Microsoft® Office 2003 Super Bible eBook

Microsoft® Office 2003 Super Bible eBook

Various Authors

WILEY

Wiley Publishing, Inc.

About the Authors

Peter Kent has been using Microsoft Word for 14 years to write 50 books, scores of technical manuals, and literally thousands of magazine articles and corporate documents. He has worked in the software development business for nearly 22 years, designing and testing software, writing documentation, and training users. He is the author of the widely reviewed and praised *Poor Richard's Web Site.* Today, he is vice president of marketing for Indigio, an e-services firm. Peter, author of *Word 2003 Bible*, updated chapters 2, 11 and 18 of the Super Bible eBook, from the original authors, **Brent Heslop** and **David Angell**.

Cary Prague is an internationally known best-selling author and lecturer in the database industry. He owns Database Creations, Inc., the world's largest Microsoft Access add-on company. Its products include a line of financial software: Business! for Microsoft Office, a mid-range accounting system; POSitively Business! point-of-sale software; the Inventory Bar code manager for mobile data collection; Check Writer; and General Ledger. Database Creations also produces a line of developer tools including the appBuilder, an application generator for Microsoft Access; the EZ Access Developer Tools for building great user interfaces; appWatcher for maintaining code bases among several developers, and Surgical Strike, the only Patch Manager for Microsoft Access.

Local and national clients for Database Consulting, LLC, consist of many Fortune 100 companies, including Microsoft, United Technologies, ABB, Smith & Wesson Firearms, Pratt and Whitney Aircraft, ProHealth, OfficeMax, and Continental Airlines.

Cary is one of the best-selling authors in the computer database management market, having written more than 40 books that have sold over one million copies. His software topics include Microsoft Access, Borland (Ashton-Tate) dBASE, Paradox, R:Base, Framework, and graphics. Cary's books include various editions of the *Access Bible*, *Access 97 Secrets, Access Crash Course, dBASE for Windows Handbook, dBASE IV Programming* (winner of the Computer Press Association's Book of the Year award for Best Software-Specific Book), and *Everyman's Database Primer Featuring dBASE IV*.

Cary is certified in Access as a Microsoft Certified Professional and has passed the MOUS test in Access and Word. He is a frequent speaker at seminars and conferences around the country. He is on the exclusive Microsoft Access Insider Advisory Board and makes frequent trips to Microsoft headquarters in Redmond, Washington.

Cary holds an M.A. in computer science from Rensselaer Polytechnic Institute, and an M.B.A and Bachelor of Accounting from the University of Connecticut. He is also a Certified Data Processor. As author of *Access 2003 Bible*, Carey provided chapters 8, 15, and 22 to the eBook.

Bill Rodgers is a computing consultant from Newcastle, Australia, with a passion for V8Supercars and Rugby league and Rugby Union football. Bill specializes in Office and Windows systems, collaboration, and advanced technologies. Bill has been a contributing author and technical editor on many Office books for leading international companies and has been awarded the Microsoft MVP (Most Valuable Professional) award for the past four years for his support of and expertise with Microsoft products. Bill, contributing author of Office 2003 Bible, wrote chapter 17 of this book.

Curt Simmons, A+, MCSA, MCSE, CTT is a technical trainer and freelance writer. The author of more than thirty books on various Microsoft and Internet technologies, Curt most often writes about Microsoft Office products and operating systems. He also teaches several digital photography courses. Curt's most recent books include *Windows XP Networking Inside Out*, *The A+ Technician's On-the-Job Guide to Networking*, *iPhoto For Dummies*, and *How To Do Everything with Photoshop Album*. Curt lives in Saint Jo, Texas with his wife and children. Visit Curt on the Internet at `www.curtsimmons.com`. Curt, author of *FrontPage 2003 Bible*, is responsible for chapters 7, 14, and 23 of this book.

Rob Tidrow is a writer, Web site designer, trainer, and president of Tidrow Communications, Inc., a firm specializing in content creation and delivery. Rob has authored or co-authored over 30 books on a wide variety of computer topics, including Microsoft Windows, Microsoft Office, and Microsoft Internet Information Server. He is the Technology Coordinator for Union School Corporation, Modoc, IN and lives in Milton, IN with his wife Tammy and their two sons, Adam and Wesley. You can reach him on the Internet at `rtidrow@infocom.com`. Author of the *Outlook 2003 Bible*, Rob is the author of chapter 10 of this book. Contributing author of the *Outlook 2003 Bible*, **Jim Boyce** wrote chapters 3 and 19 of this book.

John Walkenbach is the author of approximately three dozen spreadsheet books. Visit his Web site at `http://.j-walk.com`. John, as author of *Excel 2003 Bible*, wrote chapters 4, 12, and 20 of this book.

Faithe Wempen, M.A., is an A+ Certified hardware guru, Microsoft Office Specialist Master Instructor, and software consultant with over 70 computer books to her credit. When she is not writing, she teaches Microsoft Office classes in the Computer Technology department at Indiana University/Purdue University at Indianapolis (IUPUI), does private computer training and support consulting, and is the business manager of Sycamore Knoll Bed and Breakfast in Noblesville, Indiana (`www.sycamoreknoll.com`). Faithe is a contributing editor at CertCities.com, and a frequent contributor to CertCities.com, TechProGuild.com, and several magazines. She teaches online classes for the Hewlett-Packard Learning Center, and serves on the advisory board for the Computer Technician program at Training, Inc. in Indianapolis. As author of *PowerPoint 2003 Bible*, Faithe wrote chapters 5, 13, and 21 of this book.

Edward Willett is the author of more than 20 books, ranging from computer books on a variety of topics to children's nonfiction to young adult science fiction and fantasy. A former newspaper reporter and editor, he writes a science column for newspapers and radio and hosts a weekly TV phone-in show about computers and the Internet. He's also a professional actor and singer. Ed lives in Regina, Saskatchewan, with his wife and daughter. Ed, as lead author of *Office 2003 Bible*, wrote chapters 9 and 16 of this book.

Credits

Contents at a Glance

Contents

Part II: Collaborating and Integrating with Microsoft Office 2003 225

Chapter 9: Building Integrated Documents 227

Getting Functional with Microsoft Office 2003

This part is comprised of chapters that cover the first *useful* "getting started" functions in each of the Office 2003 suite of applications, including Publisher. You will also find an introduction to the Super Bible eBook itself, offering insight as to where the chapters originally came from and the concept behind generating this bonus free eBook as extra value for you.
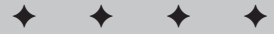
Introduction to the Microsoft Office 2003 Super Bible eBook

Welcome to the *Microsoft Office 2003 Super Bible*. As part of
the Wiley Bible series, this book emphasizes "handiness"
by giving you bonus material in an easy-to-use format. In this
book, you find all the information that you need to successfully and
efficiently function within Office 2003 suite of applications both
with other coworkers and other applications. To make it as easy as
possible to find, understand, and implement information, throughout
the text the major tasks are clearly delineated. This guide is de-
signed to facilitate your access to various functions within Office
2003 System and get you quickly on your way to getting the most
out of this truly exciting and powerful new product.

Who Should Read This Book

This Super Bible eBook is intended for anybody who has used
Microsoft Office products in the past, and wants to increase their
knowledge of Office 2003. Wiley carefully selected some of the
most useful chapters from each of their Office 2003 Bibles to
enable you to get the most out of all of Office 2003 products. The
material was chosen based on it's ability to bring you up to speed
on some of the features that make Office 2003 a superior office
system, most notably the way the applications integrate well
together and allow you to collaborate with your coworkers or
project partners, whatever your project may be.

How This Book Is Organized

This book is organized to accomplish two things: First, to introduce you to the key "must-know" features of each of the Office applications, and then to make it as easy as possible for you to integrate the application you most often use with other Office applications, while collaborating with your coworkers. Finally, you will find material intended to make you comfortable with some of the advanced or most useful features in each of the Office 2003 applications.

Part I: Getting Functional with Office 2003

Part I is comprised of chapters that cover the first *useful* "getting started" functions in each of the Office 2003 suite of applications, including Publisher.

Part II: Collaborating and Integrating with Office 2003

Part II is comprised of chapters that enable users of one particular Office 2003 application to more effectively collaborate and integrate their efforts with coworkers and/or other applications.

Part III: Beyond Mastery: Initiative within Office

Part III is comprised of chapters that are the special "extras" that many people know about, but might not be quite as familiar with as some of the other day-to-day functions. Once you've read a sampling of the meat and potatoes functions in each application, and then how to more efficiently work with your coworkers and other applications, these chapters should enable you to take the initiative and go that next step.

Of Special Note for the eBook

Many of these chapters were culled from their original publications and adapted slightly for the purposes of the eBook. The idea was not only to give you valuable, free content, but also to whet your appetite for some of the other applications that Microsoft Office 2003 System offers. If you find that you have interest in learning more about any of the topics you read about in this eBook, please visit www.wiley.com/compbooks/officebibles2003. This Web site allows you to preview our other products with detailed TOCs as well as other valuable information.

Note   Every attempt was made to keep this material as consistent as possible with what you will see in the final product. Please be aware that depending on the OS system you are currently using and the system that the screenshots were taken on, as well as the personal settings of each, some of the images may not match exactly.

Using the companion Web site

Be sure to visit the companion Web site at: `www.wiley.com/compbooks/`
`officebibles2003/`. Here's what you'll find on the Web site:

✦ Links to all the software found on the CDs of Wiley's Office 2003 Bibles.

✦ Complete, detailed tables of contents for all the Wiley Office 2003 *Bibles: Access
2003 Bible, Excel 2003 Bible, FrontPage 2003 Bible, Office 2003 Bible, Outlook
2003 Bible, PowerPoint 2003 Bible,* and *Word 2003 Bible*

✦ Links to other Wiley Microsoft Office titles

Conventions Used in This Book

To make this book as easy as possible, icons in the margins alert you to special or
important information. Look for the following icons:

Caution Marks a warning about a particular procedure to which you should pay
particular attention.

Note Marks a special point or supplementary information about a feature or task.

Tip Marks a tip that saves you time and helps you work more efficiently.

To further assist you in reading and learning the material in this book, the following
formatting conventions are used throughout:

✦ Text you are asked to type appears in **bold**.

✦ New words and phrases that may require definition and explanation appear in *italics*.
Text that carries emphasis and single characters that may be easy to lose in the text
also appear in italics.

✦ Menu commands are indicated in chronological order by using the command arrow:
File⇨Open.

✦ Keyboard shortcut keys look like this: Alt+Tab.

✦ When instructed to *click* an item, press the left mouse button unless otherwise
specified. When you should use the right mouse button instead, you are asked to
right-click. Of course, this will be different for left-handed users.

✦   ✦   ✦

Paragraph Formatting in Word

Paragraphs — the basic building blocks of any document —
have a special meaning in Microsoft Word. Paragraphs can
include any amount of text and graphics, or any other item,
followed by a paragraph *mark* or *break*. Paragraph marks store the
formatting applied to each paragraph. In this chapter, you learn the
fundamentals of paragraph formatting in Word.

Each time you press the Enter key, Word begins a new paragraph.
Click the Show/Hide button on the Standard toolbar or press
Ctrl+Shift+* to display the paragraph marks. Press the Enter key
several times, and you'll see Word insert strange little backward *P*
icons, with the semicircle at the top of the *P* filled in. These are the
paragraph marks, and they store the information about the paragraph.

> **Note**   The paragraph *ends* at the paragraph mark. Thus formatting for a
> paragraph is held in the paragraph mark at the end of the text; delete
> that mark and the formatting for the preceding text is removed and
> replaced with the formatting held in the *next* paragraph mark.

Applying Paragraph Formatting

This chapter looks at how to apply paragraph formatting directly.
In order to apply formatting to a paragraph, place the cursor
inside the paragraph you want to modify. Make sure you have
not selected any text within the paragraph, though, but that the
cursor is merely sitting in the paragraph. (In some cases if
you've selected a few characters or words and you apply some
kind of format, you'll be modifying just the selected text, not the
entire paragraph.) You can also select an entire paragraph, or
multiple paragraphs, and then apply formatting.

When you press Enter to start a new paragraph, that new paragraph will, in general, contain exactly the same formatting as the previous paragraph. There are some cases when this *won't* happen, though. Some styles may be set up such that when you press Enter a new style, with different formatting, is used for the next paragraph. For instance, a heading style may be set up to automatically begin working with a body-text style when you press Enter.

You can apply paragraph formatting using buttons on the Formatting toolbar (see Figure 2-1), settings in the Paragraph dialog box (see Figure 2-2), or shortcut keys. By changing the formatting of a paragraph, you can change the alignment and spacing of the lines within that paragraph.

Figure 2-1: The Formatting toolbar.

Figure 2-2: The Paragraph dialog box.

Checking paragraph formats

The formats applied to the current paragraph appear in the settings on the Formatting toolbar, the horizontal ruler, and in the Paragraph dialog box. If you select several paragraphs with different formats, the dialog box settings may appear blank or dimmed. Word cannot indicate different formats at the same time. On the ruler, dimmed indent and tab markers show the settings for the first paragraph in the selection.

With Word, you can display information about any paragraph formats that are applied to a given paragraph. To check the formatting of a paragraph, choose Format⇨Reveal Formatting, or press Shift+F1 and the Reveal Formatting task pane opens (see Figure 2-3). You can now click in a paragraph to see what formatting has been applied to the paragraph.

Figure 2-3: Paragraph formatting information

Duplicating paragraph formats

The easiest way to duplicate paragraph formatting is to carry that formatting forward by pressing Enter. The current paragraph ends and a new one begins with the same formatting as the preceding one. If the formatting that you want to copy is in another part of your document or even a different document, use the Format Painter, with which you can duplicate all of the formatting in the selected text. To use the Format Painter, select the text with the formatting that you want to copy. Make sure that you select the entire paragraph, including the paragraph mark at the end. Click the Format Painter button (see Figure 2-4) on the Standard toolbar, and select the block of text to which you want to apply the formatting. Again, if you want to make sure that you transfer all the paragraph formatting, be sure to select the entire paragraph, including the end paragraph mark. Or, you can select several paragraphs at the same time.

Figure 2-4: The Format Painter button.

If you want to copy formats and apply them to multiple non-contiguous paragraphs, select the paragraph with the formatting that you want to copy, double-click the Format Painter button, and then select, one at a time, the paragraphs that you want to change. Click the Format Painter button or press Esc to end the formatting.

You can also apply a formatting change to different paragraphs. Apply it once; then click the next paragraph and select Edit⇨Repeat, press Ctrl+Y, or press F4. Remember that these commands duplicate only the last action. So if you want to apply multiple formats at the same time, such as both bold and strikethrough, use the Format Font dialog box rather than keyboard shortcuts before using Edit⇨Repeat.

Because formats are stored in the paragraph mark, you can copy and paste the paragraph mark itself to create new paragraphs with the same formatting. Use the Show/Hide button to display the paragraph marks, select the paragraph mark of the paragraph that you want to change, copy that mark, and then paste the copied paragraph mark immediately after the last character of the paragraph to which you wish to apply formatting.

Removing paragraph formats

You can use a shortcut to remove any paragraph's formats that have been applied, converting the format back to that which is used by the paragraph's style. We'd better clarify that: Every paragraph in your document has a style applied to it. For instance, most text will probably use the Normal style. The style defines how much space appears before and after the paragraph, how much space between lines, and so on. But you can apply formatting directly to the paragraph. For instance, say you used the Paragraph dialog box to specify that a block of text is double-spaced, here's a blank line after every line. That paragraph format has been, in effect, laid over the Normal style's settings.

You can press Ctrl+Q to remove any direct paragraph formatting and leave only the paragraph's style formatting. Thus, in our example, if you place the cursor in the text and press Ctrl+Q, the double-spacing is removed and the paragraph returns to the Normal style.

Tip   This doesn't change any direct *character* formatting applied to the paragraph's text, however. So remember Ctrl+Q; it's a very useful way to return a paragraph to its styles formatting, without removing character formats such as bold and italics.

You can also press Ctrl+Shift+N to apply the default Normal style formatting to the paragraph. (Again, the character formatting is not removed.) Almost the same as Ctrl+Q, but of course, Ctrl+Q doesn't change the style.

Some paragraph formatting commands and buttons act as toggle switches; using them, you can turn the formatting on or off. For example, with the insertion point in a paragraph, you can convert that paragraph to a bulleted item by clicking the Bullets button on the Formatting toolbar. With the insertion point in that same paragraph, clicking the Bullets button again removes the bullet formatting of the paragraph.

Tip   If you cut and paste text from another Word document or another application and have difficulty reformatting that paragraph, cut the text (Ctrl+X), select Edit⇨Paste Special, and choose Unformatted Text. All of the formatting is removed.

Using line breaks

We explained that when you press Enter, you start a new paragraph. But it's possible to create individual blocks of text, separated by a blank line if you wish, *within* a paragraph. Instead of pressing Enter to go to the next line, press Shift+Enter, and Word inserts a *line break* instead of a paragraph break. Instead of the backward P, you'll see a little arrow with a right-angle bend in it (see Figure 2-5).
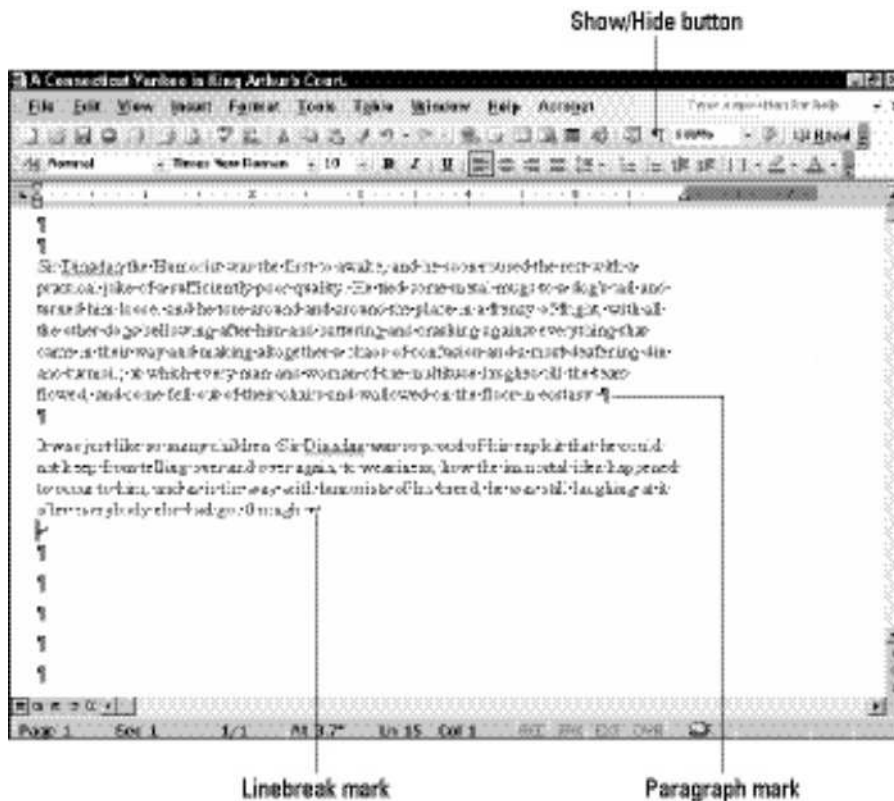
Figure 2-5: You can see both paragraph breaks and line breaks in this image.

A line break is also known as a *soft return*. Using soft returns, you can break lines but keep them in the same paragraph. Line breaks can save you a lot of time when formatting. Line breaks are especially helpful for creating headings that you want to appear on more than one line and also for creating lists aligned with tabs. After you finish entering the line breaks, press Enter in the usual way to end that paragraph and begin the next.

Aligning Paragraphs

Word provides four ways to align paragraphs within your document's margin: left-aligned, right-aligned, center-aligned, and justified. By default, Word aligns text flush with the left margin (left-aligned), leaving a ragged right edge. Figure 2-6 shows the four different paragraph alignments. With Word, you can align paragraphs using the Paragraph dialog box, the align buttons on the Formatting toolbar, or shortcut keys.
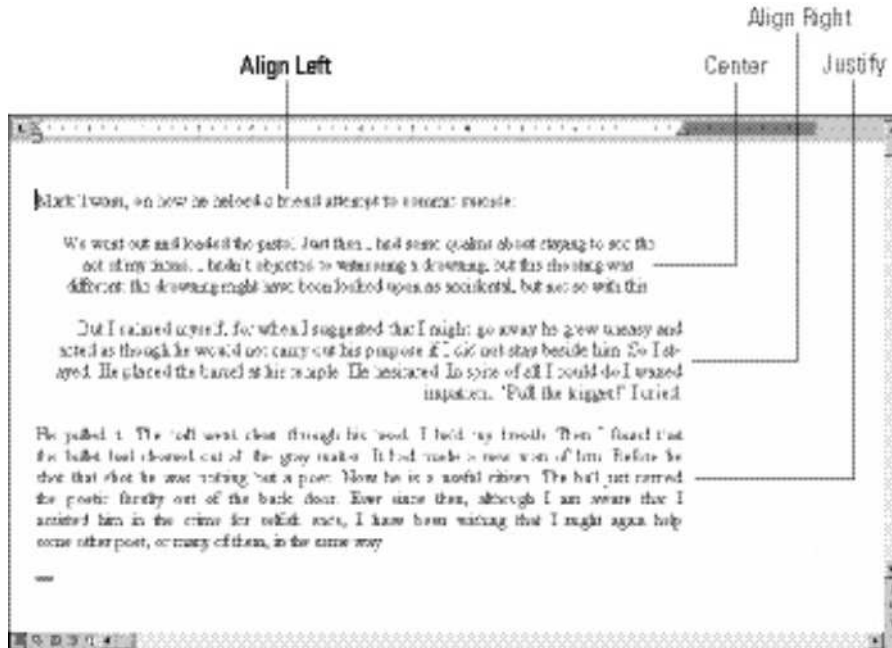
Figure 2-6: Four paragraph alignment options in Word.

To align paragraphs, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to align.

2. Do one of the following:

   • Click the alignment button on the Formatting toolbar for the justification that you want (see Table 2-1).

   • Press one of the shortcut keys in Table 2-1.

   • Choose Format⇨Paragraph, or choose Paragraph from the shortcut menu (Shift+F10), to display the Paragraph dialog box. Choose the alignment option from the Alignment list in the Indents and Spacing tab, and then click OK.

Note Before centering or aligning a paragraph relative to the left and right margins, make sure that the paragraph is not indented. Paragraphs are aligned to the margins if no indentations are set for them; if paragraphs are indented, they align to the indentation. Working with indents is explained later in this chapter.

Table 2-1
Paragraph Alignment Buttons and Shortcut Keys

Alignment Type	Button	Shortcut Keys	Description
Align Left	≣	Ctrl+L	Text aligns with the left margin, and the right margin is ragged. This is the default setting.
Center	≣	Ctrl+E	Text is centered between margins.
Align Right	≣	Ctrl+R	Text aligns with the right margin, and the left margin is ragged.
Justify	≣	Ctrl+J	Text aligns with both the left and right margins by adding extra spaces between words.

Click and Type: Inserting Paragraphs

Word has a little-known feature called *click and type* that you turn on under the Edit tab of the Options dialog box. When enabled, this feature lets you click, in Print Layout view, an area of a page without an existing paragraph to begin a new one.

Suppose you just opened a new document. The page has a single paragraph on the first line. Choose View⇨Print Layout, and move the mouse pointer around the page. Notice that it changes as you move around the page. Depending on where you point, the insertion I-beam has an additional icon next to it — an icon that corresponds with one of the alignment buttons on the Formatting toolbar: Align Left, Center, or Align Right.

Click the Show/Hide button on the Standard toolbar so that you can see the first paragraph mark at the top of the page. Now move the mouse pointer down the page and point at the bottom-right corner of the page, but stay inside the margins set for the document. You should see an I-beam with an Align Right icon next to it. Double-click, and you've just inserted a right-aligned paragraph near the bottom of the page, along with a number of Normal paragraphs between the first line on the page and your newly inserted paragraph.

Note You can even tell Word what paragraph style you want to use when you use the Click and Type feature. Just choose a style from the Default Paragraph Style drop-down in the Click and Type area of the Option dialog box's Edit tab.

Adjusting Line and Paragraph Spacing

You can adjust the spacing between lines in a paragraph as well as the spacing between paragraphs themselves. By adjusting the spacing between paragraphs, you can control the white space around paragraphs that contain oversized graphics or fonts. Using paragraph spacing, you can manage the layout of your documents more precisely than you can just by pressing Enter to create paragraph breaks for spacing.

Spacing between lines in a document is called *leading* (pronounced *ledding*). With Word, you can control the leading to improve the readability of the text in paragraphs. For example, if your text appears in long lines, you may need more spacing so that the reader's eye doesn't lose its place when moving from the right margin back to the left. Alternatively, if you're using a font style with small letters, your text may require less spacing between the lines than that between lines containing larger fonts. Line and paragraph spacing makes it easy to use *white space* to make your documents easier to read quickly. Very dense blocks of text are harder to read than text separated by white space between paragraphs.

Tip   Adjusting spacing in the way we've just discussed is an example of a case in which doing it *right* can save you a lot of time when making changes to a document. If you use paragraph spacing to adjust the space that appears between paragraphs, you can modify that spacing very easily later if you decide you want to adjust the document. If you used paragraph and line breaks to adjust the space between text and paragraphs, you have a lot of work to do if you want to change things. Also, paragraph formatting lets you adjust spacing in increments of 1 point, something you can't do easily by inserting paragraph and line breaks.

Adjusting paragraph spacing

Instead of pressing Enter to add blank lines before or after a paragraph, use the Format⇨Paragraph command. Using the Paragraph dialog box, you can adjust the paragraph spacing precisely as well as keep any spacing changes for a paragraph if you copy, move, or delete that paragraph.

To adjust paragraph spacing, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Choose Format⇨Paragraph, or choose Paragraph from the shortcut menu. Click the Indents and Spacing tab in the Paragraph dialog box.

3. Do one of the following:

    • To change the space before the selected paragraph, click the up or down arrow in the Spacing Before box to increase or decrease the spacing amount in half-line increments. Alternatively, you can type a value in the box. The Preview section of the Paragraph dialog box shows the effect of your selected spacing.

• To change the space after the selected paragraph, click the up or down arrow in the Spacing After box or type a value in the box.

Tip

You can use measurements other than points to specify spacing. To add a quarter-inch of spacing, type **.25** in the Before or After box. To add spacing of two centimeters, type **2 cm**. To add spacing of one pica, type **1 pi**. The Preview section of the Paragraph dialog box shows the effect of your selected spacing.

4. Click OK.

Note

If a paragraph has spacing before it and falls at the top of a page, Word ignores that spacing so that the top margins of your document pages always remain even. If the paragraph is the first paragraph in a document or a formatted section, however, Word always observes this spacing. Word also observes the spacing before a paragraph that follows a hard page break.

Adjusting line spacing

The line-spacing feature in Word begins with automatic spacing, and with this feature, you can increase spacing, reduce spacing, permit extra spacing for a large character or superscript on the line, or even control the spacing exactly. Spacing is measured in terms of lines. Normal text has single spacing of one line, but you can choose from several line options or even specify line spacing based on points. Table 2-2 describes the line-spacing options in Word. You can apply line spacing using the Paragraph dialog box or shortcut keys, but the Paragraph dialog box offers the most options.

Table 2-2
Line Spacing Options

Option	*Spacing*
Single	Single-line spacing. (Line height automatically adjusts to accommodate the size of the font and any graphics or formulas in a line.)
1.5 Lines	Line-and-one-half spacing (an extra half-line of space between lines).
Double	Double-spacing (an extra full line of space between lines).
At Least	At least the spacing that you specify in the At box — the line won't be shorter than what you specify, but it may be taller because Word will add extra spacing for tall characters, big graphics, and superscript or subscript text.
Exactly	The exact spacing that you specify in the At box. All lines are exactly the same height, regardless of the size of the characters in the line; Word doesn't add extra spacing. Note that some text may be cut off if enough space is not available.
Multiple	Multiples of single-line spacing, such as triple (3) or quadruple (4), as specified in the At box.

To adjust spacing between lines, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Do one of the following:

   • Choose Format⇨Paragraph, or choose Paragraph from the shortcut menu. The Paragraph dialog box appears. Click the Indents and Spacing tab, and in the Line Spacing list box, choose one of the options listed in Table 2-2. To specify your own line spacing, type the spacing amount that you want in the At box. For example, enter **1.25** for an extra quarter line of space between lines, or click the up or down arrow to increase or decrease the amount in half-line increments. When you finish, click OK.

   • Press one of the shortcut key combinations in Table 2-3.

Table 2-3
Shortcut Keys for Line Spacing Options

Shortcut	Action
Ctrl+I	Single-spacing
Ctrl+5	1.2-line spacing
Ctrl+2	Double-spacing
Ctrl+0 (zero)	Add or remove 12 points of space before a paragraph

Note

Notice the Don't Add Space Between Paragraphs of the Same Style check box below the Spacing controls in the Paragraph dialog box. This is not usually enabled; it's enabled when you open the dialog box from the Modify Style dialog box. Check this box and Word adds extra space below the last paragraph of a series of paragraphs of the same style. So, for instance, if you have a style you use for bulleted lists, you can press Enter at the end of each bulleted item, creating a new paragraph for each. But it's not until you press Enter and start a new style that Word inserts extra space.

Tip

Do you ever have to create documents that are double-spaced (a blank line between every line of text)? Students often do, for instance. Do *not* create this double spacing by pressing Enter or Shift+Enter at the end of each line. (We've seen this many times, so we *know* a lot of you are doing this!) If you do, you'll find it a nightmare to readjust everything when you insert or remove text during editing. Use Paragraph formatting and save yourself hours of work.

Setting Tabs

A *tab stop* is the position at which the text-insertion point stops when you press the Tab key. Pressing the Tab key moves the insertion point to the right, shifting the position at which you will insert text. If there's any text to the right of the insertion point when you press Tab, that text is shifted, too.

Word documents are set up with default tab stops every 1/2-inch across the document, but you can set your own tab stops, too, wherever you want them. In fact, there are several different types of tab stop that you can use (left, centered, right, decimal, or bar) and a variety of other options, too. When you set a custom tab, all the default tabs to the left of the custom tab are cleared — that is, when you press Tab, Word will ignore the default tabs and go to the first custom tab.

There's an advantage to using tabs rather than spacing. After the tabs are in your document, you can move or change the tab stops and then the selected text moves or realigns with those stops. Remember, however, that tabs belong to paragraphs. If you set tab stops as you type text and press Enter, the tab settings carry forward to the next paragraph.

| **Note** | One of the most common word-processing mistakes is using spaces to align text. In most cases, the text is in proportional font. Because proportional-font characters take up different amounts of space, however, the text in that font cannot align correctly with this method. Using tabs ensures that your text is aligned perfectly and makes it *much* easier to modify settings. |

You can set tabs using the horizontal ruler or the Tabs dialog box. To display the Tabs dialog box, choose Format⇨Tab or click the Tabs button in the Paragraph dialog box (Format⇨Paragraph). Table 2-4 describes the tab options available in Word, and Figure 2-7 shows how left-aligned, center-aligned, right-aligned, and decimal tab settings affect a paragraph.

Table 2-4
Tab Options

Type of Tab	*Ruler Tab Indicator*	*Action*
Left-aligned	⌐	Begins text at the tab stop. (This is the default tab setting.)
Center-aligned	⊥	Centers text on the tab stop.
Right-aligned	⌐	Ends the text at tab stop.
Decimal	⊥•	Centers text over decimal point for a list of numbers.
Bar			Runs a vertical line through a selected paragraph at the tab stop.
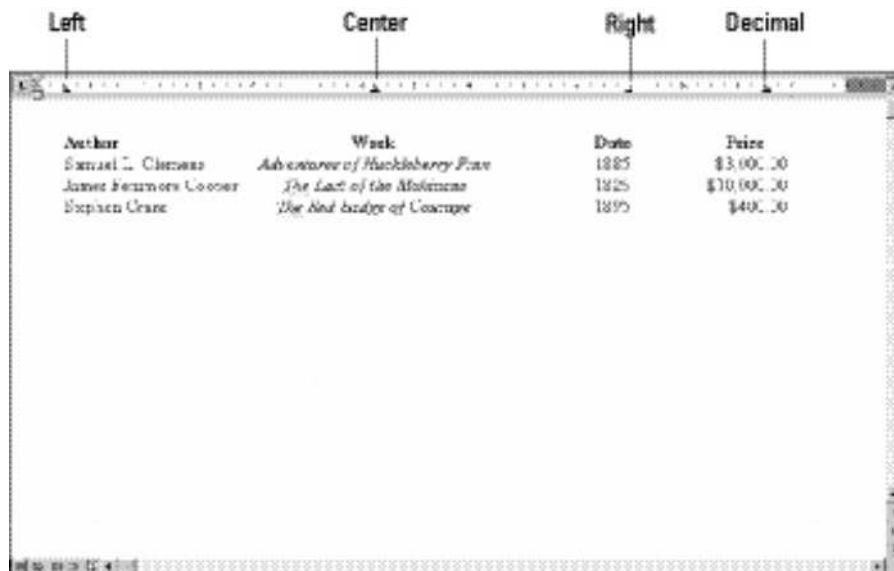
Figure 2-7: Tabs aligned using the Left, Center, Right, and Decimal tab settings.

Figure 2-8 shows columns divided using the bar tab.
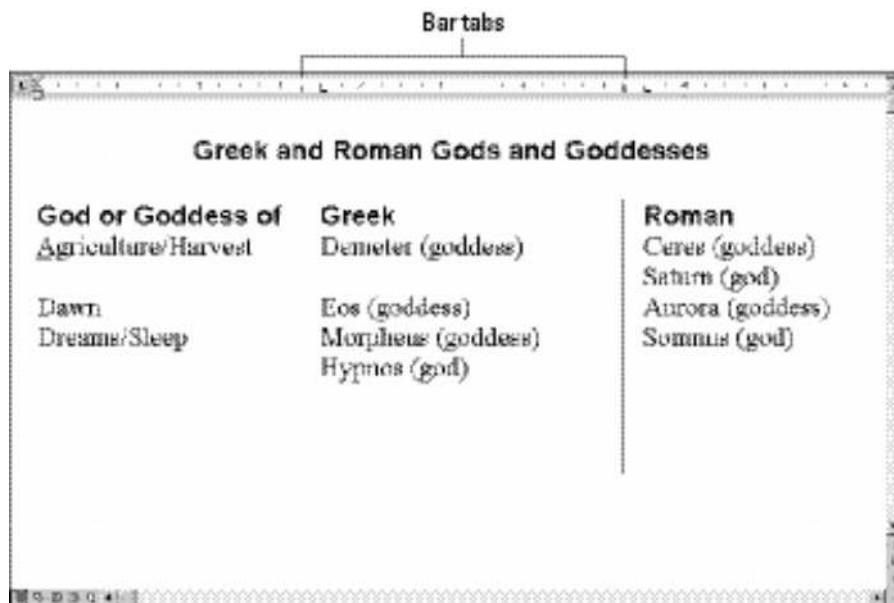
Figure 2-8: Bar tabs dividing text.

Use line breaks rather than paragraph breaks between lines of short text within columns. This way, you can realign the information, by adjusting the tab settings, very quickly without needing to select the paragraphs (just click anywhere within the paragraph and make your changes). Press Shift+Enter to insert the new line. If you add tabs later using new lines, the tab applies to all of the lines before the next paragraph mark. If you want to align large columns of text, use Word's powerful table feature.

Note   Bar *tabs* are not real tabs! Placing a bar tab inserts a vertical line in your document, down through the paragraph, at the bar-tab position. But a bar tab has no effect on text position. Pressing the Tab key does not move text to the bar-tab position. Bar tabs are usually combined with other types of tabs that set the text alignment.

Setting tabs using the ruler

A convenient way to set tabs is to use the ruler. If your ruler is not displayed, choose View⇨Ruler to display it. At the left of the ruler is the Tab Alignment button, with which you can quickly change tab styles. Using the mouse and the ruler, you can set, move, and remove the left-aligned, center-aligned, right-aligned, decimal, or bar tabs with a precision of as much as 1/16-inch. The ruler displays Word's default tab stops (set every 1/2-inch, unless you change the interval, which we look at later in this chapter) as tiny vertical lines along the bottom of the ruler. (You may have to look closely to see these thin black lines on the gray bar under the ruler.) When you set your own tab stops, all of the default tab stops to the left are removed.

To set tabs using the ruler, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Click the Tab Alignment button at the far left of the ruler until the symbol for the tab style you want is selected (see Table 2-4).

3. Position the pointer just below the mark on the ruler where you want the tab stop to appear. Click the left mouse button to place the tab stop on the ruler. The tab stop marker then appears for the tab style that you selected (see Figure 2-9).

4. Do one of the following:

   • Repeat step 3 to add more tab stops of the same style.

   • Repeat steps 2 and 3 to add other types of tab stops to the ruler.

Figure 2-9: The ruler with tab stops displayed.

Changing or clearing a tab stop using the ruler

To change a tab marker on the ruler, place the insertion point in the paragraph you want to work on. Then point to the tab marker with the mouse pointer, hold down the left mouse button to select that marker, and drag the marker to its new position. When you release, the marker is dropped into its new position.

To clear a tab stop quickly using the mouse and ruler, drag that marker all the way off the ruler and onto the document — when you release, the marker is removed.

Setting tabs using the Tabs dialog box

Using the Tabs dialog box (see Figure 2-10) to set tabs offers some advantages over using the ruler and mouse. With the Tabs dialog box, you can precisely set each tab's position by typing decimal numbers (in inches).

Figure 2-10: The Tabs dialog box.

You can also add dotted, dashed, or underlined tab leaders. A *tab leader* links related but separate items across a page, such as entrées and prices in a menu or chapters and page numbers in a table of contents (see Figure 2-11).

Figure 2-11: Leader tabs link related but separate items.

To set tabs using the Tabs dialog box, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Choose Format⇨Tabs. The Tabs dialog box appears.

3. Using decimal numbers, type the position of the tab stop that you want to set in the Tab Stop Position box.

4. In the Alignment group, select the tab style that you want: Left, Center, Right, Decimal, or Bar.

5. If you want a leader, select the tab leader style that you want in the Leader group: 1 None for no leader (the default setting), 2 for a dotted leader, 3 for a dashed leader, and 4 for a solid underlined leader.

6. Choose Set to set the tab stop. The Tab Stops list box displays your tab stops after you set them.

7. Repeat steps 3 through 6 to set additional tab stops.

8. Click OK to close the Tabs dialog box.

Changing and clearing tabs using the Tabs dialog box

To change existing tab stops using the Tabs dialog box (Format⇨Tabs), select the tab stop that you want to change in the Tab Stops list box. Select the new formatting options for the selected tab stop in the Alignment and Leader groups, and then click Set.

You can clear tab stops either individually or as a group. You can also clear tabs using the Tabs dialog box whether you originally set the tabs using this dialog box or the ruler.

To clear tabs, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Choose Format⇨Tabs to display the Tabs dialog box.

3. Do one of the following:

   • Click Clear All to clear all of the tab stop settings.

   • Select the tab that you want to delete from the Tab Stops list, and then click Clear. Repeat this process to clear additional tab stops. As you select tab stops to clear and then click Clear, the tab stops that you remove are listed in the Tab Stops to be Cleared area at the bottom of the dialog box.

4. Click OK.

Changing the default tab stops

By default, Word has preset tabs every 1/2-inch. When you set a custom tab, however, all of the preset tabs to the left of that custom tab are cleared. Use the Tabs dialog box to change the default tab stop interval if you routinely use the preset tabs but don't like the default setting. Note that custom tab stops that you may have set for existing paragraphs aren't affected.

To change the default tab stops, display the Tabs dialog box. In the Default Tab Stops box, type a new default tab interval or click the up or down arrow to change the number in the box. Then click OK. Note that this changes the default for the current document only, not for all documents.

Setting Indents

With indenting, you can set off a paragraph from other text. Figure 2-12 shows paragraphs formatted with different indents. Don't confuse page margins with paragraph indents, however. *Margins* specify the overall width of the text and the area between the text and the edge of the page, whereas *indents* move the paragraph's text in or out from the left and the right margins. You can indent paragraphs in the following ways:

✦ Indent paragraphs from the left, right, or both margins to set those paragraphs off from other text.

✦ Use negative indents to run text into the left or right margin.

✦ Indent only the first line of a paragraph, which is commonly used as a substitute for pressing Tab at the beginning of each new paragraph.

✦ Create a *hanging indent,* which hangs the first line of a paragraph to the left of the rest of the paragraph. (In other words, every line except the first line is indented.) Hanging indents are often used in bulleted and numbered lists, footnotes, and bibliographic entries.

✦ Create *nested indents,* which are indentations within indentations.
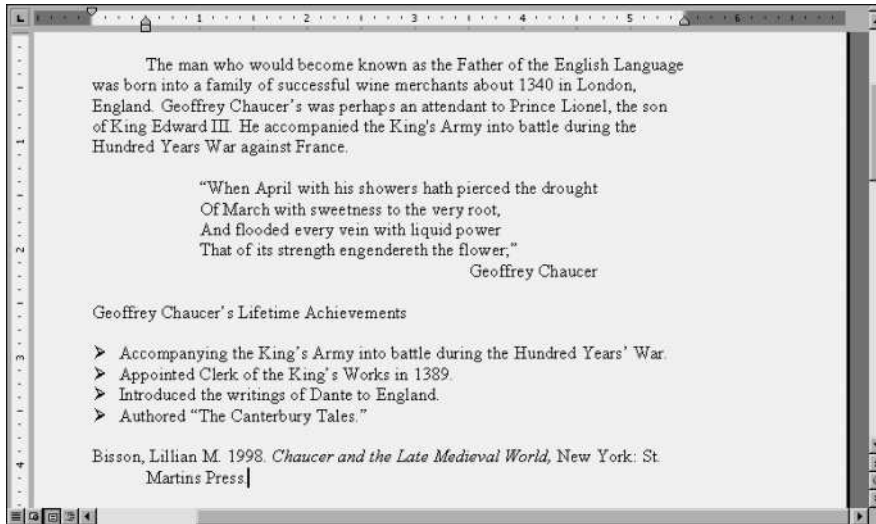
Figure 2-12: Examples of indented paragraphs.

Word provides several ways to create indents. You can indent paragraphs using the Formatting toolbar, the ruler, shortcut keys, or the Paragraph dialog box. Indenting with the Formatting toolbar or shortcut keys, however, depends on tab-stop settings. If you haven't changed Word's default 1/2-inch tab stops, you can create indents at 1/2-inch intervals using the Formatting toolbar or shortcut keys.

Note   You can use hanging indents to create a bulleted or a numbered list, but with Word's bullets and numbering features, you can create such lists automatically — including the bullets and the numbers. Working with bulleted and numbered lists is explained later in this chapter.

Setting indents using the Formatting toolbar

The Formatting toolbar includes two buttons for indenting paragraphs to the next tab stop: Decrease Indent and Increase Indent (see Figure 2-13). Use these buttons to create left indents only; you cannot create first-line or hanging indents with these buttons. To indent or to remove indents from paragraphs using the Formatting toolbar, position the insertion

point in the paragraph or select the paragraphs that you want to adjust. Click the Increase Indent button to indent text to the next tab stop, or click the Decrease Indent button to un-indent text to the previous tab stop. You can click either button as many times as you want to continue moving the indentation to the next tab stop.

Figure 2-13: The Decrease Indent and Increase Indent buttons of the Formatting toolbar

Setting indents using the ruler

You can create any kind of indent using the ruler, which contains triangular *indent markers* at the left and right margins. Table 2-5 shows and describes each of these indent markers. You can drag them in either direction along the ruler to set indents. At the left margin, the top triangle represents the first-line indent and the bottom triangle represents the left indent. Both the top and bottom triangles move independently, but you can use the square below the bottom triangle to move the first-line and left-paragraph indents at the same time. At the right margin, the triangle represents the paragraph's right indent.

Table 2-5 Indent Markers on the Ruler	
Drag	*To Set*
	First-line indent
	Left indent
	First-line and left indents
	Right indent

To set indentations using the ruler, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to indent.

2. Do one of the following:

   • To set a first-line indent, drag the First Line Indent marker to the position where you want the indentation.

   • To set a left indent, drag the square below the Left Indent marker to the position where you want the indentation. (Note that the top triangle moves as well.)

- To set a right indent, drag the Right Indent marker to the position where you want the indentation.

- To set a hanging indent with the first line at the left margin, drag the Left Indent marker to a new position on the ruler.

You can press and hold the Alt key while dragging to get more control; you'll be able to move the controls smoothly and drop them at any position rather than the default gradations. You can also see exact measurements on the ruler as you drag.

Tip When you drag the Left Indent or First Line Indent marker to the left of the left margin, the ruler automatically scrolls to the left. If you want to scroll into the left margin on the ruler without moving the indent markers, first make sure that you're in Normal view (View⇨Normal). Then hold down the Shift key as you click the left scroll arrow on the horizontal scroll bar.

Setting indents using keyboard shortcuts

You can create indents using keyboard shortcuts as well. Keyboard shortcuts rely on existing tab settings to determine the position of the indents. To create indents using keyboard shortcuts, position the insertion point in a paragraph or select the paragraphs that you want to indent. Then press one of the keyboard shortcuts listed in Table 2-6.

Table 2-6
Keyboard Shortcuts for Indenting Paragraphs

Keyboard Shortcut	Type of Indention
Ctrl+M	Moves the left indent to the next tab stop.
Ctrl+Shift+M	Moves the left indent to the preceding tab stop.
Ctrl+T	Creates a hanging indent.
Ctrl+Shift+T	Moves the left indent to the previous tab stop, but the first line remains in its current position.

Tip Here's another way to set indents, although one that's a little irritating to some users. Choose Tools⇨AutoCorrect Options and click the AutoFormat as You Type tab. Make sure that the Set Left- and First-Indent With Tabs and Backspaces check box is selected. Now, when you press Tab and then type a paragraph, you'll be setting the indent for that paragraph.

Setting indents using the Paragraph dialog box

You can use the Paragraph dialog box to set any type of indent. One advantage of using this dialog box is that you can enter precise measurements instead of just eyeballing the text

alignments with ruler measurements. You can also create indents using measurements other than decimal inches. To create a six-point left indent, for example, type **6 pt** in the Left Indentation box. To create a left indent of two centimeters, type **2 cm**. To create a left indent of one pica, type **1 pi**. (There are six picas in 1 inch and 12 points in one pica.)

