .Mac slides, other people who use Mac OS X can subscribe to your show, displaying *your* pictures as *their* screen saver.

To create a .Mac slideshow, select the album or photos you want to share, and then choose Share→.Mac Slides. Click Publish to upload your photos. When the process is complete, click Announce Slideshow to email your friends about your slides.

To view someone else's .Mac slideshow, see page 279.

Desktop (or screen saver)

This button plasters any selected photo onto your desktop as a wallpaper background. Neat!

If you select multiple photos (or an album), this button opens up the Desktop & Screen Saver pane of System Preferences. If you leave the Desktop pane selected, the photos become a *self-changing* desktop background, alternating every 30 minutes (or whatever you choose from the pop-up menu).

If you click the Screen Saver button instead, they become grist for the Mac OS X screen saver. Wait long enough, and they'll appear all by themselves, in gorgeous, panning, cross-fading fashion.

Burn Disc

iPhoto CDs are discs (either CDs or DVDs) that you can create directly from within iPhoto to archive your entire Photo Library—or any selected portion of it—with just a few mouse clicks. This is a great way to back up your photos; transfer them to another copy of iPhoto without losing all your keywords, descriptions, and titles; share discs with other iPhoto fans; offload photos to CD or DVD as your photo collection grows; or merge separate Photo Libraries (such as the one on your iBook and the one on your iMac) into a single master library.

These discs *do not play* in Windows or Mac OS 9. They're exclusively for iPhoto's use.

Note: The Burn Disc button doesn't start out installed at the bottom of the iPhoto screen. Use the Share→ Show in Toolbar submenu to specify which icons appear there.

Select the albums or photos that you want to include on the disc, and then click the Burn icon. Pop in a blank CD or DVD.

Now open the Info panel just below the Source list (click the ❶ button). If the set of photos you want to burn is larger than 650 or 700 megabytes (for a CD) or about 4.3 gigabytes (for a single-layer DVD), it's not going to fit. You'll have to split your backup operation across multiple discs. Select whatever number of photo albums or individual pictures that *will* fit on a single disc. After burning the first disc, select the next set of photos, and then burn another CD or DVD.

Finally, click the Burn icon again. When the process is done, your Mac spits out the finished CD (named "iPhoto Disc"), ready to use.

Later, if you want to view the contents of your finished disc in iPhoto, pop it back into the drive. The icon for the disc appears in the Source list of the iPhoto window. If you click the icon, the photos it contains appear in the photo-viewing area, just as if they were stored in your Photo Library.

iSync

See Chapter 19 for details on this file-synchronization software.

iTunes

iTunes is Apple's beloved digital music–library program. Chapter 11 tells all.

Mail

Mail, the Mac OS X email program, received a significant upgrade in Tiger. See Chapter 20 for the whole story.

Photo Booth

This hilariously wacky photo-taking program is described on page 534.

Peview

Preview is Mac OS X's built-in graphics viewer. It's also the program you use to view incoming faxes (Chapter 14), as well as a nearly full-blown clone of Adobe Reader (formerly Acrobat Reader), the free program that most people use to read PDF files.

In fact, because Preview now includes searching PDF documents, copying text out of them, adding comments, filling in forms, and clicking live hyperlinks—features that used to be available only in Adobe Reader—Apple doesn't even include Adobe Reader with Mac OS X.

Preview as Graphics Viewer

Preview's hallmark is its surprising versatility. It can display and manipulate pictures saved in a wide variety of formats, including common painting formats like JPEG, TIFF, PICT, and GIF; less commonly used formats like BMP, PNG, SGI, TGA, and MacPaint; and even Photoshop, EPS, and PDF graphics. You can even open animated GIFs by adding a Play button to the toolbar, as described below.

Cropping graphics
To crop graphics in Preview, drag across the part of the graphic that you want to keep. To back out or redraw, click outside the highlighted area; or, to proceed with the crop, choose Tools→Crop Image. (The keyboard shortcut is ⌘-K, just as it is in iMovie.)

If you don't think you'll ever need the original again, save the document. Otherwise, choose File→Save As to spin the cropped image out as a separate file, preserving the original in the process.

Tip: You can also rotate an image—even a PDF document—in 90-degree increments and then flip it vertically or horizontally, using the commands in the Tools menu.

Converting file formats

Preview doesn't just open all these file formats—it can also convert between most of them. You can pop open some old Mac PICT files and turn them into BMP files for a Windows user, pry open some SGI files created on a Silicon Graphics workstation and turn them into JPEGs for use on your Web site, and so on.

Tip: What's even cooler is you can open raw PostScript files right into Preview (usually, anyway), which converts them into PDF files on the spot. You no longer need a PostScript laser printer to print out high-end diagrams and page layouts that come to you as PostScript files. Thanks to Preview, even an inkjet printer can handle them.

All you have to do is open the file you want to convert and choose File→Save As. In the dialog box that appears, choose the new format for the image using the Format pop-up menu. Finally, click Save to export the file.

The Thumbnails drawer

The Thumbnails drawer slides out from the side of the main Preview window whenever (a) you open a multipage PDF or TIFF file, or (b) you highlight a bunch of graphics files in the Finder and open them all at once. (If your PDF file has been prepared with a table of contents, the drawer shows that.)

The idea is that these thumbnails let you navigate pages or graphics without having to open a rat's nest of individual windows. Figure 10-29 expands on the idea.

Preview as PDF Reader

Preview is a nearly full-blown equivalent of Acrobat Reader, the free program used by millions to read PDF documents. Here are the basics:

• Zoom in and out using ⌘-plus and ⌘-minus.

Note: You can no longer Option-click the magnifying glass icons on the toolbar to zoom in or out only five percent per click, as you could in Mac OS X 10.3.

• Use the View→PDF Display submenu to control how the PDF document appears: as two-page spreads; single scrolling sheets of paper towel; with borders that indicate ends of pages; and so on.

• Use ⌘-left arrow and ⌘-right arrow to page through a document. (Your Page Up and Page Down keys aren't quite the same thing; they shift to the previous or next part of the *same* page, if it wasn't already visible.)

Tip: Some PDF documents include a table of contents, which you'll see in Preview's drawer, complete with flippy triangles that denote major topics or chapter headings. You can use the up arrow and down arrow keys alone to walk through these chapter headings, and then expand one that looks good by pressing the right arrow key. Collapse it again with the left arrow key.

In other words, you expand and collapse flippy triangles in Preview just as you do in a Finder list view.

Figure 10-29:
To open or close the Thumbnails drawer (right), click the Thumbnails icon at the left end of the toolbar. Incidentally, you can change the size of these miniatures by choosing Preview→Preferences and adjusting the slider under the General tab.
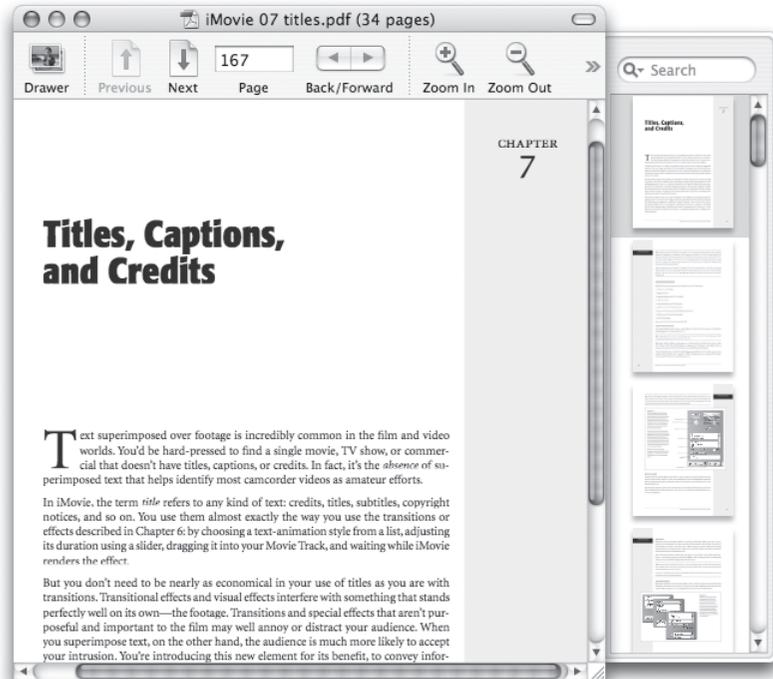
- Bookmark your place by choosing Bookmarks→Add Bookmark (⌘-D); type a clever name. In future, you'll be able to return to that spot by choosing its name from the Bookmarks menu.

- Type in notes as shown in Figure 10-30.

Note: Once you save the document, you can't move or change the notes or ovals you've added. If being able to restore the original document is important to you, use the File→Save As to spin out a copy of it before you annotate.

- Turn antialiasing (font smoothing) on or off to improve readability. To find the on/off switch, choose Preview→Preferences and click the PDF tab. (Though antialiased text generally looks great, it's sometimes easier to read very small type with antialiasing turned off. It's a little jagged, but clearer nonetheless.)

- Turn on View→PDF Display→Continuous to scroll through multipage PDF documents in one continuous stream, instead of jumping from page to page when you use the scroll bars.
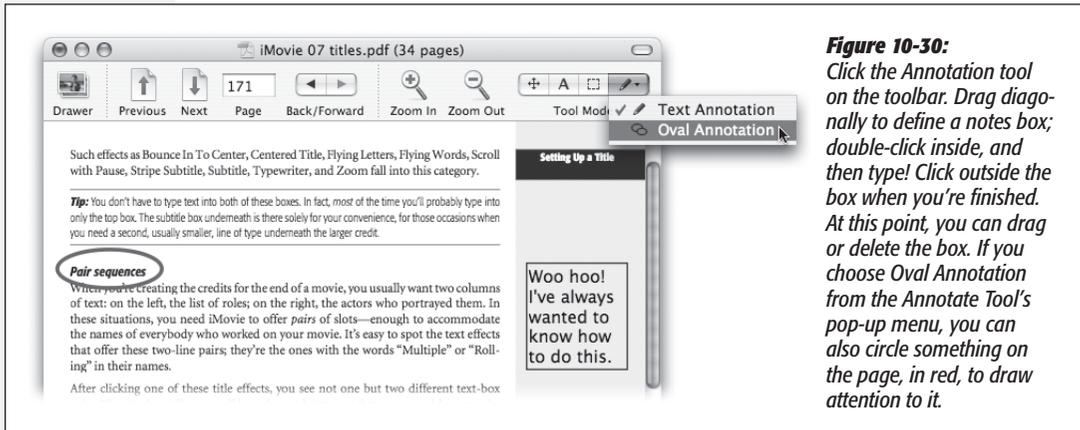

Figure 10-30:
Click the Annotation tool on the toolbar. Drag diagonally to define a notes box; double-click inside, and then type! Click outside the box when you're finished. At this point, you can drag or delete the box. If you choose Oval Annotation from the Annotate Tool's pop-up menu, you can also circle something on the page, in red, to draw attention to it.

- To find a word or phrase somewhere in a PDF document, press ⌘-F (or choose Edit→Find→Find) to open the Find drawer. Proceed as shown in Figure 10-31.

- If you want to copy some text out of a PDF document—for pasting into a word processor, for example, where you can edit it—click the Text tool (the letter A on the toolbar) or choose Tools→Text Tool. Now you can drag through some text and then choose Edit→Copy, just as though the PDF document is a Web page. You can even drag across page boundaries.
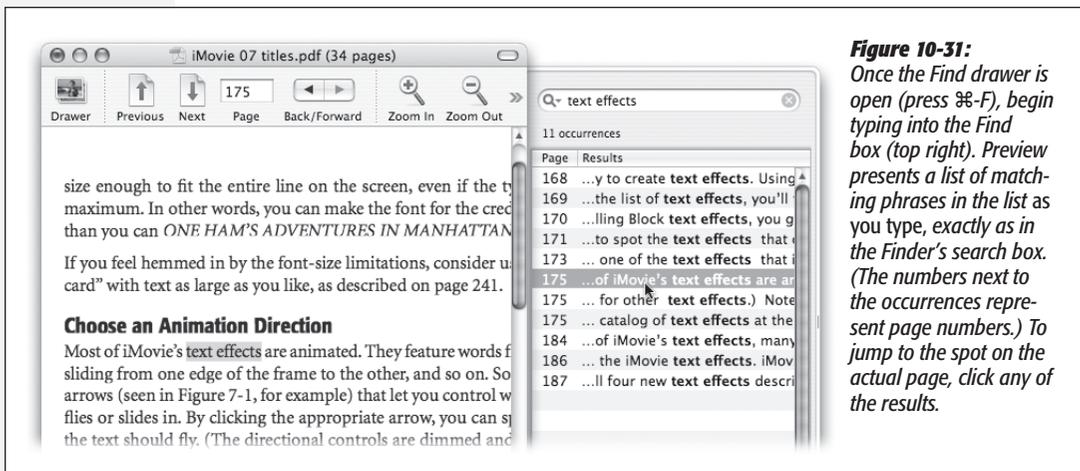

Figure 10-31:
Once the Find drawer is open (press ⌘-F), begin typing into the Find box (top right). Preview presents a list of matching phrases in the list as you type, exactly as in the Finder's search box. (The numbers next to the occurrences represent page numbers.) To jump to the spot on the actual page, click any of the results.