To set indentations using the Paragraph dialog box, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to indent.

2. Choose Format⇨Paragraph, or choose Paragraph from the shortcut menu (Shift+F10), to open the Paragraph dialog box. Then click the Indents and Spacing tab.

3. Do one of the following:

   • To create a paragraph indent, type or select a value in the Left or Right Indentation text box. The Indentation group in the Paragraph dialog box lists three options: Left, Right, and Special. (Table 2-7 describes these indentation options.) The Preview box shows the effect of your choice.

   • To create a first-line or a hanging indent, select First Line or Hanging from the Special list box. Then type or select a value in the By text box to specify the first-line or hanging-indent measurement.

4. Click OK.

Table 2-7 **Indentation Options**	
Option	*Action*
Left	Indents selected text from the left margin. If the amount to indent is a positive number, the paragraph is indented inside the left margin; if the amount is a negative number, the paragraph is indented outside the left margin (some times called *outdenting*).
Right	Indents selected text from the right margin. If the amount to indent is a positive number, the paragraph is indented inside the right margin; if the amount to indent is a negative number, the paragraph is indented outside the right margin.
Special	Indents the first line (or lines) of selected text from left indent used by subsequent lines (or from the left margin if no indent is made). Click the down arrow to select First Line or Hanging. First Line shifts the first line to the right of subsequent lines, while Hanging moves the first line to the left of subsequent lines. The default indent is 1/2-inch. Change the indent by typing a new number or by using the up- or down-arrow key.

Bordering and Shading Paragraphs and Pages

A *border* can be a box surrounding a paragraph on all sides or lines on one or more sides of the block of text. *Shading* fills a paragraph (with or without borders) with a background pattern. If you're planning to print on a black and white printer, you'll probably want to stick to black, white, and gray for your lines and backgrounds, but Word does allow you to use different colors. Figure 2-14 shows samples of different borders applied to paragraphs.
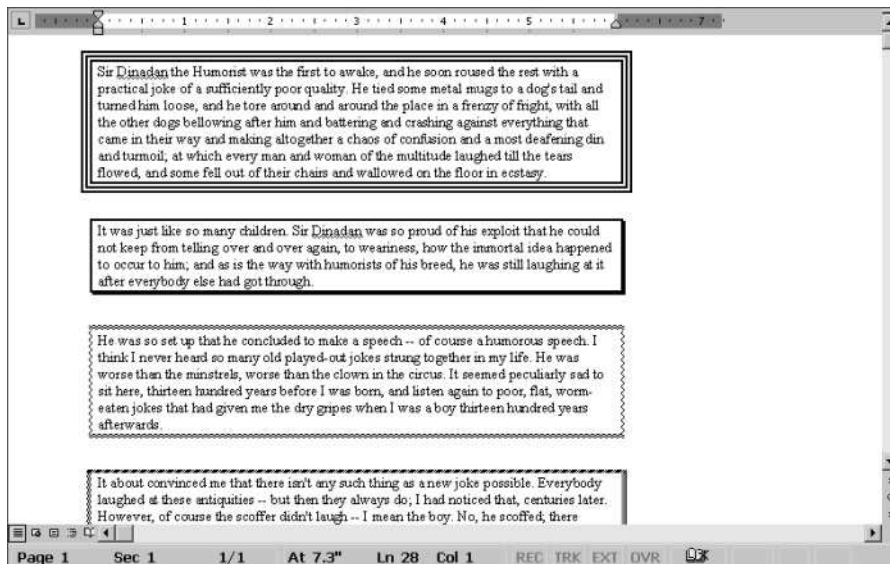
Figure 2-14: Examples of borders.

Like all forms of paragraph formatting, borders belong to the paragraphs in which they are applied. In other words, they carry forward when you press Enter at the end of a paragraph. If a group of paragraphs is formatted with a box around them and you press Enter at the end of the last paragraph, your new paragraph falls within the same box as the previous paragraph. To create a new paragraph outside of the border, move the insertion point outside the border before you press Enter, or just press Enter and then press Ctrl+Q to return the new paragraph to the default paragraph setting.

The width of a paragraph box, or of the line if you just created a horizontal line rather than a box, is determined by the paragraph indent and margins. The line or box begins at the left text position — the left margin or, if set, the left indent — and ends at the right text position — the right margin or indent.

To place several paragraphs in a single box or to give them the same background shading, make sure that all of the paragraphs have the same indents. If you select and then box or

shade several paragraphs with different indents, each paragraph appears in its own separate box or shading. To make paragraphs with different indents appear within a single box or background shade, you must create a table, put each paragraph in a row by itself, and then format a box around the table.

Note   Sometimes the screen inaccurately shows text as extending beyond borders or shading. This situation results from screen fonts and screen resolutions, which differ from printer fonts and resolution. Your printed text does format within the border or shading even if it doesn't display correctly on the screen.

The same border and shading options for paragraphs can be applied to an entire page as well. Tools for creating paragraph borders and page borders are located in the same dialog box.

Adding borders using the Borders toolbar

Word includes a Tables and Borders toolbar, as shown in Figure 2-15, for applying borders, lines, and shading.

Figure 2-15: The Tables and Borders toolbar.

To add boxes or lines to paragraphs using the Tables and Borders toolbar, follow these steps:

1. Click the Tables and Borders button on the Formatting toolbar, or choose View⇨Toolbars and select the Tables and Borders toolbar. You can also right-click on any toolbar and select Tables and Borders.

2. Position the insertion point in a paragraph, or select the paragraphs that you want to enclose. Remember that if you create a box for more than one paragraph, that box encloses those paragraphs as a group (unless they have different indents) with no borders between them.

3. Click the Line style box down arrow, and choose a line style. If the Line style box is not visible, drag the Tables and Borders toolbar so that you can see all of the options.

4. Choose the border that you want to add by clicking the Outside Border button then selecting one of the border buttons that appears in the drop-down box (see Figure 2-16).
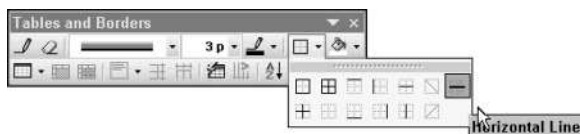
Figure 2-16: Border options in the Tables and Borders toolbar.

Adding borders using the Borders and Shading dialog box

You can also add borders using the Borders and Shading dialog box (see Figure 2-17). Table 2-8 explains the options in the Border tab. The Borders and Shading dialog box includes the Options button, which displays a dialog box in which you can change the distance from a box line to the surrounded text precisely. You can also specify a shadow or a three-dimensional (3-D) border option. Special options for placing a border on an entire page are found here as well.
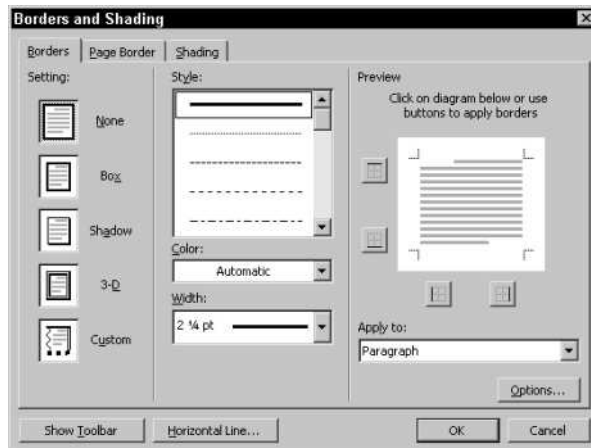
Figure 2-17: The Borders tab of the Borders and Shading dialog box.

Table 2-8
The Borders and Page Borders Tab Options

Option	Effect
None	Removes an existing box.
Box	Creates a box with identical lines on all four sides.
Shadow	Creates a box with a drop shadow on the bottom and right sides.
3-D	Creates a border with a 3-D effect.
Custom	This button really isn't very useful; in theory it combines any of the previous effects with non-boxed border options, but in practice you should probably ignore it.
Apply to	Defines where the border will be applied, and the options vary between the Borders and Page Borders tabs — in the Borders tab you will see *Paragraph* and, if you highlighted text within a paragraph first, *Text*.

Continued

Table 2-8 (continued)	
Option	*Effect*
Style	Provides a variety of lines styles for you to choose from. Select a Style first and then a line Width, and the Style list box changes to show that style in the selected thickness.
Width	This should probably be called *Thickness*, a less ambiguous term. Allows selection of various line thicknesses, ranging from 1/4 to 6 points.
Color	Creates a line or a box in the selected color. Sixteen colors and gray shades are available. If you select the Auto option, the default color for text is used, generally black.
Art	Allows selection of various page borders, including over 150 different icons and ornamental designs. The Art list box appears only on the Page Border tab.

To add a border using the Borders and Shading dialog box, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to enclose. Remember that if you create a box for more than one paragraph, that box encloses those paragraphs as a group (unless they have different indents) with no borders between them.

2. Choose Format⇨Borders and Shading. The Borders and Shading dialog box appears. Click the Borders tab. If you plan to apply a border to a page or a group of pages (rather than to paragraphs), click the Page Border tab in the Borders and Shading dialog box and select from the Apply To drop-down list box.

3. Select one of the line styles from the Styles list, or click one of the Settings boxes to select a style and apply the lines around the box at the same time.

4. If you wish you may also select a line color from the Color drop-down, and a line thickness from the Width drop-down.

5. Do one of the following:

   • Click one of the buttons to the left and underneath the Preview image to place a line in the associated position.

   • Click inside the Preview image itself to place a line on one of the edges.

   • If you selected multiple paragraphs, you'll notice that the Preview image shows two paragraphs, separated by a blank line; you can create a line between paragraphs by clicking this blank line in the Preview image.

6. Click OK.

Tip You can use different lines on different edges. Select your first line style, color, and thickness. Then click on an edge of the square in the Preview box inside the Borders and Shading dialog box; select another line and click on another edge; and so on.

Spacing between text and border

When you place a border around text, Word drops the border into place very close to the text all around. This is sometimes very inconvenient, especially if you want to shade an area below a heading or place a border around an entire page — the text sits so close to the border it looks bad in some cases.

You can adjust spacing between the text and the border, though. While working in the Borders and Shading text box, click the Options button to see the Border and Shading Options dialog box (see Figure 2-18). You can set the spacing here precisely.
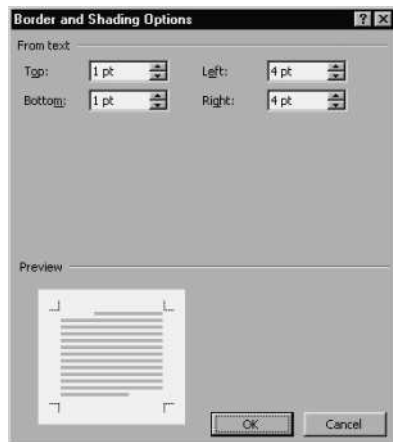
Figure 2-18: Set spacing between borders and text here.

You can also use the mouse to change a border directly within your document. Move the mouse pointer to the border line you want to adjust, and carefully place it directly over the line — the mouse pointer will change from an arrow to two lines with up and down arrows (or left and right arrows if you are adjusting a vertical border). Drag the border to change the space between the text and that border.

Placing borders around individual lines

Word allows you to place borders around individual lines of text. Select the text you want to place the border around, and then create your borders using the Borders and Shading dialog box. Notice that the Apply To drop-down list box shows the word *Text*, meaning that Word will create a text border rather than a paragraph border.

When you click OK, Word creates the border, placing a left border in front of the first character you selected, and a right border after the last one. If you selected multiple lines of text, each line has its own border around it.

Fitting a border within margins

When you create a box around a paragraph, the left and right edges of the box are placed slightly outside the page margins (assuming the text hasn't been indented, of course, in which case the margins are slightly to the left and right of the indent positions).

You may want the borders to fall within, or exactly at, the page margins. To make a border fit within the margins, indent the paragraph on both the left and the right side by the width of the border. You can use the ruler, but you can be more precise using the Borders and Shading dialog box.

To make borders fall on the margins using the Borders and Shading dialog box, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to adjust.

2. Choose Format⇨Borders and Shading.

3. On the Borders tab, note the width (the thickness) of the border line in the Width control.

4. Click Options. The Borders and Shading Options dialog box then appears. Note the spacing in the From Text boxes labeled Left and Right.

5. Click OK or Cancel twice to close both dialog boxes.

6. Choose Format⇨Paragraph. Then click the Indents and Spacing tab.

7. In the Left and Right boxes of the Indentation group, type the number of points equal to the combined width of the border and the spacing specified in the Left and Right values in the Border and Shading Options dialog box. For example, if the border is three points thick and the entry in the From Text box is one point, enter four points in the Left and Right boxes.

8. Click OK.

Removing or changing borders

You can remove borders either all at once or line by line. You can remove or change a border using the Borders toolbar or the Borders and Shading dialog box.

To remove or change borders using the Borders toolbar, follow these steps:

1. Position the insertion point in the paragraph containing the borders, or select the paragraphs that you want to adjust.

2. Display the Tables and Borders toolbar by clicking the Borders button on the Formatting toolbar.

3. Do one of the following:

- Click the Outside Borders button, and choose no borders.

- Choose a new line style.

- Click the buttons for the boxes or borders that you want to add.

To remove or change borders using the Borders and Shading dialog box, follow these steps:

1. Position the insertion point in the paragraph containing the borders, or select the paragraphs that you want to adjust.

2. Choose Format⇨Borders and Shading, and click the Borders tab. If you're removing borders applied to an entire page or to a group of pages, click the Page Border tab.

3. Do one of the following:

- To remove a box border, select the None button in the Setting group.

- To remove individual border lines, click the button representing the line you want to remove in the Preview image.

- To change a line, select the line that you want from the Style scroll box.

4. Click OK.

Adding shading

Shading in Word comes in various percentages of black (grays) and different colors, as well as in various patterns. For each shade or pattern, you can select a foreground or a background color. Colors are converted to shades of gray or patterns on a black-and-white printer. You can use shading with borders so that a paragraph is surrounded by a line and filled with shading, or you can use shading alone so that a paragraph is shaded but has no border.

Working with shading requires playing with different configurations to find the one that is most readable. As a general rule, however, the smaller the font size, the lighter you need to make the paragraph shading. Applying bold to text may also help. To change the color of text with a background shading, use the Font dialog box (Format⇨Font).

Fill versus pattern

Word lets you apply two forms of shading: *fill* and *pattern*. You can think of these as the fill being the foundation, and the pattern being laid on top. Or the fill is the background color, while the pattern is the foreground pattern or color. The fill is always a solid shade or color. The pattern can be solid, but also may be an actual pattern of dots or lines.

Thus, you can have one color as a fill, and another color for the pattern — a fill of light yellow with a pattern of black lines on top, for instance. Of course, if you use a solid pattern you won't see the fill underneath.

Note also the difference between a fill for which you have selected No Fill and one for which you have selected the color white. These are *not* the same thing. No Fill means the

paragraph has no background color; you can see through the text to the watermark below, for example. If you use a white fill, the watermark would not be visible under that paragraph.

The same goes for the pattern. If you have any kind of pattern, even a white pattern, the document background cannot be seen below the paragraph. Thus a Clear pattern is not the same as a white pattern. Select Clear if you want to use a fill, but with no pattern or color sitting on top.

Applying shading

You can apply shading using the Shading tab of the Borders and Shading dialog box (see Figure 2-19) or using the Tables and Borders toolbar.

To shade paragraphs using the Tables and Borders toolbar, position the insertion point in a paragraph or select the paragraphs that you want to shade. Click the Tables and Borders button on the Formatting toolbar to display the Tables and Borders toolbar, and then click the down arrow next to the Shading button to display a palette of fill colors. Choose the color of shading and the pattern that you want.
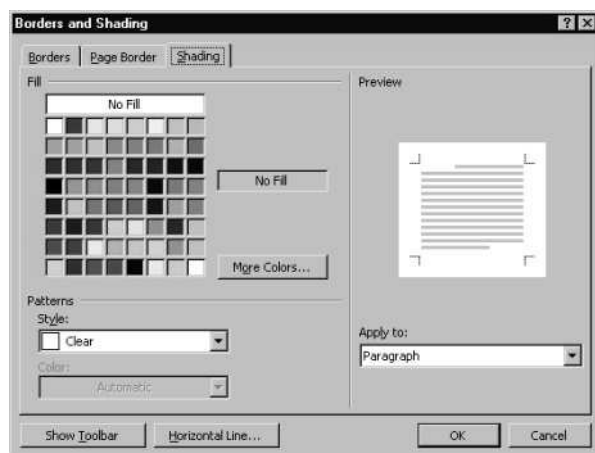
Figure 2-19: The Shading tab of the Borders and Shading dialog box.

To shade paragraphs using the Borders and Shading dialog box, follow these steps:

1. Position the insertion point in a paragraph, or select the paragraphs that you want to shade.

2. Choose Format⇨Borders and Shading.

3. Click the Shading tab.

4. Select a Fill color (click the More Colors button if you don't see the one you want to use).

5. Select a Pattern Style. Style options include Clear (no pattern), Solid (completely blocks both the Fill color and the document background), percentages (the density of the Color shading), and striped as well as checkered patterns such as Dk Horizontal (for dark horizontal stripes) and Lt Grid (for a grid made of light cross-hatching). You can also apply light and dark trellises.

6. Select from the Color list to specify a color for the pattern you selected. The result of your selection appears in the Preview box. Automatic is selected by default — this means that the pattern will be created using black or gray.

7. Click OK.

Adding horizontal lines

You can also place horizontal lines, also known as *horizontal rules,* on your pages. You may want to use these lines in documents intended for printing, although the horizontal-line feature really grew out of the Web. Because Web pages are not divided like typical printed pages, horizontal lines are frequently used to divide Web pages. Word includes several clip-art images that can be used as lines.

To insert a horizontal line, choose Format⇨Borders and Shading. The Borders and Shading dialog box appears. Click the Horizontal Line button, and the Horizontal Line dialog box appears (see Figure 2-20). The box will fill with images of horizontal lines, but it may take a little while. These are being drawn from an online library (so if you are not connected you may not see any, or many). If the box remains blank, try clicking on the scroll bar to move down the list and the box may suddenly fill.
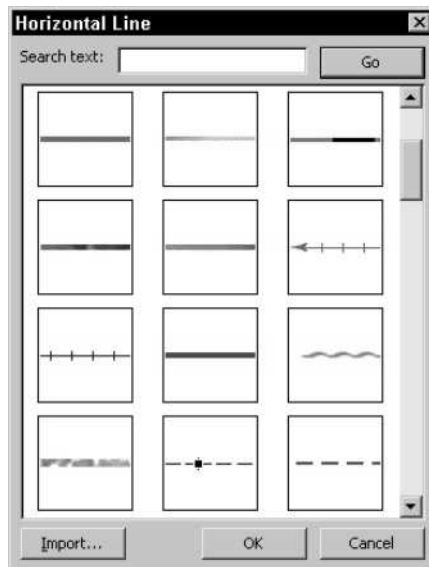
Figure 2-20: The Horizontal Line dialog box.

There's a search box, too. In theory, you can type a word — *star* or *arrow*, for example — and then click Search to find a matching horizontal line. In practice, it may not be worth the trouble. You can also click the Import button to load a file on your hard disk into the list of lines.

When you see a horizontal line you like — scroll down through the box to see more — click on it and click OK, or simply double-click it. The line will be placed into your document at the insertion-point position.

Double-clicking the line image in your document displays the Format Horizontal Line dialog box, which you can use to change the width, height, and alignment of the line.

Creating Bulleted or Numbered Lists

Bulleted lists help to distinguish a series of important items or points from the rest of the text in a document, and numbered lists are often used for step-by-step instructions. Word provides flexible, easy-to-use methods for creating bulleted and numbered lists with a variety of formats. You can type the text for the bulleted or numbered list and then apply the list formatting to the text, or you can place the insertion point in a blank line, apply the bulleted or numbered list format to that line, and then type the list. Either way, Word sets a 1/2-inch hanging indent after you select a list format, and Word adds the bullet or number in front of each paragraph, in the selected text, or in each new paragraph that you type.

Tip   You can create a numbered or bulleted list automatically as you type. At the beginning of a new paragraph, type a number or an asterisk followed by a space or a tab. Then, when you press Enter to add the next item in the list, Word automatically inserts the next number or bullet. To finish the list, press Enter followed by Backspace. This feature only works, however, if Automatic Bulleted Lists and Automatic Numbered Lists are selected in the AutoFormat As You Type tab of the AutoCorrect dialog box — select Tools⇨AutoCorrect.

Creating bulleted lists

Word offers seven standard bullet shapes: solid circle, empty circle, solid square, 3-D box, diamond, arrow, and checkmark. If you want to use a heart, pointing hand, or other symbol, you can select these bullets from any of your installed symbol fonts, such as Symbol, Wingdings, Webdings, and Monotype Sorts. You can even select a bullet image from a library of hundreds.

You can create a bulleted list using the Bullets and Numbering dialog box (see Figure 2-21) or the Formatting toolbar.
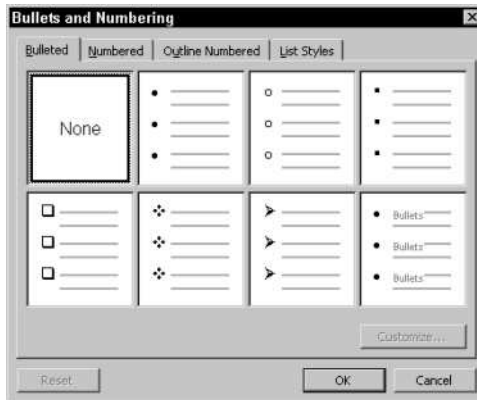
Figure 2-21: The Bulleted tab of the Bullets and Numbering dialog box.

To start a new bulleted list, simply place the insertion point where you plan to begin and then click the Bullets button on the Formatting toolbar — Word automatically inserts a bulleted-list entry using the solid black circle as a bullet. (To be more precise, it uses the type of bullet you used the last time you created a bulleted list during the current session, or, if it's the first bulleted list in this session, it uses the solid circle.) Now simply start typing, and each time you press Enter, Word moves the text to the next line and puts a bullet at the beginning of that line, too.

If you want to specify a different bullet symbol, place the insertion point where you plan to begin. Then choose Format⇨Bullets and Numbering, click the one you want to use, and click OK. (We look at how to use a different bullet image, one that doesn't appear in this dialog box, in the next section).

You can also convert text that you have already typed to bulleted text. Simply place the cursor in the paragraph you want to convert, or select several paragraphs, and click the Bullets button or use the Bullets and Numbering dialog box.

When you want to end a bulleted list, type the last entry, press Enter, and then press the Delete key.

Note
Note that when Word creates a bulleted list, it automatically sets up a hanging indent — now you can see the purpose of the hanging indent. You want the bullet to appear to the left of the text, so the first line has to hang out to the left. Take notice that if you right-click on a bulleted list entry, the shortcut menu that appears has two extra commands, Decrease Indent and Increase Indent; use these to adjust the position of the bulleted list on the page.

Customizing a bulleted list

You can customize a bulleted list in several ways:

✦ Picking another bullet image

✦ Modifying the position of the bullets

✦ Modifying the position of the text in the list

Picking another bullet image

To use another bullet image, open the Bullets and Numbering dialog box and click one of the bullet-styles boxes. This is the style that you will be replacing with your new bullet. Click the Customize button and the Customize Bulleted List dialog box opens (see Figure 2-22).
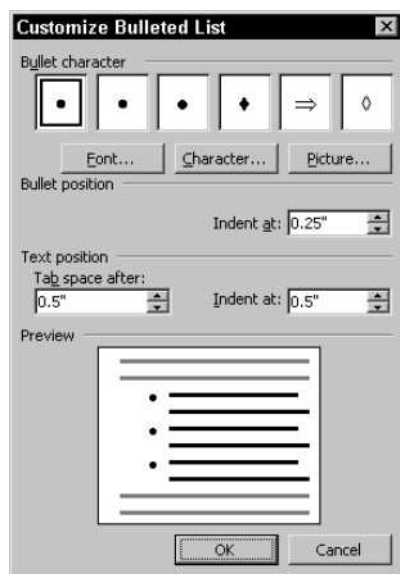
Figure 2-22: The Customize Bulleted List dialog box.

> **Tip**
>
> Notice the Reset button in the Bullets and Numbering box. This button is enabled if the bullet-style box you click on has been modified. Clicking Reset changes the box to the default.

You now have three ways to select another bullet image. You can select a Bullet Character and modify the character's font, you can select a special character, or you can select a bullet image.

Modifying a bullet's font

Click on one of the Bullet Characters at the top of the Customize Bulleted List dialog box (this may be a character that was already there when you opened the dialog box, or a character you placed there using the Character button, which we'll look at shortly). The Font dialog box opens.

You can now modify the character — change the size, make it bold or italic, use a different font, even use one of the animation styles under the Text Effects tab. When you are finished, click OK to close the Font box; then click OK again to close the Customize Bulleted List box and place your selected character into your bulleted list.

Selecting a special character

If you click the Character button in the Customize Bulleted List dialog box the Symbol dialog box opens. You can select a symbol from any of the typefaces on your system; in particular, look at the Symbol, Webdings, and Wingdings typefaces.

Selecting a bullet picture

Click the Picture button, and the Picture Bullet dialog box opens (see Figure 2-23). This functions in the same way as the Horizontal Line dialog box we looked at earlier in this chapter. It slowly loads (it's loading off the Internet) literally hundreds of bullet images. As with the horizontal lines, these are really a Web feature, but there's no reason you can't use the images in your print documents.
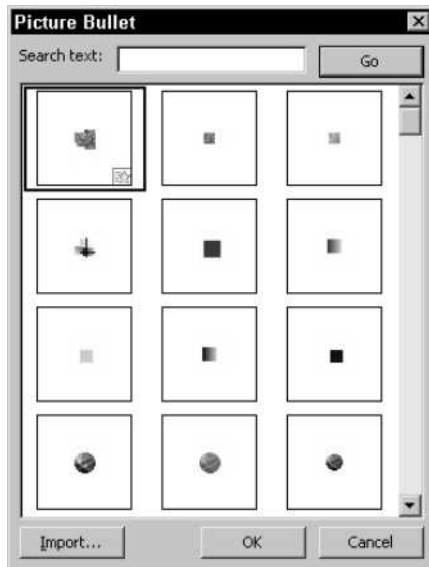
Figure 2-23: The Picture Bullet dialog box.

Changing list positions

You can modify the position of the bullet and the text in the list. In the Customize Bulleted List dialog box, modify the settings in the Bullet Position and Text Position boxes.

The Bullet Position setting defines how far to the right of the left margin the bullet should be placed. The Tab Space After value defines at which point the text begins on the first line — that is, how far Word tabs to the right after the bullet before starting the text. And the Indent At value defines where subsequent lines of text appear. For example, if you set the Bullet Position Indent At to 1" and the Text Position Indent At to 1", the bullet and the subsequent lines of text are on the same vertical line.

Creating numbered lists

Numbered lists are created in a manner similar to bulleted lists, except that instead of bullets Word places sequential numbers. This is a very useful feature, because if you add a paragraph in the middle of a numbered list or rearrange the order of the paragraphs in a list, Word automatically renumbers the paragraphs so that they retain their sequence. The Numbered tab in the Bullets and Numbering dialog box (see Figure 2-24) offers seven standard numbering formats and the ability to customize them. You can create a numbered list in two ways: using the Bullets and Numbering dialog box or using the Numbering button on the Formatting toolbar.
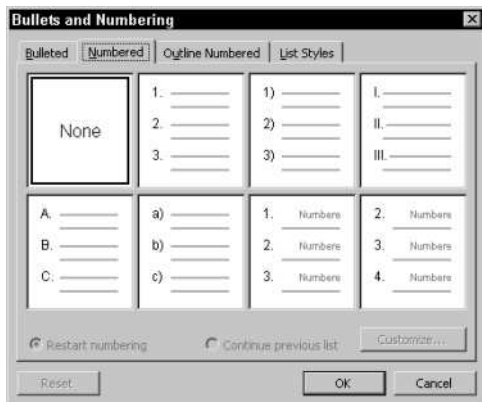
Figure 2-24: The Numbered tab in the Bullets and Numbering dialog box.

To create numbered lists, follow these steps:

1. Type your list, and then select it.

2. Do one of the following:

   • Choose Format⇨Bullets and Numbering, or choose Bullets and Numbering from the shortcut menu. Click the Numbered tab. Then select the numbering style that

you want from the predefined choices. Your choices include Arabic numbers, Roman numerals, and letters, with periods, parentheses, or double parentheses to separate the numbers from the list text. Click OK.

- • Click the Numbered List button on the toolbar.

3. To add additional numbered items to your list, move the insertion point to the end of a line formatted with a number and press Enter.

4. Move the insertion point to the end of the last numbered item in your list. Press Enter and then Del, or press Enter and click the Numbering button on the Formatting toolbar, to turn off the number formatting.

Tip   You can quickly convert a numbered list to a bulleted list by selecting the numbered list and then clicking the Bullets button on the Formatting toolbar, and vice versa.

Customizing numbered lists

You can customize an existing numbered list or apply your own specifications to the number format using the Customize button in the Numbered tab of the Bullets and Numbering dialog box. Click on one of the number-style boxes and then click the Customize button to display the Customize Numbered List dialog box (see Figure 2-25). Table 2-9 explains the Numbered List options in this dialog box.
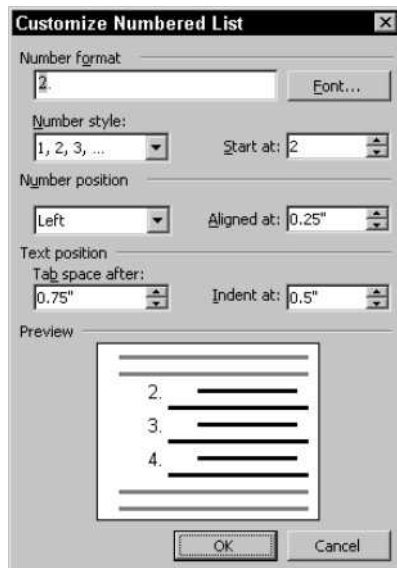
Figure 2-25: The Customize Numbered List dialog box.

Table 2-9 **Numbered List Options**	
Option	*Action*
Number format	Types the characters, if any, that you want to come before each number. If you want each number enclosed in parentheses, for example, type an opening parenthesis before the number in this box. *Do not type over this number in this box!* If you do so, even replacing it with another number, you will break the automatic numbering; each number in the list will be the same.
Number style	Specifies the numbering style that you want. Choices include Arabic numerals, uppercase and lowercase Roman numerals, uppercase and lowercase alphabet letters, and word series (1st, One, and First). You can also choose no numbers at all, killing the sequential numbering. (Why? So that you can retain the indentation without the numbers.)
Font	Specifies the special font or font attributes (such as bold, italic, and underline) and the point size for the numbers. A standard Font dialog box appears when this button is chosen.
Start at	Indicates the starting number for your list. If you're using a series of lists, the starting number may be something other than 1.
Number position	Chooses the alignment of the number at the Aligned At position. For instance, if you select Left, the number begins at the Aligned At position; if right, the number ends there.
Aligned at	Sets the distance from the left margin that Word places the number.
Tab Space After	The distance between the Aligned At number position and the text on the first line.
Indent at	The left-most position of the text on subsequent lines.

Restarting and continuing numbering

You can tell Word whether to restart or continue numbering. Notice, in the Bullets and Numbering dialog box on the Numbered tab, the Restart Numbering and Continue Previous List option buttons. When you use the dialog box to create a list, or when you open the box while the list is selected, these option buttons are enabled and one is selected:

✦ **Restart Numbering:** Starts the numbering sequence over from 1. You might use this to place two numbered lists one after the other. Word will want to continue the second list with the next number in sequence from the previous list; this option tells it not to. Also, there are times when Word gets a little confused and starts a brand new list, many paragraphs away from the last list, with the next number in sequence. This option slaps its hand and tells it not to.

✦ **Continue Previous List:** Tells Word you want to begin your list where the last one left off. For instance, you may want to create a very long procedural description, with paragraphs of unnumbered text within the list. This allows you to create lots of individual numbered lists, but link them all together.

Tip
Another way to use these commands is to right-click on the first entry in the list and select from the pop-up menu Restart Numbering or Continue Numbering.

Adding unbulleted or unnumbered paragraphs to a list

Sometimes the topic of a bulleted list or a numbered item cannot be discussed conveniently in a single paragraph. If you require more than one paragraph to describe a single topic in a bulleted list, only the first paragraph for that topic should have a bullet. The remaining subordinate paragraphs for that topic don't need bullets, but they do need the same hanging indent as the bulleted paragraphs in the list. There are a couple of ways in which you can create these indented subordinate paragraphs:

✦ Press Shift+Enter to make a line break (press twice if you want a blank line between the blocks of text) and continue typing. The new block of text will not be preceded by a bullet or number because Word regards it as part of the same paragraph (and only places a bullet or number at the beginning of each paragraph).

✦ Click on a line from which you want to remove a bullet or number; then click the Bullets or Numbering button on the toolbar to do so. Then use the Left Indent marker on the ruler to line up the text of the subordinate paragraph with the text of the previous paragraph.

Ending bulleted or numbered lists

As mentioned previously, the formatting for a paragraph is stored in the paragraph mark. Therefore, as with other paragraph formatting, the bulleted or numbered list format carries forward each time you press Enter to begin a new paragraph. If you create a bulleted list by pressing Enter, you need to end the bullet or numbered list formatting when you finish with the list. To end a bulleted or numbered list, press Enter at the end of a list and take one of the following actions:

✦ Press Delete to remove the number and bullet, leaving the insertion point on the line immediately below the last list entry and moved back to the style's left margin.

✦ Press Enter again. The same as pressing Delete, except that you'll get a blank line between the list and the line on which the insertion point is placed.

✦ Press Backspace to remove the bullet and place the insertion point on the line below the last entry, at the bullet position.

✦ Press Ctrl+Shift+N return to the Normal style.

✦ Press Ctrl+Q to return to whatever style was applied to the text immediately before you began the bulleted or numbered list.

✦ Click the Bullets button to remove the bullet or the Numbering button to remove the number from the paragraph, returning the insertion point to the style's left margin.

Creating outline numbered lists

Outline numbered lists are similar to numbered or bulleted lists, but in these multilevel lists, the number or bullet of each paragraph changes according to its level of indention. With outline numbered lists, you can mix numbered and bulleted paragraphs based on the indentation level. You can create multilevel lists with as many as nine levels. Use the outline numbered list format if you want your list to have numbered items with indented, bulleted subparagraphs; for example, many types of technical and legal documents require each paragraph and indentation level to be numbered sequentially. Multilevel lists are created using the Outline Numbered tab in the Bullets and Numbering dialog box (see Figure 2-26).

Note   *Outline Numbered* is a misnomer. In fact these outline lists may be either numbered or bulleted.
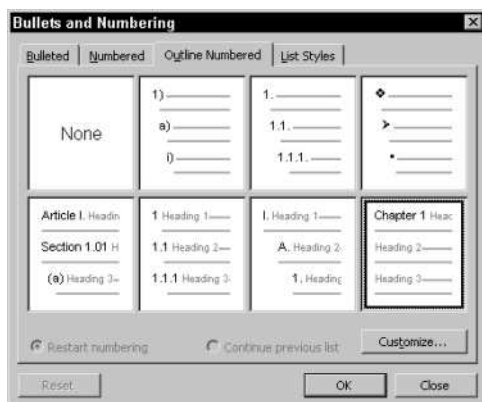
Figure 2-26: The Outline Numbered tab in the Bullets and Numbering dialog box.

As with bullets and numbering, you can set the outline numbering first and then begin typing, or type and then select the text and apply the formatting. To create subordinate paragraphs, simply increase the indentation using the Increase Indent button on the Formatting toolbar, or by pressing Shift+Alt+right arrow — Word automatically switches to the subordinate numbering system. To switch back to a higher level, use the Decrease Indent button or Shift+Alt+Left Arrow.

Customizing outline numbered lists

You can customize an outline numbered list format by clicking Customize in the Outline Numbered tab, which displays the Customize Outline Numbered List dialog box (see Figure 2-27). You can see additional options by clicking More. Table 2-10 describes the available options in the Customize Outline Numbered List dialog box.
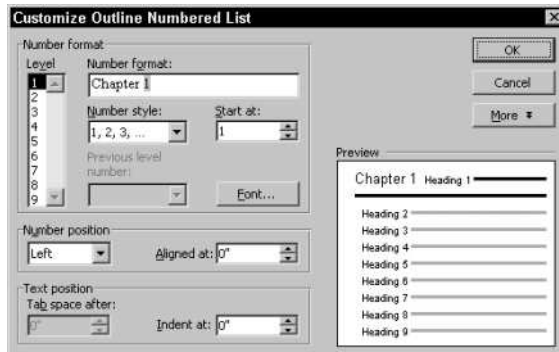
Figure 2-27: The Customize Outline Numbered List dialog box.

Table 2-10
Options in the Customize Outline Numbered List Dialog Box

Option	Description
Level	Determines which level to modify.
Number format	Determines which characters (if any) come before each number or bullet at this indentation level.
Number style	Determines the numbering or bullet style used. Choices include a combination of the numbering choices available for numbered lists and the bullet choices available for bulleted lists or even no number or bullet at all.
Start at	Determines the starting number for paragraphs at the selected level of indentation.
Previous Level Number	If you selected Level 2 or lower, and have chosen a numbering format (rather than a bullet), this drop-down list box is enabled. It displays a list of the levels for which you have customized a format. If you select a previous level number, Word will include that level number along with the level number for the selected format. (More explanation of this point follows the table.)
Font button	Determines any special font or font attributes (such as bold, italic, and underline) or the point size for the numbers or bullets used at this indentation level.
Number Position - Aligned At	The indentation at which the number is placed.
Text Position - Tab Space After	How far Word tabs before beginning the text on the first line after the number.
Indent at	The left position of the subsequent lines.

Continued

Table 2-9 (continued)	
Option	*Description*
Link level to style	Applies the selected style to the text used at this numbering level..
Follow Number With	Tells Word to place a Tab after the number, to use spaces, or to place nothing between the text and the number (in which case the Tab Space After setting is disabled).
Legal style numbering	Converts Roman numerals (IV, V) to Arabic numerals (4, 5) — the Number Style box is disabled.
Apply Changes To	If you are modifying an existing numbered list, you can choose to modify the Whole List, from This Point Forward, or the Current Paragraph.

The Previous Level Number tells Word to include the number of the previous level along with the number of the level you are modifying. For instance, the first level would be 1, the next level down would be 1.1, the next 1.1.1, the next at the same level 1.1.2, and so on. This is a common outlining style for many government and military documents, for instance.

Creating list styles

Word also lets you customize lists by creating special list styles. Click the List Styles tab in the Bullets and Numbering dialog box (see Figure 2-28). This dialog box lists all the outline list styles that have been created — select one and click OK to apply that style to your Outline list.
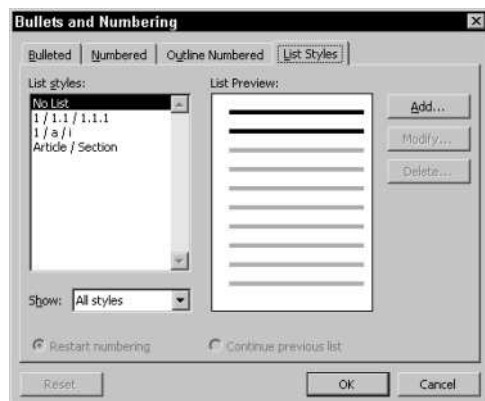
Figure 2-28: The List Styles tab of the Bullets and Numbering dialog box.

You can use the Add button to add another style, or Modify to change one you've selected. When you click one of these buttons, you see the New Style or Modify Style dialog box (see Figure 2-29). You can learn more about these dialog boxes in the Microsoft Word 2003 Bible's discussion of styles (Chapter 13 in that book). For now, just know that you can create a style that encompasses all levels of an outline list, defining exactly what font should be used, how much indentation, whether to use a bullet or number, what number to start with, and so on. Simply provide the style a name, select a starting number, select the level you want to define, and then make all your selections. Then go back and do the next level.
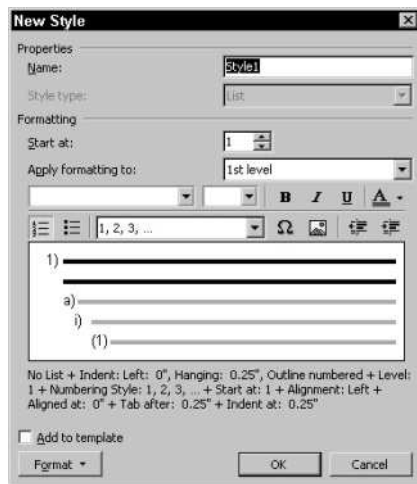
Figure 2-29: The New Style dialog box.

Paragraphs and Pagination

Word automatically creates page breaks as you write, but you can control how paragraphs are positioned relative to these page breaks. For example, you may want to prevent page breaks within boxed or shaded paragraphs. To control paragraph positions relative to page breaks, use the Line and Page Breaks tab in the Paragraph dialog box (see Figure 2-30). Table 2-11 describes the options in the Line and Page Breaks tab.

Note The page breaks created by Word are very different from the page breaks you can create yourself using Ctrl+Enter or the Insert⇨Break command. Word's page breaks are placed according to how much text is on the page, the page margins, and so on. On the other hand, the breaks you enter are fixed. If you place a break immediately before a paragraph, it doesn't matter how much text you add before the paragraph, the break remains there.
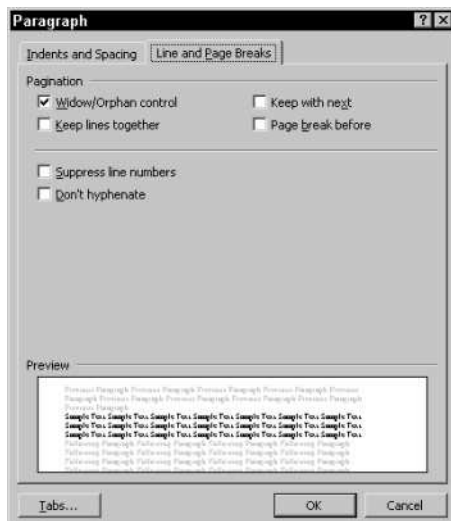
Figure 2-30: The Line and Page Breaks tab in the Paragraph dialog box.

Table 2-11 **Line and Page Breaks Tab Options in the Paragraph Dialog Box**	
Option	***Action***
Widow/Orphan control	Instructs Word not to let a single line from a paragraph appear by itself at the top or bottom of a page. This option is on by default. A *widow* is the final line of a paragraph that jumps to the top of the next page because it doesn't fit on the current one. An *orphan* is the first line of a paragraph that falls at the end of a page with the remainder of the paragraph appearing on the next page.
Keep lines together	Instructs Word not to split the paragraph into separate pages. This is useful when working with lists.
Keep with next	Instructs Word to keep the paragraph with the next paragraph. This is useful when working with captions and lists.
Page break before	Instructs Word to place the paragraph on top of the next page. This is useful when working with figures, tables, and graphics.
Suppress line numbers	Instructs Word to remove line numbers from the selected text if your document displays line numbers.
Don't hyphenate	Instructs Word to exclude the selected paragraph from automatic hyphenation.

Hyphenation

Speaking of hyphenation, it's time to cover that subject. Hyphenation reduces ragged right edges on blocks of text (it also allows you to get more words on a page, though only slightly). Hyphenation is the process of breaking words between lines, so part of a word appears on the right side of one line, with a hyphen placed after it, while the rest of the word appears on the left side of the next line. Why not use paragraph justification to create nice straight right edges? Because justified text is hard to read. But hyphenation can even be used with justified text, to reduce the amount of white space inserted between words.

The following sections look at four types of hyphenation:

✦ Automatic hyphenation

✦ Manual hyphenation

✦ Optional hyphenation

✦ Nonbreaking hyphenation

Using automatic hyphenation

Automatic hyphenation inserts optional hyphens. An optional hyphen is a hyphen that Word uses only when a word or a phrase appears at the end of a line. If the word or phrase moves to a different position because of editing, the optional hyphen is removed.

> **Note** Normally, optional hyphens are not visible in your document. You can view optional hyphens by choosing Tools⇨Options and then clicking the View tab. Under Formatting Marks, select the Optional Hyphens check box.

To select automatic hyphenation, follow these steps:

1. Choose Tools⇨Language⇨Hyphenation to open the Hyphenation dialog box (see Figure 2-31).

2. Select the Automatically Hyphenate Document check box.

3. If you do not want to hyphenate words in uppercase letters, leave the Hyphenate Words in CAPS check box blank.

4. Set a value in the Hyphenation Zone. This value is the distance in inches between the end of the last complete word in a line of text and the margin — in other words, the degree of raggedness Word should allow. Word uses this measurement to determine if a word should be hyphenated. Large values decrease the number of hyphens; low values increase the number of hyphens but reduce the raggedness of the right margin.

5. If you don't want consecutive lines to have hyphens — it can make a document look a little strange — set a limit in the Limit Consecutive Hyphens To box.

6. Click OK.
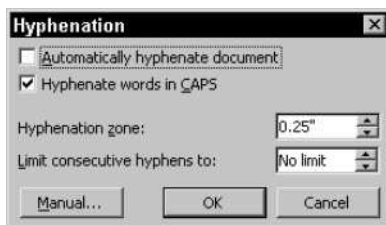
Figure 2-31: The Hyphenation dialog box.

Tip

If you don't want certain paragraphs to be hyphenated automatically, select those paragraphs and then choose Format⇨Paragraph. In the Paragraph dialog box, select the Line and Page Breaks tab and then the Don't Hyphenate check box.

Using manual hyphenation

Using manual hyphenation, you have more control over what is hyphenated and how it is hyphenated. You can select which parts of the document are hyphenated and where a hyphen appears in specific words. This is a huge hassle for a large document, but it does allow you to do a better job than Word might do automatically — Word sometimes hyphenates words in positions that don't look good.

To select manual hyphenation, follow these steps:

1. Select the text you want to hyphenate manually. If you want to hyphenate manually the entire document, don't select anything.

2. Choose Tools⇨Language⇨Hyphenation to open the Hyphenation dialog box.

3. Click the Manual button, and Word immediately begins scanning the selection or the document for words to be hyphenated. When such a word is located, Word displays the Manual Hyphenation dialog box (see Figure 2-32).

4. To hyphenate the word at a point other than that suggested in the Hyphenate At box, click where you want the hyphen to appear.

5. To accept the suggestion, click Yes.

6. To skip the word and move on, click No.

7. To stop the manual hyphenation, click Cancel.
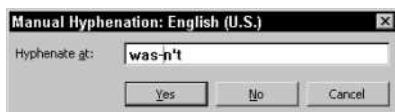
Figure 2-32: The Manual Hyphenation dialog box.

Using nonbreaking and optional hyphens

Use nonbreaking hyphens to hyphenate phrases or terms that you don't want to wrap to another line (for example, 02-12-03). With nonbreaking hyphens, the entire phrase or term wraps to the next line instead of breaking.

To insert a nonbreaking hyphen, do the following:

1. Position the insertion point where you want to place the nonbreaking hyphen.

2. Press Ctrl+Shift+- (hyphen).

Use an optional hyphen when you want to break specific lines of text. For example, if a lengthy word wraps to the next line and leaves a large amount of white space, you can insert an optional hyphen in that specific word so that the first part appears on the first line. If the word later moves to a different position because of editing, the optional hyphen does not print. If further editing moves the word back into a hyphenation zone, the hyphen reappears.

To insert an optional hyphen, do the following:

1. Position the insertion point where you want the optional hyphen to appear.

2. Press Ctrl+- (hyphen).

Summary

Mastering paragraph fundamentals is essential for creating just about any document in Word. Even when you work with graphics, basic paragraph formatting is used to place the images. Because of the importance of paragraphs, Word provides several ways to apply paragraph formats. In this chapter, you learned the key elements of formatting paragraphs, including how to

✦ Apply paragraph formatting using the Formatting toolbar or Format Paragraph dialog box (Format⇨Paragraph).

✦ Remove paragraph formatting by pressing Ctrl+Q to return the text to the current style's default settings or Ctrl+Shift+N to apply the Normal style to the paragraph.

✦ Align paragraphs using the following shortcut keys: Ctrl+L for left-align, Ctrl+R for right-align, Ctrl+E for center-align, and Ctrl+J for justified text. You can also use the alignment buttons on the Formatting toolbar.

✦ Set tabs using the horizontal ruler by clicking the Tab Alignment button at the far-left end to choose the tab style that you want and then clicking the ruler at the point where you want to insert the tab. You can also use the Tabs dialog box (Format⇨Tabs) to set tabs.

✦ Add borders and shading to paragraphs by clicking the Border button on the Formatting toolbar to display the Border toolbar or by choosing Format⇨Borders and Shading to display the Borders and Shading dialog box.

✦ Insert horizontal lines using the Horizontal Line button in the Borders and Shading dialog box (Format⇨Borders and Shading).

✦ Create bulleted and numbered lists using the Bullets and Numbering buttons on the Formatting toolbar, or the Bullets and Numbering dialog box (Format⇨Bullets and Numbering).

✦ Use the Hyphenation dialog box to automatically or manually create hyphens (Tools⇨Language⇨Hyphenation).

✦   ✦   ✦

Configuring Outlook 2003

Similar to most applications, Outlook configures itself automatically using a host of settings based on specific assumptions that Microsoft has made about how you will use Outlook. Although those assumptions are based on usability research, there is no guarantee those default settings will suit your needs or preferences. What's more, you'll need to set up your own e-mail accounts because, all privacy jokes aside, Microsoft can't possibly know what accounts you use.

It isn't difficult to set up an account, a profile, and a new file in which to store your Outlook data. In this chapter you learn how to perform each of these tasks as well as configure Outlook to function the way you want. Some of these tasks include adding other data storage files to your profile, creating additional profiles, and defining the way Outlook delivers messages.

Configuring E-mail Accounts

Although you could use Outlook solely for tasks other than e-mail, it's likely that you'll want to use Outlook for at least one e-mail account. Before you can send or receive e-mail with Outlook, you must set up the account.

Outlook 2000 offered two modes—Internet Mail Only (IMO) and Corporate Workgroup (CW)—that were designed for two different uses. IMO was targeted at non-Exchange Server users, and CW was targeted primarily to Exchange Server users. These two modes made it difficult to manage multiple account types.

In Outlook 2002, Microsoft did away with these two modes, and introduced a single unified mode that enabled Outlook users to work with multiple account types in a single profile. This capability carries over to Outlook 2003, making it easy, for example, to work with an Exchange Server account, a POP3 account, and a Hotmail account, all in one profile.

The following sections explain how to add accounts to an existing profile. For information on adding profiles, see "Creating and Managing Outlook Profiles" later in this chapter.

Using the E-mail Accounts Wizard

Outlook provides a wizard to help you add e-mail accounts to a profile. This section explains how to use the wizard; the following sections explain how to configure specific types of e-mail accounts.

Follow these steps to launch the E-mail Accounts Wizard:

1. Close Outlook, right-click the Outlook icon on the desktop (or in the Start menu), and then choose Properties, or open the Mail applet from the Control Panel. Either action opens the Mail Setup — Outlook dialog box.

2. In the Mail Setup — Outlook dialog box, click E-mail Accounts to start the wizard.

3. To add a new account, choose the Add a New E-mail Account option. You can choose the type of account to add to the existing profile (Figure 3-1). To modify an existing account, choose View or Change Existing E-mail Accounts; then click Next.

Tip   You can add or modify accounts with Outlook running. Choose Tools⇨E-mail Accounts to open the wizard.

At this point in the wizard, you can choose the type of account to add or select an existing account to modify (Figure 3-2). The following sections explain how to configure specific types of accounts.
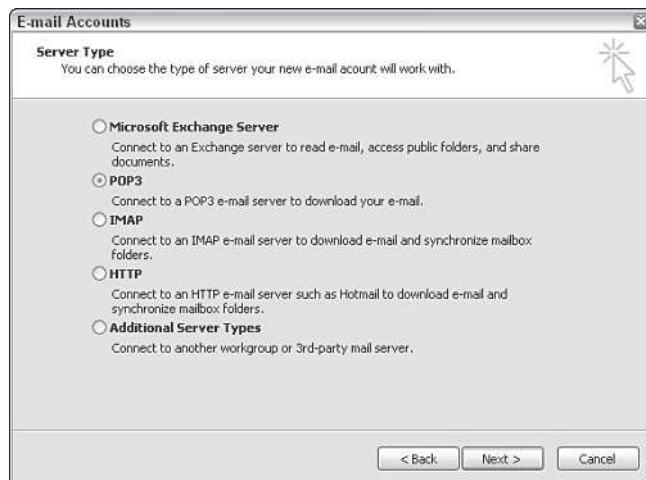
Figure 3-1: Choose the type of account to add to the existing profile.
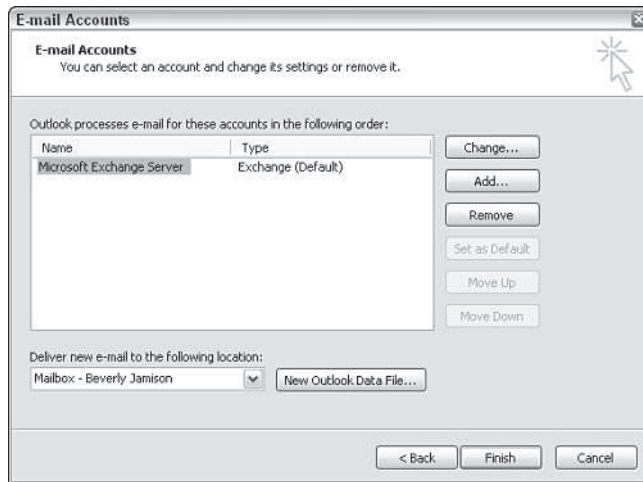
Figure 3-2: You can modify existing accounts with the wizard.

Configuring Exchange Server accounts

It's relatively easy to set up an Exchange Server account in Outlook because you need to specify only a handful of settings, such as the server name and the account name. You don't have to worry about the e-mail address or other settings as you do with a POP or IMAP account because these settings are configured at the server by the Exchange Server administrator.

1. Run the E-mail Accounts Wizard as explained in the previous section.

2. From the Server Type page of the wizard, choose Microsoft Exchange Server and then click Next.

3. In the Exchange Server Settings page (Figure 3-3), enter the server name or IP address in the Microsoft Exchange Server field.

4. In the User Name field, type the mailbox name or the account alias (this is often the logon account name).

5. Choose the Use Local Copy of Mailbox option if you want to work with Exchange Server in cached local mode (explained later in the section, "Setting advanced options").

Tip   You can enter the NetBIOS name for the server in the Microsoft Exchange Server field, or specify the Fully Qualified Domain Name (FQDN) for the server.
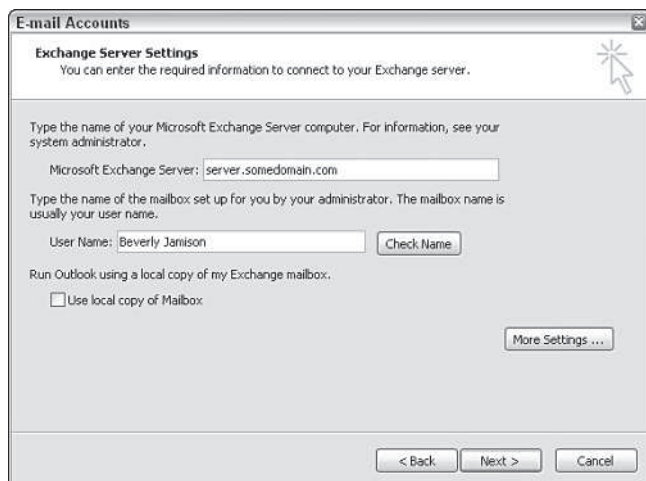
Figure 3-3: Set the server and account name on the Exchange Server Settings page.

At this point you can click Next and then click Finish to add the account with default settings. In many cases, however, you will need to configure some additional settings. You can do this when adding the account, or change the settings afterward. On the Exchange Server Settings Wizard page, click More Settings to open the Microsoft Exchange Server property sheet shown in Figure 3-4. The following sections explain the options available in this property sheet.
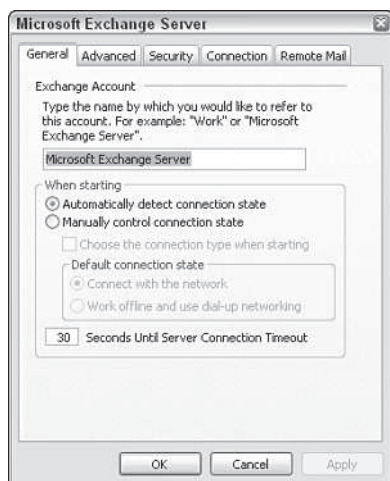
Figure 3-4: Use the General page to configure connection settings.

Setting general properties

The General page controls basic settings and the connection state for the account. The following list summarizes the options:

Exchange Account. Specify the name by which you want the account to appear in the profile's account list. By default, the name is Microsoft Exchange Server.

Automatically Detect Connection State. Let Outlook choose the connection state automatically. Choose this option if you never disconnect your computer from the network, or if you simply want Outlook to detect the connection state by itself.

Manually Control Connection State. This option enables you to control whether Outlook uses the Exchange Server mailbox or the locally cached copy, rather than allow Outlook to control the connection state. If you do not choose the option Choose the Connection Type When Starting, Outlook automatically uses the connection method specified by the Default Connection State options.

Choose the Connection Type When Starting. Select this option to have Outlook prompt you at startup to select the type of connection method to use.

Connect with the Network. Use this option to have Outlook connect to the server through the local area network, whether through a hardwired connection or existing dial-up.

Work Offline and Use Dial-Up Networking. Have Outlook dial a specified dial-up connection to connect to the Exchange Server.

Seconds Until Server Connection Timeout. Set the amount of time Outlook will wait for responses from the Exchange Server before timing out. Increase the value if you are working over a slow link, such as a dial-up connection, that frequently causes Outlook to timeout and disconnect.

Setting advanced options

The Advanced page (Figure 3-5) enables you to open one or more other mailboxes along with your own. For example, an assistant for a small group of users might open the mailboxes of those other users to manage their schedules or handle mail processing. Or, perhaps you want to keep your mail in separate mailboxes for different purposes. Whatever the case, you can click Add to specify a mailbox name, and add it to the list of mailboxes that Outlook will open at startup.
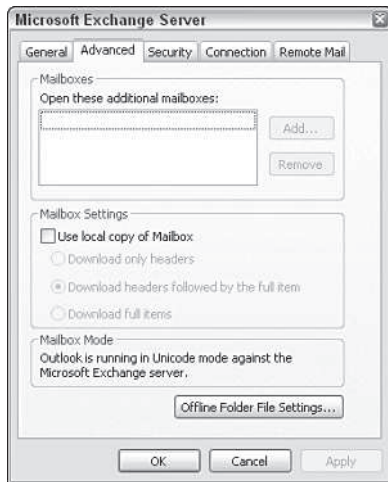
Figure 3-5: Use the Advanced page to configure mailbox settings.

Tip   You can also open a single folder from another user's mailbox by choosing File⇨Open⇨Other
User's Folder. With either method, you must either own the mailbox or have been given del-
egate access to it.

The settings under the Mailbox Settings group let you specify how Outlook downloads
messages from the mailbox, and whether it uses a local copy of the mailbox or works only
from the server:

Use Local Copy of Mailbox. Select this option to use Cached Exchange Mode (CEM),
which directs Outlook to create a local copy of the mailbox on your computer.

Download Only Headers. Used with CEM, this option directs Outlook to download
only headers to the local cache, and leave the item bodies and attachments on the
server.

Download Headers Followed by the Full Item. Outlook first downloads all headers
and then begins downloading the item bodies and attachments.

Download Full Items. Outlook downloads each item in its entirety.

The option you choose depends on how much of the item you need and your current
connection state. Download only the headers if you're working over a slow link or have a
large amount of data in the mailbox and want to speed up offline synchronization. If you
choose the option Download Headers Followed by the Full Item, Outlook will be able to
synchronize the headers fairly quickly so you can see what items the mailbox contains. If the
synchronization is interrupted, you will at least be able to see what's in the mailbox, even if
you can't see the contents of some of the items. Choose the Download Full Items option if
you don't have connection problems or are working from a fast connection, and you want all
of the items downloaded.

Setting the offline store location

Outlook uses an offline store (OST) file to store the offline mailbox cache. You can use an OST whether or not you work in cached mode. When you use an OST without CEM, Outlook functions just as it did in previous versions with an OST file. Synchronization doesn't take place until you perform a send/receive for the Exchange Server account, either manually or at a scheduled send/receive. Outlook uses the OST only if it can't connect to the Exchange Server.

With CEM, Outlook defaults to using the OST and handles synchronization automatically based on the settings you provided in the Mailbox Settings group on the Advanced property page. The main distinction between the two, therefore, is that with CEM, Outlook always uses the OST and handles synchronization for you.

When you enable CEM, Outlook automatically creates an OST to contain the offline cache. You can't directly change the location of the OST, which you might want to do if you're running low on disk space where the OST resides. You can, however, disable offline storage and then re-enable it to change the location. Follow these steps to accomplish the change:

1. Close Outlook, and start the E-mail Accounts Wizard from the Mail applet in the Control Panel.

2. Click E-mail Accounts; then choose View or Change Existing E-mail Accounts, and click Next.

3. Select the Exchange Server account, and click Change.

4. Clear the Use Local Copy of Mailbox option, and click Next; then click Finish.

5. Repeat steps 2 and 3.

6. Click More Settings and then click the Advanced tab.

7. Click Offline Folder File Settings, click Disable Offline Use, and click Yes when prompted.

8. Click OK; then Next and then Finish.

9. Repeat steps 2, 3, and 6.

10. Click Offline Folder File Settings, click Browse, and specify a new path and location for the OST; then click Open.

11. Click OK and then click Yes when prompted to create the new OST (assuming you specified a new one and not an existing one).

12. Enable the option Use Local Copy of Mailbox on the Advanced page; then click OK.

13. Click Next and then Finish; then Close.

When you start Outlook, it will use the new OST and will synchronize it accordingly.

If you want to use Outlook with an OST file but without CEM, you can follow the previous steps 1 through 11 to create a new OST file. Close the account properties without

enabling the Use Local Copy of Mailbox option. Keep in mind that you must manually perform a synchronization, or use a scheduled send/receive to synchronize the OST before Outlook can use it.

Configuring security settings

You can configure a small number of security settings for an Exchange Server account on the Security page of the account's properties (Figure 3-6).

Figure 3-6: Use the Security page to enable encryption and specify authentication settings.

Following is an explanation of these settings:

Encrypt Information. Use this option to enable encryption to secure transmission between the client and server computers. **Always Prompt for User Name and Password.** Select this option to require Outlook to prompt you for your account and password, rather than caching it and logging on automatically. You should use this option if you leave your computer unattended or share a computer with others.

Logon Network Security. Choose the authentication method required by your server. Use Password Authentication (NTLM) if your Exchange Server is running on Windows NT or you need to use NTLM when accessing a Windows 2000 or Windows 2003 Server. Choose Kerberos if your Exchange Server supports Kerberos-based authentication. Kerberos is the default authentication mechanism for Windows 2000 and Windows 2003 Server platforms.

Note The Distributed Password Authentication (DPA) option available in Outlook 2002 is not included with Outlook 2003.

Configuring connection settings

Use the Connection page of the Exchange Server's additional settings (Figure 3-7) to tell Outlook how to connect to the Exchange Server. Choose an option based on the following list:

Connect Using My Local Area Network. Select this option if you connect through a LAN, or want to use a dial-up connection that is already dialed and connected.

Connect Using My Phone Line. Select this option to use a specific dial-up connection to the Internet or server's network. Use the Modem group of controls on the page to select the dial-up connection and set its properties.

Connect Using Internet Explorer's or a 3rd Party Dialer. Select this option to use the dialer configured in Internet Explorer, or to use a third-party dialer included with other network client software.
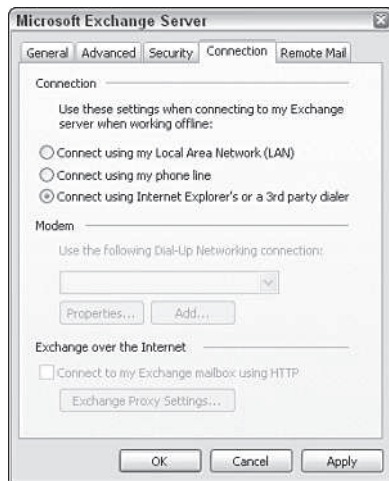
Figure 3-7: Use the Connection page to specify how Outlook connects to the Exchange Server.

The option Connect to my Exchange Mailbox Using HTTP lets you connect to the server across the LAN or Internet using the HTTP protocol. This connection method enables you to connect to an Exchange Server sitting behind a firewall that blocks traffic other than HTTP (port 80). It's also a handy mechanism for remote users who need to access an Exchange Server across the Internet but don't want to use Outlook Web Access (OWA) or when OWA isn't supported on the server.

Click Exchange Proxy Settings to open the Connection dialog box (Figure 3-8), which enables you to specify proxy settings for the connection to the server. These settings are self-explanatory.
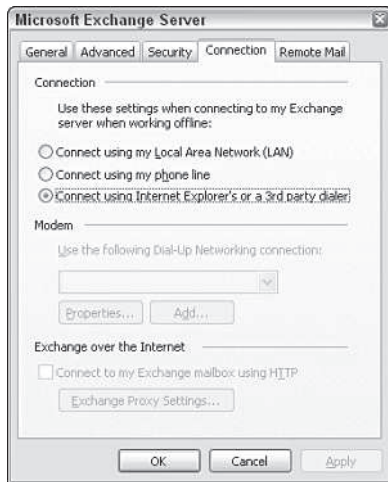
Figure 3-8: Use the Connection dialog box to configure proxy settings for the connection.

Configuring Remote Mail settings

You can use the Remote Mail page to configure general options for using Remote Mail with the Exchange Server account. Remote Mail enables you to retrieve headers only and/or retrieve only those messages that fit the filter criteria you specify.

Configuring POP3 and IMAP accounts

Post Office Protocol 3 (POP3) has long been the primary protocol used by Internet mail servers. POP3 is gradually being replaced by Internet Mail Access Protocol (IMAP), and by HTTP-based mail, such as that used by Hotmail and Yahoo!. Both POP3 and IMAP are standards-based, public protocols supported by a wide variety of mail servers. Most Internet Service Providers (ISPs) that offer mail accounts support both POP3 and IMAP.

POP3 is primarily an offline protocol, which means you download the messages from the server and work with them locally. IMAP, by contrast, is primarily an online protocol. You work with your IMAP folders and messages from the server. The fact that the messages remain on the server simplifies the synchronization problems (such as having messages scattered on different computers) you would otherwise face if you needed to access the same POP3 account from more than one computer. Another useful benefit to IMAP is the capability it gives you to selectively process messages and attachments without downloading them from the server; however, you can gain most of these advantages for all account types by using Outlook's Remote Mail features.

Tip   IMAP offers better security than POP3 because it uses a challenge-response mechanism to authenticate the user, rather than passing the password across the network as plain text.

If your server supports both POP3 and IMAP, this author recommends using IMAP. The configuration process is essentially the same for each.

1. Start the E-mail Accounts Wizard from the Mail applet in the Control Panel and then click E-mail Accounts. Alternatively, choose Tools⇨E-mail Accounts in Outlook.

2. Choose Add a New E-mail Account and then click Next.

3. Choose POP3 if adding a POP3 account, or IMAP if adding an IMAP account; then click Next.

4. On the Internet E-mail Settings page (Figure 3-9), specify settings according to the following list:

   Your Name. Specify your name as you want it to appear in the From field of messages that others receive from you through this account.

   E-mail Address. Enter the e-mail address for the account in the form *account@domain*, such as jim@boyce.us.

   Incoming Mail Server. Specify the IP address or DNS name of the server where your mailbox is located.

   Outgoing Mail Server. Specify the IP address or DNS name of the SMTP server that this account should use for sending outgoing mail. The outgoing and incoming servers need not be the same, and in the case of large ISPs such as CompuServe, are often different.

   User Name. Enter the name of your mailbox or logon name on the server. Typically, this is the first part of your e-mail address. Do not include the *@domain* portion of the address.

   Password. Specify the password associated with the account you entered in the User Name field.

   Remember Password. Select this option to have Outlook cache the password. Clear the option if you want Outlook to prompt you for the password each time it connects to the server. Clearing this option provides better security and prevents others from retrieving your mail when you are away from the computer.

   Log On Using Secure Password Authentication (SPA). Select this option if the mail server requires SPA for authentication. Most mail servers do not.

Figure 3-9: Use the Internet E-mail Settings page to configure basic account properties for POP3 and IMAP accounts.

Tip You can click Test Account Settings when creating a POP3 account to send a test message through a specified outgoing mail server and attempt a logon to the incoming mail server. This helps you verify your settings before you finish creating the account.

In most situations you can click Next and then Finish at this point to create the account; however, you can configure additional settings, if needed. Click More Settings to display the Internet E-mail Settings property sheet. The General, Outgoing Server, and Connection pages are the same for POP3 and IMAP accounts. Most of the options on the Advanced page are the same, with a few exceptions. The following sections describe the available options.

General settings

Use the Mail Account field on the General page to specify the account name as you want it to appear in Outlook's list of accounts. You can add a company or organization name in the Organization field. These settings are optional.

Use the Reply E-mail field to specify the reply to message property for the account. By default, the account uses the e-mail address you specify in the E-mail Address field for the account as the reply address. In some situations, however, you might want these to be different. For example, you might want replies sent to a discussion list rather than to your own mail address.

Outgoing server settings

Use the settings on the Outgoing Server page to enable authentication for your SMTP server. You can use the same authentication credentials as for the incoming server, or specify a different account and password. You can also configure the account to use Secure Password Authentication (SPA) for the outgoing server, if required.

POP3 accounts have an additional setting on this page: Log on to incoming mail server before sending mail. Enable if your account is serviced by the same server for incoming and outgoing mail, and requires that you authenticate to send messages.

Connection settings

Use the Connection page to specify how Outlook should connect to the server(s) to send and receive messages. Use the LAN option if you connect through a network, or want to use whatever dial-up connection is already established at the time you perform a send/receive. The option Connect via modem when Outlook is offline, if enabled, causes Outlook to dial the connection specified by the Modem options when Outlook detects that the server is offline. Check your operating system's Help documentation if you need help configuring a dial-up account.

Advanced settings

The Advanced page differs slightly between POP3 and IMAP accounts. Figure 3-10 shows the POP3 version.

Figure 3-10: The Advanced page for POP3 accounts.

Figure 3-11 shows the IMAP version.
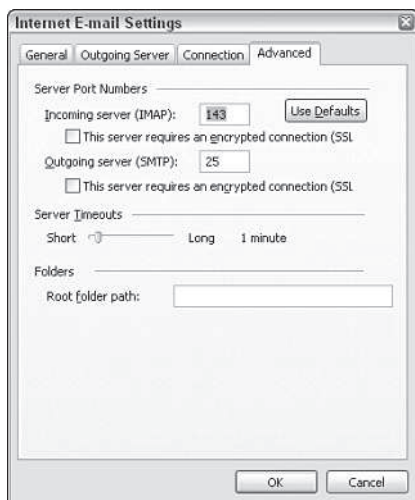
Figure 3-11: The Advanced page for IMAP accounts.

The Incoming and Outgoing server options specify the ports on which the mail servers are configured to respond to incoming and outgoing mail requests, respectively. (In this usage, incoming means mail coming from the server to you, and outgoing means mail going from your computer to the server.) The default port for POP3 is 110 and is 143 for IMAP. The default SMTP port is 25. For both POP3 and IMAP, you can select the SSL connection if the server requires SSL for added security.

Use the Server Timeouts slider to set the amount of time that Outlook will wait for the server to respond to requests before timing out. Increase the timeout if you are working over a slow connection or with a busy server that tends to time out your sessions before they complete.

POP3 delivery

A POP3 account's properties include a Delivery group of options that determine how Outlook handles the messages on the server. These options are:

Leave a Copy of Messages on the Server. Download a copy of the message from the server, but don't delete the original from the server. Use this option when you want to be able to retrieve the messages from other computers, or when you are troubleshooting and don't want Outlook to remove the messages from the server.

Remove from Server After *n* Days. Select this option to have downloaded messages removed from the server after the specified number of days has elapsed.

Remove from Server When Deleted from 'Deleted Items'. Select this option to have Outlook remove the messages from the server when they are removed from the Deleted Items folder, either manually by you or automatically by Outlook.

IMAP folders

The Advanced page for an IMAP account contains only one setting that is different from those for a POP3 account. The Root Folder Path specifies the path to the folder in your mailbox that you want to use as the root folder for the mailbox. Leave this field blank if you're not sure of the folder path, and Outlook will use the default root for the account on the server.

Understanding where Outlook stores your POP3 and IMAP messages

When you add a POP3 account and you already have a default mail store configured for the profile such as an Exchange Server mailbox, set of personal folders, or PST file, Outlook uses that default mail store as the delivery location for your POP3 mail. The other folders in the default store serve to contain the Calendar, Contacts, and other non-mail folders. If there are no other existing accounts, Outlook creates a PST to contain the message store. It uses this same PST to store the nonmail items, as well.

When you create an IMAP account, Outlook automatically creates a PST to contain the IMAP account's folders. It does this even if you already have a message store for another account. Each IMAP account you add gets its own PST. Outlook also creates a PST to contain your nonmail Outlook folders.

Configuring HTTP accounts

Similar to Outlook 2002, Outlook 2003 supports HTTP-based e-mail accounts for MSN and Hotmail. Follow these steps to configure an HTTP account:

1. Start the E-mail Accounts Wizard from the Mail applet in the Control Panel, and click E-mail Accounts. Alternatively choose Tools⇨E-mail Accounts in Outlook.

2. Choose Add a New E-mail Account and then click Next.

3. Choose HTTP, and click Next.

4. On the Internet E-mail Settings page (Figure 3-12), specify settings according to the following list:

    Your Name. Specify your name as you want it to appear in the From field of messages that others receive from you through this account.

    E-mail Address. Enter the e-mail address for the account in the form *account@domain*, such as jimboyce999@hotmail.com.

    HTTP Mail Service Provider. Select either Hotmail or MSN, depending on your account type. You can select Other if you have the URL of an HTTP mail server compatible with Outlook.

    Server URL. This field is read-only for Hotmail and MSN accounts. Enter the URL for your mail server if you selected Other from the HTTP Mail Service Provider drop-down list.

User Name. Enter the name of your mailbox or logon name on the server. Outlook creates this field automatically if you choose the MSN or Hotmail server options based on your e-mail address.

Password. Specify the password associated with the account you entered in the User Name field.

Remember Password. Select this option to have Outlook cache the password. Clear the option if you want Outlook to prompt you for the password each time it connects to the server. Clearing this option provides better security and prevents others from retrieving your mail when you are away from the computer.

Log On Using Secure Password Authentication (SPA). Select this option if the mail server requires SPA for authentication. Most mail servers do not.

Figure 3-12: Use the Internet E-mail Settings page to configure basic account properties for POP3 and IMAP accounts.

As with other types of accounts, you can click More Settings to set a handful of other options. These are the same as those on the General and Connection pages specified in the sections, "General settings" and "Connection settings," earlier in this chapter.

Adding Data Files

The previous section explained how to add e-mail accounts to an Outlook profile. When you add a POP3 account with no existing Exchange Server account, Outlook creates a personal folder file (PST) for you to store your messages. If this is the only account, Outlook also stores your nonmail items (Calendar and so on) in the PST.

When you add an IMAP account to a profile, Outlook creates a PST specifically for the IMAP account. It does not, however, store your nonmail items in the IMAP PST. Instead, Outlook creates a separate PST to store those items.

Although Outlook automatically creates PSTs as needed when you add accounts, you might want to add your own PSTs to a profile. For example, perhaps you use an Exchange Server account for your primary Outlook store, but want a set of personal folders to serve as an archive; or perhaps you have an Exchange Server account and are adding a POP3 account. Outlook will, by default, deliver your POP3 messages to the Exchange Server mailbox, but you can create a rule that moves them to the PST after they come in.

If you're interested to learn more about rules and how to create them, see chapter 8 of Wiley's *Outlook 2003 Bible*.

Follow these steps to add a set of personal folders to your profile:

1. If Outlook is not running, right-click the Outlook icon and then choose Properties, or open the Mail applet from the Control Panel. Click Data Files to open the Outlook Data Files dialog box (Figure 3-13). If Outlook is running, choose File⇨Data File Management.
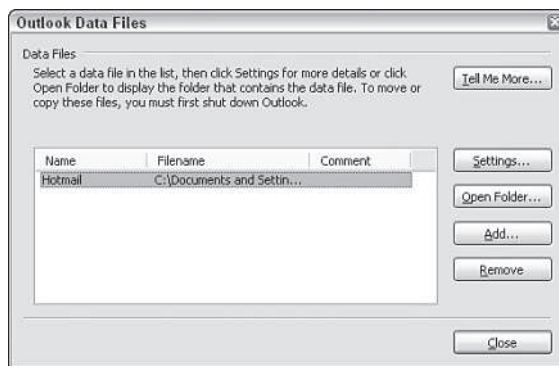
Figure 3-13: The Outlook Data Files dialog box.

2. Click Add to display the New Outlook Data File dialog box (Figure 3-14). Choose one of the following options:

   Microsoft Outlook 97-2002 Personal Folders File (.pst). Choose this option to create a PST that is compatible with other Outlook versions. Use this type of PST if you need to share a PST between different versions of Outlook.

   Microsoft Outlook Personal Folders File (.pst). Choose this option to create a PST that is not compatible with previous Outlook versions, but which supports a larger PST file size and multilingual Unicode data.
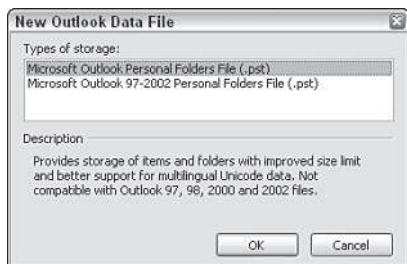
Figure 3-14: The New Outlook Data File dialog box.

3. Outlook displays the Create or Open Outlook Data File dialog box, which is similar to the standard Outlook Open or Save dialog box. Choose a location and file name for the PST, and click OK.

4. In the Personal Folders dialog box (Figure 3-15), enter settings according to the following list:

   Name. Specify the name for the PST as you want it to appear in the Outlook folder list. Using a unique name will help you identify the set of folders more easily.

   Encryption Setting. Choose No Encryption if you don't want to use encryption for the PST. Choose Compressible Encryption to use encryption that also allows the PST to be compressed to conserve disk space (this is the default). Choose Best Encryption to provide extra security at the expense of losing compression capability for the PST.

   Password. Enter and confirm an optional password to protect the PST, and choose the Save This Password in Your Password List to have Outlook cache the PST password in your password cache. Use this option if you are concerned that others might be able to access your computer and view the items in the personal folders.

Figure 3-15: The Create Microsoft Personal Folders dialog box.

5. Click OK to create the PST; then click Close.

After you add a PST, it appears in the folder list under its own branch. The branch name comes from the Name field you specify when you create the PST.

Creating and Managing Outlook Profiles

An Outlook *profile* stores a set of accounts and their associated settings such as the data files associated with the profile. In most cases you will have only one profile that contains all of the accounts that you use. In a few situations, however, you might need to create additional profiles on a computer. For example, even though Outlook can handle multiple e-mail accounts in one profile, you might prefer to keep your work account separate from your personal accounts. Or, maybe two users work with the same computer and each need their own profiles.

You can configure Outlook to use a particular profile by default, or you can configure it to prompt you to choose a profile when Outlook starts. Use the former when you work from the same profile most of the time, and use the latter when you need to change profiles frequently.

Keep in mind that Outlook profiles have nothing to do with the other kinds of profiles you will find on a typical Windows computer, including hardware profiles, user profiles, or even Office settings profiles. Outlook profiles store the accounts and related settings for Outlook only, not for any other application or system.

Outlook profiles store specific types of information, including the following:

Services. This includes data file properties and settings for each of the e-mail accounts in the profile. Services can also include address books, LDAP directory service settings, and third-party services such as one that delivers faxes to your Inbox.

Delivery Settings. An Outlook profile stores settings that determine where it should deliver new incoming messages.

Address Settings. The profile stores settings that determine which address book Outlook uses by default and the address book order it uses to validate e-mail addresses.

When you run Outlook for the first time, it steps you through the process of adding a profile and creating an e-mail account for the profile. The following section explains how to create a new profile.

Creating an Outlook profile

You can add to or modify the contents of a profile in Outlook, but you can't create a profile. Instead, you must use the following steps:

1. Open the Mail applet in the Control Panel, or right-click the Outlook icon and then choose Properties to open the Mail Setup dialog box.

2. In the Mail Setup dialog box (Figure 3-16), click Show Profiles to display the Mail dialog box (Figure 3-17).

3. Click Add to display the New Profile dialog box, enter a name for the profile, and click OK.

Two options on the Mail dialog box control how Outlook handles multiple profiles:

Prompt for a Profile to be Used. Select this option to have Outlook display a dialog box when the application starts from which you choose the profile to use.

Always Use This Profile. Select this option if you want Outlook to use a particular profile automatically. Select the desired profile from the drop-down list.

4. The E-mail Accounts Wizard launches automatically. Use the wizard to add accounts, address books, or directory services to the profile. When you complete the wizard, you'll be returned to the Mail dialog box. Create any other profiles as needed, and set the default profile as explained next; then click OK.
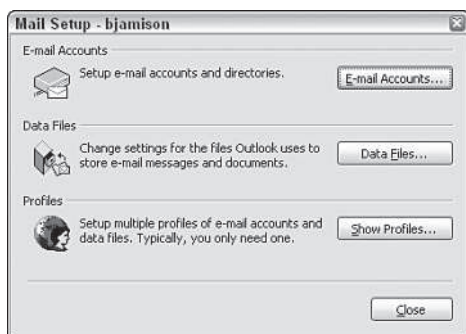
Figure 3-16: Use the Mail Setup dialog box to access the profiles stored in the user's profile.

Figure 3-17: The Mail dialog box shows all existing profiles within the user's system profile.

Copying a profile

In some cases you might want to use the settings from an existing profile but make certain changes, such as create two profiles that include a common e-mail account but which each have a unique secondary account. If that's the case, you can copy the existing profile and then modify the copy. To do so, open the Mail dialog box as explained in the previous section; then click Copy. Specify a name for the new profile, and click OK. You can then modify the newly copied profile as needed.

Switching between profiles

If you maintain multiple Outlook profiles, it's likely that sooner or later you will need to switch to a different profile. If you switch frequently, the best approach is to configure Outlook to prompt you to select a profile when Outlook starts. The section "Creating an Outlook profile" earlier in this chapter explained how to do that.

There is no mechanism in Outlook to change profiles dynamically. You must exit Outlook and, unless you've configured Outlook to prompt you for a profile at startup, change the default profile before starting Outlook again. Here are the steps to take:

1. Open the Mail applet from the Control Panel and click Show Profiles to open the Mail dialog box.

2. Select Always Use This Profile and then select the required profile from the list.

3. Click OK, and start Outlook to use the new profile.

Configuring Message Delivery Options

When an Outlook profile contains more than one e-mail account, Outlook prioritizes them and uses the one with the highest priority as the one through which it sends e-mail by default. For example, if you have an Exchange Server as well as a POP3 account in a profile, and the Exchange Server account is at the top of the account list, Outlook will send new messages through the Exchange Server account.

You can choose an account when you compose a message, and Outlook will send the message through that account. To use a specific account, start a new message, click the Accounts button in the toolbar, and select the account. Compose the message and then click Send. Outlook will send it through the specified account.

Note   The Accounts button doesn't appear unless you have at least two accounts set up.

You can easily change the account order so that Outlook uses a different account by default for outgoing messages:

1. In Outlook, choose Tools⇨E-mail Accounts.

2. Choose View or Change Existing E-mail Accounts and then click Next.

   3. Select an account in the list, and click Move Up or Move Down to adjust the account list. Set the desired account at the top of the list.

Setting the account order does more than just set the account Outlook uses by default for outgoing messages—it also changes the order in which Outlook processes accounts. Outlook performs sends and receives for multiple accounts in the order they are listed. Moving an account up in the list means it will be processed before those below it.

One other change you might want to make for the profile is to specify the account to which incoming mail is delivered. For example, imagine you have a POP3 account and an Exchange Server account. In most cases you'll likely want to leave the Exchange Server as the location for incoming mail; however, you might decide to deliver mail to the POP3 account, which uses a local PST, because of network considerations or other reasons.

Here are the steps needed to specify the incoming mail store:

   1. In Outlook, choose Tools⇨E-mail Accounts.

   2. Choose View or Change Existing E-mail Accounts and then click Next.

   3. In the E-mail Accounts dialog box (Figure 3-2), choose the mail store from the Deliver New E-mail to the Following Location drop-down list.

   4. Click Finish.

Setting Your E-mail Options

After you have the Internet e-mail service properly configured, you can set your e-mail options. There are lots of these options, some more critical than others. In the following sections, you have the opportunity to take a look at these settings so that you can learn how the e-mail options affect you and your use of Outlook. Some of these settings will also be covered in more detail in Part II of this book.

Setting the e-mail preferences

The e-mail preference settings affect the appearance and handling of your e-mail messages—from what happens to messages you send to how replies are handled.

To set your e-mail options, follow these steps:

   1. Select Tools_Options to display the Options dialog box. Click the Preferences tab if necessary to bring it to the front.

   2. Click the E-mail Options button to display the E-mail Options dialog box, shown in Figure 3-18.
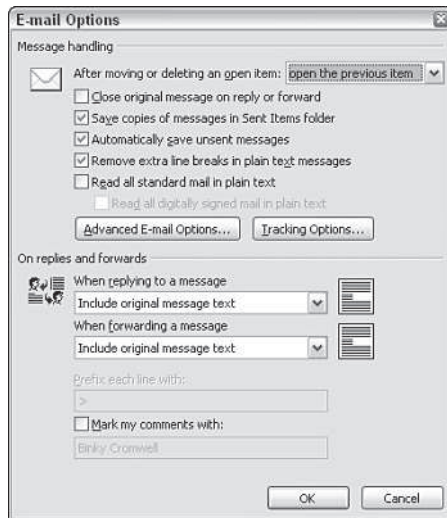
Figure 3-18: Choose the basic e-mail options in this dialog box.

3. Select an action from the After moving or deleting an open item drop-down list box. This specifies what you want to do when you close a message.

4. Select Close original message on reply or forward so that you won't return to a message you've replied to or forwarded. If you don't select this check box, you'll need to close the original message yourself.

5. Select Save copies of messages in Sent Items folder to always save a copy of any messages you send. If you don't select this option, there will be no record that you've sent messages, except in the Journal if those contacts have been selected for recording in the Journal. Be sure to clean out the Sent Items folder occasionally if you've selected this option.

6. Select Automatically save unsent messages to place copies of messages you've begun but not yet sent in the Drafts folder.

7. Select Remove extra line breaks in plain text messages to have Outlook remove extra line breaks in plain text messages, which compresses the message somewhat and can make them easier to read.

8. Select Read all standard mail in plain text to have Outlook remove formatting in messages.

9. Use the On replies and forwards options to specify how you want to handle the original text of a message that you reply to or forward. You can only choose a line prefix for the original message if you select the Prefix each line with option. It's become an Internet e-mail custom to prefix the original message lines with a greater-than symbol (>), but you can use the options you prefer.

> **Tip**   Some of these e-mail option settings are codependent; others are mutually exclusive. For example, you will not be able to use a character to prefix the lines of the original messages when replying to messages if you also choose to include and indent the original message.

10. Click the Advanced E-mail Options button to display the Advanced E-mail Options dialog box, shown in Figure 3-19.
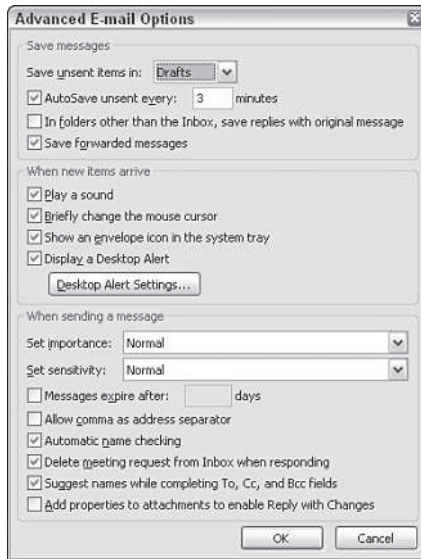
Figure 3-19: Choose the advanced e-mail options in this dialog box.

11. Choose the options you prefer from this dialog box. These options are generally self-explanatory. Use the following list as a guide:

Save messages. These options control whether Outlook saves unsent messages, saves replies along with an original message, and saves forwarded messages in the Sent Items folder.

When new items arrive. Use these options to specify the actions that Outlook takes when new messages arrive.

When sending a message. These options set the default sensitivity and importance for new messages and the options that Outlook makes available when you create a new message. In addition, the Add properties to attachments to enable Reply with Changes option, if enabled, makes it possible for recipients of messages with attachments to make changes to the attached document and then reply back to the sender with those changes.

Note Although you can set the importance and sensitivity level for messages, these settings generally accomplish very little in the real world. Mail recipients can choose to observe or ignore both of these settings with impunity, which is one of the reasons that they are seldom used.

12. Click OK to close the Advanced E-mail Options dialog box.

13. Click the Tracking Options button to display the Tracking Options dialog box, shown in Figure 3-20.
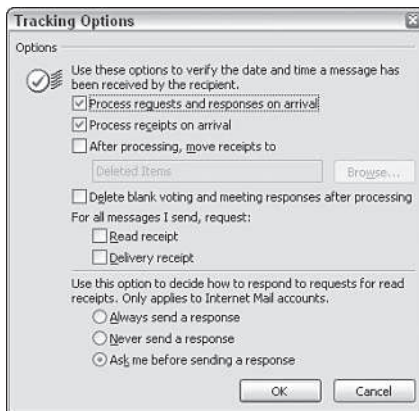
Figure 3-20: Set tracking options in this dialog box.

14. Choose the tracking options you prefer. Be aware of the differences between the two receipt request options:

   • A read receipt is a message that tells you the recipient has actually opened your message.

   • A delivery receipt is a message that simply tells you your message was delivered. The message recipient may choose to ignore all your messages, even if they are delivered, so a delivery receipt won't confirm that your message was actually read.

15. Choose how you want to respond to read receipt requests.

Tip Notice that because you can turn off responses to read receipts, a sender can never be certain that you've actually opened a message. It's relatively difficult to block the sending of delivery receipts, so both types of receipt requests do serve a useful function when it's important to know that your message arrived at its destination.

16. Click OK to close the Tracking Options dialog box.

17. Click OK to close the E-mail Options dialog box.

Setting the mail format options

The mail format options affect the default appearance of outgoing e-mail messages that you create. Figure 3-21 shows the Mail Format tab of the Options dialog box so you can get a feel for all the available mail options.
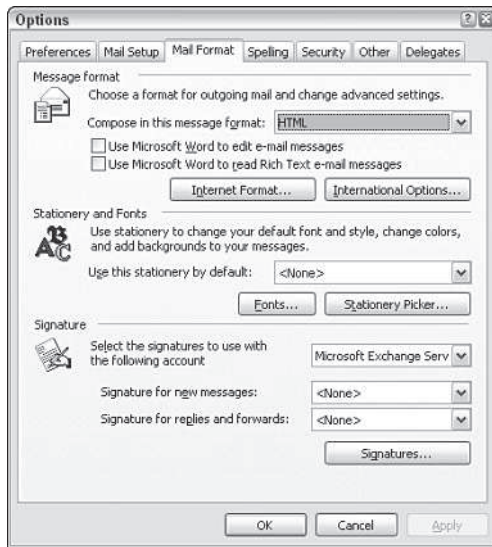
Figure 3-21: The Mail Format page

The Mail Format page contains three option groups:

Message Format. These options enable you to specify either Word or Outlook as your default mail editor, the default message format for new messages, and whether Outlook uses Word or Outlook to read rich text messages. Click Internet Format to specify how Outlook handles HTML- and rich text-based messages, as well as plain text messages. You can also specify that Outlook use the UUENCODE format to encode attachments for plain text messages.

Stationery and Fonts. Use this group of options to specify a default *stationery*, which is a background and other elements that create a custom look for your messages. Click Fonts to specify the fonts that Outlook uses for composing new messages, replies, and forwarded messages, as well as other font-related settings.