Tip: Ordinarily, dragging across text selects the text from one edge of the page to the other. But if you want to copy only the first column of several, for example, *Option*-drag. Preview now lets you drag out any arbitrary selection rectangle, thereby highlighting any block of text you like, ready for copying.

- Preview is now a mini-iPhoto, complete with color-correction tools. With a photo on the screen, choose Tools→Image Correction. A passel of sliders appears (Saturation, Contrast, Exposure, and so on), for your image-tweaking pleasure.

- You can save a single page from a PDF as a TIFF file in order to use it in other graphics, word processing, or page layout programs that might not directly recognize PDF.

  To extract a page, use the usual File→Save As command, making sure to choose the new file format from the pop-up menu. (If you choose a format like Photoshop or JPEG, Preview converts only the currently selected page of your PDF document. That's because there's no such thing as a multipage Photoshop or JPEG graphic. But you already knew that.)

- Add keywords (Tools→Get Info) to a graphic or PDF. Later, you'll be able to call up these documents with a quick Spotlight search for those details.

The Toolbar

You can have hours of fun with Preview's toolbar. Exactly as with the Finder toolbar, you can customize it (by choosing View→Customize Toolbar—or by Option-⌘-clicking the upper-right toolbar button), rearrange its icons (by ⌘-dragging them sideways), and remove icons (by ⌘-dragging them downward).

Tip: Unhappy about the full inch of screen space consumed by the toolbar? No problem. Just ⌘-click the toolbar button (the white capsule in the upper-right corner). With each click, you cycle to the next toolbar style: large icons, small icons, no text labels, only text labels, and so on.

QuickTime Player

There's a lot to say about Apple's new QuickTime player, but it's all in Chapter 15.

Safari

Apple's first and only Web browser feels decidedly faster and more modern than Internet Explorer, and there are enough tips and tricks lurking inside to last you a lifetime. Details in Chapter 21.

Sherlock

Sherlock is something like a Web browser that's dedicated to certain common kinds of info-searches. Chapter 21 has the scoop.

Stickies

Stickies creates virtual Post-it notes that you can stick anywhere on your screen—a triumphant software answer to the thousands of people who stick notes on the edges of their actual monitors. This little program isn't quite as handy as the Stickies widget in Dashboard—you can't make it spring to your screen with a keystroke, for example. However, it's a lot more powerful.

You can use Stickies to type quick notes and to-do items, paste in Web addresses or phone numbers you need to remember, or store any other little scraps and snippets of text you come across. Your electronic Post-it Notes show up whenever the Stickies program is running (Figure 10-32).
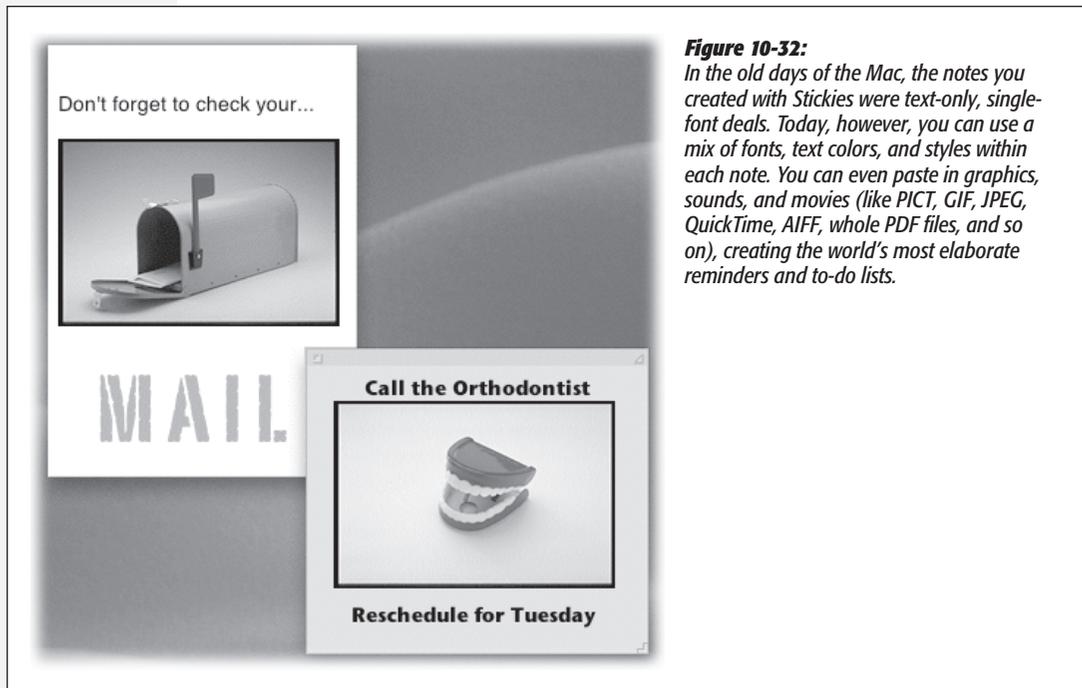

Figure 10-32:
In the old days of the Mac, the notes you created with Stickies were text-only, single-font deals. Today, however, you can use a mix of fonts, text colors, and styles within each note. You can even paste in graphics, sounds, and movies (like PICT, GIF, JPEG, QuickTime, AIFF, whole PDF files, and so on), creating the world's most elaborate reminders and to-do lists.

Creating Sticky Notes

The first time you launch Stickies, a few sample notes appear automatically, describing some of the program's features. You can quickly dispose of each sample by clicking the close button in the upper-left corner of each note or by choosing File→Close (⌘-W). Each time you close a note, a dialog box asks if you want to save it. If you click Don't Save (or press ⌘-D), the note disappears permanently.

To create a new note, choose File→New Note (⌘-N). Then start typing or:

• Drag text in from any other program, such as TextEdit, AppleWorks, or Microsoft Word. Or drag text clippings from the desktop directly into your note. You can

also drag a PICT, GIF, JPEG, or TIFF file into a note to add a picture. You can even drag a sound or movie in. (A message will ask if you're sure you want to copy the whole whomping QuickTime movie into a little Stickies note.)

• Drag the icon of a PDF file into a note. (Stickies can even accommodate multipage PDF files. At first, you see only the first page, but a scroll bar is available to see the rest.)

• How weird is this? In Tiger, you can even drag a *Microsoft Word* document into a note!

• Choose File→Import and select any plain text file or RTF (Rich Text Format) document to bring it into a note.

• Drag URLs into a note directly from a Web browser's address bar.

Tip: If one particular note contains your most important information–your to-do list, say–you can force it to remain in front of all other windows, even if Stickies itself gets shunted to the background. Just click the note and then choose Note→Floating Window.

• In TextEdit, Mail, or other Cocoa applications, select a chunk of text and then choose Make New Sticky Note from the program's Services menu (page 175). This command launches Stickies, creates a new note, and fills it with your selected text—all in one step.

Note: All your notes are stored in a file called StickiesDatabase, located in your Home→Library folder. You're free to copy it, pass it along, and so on, just as you would any file.

Have a favorite style for your sticky notes? First create a new note, choosing the color and text style that you like and setting it to the size you prefer. Then choose Note→ Use as Default. All new notes you create will now appear in the size, font, and color of your choice.

Growing and Shrinking Notes

Stickies includes a few built-in tricks for managing a deskful of notes:

• There's a small resize handle on the lower-right corner of each note. Drag it to make notes larger or smaller onscreen.

• Use the small triangle in the upper-right corner of each note to zoom and shrink note windows with a single click. The first click collapses a note down to a more compact size. Another click pops the note back open to normal size.

• The best option: Double-click anywhere along the dark strip at the top of each note to collapse it into a compact one-line mininote, as shown in Figure 10-33. You also can collapse a selected note by choosing Window→Miniaturize Window (⌘-M).

Tip: The most efficient way to use Stickies is to keep the notes in their collapsed state, as shown in Figure 10-33. When a note is collapsed, the first line of text shows up in tiny type in the collapsed title bar of the note, so you don't have to expand the note to remember what's in it. And since many—if not most—of your notes can probably be summed up in a couple of words ("pick up dry cleaning," "call Mom"), it's possible to keep your sticky notes in their collapsed state permanently.
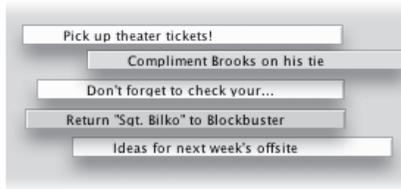

| Pick up theater tickets! |
| Compliment Brooks on his tie |
| Don't forget to check your… |
| Return "Sgt. Bilko" to Blockbuster |
| Ideas for next week's offsite |

Figure 10-33:
If the first line of text gets truncated, as in the third note shown here, you can tug the right corner of the note and drag it wider without de-miniaturizing it.

Formatting Notes

Stickies has several word processor–like commands for creating designer sticky notes, with any combination of fonts, colors, and styles. You can also choose from six background colors from the Color menu. For the full scoop on Mac OS X's Font panel, choosing colors, and other typographic finery, see page 525.

Saving Sticky Notes

The notes you create in Stickies last only as long as you keep them open. If you close a note to get it out of the way (and click Don't Save in the confirmation box), it vanishes permanently.

POWER USERS' CLINIC

The Hidden Stickies Commands

The casual Stickies user may miss some of the program's more interesting commands, which are accessible only through the shortcut menus that pop up when you Control-click a sticky note. Here's what you'll find only in the shortcut pop-up menus:

Check Spelling As You Type. Turning on this spell check option (in the Spelling menu) flags misspelled words the moment you type them. You must turn this option on or off for each note individually.

Speech. Don't just read your notes—listen to them. You can use the Mac's Text-to-Speech feature to hear your notes read aloud. Choose Speech→Start Speaking to hear the Mac read

a selected portion of a note, or use the command with nothing selected to hear the entire contents of a note. The only way to stop the speech is to Control-click again and choose Speech→Stop Speaking.

(To pick the voice and speed of the reader, go to the Speech pane of System Preferences, as described on page 558).

Writing Direction. This feature is intended to let you type in non-English languages. But even in English, you can have plenty of fun with unsuspecting suckers by choosing Right to Left, so that all your text is right-justified and the insertion point moves to the left as you type.

If you want to preserve the information you've stuffed into your notes in a more permanent form, use File→Export Text to save each note as a standalone TextEdit document. When you use the Export Text command, you have the following options:

- **Plain Text**. This option saves your note as a plain text file, with neither formatting nor pictures.

- **RTF** stands for Rich Text Format, a special exchange format that preserves most formatting, including font, style, and color choices. You can open the resulting RTF file in just about any word processor with all of your formatting still intact.

- **RTFD.** RTFD, a strange and powerful variant of RTF, is a Rich Text Format document *with attachments*. How do you "attach" items to an RTFD file? Drag the icon of an actual application (Preview, Calculator, or whatever) or a multipage PDF file, into a sticky note. The icon for the program or document appears in the note, but double-clicking the icon doesn't do anything. When you export the note as an RTFD file, the result is a TextEdit document that has embedded within it the *entire* program or document that you dragged in. The program icon appears just as it did in the sticky note, but if you double-click the icon, the program now actually opens. (For more about RTFD files, see the box on page 376.)

  You can also paste a graphic into your sticky note. When you export the note as an RTFD document, the resulting *package* file includes a graphics file of the format that you pasted.

  If you don't have embedded programs or documents in your notes, then exported RTFD files are exactly the same as their RTF counterparts.

Tip: You can import the Stickies file from your old Mac OS 9 System Folder. Just choose File→Import Classic Stickies. In the Open File dialog box, navigate to the old System Folder→Preferences→Stickies File document and open it.

System Preferences

This program opens the door to the nerve center of Mac OS X's various user preferences, settings, and options. Chapter 9 covers every option in detail.

TextEdit

TextEdit: It's not just for Read Me files anymore.

As always, TextEdit (Figure 10-34) is a basic word processor—but it's not nearly as basic as it used to be. You can create real documents with real formatting, using style sheets, colors, automatic numbering and bullets, tables, and customized line spacing, and—get this—even save the result as a Microsoft Word document. There's even a multiple-level Undo command. If you had to, you could write a novel in TextEdit and it would look pretty decent.