Signature. Use this group to specify an optional signature (block of data, usually text) to include at the bottom of each outgoing message. Note that your mail server might also append notifications to your outgoing messages automatically.

If you are interested to learn more about the mail format options, see Wiley's *Outlook 2003 Bible*, Chapter 6.

Summary

Before you can use Outlook to send and receive e-mail, you must add at least one e-mail account to your profile. This chapter explained how to add the various types of e-mail accounts supported by Outlook. The chapter also explained the function of personal folder (PST) files and how to add them. Personal folder files store Outlook items and enable you to organize your Outlook items, for example keeping old items in a set of archive folders.

This chapter also explained a variety of options you can configure in Outlook that control the way Outlook handles e-mail, both for incoming and outgoing messages. Finally, the chapter explained the purpose of Outlook profiles, how to create them, and how to use them effectively.

✦ ✦ ✦

Essential Excel Worksheet Operations

This chapter covers some essential information regarding worksheets. You'll learn how to take control of your worksheets so that you will be more efficient using the program.

Learning the Fundamentals of Excel Worksheets

In Excel, each file is called a workbook, and each workbook can contain one or more worksheets. You may find it helpful to think of an Excel workbook as a notebook and worksheets as pages in the notebook. As with a notebook, you can activate a particular sheet, add new sheets, remove sheets, copy sheets, and so on.

The following sections describe the operations that you can perform with worksheets.

Working with Excel's windows

The files that Excel uses are known as *workbooks*. A workbook can hold any number of sheets, and these sheets can be either worksheets (a sheet consisting of rows and columns) or chart sheets (a sheet that holds a single chart). A worksheet is what people usually think of when they think of a spreadsheet. You can open as many Excel workbooks as necessary at the same time.
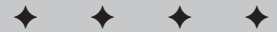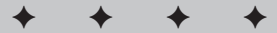
Figure 4-1 shows Excel with four workbooks open, each in a separate window. One of the windows is minimized and appears near the lower-left corner of the screen. (When a workbook is minimized, only its title bar is visible.) Worksheet windows can overlap, and the title bar of one window is a different color. That's the window that contains the active workbook.
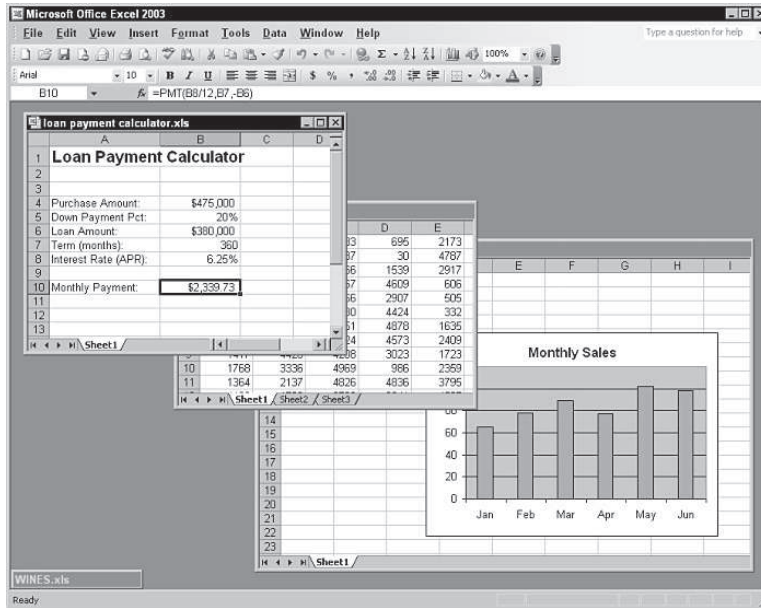
Figure 4-1: You can open several Excel workbooks at the same time.

The workbook windows that Excel uses work much like the windows in any other Windows program. Each window has three buttons at the right side of its title bar. From the left to right, they are: Minimize, Maximize (or Restore), and Close. When a workbook window is maximized, the three buttons appear directly below Excel's title bar.

Excel's windows can be in one of the following states:

- **Maximized:** Fills Excel's entire workspace. A maximized window does not have a title bar, and the workbook's name appears in Excel's title bar. To maximize a window, click its Maximize button.

- **Minimized:** Appears as a small window with only a title bar. To minimize a window, click its Minimize button.

- **Restored:** A nonmaximized size. To restore a maximized or minimized window, click its Restore button.

If you work with more than one workbook simultaneously (which is quite common), you have to learn how to move, resize, and switch among the workbook windows.

Moving and resizing windows

To move a window, make sure that it's not maximized. Then click and drag its title bar with your mouse.

To resize a window, click and drag any of its borders until it's the size that you want it to be. When you position the mouse pointer on a window's border, the mouse pointer changes to a double-sided arrow, which lets you know that you can now click and drag to resize the window. To resize a window horizontally and vertically at the same time, click and drag any of its corners.

Note You cannot move or resize a workbook window if it is maximized. You can move a minimized window, but doing so has no effect on its position when it is subsequently restored.

If you want all of your workbook windows to be visible (that is, not obscured by another window), you can move and resize the windows manually, or you can let Excel do it for you. The Window⇨Arrange command displays the Arrange Windows dialog box, as shown in Figure 4-2. This dialog box has four window-arrangement options. Just select the one that you want and click OK.
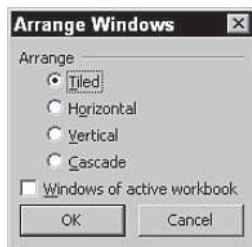
Figure 4-2: Use the Arrange Windows dialog box to quickly arrange all open workbook windows.

Switching among windows

At any given time, one (and only one) workbook window is the active window. This is the window that accepts your input, and it is the window on which your commands work. The active window's title bar is a different color, and the window appears at the top of the stack of windows. To work in a different window, you need to make that window active. There are several ways to make a different window the active workbook:

- Click another window, if it's visible. The window you click moves to the top and becomes the active window.

- Press Ctrl+Tab (or Ctrl+F6) to cycle through all open windows until the window that you want to work with appears on top as the active window. Shift+Ctrl+Tab (or Shift+Ctrl+F6) cycles through the windows in the opposite direction.

- Click the workbook icon in the Windows Taskbar. If you don't see workbook icons in your Windows Taskbar, activate the Options dialog box, select the View tab, and put a checkmark next to Windows in Taskbar.

- Click the Window menu and select the window that you want from the bottom part of the pull-down menu (the active window has a check mark next to it). This menu can display up to nine windows. If you have more than nine workbook windows open, choose More Windows (which appears below the nine window names).

Tip Most people prefer to do most of their work with maximized workbook windows. This enables you to see more cells and eliminates the distraction of other workbook windows getting in the way.

When you maximize one window, all the other windows are maximized, too (even though you don't see them). Therefore, if the active window is maximized and you activate a different window, the new active window is also maximized. If the active workbook window is maximized, you can't select another window by clicking it (because other windows aren't visible). You must use either Ctrl+Tab, the Windows taskbar, or the Window menu to activate another window.

Tip You also can display a single workbook in more than one window. For example, if you have a workbook with two worksheets, you may want to display each worksheet in a separate window. All the window-manipulation procedures described previously still apply. You use the Window⇨New Window command to open a new window in the active workbook.

Closing windows

If you have multiple windows open, you may want to close those windows that you no longer need. To close a window, select File⇨Close or simply click the Close button (the *X* icon) on the worksheet window's title bar. If the workbook window is maximized, its title bar is not visible, so its Close button appears directly below Excel's Close button

When you close a workbook window, Excel checks whether you have made any changes since the last time you saved the file. If not, the window closes without a prompt from Excel. If you've made any changes, Excel prompts you to save the file before it closes the window.

Making a worksheet the active sheet

At any given time, one workbook is the active workbook, and one sheet is the active sheet in the active workbook. To activate a different sheet, just click its sheet tab, located at the bottom of the workbook window. You also can use the following shortcut keys to activate a different sheet:

- **Ctrl+PgUp:** Activates the previous sheet, if one exists
- **Ctrl+PgDn:** Activates the next sheet, if one exists

If your workbook has many sheets, all of its tabs may not be visible. You can use the tab-scrolling buttons (see Figure 4-3) to scroll the sheet tabs. The sheet tabs share space with the worksheet's horizontal scrollbar. You also can drag the tab split box to display more or fewer tabs. Dragging the tab split box simultaneously changes the number of tabs and the size of the horizontal scrollbar.

Drag the tab split box to change the number of tabs.

Figure 4-3: Use the tab controls to activate a different worksheet or to see additional worksheet tabs.

> **Tip** When you right-click any of the tab-scrolling buttons to the left of the worksheet tabs, Excel displays a list of all sheets in the workbook. You can quickly activate a sheet by selecting it from the list.

Adding a new worksheet to your workbook

Worksheets can be an excellent organizational tool. Instead of placing everything on a single worksheet, you can use additional worksheets in a workbook to separate various workbook elements logically. For example, if you have several products whose sales you track individually, you might want to assign each product to its own worksheet and then use another worksheet to consolidate your results.

The following are three ways to add a new worksheet to a workbook:

- Select the Insert⇨Worksheet command.
- Press Shift+F11.
- Right-click a sheet tab, choose the Insert command from the shortcut menu, select Worksheet from the Insert dialog box, and then click OK.

When you add a new worksheet to the workbook, Excel inserts the new worksheet before the active worksheet, and the new worksheet becomes the active worksheet.

> **Tip** To insert more than one worksheet at a time, hold down the Shift key and click a range of worksheet tabs. When you issue the command to insert a worksheet, Excel will add as many worksheets as the number of worksheet tabs you selected before issuing the command.

Deleting a worksheet you no longer need

If you no longer need a worksheet, or if you want to get rid of an empty worksheet in a workbook, you can delete it in either of two ways:

- Select the Edit⇨Delete Sheet command.

- Right-click the sheet tab and choose the Delete command from the shortcut menu.

If the worksheet contains any data, Excel asks you to confirm that you want to delete the sheet. If you have never used the worksheet, Excel deletes it immediately without asking for confirmation.

Tip   You can delete multiple sheets with a single command by selecting the sheets that you want to delete. To select multiple sheets, press Ctrl while you click the sheet tabs that you want to delete. To select a group of contiguous sheets, click the first sheet tab, press Shift, and then click the last sheet tab. Then use either method to delete the selected sheets.

Caution   When you delete a worksheet, it's gone for good. This is one of the few operations in Excel that can't be undone.

Changing the Number of Sheets in Your Workbooks

By default, Excel automatically creates three worksheets in each new workbook. You can change this default behavior. For example, I prefer to start each new workbook with a single worksheet. After all, it's easy enough to add new sheets if and when they are needed. To change the default number of worksheets:

1. Select Tools⇨Options.

2. In the Options dialog box, click the General tab.

3. Change the value for the Sheets in New Workbook Setting and click OK.

Making this change will affect all new workbooks but will have no effect on existing workbooks.

Changing the name of a worksheet

The default names Excel uses for worksheets — Sheet1, Sheet2, and so on — aren't very descriptive. If you don't change the worksheet names, it can be a bit hard to remember where to find things in multiple-sheet workbooks. That's why providing more meaningful names for your worksheets is often a good idea.

To change a sheet's name, use any of the following methods to begin:

- Choose Format ⇨Sheet⇨Rename.
- Double-click the sheet tab.
- Right-click the sheet tab and choose the Rename command from the shortcut menu.

After you have done one of the above actions, Excel highlights the name on the sheet tab so that you can edit the name or replace it with a new name.

Tip To edit the worksheet name rather than to replace it completely, it's usually easiest to double-click the sheet tab and then click within the name where you want to make a change.

Sheet names can be up to 31 characters, and spaces are allowed. However, you can't use the following characters in sheet names:

:	colon
/	slash
\	backslash
?	question mark
*	asterisk

Keep in mind that a longer worksheet name results in a wider tab, which takes up more space onscreen. Therefore, if you use lengthy sheet names, you won't be able to see very many sheet tabs without having to scroll the tab list.

Changing a sheet tab's color

Excel allows you to change the color of one or more of your worksheet tabs. For example, you may prefer to color-code the sheet tabs to make it easier to identify the worksheet's contents.

To change the color of a sheet tab, right-click the tab and choose Tab Color. Then select the color in the Format Tab Color dialog box.

Rearranging your worksheets

You may want to rearrange the order of worksheets in a workbook. If you have a separate worksheet for each sales region, for example, arranging the worksheets in alphabetical order or by total sales might be helpful. You may want to move a worksheet from one workbook to another. (To move a worksheet to a different workbook, both workbooks must be open.) You can also create copies of worksheets.

You can move or copy a worksheet in the following ways:

- Select the Edit⇨Move or Copy Sheet command to display the Move or Copy dialog box.

- Right-click the sheet tab and select the Move or Copy command. (This also displays the same Move or Copy dialog box.)

- To move a worksheet, click the worksheet tab and drag it to its desired location (either in the same workbook or in a different workbook) to move the worksheet. When you drag, the mouse pointer changes to a small sheet, and a small arrow guides you.

- To copy a worksheet, click the worksheet tab, press Ctrl, and drag the tab to its desired location (either in the same workbook or in a different workbook). When you drag, the mouse pointer changes to a small sheet with a plus sign on it.

Tip   You can move or copy multiple sheets simultaneously. First select the sheets by clicking their sheet tabs while holding down the Ctrl key. Then you can move or copy the set of sheets by using the methods just described.

Dragging is usually the easiest method, but if the workbook has many sheets, you may prefer to use the Move or Copy dialog box. This dialog box is shown in Figure 4-4, and it enables you to select the workbook and the new location.
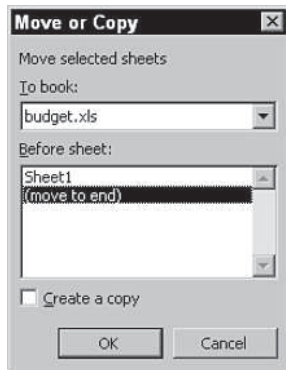
Figure 4-4: Use the Move or Copy dialog box to move or copy worksheets in the same or another workbook.

If you move or copy a worksheet to a workbook that already has a sheet with the same name, Excel changes the name to make it unique. For example, Sheet1 becomes Sheet1 (2).

Note   When you move or copy a worksheet to a different workbook, any defined names and custom formats also get copied to the new workbook.

Hiding and unhiding a worksheet

In some situations, you may want to hide one or more worksheets. Hiding a sheet may be useful if you don't want others to see it, or if you just want to get it out of the way. When a sheet is hidden, its sheet tab is also hidden. At least one sheet must remain visible. (You can't hide all the sheets in a workbook.)

To hide a worksheet, choose Format⇨Sheet⇨Hide. The active worksheet (or selected worksheets) will be hidden from view.

To unhide a hidden worksheet, choose Format ⇨Sheet⇨Unhide. Excel opens its Unhide dialog box that lists all hidden sheets. Choose the sheet that you want to redisplay and click OK. You can't select multiple sheets from this dialog box, so you need to repeat the command for each sheet that you want to redisplay.

Tip

To more fully protect a workbook from unauthorized changes, use the Tools⇨Protection menu commands. These commands give you several options in deciding how much access other users will have to the worksheets in your workbooks. Be aware that this is a very weak security measure. It is relatively easy to crack Excel's protection features.

Making a Sheet Very Hidden

It's also possible to make a sheet "very hidden." A sheet that is very hidden does not appear in the Unhide dialog box. To make a sheet very hidden:

1. Activate the worksheet.

2. Select View⇨Toolbars⇨Control Toolbox. This displays the Control Toolbox toolbar.

3. Click the Properties button on the Control Toolbox toolbar. This displays the Properties box, shown in the following figure.

4. In the Properties box, select the Visible option, and choose 2 - xlSheetVeryHidden.
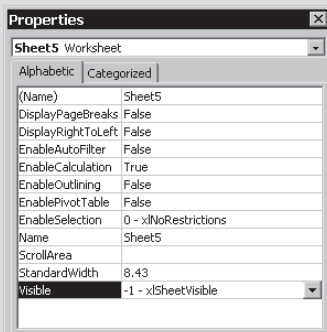
Continued

Continued

After performing these steps, the worksheet will be hidden, and it will not appear in the Unhide dialog box.

Be careful. After you make a sheet very hidden, you can't use the Properties box to unhide it because you won't be able to select the sheet! In fact, the only way to unhide such a sheet is to use a VBA macro. (See Part VI for more information about VBA.) This VBA statement will unhide Sheet1 in the active workbook:

```
ActiveWorkbook.Worksheets("Sheet1").Visible = True
```

Controlling the Worksheet View

As you add more information to a worksheet, you may find that it gets more difficult to navigate and locate what you want. Excel includes a few options that enable you to view your sheet, and sometimes multiple sheets, more efficiently. This section discusses a few additional worksheet options at your disposal.

Viewing a worksheet in multiple windows

Sometimes, you may want to view two different parts of a worksheet simultaneously — perhaps to make it easier to reference a distant cell in a formula. Or you may want to examine more than one sheet in the same workbook simultaneously. You can accomplish either of these actions by opening a new view to the workbook, using one or more additional windows.

To create and display a new view of the active workbook, choose Window⇨New Window.

Tip   If the workbook is maximized when you create a new window, you may not even notice that Excel has created the new window; but if you look at the Excel title bar, you'll see that the workbook title now has :2 appended to the name. Select Window⇨Arrange and choose one of the options in the Arrange Windows dialog box to display the open windows.

Excel displays a new window for the active workbook, similar to the one shown in Figure 4-5. In this case, each window shows a different worksheet in the workbook. Notice the text in the windows' title bars: climate data.xls:1 and climate data.xls:2. To help you keep track of the windows, Excel appends a colon and a number to each window.

Figure 4-5: Use multiple windows to view different sections of the workbook at the same time.

A single workbook can have as many views (that is, separate windows) as you want. Each window is independent of the others. In other words, scrolling to a new location in one window doesn't cause scrolling in the other window(s).

You can close these additional windows when you no longer need them. For example, clicking the Close button on the active window's title bar closes the active window but doesn't close the other windows.

Tip

Multiple windows make it easier to copy information from one worksheet to another. You can use Excel's drag-and-drop procedures to do this. In addition, multiple windows are useful when examining formulas.

Comparing sheets side by side

New Feature

The Compare Side by Side feature is new to Excel 2003.

In some situations, you may want to compare two worksheets that are in different windows. A new feature in Excel 2003 makes this task a bit easier. The sheets can be in the same workbook or in different workbooks.

First, make sure that the two sheets are displayed in separate windows. If you want to compare two sheets in the same workbook, use the Window⇨New Window command to create a new window for the active workbook. Activate the first window; then choose Window⇨Compare Side by Side With. If more than two windows are open, you'll see a dialog box that lets you select the window for the comparison.

The two windows will be tiled horizontally, not really "side by side." If you prefer a true side-by-side arrangement, select Window➪Arrange, and select Vertical in the Arrange Windows dialog box.

When using the Compare Side by Side feature, you'll find that scrolling in one of the windows also scrolls the other window. When you use this command, the Compare Side by Side toolbar is displayed. This toolbar contains the following buttons:

- **Synchronous Scrolling:** Toggles automatic windows scrolling on and off.

- **Reset Window Position:** If you have rearranged or moved the windows, clicking this button puts them back in the initial horizontal arrangement.

- **Close Side by Side:** Breaks out of side-by-side mode and returns to the previous window positions. You can also use the Window➪Break Side by Side command for this.

Keep in mind that this feature is for manual comparison only. Unfortunately, Excel does not provide a way to show you the differences between two sheets.

Splitting the worksheet window into panes

If you prefer not to clutter your screen with additional windows, Excel provides another option for viewing multiple parts of the same worksheet. The Window➪Split command splits the active worksheet into two or four separate panes. The split occurs at the location of the cell pointer. You can use the mouse to drag the individual panes to resize them.

Figure 4-6 shows a worksheet split into two panes. Notice that row numbers aren't continuous. In other words, splitting panes enables you to display in a single window widely separated areas of a worksheet. To remove the split panes, choose Window➪Remove Split.

Figure 4-6: You can also split the worksheet window to view different areas of the worksheet at the same time.

Another way to split and unsplit panes is to drag either the vertical or horizontal split bar. These bars are the small rectangles that normally appear just above the top of the vertical scrollbar and just to the right of the horizontal scrollbar. When you move the mouse pointer over a split bar, the mouse pointer changes to a pair of parallel lines with arrows pointing outward from each line. To remove split panes by using the mouse, drag the pane separator all the way to the edge of the window or just double-click it.

Keeping the titles in view by freezing panes

If you set up a worksheet with row or column headings, it's easy to lose track of just where you are when you scroll to a different location in the worksheet. Excel provides a handy solution to this problem: freezing panes. This keeps the headings visible while you are scrolling through the worksheet.

To freeze panes, start by moving the cell pointer to the cell below the row that you want to remain visible as you scroll and to the right of the column that you want to remain visible as you scroll. Then, select Window⇨Freeze Panes. Excel inserts dark lines to indicate the frozen rows and columns. You'll find that the frozen row and column remain visible as you scroll throughout the worksheet. To remove the frozen panes, select Window⇨Unfreeze Panes.

Figure 4-7 shows a worksheet with frozen panes. In this case, rows 1:3 and column A are frozen in place. This allows you to scroll down and to the right to locate some information while keeping the column titles and the column A entries visible.

climate data.xls							
A	F	G	H	I	J	K	
1 Normal Monthly Precipitation							
2 NORMALS 1971-2000							
3	MAY	JUN	JUL	AUG	SEP	OCT	N
58 BRIDGEPORT, CT	4.03	3.57	3.77	3.75	3.58	3.54	
59 HARTFORD, CT	4.39	3.85	3.67	3.98	4.13	3.94	
60 WILMINGTON, DE	4.15	3.59	4.28	3.51	4.01	3.08	
61 WASHINGTON DULLES AP, D.	4.22	4.07	3.57	3.78	3.82	3.37	
62 WASHINGTON NAT'L AP, D.C.	3.82	3.13	3.66	3.44	3.79	3.22	
63 APALACHICOLA, FL	2.62	4.3	7.31	7.29	7.1	4.18	
64 DAYTONA BEACH, FL	3.26	5.69	5.17	6.09	6.61	4.48	
65 FORT MYERS, FL	3.42	9.77	8.98	9.54	7.86	2.59	
66 GAINESVILLE, FL	3.23	6.78	6.1	6.63	4.37	2.5	
67 JACKSONVILLE, FL	3.48	5.37	5.97	6.87	7.9	3.86	
68 KEY WEST, FL	3.48	4.57	3.27	5.4	5.45	4.34	
69 MIAMI, FL	5.52	8.54	5.79	8.63	8.38	6.19	
70 ORLANDO, FL	3.74	7.35	7.15	6.25	5.76	2.73	
71 PENSACOLA, FL	4.4	6.39	8.02	6.85	5.75	4.13	
72 TALLAHASSEE, FL	4.95	6.92	8.04	7.03	5.01	3.25	
73 TAMPA, FL	2.85	5.5	6.49	7.6	6.54	2.29	
74 VERO BEACH, FL	3.8	6.03	6.53	6.04	6.84	5.04	

Figure 4-7: By freezing certain columns and rows, they remain visible while you scroll the worksheet.

Tip

If you press Ctrl+Home while the worksheet has frozen panes, the cell selector moves to the top-left unfrozen cell. You can move into the frozen rows or columns by using the direction keys or your mouse.

Zooming in or out for a better view

Excel enables you to zoom in or out to scale the size of your worksheets. Normally, everything you see onscreen is displayed at 100 percent. You can change the *zoom percentage* from 10 percent (very tiny) to 400 percent (huge). Using a small zoom percentage can help you to get a bird's-eye view of your worksheet to see how it's laid out. Zooming in is useful if your eyesight isn't quite what it used to be and you have trouble deciphering tiny type. Figure 4-8 shows a window zoomed to 10 percent and a window zoomed to 400 percent.
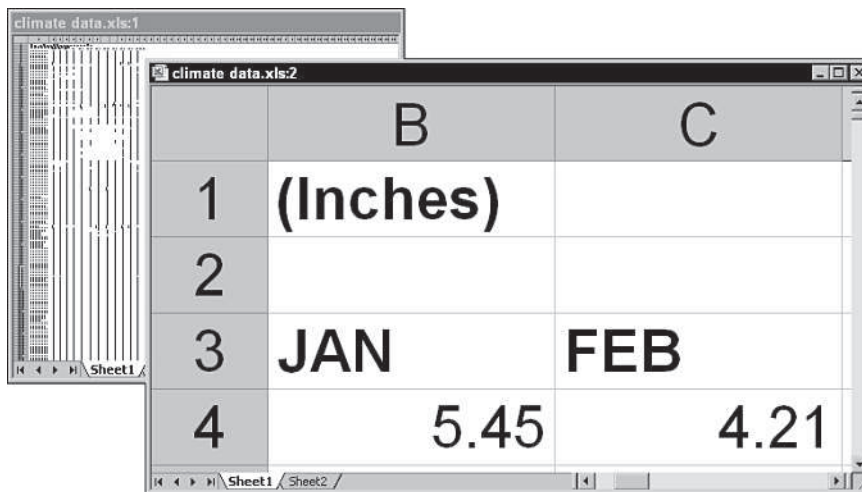
Figure 4-8: You can zoom in or out for a better view of your worksheets.

You can easily change the zoom factor of the active worksheet by using the Zoom tool on the Standard toolbar. Just click the arrow and select the desired zoom factor. Your screen transforms immediately. You can also type a zoom percentage directly into the Zoom tool. If you choose Selection from the drop-down list, Excel zooms the worksheet to display only the selected cells (useful if you want to view only a particular range).

Tip

Zooming affects only the active worksheet, so you can use different zoom factors for different worksheets. Also, if you have a worksheet displayed in two different windows, you can set a different zoom factor for each of the windows.

Tip If your worksheet uses named ranges, you'll find that zooming your worksheet to 39 percent or less displays the name of the range overlaid on the cells. This is useful for getting an overview of how a worksheet is laid out.

You can also set the zoom percentage by using the View⇨Zoom command. This command displays the Zoom dialog box, where you can select an option or enter a value between 10 and 400.

Caution In some situations, using a zoom factor other than 100 may cause some strange display problems with Excel, especially if charts and graphics are used. If you experience any odd display problems, setting the zoom factor is 100 may fix it.

Saving your view settings

If you create a number of different worksheet views for different purposes, you may want to save those view settings so that you can easily recall them without going through all of the necessary setup steps each time you want to use the same view. To save your view settings, create a *named* view.

A named view includes settings for window size and position, frozen panes or titles, outlining, zoom factor, the active cell, print area, and many of the settings in the Options dialog box. A named view can also include hidden print settings and hidden rows and columns. If you find that you're constantly fiddling with these settings and then changing them back, using named views can save you lots of effort.

To create a named view, begin by setting up the view settings the way you want them (for example, hide some columns). Then select View⇨Custom Views to display the Custom Views dialog box. Click the Add button and provide a name in the Add View dialog box that appears (see Figure 4-9). You can also specify what to include in the view by using the two check boxes. Click OK to save the named view.
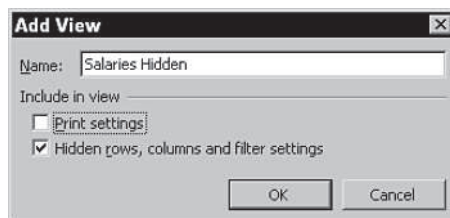
Figure 4-9: Use the Add View dialog box to create a named view.

The Custom Views dialog box displays a list of all named views. To select a particular view, just select it from the list and click the Show button. To delete a named view from the list, click the Delete button.

Monitoring cells with a Watch Window

In some situations, you may want to keep track of the value in a particular cell. As you scroll throughout the worksheet, that cell may disappear from view. Using a Watch Window can help.

The Watch Window is actually a special type of toolbar. To display the Watch Window toolbar, choose View⇨Toolbars⇨Watch Window. Then click Add Watch and specify the cell that you want to watch. The Watch Window will display the value in that cell. You can add any number of cells to the Watch Window, and you can move the toolbar to a convenient location. Figure 4-10 shows the Watch Window monitoring two cells.
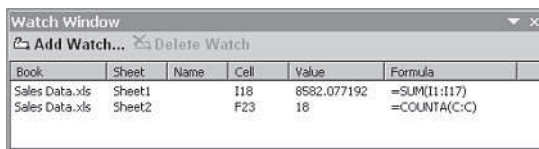
Figure 4-10: Use the Watch Window toolbar to monitor the value in one or more cells.

Working with Rows and Columns

This section discusses some worksheet operations that involve rows and columns. Rows and columns make up an Excel worksheet. Every worksheet has exactly 65,536 rows and 256 columns.

> **Note**
> One of the most commonly asked questions about Excel is *How can I increase the number of rows and columns?* Unfortunately, there is no way to do it. The number of rows and columns is fixed, and you can't change them.

Inserting rows and columns

Although the number of rows and columns in a worksheet is fixed, you can still insert and delete rows and columns if you need to make room for additional information — perhaps to include additional items in a calculation, for example. These operations don't change the number of rows or columns. Rather, inserting a new row moves down the other rows to accommodate the new row. The last row is simply removed from the worksheet if it is empty. Inserting a new column shifts the columns to the right, and the last column is removed if it's empty.

> **Note**
> If the last row (row 65,536) is not empty, you can't insert a new row. Similarly, if the last column (column IV) contains information, Excel won't let you insert a new column. Attempting to add a row or column displays the dialog box shown in Figure 4-11.
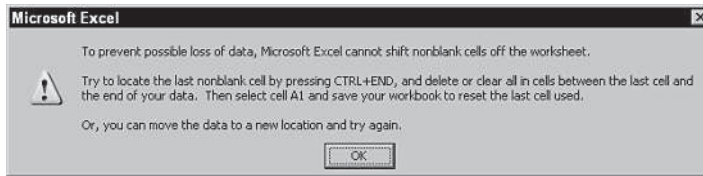
Figure 4-11: You can't add a new row or column if doing so would move nonblank cells off the worksheet.

To insert a new row or rows, you can use any of the following techniques:

✦ Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Select the Insert⇨Rows command.

✦ Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Right-click and choose Insert from the shortcut menu.

✦ Move the cell pointer to the row that you want to insert and then select Insert⇨Rows. If you select multiple cells in the column, Excel inserts additional rows that correspond to the number of cells selected in the column and moves the rows below the insertion down.

The procedure for inserting a new column or columns is similar, but you use the Insert⇨Column command.

You also can insert cells, rather than just rows or columns. Select the range into which you want to add new cells and then select Insert⇨Cells (or right-click the selection and choose Insert). To insert cells, the other cells must be shifted to the right or shifted down. Therefore, Excel displays the Insert dialog box shown in Figure 4-12 to learn the direction in which you want to shift the cells.
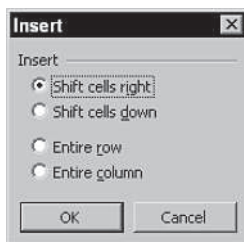
Figure 4-12: You can insert partial rows or columns by using the Insert dialog box.

Deleting rows and columns

You may also find that it's necessary to delete rows or columns in a worksheet. For example, your sheet may contain old data that is no longer needed.

To delete a row or rows, use any of the following methods:

- Select an entire row or multiple rows by clicking the row numbers in the worksheet border and then select Edit⇨Delete.

- Select an entire row or multiple rows by clicking the row numbers in the worksheet border. Right-click and choose Delete from the shortcut menu.

- Move the cell pointer to the row that you want to delete and then select Edit⇨Delete. In the dialog box that appears, choose the Entire row option. If you select multiple cells in the column, Excel deletes all selected rows.

Deleting columns works in a similar way. If you discover that you accidentally deleted a row or column, select Edit⇨Undo (or Ctrl+Z) to undo the action.

Hiding rows and columns

If necessary, you can hide rows and columns. This may be useful if you don't want users to see particular information or if you need to print a report that summarizes the information in the worksheet without showing all the details.

To hide rows or columns in your worksheet, select the row or rows that you want to hide and then choose Format⇨Row⇨Hide. Or select the column or columns that you want to hide and then choose Format⇨Column⇨Hide.

Tip   You also can drag the row or column's border to hide the row or column. You must drag the border in the row or column heading. Drag the bottom border of a row upward or the border of a column to the left.

A hidden row is actually a row with its height set to zero. Similarly, a hidden column has a column width of zero. When you use the arrow keys to move the cell pointer, cells in hidden rows or columns are skipped. In other words, you can't use the arrow keys to move to a cell in a hidden row or column.

Unhiding a hidden row or column can be a bit tricky because selecting a row or column that's hidden is difficult. The solution is to select the columns or rows that are adjacent to the hidden column or row. (Select at least one column or row on either side.) Then select Format⇨Row⇨Unhide or Format⇨Column⇨Unhide. Another method is to select Edit⇨Go To (or its F5 equivalent) to select a cell in a hidden row or column. For example, if column A is hidden, you can press F5 and specify cell A1 (or any other cell in column A) to move the cell pointer to the hidden column. Then you can use the appropriate command to unhide the column.

Changing column widths and row heights

Often, you'll want to change the width of a column or the height of a row. For example, you can make columns narrower to accommodate more information on a printed page. Or you may want to increase row height to create a "double spaced" effect.

Excel provides several different ways to change the widths of columns and the height of rows.

Changing column widths

Column width is measured in terms of the number of characters of a *fixed pitch font* that will fit into the cell's width. By default, each column's width is 8.43 characters. This is actually a rather meaningless measurement because most of the fonts you will use are *proportional fonts* — the width of individual characters varies; for example, the letter *i* is much narrower than the letter *W.*

Tip   If hash symbols (#) fill a cell that contains a numerical value, the column isn't wide enough to accommodate the information in the cell. Widen the column to solve the problem.

Before you change the width, you can select multiple columns, so that the width will be the same for all selected columns. To select multiple columns, either click and drag in the column border or press Ctrl while you select individual columns. To select all columns, click the Select All button in the upper-left corner of the worksheet border (or press Ctrl+A). You can change columns widths by using any of the following techniques.

- Drag the right-column border with the mouse until the column is the desired width.

- Choose Format⇨Column⇨Width and enter a value in the Column Width dialog box.

- Choose Format⇨Column⇨AutoFit Selection. This adjusts the width of the selected column so that the widest entry in the column fits. If you want, you can just select cells in the column, and the column is adjusted based on the widest entry in your selection.

- Double-click the right border of a column header to set the column width automatically to the widest entry in the column.

Tip   To change the default width of all columns, use the Format⇨Column⇨Standard Width command. This displays a dialog box into which you enter the new default column width. All columns that haven't been previously adjusted take on the new column width.

Caution   After you manually adjust a column's width, Excel will no longer automatically adjust the column to accommodate longer numerical entries.

Changing row heights

Row height is measured in points (a standard unit of measurement in the printing trade — 72 points is equal to 1 inch). The default row height depends on the font defined in the Normal style. Excel adjusts row heights automatically to accommodate the tallest font in the row. So, if you change the font size of a cell to 20 points, for example, Excel makes the column taller so that the entire text is visible.

You can set the row height manually, however, by using any of the following techniques. As with columns, you can select multiple rows.

- ✦ Drag the lower row border with the mouse until the row is the desired height.

- ✦ Choose Format⇨Row⇨Height and enter a value (in points) in the Row Height dialog box.

✦ Double-click the bottom border of a row to set the row height automatically to the tallest entry in the row. You also can use the Format⇨Row⇨AutoFit command for this.

Changing the row height is useful for spacing out rows and is almost always preferable to inserting empty rows between lines of data.

Summary

This chapter covered the basic spreadsheet operations to get you functional with Microsoft Office Excel 2003. You also learned some of the new features in Excel 2003, such as the side by side feature.

✦ Remember that Excel functions much the same way a binder does; you can add or delete worksheets, move one to the "top," etc. You interact with the different sheets by using the tabs at the bottom left of the page and by using the typical Microsoft functions for restore, minimize, etc.

✦ To create and display a new view of the active workbook, choose Window⇨New Window.

✦ If you want to compare two sheets in the same workbook, use the Window⇨New Window command to create a new window for the active workbook. Activate the first window; then choose Window⇨Compare Side by Side With.

✦ Excel provides another option for viewing multiple parts of the same worksheet. The Window⇨Split command splits the active worksheet into two or four separate panes.

✦ To remove the split panes, choose Window⇨Remove Split.

✦ A named view includes settings for window size and position, frozen panes or titles, outlining, zoom factor, the active cell, print area, and many of the settings in the Options dialog box. To create a named view, begin by setting up the view settings the way you want them (for example, hide some columns). Then select View⇨Custom Views to display the Custom Views dialog box. Click the Add button and provide a name in the Add View dialog box.

✦ You can add or delete rows or columns from your spreadsheet using one of several methods: Selecting the row/column and right clicking your mouse and making the appropriate selection, or using the Edit menu for deleting and the Insert menu for adding.

✦ To hide rows or columns in your worksheet, select the row or rows that you want to hide and then choose Format⇨Row⇨Hide. Or select the column or columns that you want to hide and then choose Format⇨Column⇨Hide.

✦ You can also change the width and/or height of columns or rows, using one of the four methods discussed within the chapter.

✦   ✦   ✦

Developing Your PowerPoint Action Plan

Can you guess what the single biggest problem is when most people use PowerPoint? Here's a hint: It's not a problem with the software at all. It's that they don't think things through carefully before they create their presentation, and then they have to go back and make major modifications later. You've probably heard the saying, "If you don't have time to do it right, how are you going to find time to do it over?" This sentiment is certainly applicable to creating presentations.

This chapter outlines an 11-point strategy for creating the appropriate PowerPoint presentation right from the start. By considering the issues addressed here, you can avoid making false assumptions about your audience and their needs and avoid creating a beautiful presentation with some horrible flaw that makes it unusable. Spend a half hour or so in this chapter and you can save yourself literally days in rework later.

Step 1: Identifying Your Audience and Purpose

Before you can think about the presentation you need to create, you must first think of your audience. Different audiences respond to different presentation types, as you probably already know from real-life experience. A sales pitch to a client requires a very different approach than an informational briefing to your coworkers. Ask yourself these questions:
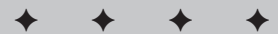
✦ **How many people will be attending the presentation?** The attendance makes a difference because the larger the group, the larger your screen needs to be so that everyone can see. If you don't have access to a large screen, you have to make the lettering and charts big and chunky so that everyone can read your presentation.

✦ **What is the average age of the attendees?** Although it's difficult to generalize about people, it's especially important to keep your presentation light and entertaining when you're presenting to a very young audience (teens and children). Generally speaking, the older the audience, the more authoritative you need to be.

✦ **What role will the audience take in relation to the topic?** If you are rolling out a new product or system, the managerial staff will likely want a general overview of it, but the line workers who will actually be operating the product need lots of details. Generally speaking, the higher the level of managers, the more removed they will be from the action, and the fewer details of operation they need.

✦ **How well does the audience already know the topic?** If you are presenting to a group that knows nothing about your topic, you want to keep things basic and make sure that you define all the unfamiliar terms. In contrast, with a group of experts you are likely to have many follow-up questions after the main presentation, so you should plan on having some hidden backup slides ready in anticipation of those questions.

✦ **Does the audience care about the topic?** If the topic is personally important to the attendees (such as information on their insurance benefits or vacation schedule), they will likely pay attention even if your presentation is plain and straightforward. If you must win them over, however, you need to spend more time on the bells and whistles.

✦ **Are the attendees prejudiced either positively or negatively toward the topic?** Keeping in mind the audience's preconceived ideas can make the difference between success and failure in some presentations. For example, knowing that a client hates sales pitches can help you tailor your own to be out of the ordinary.

✦ **Are the attendees in a hurry?** Do your attendees have all afternoon to listen to you, or do they need to get back to their regular jobs? Nothing is more frustrating than sitting through a leisurely presentation when you're watching precious minutes tick away. Know your audience's schedule and their preference for quick versus thorough coverage.

Next, think about what you want the outcome of the presentation to be. You might want more than one outcome, but try to identify the primary one as your main goal. Some outcomes to consider include the following:

✦ **Audience feels good about the topic.** Some presentations are strictly cheerleading sessions, designed to sway the audience's opinion. Don't discount this objective — it's a perfectly legitimate reason to make a presentation! For example, suppose a new management staff has taken over a factory. The new

management team might want to reassure the workers that everything is going to be okay. A feel-good, *Welcome to the Team* presentation, complete with gimmicks like company T-shirts or hats, can go a long way in this regard.

✦ **Audience is informed.** Sometimes you need to convey information to a group of people and no decision is involved on their part. For example, suppose your company has switched insurance carriers and you want to let all the employees know about their new benefits. An informational presentation can cover most of the common questions and save your human resources people lots of time in answering the same questions over and over.

✦ **Audience members make individual decisions.** This presentation is a kind of sales pitch in which you are pitching an idea or product to a group but each person says yes or no individually. For example, suppose you are selling time-share vacation condos. You may give a presentation to a group of 100 in an attempt to sell your package to at least a few of the group.

This presentation type can also have an informational flavor; you are informing people about their choices without pushing one choice or the other. For example, if your employees have a choice of health plans, you might present the pros and cons of each and then leave it to each employee to make a selection.

✦ **Audience makes a group decision.** This is the kind of presentation that scares a lot of people. You face a group of people who will confer and make a single decision based on the information you present. Most sales pitches fall into this category. You might be explaining your product to a group of managers, for example, to try to get their company to buy it.

Think about these factors carefully and try to come up with a single statement that summarizes your audience and purpose. Here are some examples:

✦ *I am presenting to 100 factory workers to explain their new health insurance choices and teach them how to fill out the necessary forms.*

✦ *I am presenting to a group of 6 to 10 midlevel managers, trying to get them to decide as a group to buy my product.*

✦ *I am presenting to a group of 20 professors to convince at least some of them to use my company's textbooks in their classes.*

✦ *I am presenting to individual Internet users to explain how my company's service works.*

Let's take that first example. Figure 5-1 shows some notes that a presenter might take when preparing to explain information about employee benefits enrollment to a group of factory workers. Jot down your own notes before moving to Step 2.

Figure 5-1: Make notes about your presentation's purpose and audience.

Step 2: Choosing Your Presentation Method

You essentially have three ways to present your presentation to your audience, and you need to pick the way you're going to use up front. They include speaker-led, self-running, and user-interactive. Within each of those three broad categories, you have some additional choices. Before you start creating the presentation in PowerPoint, you should know which method you are going to use because it makes a big difference in the text and other objects you put on the slides.

Speaker-led presentations

The speaker-led presentation is the traditional type of presentation: you stand up in front of a live audience (or one connected through teleconferencing) and give a speech. The slides you create in PowerPoint become your support materials. The primary message comes from you; the slides and handouts are just helpers. See Figure 5-2.
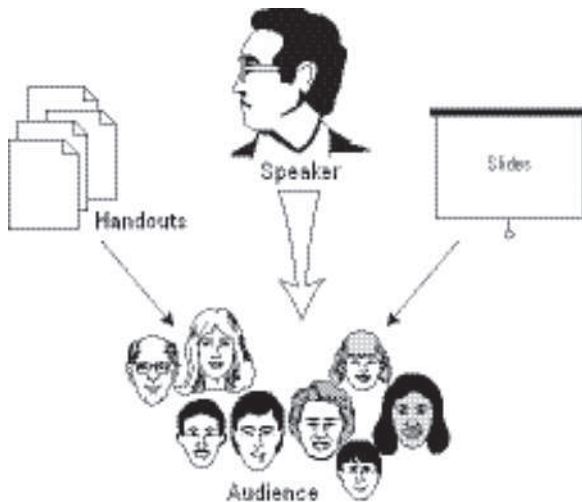
Figure 5-2: In a speaker-led presentation, the speaker is the main attraction; the slides and handouts do not have to carry the burden.

With this kind of presentation, your slides don't have to tell the whole story. Each slide can contain just a few main points, and you can flesh out each point in your discussion. In fact, this kind of presentation works best when your slides don't contain a lot of information, because people pay more attention to you, the speaker, if they're not trying to read at the same time. For example, instead of listing the top five reasons to switch to your service, you might have a slide that just reads: *Why Switch? Five Reasons*. The audience has to listen to you to find out what the reasons are.

This kind of presentation also requires some special planning. For example, do you want to send each audience member home with handouts? If so, you need to prepare them. They may or may not be identical to your PowerPoint slides; that's up to you.

You also need to learn how to handle PowerPoint's presentation controls, which is the subject of an entire chapter in Wiley's PowerPoint 2003 Bible. It can be really embarrassing to be fiddling with the computer controls in the middle of a speech, so you should *practice, practice, practice* ahead of time.

Self-running presentations

With a self-running presentation, all the rules change. Instead of using the slides as teasers or support materials, you must make the slides carry the entire show. All the information must be right there, because you won't be looking over the audience's shoulders with helpful narration. See Figure 5-3.
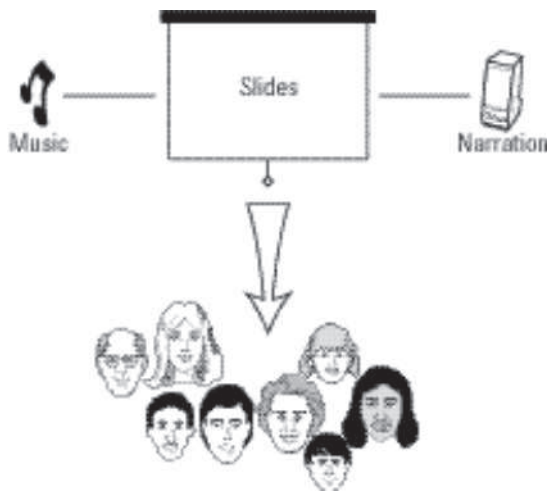
Figure 5-3: In a self-running presentation, the slides carry the entire burden because there are no handouts and no live speaker.

In general, self-running presentations are presented to individuals or very small groups. For example, you might set up a kiosk in a busy lobby or a booth at a trade show and have a brief (say, five slides) presentation constantly running that explains your product or service.

Because there is no dynamic human being keeping the audience's attention, self-running presentations must include attention-getting features. Sounds, video clips, interesting transitions, and prerecorded narratives are all good ways to attract viewers. Part III of this book explains how to use sounds, videos, and other moving objects in a presentation to add interest.

You must also consider the timing with a self-running presentation. Because there is no way for a viewer to tell the presentation, "Okay, I'm done reading this slide; bring on the next one," you must carefully plan how long each slide will remain on-screen. This kind of timing requires some practice!

User-interactive presentations

A user-interactive presentation is like a self-running one except the viewer has some input, as in Figure 5-4. Rather than standing by passively as the slides advance, the viewer can tell PowerPoint when to advance a slide. Depending on the presentation's setup, viewers may also be able to skip around in the presentation (perhaps to skip over topics they're not interested in) and request more information. This type of presentation is typically addressed to a single user at a time, rather than a group.
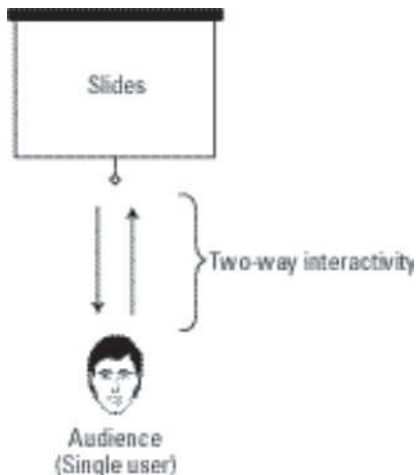
Figure 5-4: In a user-interactive presentation, the audience chooses when to advance slides and what to see next. It typically requires more time to prepare because you must account for all possible user choices.

This kind of presentation is most typically distributed over the Internet, a company intranet, or via CD. The user runs it using either PowerPoint or a free program called PowerPoint Viewer that you can provide for download. You can also translate a PowerPoint presentation to HTML format (the native format for World Wide Web pages), so that anyone with a Web browser can view it. However, presentations lose a lot of their cool features when you do that (such as the sound and video clips), so consider the decision carefully.

Step 3: Choosing Your Delivery Method

Whereas the presentation method is the general conceptual way the audience interacts with the information, the delivery method is the way that you *deliver* that interaction. It's a subtle but important difference. For example, suppose you have decided that speaker-led is your presentation method. That's the big picture, but how will you deliver it? Will you present from a computer, or use 35mm slides, or overhead transparencies, or just plain old handouts? All of those fall under the big umbrella of "speaker-led."

PowerPoint gives you a lot of options for delivery method. Some of these are appropriate mainly for speaker-led shows; others can be used for any presentation method. Here are some of the choices:

✦ **Computer show through PowerPoint.** You can use PowerPoint's View Show feature to play the slides on the computer screen. You can hook up a larger, external monitor to the PC so that the audience can see it better if needed. This requires that PowerPoint (or the PowerPoint Viewer utility) be installed on the computer at the presentation site. This works for speaker-led, self-running, or user-interactive shows.

✦ **Computer show through a Web site.** You can save your presentation in Web format and then publish it to a Web site. You can use this for speaker-led, self-running, or user-interactive shows, and no special software is required—just a Web browser. However, you lose some of the cool graphical effects, including some transitions and animation effects. Web delivery is used mostly for user-interactive or self-running shows.

✦ **Computer show on CD.** You can create a CD containing the presentation and the PowerPoint Viewer utility. The presentation starts automatically whenever the CD is inserted into a PC. This would be most useful for user-interactive or self-running shows.

✦ **35mm slides.** For a speaker-led presentation, 35mm slides can be created. They look good, but they require a slide projector and viewing screen, and don't show up well in a room with much light. You also, of course, lose all the special effects such as animations and sounds. 35mm slides are for speaker-led shows only, as are the next two options.

✦ **Overhead transparencies.** If you don't have a computer or a slide projector available for your speaker-led show, you might be forced to use an old-fashioned overhead projector. You can create overhead transparencies on most printers. (Be careful that the type you buy are designed to work with your type of printer! Transparencies designed for inkjet printers will melt in a laser printer.)

✦ **Paper.** The last resort, if there is no projection media available whatsoever, is to distribute your slides to the audience on paper. You will want to give them handouts, but the handouts should be a supplement to an on-screen show, not the main show themselves, if possible.

Note   For more information on incorporating any of these delivery methods in your PowerPoint presentation, see Wiley's *PowerPoint 2003 Bible*, which covers everything in detail.

Step 4: Choosing the Appropriate Template and Design

PowerPoint comes with so many presentation templates and designs that you're sure to find one that's appropriate for your situation. PowerPoint provides three levels of help in this arena. You can use an AutoContent Wizard to work through a series of dialog boxes that help you create a presentation based on a presentation template, you can apply a design template, or you can work from scratch.

PowerPoint includes two kinds of templates: presentation templates and design templates. Presentation templates contain sample text and sample formatting appropriate to certain situations. For example, there are several presentation templates that can help you sell a product or service. The AutoContent Wizard is the best way to choose a presentation template.

If you want to take advantage of the sample text provided by a presentation template, you should make sure you choose one that's appropriate. PowerPoint includes dozens, so you should take some time going through them to understand the full range of options before making your decision. Remember, once you've started a presentation using one presentation template, you can't change to another without starting over.

A design template, in contrast, is just a combination of fonts, colors, and graphics, and you can apply a different design to any presentation at any time. Therefore, it's not as crucial to select the correct design up front, because you can play with these elements later.

Tip You aren't stuck with the color scheme or design that comes with a particular presentation template. If you like the sample text in one presentation template and the design in another, start with the one containing the good sample text. Then borrow the design from the other one later. Each design comes with several alternative color schemes, so pick the design first, and then the color scheme.

Generally speaking, your choice of design should depend on the audience and the way you plan to present. Here are some suggestions:

✦ To make an audience feel good or relaxed about a topic, use blues and greens. To get an audience excited and happy, use reds and yellows. For slides you plan to project on a slide screen or show on a PC, use high contrast, such as dark backgrounds with light lettering or light backgrounds with dark lettering. For slides you plan to print and hand out, dark on white is better.

✦ For readability in print, use serif fonts like Times New Roman. For readability onscreen, or for a casual, modern feel, use sans-serif fonts like Arial.

✦ The farther away from the screen the audience will be, the larger you need to make the lettering.

✦ It's best if all slides use the same design and color scheme, but there may be exceptions when your interests are best served by breaking that rule. For example, you might shake things up midway through a presentation by showing a key slide with a different color background.

Step 5: Developing the Content

Only after you have made all the decisions in Steps 1 through 4 can you start developing your content in a real PowerPoint presentation. This is the point at which Chapter 6 of the *PowerPoint 2003 Bible* picks up, guiding you through creating the file and organizing slides.

Then comes the work of writing the text for each slide, which most people prefer to do in Normal view. Type the text on the outline or on the text placeholder on the slide itself, reformat it as needed to make certain bits of it special (for example, setting a key phrase in bold or italics), and you're ready to roll.

Developing your content may include more than just typing text. Your content may include charts (created in PowerPoint or imported from another program, such as Excel), pictures, and other elements.

Step 6: Creating the Visual Image

The term *visual image* refers to the overall impression that the audience gets from watching the presentation. You create a polished, professional impression by making small tweaks to your presentation after you have the content down pat.

You can enhance the visual image by making minor adjustments to the slide's design. For example, you can give a dark slide a warmer feel by using bright yellow instead of white for lettering. Repositioning a company logo and making it larger may make the headings look less lonely. WordArt can be used to take the place of regular text, especially on a title slide (as in Figures 5-5 and 5-6). A product picture may be more attractive in a larger size or with a different-colored mat around it. All of these little touches take practice and experience.

Broadway Motors

Labor Day Sales Plan

Figure 5-5: The look of this sparsely populated page can be easily improved.

Labor Day Sales Plan

Figure 5-6: Using WordArt allows this page to make a sharper impact.

Audiences like consistency. They like things they can rely on, like a repeated company logo on every slide, accurate page numbering on handouts, and the title appearing in exactly the same spot on every slide. You can create a consistent visual image by enforcing such rules in your presentation development. It's easier than you might think, because PowerPoint provides a Slide Master specifically for images and text that should repeat on each slide.

Step 7: Adding Multimedia Effects

If you're creating a self-running presentation, multimedia effects can be extremely important for developing audience interest. Flashy videos and soundtracks can make even the most boring product fun to hear about. How about a trumpet announcing the arrival of your new product on the market, or a video of your CEO explaining the reasoning behind the recent merger?

Caution
Even if you are going to be speaking live, you still might want to incorporate some multimedia elements in your show. Be careful, however, not to let them outshine you or appear gratuitous. Be aware of your audience (see Step 1), and remember that older and higher-level managers want less flash and more substance.

All kinds of presentations can benefit from animations and transitions on the slides. *Animations* are simple movements of the objects on a slide. For example, you might make the bullet points on a list fly onto the page one at a time so you can discuss each one on its own. When the next one flies in, the previous ones can turn a different color so the current one stands out. Or you might animate a picture of a car so that it appears to "drive onto" the slide, accompanied by the sound of an engine revving. You can also animate charts by making data series appear one at a time, so it looks like the chart is building.

Transitions are animated ways of moving from slide to slide. The most basic and boring transition is to simply remove one slide from the screen and replace it with another, but you can use all kinds of alternative effects like zooming the new slide in; sliding it from the top, bottom, left, or right; or creating a fade in transition effect.

Step 8: Creating the Handouts and Notes

This step is applicable only for speaker-led presentations. With a live audience, you may want to provide handouts so they can follow along. The handouts can be verbatim copies of your slides, or they can be abbreviated versions with just the most basic information included as a memory-jogger. Handouts can be either black and white or color.

PowerPoint provides several handout formats. You can print from one to nine slides per printout, with or without lines for the audience to write additional notes. Figure 5-7 shows a typical page from a set of audience handouts.

Figure 5-7: A live audience will appreciate having handouts to help them follow along with the presentation and remember the content later.

Tip A continual debate rages in the professional speakers' community over when to give out hand-outs. Some people feel that if you distribute handouts before the presentation, people will read them and not listen to the presentation. Others feel that if you wait until after the presentation to distribute the handouts, people will frantically try to take their own notes during the presentation or will not follow the ideas as easily. There's no real right or wrong, it seems, so distribute them whenever it makes the most sense for your situation.

As the speaker, you may need your own special set of handouts with your own notes that the audience should not see. PowerPoint calls these Notes Pages, and there is a special view for creating them. (You can also enter notes directly into the Notes pane in Normal view.). Notes, like handouts, are covered in Chapter 24 of Wiley's *PowerPoint 2003 Bible*.

Step 9: Rehearsing the Presentation

No matter which type of presentation you are creating (speaker-led, self-running, or user-interactive), you need to rehearse it. The goals for rehearsing, however, are different for each type.

Rehearsing a live presentation

When you rehearse a live presentation, you check the presentation slides to ensure they are complete, accurate, and in the right order. You may need to rearrange them and hide some of them for backup-only use.

You should also rehearse using PowerPoint's presentation controls that display each slide on a monitor and let you move from slide to slide, take notes, assign action items, and even draw directly on a slide. Make sure you know how to back up, how to jump to the beginning or end, and how to display one of your backup slides.

Rehearsing a self-running presentation

With a speaker-led presentation, the presenter can fix any glitches that pop up or explain away any errors. With a self-running presentation, you don't have that luxury. The presentation itself is your emissary. Therefore, you must go over and over it, checking it many times to make sure it is perfect before distributing it. Nothing is worse than a self-running presentation that doesn't run, or one that contains an embarrassing error.

The most important feature in a self-running presentation is timing. You must make the presentation pause the correct amount of time for the audience to be able to read the text on each slide. The pause must be long enough so that even slow readers can catch it all, but short enough so that fast readers do not get bored. Can you see how difficult this can be to make perfect?

PowerPoint has a Rehearse Timings feature (Figure 5-8) designed to help you with this task. It lets you show the slides and advance them manually after the correct amount of time has passed. The Rehearse Timings feature records how much time you spend on each slide and

gives you a report so you can modify the timing if necessary. For example, suppose you are working on a presentation that is supposed to last 10 minutes, but with your timings, it comes out to only 9 minutes. You can add additional time for each slide to stretch it out to fill the full 10 minutes.

Figure 5-8: You can rehearse timings so your audience has enough time to read the slides but doesn't get bored waiting for the next one.

You may also want to record voice-over narration for your presentation. You can rehearse this too, to make sure that the voice matches the slide it is supposed to describe (which is absolutely crucial, as you can imagine!).

Rehearsing a user-interactive presentation

In a user-interactive presentation, you provide the readers with on-screen buttons they can click to move through the presentation, so timing is not an issue. The crucial factor with a user-interactive presentation is link accuracy. Each button on each slide is a link. When

your readers click a button for the next slide, it had better darned well take them to the next slide and not to somewhere else. And if you include a hyperlink to a Web address on the Internet, when the readers click it, the Web browser should open and that page should appear. If the hyperlink contains a typo and the readers see `File Not Found` instead of the Web page, the error reflects poorly on you.

If you are planning to distribute your presentation via the Internet, you have a big decision to make. You can distribute the presentation in its native PowerPoint format and preserve all its whiz-bang features like animations and videos. However, not everyone on the Internet owns a copy of PowerPoint, obviously, so you limit your audience. PowerPoint supplies a free program called the PowerPoint Viewer that you can post for downloading on your Web page, but not everyone will take the time to download and install that, so you may turn off potential viewers before you start.

The other option is to save the presentation in HTML (Web) format. When you save in HTML format, you convert each of the slides to a Web page, and you add links (if you didn't already have them) that move from slide to slide. You lose many of the animations, transitions, sounds, videos, any animated graphics, and some other extras, but you retain your text and most static elements of the presentation. The advantage is that everyone with a Web browser can view your presentation with no special downloads or setup.

Step 10: Giving the Presentation

For a user-interactive or self-running presentation, giving the presentation is somewhat anticlimactic. You just make it available and the users come get it. Yawn.

However, for a speaker-led presentation, giving the speech is the highlight, the pinnacle, of the process. If you've done a good job rehearsing, you are already familiar with PowerPoint's presentation controls. Be prepared to back up, to skip ahead, to answer questions by displaying hidden slides, and to pause the whole thing (and black out the screen) so you can hold a tangential discussion.

What remains then? Nothing except setting up the room and overcoming your stage fright.

Step 11: Assessing Your Success and Refining Your Work

If giving a presentation was a one-time thing for you — great. It's over, and you never have to think about it again. But more likely, you will have to give another presentation someday, somewhere, so don't drive the experience out of your mind just yet. Perhaps you learned something that might be useful to you later?

Immediately after the presentation, while it is still fresh in your mind, jot down your responses to these questions. Then keep them on file to refer to later, the next time you have to do a presentation!

✦ Did the colors and design of the slides seem appropriate?

✦ Could everyone in the audience read the slides easily?

✦ Did the audience look mostly at you, at the screen, or at the handouts? Was that what you intended?

✦ Did the audience try to take notes as you were speaking? If so, did you give them handouts with note-taking lines to write on?

✦ Was the length of the presentation appropriate? Did the audience get bored or restless at any point?

✦ Were there any slides that you wished you had prepared but didn't?

✦ Were there any slides that you would omit if you were doing it over?

✦ Did your speaker notes give you enough help that you could speak with authority?

✦ Did the transitions and animations add to the entertainment value, or were they distracting or corny?

✦ Did the sound and video clips play with adequate quality? Were they appropriate and useful?

Summary

Creating effective PowerPoint presentations requires more than just knowing the software. It requires careful planning and step-by-step preparation. In this chapter, you learned about the steps you need to take, from start to finish, to assemble the PowerPoint slides for your next great success:

✦ *Step 1: Identify your audience and purpose.* No flip answers are acceptable here; spend some time thinking about the right answers.

✦ *Step 2: Choose your presentation method.* Will you give a live, speaker-led show, distribute it online, or set up a self-running kiosk *show*?

✦ *Step 3: Choose your delivery method.* Will you deliver with a 35mm projector? With a computer? With overhead transparencies? Over the Internet?

✦ *Step 4: Choose a template and design.* PowerPoint comes with dozens of professional-quality templates, some of which include sample text. Choose the one that matches your answers in Steps 1 and 2.

✦ *Step 5: Develop the content.* Flash is useless without substance. Create the text for your presentation in Outline view in PowerPoint or import an outline from Word.

✦ *Step 6: Create the visual image.* Polish your presentation design by making sure that the slides are attractive and consistent.

✦ *Step 7: Add multimedia effects.* Only after the content and overall image are solid should you add extras like sound, video, transition, and animation.

✦ *Step 8: Create handouts and notes.* If you are giving a live presentation, you may want notes for yourself (speaker notes) and notes for your audience (handouts).

✦ *Step 9: Rehearse.* Run through your presentation several times to make sure it is free from embarrassing mistakes. If necessary, add timing controls and voice-over narratives.

✦ *Step 10: Give the presentation.* Take a deep breath and imagine the audience in their underwear! If you're familiar with PowerPoint's presentation controls, you'll do fine.

✦ *Step 11: Review and revise your work.* There's always room for improvement. Analyze your performance to make the next one even better.

✦   ✦   ✦

Introducing Publisher

Once upon a time, it took designers, typesetters, and complex mechanical equipment to turn out a published document, especially if it featured pictures, fancy typefaces, and color. Today, thanks to computers, every desktop is a full-featured print shop, with designers, typesetters, and printing equipment within arm's reach — at least, it is if it has a computer with desktop publishing software installed.

You can achieve a lot of desktop publishing effects with Word and PowerPoint, but if you really want your publications to look their best, you need a dedicated desktop publishing program. One of the best is Microsoft Publisher, and this chapter will get you familiar with the basics.

The Publisher Workspace

Publisher shares a basic look with other Microsoft Office applications, but it's still worthwhile taking a quick look at the Publisher workspace before you begin trying to use the application.

When you first start Publisher, you'll see a Start page that tells you "To get started, select an option in the list." The list referred to is the New Publication task pane, which offers you the option of creating a new publication based on one of the designs included with Publisher (you can choose from Publications for Print, Web Sites and E-mail, Design Sets or Blank Publications), creating a new Blank Print Publication or Blank Web Page, or creating a new publication based on an existing publication.

Note The "Create a new publication based on an existing publication" option won't do you much good if this is the first time you've in-stalled Publisher on your machine, because you won't have any existing publications.
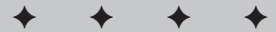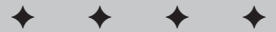
For now, click on the Blank Print Publication link under the New area. This opens a default blank document in Publisher's workspace, similar to Figure 6-1. The various components of the workspace are labeled in that figure.
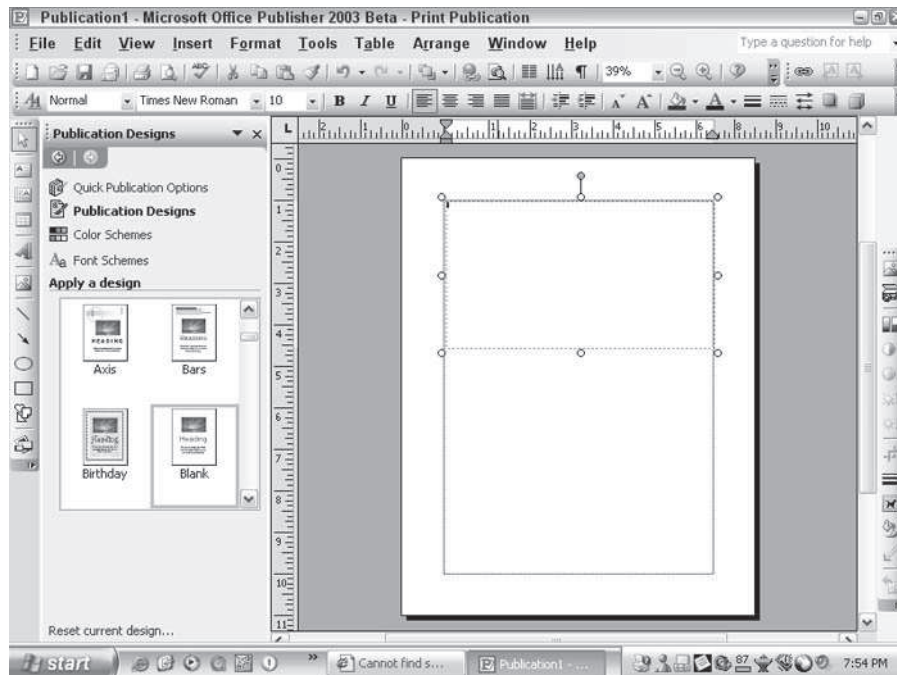
Figure 6-1: Publisher's workspace is similar to that of other Office applications.

The main features of the workspace are the *page area* (the white rectangle) and the *scratch area* (the gray area surrounding the page area). The page area is where you place the text, graphics, and so forth that you want to appear in the final publication; the scratch area is a virtual desktop where you can drag items when you want to get them out of the way or store them for later use.

To the left of the scratch area is a *task pane*. You'll see many different task panes as you work with Publisher; as with other Office applications, they offer you a variety of options related to whatever task you're currently undertaking. In Figure 6-1, the Publication Designs task pane is open.

Framing the top and left sides of the workspace are the *vertical* and *horizontal rulers*, which help you position items precisely.

Like most Office applications, Publisher displays the Standard and Formatting toolbars by default. The Standard toolbar is directly under the menu bar, and the Formatting toolbar is directly under that.

Publisher also has a special toolbar called the *Objects toolbar*, which runs vertically down the left side of the workspace. These tools let you create what Publisher calls *objects,* which include text boxes, picture frames, WordArt, tables, lines, shapes, and Web-specific objects such as hotspots, form controls, and HTML code fragments.

Down the right side of the workspace, the *Picture toolbar* is displayed by default. It offers tools for inserting and working with pictures, including a cropping tool, color, brightness and contrast controls, and text wrapping controls.

Among the tools on the Standard toolbar are the *Zoom controls*. The Zoom list box lets you choose how large you want the display of your page to be; in addition to specific percentages of full size, it offers you the choice to view the whole page, the full width of the page, or to zoom in to a selected object. You can zoom in and out a step at a time by using the Zoom In and Zoom Out buttons, marked with a plus and minus sign, respectively.

At the bottom of the workspace is the *status bar*, which provides precise information about the location of the pointer and the dimensions of objects that are currently selected. As well, it shows a numbered icon for each page in the publication; you can jump from page to page just by clicking on its icon.

Using Publication Designs

Whenever you start Publisher, the Start page offers you the opportunity to work from a publication design. The four options are Publications for Print, Web Sites and E-mail, Design Sets and Blank Publications.

These pre-designed publications are organized in two different ways. You can browse through them by publication type (by selecting Publications for Print or Web Sites and E-mail), or you can browse through them by their overall design (by choosing Design Sets). You can also select one of a number of blank publications by choosing Blank Publications.

The four main categories are broken down into many subcategories. For instance, if you click on Web Sites and E-mail, you open a submenu offering you Web Sites and E-mail. If you then choose Web Sites, you're offered four more choices: Easy Web Site Builder, 3-Page Web Site, Product Sales and Professional Services.

Notice that each publication in the gallery has a name, for example, "Accent Box Services Web Site" or "Floating Oval Services Web Site." The latter part of the name refers to the type of publication; the first part refers to the style in which the publication is designed.

If you click on the Design Set option, and you're your way down through the sub-menu to the individual design sets, you'll see all the publication designs available within each one (see Figure 6-2).
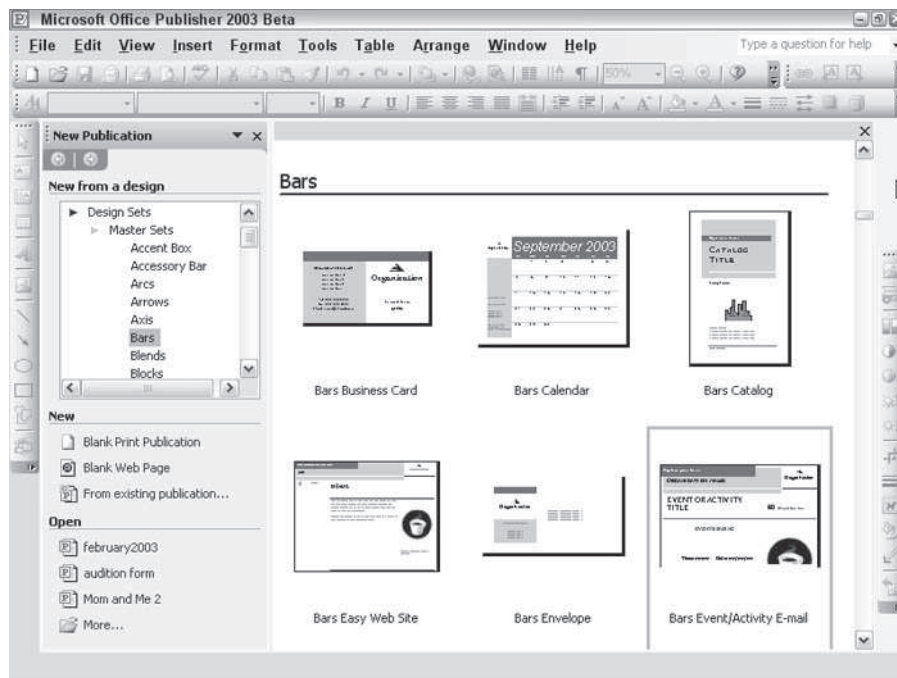
Figure 6-2: Browsing by Design Sets shows you all the publications available that use a certain basic design.

> **Note**
>
> In addition to Master Sets, which are based on common graphic elements, fonts, and so forth, Publisher offers special design sets based around common themes: Personal Stationery Sets, Special Event Sets, Fund-raiser Sets, Holiday Sets, We've Moved Sets, Restaurant Sets and Special Paper. If you're looking for something that falls within those themes, look there first.

As previously mentioned, you also have the option of starting a publication from scratch by choosing Blank Publication from the New option on the design list, or Blank Print Publication or Blank Web Page from the New area of the New Publication task pane. Additionally, you can create a new publication based on an existing publication by choosing "From existing publication" in the New area. This opens a copy of an existing publication, which you can then modify and save without affecting the original publication it is based on. Finally, you can simply open an existing publication that you intend to alter.

Working with Text

The primary components of any publication are text and graphics, so the rest of this chapter looks at how you insert and manipulate text and graphics in Publisher — beginning with text.

Typing in text

Once you have opened or created a Publisher publication, to type new text into it, follow these steps:

1. Click the Text Box button at the top of the Objects toolbar.

2. Your pointer changes to a crosshairs; use this to draw a box where you want the text to appear.

3. Type your text into the frame just as if you were typing a document in Word (see Figure 6-3).

Figure 6-3: Typing text into a Publisher text box is as easy as typing in Word.

If you run out of space, you can resize your text box by clicking and dragging the handles that surround it. A text box can hold more text than is visible. If you reduce the size of the frame, some text disappears but it isn't lost; expanding the text box makes it visible again.

Note   New in Publisher 2003 is the option to insert a Vertical Text Box (that's the button directly under the Text Box button on the Objects toolbar). A vertical text box work just like a regular text box, except the text you type into it is turned 90 degrees to the right and reads from top to bottom.

Inserting a text file

Sometimes you want to insert a whole text file from Word or some other application. To do so, use these steps:

1. Draw a text box as before.

2. Choose Insert ➪ Text File from the menu bar.

3. Locate the file you want to insert and click OK.

4. Publisher inserts the file into your text box (see Figure 6-4).

Note   Notice the small box in the lower-right corner of the text box with the letter *A* followed by three dots in it. That indicates that more text is contained in the text box than is currently visible.
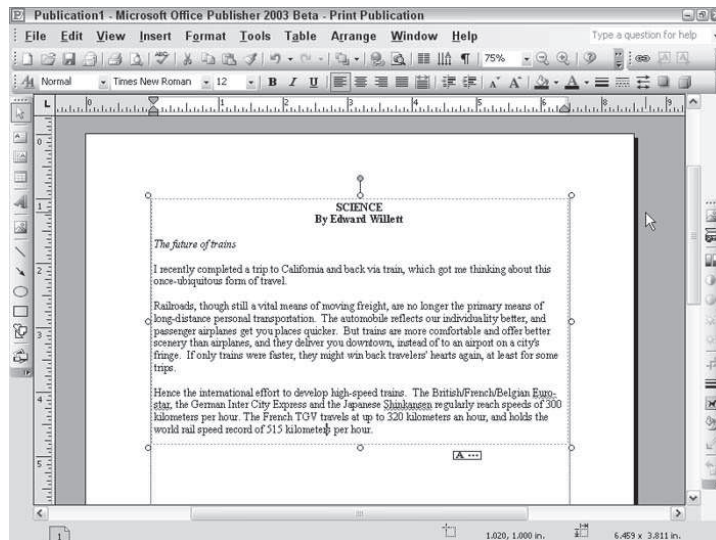
Figure 6-4: This Word file, inserted into a Publisher document, keeps all its original formatting.

Autoflow and linked frames

When you insert text into an existing text box, sometimes you get a message warning you that the inserted text won't fit. You're asked if you'd like to use autoflow. If you choose Yes, Publisher jumps to every other text box in the publication in turn, asking if you'd like to insert the remaining text into that frame. If you don't place all the text in existing frames, it eventually asks you if it should insert new pages and frames to accommodate the text.

Text inserted into multiple frames using autoflow results in a series of linked frames. When frames are linked, changing the formatting in one frame — making text larger, for instance, or reducing line spacing — results in adjustments in all of the linked frames. You can also select all the text in all of the frames simply by choosing Edit ⇨ Select All.

You can tell when frames are linked because a small image of a chain link with an arrow beside it appears in the lower-right corner of the first frame (see Figure 6-5); a similar image appears in the upper-left corners and bottom-right corners of frames further down the chain. Clicking these images takes you automatically to the next or previous frame in the chain.
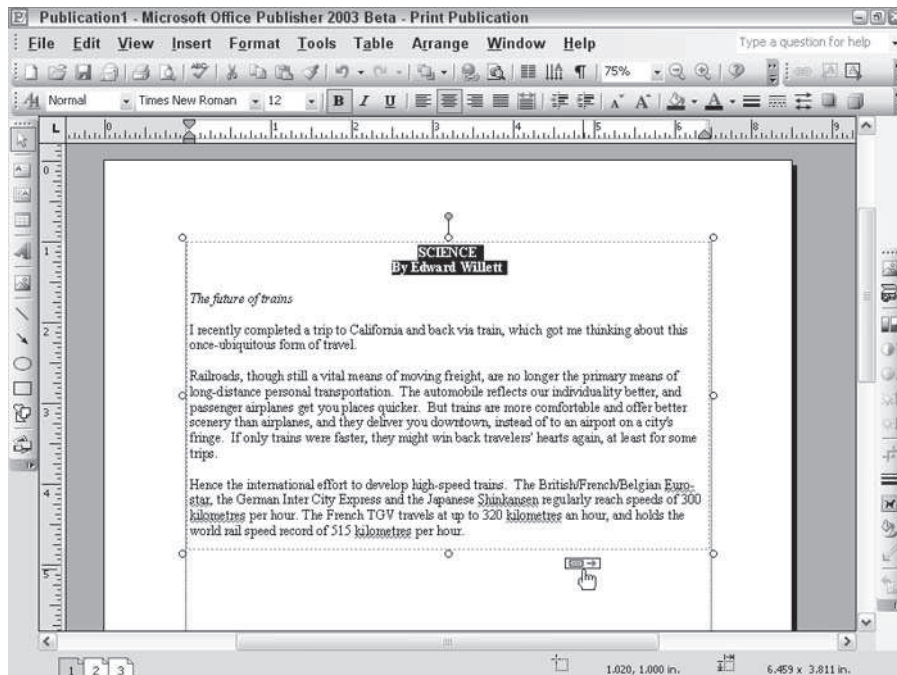
Figure 6-5: This little icon at the bottom of a text box indicates it's just one frame in a chain. Clicking on it takes you to the next frame in the chain.

You can unlink text boxes at any time by clicking the Break Forward Link button on the Connect Frames toolbar, which becomes active whenever you create linked frames. You can also link text boxes together by selecting the first frame you want to link, clicking the Create Text Box Link button, and then clicking the next frame.

Formatting text

Once you've inserted text into a text box, you can format it just as you would in Word. Many of the tools on the Formatting toolbar are, in fact, identical, so choosing font, style, size, alignment, and so forth will seem very familiar.

Note   You can set the formatting for a text box before you begin typing in it, or you can apply formatting to highlighted text.

Formatting toolbar buttons

Briefly, the Formatting toolbar buttons for text are as follows:

✦ **Style:** Choose the style you want from the list box. You can create your own style or import styles from another program by choosing Format ⇨ Styles and Formatting or by clicking the Styles and Formatting button on the Formatting toolbar, both of which open a task pane much like the one you use to modify styles in Word.

✦ **Font:** Choose the font you want to use from this list. Font names are shown in their respective fonts by default, which makes it easier to pick the right one.

✦ **Font Size:** Choose the size you want your text to be, in points, from this list. Remember that a point is approximately 1/72 of an inch, so 36-point letters, for example, are about half an inch tall when printed.

✦ **Bold, Italic, Underline:** Click these buttons to apply their respective effects. Click them again to cancel their effects

✦ **Align Left, Center, Align Right, Justify:** Specify the alignment of your text within the text box with these buttons.

✦ **Distribute All Lines:** This is similar to Justify, but it expands all lines to fill the space between the margins of the text box, including the final lines of paragraphs that might otherwise end halfway.

✦ **Numbering, Bullets:** Create numbered or bulleted lists by clicking these buttons. Specify the formatting of the lists by choosing Format ⇨ Indents and Lists.

✦ **Decrease Indent, Increase Indent:** Clicking the Decrease Indent button moves text closer to the left margin; clicking Increase Indent moves it away from the left margin. Adjust indents with more accuracy by using the sliders on the horizontal ruler or by choosing Format ⇨ Indents and Lists.

✦ **Decrease Font Size, Increase Font Size:** Clicking these buttons changes the text size to either the next smallest size in the Font Size list or the next largest.

✦ **Fill Color, Line Color, Font Color:** Fill Color determines the color that fills the text box; you can also choose patterns as fills or create gradient fills. Line Color and Font Color determine the color of any lines used in the text box border and the color of the text itself, respectively. Each offers options for choosing colors from the color schemes mentioned earlier, or for picking your own colors from those available on your computer.

✦ **Line/Border Style, Dash Style, Arrow Style:** This lets you specify the location and appearance of border lines around the text box and turn ordinary lines into arrows.

✦ **Shadow Style, 3-D Style:** Use these buttons to add a drop shadow or 3-D effect to the text box (*not* to the text itself).

Format menu options

For more detailed formatting, choose Format from the menu bar and select the item you want to fine-tune. Options under the Format menu include the following:

✦ **Font:** Opens a dialog box that lets you choose font, font style, size, and color all in one place. In addition, it offers a variety of underlining styles and some formatting styles that aren't available by default on the Formatting toolbar, including Superscript, Subscript, Emboss, and Engrave.

✦ **Character Spacing:** Lets you set scaling, tracking, and kerning. Scaling lets you stretch or condense characters. It doesn't change their height, only their width. This can create interesting special effects (see Figure 6-6) or let you cram a bit more text than you'd normally be able to into a narrow text box. Tracking adjusts the overall spacing of a block of text, while kerning adjusts the spacing between adjacent characters.
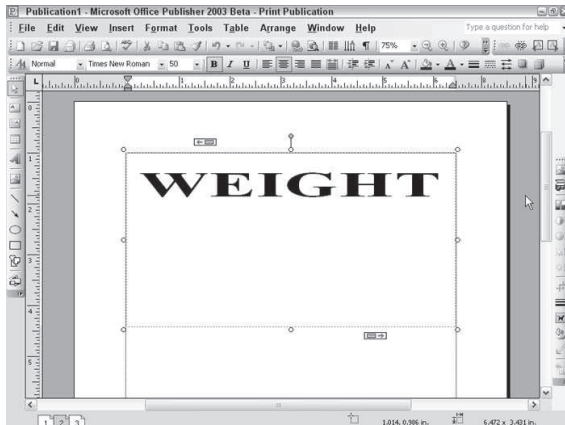
Figure 6-6: Scaling your text can create interesting effects. The word WEIGHT in this figure is scaled to 200 percent.

✦ **Paragraph:** Lets you adjust the amount of space between lines and between paragraphs, as well as indents and other features.

✦ **AutoFit Text:** Choose Best Fit to automatically adjust the size of text in a selected text box to come as close as possible to filling the text box. Choose Shrink Text on Overflow to ensure that text that flows into other text boxes returns to the original size, instead of taking the Best Fit size. By default, both these options are turned off.

✦ **Tabs:** Works the same as in Word; it lets you set tab stops and assign leaders (repeating characters, such as dots or dashes) to them.

✦ **Horizontal Rules:** Tells Publisher to automatically insert horizontal lines before or after (or both) a paragraph and lets you specify thickness, color, style, and position.

✦ **Quick Publication Options, Publication Designs, Color Schemes, Font Schemes:** All of these enable you to apply some of the professionally designed schemes included with Publisher to your current publication. Quick Publication Options (see Figure 6-7) lets you automatically add elements of a Quick Publication, Publication Designs lets you apply elements of one of the designs from the Publication Gallery, Color Schemes changes the colors of your fonts and other elements to match a set color scheme designed to look good, and Font schemes does the same with the fonts you're using.
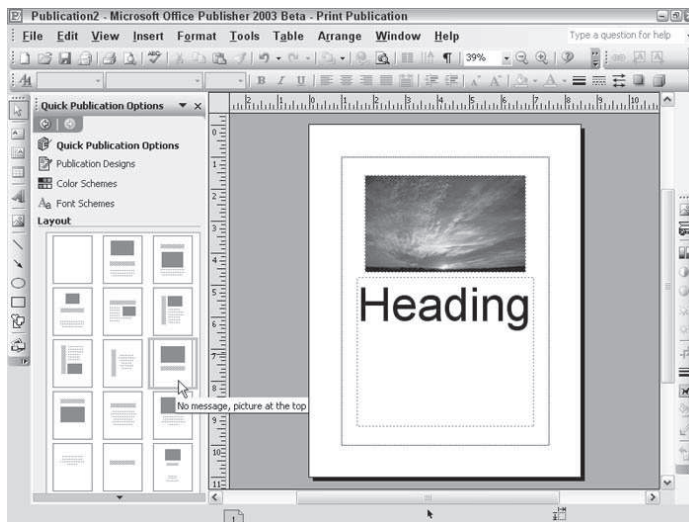
Figure 6-7: Publisher makes it easy at any time to apply one of the professionally created designs included with the program to your own publication.

✦ **Styles and Formatting:** Opens the Styles and Formatting task pane and lets you modify or apply styles.

✦ **Text Box:** Lets you format the text box itself. You can adjust its background color, the line or border that surrounds it, and its size; rotate it anyway you want; adjust the

way text inside it wraps around graphics; set its internal margins; break the text inside it into columns; and even add an automatic "Continued on page..." or "Continued from page..." slug at the top or bottom of it. There are several tabs here; explore them freely.

✦ **Bullets and Numbering:** Lets you create normal, bulleted or numbered lists and set left, first-line, and right indents for lists.

✦ **Drop Cap:** Provides a selection of preformatted drop caps — extra-large capital letters at the start of paragraph, as in old-fashioned books — or lets you create your own custom drop cap, setting the font, size, and so on.

The Measurements toolbar

The Measurements toolbar lets you control many aspects of spacing and positioning of text boxes with handy control boxes.

To view the Measurements toolbar, choose View ⇨ Toolbars ⇨ Measurements or click View Toolbar on the dialog boxes just mentioned that have to do with spacing, such as the Character Spacing dialog box.

The Measurements toolbar is shown in Figure 6-8. Any changes you make with the Measurements toolbar controls show up immediately on the screen, which makes this a very useful mechanism for fine-tuning your publication. Here's how it works:
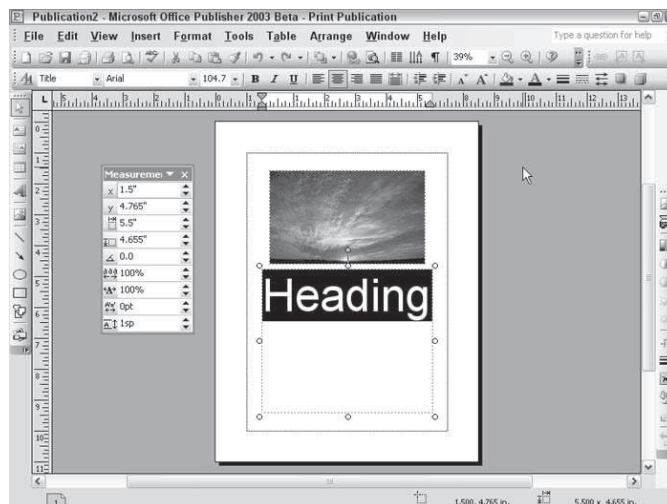
Figure 6-8: The Measurements toolbar lets you fine-tune your publication by entering precise values for a number of parameters.

✦ The two top controls, labeled x and y, control the horizontal and vertical positions of the text box, measured from the zero points of the horizontal and vertical rulers to

the left and top edges of the text box. Of course, you can always drag a text box around on the page to reposition it, but if you want precise positioning, these controls can give it to you. You can either type in the coordinates you want or click the little up and down arrows beside each control.

✦ The next two controls down control width and height of the text box.

✦ The next one controls rotation.

✦ In the bottom section are spacing controls for the text itself: from top to bottom, tracking, scaling, kerning, and line spacing.

Working with Graphics

Pictures for your publication can come from several sources: the Clip Organizer, a file on your computer (which you may have downloaded off the Internet, for example), a scanner, or a digital camera. Once they're inserted into your publication, you can manipulate them in a variety of ways.

Inserting a picture file

To insert a picture file, follow these steps:

1. Click the Picture Frame button on the Objects toolbar.

2. From the menu, choose Picture from File.

3. Your pointer changes to a crosshairs; use it to draw a frame approximately the size you want the inserted picture to be.

4. Publisher automatically opens the Insert Picture dialog box, a standard browsing box that you can use to locate the picture file you want on your computer.

5. Click Insert.

6. The picture is inserted into the frame you drew for it. The frame is automatically resized so the picture isn't distorted; the width of the frame remains the same, but the height may change.

Inserting a Clip Organizer image

To insert a Clip Organizer image, follow these steps:

1. Click the Picture Frame button on the Objects toolbar.

2. Choose Clip Art from the menu.

3. The Clip Art task pane opens. Search for the image you want and, after you find it, click on it to insert it into your publication.

4. The Clip Art is inserted into the frame. Again, the frame's size changes to prevent the picture from being distorted.

Inserting a scanner or camera image

To insert an image from a scanner or digital camera, use these steps:

1. Choose Insert ⇨ Picture ⇨ From Scanner or Camera ⇨ Select Device to choose the camera or scanner you want to acquire the picture from (if you have more than one installed).

2. Choose Insert ⇨ Picture ⇨ From Scanner or Camera ⇨ Acquire Image to open the device's software and acquire the picture.

3. The picture is inserted into your document. You can then drag it to where you want it and work with it in a variety of ways (see the next section).

Formatting pictures

Once you've inserted a picture, you can manipulate it in a variety of ways. You can:

✦ **Recolor it:** Choose Format ⇨ Picture and then choose the Picture tab. In the resulting dialog box you can apply a number of color effects; the Color drop-down list includes Grayscale, Black & White, and Washout, as well as the default Automatic, which uses the picture's original colors. You can adjust the brightness and contrast here as well, or you can click the Recolor button to open the dialog box in Figure 6-9. This lets you recolor the whole picture or leave the black parts black and just recolor the colored parts. Choose the color using the Color control; you can also apply tint and shade fill effects. You can undo changes to the color of a picture by clicking Restore Original Colors.
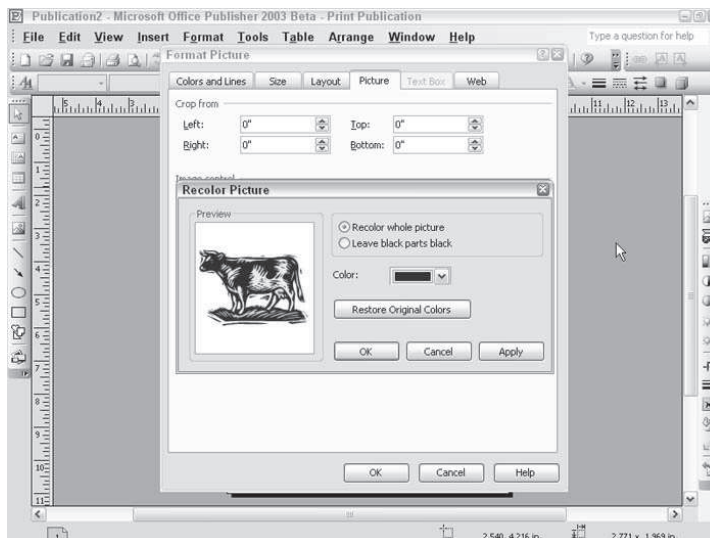
Figure 6-9: Recolor a picture, or restore it to its original color, using these controls.

✦ **Resize it:** Choose Format ➾ Picture and choose the Size tab to open a dialog box where you can change both the height and width of the picture by entering either a specific measurement (in the Size and rotate area) or a percentage of its original height and width (in the Scale area). You can return a picture to its original size by clicking the Reset button. You can also rotate the picture using the rotation tools in the "Size and rotate" area.

Caution   If you scale height and weight by different percentages, your picture is distorted. To avoid this, check the Lock aspect ratio checkbox; this ensures that whenever you change one dimension of the picture, the other changes proportionately.

✦ **Apply a fill or a border:** Choose Format ➾ Picture and click the Colors and Lines tab to apply a fill or a border to the picture frame. You can achieve the same effect by clicking the appropriate buttons on the Formatting toolbar.

✦ **Change how text wraps around the picture:** Choose Format ➾ Picture and click the Layout tab to open the dialog box in Figure 6-10, where you can set margins for the picture frame and also determine whether, if the picture is placed over a text box, text wraps around the outside of the picture frame or tucks in closely around the picture itself. This dialog box also enables you to position the text frame very precisely, using the Position on page controls at the top.
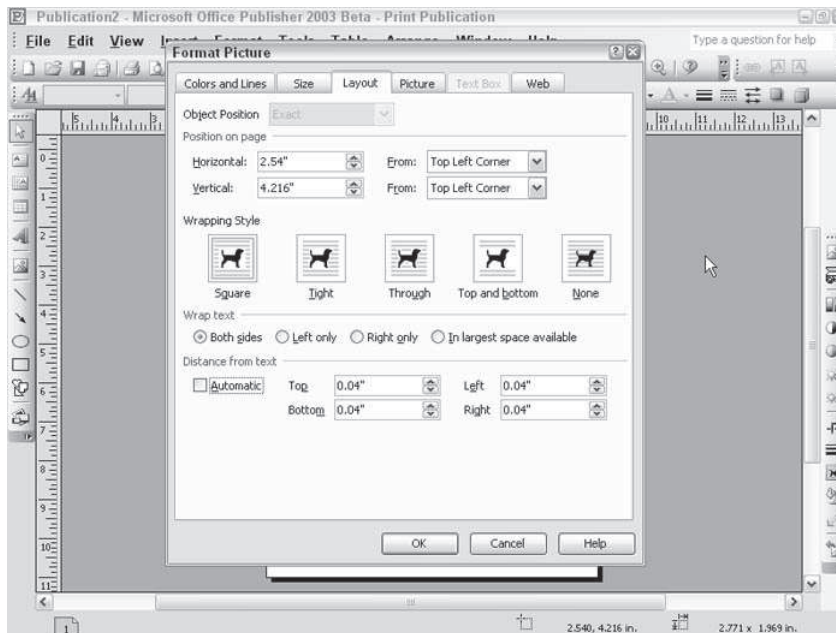
Figure 6-10: Set the text wrap properties of a picture frame using this dialog box.