TextEdit's Two Personalities

The one confusing aspect of TextEdit is that it's both a *plain text editor* (no formatting; globally compatible) and a true *word processor* (fonts, sizes, styles; compatible with other word processors). You need to keep your wits about you as you edit, because the minute you add formatting to your document, TextEdit no longer lets you save it as a plain text file.
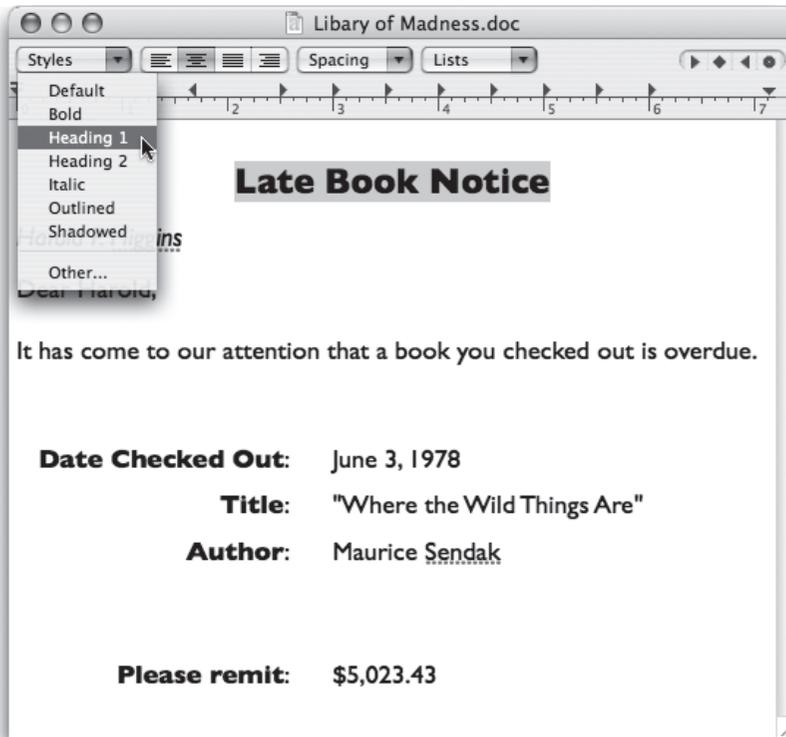

Figure 10-34:
The text ruler gives you control over tab stops, line spacing, paragraph justification, and so on. Pressing ⌘-R makes it appear and disappear. The Style pop-up menu lists canned sets of character and paragraph formatting, so you can apply them consistently throughout a document.

Here's the scheme:

- You can change a plain text document to a formatted one by choosing Format→ Make Rich Text. The ruler appears automatically to remind you that a new world of formatting has just become available.

- Conversely, you can change a formatted document (a Word file you've opened, for example) to a plain text document by choosing Format→Make Plain Text. An alert message appears to point out that you're about to lose all formatting.

- If you know what kind of document you *always* want to open, go to the TextEdit→Preferences dialog box; on the New Document pane, select Rich Text or Plain Text. That's the kind of document you get each time you choose File→New.

Working in TextEdit

As you begin typing, all the usual word processing rules apply, with a few twists:

- Choose Bold, Italic, and font sizes using the Format→Font submenu, or choose Format→Font→Show Fonts (⌘-T) to open up the standard Mac OS X Font panel (page 525). You can even create subscript or superscript, change the color of the text (Format→Font→Show Colors), and so on.

- Common paragraph-alignment options—Align Left, Align Right, Center, Justify—are all available as ruler buttons and also reside in the Format→Text submenu. Adjust the line spacing (single, double, or any fraction or multiple) using the Spacing pop-up menu in the ruler.

- New in Tiger: The ruler also offers automatic bulleting and numbering of highlighted (or about-to-be-typed) paragraphs. Just choose the numbering style you prefer from the Lists pop-up menu.

- Also new in Tiger: You can select several bits of text *simultaneously.* To pull this off, highlight your first piece of text by dragging, and then press ⌘ as you use the mouse to select more text. Bingo: You've highlighted two separate chunks of text.

When you're done selecting bits of text here and there, you can operate on them en masse. For example, you can make them all bold or italic with one fell swoop. You can even use the Cut, Copy, and Paste commands, as described in the next section. When you cut or copy, the command acts upon all your selections at once.

UP TO SPEED

The Deal with Microsoft Word

Yes, you read that correctly: Humble TextEdit can now open and create Microsoft Word documents! Your savings: the $400 price of Microsoft Office!

Well, sort of.

When you open a Microsoft Word document, most of the formatting comes through alive: bold, italic, font choices, colors, line spacing, alignment, and so on. Even very basic tables make it into TextEdit, although with different column widths.

A lot of Word-specific formatting does not survive crossing the chasm, however: borders, style sheets, footnotes, and the like. Bullets and numbered lists don't make it, either, even though TextEdit can create its own versions of these. And TextEdit doesn't recognize the comments and change tracking that your collaborators might use to mark up your manuscript.

Saving a TextEdit document as a Word document (File→Save As) is a better bet, because Word understands the many kinds of formatting that TextEdit can produce—including bullets, numbering, and tables. The one disappointment is that Word doesn't recognize any style sheets you've set up in TextEdit. The formatting applied by those style names survives—just not the style names themselves.

Even so, a built-in Word-document editor is a huge, huge step for the Mac OS. It means that in many cases, you can be a first-class citizen on the playing field of American business. Nobody ever needs to know that you're (a) using a Mac, and (b) not using the real Microsoft Word.

You also drag any *one* of the highlighted portions to a new area, confident that the other chunks will come along for the ride. All of the selected areas wind up consolidated in their new location.

Tip: If you *Option*-drag one of the highlighted bits, you *copy* it, leaving the original in place.

- Similarly, you can use the Find command to highlight a certain term everywhere it appears in a document. To do that, choose Edit→Find→Find (or just press ⌘-F). Fill in the "Find" and "Replace with" boxes—and then press the Control key. The Replace All button changes to say Select All.

POWER USERS' CLINIC

Advanced Typography in TextEdit

If you just sprayed your coffee upon reading the heading of this sidebar, you're forgiven. Advanced typography in TextEdit? Isn't that a little bit like saying, "page layout in Note Pad"?

Not at all. TextEdit is a gleaming showcase for Mac OS X's typographical smarts.

Most of the commands in the Format→Font submenu should be familiar to you: Bold, Italic, Underline, and so on. But a few were once found only in expensive page-layout programs like PageMaker and QuarkXPress. For example:

Kern. Use these commands, such as Tighten and Loosen, to nudge the letters of the selected text closer together or farther apart—an especially useful feature when you're fiddling with headlines and headings.

There are no controls to set how much you want to kern the text, but you can apply these commands repeatedly to the same text selection to intensify them. If you want your text to be very tight, for example, just keep choosing the Tighten command. The characters creep closer and closer together until they crash into each other.

Ligature. Ligatures are letter pairs, such as fl and ff, that, in fancy typesetting, are often conjoined into special combination

characters, as shown here. If you choose Format→Font→ Ligature→Use Default (or Use All), TextEdit displays these letter pairs with the appropriate ligatures. (This works only if the font you're using has those ligatures built into it. New York, Charcoal, Apple Chancery, and all Adobe Expert fonts do, for example, but many other fonts don't.)

Baseline. The baseline is the imaginary "floor" for text characters in a line of type. You can push text above this line or sink it below the baseline using the Raise and Lower commands in the Baseline submenu. The Superscript and Subscript commands, meanwhile, shift characters far above or below the baseline, so you can write stuff like H_2O.

Character Shape. In a few fonts, such as Adobe Expert fonts, this submenu offers a choice between Traditional Form and specialized type treatments like Small Caps.

Copy Style/Paste Style. If mastering the new Styles pop-up menu (described on the facing page) is too much effort, these commands offer another way to copy and paste just the font formatting to other text in your document—the font, color, style, and size, but none of the actual text or paragraph attributes, such as alignment.

Tip: Oh, don't get TextEdit started on secret keystrokes in the Find box. If you press Option, for example, the Replace All button changes to say In Selection (meaning that you'll search-and-replace only the highlighted blob of text).

You can combine the two previous tricks, too. If you press Control *and* Option, the Replace All button changes to say In Selection—but now you're *selecting,* not replacing, all occurrences of the search text *just* within the highlighted block.

- If you Option-drag vertically, you can freely select an arbitrary column of text (not necessarily the entire page width). This technique is very useful when you want to select only one column in a multicolumn layout, or when you want to select the numbers in a list ("1.," "2.," and so on) and format them all at once. (As noted earlier, this trick also works in Preview PDF documents.)

Style Sheets

A *style* is a prepackaged collection of formatting attributes that you can apply and reapply with a click of the mouse (bold, 24-point Optima, double-spaced, centered, for instance). You can create as many styles as you need: chapter headings, sidebar styles, and so on. You end up with a collection of custom-tailored styles for each of the repeating elements of your document.

Once you've created your styles, you can apply them as you need them, safe in the knowledge that they'll be consistent throughout the document. During the editing process, if you notice you accidentally styled a *headline* using the *Subhead* style, you can fix the problem by simply reapplying the correct style.

Note: Unlike a real word processor, TextEdit doesn't let you change a style's formatting and thereby update every occurrence of it. You can't search and replace by style, either.

- **Creating a named style.** To create a style, start by formatting some text so that it looks the way you like it, complete with font, color, line spacing, tab settings, and so on.

  Then, from the Styles pop-up menu in the ruler, choose Other (Figure 10-35, top). Click Add to Favorites, type a name for the style, turn on both checkboxes (Figure 10-35, bottom), and click Add.

- **Applying a style.** Later, when you want to reuse the formatting you set up, highlight some text and then choose the appropriate name from the Styles pop-up menu. TextEdit applies the formatting immediately.

Tip: If you simply click inside a paragraph, applying a style affects only paragraph attributes like line spacing, tab stops, and alignment. If you *highlight* text instead, applying a style affects only *character* attributes like the font and type size.

If you highlight an *entire* paragraph, however, both text and paragraph formatting appears.

• **Deleting a style.** To delete a superfluous style, choose Other from the Styles pop-up menu on the ruler. Click the Favorite Styles button, choose the unwanted style's name from the pop-up menu, and click Remove From Favorites. (Deleting a style doesn't affect any formatting that's already in your document; it just removes the name from the Styles menu.)
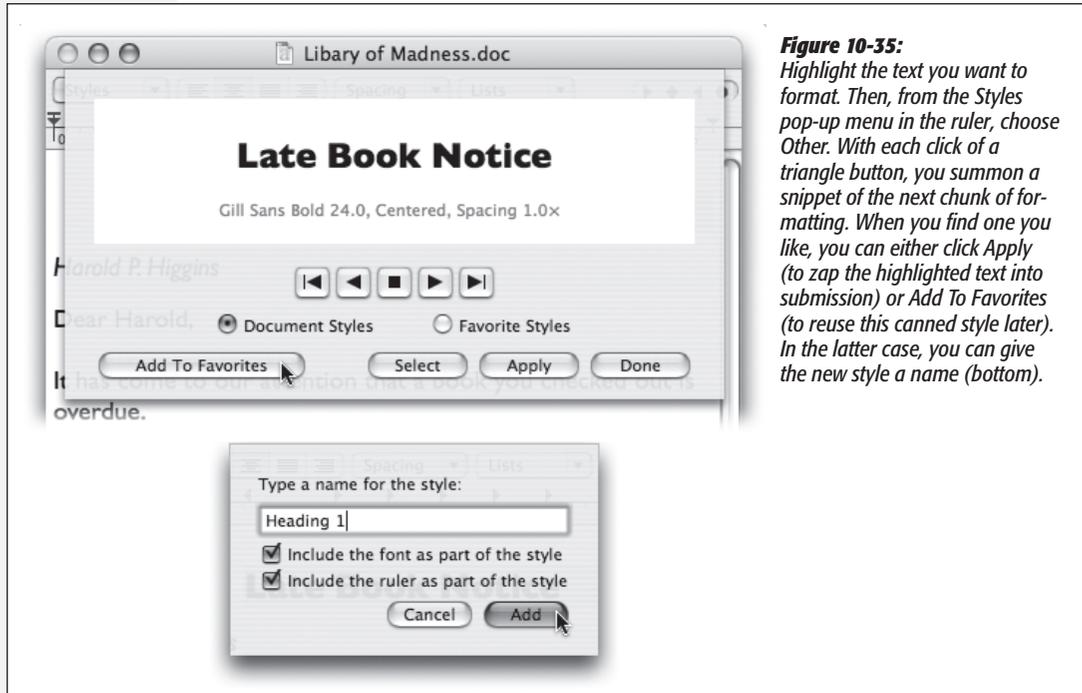

Figure 10-35:
Highlight the text you want to format. Then, from the Styles pop-up menu in the ruler, choose Other. With each click of a triangle button, you summon a snippet of the next chunk of for-matting. When you find one you like, you can either click Apply (to zap the highlighted text into submission) or Add To Favorites (to reuse this canned style later). In the latter case, you can give the new style a name (bottom).

• **Copying by example.** In Word and most other "serious" word processors, the routines above correctly describe how you use styles. In TextEdit, however, you can use Option-⌘-C and Option-⌘-V (Format→Copy Style and Format→Paste Style) to grab formatting from one place in your document and reuse it elsewhere. (Of course, you can't apply styles in text-only documents.)
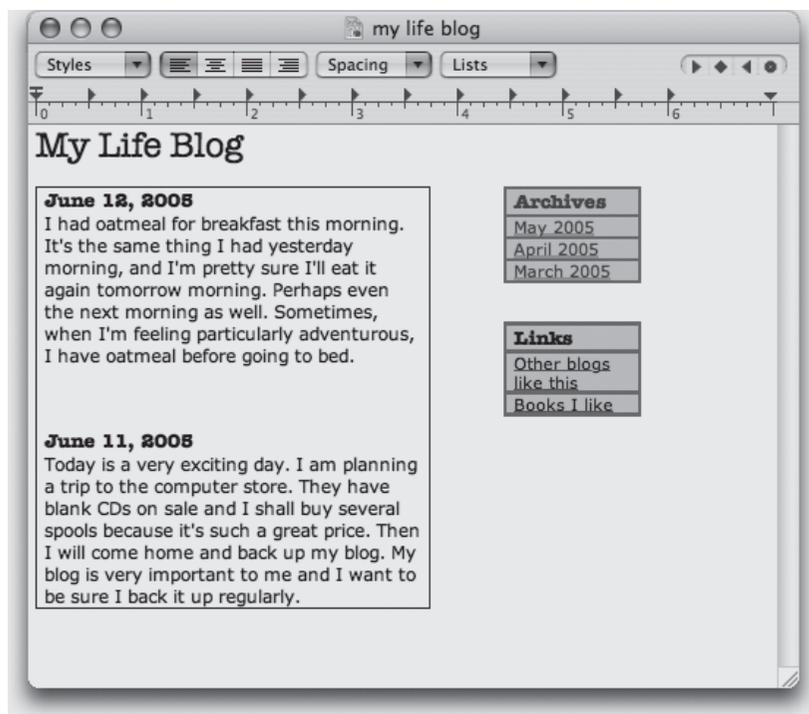
Tables

Tables can make life a heck of a lot easier when you want to create a résumé, agenda, program booklet, list, multiple-choice test, Web page, or another document where numbers, words, and phrases must be aligned across the page. In the bad old days, people did it by pressing the Tab key to line up columns—a technique that turned into a nightmare as soon as you tried to add or delete text. But using a word proces-sor's *table* feature is light-years easier and more flexible, because each row of a table expands infinitely to contain whatever you put into it. Everything else on its row remains aligned.

Tip: Tables are also critical for designing Web pages, as any Web designer can tell you. Even though you can't see the table outlines, many a Web page is filled with columns of text that are aligned invisibly by tables. And now that TextEdit can save your work as an HTML document, it's suddenly a viable candidate for designing basic Web pages.

- **Create a table** by choosing Format→Text→Table. The floating Table palette appears (Figure 10-36). Use it to specify how many rows and columns you want. The placeholder table in your document adjusts itself in real time.

Figure 10-36:
Note to Web designers: TextEdit may not be Dreamweaver, but it's great for spinning out quick Web pages, thanks to the table features. Here, you can see that a big table forms the underlying structure for this Web page, along with a couple of nested ones and color selections.

- **Format the table** using the other controls in the Table palette. The Alignment controls let you specify how the text in one of the table cells hugs its border. Cell Border controls the thickness of the line around the selected cells' borders (or, if you enter 0, makes the table walls invisible). The color swatch next to Cell Border specifies the color of the solid lines. The Cell Background controls let you color in the table cells with colors of your choice. (Choose Color Fill from the pop-up menu, and then click the color swatch.) This is an especially valuable option for Web designers.

- **Adjust the rows and columns** by dragging the cell borders.

- **Merge two selected cells** by clicking Merge Cells in the Table palette. Once you've done that, you can use the Split Cell button to split them apart again. (Split Cell doesn't work except in cells you've previously merged.)

- **Nest one table inside a cell of another** by clicking in the cell and then clicking Nest Table. Change the numbers in the Rows and Columns boxes to set up its dimensions (Figure 10-36).

TextEdit as Web Designer

The new Table palette isn't the only clue that Apple intends TextEdit to be a quick-and-dirty Web page design program. Consider these other tools:

- You can easily add graphics to the page by dragging or pasting them into a document. The program understands TIFF, PICT, JPG, and GIF formats.

- You can add Web-style hyperlinks by highlighting "Click here" (or whatever the link says), choosing Format→Text→Link, and entering the Web address in the resulting dialog box. Or just drag a link in from Safari, Mail, or another program. (To edit the link later, Control-click it and choose Edit Link.)

- To save a document as an HTML (Web page) file, choose File→Save As; from the File Format pop-up menu, choose Web Archive.

GEM IN THE ROUGH

Files Within Files Within Files

It's no surprise that you can include formatted text and pictures in a TextEdit document, but here's a shocker. You can also embed an entire program or document within a TextEdit file.

Try this experiment: Create a new TextEdit document in Rich Text mode. Drag a couple of program icons into the TextEdit document. Do the same with some documents that were created using native Mac OS X programs (another TextEdit document, for example).

When you save the file, Mac OS X saves embedded copies of the applications and documents you dragged into the TextEdit document itself. (The TextEdit file is saved in a format called RTFD, which is a Rich Text Format document with attachments.)

Once you've saved the file, you can double-click any of the icons in the file to launch the embedded items. In the TextEdit document shown here, you could launch the Chess, DVD Player, and Mail programs—all right from within the file.

To make things even wilder, it's possible to drag a TextEdit file containing embedded items into another TextEdit file, saving a file within a file within a file.

One important point: The double-clickable icons you create in TextEdit using this method are not aliases or links to your original documents and programs. They're actual, full copies. If you embed a 10 MB program into a TextEdit document, you'll end up with a 10 MB TextEdit file!

• Don't miss the HTML options in TextEdit→Preferences. On the "Open and Save" tab, you can specify what kind of HTML document you want to produce, what cascading style sheets (CSS) setting you want, and whether or not you want TextEdit to include code to preserve blank areas (white space) in your layout.

Tip: When you *open* a Web page document—that is, an HTML document—TextEdit is faced with a quandary. Should it open up the page as though it's a Web page, interpreting the HTML code as though it's a browser? Or should it reveal the underlying HTML code itself?

Actually, that's up to you. When you choose File→Open, turn on "Ignore rich text commands" to make the document open up as HTML code. (To make this change permanent, check out the same checkbox on the "Open and Save" pane of the TextEdit→Preferences dialog box.)

The TextEdit Preferences

Most of the settings in the TextEdit Preferences→New Document pane have no effect on documents that are already open—only on documents you open or create from now on. Most of the settings are self-explanatory; nonetheless, handy explanatory balloons appear if you point to an option without clicking. Here are a few settings that may not be immediately clear:

• **Font**. If Helvetica 12 doesn't especially float your boat, you can change TextEdit's starting font. Note that you can set *two* default fonts—one for Rich Text documents and another one for Plain Text files.

Note: By definition, plain text files don't have any formatting. So whatever font you choose here for Plain Text files is for your editing pleasure only. If you plan to send the file to anyone else, remember that the font choice won't be saved with the document.

• **Window Size**. These settings have no effect unless you're in Wrap to Window mode (in which the text rewraps to fit the window width), as opposed to Wrap to Page mode. If you *are* in Wrap to Window mode, then these dimensions determine the size of the window that appears each time you create a new TextEdit document.

• **Properties.** These boxes—Author, Company, and Copyright—are some of the tags that Spotlight inspects when it searches your Mac. If you'd like to be able to round up your documents by these characteristics, fill them in here to specify the information you want to use for *most* documents. (To fill them in differently for individual documents, choose File→Show Properties instead.)

TextEdit's Other Writing Tools

TextEdit includes a few other very useful document-editing tools:

• **Allow Hyphenation.** When you select this command from the Format menu, TextEdit breaks up words by syllable and inserts hyphens when necessary in order to create more visually pleasing line breaks.

Tip: It's especially important to turn this feature *on* if your paragraph alignment is set to Justify, or if you create narrow columns of text. If hyphenation is turned off, TextEdit won't break up whole words at the end of a line—even if it leaves big, ugly white gaps between words.

- **Prevent Editing.** When you turn this option on (again, in the Format menu), you're locked out. You can select and copy text to your heart's content, but you can't change anything. Prevent Editing mode can be useful if you want to prevent yourself from making accidental changes to a file, but it's not much of a security feature. (All anyone has to do is choose Format→Allow Editing to regain full editing privileges.)

- **Spell Checking.** If the Edit→Spelling→Check Spelling As You Type command is turned on, you get interactive spell checking, just as in Microsoft Word and other word processors. That is, misspelled words get flagged with a dashed red line the moment you type them.

    To open the full Spelling panel at any time, choose Edit→Spelling→Spelling (or press Shift-⌘-:). Using the panel, you can correct errors (choosing from the suggestions generated by Apple's built-in spelling dictionary) or tell TextEdit to learn or ignore other suspected misspellings.

    The quickest way to handle spelling corrections is shown in Figure 10-37.

Tip: This feature isn't really a TextEdit function—it's a system-wide spell checker that you'll also find in Stickies, Mail, iCal, iPhoto, and other programs. You learn it once, you've learned it forever.
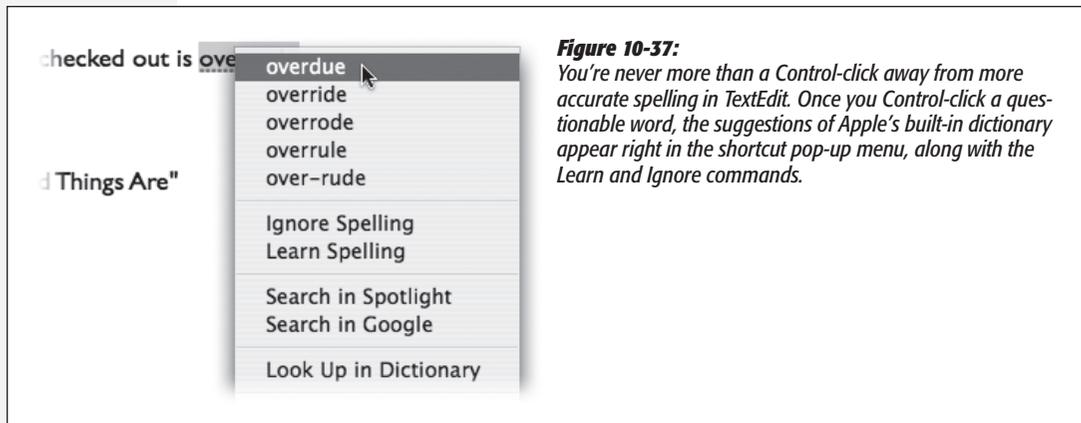

Figure 10-37:
You're never more than a Control-click away from more accurate spelling in TextEdit. Once you Control-click a questionable word, the suggestions of Apple's built-in dictionary appear right in the shortcut pop-up menu, along with the Learn and Ignore commands.

- **AutoComplete.** This feature is ideal for anyone who's in a hurry, who's unsure of a spelling, or who's trying to solve a crossword puzzle. See Figure 10-38 for details, and note that AutoComplete is actually available in almost every Cocoa program.

Utilities: Your Mac OS X Toolbox

The Utilities folder (inside your Applications folder) is home to another batch of freebies: another couple of dozen tools for monitoring, tuning, tweaking, and troubleshooting your Mac.

The truth is that you're likely to use only about six of these utilities. The rest are very specialized gizmos primarily of interest to network administrators or Unix geeks who are obsessed with knowing what kind of computer-code gibberish is going on behind the scenes.

Tip: Even so, Apple obviously noticed that as the sophistication of Mac OS X fans grows, more people open the Utilities folder more often. That's why Tiger features a menu command and a keystroke that can take you there. In the Finder, choose Go→Utilities (Shift-⌘-U).

Activity Monitor

Activity Monitor is designed to let the technologically savvy Mac fan see how much of the Mac's available power is being tapped at any given moment.

The Processes table

Even when you're only running a program or two on your Mac, dozens of computational tasks (*processes*) are going on in the background. The top half of the dialog

Figure 10-38:
Once you've begun typing a word, press either F5 or Option-Esc to produce the list of possible word completions shown here. If TextEdit correctly anticipates the rest of the word, great; press Tab, Return, or the Space bar to accept the suggestion, and then keep right on typing. If TextEdit guesses wrong, you can either select a different word in the list (using the mouse or the arrow keys), or tap Esc to ignore the suggestions and continue typing.

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box, which looks like a table, shows you all the different processes—visible and invisible—that your Mac is handling at the moment.

Check out how many items appear in the Process Listing Window, even when you're just staring at the desktop. It's awesome to see just how busy your Mac is! Some are easily recognizable programs (such as Finder), while others are background system-level operations you don't normally see. For each item, you can see the percentage of CPU being used, who's using it (either your account name, someone else's, or *root,* meaning the Mac itself), and how much memory it's using.