✦ **Rotate the picture:** As noted, you can do this using the Picture tab of the Format ⇨ Picture dialog box, but the easiest way to do it is simply to point at the green handle that sticks up from the top of the picture and rotate the picture visually, by clicking and dragging.

✦ **Crop the picture:** Choose Format ⇨ Picture and click the Picture tab. Crop the picture using the controls at the top, by choosing how far from each edge to crop the picture.

Tip

A better way to crop pictures is by using the Picture toolbar6-. This is displayed by default down the right side of the workspace and contains a number of useful tools. Click the Crop button to crop the picture visually by clicking and dragging on its corners (see Figure 6-11).
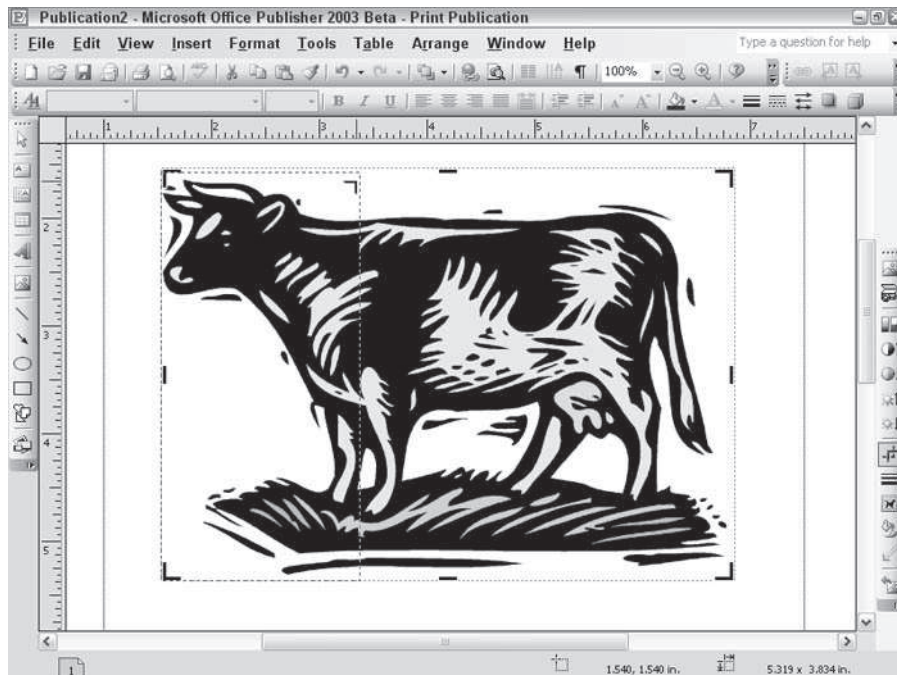
Figure 6-11: The Picture toolbar contains one-button controls for many of the options also available through the Format ⇨ Picture dialog box. Here the Crop tool is being used to crop away everything but the head of the cow.

Drawing lines and shapes

Publisher also lets you draw basic shapes with four simple drawing tools on the Objects toolbar: the Line tool, the Oval tool, the Rectangle tool, and the Custom Shapes tool. The Line tool also lets you draw arrows and adjust the shape of the arrowheads.

Custom Shapes provides you with a small menu of a variety of starbursts, arrows, and other useful shapes. If the shape includes a small gray diamond, its shape is adjustable; click and drag on the diamond to see what effect it has.

You can apply different line styles and fills to shapes and rotate them, as well.

Working with Tables

The third most common type of object you're likely to want in a Publisher publication is a table.

Inserting a table

To insert a table, follow these steps:

1. Click the Insert Table button on the Objects toolbar.

2. Draw a frame, just as you did for text and graphics.

3. The Create Table dialog box opens (see Figure 6-12). Enter the number of rows and columns you want in your table.

4. Choose a design you like from Table Format menu.

5. Click OK. Publisher creates a table with the number of rows and columns you indicated, sized to fit in the frame you drew.
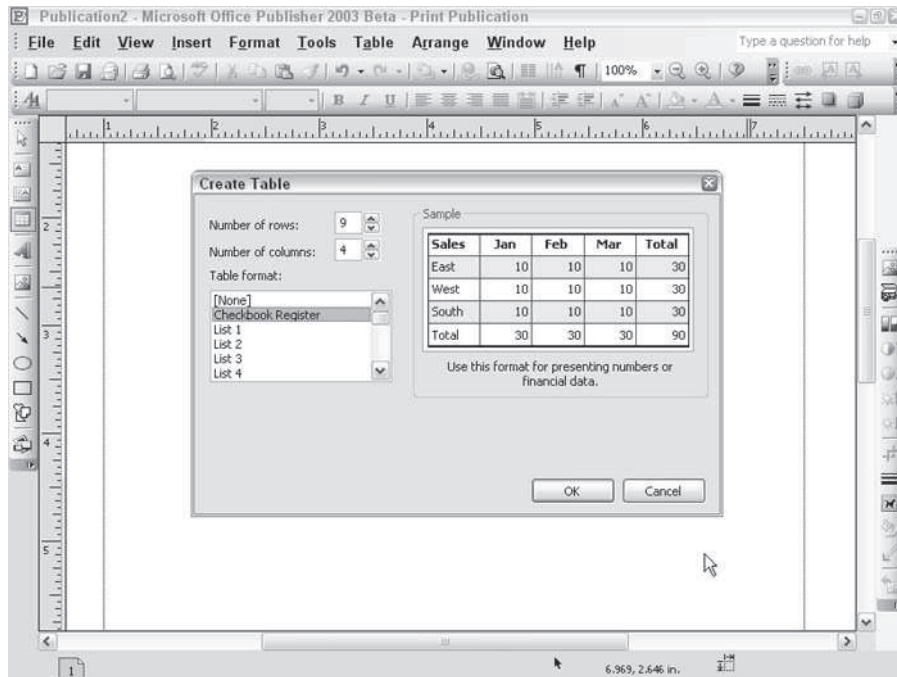
Figure 6-12: The Create Table dialog box gives you a number of table designs to choose from.

Entering data into a table

Once you've got your blank table, entering information into it is simply a matter of clicking on the cell you want to enter information into and then typing away. The same formatting tools are available to you for formatting text within a table as are available when you are working in a text box.

Editing a table

Publisher tables don't offer nearly as many options as, say, Word tables when it comes to making changes. In fact, there are only a few, all accessed by choosing Table from the menu bar:

✦ **Insert:** Choosing this option inserts Columns to the Left, Columns to the Right, Rows Above or Rows Below, or a whole new table.

✦ **Delete:** Deletes the rows or columns containing the currently selected cells, or delete the whole table.

✦ **Select:** Selects the entire table, the current rows or columns, or just the cell in which the cursor is currently located.

✦ **Merge Cells:** Turns any currently selected cells into one big cell, erasing the borders between them.

✦ **Split Cells:** Highlights a merged cell and choose Split Cells to turn it back into its original individual cells.

✦ **Cell Diagonals:** Splits currently selected cells into two distinct cells divided by a diagonal line, which can slant either up or down.

✦ **Table AutoFormat:** Changes the format of your table.

✦ **Fill Down and Fill Right:** Fills a column or row of selected cells with the contents of either the topmost or leftmost cell in the selected range.

✦ **Grow to Fit Text:** When checked, this automatically increases row height within the table to make room for whatever text you enter into it.

Summary

This chapter introduced the most often used elements of Microsoft Publisher, the powerful desktop publishing program that comes with some versions of Microsoft Office. Points covered included:

✦ The Publisher workspace is very similar to that of other Office applications; if you're already used to Word, FrontPage or PowerPoint, you should feel right at home.

✦ Publisher comes with a lot of pre-designed publications that you can use as the basis of your own; the hard layout work has already been done, and all you need to do is insert your own text and graphics.

✦ Working with text in Publisher is done within text boxes; within a text box, text can be formatted in much the same way it is formatted in Word. You can change the font, font size, color, spacing and more.

✦ Text can be linked from text box to text box, which makes it easier to flow long items through a publication.

✦ You can insert graphics in Publisher from the Microsoft Clip Organizer, from a file on your computer, or from a scanner or digital camera. You can also draw your own shapes with Publisher's built-in drawing tools.

✦ Tables are easy to insert and work with in Publisher, but not quite as full-featured as you may be used to in Word.

✦   ✦   ✦

Building FrontPage Web Sites

You might already know how to create a Web site with linked pages. You might also be familiar with applying themes and sharing borders, which give your site a sense of consistency and enable visitors to navigate it. This chapter describes in more detail the process of designing and adding content to a Web site.

Web Design Strategies

Web pages and Web sites have something of a chicken and egg relationship: no real answer exists as to which comes first when you design a Web site. You can create Web page content first and then organize the pages as a Web site. Alternatively, you can design a Web site and then plug in page content. With either approach, however, your site design creates the framework for the display of all the content that you provide.

Why start with site design?

Theoretically, you could create a Web site that consisted of a single page. If your Web site has much content at all, however, this approach presents both technical and aesthetic problems. The page would take unnecessarily long to download in your visitors' browsers, and they would have to wait for information to download that they didn't even want to access. Aesthetically, visitors would have difficulty finding and digesting information at your site. For these reasons, Web sites generally modularize information into many small pages. In addition, many small, quick-loading pages with digestible bites of information are generally more helpful than a few long, slow-loading pages that mix together different kinds of information.
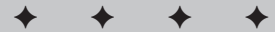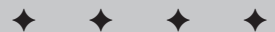
You face two main strategic decisions when you design your Web site:

✦ What kind of navigational strategy do you want to provide for visitors? What options for jumping to other pages in the site do you want to make available at each page?

✦ What kind of visual theme do you want to apply to your site? Consistent visual elements — such as color schemes, navigational icons, page backgrounds, and fonts — provide coherence to your site and are part of the message that you project to visitors.

After an architect designs a building and the beams are welded into place, the building can't easily be changed from a 48-story skyscraper to a sprawling, two-story campus. Luckily for Web designers, things are more flexible in cyberspace. You can modify the structure and design of a Web site fairly easily in FrontPage. You must still make some initial decisions, however, as to the layout of your site. One of FrontPage 2003's strengths is the capability it provides to universally change both the layout and design of an entire Web site. The next section investigates strategies for organizing your site structure.

Defining navigational links

Following are the two basic design approaches to laying out your Web site.

✦ **Linear design:** This approach takes visitors through your site in a straight line.

✦ **Hierarchical design:** This approach presents visitors with layers of options.

Figure 7-1 shows a Web site laid out in a linear design.
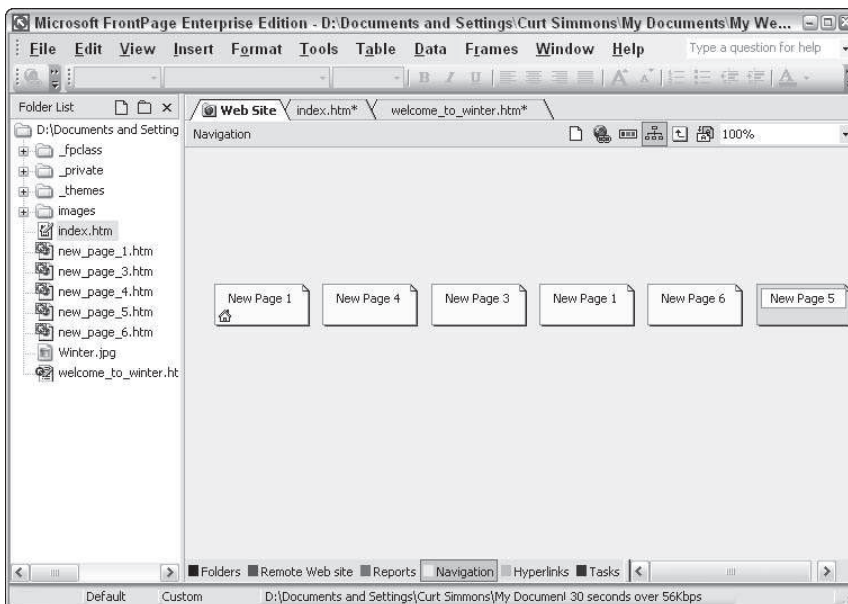
Figure 7-1 A linear Web site design marches visitors straight through your site.

Most Web sites are organized in a hierarchical structure, but both design strategies can be useful, depending on the kind of presentation you are preparing for visitors. The important thing is to make conscious decisions regarding which kind of approach you want to take to your Web site design, and then stick to that approach. By doing so, visitors will feel comfortable at your site, and will be able to jump intuitively to the information that they want. By making conscious decisions about Web navigation strategy, a Web designer can frame the kinds of options available to visitors in conformity with the site's mission. For example, if your goal is to introduce every product and service that your company provides, the linear structure illustrated in Figure 7-1 channels visitors into a tour of those products and services.

Orchestrating a linear flow in your Web site involves laying out your pages in Navigation view and then assigning appropriate link bars in Web pages.

To create a Web site that provides a linear flow, start by either creating a new Web site or by opening an existing one. You can review the section "Creating a Web site" in Chapter 1 of Wiley's *FrontPage 2003 Bible*, if necessary, for all the information that you need.

With your Web site open, click and drag in Navigation view to arrange your Web pages in one or more lines. Selecting or deselecting the Folder list from the View menu shows (or hides) a list of Web pages in your site. If you have Web pages that are not connected to the navigational flow, you can drag them from the Folder list into the Navigation window, as shown in Figure 7-2.
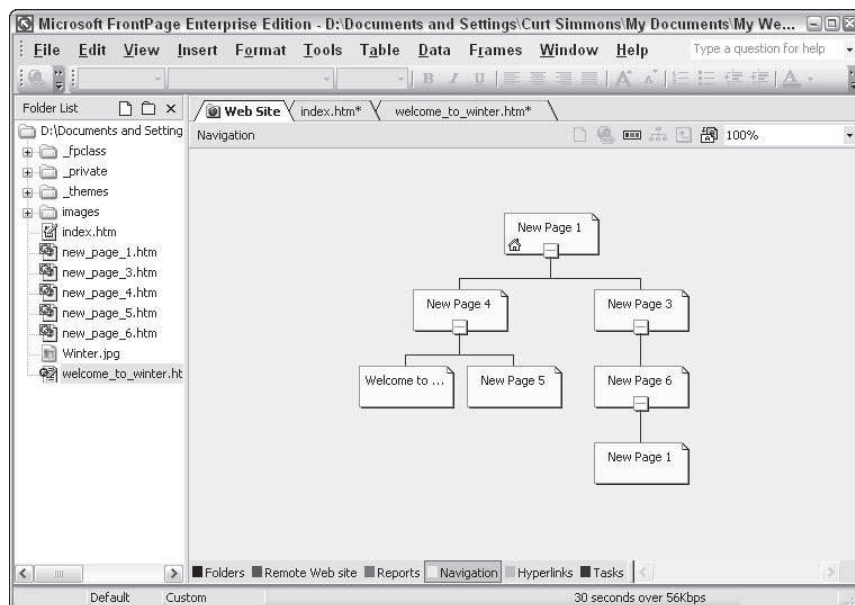
Figure 7-2 You can drag Web pages from the Folder list into the Navigation window.

With your site design defined in Navigation view, you can define link bars in your Web pages that apply the navigational structure in the form of navigational links. That process is explained in the next section, "Defining Link Bars in Shared Borders."

If you define a Web site with a long linear flow of pages, your site may be easier to view horizontally than vertically. To rotate the display of your Navigation view flowchart, right-click in the Navigation area and select Portrait/Landscape from the context menu.

Hierarchical Web structures are used more frequently than linear site designs. Hierarchical structures enable visitors to make their own decisions about which pages they want to see, and in what order. Furthermore, you can use hierarchical structures to organize Web pages into groups, each with its own level of detail, as shown in Figure 7-3.
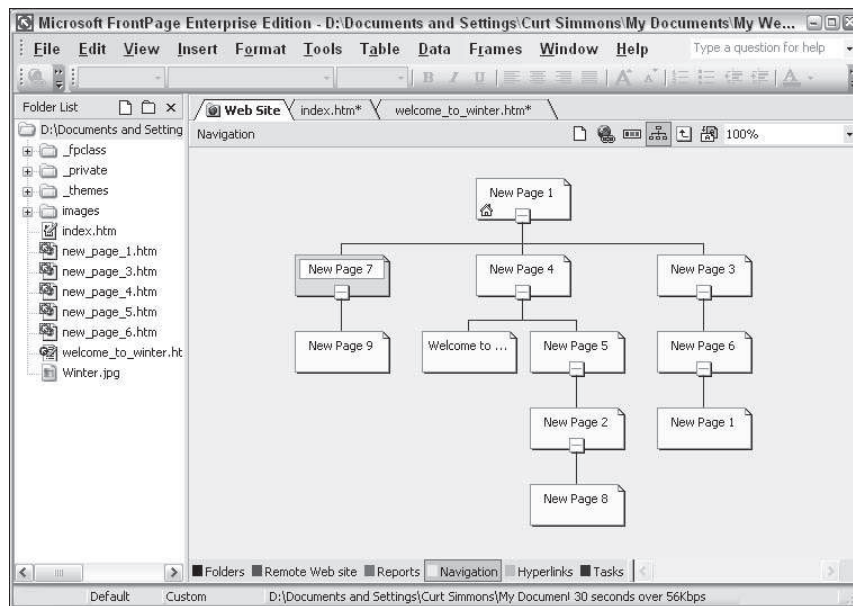
Figure 7-3 A hierarchical Web site design organizes options for a visitor.

A visitor who is interested only in CD products can navigate to the CD "branch" of the Web site and choose between the various CD options (listen, lyrics, credits, cover), without being distracted by other options.

Defining Link Bars in Shared Borders

After you lay out your site in Navigation view, you can define the link bars for each page. You can insert link bars at any location in a Web page, but they are normally inserted in shared borders, a special type of Web page that appears on every Web page. Shared borders can be attached to the top, bottom, left, or right side of a Web page. Therefore, theoretically, you can define four link bars in your Web site that will appear on every page in the site.

Four link bars would clutter up a Web site, but providing navigation options at the top, bottom, and left (or right) side of a page might be appropriate in some cases.

Each link bar in a shared border generates links, depending on the logic that you define for that particular bar. For example, if you lay out your Web site in a linear structure, you can generate Next and Back buttons to help visitors travel from the beginning to the end of your page sequence. Similarly, if you design your site with a hierarchical structure, you have several options for enabling visitors to jump to parent and child pages.

Tip Shared borders are not required in order to place link bars on a particular page. You can place link bars in the body of a Web page. However, using shared borders with link bars is a method by which you can create a navigational system for your entire Web site.

To assign shared borders to a Web site, follow these steps:

1. In any view, select Format ⇨ Shared Borders from the menu.

Tip If the Shared Borders option is grayed out on the Format menu, click Tools ⇨ Page Options, then click the Authoring tab. Click the Shared Borders check box to enable them.

2. In the Shared Borders dialog box, select the All Pages radio button to assign shared borders to every page in your Web site.

Note After you define a shared borders design for your entire Web site, you can disable the shared border(s) for specific pages by selecting a page and using the Current Page radio button.

To insert a link bar in a shared border, follow these steps:

1. Open any Web page in a Web site to which you have added at least one shared border.

2. Click in a shared border.

3. Select Insert ⇨ Navigation. In the Insert Web Component dialog box, click Bar Based on Navigation Structure in the Choose a Bar Type area.

4. Click the Next button in the Insert Web Component dialog box, and use the vertical scroll bar to explore the various styles of available link bars. Select one and click Next.

5. In the final window of this Wizard, choose either a vertical or a horizontal layout for your link bar and click Finish. You're not really finished — you're ready to define the logic that will determine how FrontPage generates links.

6. In the Link Bar Properties dialog box, select one of the six radio buttons in the Hyperlinks to Add to Page area at the top of the dialog box. Use the Additional Pages checkboxes to add a link to the home page on every page, and/or a link to the Parent Page on every page. The Link Bar Properties dialog box is shown in Figure 7-4.
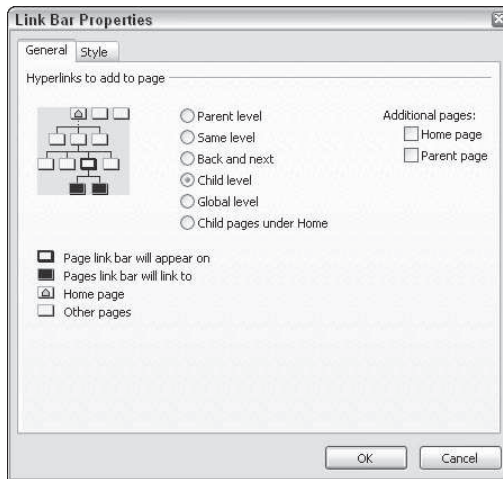
Figure 7-4 The Link Bar Properties dialog box provides six navigation options for your Web site.

7. You can revisit or revise the style choices you made for your link bar by clicking the Style tab in the Link Bar Properties dialog box. In addition to (re)choosing a bar style and orientation (vertical or horizontal), you can also use checkboxes to add vivid colors (for example, a different color scheme based on, but more extreme than, the one associated with your theme) or Active Graphics (graphical navigation buttons that react when a visitor hovers over them with his or her mouse cursor).

Navigation Options

The six radio buttons at the top of the Link Bar Properties dialog box basically break down into two different navigational strategies. The Same Level option and the Back and Next option enable visitors to navigate along a single row in the Navigation view, for a linear navigational approach. The difference between these options is that Same Level enables a visitor to jump to any page in a row, whereas Back and Next offers only two options, the pages to the right and left of a page in the Navigation view flowchart.

The other radio buttons offer variations on a hierarchical scheme. The most utilitarian hierarchical option is probably the Child Level radio button, along with the Home Page and Parent Page checkboxes. This combination of selections in the Link Bar Properties dialog box enables visitors to navigate up or down at any time, and always provides a link to the home page.

As you experiment with different navigational options, they are illustrated in the flowchart to the left of the radio buttons.

After you assign link bars to your shared borders, save the page in which you edited the links, and then select File ⇨ Preview in Browser to test the links in your browser.

Customizing links

Automatically generated navigational links have a great advantage, which is also their shortcoming: They apply the same logic to every single page. If you define a link to child pages in your link bar, every page (that has a child page) will have a link to that page. In that sense, link bars cannot be customized for particular pages.

However, other options are available that give you much more specific control over what links are available from your Web pages. Those options are introduced next.

Adding links to page content

You can insert a link (or *hyperlink,* as FrontPage calls them) anywhere in a Web page. You can either type the URL to which you are creating a link, or assign a link to an existing object, such as text or a graphic image.

To include a link, simply type the URL (or e-mail address) in the Web page. Press Enter to create a paragraph break, Shift+Enter to create a line break, or a punctuation key followed by the spacebar. Your URL address is automatically transformed into a link.

To assign a link to existing text (or to a picture), select the text (or picture) and click the Hyperlink button in the toolbar. The Hyperlink dialog box appears. Double-click a Web page in your Web, or enter a URL address outside of your Web in the URL drop-down list. Then, click OK to assign the link.

Adding links to a shared border

Shared borders can include generated link bars, but they can also be edited to include other text or links.

Besides the links generated by link bars, you can add your own, specific links to a Web site or to any page. For example, you may want to include a link to a special page in your Web site from any page in the site. If that special page is your home page, you can do this by selecting the Home Page checkbox in the Link Bar Properties dialog box. If it isn't your home page, you can still add the link to a link bar.

Adding link bars to page content

A final option for customizing links is to insert a link bar directly into the content of a page. Although this isn't a widely used feature in FrontPage, it has some valuable uses. For example, a link bar with links to child pages can function as a miniature table of contents in a Web page.

Remember foremost that link bars inserted into page content appear only on the page in which they are inserted, whereas link bars placed in shared borders appear on every page to which a shared border has been applied.

Deleting pages from link bars

You can delete a page from the navigation structure by clicking the page in Navigation view and pressing the Delete key. The Confirm Delete dialog box appears, as shown in Figure 7-5.
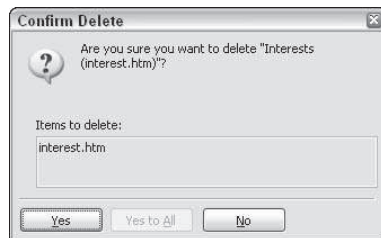
Figure 7-5 You can delete a page from link bars or completely remove it from your Web site.

Changing navigation labels

Navigation labels for generated link bars are based on page titles. You can customize other generated navigation links (such as Home or Back) for your Web site.

You can redefine the labels that FrontPage generates for the home page, for moving up a page in a Web structure and for Back and Next labels (used with a linear site design). To change label names, follow these steps:

1. Select Tools ⇨ Site Settings and click the Navigation tab in the Site Settings dialog box. The tab is shown in Figure 7-6.
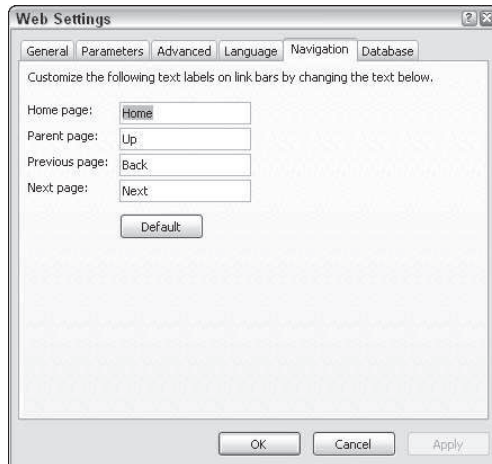
Figure 7-6 You can rename the labels generated in link bars.

2. Enter new label names for any of the four generated titles. For example, you can change the label assigned to a link to the previous page in a layout from "Back" (the default) to "Previous." (You could also use something like "See previous slide.")

3. After you change the generated label text, click OK. (Clicking OK in the Web Settings dialog box updates links in an existing site.)

Importing an Existing Web Site

You can organize existing file collections into FrontPage Webs by using the Import Wizard, which imports files from two sources:

✦ An existing Web site that is not a FrontPage Web

✦ A folder on your local drive or network

After you import files, you can work with them as you would any FrontPage Web, organizing them in Navigation view, and adding themes, shared borders, link bars, and so on.

Importing files into a Web

To import files into a new Web, follow these steps:

1. Select File ⇨ Import. The Import dialog box appears.

2. Click the Add File button to add a file (or selected files) to your site, or the Add Folder button to add one or more folders.

3. In the Open File dialog box, navigate to the file(s) or folder(s) you wish to import. You can use Shift+Click or Ctrl+Click to select more than one folder or file. Click the Open button to add selected file(s) or folder(s) to the Import list.

4. Click OK in the Import dialog box to add files to your site.

Importing a Web site into a FrontPage Web

To import an existing Web site into a FrontPage Web, follow these steps:

1. Select File ⇨ Import.

2. Click the From Site button. The Import Web Site Wizard opens, as shown in Figure 7-7.
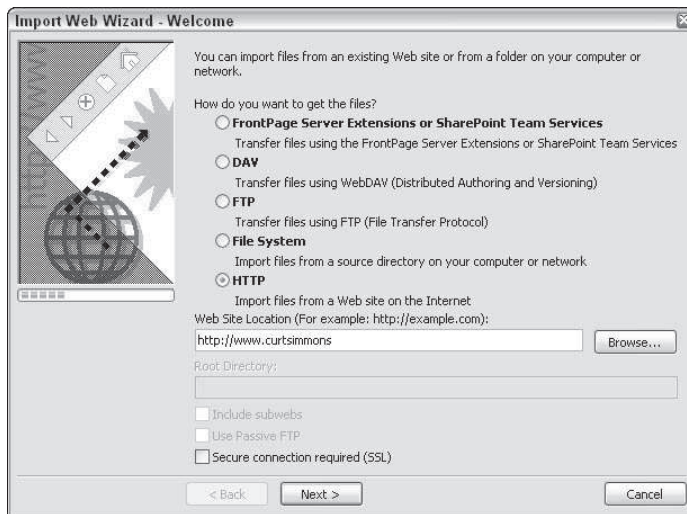
Figure 7-7 FrontPage provides a wizard to integrate existing objects into a new Web.

3. At this point, you have the following options:

- Transfer from FrontPage Server Extensions or SharePoint Team Services

- DAV: Transfer using WebDAV

- FTP: Transfer using File Transfer Protocol

- File System: Transfer files from a source directory or computer

- HTTP: Import files from an Internet site

Make a selection, complete the requested information, and click Next.

4. Now you can choose the destination Web (where you will import the files) and choose to use Secure Sockets Layer (SSL) if necessary. Click Next.
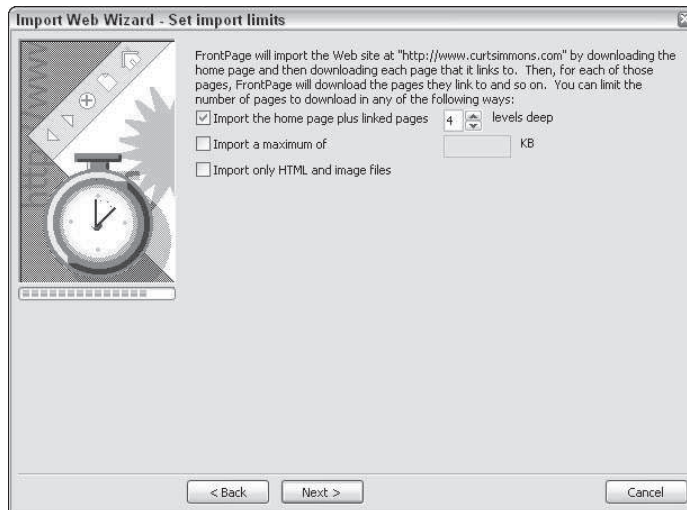
Figure 7-8 Choose where you want to import the site to.

5. In the Set Import Limits window, choose to import the home page plus link pages to a specified number, import a maximum of kilobytes, or import only HTML and image files. Click Next.

6. Click Finish to start the import.

Shared Borders — Plus and Minus

Love 'em or hate 'em, shared borders with link bars are a defining element of FrontPage Web sites. They are incredibly convenient — you can generate distinct and somewhat intelligent links on every page in your site in seconds by having FrontPage generate link bars in shared borders. Compared to the tedium of manually creating, changing, and updating navigation areas of Web pages by hand, shared borders with link bars are a godsend.

The downside? Link bars in FrontPage tend to give your Web sites that somewhat institutional look that tells the world you created your site in FrontPage instead of handcrafting every page.

Is there a way to get the best of both worlds? One design approach often utilizes the productivity of shared borders and link bars, but disguises their use by customizing themes and assigning unique properties to shared borders.

Using Web Templates and Wizards

In FrontPage terminology, a Web template is a set of predesigned Web pages collected into a single Web. In many cases, sample text is supplied, or comment text is used, to help you add content to the Web.

A wizard is similar to a template, only smarter. Rather than create a Web with all generic content, the Corporate Presence and Discussion Web Wizards first ask you to answer some probing questions, such as "What is your name?" They also ask you what kinds of Web pages you want to include in your Web site. Those wizards then place your answers in the appropriate spots in the template. When you first open a Web that is generated by one of these two wizards, it is already filled with customized content based on your answers. This feature can save you time, although you are likely to want to customize the pages to your liking.

Some of the available templates are explored in more depth in the following sections.

One Page Web

Because the One Page Web template creates only a single Web page, you may wonder why you should bother using it. Actually, the One Page Web handles several important tasks that save time in generating a Web site. A Web folder is created on your server, ensuring that FrontPage will properly manage all of your files. This template also creates a Web page with the filename Default.htm and the page title Home Page.

The One Page Web template also generates two subfolders in your Web site: _private and images. You can use the images folder to organize picture files for your site and the _private folder to store pages and other files that you don't want identified by searches or linked in link bars.

If your project is to develop a Web site from scratch, the One Page Web is a quick way to get started.

Using the Corporate Presence Web Wizard

The Corporate Presence Web Wizard is a basic site for communicating information about a company. This is the most elaborate wizard included with FrontPage. The first dialog box in the wizard, shown in Figure 7-9, asks you which main pages you want to include in your Web site.
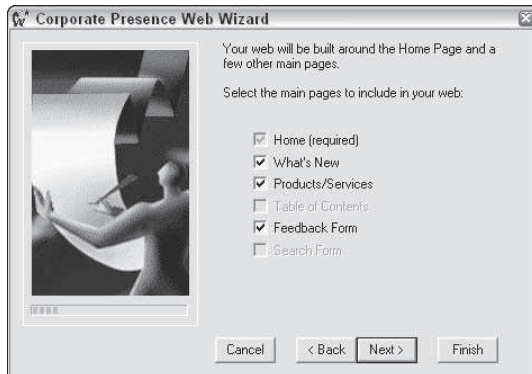
Figure 7-9 The Corporate Presence Web Wizard generates up to six main pages.

The pages available from the Corporate Presence Web Wizard are as follows:

✦ **Home:** Not optional, because it anchors all the navigational links in the site.

✦ **What's New:** Lists links to other pages. If you select this checkbox, the wizard later provides a list of linked articles that you can generate.

✦ **Products/Services:** Can have any number of links to both products and services. If you select this checkbox, you are later asked how many products and services pages to generate, and what information you want on those pages. Some of these generated pages include input forms that collect data from visitors. The results of these forms are saved in files stored in the _private folder.

✦ **Table of Contents:** Generates a table of contents for the site on a separate page.

✦ **Feedback Form:** Generates a Web page with an input form that collects feedback from visitors. The data submitted to this form is collected in a file called inforeq.txt (located in the _private folder). Double-click that file in Folders view to display information in your word processor.

✦ **Search Form:** Creates a search form page that allows visitors to search *your site* (not the Internet) for words or phrases.

After you select the pages you want to include in your Web site, the wizard prompts you for information related to generating those pages. When you complete the wizard, you are asked whether you want to see the Tasks view after your site is generated. Select Yes to see a list of remaining tasks that you must perform to complete your Web site.

Customer Support Web

The Customer Support Web template generates ten main Web pages in a navigational flow, as well as additional Web pages that are used to supplement those pages. The pages in the Navigation view generated by this template are as follows:

✦ **Customer Support Web:** Home page — welcomes visitors to the support site and contains links to other pages.

✦ **Contact Us:** Creates a table with e-mail, phone, and Web site URL links.

✦ **Search:** Includes a search box that visitors can use to find information at your site.

✦ **What's New:** A list of links to pages with update documentation. To make these links functional, you must edit their content, right-click them, select Hyperlink Properties from the context menu, and link them to actual pages that you create.

✦ **Products:** A page with links to support pages by product so you can support more than one product at your site.

✦ **FAQs (Frequently Asked Questions):** Includes a list of six questions, with links to bookmarked answers in the body of the page. Bookmarks are discussed in "Inserting bookmarks," later in this chapter. You must edit the questions and answers.

✦ **Service Request:** Provides a form that clients must fill out to receive help with a specific problem.

✦ **Suggestions:** This Web page is also mainly composed of an input form. Data entered into this form can be viewed by opening the `Feedback.htm` file.

✦ **Catalogs/Manuals:** Used to enable visitors to link to an FTP (File Transfer Protocol) download site. If you have files at an FTP site, you can edit the links at this page to send visitors to those files.

✦ **Support Forum:** Links to a threaded discussion group, where visitors can post comments or questions and respond to posted articles.

Using the Database Interface Web Wizard

The Database Interface Web (DIW) Wizard generates a site with input forms, reports, and queries. A typical site generated by the DIW, with all options selected, creates an Access database at your Web server, and includes the following:

✦ A submission form for visitors to enter data

✦ A results page that displays content from your database

✦ A Database Editor section — pages that enable visitors to view, add, delete, and update records in your database using a Web browser

Discussion Web Wizard

The Discussion Web Wizard generates a fully threaded, searchable discussion group. Users can access the discussion board and read messages as well as make posts.

Empty Web

The Empty Web template generates a Web folder and _private and images subfolders, just like the One Page Web template. The difference is that the Empty Web template doesn't generate a home page.

Import Web Wizard

The Import Web Wizard is generated when you select File ⇨ Import. For a discussion of how this works, refer to "Importing an Existing Web Site," earlier in this chapter.

Personal Web

The Personal Web template generates a Web site with a home page and the following five other pages:

- ✦ About Me
- ✦ Interests
- ✦ Favorites
- ✦ Photo Gallery
- ✦ Feedback

Project Web

The Project Web template generates a Web site specifically designed for displaying project-management information. The template generates six linked pages in Navigation view, some of which are connected to additional pages that don't display in Navigation view. The six accessible pages are as follows:

- ✦ **Members:** Lists team personnel and provides hyperlinks to their e-mail addresses.
- ✦ **Schedule:** Posts tasks due this week and next week, and lists project milestones (important nodal points in the project).
- ✦ **Archive:** Includes hyperlinks to documents created by project members, to software programs, and to other elements of the project.
- ✦ **Search:** Includes a search box.
- ✦ **Discussions:** Includes links to two threaded discussion groups that are generated by the Project Web template: the Requirements Discussion and the Knowledge Base.
- ✦ **Contact Information:** A page where you can enter your e-mail address.

SharePoint Team Web

The SharePoint Team Web site is a ready-to-use, editable intranet site portal that enables your department, organization, or group to share files and information. SharePoint is included in Office 2003, and it requires that the SharePoint server files be installed on your intranet server. For more information on using SharePoint, see Chapter 17 of this eBook.

Generating a Web site using the Corporate Presence Web Wizard

In the following tutorial, you will use the Corporate Presence Web Wizard to generate a Web site.

1. Select File ⇨ New.

2. In the Task Pane, click the Web Site Templates link.

3. In the Web Site Templates dialog box, enter a location and name for your Web in the "Specify the location of the new web" drop-down list.

4. Double-click the Corporate Presence Web icon in the dialog box.

5. Read the first wizard option box and click Next.

6. In addition to the Home Page option, select the What's New, Feedback Form, and Search Form checkboxes. Click Next.

7. From the list of topics that appear on your home page, select all four checkboxes and click Next.

8. From the list of topics for the What's New page, select all three checkboxes and click Next.

9. From the list of options for the Feedback Form, select all seven checkboxes and click Next.

10. For the Feedback Form format, select the option labeled "No, use web page format." This displays input data in a Web page. Click Next.

11. In the dialog box that asks what should appear on the top and bottom of each page, choose all the checkboxes except Your Company's Logo, and click Next.

12. In the Construction Icon options box, select the No radio button to omit the Under Construction icon from your pages. Click Next.

13. In the dialog box that collects information about your company, fill in the three fields and click Next.

14. In the dialog box that collects information about your phone numbers and e-mail addresses, fill in the four fields and click Next.

15. Click the Choose Web Theme button and select the Straight Edge Theme from the Choose Theme dialog box. Click OK and then click Next.

16. In the final dialog box, leave the one checkbox selected to show the Tasks view after your Web is generated. Click Finish.

17. In Tasks view, right-click the first task, Customize Home Page, and select Start Task from the context menu.

18. Click and drag to select the comment text, and then replace it with text of your own.

19. Close the page, saving your changes. You are prompted to mark this task as completed. Click Yes in the dialog box.

20. Return to Tasks view and complete the remaining tasks by replacing comment text with your own text.

21. Open the Home Page in Page view. Select File ⇨ Preview in Browser to see your Web site in your browser.

22. Inspect your home page in your browser. Test the link to the Feedback page at the top of the page.

23. Fill in the fields in the Feedback form.

24. After you fill in the form, click the Submit Feedback button. Then, click the Return to Form link in the Form Confirmation page.

25. Return to FrontPage and view your site in Folders view. Double-click the _private folder to view files in that folder. Double-click the file Inforeq.htm to open that file in Page view. Examine the input that you collected.

Note Input forms work only when your Web is saved to a server with FrontPage extensions.

26. Select File ⇨ Close Web to close your Web after you finish experimenting with it. You can delete this Web by selecting File ⇨ Open Web, right-clicking the Web, and then selecting Delete from the context menu.

Creating Basic Web Page Content

After you lay out your Web's basic structure, you are ready to fill in page content, which includes text and many other components, such as pictures. Chapter 5 of FrontPage 2003 Bible explores in detail the editing and formatting of text; Chapter 12 of FrontPage Bible covers the inserting of pictures. Other advanced elements are covered in FrontPage Bible's remaining chapters. In fact, for the most part, the rest of this book is about how to place content on your Web pages.

In addition to text and pictures, FrontPage has many powerful elements, called Web components. They range from search boxes to time stamps to hit counters. This section briefly looks at editing Web page text, and then examines some other basic elements of Web page content, including breaks, horizontal lines, comments, and bookmarks.

Editing Web page text

Entering and editing Web page text is very intuitive: click and type. You'll find most of the luxuries of a modern word processor, including red, squiggly underlining of words that are not found in the dictionary. Other editing help includes the following:

✦ **Format Painter:** Select text, click the Format Painter tool, and then click new text to apply the formatting of the original text to the target text.

✦ **Thesaurus:** Select a word and then choose Tools ⇨ Thesaurus to see a list of synonyms. Find a good one in the Replace with Synonym list and click the Replace button.

✦ **Edit, Find, and Edit Replace:** Find text strings, with the option of designating replacement text. The Find and Replace dialog boxes don't have the option of locating (or changing) special characters, such as hard line returns, tabs, or paragraphs.

✦ **Tab key:** Use it (or the spacebar) to insert additional spacing between words.

Inserting breaks

The Break dialog box enables you to insert a forced line break (as opposed to a paragraph mark). To create a forced line break, select Insert ⇨ Break. The Break dialog box appears, as shown in Figure 7-10.
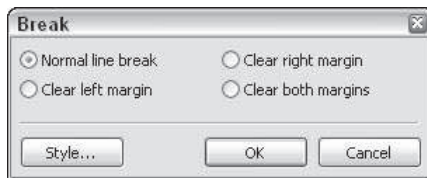
Figure 7-10 You can force line breaks with the Break dialog box.

To create a forced line break (within the same paragraph), click the Normal Line Break radio button and then click OK. Use the Clear Left Margin, Clear Right Margin, or Clear Both Margins radio button to move the next line past any pictures so that the left, right, or both sides are cleared to the margin.

To toggle on and off forced line break symbols (nonprinting), click the Show All button in the Standard toolbar.

Tip   An easy way to add a line break is to press Shift+Enter.

Adding horizontal lines

Before modern browsers and faster modems were able to interpret and download graphics quickly, older browsers recognized a graphic element called *horizontal lines.* New browsers still interpret these lines, and you can insert them as dividers between text or graphics. Select Insert ⇨ Horizontal Line to place a horizontal line at your cursor point (no need to press Enter first).

Note	Default horizontal lines are simply plain, black lines. FrontPage themes, however, provide customized lines that match the theme colors.

Placing comments

Comment text is visible in Page view, but doesn't appear in a browser window. As such, it is helpful for placing notes to yourself or a collaborator. For example, two Web developers can use comments to leave each other messages about work that remains on a page.

To insert a comment, follow these steps:

1. Click to place your insertion point where the comment will appear in Page view.

2. Select Insert ⇨ Comment.

3. Type text in the Comment window, as shown in Figure 7-11.
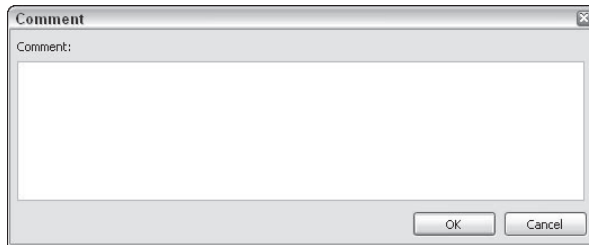
Figure 7-11 Comment text is not visible in a browser — unless the source HTML code is examined.

4. Click OK.

Note	Although comment text doesn't appear in a browser, it does appear if a visitor selects the View ⇨ Source command in Internet Explorer or the View ⇨ Page Source command in Netscape Navigator. When the underlying HTML code behind a Web page is displayed, comment text is surrounded by the code

```
<!—Webbot bot="PurpleText" PREVIEW="xxx" —>
```
where *xxx* is the comment text.

Therefore, don't put anything in comment text that you don't want the world to read!

You can double-click comment text to edit it. Comment text can be formatted like normal text, by selecting it and applying formatting attributes such as font color and size. However, formatting must be applied to an entire comment; you cannot apply separate formatting to parts of a comment.

Inserting symbols

Symbols include characters such as ã, or ª, that aren't available in normal keyboard keys. Most browsers can interpret these symbols.

To insert a symbol, follow these steps:

1. Place your cursor at the insertion point where the symbol will appear.

2. Choose Insert ⇨ Symbol.

3. From the Symbol dialog box, double-click the symbol that you want to insert.

4. Click Close in the Symbol dialog box.

Inserting bookmarks

Bookmarks are locators in a Web page that can be the target of a hyperlink. Bookmarks can be used for navigation within a page, or as a locator for a link to a page.

To insert a bookmark in a page, follow these steps:

1. Click to place your insertion point on the page, or to select text.

2. Select Insert ⇨ Bookmark from the menu.

3. If you selected text in Step 1, that text appears as the default bookmark name, as shown in Figure 7-12. If not, the Bookmark Name text box will be empty in the Bookmark dialog box, and you can enter a bookmark name. To avoid problems with older browsers, it is best to restrict the bookmark name to eight characters or less, with no spaces or punctuation.