The System monitor tabs

At the bottom of Activity Monitor, you're offered five tabs that reveal intimate details about your Mac and its behind-the-scenes efforts (Figure 10-39):

- **CPU.** As you go about your usual Mac business, opening a few programs, dragging a playing QuickTime movie across the screen, playing a game, and so on, you can see the CPU graph rise and fall, depending on how busy you're keeping the CPU. On multiple-processor Macs, you see a different bar for each chip, enabling you to see how efficiently Mac OS X is distributing the work among them.

Tip: You may also want to watch this graph right in your Dock (choose View→Dock Icon→Show CPU History) or in a bar at the edge of your screen (choose Window→Floating CPU Window→ Horizontally).

Finally, there's View→"Show CPU monitors on top of other windows"—the one and only *non*-capitalized menu command in all of Mac OS X. It makes the little bar float on top of all your other programs, so you can't miss it.

- **System Memory.** Here's a colorful graph that reveals the state of your Mac's RAM at the moment.

  The number below the graph shows how much memory is installed in your Mac. If, when your Mac is running a typical complement of programs, the Wired number plus the Active number nearly equals your total RAM amount, it's time to consider buying more memory. You're suffocating your Mac.

- **Disk Activity.** Even when you're not opening or saving a file, your Mac's hard drive is frequently hard at work, shuffling chunks of program code into and out of memory, for example. Here's where the savvy technician can see exactly how frantic the disk is at the moment.

- **Disk Usage.** This little graph offers one of the quickest ways to check out how full your hard drive is at the moment. (If you have more than one drive—say, a flash drive, tape-backup drive, or whatever—choose another drive's name from the pop-up menu.)

- **Network.** Keep an eye on how much data is shooting across your office network with this handy EKG-ish graph.
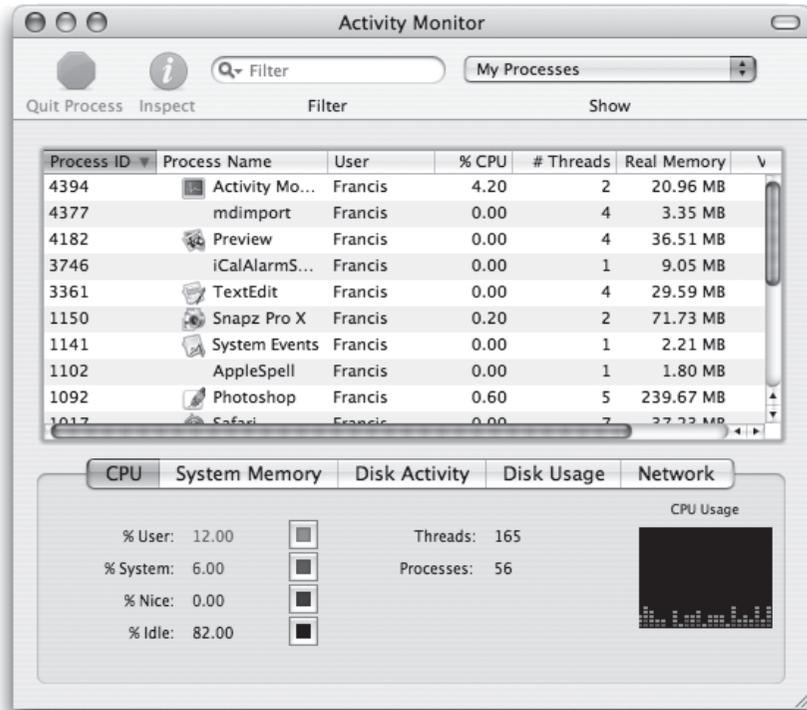
AirPort Admin Utility

You don't use the AirPort Admin Utility to set up AirPort connections—that is, wireless

Figure 10-39:
The many faces of Activity Monitor.

Top: It can be a graph of your processor (CPU) activity, your RAM usage at the moment, your disk capacity, and so on.

Bottom: If you double-click a process's name, you're treated to a three-tab dialog box that offers stunningly complete reams of data (mostly of interest only to programmers) about what that program is up to. (The Open Files and Ports tab, for example, shows you how many files that program has opened, often invisibly.) The most handy feature of this dialog box is the Quit button. It's a convenient way to jettison a locked-up program when all else fails.

networks like those described in Chapter 13—initially. For that task, use the AirPort Setup Assistant (described below).

After you're set up, you can use AirPort Admin Utility to monitor the connections in an existing AirPort network. You can also use this utility to set up new connections manually, rather than using the step-by-step approach offered by the Assistant.

AirPort Setup Assistant(s)

An Assistant, in Apple-ese, is an interview program. It presents a series of screens, posing one question at a time. At the end of the interview, the Assistant program incorporates your answers into a finished product. For example, it configures numerous System Preferences all at once.

The AirPort Setup Assistant walks you through setting up and using AirPort wireless networking. You're asked to name your network, provide a password for accessing it, and so on. Once you've followed the steps and answered the questions, your AirPort hardware will be properly configured and ready to use.

Note: Weirdly enough, Tiger gives you *two* AirPort Setup Assistant programs. *AirPort Setup Assistant* sets up AirPort Express or AirPort Extreme base stations, while *AirPort Setup Assistant for Graphite and Snow* works with the old, non-Extreme base stations.

Audio MIDI Setup

Maybe you've heard that Mac OS X comes with spectacular internal wiring for music, sound, and MIDI (Musical Instrument Digital Interface, a standard "language" for inter-synthesizer communication). It's available, that is, to music software companies that write their wares to capitalize on these new tools. (The big-name programs, including Digital Performer, are ready to go.)

This configuration program offers two tabs. The first, Audio Devices, is the master control panel for all your various sound inputs and outputs: microphones, line inputs, external speakers, and so on. For most people, this is meaningless, because most Macs have only one input (the microphone) and one output (the speakers). But if you're sitting in your darkened music studio, humming with high-tech audio gear whose software has been designed to work with this little program, you're smiling.

The second tab, MIDI Devices, should look familiar to synthesizer fans who have used software like OMS or FreeMIDI to teach the Mac about their studio configurations. By clicking Add Device, you create a new icon that represents one of your pieces of gear. Double-click the icon to specify its make and model. Finally, by dragging lines from the "in" and "out" arrows, you teach your Mac and its MIDI software how the various components are wired together.

Bluetooth File Exchange

One of the luxuries of using a Mac that has Bluetooth is the ability to shoot files (to colleagues who own similarly clever gadgets) through the air, up to 30 feet away. Bluetooth File Exchange makes it possible, as described on page 223.

ColorSync Utility

If you use ColorSync (because you're in the high-end color printing business, for instance), you might be surprised to find that the ColorSync pane is gone from the System Preferences program. Instead, that pane's settings have been merged into this beefed-up program.

This bet-you'll-never-touch-it utility combines two functions:

- Its **Profile First Aid tab** performs a fairly esoteric task: repairing ColorSync profiles that may be "broken" because they don't strictly conform to the *ICC profile* specifications. (ICC [International Color Consortium] profiles are part of Apple's ColorSync color management system, as described on page 527.) If a profile for your specific monitor or printer doesn't appear in the Profiles tab of this program when it should, Profile First Aid is the tool you need to fix it.

- The **Profiles tab** lets you review all the ColorSync profiles installed on your system. The area on the right side of the window displays information about each ColorSync profile you select from the list on the left.

- The other tabs are described on page 528.

Console

Console is a viewer for all of Mac OS X's text logs—the behind-the-scenes, internal Unix status messages being passed between the Mac OS X and other applications.

Opening the Console log is a bit like stepping into an operating room during a complex surgery: You're exposed to stuff the average person just isn't supposed to see. (Typical Console entries: "kCGErrorCannotComplete" or "doGetDisplay TransferByTable.") You can adjust the font and word wrapping using Console's Font menu, but the truth is that the phrase "CGXGetWindowType: Invalid window –1" looks ugly in just about *any* font!

Console isn't useless, however. These messages can be of significant value to programmers who are debugging software or troubleshooting a messy problem, or, occasionally, to someone you've called for tech support.

DigitalColor Meter

DigitalColor Meter can grab the exact color value of any pixel on your screen, which can be helpful when matching colors in Web page construction or other design work. After launching the DigitalColor Meter, just point anywhere on your screen. A magnified view appears in the meter window, and the RGB (red-green-blue) color value of the pixels appears in the meter window. You can display the color values as RGB percentages or actual values, in Hex form (which is how colors are defined in HTML; white is represented as #FFFFFF, for example), and in several other formats.

Here are some tips for using the DigitalColor Meter to capture color information from your screen:

- To home in on the exact pixel (and color) you want to measure, drag the Aperture Size slider to the smallest size—one pixel. Then use the *arrow keys* to move the aperture to the precise location you want.

- Press Shift-⌘-C (Color→Copy Color as Text) to put on the Clipboard the numeric value of the color you're pointing to.

- Press Shift-⌘-H (Color→Hold Color) to "freeze" the color meter on the color you're pointing to—a handy stunt when you're comparing two colors onscreen. You can point to one color, hold it using Shift-⌘-H, and then move your mouse to the second color. Pressing Shift-⌘-H again releases the hold on the color.

- When the Aperture Size slider is set to view more than one pixel, DigitalColor Meter measures the *average* value of the pixels being examined.

Directory Access

If you use your Mac at home, or if it's not connected to a network, you'll never have to touch Directory Access. Even if you *are* connected to a network, there's only a remote chance you'll ever have to open Directory Access—unless you happen to be a network administrator, that is.

This utility controls the access that each individual Mac on a network has to Mac OS X's *directory services*—special databases that store information about users and servers. Directory Access also governs access to *LDAP directories* (Internet- or intranet-based "white pages" for Internet addresses).

A network administrator can use Directory Access to do things like select NetInfo domains, set up search policies, and define attribute mappings. If those terms don't mean anything to you, just pretend you never read this paragraph and get on with your life.

Disk Utility

This important program serves two key functions:

- It serves as Mac OS X's own little Norton Utilities: a powerful hard drive administration tool that lets you repair, erase, format, and partition disks. In everyday life, you'll probably use Disk Utility most often for its *Repair Permissions* feature, which solves an uncanny number of weird little Mac OS X glitches. But it's also worth keeping in mind, in case you ever find yourself facing a serious disk problem.

- Disk Utility also creates and manages *disk images,* electronic versions of disks or folders that you can exchange electronically with other people.

The following discussion tackles the program's two personalities one at a time.

Disk Utility, the hard drive–repair program

Here are some of the tasks you can perform with this half of Disk Utility:

- Repair folders, files, and program that don't work because you supposedly don't have sufficient "access privileges." This is by far the most common use of Disk

Utility, not to mention the most reliable and satisfying. Using the Repair Disk Permissions button fixes an astonishing range of bizarre Mac OS X problems, from programs that won't open to menulets that freeze up the works.

- Get size and type information about any disks attached to your Mac.

- Fix disks that won't appear on your desktop or behave properly.

- Completely erase disks—including rewritable CDs (CD-RW).

- Partition a disk into multiple *volumes* (that is, subdivide a drive so that its segments appear on the desktop with separate disk icons).

- Set up a *RAID array* (a cluster of separate disks that acts as a single volume).

Note: In Mac OS X 10.4.3 and later, Disk Utility can, for the first time in Mac history, check the startup disk for damage–the disk on which your system software is currently running. (You used to have to start up from a different disk first.) It can also fix the *permissions* of the disk it's on, thank goodness.

Any other operation, like reformatting, erasing, partitioning, or actually repairing the disk, still requires the Mac to start up from a different disk (your Tiger DVD, for example). Otherwise, it'd be like a surgeon performing an appendectomy on himself–not a great idea.

The left Disk Utility panel lists your hard drive and any other disks in or attached to your Mac at the moment. When you click the name of your hard drive's mechanism, like "74.5 GB Hitachi iC25N0…" (not the "Macintosh HD" partition label below it), you see a panel with five tabs, one for each of the main Disk Utility functions:

- **First Aid**. This is the disk-repair part of Disk Utility, and it does a terrific job at fixing many disk problems. When you're troubleshooting, Disk Utility should always be your first resort. To use it, click the icon of a disk and then click either Verify Disk (to get a report on the disk's health) or Repair Disk (which fixes whatever problems the program finds). In other words, First Aid attempts to perform the same healing effects on a sick hard drive as, say, a program like Norton Utilities.

  If Disk First Aid reports that it's unable to fix the problem, *then* it's time to invest in a program like DiskWarrior (*www.alsoft.com*).
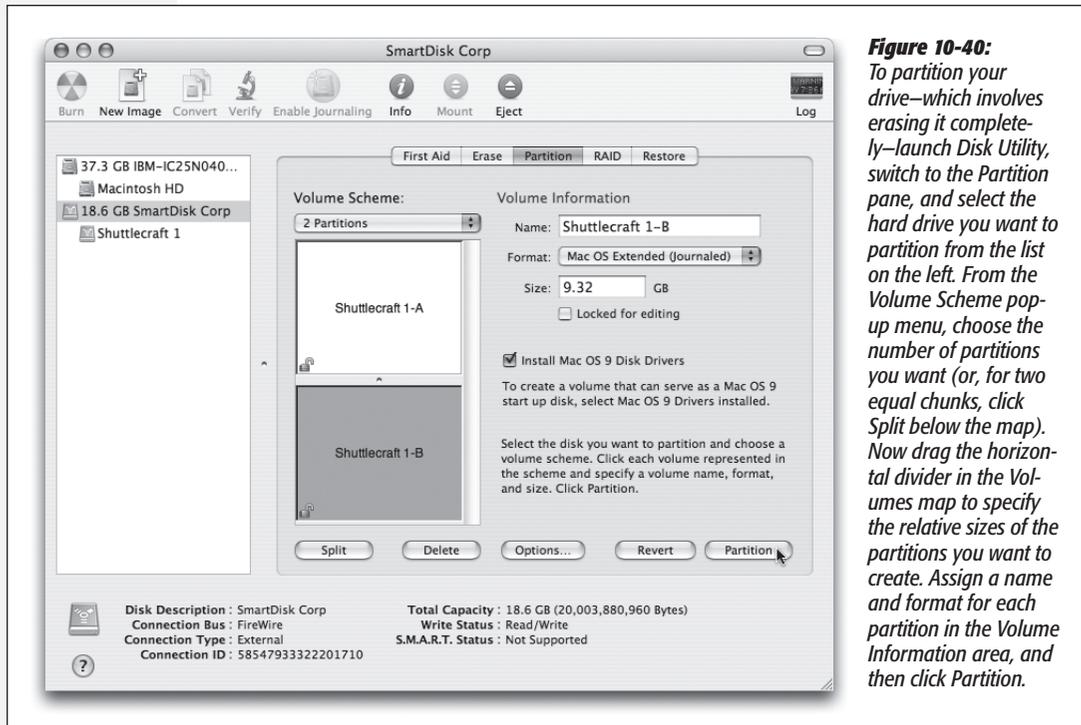
Tip: If Disk Utility finds nothing wrong with a disk, it reports, "No repairs were necessary." Don't be alarmed at the not-so-congratulatory wording of that message–that's the strongest vote of confidence Disk Utility can give. (Besides, it's a lot better than the old wording, "The disk *appears* to be OK.")

You may wind up using the Verify and Repair Disk *Permissions* buttons even more often. Their function is to straighten out problems with the invisible Unix file permissions that keep you from moving, changing, or deleting files or folders. (The occasional software installer can create problems like this.) You'd be surprised how often running one of these permission checks solves little Mac OS X glitches.

Chapter 12 has a much more detailed discussion of permissions.

- **Erase.** Select a disk, choose a format (*always* Mac OS Extended, unless you're formatting a disk for use on an ancient Mac running Mac OS 8.1 or earlier), give it a name, and click Erase to wipe a disk clean.

- **Partition.** With the Partition tools, you can erase a hard drive in such a way that you subdivide its surface. Each chunk is represented on your screen by another hard drive icon (Figure 10-40).

  There are some very good reasons *not* to partition a drive these days: A partitioned hard drive is more difficult to resurrect after a serious crash, requires more navigation when you want to open a particular file, and offers no speed or safety benefits.

Figure 10-40:
To partition your drive—which involves erasing it completely—launch Disk Utility, switch to the Partition pane, and select the hard drive you want to partition from the list on the left. From the Volume Scheme pop-up menu, choose the number of partitions you want (or, for two equal chunks, click Split below the map). Now drag the horizontal divider in the Volumes map to specify the relative sizes of the partitions you want to create. Assign a name and format for each partition in the Volume Information area, and then click Partition.

NOSTALGIA CORNER

Dude, Where's My Erase Disk Command?

Erasing a disk on a Mac used to be easy. All you had to do was select the disk in the Finder and choose Special→Erase Disk. But in Mac OS X, there's no Special menu, and the Erase Disk command is nowhere to be found.

That's because the Disk Utility program now handles your disk-erasing needs. Launch it, click the Erase tab, and blow away the data on the disk of your choice, whether it's a floppy, hard drive, rewriteable CD, or rewriteable DVD.

On the other hand, there's one very good reason *to* do it. On older Macs that can still restart in Mac OS 9, keeping Mac OS 9 and Mac OS X on different partitions can save you time when you switch between them, as described on page 213.

- **RAID.** RAID stands for Redundant Array of Independent Disks, and refers to a special formatting scheme in which a group of separate disks are configured to work together as one very large, very fast drive. In a RAID array, multiple disks share the job of storing data—a setup that can improve speed and reliability.

  Most Mac users don't use or set up RAID arrays, probably because most Mac users only have one hard drive (and Disk Utility can't make your startup disk part of a RAID array).

  If you're using multiple external hard disks, though, you can use Apple RAID to merge them into one giant disk. Just drag the icons of the relevant disks (or disk partitions) from the left-side list of disks into the main list (where it says, "Drag disks or volumes here to add to set"). Use the RAID Type pop-up menu to specify the RAID format you want to use (Stripe is a popular choice for maximizing disk speed), name your new mega-disk, and then click Create. The result is a single "disk" icon on your desktop that actually represents the combined capacity of all the RAID disks.

- **Restore.** This tab lets you make a perfect copy of a disk or a disk image, much like the popular shareware programs CarbonCopy Cloner and SuperDuper. You might find this useful when, for example, you want to make an exact copy of your old Mac's hard drive on your new one. You can't do that just by copying your old files and folders manually. If you try, you won't get the thousands of *invisible* files that make up a Mac OS X installation. If you use the Restore function, they'll come along for the ride.

  Start by dragging the disk or disk image you want to copy *from* into the Source box. Then drag the icon of the disk you want to copy *to* into the Destination box.

Tip: If you want to copy an *online* disk image onto one of your disks, you don't have to download it first. Just type its Web address into the Source field. You might find this trick convenient if you keep disk images on your iDisk, for example.

If you turn on Erase Destination, Disk Utility obliterates all the data on your target disk before copying the data. If you leave this checkbox off, however, Disk Utility simply copies everything onto your destination, preserving all your old data in the process. (The Skip Checksum checkbox is available only if you choose to erase your destination disk. If you're confident that all of the files on the source disk are 100% healthy and whole, turn on this checkbox to save time. Otherwise, leave it off for extra safety.)

Finally, click the Restore button. (You might need to type in an administrator password.) Restoring can take a long time for big disks, so go ahead and make yourself a cup of coffee while you're waiting.

Tip: Instead of clicking a disk icon and then clicking the appropriate Disk Utility tab, you can just Control-click a disk's name and choose Information, First Aid, Erase, Partition, RAID, or Restore from the shortcut menu.

Disk Utility, the disk-image program

The world's largest fan of *disk images* is Apple itself; the company often releases new software in disk-image form. A lot of Mac OS X add-on software arrives from your Web download in disk-image form, too, as shown below.

Disk images are popular for software distribution for a simple reason: Each image file precisely duplicates the original master disk, complete with all the necessary files in all the right places. When a software company sends you a disk image, it ensures that you'll install the software from a disk that *exactly* matches the master disk.

It's important to understand the difference between a *disk-image file* and the *mounted disk* (the one that appears when you double-click the disk image). Figure 10-41 makes the distinction clear.

Tip: After you double-click a disk image, click Skip in the verification box that appears. If something truly got scrambled during the download, you'll know about it right away—your file won't decompress correctly, or it'll display the wrong icon, for example.

In fact, you can make Disk Utility *always* skip that verification business, which is a relic from the days of floppy disks. To do so, choose Disk Utility→Preferences, click the Mounting tab, and turn off Verify Checksums.

You can create disk images, too. Doing so can be very handy in situations like the following:
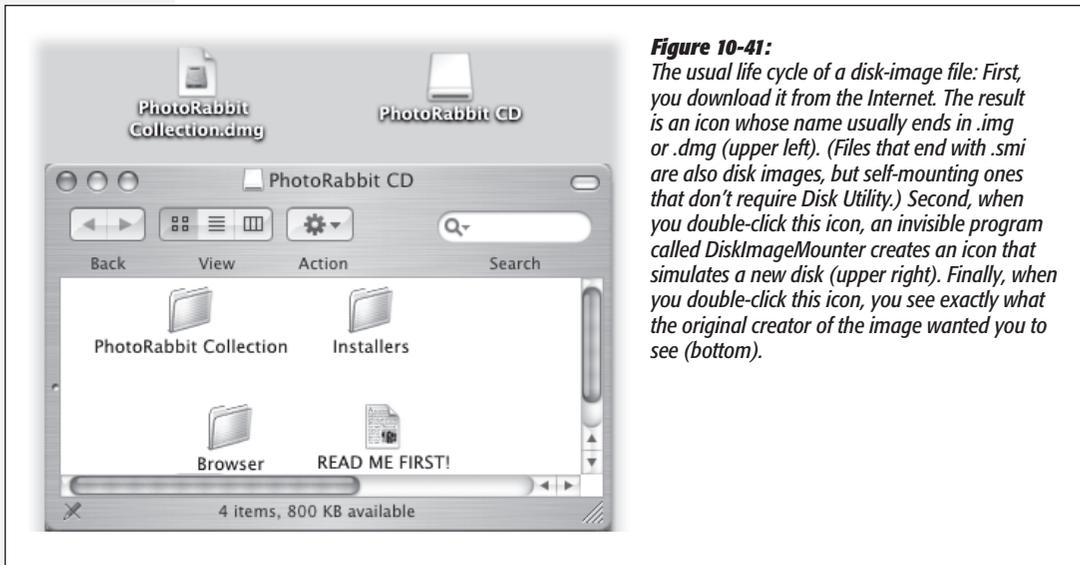

Figure 10-41:
The usual life cycle of a disk-image file: First, you download it from the Internet. The result is an icon whose name usually ends in .img or .dmg (upper left). (Files that end with .smi are also disk images, but self-mounting ones that don't require Disk Utility.) Second, when you double-click this icon, an invisible program called DiskImageMounter creates an icon that simulates a new disk (upper right). Finally, when you double-click this icon, you see exactly what the original creator of the image wanted you to see (bottom).

- You want to create a backup of an important CD. By turning it into a disk-image file on your hard drive, you'll always have a safety copy, ready to burn back onto a *new* CD. (This is an essential practice for educational CDs that kids will be handling soon after eating peanut butter and jelly.)

- You want to replicate your entire hard drive—complete with all of its files, programs, folder setups, and so on—onto a new, bigger hard drive (or a new, better Mac), using the new Restore feature described earlier.

- You want to back up your entire hard drive, or maybe just a certain chunk of it, onto an iPod or another disk. (Again, you can later use the Restore function to complete the transaction.)

- You bought a game that requires its CD to be in the drive at all times. Many programs like these run equally well off of a mounted disk image that you made from the original CD.

- You want to send somebody else a copy of a disk via the Internet. You simply create a disk image, and then send *that*—preferably in compressed form.

Here's how you make a disk image.

- **To image-ize a disk or partition.** Click the name of the disk you want in the left-panel list, where you see the disks currently in, or attached to, your Mac. (The topmost item is the name of your *drive,* like "484.0 MB MATSHITADVD-R" for a DVD drive or "74.5 GB Hitachi" for a hard drive. Beneath that entry, you generally see the name of the actual partition, like "Macintosh HD," or the CD's name as it appears on the screen.)

    Then choose File→New→Disk Image from [whatever the disk or partition's name is].

- **To image-ize a folder.** Choose File→New→Disk Image from Folder. In the Open dialog box, click the folder you want and then click Image.

Tip: Disk Utility can't turn an individual *file* into a disk image. But you can put a single file into a folder, and then make a disk image of *it*.

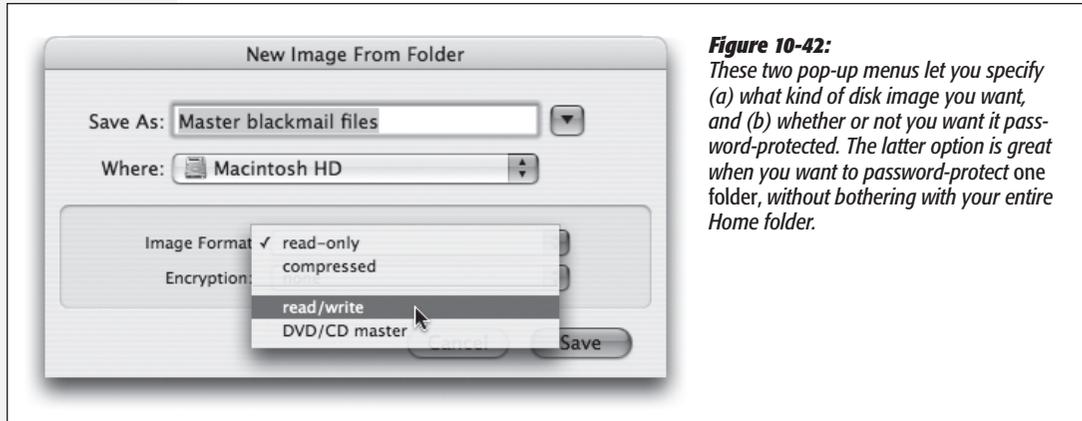Either way, the next dialog box (Figure 10-42) offers some fascinating options.