4. Click OK to place the bookmark. If you assigned the bookmark to text, that text appears in Page view with a dotted line underneath. If you assigned the bookmark to a blank space on your page, it appears as a small flag.
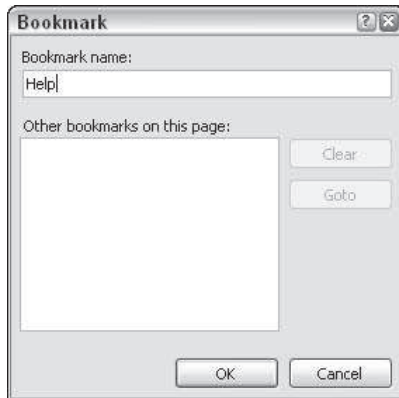
Figure 7-12 Bookmarks serve as targets for links within a page.

You can edit (or clear) bookmarks by right-clicking the bookmark, selecting Bookmark Properties, and then editing the properties in the Bookmark dialog box.

To create a link to a bookmark, follow these steps:

1. Select text (or a picture) that will be linked to the bookmark.

2. Click the Insert Hyperlinks button. The Hyperlinks dialog box opens.

3. If you are linking to a bookmark on another Web page, enter that page in the URL box. If you are linking to a bookmark on the open page, you can leave that box blank.

4. From the Bookmark drop-down list, select the bookmark that is the target of your link.

5. The bookmark link target appears in the URL box, with the bookmark preceded by a pound sign (#).

6. Click OK. You can test your link in the Preview tab either by previewing your page in a browser or by holding down the Ctrl key and clicking the link in the Normal tab of Page view.

Using Page Templates

FrontPage 2003 comes with *page* templates, in addition to the Web templates explored earlier in this chapter. These page templates are of three types: General, Frames, and Style Sheets. The options in the General tab of the New dialog box are explored here.

To utilize a page template, follow these steps:

1. Select File ⇨ New.

2. Click Page Templates in the Task Pane.

3. The Page Templates dialog box appears. You can preview a page template by clicking (not double-clicking!) on it and viewing a sample of the page in the Preview area, as shown in Figure 7-13.
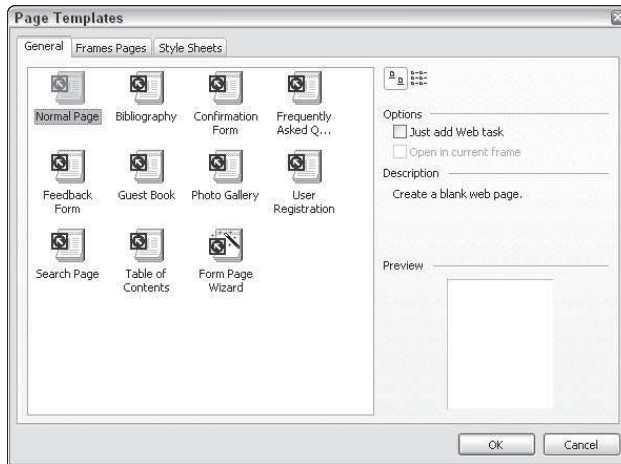
Figure 7-13 You can check out page templates before you generate a new page.

Some page templates are taken from the pages generated by Web templates. These include the Feedback Form page, the Form Page Wizard (that generates input forms), the Table of Contents page, and the User Registration page. You were introduced to some of these pages earlier in the chapter in the section "Using Web Templates and Wizards."

Other pages include sample graphics and content. Many of these pages are laid out in columns; these pages use tables.

Use page templates as starting points for your own page content.

Other Views

Up to now, the focus has been on Navigation view and Page view, the two most powerful views in FrontPage. Navigation view displays and controls Web structure, while Page view is used to edit individual pages.

Four other choices are available from the Views bar:

✦ Folders view

✦ Reports view

✦ Hyperlinks view

✦ Tasks view

All four of these views, described next, complement Navigation view as a way to manage your entire Web site.

Folders view

Folders view works like Windows Explorer, enabling you to view all of your files in folders. As in Windows Explorer, you can create a subfolder in your currently selected folder by choosing File ⇨ New ⇨ Folder.

When a FrontPage Web is generated, some folders are created that hold files that only "advanced" users are supposed to know about. These folders include the following:

- ✦ `_borders:` Holds pages that serve as shared borders.
- ✦ `_fpclass:` Holds Java classes. These are files used for objects such as FrontPage-generated Hover buttons.
- ✦ `_overlay:` Holds graphic images used with theme elements.
- ✦ `_themes:` Holds files used with themes.

In addition to these generated folders, you can create other folders when you apply advanced features in FrontPage, or use add-in programs sold by third-party vendors that attach additional features to FrontPage 2003.

To see these "advanced-level" hidden files, select Tools ⇨ Site Settings, and click the Advanced tab in the Site Settings dialog box. Select the Show Hidden Files and Folders checkbox to display hidden files, as shown in Figure 7-14.
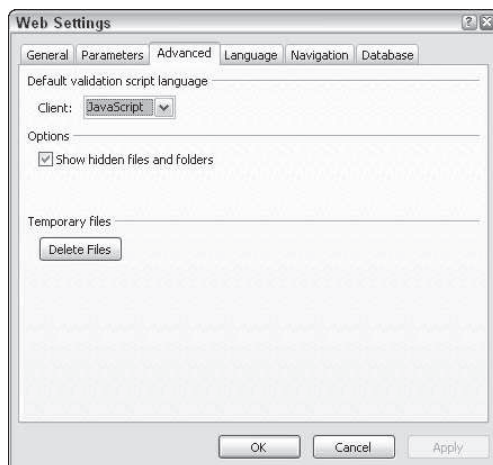
Figure 7-14 Hidden files include elements of themes and embedded shared border pages.

With hidden files displayed, you can open shared border pages (`Left.htm`, `Right.htm`, `Top.htm`, or `Bottom.htm`) and edit them as you would any other page.

Reports view

Reports view provides a list of many useful statistics in your Web site. Additional reports update you on the status of navigational links, slow pages, and new files. You can select a report by choosing View ⇨ Reports, and then selecting one of the available reports.

The following list describes each of the reports and how you can use them:

✦ **Site Summary:** Provides an overview of your site. The rows in the Site Summary view are themselves links to other views. One of the most useful things about the Site Summary view is that you can get a quick idea of the size of your Web site, which is helpful when you look for server space for your site.

✦ **All Files:** Displays detailed information about each file in your Web site.

✦ **Recently Added Files, Recently Changed Files, and Older Files:** Display files that are defined by selecting Tools ⇨ Options and selecting the Reports View tab, as shown in Figure 7-15. Slow pages are calculated based on the modem speed that you enter in the Assume connection speed of spin box.
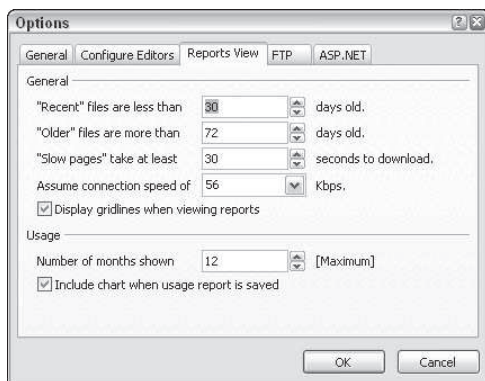
Figure 7-15 You can define which files to display as Recent, Recently Changed, and Older.

✦ **Unlinked Files:** Shows files in your Web site to which no links exist. These stranded Web pages are sometimes called *orphan pages.*

✦ **Slow Pages:** Displays a list of files that download too slowly, based on the time you define in the Report Setting drop-down list in the Reporting toolbar.

✦ **Broken Hyperlinks:** Shows hyperlinks in your Web site that are either invalid or untested. You can right-click one of these untested hyperlinks and choose Verify from the context menu to test the link. If the link leads you to an Internet or intranet site, you must be logged on to the Internet or your intranet to test the link.

✦ **Component Errors:** Tests FrontPage components for errors.

✦ **Review Status and Assigned To:** Used for workgroups collaborating on a Web site. The Review Status report enables you to log pages that must be reviewed, and track whether pages have been reviewed. The Assigned To report is similar to the Review Status report, but tracks who is assigned to which page.

✦ **Categories:** Sorts components of your Web site by type, such as `.jpeg` images, `.html` pages, `.gif` files, `.class` Java files, and so on.

✦ **Publish Status:** Lists which pages have been published to your Web (and which haven't).

Hyperlinks view

Hyperlinks view displays all links leading into a Web page from other pages in the site, and all links out of a selected page. First, choose Hyperlinks view from the Views bar, and then click a Web page in the Folders list.

Figure 7-16 shows a page in Hyperlinks view with links coming in and going out.
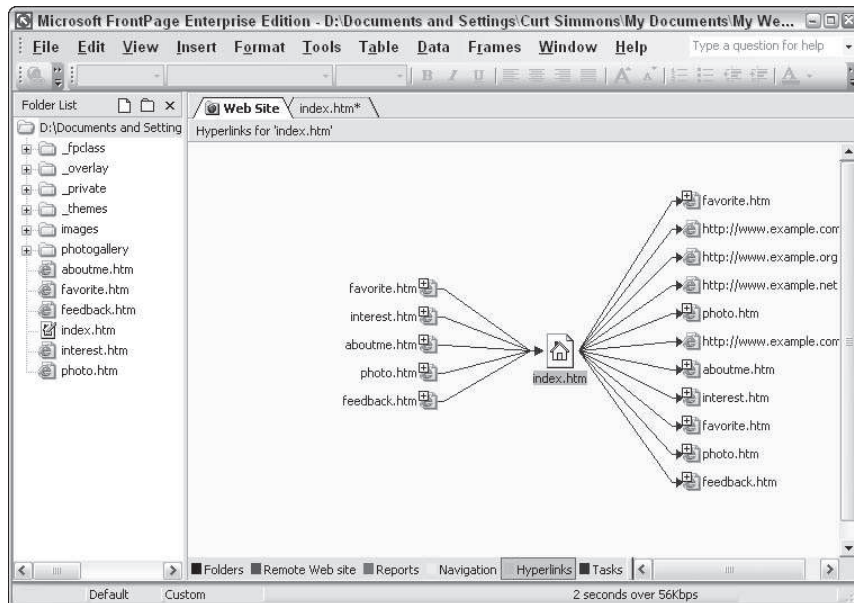
Figure 7-16 Viewing hyperlinks

Tip If you are trying to track and test every hyperlink in a page or on your Web site, using the Broken Hyperlinks report discussed in the previous section of this chapter is much more efficient than looking for broken links in Hyperlinks view. Use this view only if you need to examine in detail all links in and out of a page. For example, before deleting a page, you can use this view to identify the Web pages with links to the page.

You can modify Hyperlinks view to do the following:

✦ **Show page titles:** Right-click in Hyperlinks view and select Show Page Titles from the context menu to display page titles instead of filenames. Repeat the process to deselect page title display.

✦ **Hyperlinks to Pictures:** Right-click in Hyperlinks view and select Hyperlinks to Pictures from the context menu to display links that lead to graphics files. You can toggle off picture links in the same way.

✦ **Repeated Hyperlinks:** To display multiple hyperlinks with the same target URL, right-click in Hyperlinks view and select Repeated Hyperlinks from the context menu. Repeat the process to deselect this option to turn it off.

Tasks view

Tasks view contains a list of "things to do." Tasks are added to the Tasks view list by wizards that generate Webs, or you can add them yourself.

To add a task, follow these steps:

1. Select Tasks from the Views bar.

2. Select Edit ⇨ Tasks ⇨ Add Task, or right-click in Tasks view and select Add Task from the context menu. The New Task dialog box opens, as shown in Figure 7-17.

Figure 7-17 Defining a task

3. Enter a task name and a description. You can also modify the Assigned To box. Select one of the three priority radio buttons to assign a relative level of urgency to the task.

4. Click OK. The task appears in the task list.

Tasks that are created with a page open are associated with that page. You can start these tasks by right-clicking the task in Tasks view and selecting Start Task from the context menu.

The context menu that opens when you right-click a task can be used to edit, mark as completed, or delete any task. However, only those tasks that were created with a page open (or generated from a wizard) can be started by right-clicking.

Global Site Editing

Most of the work you do to edit you Web site's content takes place in Page view, and is done on a page-by-page basis. However, some editing tools in FrontPage work across an entire Web. This section looks at two of these tools: spell checking, and search and replace.

Spell checking your entire site

To spell check your entire Web site, select Tools ⇨ Spelling from a view other than Page view.

Note

If you select Tools ⇨ Spelling in Page view, or click the Spelling tool in the Standard toolbar, you spell check *only your open page*. When you select the Spelling dialog box (in a view other than Page view), the dialog box has two radio buttons: Selected Page(s) and Entire Web. To spell check your entire Web site, use the Entire Web option.

You can also select the checkbox labeled Add a Task for Each Page with Misspellings. This creates a list of pages that need their spelling checked. After you select these options, click the Start button to begin checking your spelling.

FrontPage checks all of your pages for spelling errors and then creates a list in the Spelling dialog box, as shown in Figure 7-18.
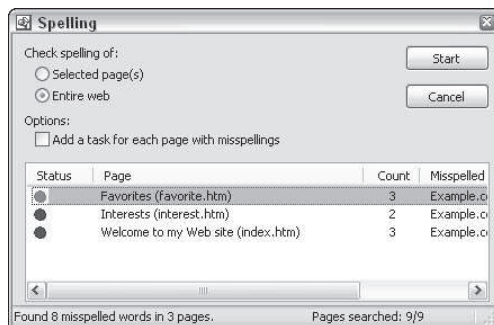
Figure 7-18 Checking an entire Web site generates a list of pages with spelling mistakes.

If you selected the Add a Task option, you can click the Add Task button to add the marked pages to your task list. If you would rather correct your spelling immediately, double-click the page in the provided list in the Spelling dialog box to check spelling on that page.

Replacing text throughout a site

To replace text throughout a site, select Edit ⇨ Replace in any view. In the Replace dialog box, enter the text you want to find in the Find What text box, and specify replacement text in the Replace With text box. The Replace dialog box includes the following options:

✦ Click the All Pages radio button to replace in every page.

| Note | The Direction drop-down menu defines the direction in which the replacing tool moves through Web pages. But it is only active when you are editing the current page, not when you replace throughout your entire site. |

✦ The Match Whole Word Only and Match Case checkbox options work like the Replace dialog box in Word or other Office applications.

✦ The Find in HTML checkbox enables you to search and replace HTML code.

After you define your replace options, if you are replacing text in an entire Web, click the Find in Web button. FrontPage will generate a list of pages at the bottom of the Replace dialog box with the text to be replaced. Double-click a page to make the changes in that page. Alternatively, click the Add Task button to add the task to your task list.

Editing Web page content

In the following tutorial, you will experiment with adding content to a Web page.

1. With a FrontPage Web open, choose Navigation view from the View bar.

2. In Navigation view, double-click the home page to open it in Page view.

3. Type **Welcome to my Web site** at the top of your home page and press Enter.

4. Click and drag to select the text that you typed. Select Arial Black from the Font drop-down list; 24 point from the Font Size list; Italics; Center; and Red, from the Font Color palette.

5. Click at the end of the text and select Insert ⇨ Horizontal Line.

6. Under the horizontal line, select Insert ⇨ Symbol and double-click the © symbol. Click Close. Type your name after the copyright symbol.

7. Select Insert ⇨ Break and, with the Normal Line Break radio button selected, click OK to create a forced line break.

8. Select Insert ⇨ Comment and, in the Comment window, type **This page needs to be finished!** Click OK.

9. Double-click the word "Welcome" and select Insert ⇨ Bookmark. Click OK in the Bookmark dialog box.

10. Click to place your insertion point after the comment text. Press Enter 12 times and then type **Go to top**.

11. Double-click to select the word "top," and then click the Hyperlink button in the toolbar. Pull down the Bookmark list and select Welcome. Click OK.

12. On the Standard toolbar, click the New drop-down button and choose Task. Enter **Add Content** in the Task Name text box. Click OK.

13. Click the Save button to save changes to the Web page.

14. Select View ⇨ Reports to get an overview of your (rather small) Web site. How much server space would you need for this Web site? (Hint: Look at the All Files row of the report.)

15. Select Hyperlinks view. Right-click and select Hyperlinks Inside Page from the context menu. The links illustrate the bookmark link in the page.

16. Click the Tasks view. Right-click the task and select Start Task from the context menu. Add some text to your page and save it. Select Yes in the dialog box when prompted to mark the page as a completed task.

Summary

In designing your Web site, start by placing yourself in the shoes of a visitor. What information do you want to present right on the home page? What options do you want to make available from the home page? You can translate your vision into a real site design in FrontPage's Navigation view — where you drag pages into a flowchart.

FrontPage will generate automatic links on pages based on your Navigation view structure. These links are created in *Link bars,* which can be placed on pages, or in *shared borders* that are embedded in each page in your Web site (or most pages).

Once you design a site in FrontPage, you can use the Import tools to add other files from your computer or from the Internet. Or, you can integrate an already existing site into your FrontPage Web site.

FrontPage makes it fast and easy to create complex Web sites using templates, including an instant Corporate Presence Web, a Customer Support Web, and even an instant online database.

Creating page content is very similar to editing text in Microsoft Word. Additional page components like line breaks, symbols, and horizontal lines are available as well.

Once you have created a FrontPage Web site, global site editing tools are available, including spell checking and site-wide search and replace.

✦　　✦　　✦

Understanding and Creating Access Reports

Reports provide the most flexible way for viewing and printing summarized information. Reports display information with the desired level of detail, while enabling you to view or print your information in almost any format. You can add multilevel totals, statistical comparisons, and pictures and graphics to a report. In this chapter, you learn to use Report Wizards as a starting point. You also learn how to create reports and what types of reports you can create with Access.

Note	In this chapter, you will create new reports using the report wizards and by creating a blank report without using a wizard. You will use tables created in chapters from the *Access 2003 Bible*. If you are following the examples and own a copy of *Access 2003 Bible*, you would use the Chap13Start.mdb database file on the CD-ROM that comes with thatbook and follow the instructions in each section of the chapter.

Understanding Reports

Reports are used for presenting a customized view of your data. Your report output can be viewed onscreen or printed to a hard copy device. Reports provide the capability to control summarization of the information. Data can be grouped and sorted in any order and then presented in the order of the groupings. You can create totals that add numbers, calculate averages or other statistics, and display your data graphically. You can print pictures and other graphics as well as memo fields in a report. If you can think of a report you want, Access can probably create it.
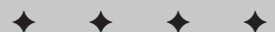
What types of reports can you create?

Four basic types of reports are used by businesses:

✦ **Tabular reports.** These print data in rows and columns with groupings and totals. Variations include summary and group/total reports.

✦ **Columnar reports.** These print data as a form and can include totals and graphs.

✦ **Mail-merge reports.** These create form letters.

✦ **Mailing labels.** These create multicolumn labels or snaked-column reports.

Tabular reports

Figure 8-1 is a typical tabular-type report in the Print Preview window. *Tabular reports* (also known as *groups/totals reports*) are generally similar to a table that displays data in neat rows and columns. Tabular reports, unlike forms or datasheets, usually group their data by one or more field values; they calculate and display subtotals or statistical information for numeric fields in each group. Some groups/totals reports also have page totals and grand totals. You can even have *snaked columns* so that you can create directories (such as telephone books). These types of reports can use page numbers, report dates, or lines and boxes to separate information. They can have color and shading and can display pictures, business graphs, and memo fields, like forms. A special type of tabular report, *summary reports,* can have all the features of a tabular report but not print the detail records.

Figure 8-1: A tabular report in the Print Preview window of Access 2003.

Columnar reports

Columnar reports (also known as *form reports*) generally display one or more records per page, but do so vertically. Columnar reports display data very much as a data-entry form does, but the report is used strictly for viewing data and not for entering data. Figure 8-2 is part of a typical columnar report from the Access Auto Auctions database system in the Print Preview window.

Figure 8-2: A columnar report showing report controls distributed throughout the entire page.

Another type of columnar report, known as a form/subform report, generally displays one main record per page (like a business form) but can show many records within embedded subforms. An invoice is a typical example. This type of report can have sections that display only one record and at the same time have sections that display multiple records from the *many* side of a one-to-many relationship — and even include totals.

Figure 8-3 shows an invoice report from the Access Auto Auctions database system in the Print Preview window.

Figure 8-3: An invoice report.

Mailing labels

Mailing labels are also a type of report. You can easily create mailing labels, shown in Figure 8-4, using the Label Wizard to create a report in Access. The Label Wizard enables you to select from a long list of Avery label (and other vendors) paper styles, after which Access correctly creates a report design based on the data you specify to create your label. After the label is created, you can open the report in design mode and customize it as needed.

Brandon Aley	Karen Bailey	Ann Bond
Tip Top Chevy	Sammy Fordman	A-1 Auto Sales
1916 Erickson Drive	59 West Church	54 South Main
Fairbanks, MA 12333-	Westbourgh, MA 01581-	Colchester, CT 06415-
John Bright	Harry Bush	Larry Calson
Pleasantville Monda Inc	Bush Sales	Chicota American Auto Sales
46 Pleasantville RD	100 State Street	60 Mexico Drive
West Bridgewater, MA 02379-	Mohegan Lake, NY 10547-	Chicota, TX 75425-
Debbie Casey	Cindy Casey	Larry Davis
Jackhorn Monda, Inc	Circle Auto Sales	Sherman Oaks Auto Sales
95 Elm Street	123 South Street	15 Seymour Street
Jackhorn, KY 41825-	Newington, NH 12301-	Sherman Oaks, CA 91403-
Michael Dennis	William Gleason	Paul Grattie
Newbury Auto	R & G Monda Inc	Paul's Best Autos
75 Main Street	196 East Street	54 Plains Rd
Bedford, NY 10506-	Derby, CT 06418-	Turon, KS 67583-
Joe Hammerman	Charles Hatter	Karla Hayes
Columbia Chevy	Hatter Sales	Hayes Auctions
105 Main Street	15 Hatter Drive	54 E Center Street
Columbia, MA 12237-	Allison, PA 15413-	Granby, CT 06035-
Robert Hill	Harry Jackson	Cary James
Montclair Auto	Jackson & Sons	James Auto Parts
1600 Mountain Rd	10 High Street	59 South Street
Montclair, CA 91763-	Tuskahoma, OK 74574-	Portland, CT 06480-

Figure 8-4: A typical mailing-label report in the Print Preview window.

The difference between reports and forms

The main difference between reports and forms is the purpose of the output. Whereas forms are primarily for data entry, reports are for viewing data (either onscreen or in hard copy form). Calculated fields can be used with forms and can calculate an amount based on the fields in the record. With reports, you calculate on the basis of a common group of records, a page of records, or all the records processed during the report. Anything you can do with a form — except data input — can be duplicated by a report. In fact, you can save a form as a report and then customize the form controls in the Report Design window.

The process of creating a report

Planning a report begins long before you actually create the report design. The report process begins with your desire to view your data in a table, but in a way that differs from datasheet display. You begin with a design for this view; Access begins with raw data. The purpose of the report is to transform the raw data into a meaningful set of information. The process of creating a report involves several steps:

✦ Defining the report layout

✦ Assembling the data

✦ Creating the report design using the Access Report Design window

✦ Printing or viewing the report

Defining the report layout

You should begin by having a general idea of the layout of your report. You can define the layout in your mind, on paper, or interactively using the Access Report Design window. Figure 8-5 is a report layout created with Microsoft Word and served as a design from an analyst to a developer. This served as the basic design for the report shown in Figure 8-1.Good reports can first be laid out on paper, showing the fields needed and the placement of the fields.

Figure 8-5: A sample report layout.

Assembling the data

After you have a general idea of your report layout, you should assemble the data needed for the report. A report can use data from a single database table or from the results of a query dynaset. You can link many tables with a query and then use the result of the query (its dynaset) as the record source for your report. A dynaset appears in Access as if it were a single table.You can select the fields, records, and sort order of the records in a query. Access treats this dynaset data as a single table (for processing purposes) in datasheets, forms, and reports. The dynaset becomes the source of data for the report and Access processes each record to create the report. The data for the report and the report *design* are entirely separate. In the report design, the field names to be used in the report are specified. Then, when the report is run, Access matches data from the dynaset or table against the fields used in the report and uses the data available at that moment to produce the report.

In this example, you will use data from only the tblProducts table.

Creating a Report with Report Wizards

With Access, you can create virtually any type of report. Some reports, however, are more easily created than others, when a Report Wizard is used as a starting point. Like Form Wizards, Report Wizards give you a basic layout for your report, which you can then customize.

Report Wizards simplify the layout process of your fields by visually stepping you through a series of questions about the type of report that you want to create and then automatically creating the report for you. In this chapter, you use Report Wizards to create both tabular and columnar reports.

Creating a new report

You can choose from many ways to create a new report, including the following:

✦ Select Insert⇨Report from the main menu when the Database window is selected.

✦ Select the Reports object button and press the New toolbar button on the Database window.

✦ From the Database window, the datasheet, or the query toolbar, click the New Object down arrow and select Report.

Regardless of how you start a new report, the New Report dialog box appears. The dialog box in the figure is already filled in with the choices you are about to make.

The New Report dialog box enables you to choose from among six ways to create a report:

✦ **Design View.** Displays a completely blank Report Design window for you to start with.

✦ **Report Wizard.** Helps you create a tabular report by asking you many questions.

✦ **AutoReport: Columnar.** Creates an instant columnar report.

✦ **AutoReport: Tabular.** Creates an instant tabular report.

✦ **Chart Wizard.** Helps you create a business graph.

Label Wizard. Helps you create a set of mailing labels.

To create a new report using a Report Wizard, follow these steps:

For the example below, use the tblProducts table:

1. Create a new report by first selecting the Reports object button and then pressing the New toolbar button.

2. In the New Report dialog box, select Report Wizard.

3. Select the table **tblProducts** and click OK.

4. Press the OK button to move to the next Report Wizard screen.

Choosing the data source

If you begin creating the report with a highlighted table or from a datasheet or query, the table or query you are using is displayed in the Choose the table or query box. Otherwise, you can enter the name of a valid table or query before continuing. You can also choose from a list of tables and queries by clicking the combo box selection arrow. In this example, you use the Hospital Report query you saw in Figure 10-5, which creates data for customer visits on the date 7/11/01.

Tip   If you begin creating a report in Design View, you don't need to specify a table or query in the New Report dialog box because you can select the Record Source later on from the Properties sheet.

Choosing the fields

After you select the Report Wizard and click the OK button, a *field selection box* appears. This box is virtually identical to the field selection box used in Form Wizards. In this example, select the fields from left to right (shown in Figure 8-6).

1. Select the chrCategory field and press the Select Field button (>) to place the field in the Selected Fields: area.

2. Repeat for the chrProductID, chrDescription, intQtyInStock, curCost, curRetailPrice, and curSalePrice fields and press the Select Field button (>) each time to place the field in the Selected Fields: area.

3. Click the Next button when you are through to move to the next wizard screen.

Tip   You can double-click any field in the Available Fields list box to add it to the Selected Fields list box. You can also double-click any field in the Selected Fields list box to remove it from the box. Access then redisplays the field in the Available Fields list box.
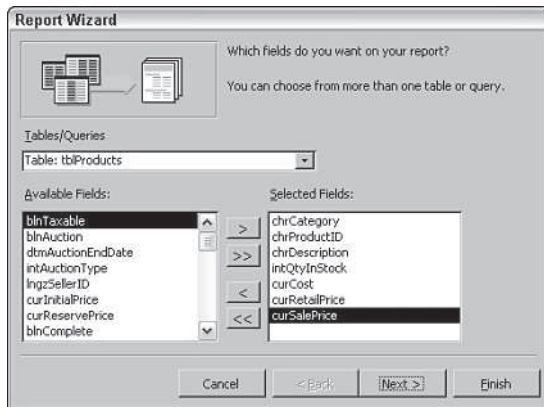
Figure 8-6: Selecting report fields.

You are limited to selecting fields from the original record source you started with. You can select fields from other tables or queries by using the Tables/Queries: combo box in this wizard screen. As long as you have specified valid relationships so that Access can link the data, these fields are added to your original selection and you can use them on the report. If you choose fields from tables that don't have a relationship, a dialog box will ask you to edit the relationship and join the tables. Or you can return to the Report Wizard and remove the fields.

After you have selected your data, click the Next button to go to the next wizard dialog box.

Selecting the grouping levels

The next dialog box enables you to choose which field(s) you want to use for a grouping. In this example, Figure 8-7 shows the chrCategory field selected as the only group field. This step designates the field(s) to be used to create group headers and footers. Groups are used to combine data with common values.

Using the Report Wizard, you can select up to four different group fields for your report; you can change their order by using the Priority buttons. The order you select for the group fields is the order of the grouping hierarchy.

Select the chrCategory field as the grouping field and click (>). Notice that the picture changes to graphically show chrCategory as a grouping field, as shown in Figure 8-7. This means that data will be grouped or separated by category and also totaled as well if the report chosen supports summarized footers.

After you select the group field(s), click the Grouping Options button at the bottom of the dialog box to display another dialog box, which enables you to further define how your report will use the group field.

Cross-Reference You will learn more about groups, headers, and footers later in this chapter.

Figure 8-7: Selecting report group fields.

Defining the group data

The Grouping Options dialog box, which is displayed by pressing the Grouping Options … button in the lower-left corner of the Report Wizard screen, enables you to further define the grouping. This selection can vary in importance, depending on the data type.

The list box displays different values for the various data types:

✦ **Text.** Normal, 1st Letter, 2 Initial Letters, 3 Initial Letters, 4 Initial Letters, 5 Initial letters

✦ **Numeric.** Normal, 10s, 50s, 100s, 500s, 1000s, 5000s, 10000s, 50000s, 100000s.

✦ **Date.** Normal, Year, Quarter, Month, Week, Day, Hour, Minute.

Normal means that the grouping is on the entire field. In this example, use the entire Customer Name field. By selecting different values of the grouping, you can limit the group values. For example, suppose you are grouping on the Product ID field. A typical Product ID value is CAR-01. The characters to the left of the — represent the category and the numbers to the right of the — are a sequential number. By choosing the Product ID field for the grouping and then selecting 3 Initial Letters as the grouping data, you can group the products by their category.

In this example, the default text-field grouping option of Normal is acceptable.

If you displayed the Grouping Options dialog box, click the OK button to return to the Grouping levels dialog box.

Click the Next button to move to the Sort order dialog box.

Selecting the sort order

Access sorts the Group record fields automatically in an order that helps the grouping make sense. The additional sorting fields specify fields to be sorted in the detail section. In this example, Access is already sorting the data by the chrCategory field in the group section. As Figure 8-8 shows, the data is also to be sorted by Product ID so that the products appear in alphabetical order in the detail section.
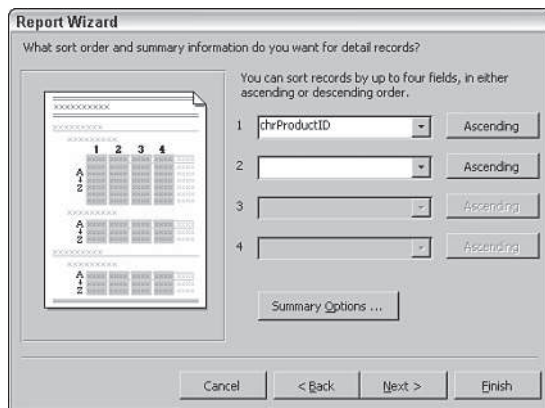
Figure 8-8: Selecting the field sorting order.

The sort fields are selected by the same method that is used for grouping fields in the report. You can select fields that you have not already chosen to group and use these as sorting fields. The fields chosen in this dialog box do not affect grouping; they affect only the sorting order in the detail section fields. You can determine whether the order is ascending or descending by clicking the button to the right of each sort field, which toggles between Ascending and Descending.

Selecting summary options

At the bottom of the sorting dialog box is a button named Summary Options. Clicking this button displays the dialog box shown in Figure 8-9. This dialog box provides additional options for numeric fields. As you can see in Figure 8-9, all of the numeric and currency fields are displayed and selected to be summed. Additionally, you can display averages, minimums, and maximums.

Sum should be checked. You can also decide whether to show or hide the data in the detail section. If you select Detail and Summary, the report shows the detail data; selecting Summary Only hides the detail section and shows only totals in the report.

Finally, checking the box labeled Calculate percent of total for sums adds the percentage of the entire report that the total represents below the total in the group footer. If, for example, you had three products and their totals were 15, 25, and 10, respectively, they would show 30%, 50%, and 20% below their total (that is, 50) — indicating the percentage of the total sum (100%) represented by their sum.

Clicking the OK button in this dialog box returns you to the sorting dialog box. There you can click the Next button to move to the next wizard dialog box.
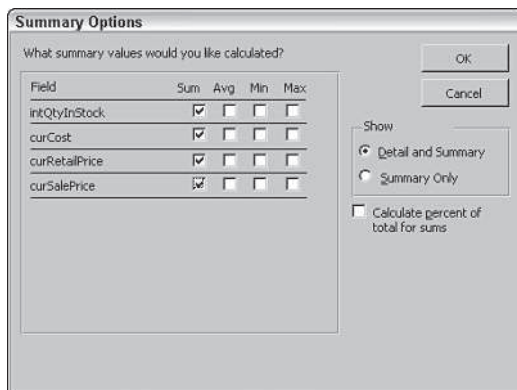
Figure 8-9: Selecting the summary options.

Selecting the layout

Two more dialog boxes affect the look of your report. The first (shown in Figure 8-10) enables you to determine the layout of the data. The Layout area provides six layout choices; these tell Access whether to repeat the column headers, whether to indent each grouping, and whether to add lines or boxes between the detail lines. As you select each option, the picture on the left changes to show the effect.

The Orientation area enables you to choose between a Portrait (up-and-down) and a Landscape (across-the-page) layout. This choice affects how it prints on the paper. Finally, the check mark next to "Adjust the field width so all fields fit on a page" enables you to cram a lot of data into a little area. (Magnifying glasses may be necessary!)

For this example, choose Stepped and Landscape, as shown in Figure 8-10. Then click on the Next button to move to the next dialog box.
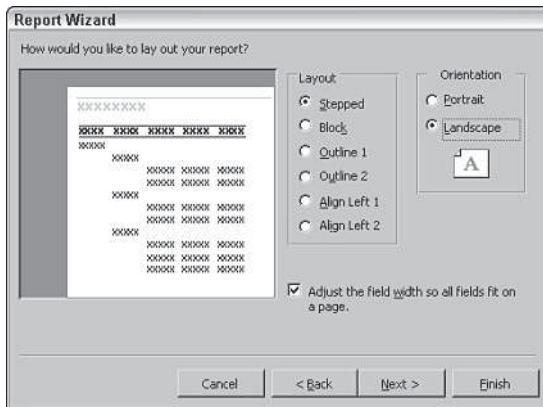
Figure 8-10: Selecting the page layout.

Choosing the style

After you choose the layout, you can choose the style of your report from the dialog box shown in Figure 8-11. Each style has different background shadings, font size, typeface, and other formatting. As each is selected, the picture on the left changes to show a preview. For this example, choose Casual (as shown in Figure 8-11). Finally, click the Next button to move to the last dialog box.

Figure 8-11: Choosing the style of your report.

Tip

You can customize the styles, or add your own, by using the AutoFormat option from the Format menu of the Report Design window and choosing Customize.

Opening the report design

The final Report Wizard dialog box contains a checkered flag, which lets you know that you're at the finish line. The first part of the dialog box enables you to enter a title for the report. This title will appear once at the beginning of the report, not at the top of each page. The default is the name of the table or query you used initially.

Change the report name to rptProductsCh13.

Next, you can choose one of the option buttons at the bottom of the dialog box:

✦ Preview the report

✦ Modify the report's design

For this example, leave the default selection intact to preview the report. When you click the Finish button, your report is displayed in the Print Preview window. Name the report rptProducts. Click Finish to complete the Report Wizard and view the report.

Using the Print Preview window

Figure 8-12 displays the Print Preview window in a zoomed view of page 2. This view displays your report with the actual fonts, shading, lines, boxes, and data that will be on the printed report. When the Print Preview mode is in a zoomed view, pressing the mouse button changes the view to a *page preview* that shows the entire page.

chrCategory	Product ID	Description	antity in Stock	Cost	tail Price	Sale Price
	CAR-123	1969 Antique Coupe	1	$500.00	7,900.00	1,500.00
	CAR-126	1995 BUICKY RIV	1	5,500.00	7,200.00	6,999.00
	CAR-127	1969 Shelly Coupe Muscle Car	1	5,500.00	10,000.00	10,000.00
	CAR-130	1998 Buicky Centrum Custom	1	4,500.00	5,799.00	5,599.00
	CAR-201	1968 Rare Dodget Red 2D Sedan	1	9,800.00	3,500.00	2,900.00
	CAR-299	1972 Chevy green chevel	1	9,800.00	5,000.00	2,900.00
Summary for 'chrCategory' = Cars (25 detail records)						
Sum			25	99,356.00	42,394.00	16,441.00
Minivans						
	Mini-03	1992 Buicky Roadie Estate Wagon	1	1,500.00	1,850.00	1,795.00
	Mini-111	2003 Mini Van	2	1,000.00	4,000.00	3,000.00
	Mini-112	1992 Fordman Conversion Van	1	3,000.00	5,500.00	4,390.00
	Mini-113	1999 Fordman E350 Cargo Van	1	4,500.00	6,800.00	5,990.00
	Mini-114	2002 Fordman Mini Van	1	1,000.00	4,500.00	3,989.00
	Mini-115	2002 Monda SUV	1	9,000.00	5,900.00	4,900.00
	Mini-125	2000 Dodgie Minivan SEE	1	6,000.00	1,500.00	8,999.00
Summary for 'chrCategory' = Minivans (7 detail records)						
Sum			8	76,000.00	00,058.00	33,063.00
Motor Homes						
	Mot-01	1973 Rare Popup Hard sided Indian Camper	1	1,200.00	1,750.00	1,400.00
Summary for 'chrCategory' = Motor Homes (1 detail record)						
Sum			1	$1,200.00	$1,750.00	$1,400.00
SUV						
	SUV-076	2002 Olds SUV	3	5,900.00	9,900.00	8,900.00

Sunday, March 30, 2003   Page 2 of 4

Figure 8-12: Displaying a report in the zoomed preview mode.

You can move around the page by using the horizontal and vertical scrollbars. Use the Page controls (at the bottom-left corner of the window) to move from page to page. These controls include VCR-like navigation buttons to move from page to page or to the first or last page of the report. You can also go to a specific page of the report by entering a value in the text box between the previous and next controls.

Figure 8-13 shows a view of the report in the multi-page preview mode of Print Preview. The sixth icon from the left displays up to six pages at a time. The magnifying glass mouse pointer selects part of the page to zoom in. In Figure 8-13, you can see a representation of the printed page. Use the navigation buttons (in the lower-left section of the Print Preview window) to move between pages, just as you would to move between records in a datasheet. The Print Preview window has a toolbar with commonly used printing commands.
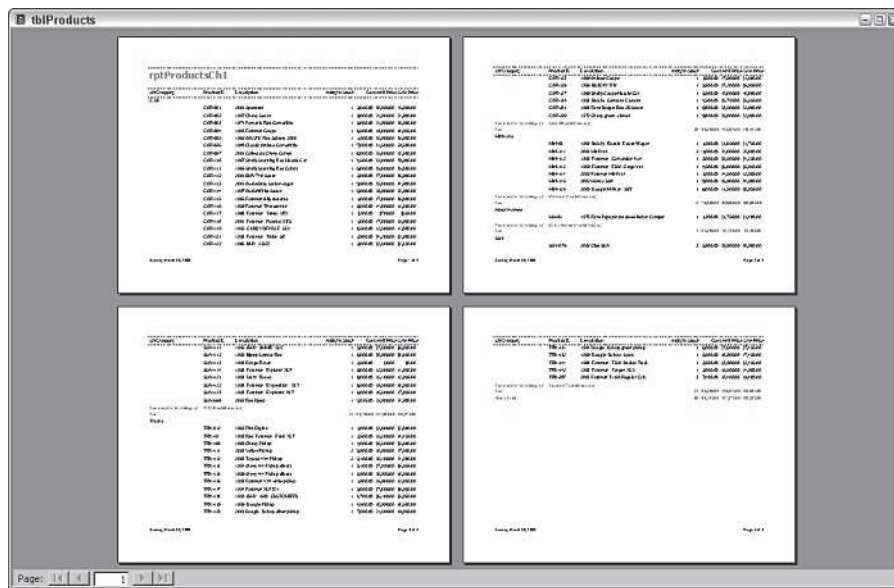
Figure 8-13: Displaying a report in Multiple Pages Print Preview's page preview mode.

If, after examining the preview, you are satisfied with the report, select the Printer button on the toolbar to print the report. If you are dissatisfied, select the Close button to return to the design window; Access takes you to the Report Design window to make further changes.

Viewing the Report Design window

When you click Design View (the left-most button on the toolbar), Access takes you to the Report Design window, which is similar to the Form Design window. The major difference is in the sections that make up the report design. As shown in Figure 8-14, the report design reflects the choices you made using the Report Wizard.
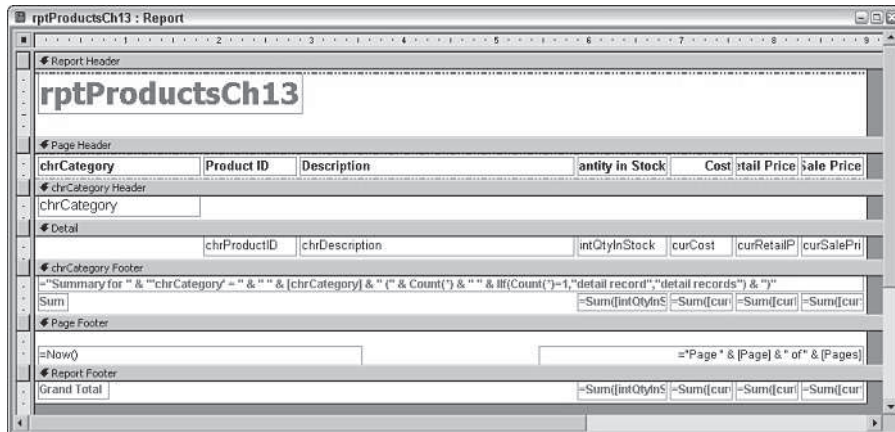
Figure 8-14: The Report Design window.

> **Cross-Reference**
>
> You may also see the Toolbox, Sorting and Grouping dialog box, property sheet, and Field List window, depending on whether you pressed the toolbar buttons to see these tools. You learn to change the design of a report in this chapter. For more detailed information on changing report design, see Chapters 14, 15, and 16 of the *Access 2003 Bible*.

You can return to the Print Preview mode by selecting the Print Preview button on the Report Design toolbar or by selecting the Print Preview option on the File menu. You can also select Print or Page Setup from the File menu. This menu also provides options for saving your report.

Printing a Report

You can print one or more records in your report, exactly as they look onscreen, using one of these methods:

   ✦ Click File⇨Print in the Report Design window.

   ✦ Click the Print button in the Preview window.

   ✦ Click File⇨Print in the Database window (with a report highlighted).

If you select File⇨Print, a standard Microsoft Windows Print dialog box appears. You can select the print range, number of copies, and print properties. If you click the Print button, the report goes immediately to the currently selected printer without displaying a Print dialog box.

Saving the Report

You can save the report design at any time by selecting File⇨Save, or File⇨Save As, or File⇨Export from the Report Design window, or by clicking the Save button on the toolbar. The first time you save a report (or any time you select Save As or Export), a dialog box enables you to select or type a name.

Starting with a Blank Form

There are many tools available in the Report Design window. When you create reports, you use some of these tools in a slightly different manner from the way they are used to create forms. Therefore, it is important to review some of the unique report menus and toolbar buttons.

You can view a report in three different views: Design View, Layout Preview, and Print Preview. You can also print a report to the hard copy device defined for Microsoft Windows. This chapter focuses on the Report Design window.

The Report Design window is where you create and modify reports. The empty Report Design window, shown in Figure 8-15, contains various tools, including the Toolbox.
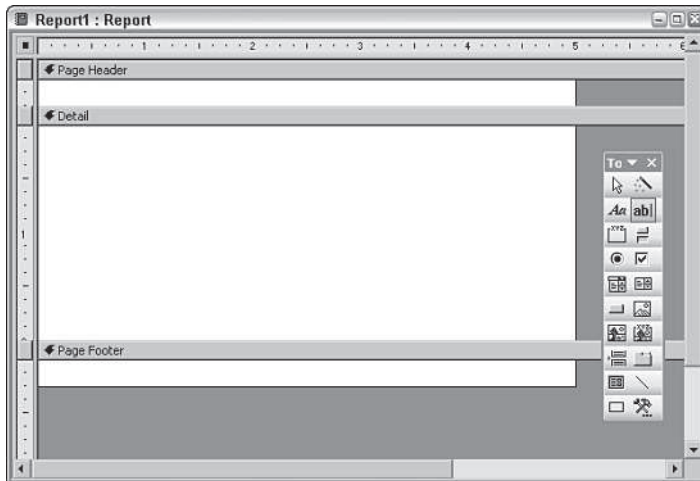
Figure 8-15: The Report Design window, showing the Toolbox.

The Design Window toolbar

The Report Design toolbar is shown in Figure 8-16. You click the button you want for quick access to such design tasks as displaying different windows and activating wizards and utilities. Table 8-1 summarizes what each item on the toolbar does. (The table defines each tool from left to right on the toolbar.)

Figure 8-16: The Report Design toolbar.

The Report Design toolbar is distinct from the Format toolbar. To make such changes as font selection and justification, you must first make sure that the Formatting (Form/Report) design toolbar is displayed.

<table>
<tr><td colspan="2" align="center">Table 8-1
The Design View Toolbar</td></tr>
<tr><td>*Toolbar Item*</td><td>*Description*</td></tr>
<tr><td>Report View button</td><td>Drop-down box displays the three types of views available</td></tr>
<tr><td>Save button</td><td>Saves the current report design</td></tr>
<tr><td>File Search button</td><td>Finds text within a database or on your computer</td></tr>
<tr><td>Print button</td><td>Prints a form, table, query, or report</td></tr>
<tr><td>Print Preview button</td><td>Toggles to print preview mode</td></tr>
<tr><td>Cut button</td><td>Removes selection from the document and adds it to the Clipboard</td></tr>
<tr><td>Copy button</td><td>Copies the selection to the Clipboard</td></tr>
<tr><td>Paste button</td><td>Copies the Clipboard contents to the document</td></tr>
<tr><td>Format Painter button</td><td>Copies the style of one control to another</td></tr>
<tr><td>Undo/Redo button</td><td>Undoes/redoes previous commands</td></tr>
<tr><td>Insert Hyperlink button</td><td>Inserts hyperlink</td></tr>
<tr><td>Field List button</td><td>Displays or hides the Field List window</td></tr>
<tr><td>Toolbox button</td><td>Displays or hides the Toolbox</td></tr>
<tr><td>Sorting and Grouping button</td><td>Displays or hides the Sorting and Grouping box</td></tr>
<tr><td>AutoFormat button</td><td>Applies a predefined format to a form or report</td></tr>
</table>

Continued

Table 2-8 (continued)	
Toolbar Item	*Description*
Code button	Displays or hides the Module window
Properties button	Displays the properties sheet for the selected item
Build button	Displays the Builder or Wizard for selected control or item
Database Window button	Displays the Database window
New Object button	Creates a new object
Microsoft Access Help button	Displays Access Help

Note   The tools on the Report Design screen are virtually identical to the Form Design tools.