- **Image Format.** If you choose "read/write," your disk image file, when double-clicked, turns into a superb imitation of a hard drive. You can drag files and folders onto it, drag them off of it, change icons' names on it, and so on.

    If you choose "read-only," however, the result behaves more like a CD. You can copy things off of it, but not make any changes to it.

    The "compressed" option is best if you intend to send the resulting file by email, or if you'd like to preserve the disk image on some backup disk for a rainy day. It takes a little longer to create a simulated disk when you double-click the disk image file, but it takes up a lot less disk space than an uncompressed version.

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Finally, choose "DVD/CD master" if you're copying a CD or a DVD. The resulting file is a perfect mirror of the original disc, ready for copying onto a blank CD or DVD when the time comes.

- **Encryption.** Here's an easy way to lock private files away into a vault that nobody else can open. If you choose "AES-128 (recommended)," you're asked to assign a password to your new image file. Nobody can open it without the password—not even you. On the other hand, if you save it into your Keychain (page 471), it's not such a disaster if you forget the password.

Figure 10-42:
These two pop-up menus let you specify (a) what kind of disk image you want, and (b) whether or not you want it password-protected. The latter option is great when you want to password-protect one folder, *without bothering with your entire Home folder.*

- **Save As.** Choose a name and location for your new image file. The name you choose here doesn't need to match the original disk or folder name.

When you click Save (or press Enter), if you opted to create an encrypted image, you're asked to make up a password at this point.

Otherwise, Disk Utility now creates the image and then *mounts* it—that is, turns the image file into a simulated, yet fully functional, disk icon on your desktop.

When you're finished working with the disk, eject it as you would any disk (Control-click it and choose Eject, for example). Hang onto the .dmg disk image file itself, however. This is the file you'll need to double-click if you ever want to recreate your "simulated disk."

Turning an image into a CD
One of the other most common disk-image tasks is turning a disk image *back* into a CD or DVD—provided you have a CD or DVD burner on your Mac, of course.

All you have to do is drag the .dmg file into the Disk Utility window, select it, and click the Burn icon on the toolbar (or, alternatively, Control-click the .dmg icon and choose Burn from the shortcut menu). Insert a blank CD or DVD, and then click Burn.

Grab

Grab takes pictures of your Mac's screen, for use when you're writing up instructions, illustrating a computer book, or collecting proof of some secret screen you found buried in a game. You can take pictures of the entire screen (press ⌘-Z, which for once in its life does *not* mean Undo) or capture only the contents of a rectangular selection (press Shift-⌘-A). When you're finished, Grab displays your snapshot in a new window, which you can print, close without saving, or save as a TIFF file, ready for emailing or inserting into a manuscript.

Now, as experienced Mac enthusiasts already know, the Mac OS has long had its *own* built-in shortcuts for capturing screenshots: Press Shift-⌘-3 to take a picture of the whole screen, and Shift-⌘-4 to capture a rectangular selection.

So why use Grab instead? In many cases, you shouldn't. The Shift-⌘-3 and Shift-⌘-4 shortcuts work like a dream. But there are some cases in which it might make more sense to opt for Grab. Here are three:

• Grab can make a *timed* screen capture (choose Capture→Timed Screen, or press Shift-⌘-Z), which lets you enjoy a 10-second delay before the screenshot is actually taken. After you click the Start Timer button, you have an opportunity to activate windows, pull down menus, drag items around, and otherwise set up the shot before Grab shoots the picture.

• When you capture a screenshot using Grab's Selection command, the *size* of your selection is displayed, in pixels, right under the pointer as you drag. If you need to capture a 256-pixel-wide square, for example, you can do so with pinpoint accuracy. (Choose Edit→Inspector to read the dimensions of a screenshot *after* you capture it.)

• With Grab, you have the option of including the cursor in the picture, which is extremely useful when you're showing a menu being pulled down or a button being clicked. (Mac OS X's screenshot keystrokes, by contrast, always eliminate the pointer.) Use the technique described in Figure 10-43 to add the pointer style of your choice to a Grab screenshot.

Figure 10-43:
Unlike the Shift-⌘-3 or Shift-⌘-4 keystrokes, Grab lets you include the pointer/cursor in the picture—or hide it. Choose Grab→Preferences and pick one of the eight different pointer styles, or choose to keep the pointer hidden by activating the blank button in the upper-left corner.
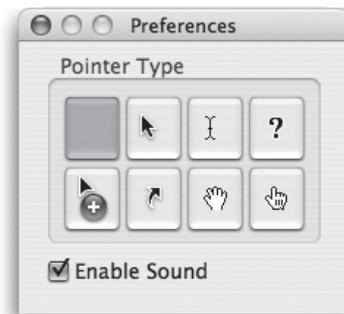
Tip: Actually, if you're going to write a book or manual about Mac OS X, the program you really need is Snapz Pro X (available for download from *www.missingmanuals.com,* among other places). It offers far more flexibility than any of Mac OS X's own screenshot features. For example, you have a choice of file format, you can neatly snip out just one dialog box or window with a single click, and you can even capture *movies* of screen activity.

Grapher

Yes, kids, it's the next episode of Apple's on-again, off-again love affair with the graphing calculator! Now you, too, can create 2-D or 3-D graphs of staggering beauty and complexity.

But seriously, folks. This equation grapher is an amazing piece of work.

When you first open Grapher, you're asked to choose what kind of virtual "graph paper" you want: two-dimensional (standard, polar, logarithmic) or three-dimensional (cubic, spherical, cylindrical). Click a name to see a preview; when you're happy with the selection, click Open.

Now the main Grapher window appears (Figure 10-44). Do yourself a favor. Spend a few wow-inducing minutes choosing canned equations from the Examples menu, and watching how Grapher whips up gorgeous, colorful, sometimes animated graphs on the fly.
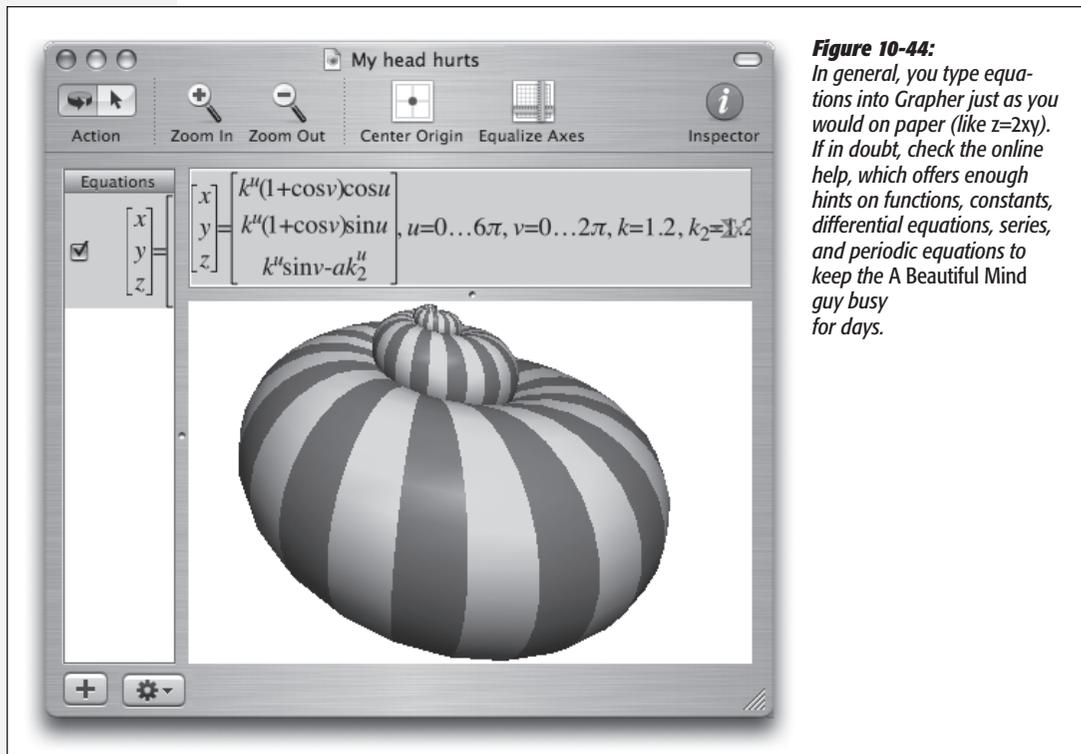

Figure 10-44:
In general, you type equations into Grapher just as you would on paper (like z=2xy). If in doubt, check the online help, which offers enough hints on functions, constants, differential equations, series, and periodic equations to keep the A Beautiful Mind *guy busy for days.*

When you're ready to plug in an equation of your own, type it into the text box at the top of the window. If you're not such a math hotshot, or you're not sure of the equation format, work from the canned equations and mathematical building blocks that appear when you choose Equation→New Equation from Template or Window→Show Equation Palette (a floating window containing a huge selection of math symbols and constants).

Tip: If you don't know the keystroke that produces a mathematical symbol like pi or theta, you can just type the word *pi* or *theta*. Grapher replaces it with the correct symbol automatically.

Once the graph is up on the screen, you can tailor it like this:

- **To move a 2-D graph** in the window, choose View→Move Tool and then drag; to move a 3-D graph, ⌘-drag it.

- **To rotate a 3-D graph,** drag in any direction. If you add the Option key, you flip the graph around only one axis.

- **To change the colors, line thicknesses, 3-D "walls," and other graphic elements,** click the ❶ button (or choose Window→Show Inspector) to open the formatting palette. The controls you find here vary by graph type, but rest assured that Grapher can accommodate your every visual whim.

- **To change the fonts and sizes,** choose Grapher→Preferences. On the Equations panel, the four sliders let you specify the relative sizes of the text elements. If you click the sample equation, the Font panel appears (page 525), so you can fiddle with the type.

- **Add your own captions, arrows, ovals, or rectangles** using the Object menu.

When it's all over, you can preserve your masterpiece using any of these techniques:

- **Export a graphic** by choosing File→Export.

POWER USERS' CLINIC

For Mathematicians (and Physicists, Scientists, and Students) Only

If you're into math, science, or studying math or science, Grapher is a tremendous addition to Mac OS X. There's a whole lot to it–but if you're just getting started, here are a few features not to miss:

- You can calculate values, intercepts, derivatives, and integrals (even indefinite integrals) by using the Equation→Evaluation and Equation→Integration commands.

- Some useful ready-made equation components await in the pop-up button at the right side of the equation text box. Using the Sum and Product symbols, for example, you can quickly calculate summations and products.

- That same pop-up menu can help you generate piecewise, parametric, and other specialized kinds of graphs (this means you, math students).

- **Copy an equation to the Clipboard** by Control-clicking it and choosing Copy As→ TIFF (or EPS, or whatever) from the shortcut menu. Now you can paste it into another program.

- **Export an animation** by choosing Equation→Create Animation. The resulting dialog box lets you specify how long you want the movie to last (and a lot of other parameters).

Tip: If you Shift-drag the starting or ending images at the bottom, you can change their size.

Finally, click Create Animation. After a moment, the finished movie appears. If you like it the way it is, choose File→Save As to preserve it on your hard drive for future generations.

Installer
You'll never launch this. It's the engine that drives the Mac OS X installer program and other software installers. There's nothing for you to configure or set up.

Java
Programmers generally use the Java programming language to create small programs that they then embed into Web pages—animated effects, clocks, calculators, stock tickers, and so on. Your browser automatically downloads and runs such applets (assuming that you have "Enable Java" turned on in your browser).

Your Java folder contains several Java-related tools, which exist primarily for the benefit of Web programmers and Web programs (including Safari).

Keychain Access
Keychain Access manages all your secret information—passwords for network access, file servers, FTP sites, Web pages, and other secure items. For instructions on using Keychain Access, see Chapter 12.

Migration Assistant
This little cutie, new in Tiger, automates the transfer of all your stuff from one Mac to another—your Home folder, network settings, programs, and more. This comes in extremely handy when you buy a newer, better Mac. Migration Assistant assumes

FREQUENTLY ASKED QUESTION

Key Caps: Missing In Action?

Hey, where's Key Caps!? I used to use this program all the time to figure out how to type special symbols (like ¢) with hidden key combinations (like Option-4). Now it's not even there any more!

Well, that's not quite true. It's now called Keyboard Viewer. You get to it via System Preferences→International→Input Menu.

Page 291 tells all.

that you've connected them using a FireWire cable, because it relies on Target Disk Mode (page 221) to get the copying done quickly. (It can also copy everything over from a secondary hard drive or partition.)

The instructions on the screen guide you through the setup process; then the Assistant automates the transfer.

NetInfo Manager

NetInfo is the central Mac OS X database that keeps track of user and group accounts, passwords, access privileges, email configurations, printers, computers, and just about anything else network related. NetInfo Manager is where a network administrator (or a technically inclined Mac guru) goes to view and edit these various settings.

You can find more information about NetInfo in these places:

• The tutorials in the relevant sections of this book, such as on pages 444 and 460.

• Article #106416 ("NetInfo: What is it? How to Set Up NetInfo") at *http://kbase. info.apple.com,* and the associated downloadable PDF manual.

Network Utility

The Network Utility gathers information about Web sites and network citizens. It offers a suite of standard Internet tools like NetStat, Ping, Traceroute, Finger, and Whois—advanced tools, to be sure, but ones that even Mac novices may be asked to fire up when calling a technician for Internet help.

Otherwise, you probably won't need to use Network Utility to get your work done. However, Network Utility can be useful when you're performing Internet detective work.

• **Whois** ("who is") can gather an amazing amount of information about the owners of any particular domain (such as *www.apple.com*)—including name and address info, telephone numbers, and administrative contacts. It uses the technique shown in Figure 10-45.

UP TO SPEED

Sleuthing Around with NetInfo Manager

While most of NetInfo Manager is of little use to a typical Mac fan, a few parts of this utility can be valuable even to a non–system administrator.

To dive into NetInfo Manager, start by clicking the padlock button at the bottom of the main window and enter an administrator's password. Then examine the various parameters in the top-left Directory Browser list. As you'll quickly discover, most of these settings are written in Unix techno-speak.

A few, however, are easy enough to figure out. If you click users in the middle list, you'll see, in the next column, a list of accounts you've created. Click one of the account names there, and you'll see, in the properties pane at the bottom of the screen, some parameters that may come in handy—such as each person's name, password, and password hint.

By double-clicking one of these info items, you can edit it, which may sometimes be more convenient than changing or looking up passwords in System Preferences.

- Use **Ping** to enter a Web address (such as *www.google.com*), and then "ping" (send out a "sonar" signal to) the server to see how long it takes for it to respond to your request. Network Utility reports the response time in milliseconds—a useful test when you're trying to see if a remote server (a Web site, for example) is up and running. (The time it takes for the ping to report back to you also tells you how busy that server is.)
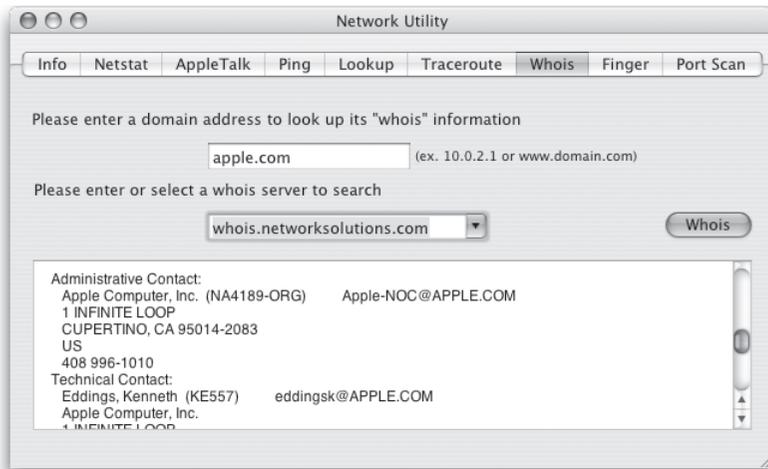

Figure 10-45:
The Whois tool is a powerful part of Network Utility. First enter a domain that you want information about, then choose a Whois server from the pop-up menu (you might try whois.networksolutions.com*). When you click the Whois button, you get a surprisingly revealing report about the owner of the domain, including phone numbers, fax numbers, contact names, and so on.*

- **Traceroute** lets you track how many "hops" are required for your Mac to communicate with a certain Web server. Just type in the network address or URL, and then click Trace. You'll see that your request actually jumps from one *trunk* of the Internet to another, from router to router, as it makes its way to its destination. You'll learn that a message sometimes crisscrosses the entire country before it arrives at its destination. You can also see how long each leg of the journey took, in milliseconds.

ODBC Administrator

This program is designed to arbitrate ODBC access requests. Any questions?

If you have no idea what that means, and no corporate system administrator has sat down to explain it to you, then your daily work probably doesn't involve working with corporate ODBC (Open Database Connectivity) databases. You can ignore this program or throw it away.
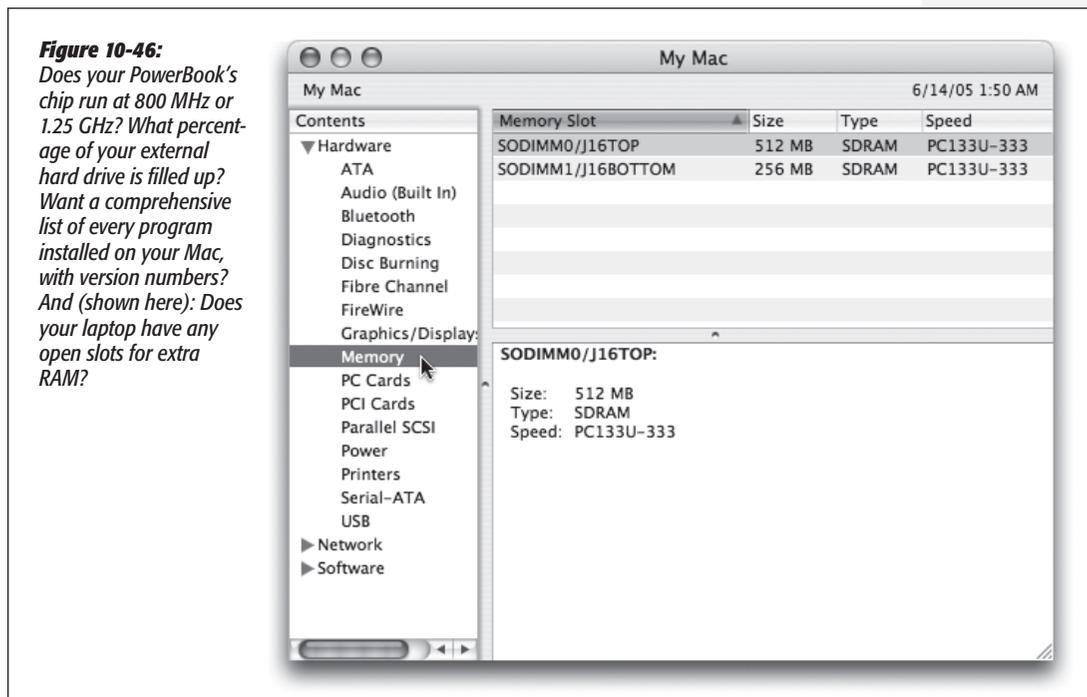
Printer Setup Utility

This is the hub of your Mac's printing operations. You can use the Printer Setup Utility (formerly called Print Center) to set up and configure new printers, and to check on the status of print jobs, as described in Chapter 14.

System Profiler

System Profiler (once called Apple System Profiler) is a great tool for learning exactly what's installed on your Mac and what's not—in terms of both hardware and software. The people who answer the phones on Apple's tech-support line are particularly fond of System Profiler, since the detailed information it reports can be very useful for troubleshooting nasty problems.

Tip: Instead of burrowing into your Applications→Utilities folder to open System Profiler, it's sometimes faster to use this trick: Choose a→About This Mac. In the resulting dialog box, click the More Info button. Boom—System Profiler opens. (And if you click your Mac OS X version number twice in the About box, you get to see your Mac's serial number!)

When you launch System Profiler, it reports information about your Mac in a list down the left side (Figure 10-46).

Figure 10-46:
Does your PowerBook's chip run at 800 MHz or 1.25 GHz? What percentage of your external hard drive is filled up? Want a comprehensive list of every program installed on your Mac, with version numbers? And (shown here): Does your laptop have any open slots for extra RAM?

They fall into these categories:

- **Hardware.** Click this word to see precisely which model Mac you have, what kind of chip is inside (and how many), how much memory it has, and its serial number.

  If you expand the flippy triangle, you get to see details about which **Memory** slots are filled and the size of the memory module in each slot; what kind of **Disc Burning** your Mac can do (DVD-R, DVD+R, and so on); what **PCI Cards** are installed

in your expansion slots; what **Graphics/Displays** circuitry you have (graphics card and monitor); what's attached to your **ATA** bus (internal drives, like your DVD drive and hard drive); what's connected to your **SCSI, USB,** and **FireWire** chains, if anything; and much more.

- **Network.** This section reveals details on your **AirPort Card** (if you have one), what **Modems** you have, what Internet connection **Locations** you've established (page 645), and so on.

- **Software.** Click this heading to see exactly which version of Mac OS X you have, and what your computer's name is, as far as the network is concerned ("Chris's Computer," for example).

The **Applications** list documents every program on your system, with version information—a quick inventory of what you've installed on your Mac. It's useful for spotting duplicate copies of programs.

POWER USERS' CLINIC

The Xcode Tools

The Tiger DVD includes a special batch of programs, known as the XCode Tools, just for developers (programmers) who write Mac OS X software. You'll need some of these programs if you want to get into some of the more esoteric (or, as some would say, fun) Mac OS X tricks and tips.

To install these tools, open Xcode Tools→XcodeTools.mpkg in the DVD window. After following the onscreen prompts, you wind up with a new folder called Developer on your hard drive. Its Applications→ Utilities folder contains a few programs that are user-friendly enough even for nonprogrammers.

CrashReporterPrefs, for example, lets you tell Mac OS X when to display the "Application Unexpectedly Quit" dialog box. If you choose Server, you'll never see one of those annoying dialog boxes again—perfect if you have a program that just won't stop crashing.

Also, if you open Developer→Applications→Graphics Tools, you'll find **Quartz Composer**. This program, new in Tiger, lets you build screen savers, animations, and tons of other graphical goodies without writing a single line of code. (Use File→New from Template to get started with some pre-assembled possibilities.)

Finally, don't miss **Core Image Fun House** (also in Developer→ Applications→Graphics Tools). It's intended to be a showcase for Tiger's new Core Image technologies, which is a ready-to-use photo-transformation toolkit that software companies can build into their programs. It lets you apply dozens of mind-blowing visual effects to your images and movies–distortions, color corrections, solar flares, and so on–with nothing more than a few clicks. (If your Mac is fast enough, you can even adjust filters in real time, so you can see the result of your modifications as you make them.) One possibility is shown here.

When you're done psychedelicizing your image, you can export it to a standard JPEG or TIFF image by choosing File→ Save As. From there, you can show it off on a Web site, email it to your friends, or make it your desktop background.

Tip: The right-hand column of the Applications list identifies each program as being either Universal or PowerPC. (A Universal program can run *natively*—at full speed—on either Intel-based Macs or earlier models; a PowerPC program runs natively on older Macs, but somewhat slower on Intel Macs because it has to go through the Rosetta translator described on page 11). This list is a handy summary of which programs have been updated for the Intel generation.

Similar information shows up in the **Extensions** panel. In this sense, "extensions" doesn't mean *system* extensions like those that made life a living hell in Mac OS 9 and earlier. In Mac OS X, the term *extensions* refers to a different kind of add-on component to the core system software. Generally, these are drivers for the Mac's various components, which sit in the System→Library→Extensions folder. Whatever's in that folder is what you see listed in this panel.

Other categories include self-explanatory lists like **Fonts, Preference Panes,** and **Startup Items.**

Finally, the **Logs** panel reveals your Mac's secret diary: a record of the traumatic events that it experiences from day to day. (Many of these are the same as those revealed by the Console utility; see page 383.) Some reveal *crash logs,* which are detailed technical descriptions of what went wrong when various programs crashed, and what was stored in memory at the time.

Unfortunately, there's not much plain English here to help you understand the crash, or how to avoid it in the future. Most of it runs along the lines of "Exception: EXC_BAD_ACCESS (0x0001); Codes: KERN_INVALID_ADDRESS (0x0001) at 0x2f6b657d." In other words, it's primarily for the benefit of programmers. Still, tech-support staff may occasionally ask to see the information in one of these logs.

Tip: If any of these screens is showing you more or less technical information than you'd like, use the View menu to choose Mini Profile, Basic Profile, or Full Profile.

Saving a report

To create a handsomely formatted report that you can print or save, choose File→ Save, and then choose Rich Text Format from the File Format pop-up menu. Note, however, that the resulting report can be well over 100 pages long. In many cases, you're better off simply making a screen shot of the relevant Profiler screen, as described on page 531.

Terminal

Terminal opens a terminal window with a *command line interface,* taking you deep into the world of Unix, the operating system on which Mac OS X is based. Chapters 16 and 17 offer a crash course on this powerful window into the Mac's shadow operating system.

VoiceOver Utility

For details on this new screen-reader software, see page 560.