Banded Report Writer Concepts

In a report, your data is processed one record at a time. Depending on how you create your report design, each data item is processed differently. Reports are divided into sections, known as *bands* in most report-writing software packages. (In Access, these are simply called *sections*.) Access processes each data record from a table or dynaset, processing each section in order and deciding (for each record) whether to process fields or text in each section. For example, the report footer section is processed only after the last record is processed in the dynaset.

A report is made up of groups of *details* — for example, as shown in Figure 8-17, all the products sold by category. Each group must have an identifying *group header*, which for the first category in this example is Minivans. Each group also has a footer where you can calculate the total cost and profit for each category. For Minivans, the total profit is $17,063. The *page header* contains column descriptions; the *report header* contains the report title. Finally, the *report footer* contains grand totals for the report, and the *page footer* prints the page number.

The Access sections are listed below:

✦ **Report header.** Prints only at the beginning of the report; used for title page.

✦ **Page header.** Prints at the top of each page.

✦ **Group header.** Prints before the first record of a group is processed.

✦ **Detail.** Prints each record in the table or dynaset.

✦ **Group footer.** Prints after the last record of a group is processed.

✦ **Page footer.** Prints at the bottom of each page.

✦ **Report footer.** Prints only at the end of a report after all records are processed.

Figure 8-17 shows these sections superimposed on a report.

Products Summary
Access Auto Auctions

Category	Product ID	Description	Qty in Stock	Cost	Retail Price	Sale Price	Profit
Minivans							
	Mini-03	1992 Buicky Roadie Estate Wago	1	$1,500.00	$1,850.00	$1,795.00	$295.00
	Mini-111	2003 Mini Van	2	$21,000.00	$24,000.00	$23,000.00	$2,000.00
	Mini-112	1992 Fordman Conversion Van	1	$3,000.00	$5,500.00	$4,390.00	$1,390.00
	Mini-113	1999 Fordman E350 Cargo Van	1	$4,500.00	$6,800.00	$5,990.00	$1,490.00
	Mini-114	2002 Fordman Mini Van	1	$11,000.00	$14,500.00	$13,989.00	$2,989.00
	Mini-115	2002 Monda SUV	1	$29,000.00	$35,900.00	$34,900.00	$5,900.00
	Mini-125	2000 Dodgie Minivan SEE	1	$6,000.00	$11,500.00	$8,999.00	$2,999.00
		Category Minivans Total:	8	$76,000.00	$100,050.00	$93,063.00	$17,063.00
Motor Homes							
	Mot-01	1973 Rare Popup Hard sided Indian	1	$1,200.00	$1,750.00	$1,400.00	$200.00
		Category Motor Homes Total:	1	$1,200.00	$1,750.00	$1,400.00	$200.00
SUV							
	SUV-076	2002 Olds SUV	3	$35,900.00	$39,900.00	$38,900.00	$3,000.00
	SUV-111	1995 GMY JIMMIE SLE	1	$5,000.00	$7,500.00	$6,990.00	$1,990.00
	SUV-112	1995 Bjeep Landot Red	1	$6,000.00	$8,900.00	$8,650.00	$2,650.00
	SUV-113	1998 Range Rover	1	$12,500.00	$0.00	$0.00	($12,500.00)
	SUV-114	1998 Fordman Explorer XLP	1	$9,000.00	$12,500.00	$11,950.00	$2,950.00
	SUV-121	1998 Isuzz Rodeo	1	$10,000.00	$15,100.00	$13,999.00	$3,999.00
	SUV-122	1998 Fordman Exopedition XLT	1	$16,500.00	$19,500.00	$18,990.00	$2,490.00
	SUV-123	1998 Fordman Exxplorer XLT	1	$16,000.00	$18,500.00	$17,999.00	$1,999.00
	SUV-568	2002 Red bjeep	1	$23,895.00	$25,900.00	$24,900.00	$1,005.00
		Category SUV Total:	11	$134,795.00	$147,800.00	$142,378.00	$7,583.00
		Grand Total:	20	$211,995.00	$249,600.00	$236,841.00	$24,846.00

Figure 8-17: Typical Report Writer sections.

How sections process data

Most sections are triggered by changes in the values of the data. Table 8-2 shows the records that make up the dynaset for the Products Summary Report (*Yes* indicates that a section is triggered by the data).

	Table 8-2 **Processing Report Sections**							
Category Name	*Product Name*	*Report Header*	*Page Header*	*Category Header*	*Detail*	*Category Footer*	*Page Footer*	*Report Footer*
Minivans	Mini-03	Yes	Yes	Yes	Yes	No	No	No
Minivans	Mini-101	No	No	No	Yes	No	No	No
Minivans	Mini-102	No	No	No	Yes	No	No	No
Minivans	Mini-103	No	No	No	Yes	No	No	No
Minivans	Mini-104	No	No	No	Yes	No	No	No
Minivans	Mini-105	No	No	No	Yes	No	No	No
Minivans	Mini-115	No	No	No	Yes	Yes	No	No
Motor Homes	Mot-01	No	No	Yes	Yes	Yes	No	No
SUV	SUV-076	No	No	Yes	Yes	No	No	No
SUV	SUV-101	No	No	No	Yes	No	No	No
SUV	SUV-102	No	No	No	Yes	No	No	No
SUV	SUV-103	No	No	No	Yes	No	No	No
SUV	SUV-104	No	No	No	Yes	No	No	No
SUV	SUV-111	No	No	No	Yes	No	No	No
SUV	SUV-112	No	No	No	Yes	No	No	No
SUV	SUV-113	No	No	No	Yes	No	No	No
SUV	SUV-568	No	No	No	Yes	Yes	Yes	No

As you can see, Table 8-2 shows 17 records. Three groups of records are grouped by the category. There are seven Minivans, one Motor Homes, and nine SUVs. Each record in the table has corresponding columns for each section in the report. "Yes" means that the record triggers processing in that section; "No" means that the section is not processed for that record. This report is only one page, so it is very simple.

The report header section is triggered by only the first record in the reports dynaset. This section is always processed first, regardless of the data. The report footer section is triggered only after the last record is processed, regardless of the data.

Access processes the page header section after the report header section for the first record and then every time a new page is started. The page footer section is processed at the bottom of each page and after the report footer section of the last page.

Group headers are triggered only by the first record in a group. Group footers are triggered only by the last record in a group. Notice that the Mot-01 Motor Homes record triggers both a group header and a group footer because it is the only record in a group. If three or more records are in a group, only the first or the last record can trigger a group header or footer; the middle records trigger only the detail section.

Access always processes each record in the detail section (which is always triggered, regardless of the value of a data item). Most reports with a large amount of data have many detail records and significantly fewer group header or footer records. This small report has as many group header and footer records as it has detail records.

The Report Writer sections

Figure 8-18 shows what a report design looks like in Access. It is the Report Design window for the Products Summary Report. As you can see, the report is divided into seven sections. The group section displays data grouped by Categories, so you see the sections chrCategory Header and chrCategory Footer. Each of the other sections is also named for the type of processing it performs.
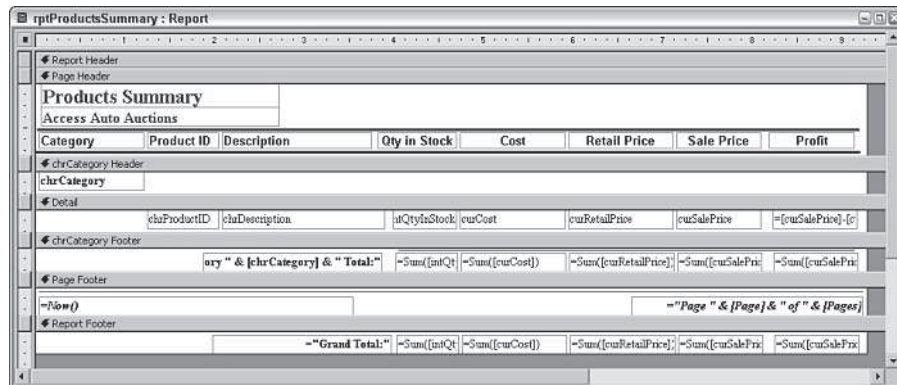
Figure 8-18: The Report Design window.

You can place any type of text or field controls in any section, but Access processes the data one record at a time. It also takes certain actions (based on the values of the group fields, the location of the page, or placement in the report) to make the bands or sections active. The example in Figure 8-18 is typical of a report with multiple sections. As you learned, each section in the report has a different purpose and different triggers.

Note Page and report headers and footers must be added as pairs. To add one without the other, after the section is added, resize the section you don't want to a height of zero or set its Visible property to No.

Caution If you remove a header or footer section, you also lose the controls in those sections.

Report header section

Controls in the *report header section* are printed only once at the beginning of the report. A common use of a report header section is as a cover page or a cover letter or for information that needs to be communicated only once to the user of the report.

You can also have controls in the report header section print on a separate page, which enables you to create a title page and include a graphic or picture in the section. There is a Force New Page property in the Report Header that can be set to *After Section* that will place the information in the Report Header into a separate page.

In Figure 8-17, the report header section is not used.

Note Only data from the first record can be placed in a report header.

Page header section

Text or field controls in the *page header section* normally print at the top of every page. If a report header on the first page is not on a page of its own, the information in the page header section prints just below the report header information. Typically, page headers serve as column headers in group/total reports; they can also contain a title for the report. In this example, placing the Products Summary report title in the Page Header section means that the title appears on every page.

The page header section shown in Figure 8-18 also has lines above and below the label controls. Each of the report's label controls is separate and each can be moved or sized individually. You can also change special effects (such as color, shading, borders, line thickness, font type, and font size) for each text control.

Both the page header and page footer sections can be set to one of four settings (this setting can be found in the Report's properties, not the section properties):

✦ **All Pages.** Both the page header and page footer print on every page.

✦ **Not with Report Header.** Neither the page header nor footer prints on a page with the report header.

✦ **Not with Report Footer.** The page header does not print with the report footer. The report footer prints on a new page.

✦ **Not with Report Header/Footer.** Neither the page header nor the footer prints on a page with the report header or footer.

Group header

Group headers sections normally display the name of the group. Access knows when all the records in a group have been displayed in a detail section when the group name changes. In this example, the detail records are about products and their costs and profits. The group header field control chrCategory tells you that these products are of a specific category type. Group header sections immediately precede detail sections.

It is possible to have multiple levels of group headers and footers. In this report, for example, the data is only for categories. However, in some reports you might have groups of information with date values. You could group your sections by year or month and year, and within those sections by another group such as category.

> **Note**
>
> To set group-level properties such as Group On, Group Interval, Keep Together, or something other than the default, you must first set the Group Header and Group Footer property (or both) to Yes for the selected field or expression. You will learn about these later in the chapter.

Detail section

The *detail section* processes *every* record in the data and is where each value is printed. The detail section frequently contains a calculated field such as profit that is the result of a mathematical expression. In this example, the detail section simply displays information from the tblProduct table except for the last control. The *profit* is calculated by subtracting the value of curCost from the value of curSalePrice.

> **Tip**
>
> You can tell Access whether you want to display a section in the report by changing the section's Visible property in the Report Design window. Turning off the display of the detail section (or by excluding selected group sections) displays a summary report with no detail or with only certain groups displayed.

Group footer

You use the *group footer section* to calculate summaries for all the detail records in a group. In the Products Summary report, the expression =Sum([curSalePrice] - [curCost]) adds all the calculations of Sale Price — Cost for a specific category. In the Minivans group, this expression sums the seven records. This type of field is automatically reset to 0 every time the group changes.

> **Tip**
>
> You can change the way summaries are calculated by changing the Running Sum property of the field box in the Report Design window.

Page footer

The *page footer section* usually contains page numbers or control totals. In very large reports, you may want page totals as well as group totals (such as when you have multiple pages of detail records with no summaries). For the Products Summary Report, the page

number is printed by combining the text Page, and built-in page number controls show Page x of y where x is the current page number and y is the total number of pages in the report. A text box control with the following expression in the Control Source property can be used to display page number information.

=“Page: ” & [Page] & “ of ” & [Pages]

(which keeps track of the page number in the report).

You can also print the date and the time printed. Figures 8-18 and 8-19 show the date printed in the Page Footer section as well as the page numbers.

Report footer

The *report footer section* is printed once at the end of the report after all the detail records and group footer sections are printed. Report footers typically display grand totals or other statistics (such as averages or percentages) for the entire report. The report footer for the Products Summary report uses the expression =Sum with each of the numeric fields to sum the amounts.

Note When there is a report footer, the page footer section is printed after the report footer.

The Report Writer in Access is a *two-pass report writer*, capable of preprocessing all records to calculate the totals (such as percentages) needed for statistical reporting. This capability enables you to create expressions that calculate percentages as Access processes those records that require foreknowledge of the grand total.

Creating a New Report

Fundamental to all reports is the concept that a report is another way to view the records in one or more tables. It is important to understand that a report is bound to either a single table or a query that brings together data from one or more tables. When you create a report, you must select which fields from the query or table you want to see in your report. Unless you want to view all the records from a single table, bind your report to a query. Even if you are accessing data from a single table, using a query lets you create your report on the basis of a particular search criterion and sorting order. If you want to access data from multiple tables, you have almost no choice but to bind your report to a query. In the examples in this chapter, all the reports are bound to a query (even though it is possible to bind a report to a table).

Note Access lets you create a report without first binding it to a table or query, but you will have no fields on the report. This capability can be used to work out page templates with common text headers or footers such as page numbering or the date and time, which can serve as models for other reports. You can add fields later by changing the underlying control source of the report.

Throughout this chapter, you learn the tasks necessary to create the Products Display Report (the partial first page is shown in Figure 8-19). In this chapter, you design the basic report, assemble the data, and place the data in the proper positions. You can learn more about enhancing your reports by adding lines, boxes, and shading so that certain areas stand out in Wiley's *Access 2003 Bible*, chapter 14.

As with almost every task in Access, there are many ways to create a report without wizards. It is important, however, to follow some type of methodology, because creating a good report involves a fairly scientific approach. You should create a checklist that is a set of tasks that will result in a good report every time. As you complete each task, check it off your list. When you are done, you will have a great-looking report. The following section outlines this approach.
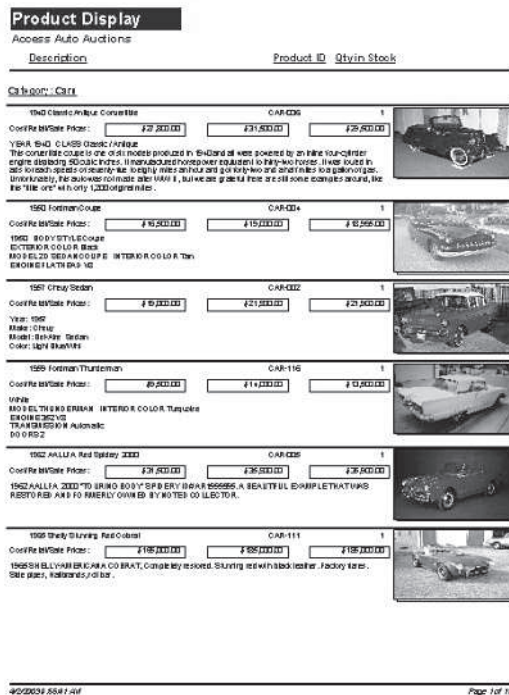
Figure 8-19: The Products Summary report.

Creating a new report and binding it to a query

The first step is to create a new report and bind it to the tblProducts table. Follow these steps to complete this process:

1. Press F11 to display the Database window if it is not already displayed.

2. Click the Reports object button.

3. Click the New toolbar button. The New Report dialog box appears.

4. Select Design View.

5. Click the combo box which label starts with Choose a table or query. A drop-down list of all tables and queries in the current database appears.

6. Select the tblProducts table.

7. Click OK.

8. Maximize the Report window.

A blank Report Design window appears (see Figure 8-20). Notice the three sections in the screen display: Page Header, Detail, and Page Footer. The report is bound to the table tblProducts. This means that the fields from the table are available for use in the report design and that they appear in the Field List window. It also means that the data from that table will be displayed when the report is viewed or printed.
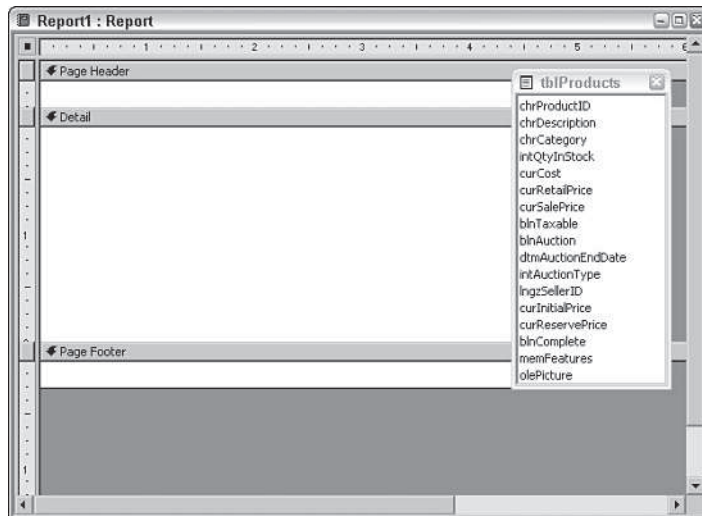
Figure 8-20: A blank Report Design window.

Defining the report page size and layout

As you plan your report, consider the page-layout characteristics as well as the kind of paper and printer you want to use for the output. If you use a dot-matrix printer with a wide-carriage feed, you design your report differently than for printing on a laser printer with 8½ x 11-inch paper. After you make these decisions, you use several dialog boxes and properties to make adjustments; these items work together to create the desired output.

First, you need to select the correct printer and page-layout characteristics by selecting File⇨Page Setup. The Page Setup dialog box enables you to select your printer and set printer options.

The Page Setup dialog box has three tabs: Margins, Page, and Columns. The information under the Page tab is divided into three sections:

✦ **Orientation.** Select the page orientation you want.

✦ **Paper.** Select the paper size and paper source you want.

✦ **Printer.** Select the printer you want.

Note   If you click the Printer button, the Page Setup dialog box for the selected printer appears. Clicking Properties will then display a more extensive dialog box with all the applicable options.

The design for Product Summary report is to be a *portrait* report, which is taller than it is wide. You want to print on letter size paper that is 8½ x 11 inches, and you want the left, right, top, and bottom margins all set to 0.250 or the minimum your printer will allow.

Follow these steps to create the proper report setup for the Products Summary report:

1. Open the Page Setup dialog box and select the Page tab.

2. Click the Portrait option button.

   Next to the Orientation buttons are two sheet-of-paper icons with the letter A pictured on them. The picture of the sheet is an indication of its setting.

3. Click the Margins tab.

4. Click the Top margin setting and change the setting to 0.250.

5. Click the Bottom margin setting and change the setting to 0.250.

6. Click the Left margin setting and change the setting to 0.250.

7. Click the Right margin setting and change the setting to 0.250.

   Some printers may not allow margins as small as .250 for all four settings. If you receive a warning, you will need to use a different value.

8. Click OK to close the Page Setup dialog box.

Tip Access displays your reports in Print Preview view by using the driver of the active printer. If you don't have a good-quality laser or inkjet printer available for printing, install the driver for one anyway so that you can view any graphics that you create (and see the report in a high-resolution display). Later, you can print to your inkjet or other available printer and get the actual hard copy in the best resolution your printer offers.

After you define your page layout in the Page Setup dialog box, you need to define the size of your report (which is not necessarily the same as the page definition).

To define the report size, place the mouse pointer on the right-most edge of the report (where the white page meets the gray background). The pointer changes to a double-headed arrow. Drag the pointer to change the width of the report. As you drag the edge, a vertical line appears in the ruler to let you know the exact width if you release the mouse at that point. Be careful not to exceed the width of the page you defined in the Page Setup dialog box.

When you position the mouse pointer at the bottom of the report, it changes to a double-headed arrow similar to the one for changing width. Dragging will change the height of the page footer section or other specified bottom section, not the height of the whole page. (Predefining a page length directly in the report section doesn't really make sense because the detail section will vary in length, based on your groupings.) Remember that the Report Design view shows only a representation of the various report sections, not the actual report.

To set the right border for the Product Display report to 7½ inches, follow these steps:

1. Click the right-most edge of the report body (where the white page meets the gray background). The mouse pointer changes to a double-headed arrow.

2. Drag the edge to the 7½-inch mark.

3. Release the mouse button.

Note You can also change the Width property in the property window for the report.

Tip When you run your report and every other page is blank, it is a sign that the width of your report exceeds the width of your page. To fix this, decrease your left and right margin size or your report width. Sometimes, when you move controls around, you accidentally make the report width larger than your original design. For example, in a portrait report, if your left margin + report width + right margin is greater than 8½ , you will see blank pages.

Placing fields on the report

Access takes full advantage of Windows' drag-and-drop capabilities. The method for placing fields on a report is no exception. As with forms, when you place a field on a report, it is no longer called a field; it is called a *control*. A control has a *control source* (a specific table field) that it is bound to, so the terms *control* and *field* are used interchangeably in this chapter.

To place controls on your report:

1. Display the Field List window by clicking the Field List toolbar button.

2. Click the desired Toolbox control to determine the type of control that will be created if they are to be different from the default control types for the fields.

3. Select each of the fields that you want on your report and then drag them to the Report Design window.

Displaying the field list

To display the Field List window, click the Field List button on the toolbar. A small window with a list of all the fields from the underlying query appears. This window is called a *modeless* dialog box because it remains onscreen even while you continue with other work in Access. The Field List window can be resized and moved around the screen. The enlarged Field List window is illustrated in Figure 8-21, showing all the fields in the tblProducts table.
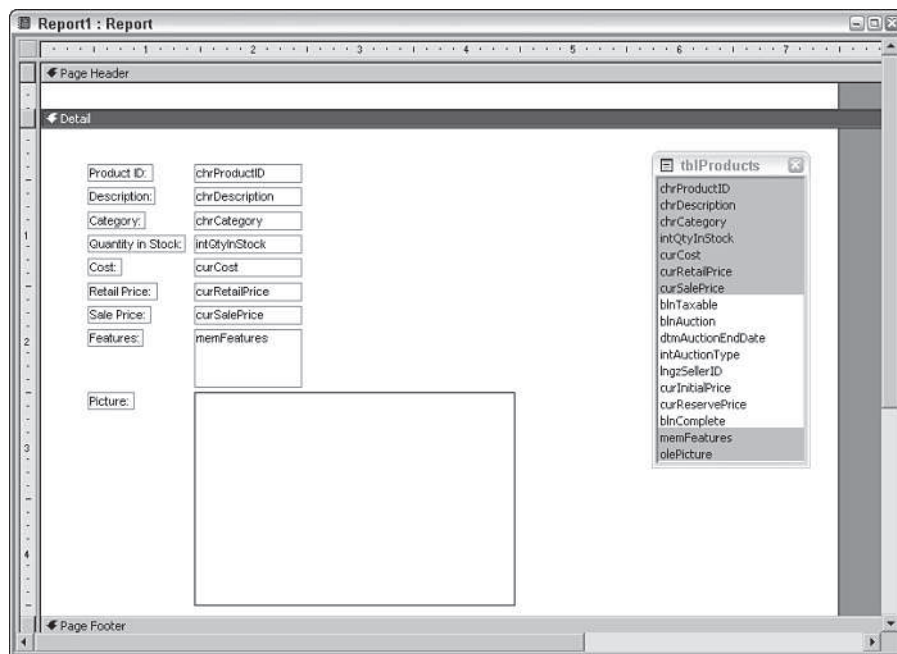
Figure 8-21: Dragging fields to the Design window.

> **Tip**   You can move the Field List window by simply clicking on the title bar and dragging it to a new location.

Selecting the fields for your report

Selecting a field in the Report field list is the same as selecting a field in the Query field list. The easiest way to select a field is simply to click it. When you click a field, it becomes highlighted. After a field is highlighted, you can drag it to the Report window.

You can highlight *contiguous* (adjacent) fields in the list by following these steps:

- Click the first field you want in the field list.
- Move the mouse pointer to the last field you want from the list.
- Hold down the Shift key and click the last field you want.

The block of fields between the first and last field you selected is displayed in reverse video, indicating it is selected. You can then drag the block of fields to the Report window.

You can highlight noncontiguous fields in the list by clicking each field while holding down the Ctrl key. Each selected field will be displayed in reverse video; then you can drag the fields as a group to the Report Design window.

Note Unlike the Query field list, you cannot also double-click a field to add it to the Report window.

You can begin by selecting the tblProducts fields for the detail section. To select the fields needed for the detail section of the Product Display report, follow these steps:

1. Click the chrProductID field.
2. Hold down the Shift key and click the curSalePrice field.

   The block of fields from chrProductID to curSalePrice should be highlighted in the Field List window, as shown in Figure 8-20.

3. Hold down the Ctrl key and click the memFeatures field and the olePicture field.

   Holding down the Ctrl key lets you select noncontiguous fields. You should have two blocks of field1.

Dragging fields onto your report

After you select the proper fields from the tblProducts table, all you need to do is drag them to the detail section of your report. Depending on whether you choose one or several fields, the mouse pointer changes shape to represent your selection. If you select one field, you see a Field icon, which shows a single box with some unreadable text inside. If you select multiple fields, you see a set of three boxes. These are the same icons you saw when you were using the Query Design screens.

To drag the selected tbProducts table fields into the detail section of the Report Design window, follow these steps:

1. Click within the highlighted block of fields in the Field List window. You may need to move the horizontal scroll bar back to the left before starting this process.

2. Without releasing the mouse button, drag the mouse pointer into the detail section; place the icon under the 1½-inch mark on the horizontal ruler at the top of the screen and next to the ½-inch mark of the vertical ruler along the left edge of the screen.

3. Release the mouse button.

The fields appear in the detail section of the report, as shown in Figure 8-21. Notice that for each field you dragged onto the report, there are two controls. When you use the drag-and-drop method for placing fields, Access automatically creates a label control with the field name attached to the text control to which the field is bound.

> **Note**   Notice the Bound Object Frame control for the field named Picture. Access always creates a Bound Object Frame control for an OLE-type object found in a table. Also notice that the detail section automatically resizes itself to fit all the controls. Above the Bound Object Frame control is the control for the memo field Features.

You also need to place the desired field controls for the customer information you need in the page header section. Before you do this, however, you need to resize the page header frame to leave room for a title you will add later.

Resizing a section

To make room on the report for the title information in the page header, you must resize it. You can resize a section by placing the mouse pointer at the bottom of the section you want to resize. The pointer turns into a vertical double-headed arrow; drag the section border up or down to make the section smaller or larger.

Resize the page header section to make it larger by following these steps:

1. Move the mouse pointer between the bottom of the page header section and the top of the detail section.

2. When the pointer is displayed as a double-sided arrow, hold down the left mouse button.

3. Drag the page header section border down until it intersects the detail section's ruler at the ¾-inch mark.

4. Release the button to enlarge the page header section.

The page header section expanded to fit the fields that were dragged into the section. All the fields needed for the Product Display report are now placed in their appropriate sections.

Working with unattached label controls and text

When you drag a field from the Field List window to a report, Access creates not only a data control but also a label control that is attached to the data control. At times, you will want to add label controls by themselves to create headings or titles for the report.

Creating unattached labels

To create a new, unattached label control, you must use the Toolbox (unless you copy an existing label). The next task in the current example is to add the text headers *Product Display* and *Access Auto Auctions* to your report. This task demonstrates adding and editing text.

To begin creating an unattached label control, follow these steps:

1. Display the Toolbox.

2. Click the Label tool in the Toolbox.

3. Click near the top-left edge of the page header at about the 1/8-inch mark on the ruler; then drag the mouse pointer downward and to the right to make a small rectangle about 2½ inches wide and ½-inch high.

4. Type **Product Display**.

5. Press Enter.

   Repeat the process for the label Access Auto Auctions and place it just below the Product Display label, as shown in Figure 8-22. As you create these label rectangles, it may make the Page Header section expand.

Tip   To create a multiple-line label entry, press Ctrl+Enter to force a line break where you want it in the control.

Tip   If you want to edit or enter a caption that is longer than the space in the property window, the contents will scroll as you type. Otherwise, open a Zoom box that gives you more space to type by pressing Shift+F2.

Modifying the appearance of text in a control

To modify the appearance of the text in a control, select the control by clicking its border (not in the control itself). You can then select a formatting style to apply to the label by clicking the appropriate button on the Formatting toolbar.

To make the titles stand out, follow these steps to modify the appearance of label text:

1. Click the newly created report heading label **Product Display**.

2. Click the Bold button on the Formatting toolbar.

3. Click the arrow beside the FontSize drop-down box.

4. Select 18 from the FontSize drop-down list box.

5. Repeat for the **Access Auto Auctions** label, using a 12 pt font and Bold.

Figure 8-22 shows these labels added, resized, and formatted.

Currently, the label rectangles are much large than their displayed text. To tighten the display or to display all the text when a label rectangle isn't big enough, you can simply double-click the bottom left corner handle to resize it (which you will learn more about later in this chapter).
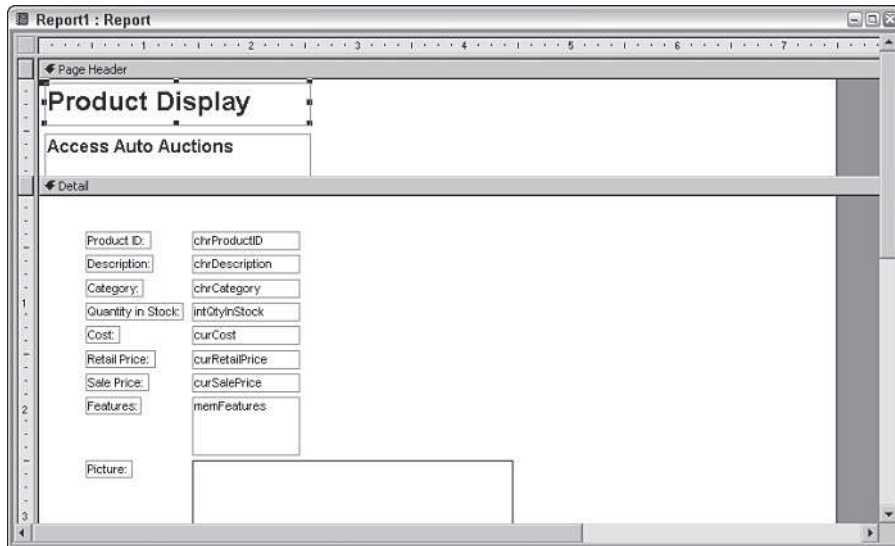
Figure 8-22: Adding unbound labels to the report.

Working with text boxes and their attached label controls

So far, you have added controls bound to fields in the tables and unbound label controls used to display titles in your report. There is another type of text box control that is typically added to a report: unbound text boxes that are used to hold expressions such as page numbers, dates, or a calculation.

Creating and using text box controls

In reports, text box controls serve two purposes. First, they enable you to display stored data from a particular field in a query or table. Second, they display the result of an expression. Expressions can be calculations that use other controls as their operands, calculations that use Access functions (either built-in or user-defined), or a combination of the two. You have learned how to use a text box control to display data from a field and how to create that control. Next, you learn how to create new text box controls that use expressions.

Entering an expression in a text control

A *function* is a small program that, when run, returns a single value. The function can be one of many built-in Access functions or it can be user-defined. For example, to facilitate page numbering in reports, Access has a function called Page that returns the value of the current report page. The following steps show you how to use an unbound text box to add a page number to your report:

1. Click in the middle of the page footer section, resize the page footer so that it is ½-inch in height, and then create a text box about three-quarters of the height of the section and about ½-inch wide by resizing the default text box control.

2. Select the Text Box tool on the Toolbox.

3. Scroll down to the page footer section by using the vertical scroll bar.

4. Click the label control to select it. (It should say something similar to Text38.)

5. Click the beginning of the label control text, drag over the default text in the label control, and type Page: or double-click the text to highlight it and then replace it.

6. Click twice on the text box control (it says "Unbound"); type **=Page** and press Enter. (Notice that the Control Source property changes on the data sheet of the Property window to =[Page]. If the Property window is not open, you may want to open it to see the change.)

7. Click the Page label control's Move handle (upper-left corner); move the label closer to the =[Page] text box control until the right edge of the label control touches the left edge of the text box control.

Although this is a good exercise for creating labels and text boxes, a better way to add a page number in the Page Footer section is to use the automatic Page numbers dialog box. To do this, follow the steps below:

1. Delete the text box you created in the last example from the Page Footer section.

2. Select Insert⇨Page Numbers… from the main menu.

   The Page Numbers dialog box is displayed

3. Change the Format to **Page N of M**.

4. Change the Position to **Bottom of Page [Footer]**.

5. Change Alignment to **Right**.

   Format lets you choose between the final text Page N, where N is the page number, or Page N of M, where N is the current page number and M is the total number of pages in the report. It is recommended to always use Page N of M to make sure the report isn't missing any pages (or the last page). *Position* lets you determine if the page number expression is created in the Page Header or Page Footer. *Alignment* lets you determine if the text will be left, right, or centered aligned. Because this text expression is going to be placed at the bottom right corner of the report, the Right alignment is preferred. There is also a check box

that can be unchecked and lets you eliminate the page number from the first page (if it were to be used as a cover page).

The completed text box expression looks like this:

   ="Page " & [Page] & " of " [Pages]

This would display Page 5 of 25 if page 5 was the current page and there were 25 pages in the report.

The = sign begins an expression. The & symbol (known as *concatenation*) joins keywords, fields, or other expressions to a text string. Text strings are surrounded by double quotes. [Page] and [Pages] are keywords and are surrounded (known as delimited) by braces ([ ]). Notice the "Page " text contains a trailing space. This is done so that there will be a space between the text Page and the current page number. Notice that there are both leading and trailing spaces in the text string "of." Again, this separates the page numbers by a space from the word "of."

Tip You can always check your result by clicking the Print Preview button on the toolbar and zooming in on the page footer section to check the page number.

Sizing a text box control or label control

You can select a control by simply clicking it. Depending on the size of the control, from three to seven sizing handles will appear — one on each corner except the upper-left corner and one on each side. When you move the mouse pointer over one of the sizing handles, the pointer changes into a double-headed arrow. When the pointer changes, click the control and drag it to the size you want. Notice that, as you drag, an outline appears; it indicates the new size that the label control will be when you release the mouse button.

If you double-click any of the sizing handles, Access resizes a control to the best fit for the text in the control. This feature is especially handy if you increase the font size and then notice that the text is cut off, either on the bottom or to the right. Note that for label controls, this *best-fit sizing* resizes both vertically and horizontally, though text controls can resize only vertically. The reason for this difference is that in the report design mode, Access doesn't know how much of a field you want to display; the field name and field contents might be radically different. Sometimes label controls are not resized correctly, however, and have to be adjusted manually.

Changing the size of a label control

Earlier in this chapter (in the steps that modified the appearance of label text), you changed the characteristics of the Product Display label; the text changed, but the label itself did not adjust. The text no longer fits well within the label control. You can resize the label control, however, to fit the enhanced font size by following these steps:

1. Click the Product Display label control.

2. Move your mouse pointer over the control. Notice how the pointer changes shape over the sizing handles.

3. To size the control automatically, double-click one of the sizing handles. The label control size may still need to be readjusted.

4. Place the pointer in the bottom-right corner of the label control so that the diagonal double-arrow appears.

5. Hold down the left mouse button and drag the handle to resize the label control until it correctly displays all of the text (if it doesn't already).

Tip

You can also select Format⇨Size⇨To Fit to change the size of the label control text automatically.

Before continuing, you should check how the report is progressing. You should do this frequently as you create a report. You should also save the report frequently as you make changes to it. You can send a single page to the printer or view the report in print preview. Figure 8-25 is a zoomed print preview of how the report currently looks. The customer information is at the top of the page; the pet information is below that and offset to the left.

Notice the title at the top of the page. You can see the page number at the bottom if you click the magnifying glass button to zoom out and see the entire page. Only one record per page appears on the report because of the vertical layout. In the next section, you move the fields around and create a more horizontal layout.
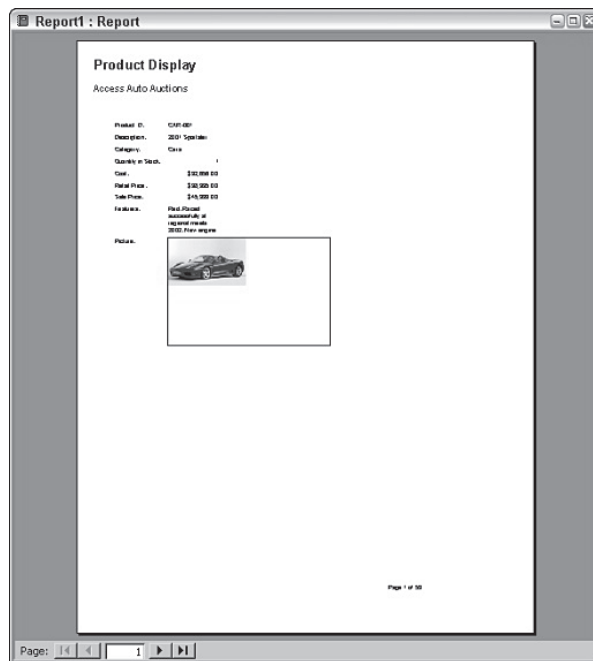
Figure 8-23: A print preview of the report.

Deleting and Cutting attached labels from text controls

In order to create the report shown in Figure 8-19, you must remove the label controls from several of the text box controls and place the label controls in the page header section.

It's very easy to delete one or more attached controls in a report. Simply select the desired controls and press Delete. However, if you want to move the label to the page header section, you can cut the label instead of deleting it. When removing attached controls, there are two choices:

- Delete only the label control.
- Cut the label control to the clipboard.
- Delete or cut both the label control and the field control.

If you select the label control and press Cut (Ctrl-X) or the Delete key, only the label control is removed. If you select the field control and press Cut or Delete, both the label control and the field control are removed. To cut an attached label control (in this case, the Product ID controls and their attached label), follow these steps:

1. Click the Close button on the toolbar to exit print preview mode. Select the Product ID label control only in the detail section.

2. Press Ctrl-X (Cut).

   After you have cut the label, you may want to place it somewhere else. In this example, you will want to place it into the Page Header section.

Pasting labels into a report section

It is probably just as easy to cut labels from controls placed in the detail section and paste them into the Page Header as it is to just delete the labels and create new ones in the Page Header. Regardless, you will now paste the label you have cut in the previous steps:

1. Click anywhere in or on the Page Header section.

2. Press Ctrl-V (Paste).

   The Product ID label appears in the Page Header.

3. Repeat for the Description, Category, and Quantity in Stock labels.

4. Delete the remaining label controls in the detail section, leaving all of the text box controls.

   If you accidentally selected the data field control and both controls are cut or deleted, press the Undo toolbar button to undo the action.

Tip   If you want to delete only the field control and keep the attached label control, first select the label control and then select Edit⇨Copy. Next, to delete both the field control and the label control, select the field control and press Delete. Finally, select Edit⇨Paste to paste only the copied label control to the report.

Moving label and text controls

Before discussing how to move label and text controls, it is important to review a few differences between attached and unattached controls. When an attached label is created automatically with a text control, it is called a *compound control*. In a compound control, whenever one control in the set is moved, the other control moves as well. With a text control and a label control, whenever the text control is moved, the attached label is also moved. Likewise, whenever the label control is moved, the text control is also moved.

To move both controls in a compound control, select one of the pair by clicking the control. Move the mouse pointer over either of the objects. When the pointer turns into a hand, click the controls and drag them to their new location. As you drag, an outline for the compound control moves with your pointer.

To move only one of the controls in a compound control, drag the desired control by its *Move handle* (the large square in the upper-left corner of the control). When you click a compound control, it looks like both controls are selected, but if you look closely, you see that only one of the two controls is selected (as indicated by the presence of both moving and sizing handles). The unselected control displays only a moving handle. A pointing finger indicates that you have selected the Move handles and can now move only one control. To move either control individually, select the control's Move handle and drag it to its new location.

Tip   To move a label that is not attached, simply click any border (except where there is a handle) and drag it.

To make a group selection, click with the mouse pointer anywhere outside a starting point and drag the pointer through (or around) the controls you want to select. A gray, outlined rectangle is displayed that shows the extent of the selection. When you release the mouse button, all the controls that the rectangle surrounds are selected. You can then drag the group of controls to a new location.

Tip   The global option Tools⇨Options — Forms/Reports tab — Selection Behavior is a property that controls the enclosure of selections. You can enclose them fully (the rectangle must completely surround the selection) or partially (the rectangle must only touch the control), which is the default.

Make sure you also resize all of the controls as shown in the figure. The memo field memFeatures and the OLE picture field olePicture must also be changed in both size and shape.

Place all of the controls in their proper position to complete the report layout. You want this first pass at rearranging the controls to look like the example shown in Figure 8-24. You will make a series of block moves by selecting several controls and then positioning them close to where you want them. Then, if needed, you fine-tune their position. This is the way most reports are done.

Follow Figure 8-24 to begin placing the controls where they should be. You may want to notice that the control labels in the Page Header section have been underlined. Also notice the new label Cost/Retail/Sale Prices in the Detail section.
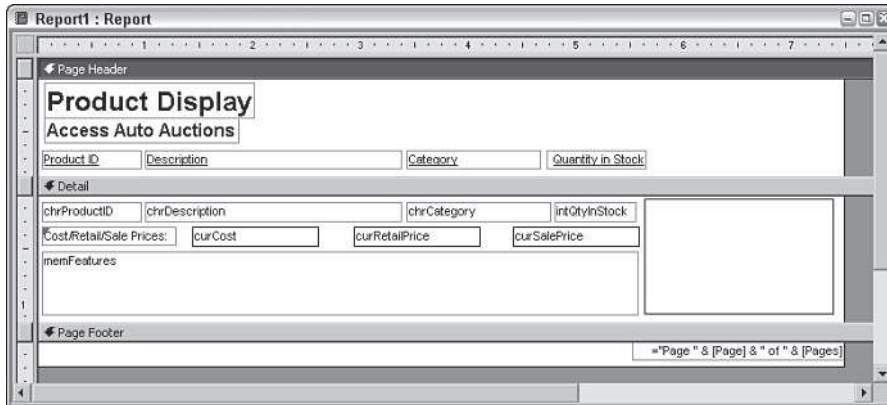
Figure 8-24: Rearranging the controls on the report.

At this point, you are about halfway done. The screen should look like the one shown in Figure 8-24. (If it doesn't, adjust your controls until your screen matches the figure.) Remember that these screen pictures are taken with the Windows screen driver set at 1024 x 768. If you are using 800 x 600, 640 x 480, or large fonts, you'll have to scroll the screen to see the entire report.

These steps complete the rough design for this report. There are still properties, fonts, and sizes to change. When you make these changes, you'll have to move fields around again. Use the designs in Figure 8-19 only as a guideline. How it looks to *you*, as you refine the look of the report in the Report window, determines the real design.

Modifying the appearance of multiple controls

The next step is to format all the label controls in the Page Header section directly above the section separator to be underlined. The following steps guide you through modifying the appearance of text in multiple label controls:

1. Select all label controls in the bottom of the Page Header section by individually clicking them while holding down the Shift key. There are four label controls to select, as shown in Figure 8-24.

   You could also have placed your cursor in the vertical ruler at about 1.25 inches and, when it changed to a right-pointing bold arrow, clicked the mouse to select all the controls in that horizontal area of the report.

2. Click the Underline button on the toolbar.

Note You could also have selected all the label controls in the preceding steps by using the drag-and-surround method.

After you make the final modifications, you are finished, except for fixing the picture control. To do this, you need to change properties, which you do in the next section. This may seem to be an enormous number of steps because the procedures were designed to show you how laying out a report design can be a slow process. Remember, however, that when you click away with the mouse, you don't realize how many steps you are doing as you design the report layout visually. With a WYSIWYG (What You See Is What You Get) layout like that of the Access report designer, you may need to perform many tasks, but it's still easier and faster than programming. Figure 8-24 shows the final version of the design layout as seen in this chapter.

Changing label and text box control properties

To change the properties of a text or label control, you need to display the control's property sheet. If it is not already displayed, perform one of these actions to display it:

✦ Double-click the border of the control (anywhere except a sizing handle or Move handle).

✦ Click the Properties button on the toolbar.

✦ Select View⇨Properties.

✦ Right-click the mouse and select Properties.

The *property sheet* enables you to look at a control's property settings and provides an easy way to edit the settings. Using tools such as the formatting windows and text-formatting buttons on the Formatting toolbar also changes the property settings of a control. Clicking the Bold button, for example, really sets the Font Weight property to Bold. It is usually much more intuitive to use the toolbar (or even the menus), but some properties are not accessible this way. In addition, sometimes objects have more options available through the property sheet.

The Size Mode property of an OLE object (bound object frame), with its options of Clip, Stretch, and Zoom, is a good example of a property that is available only through the property sheet.

The Image control, which is a bound object frame, presently has its Size Mode property set to Clip, which is the default. With Clip, the picture is displayed in its original size and may be too large to fit in the frame. In this exercise, you will change the setting to Stretch so that the picture is sized automatically to fit the picture frame.

To change the property for the bound object frame control that contains the picture, follow these steps:

1. Click the frame control of the picture bound object.

2. Click the Size Mode property.

3. Click the arrow to display the drop-down list box.

4. Select Stretch.

These steps complete the changes so far to your report. A print preview of the first few records appears in Figure 8-25. If you look at the pictures, notice how the picture is properly displayed and the Features field now appears across the bottom of the detail section. The labels are all underlined.

Figure 8-25: The report print preview.

Growing and shrinking text box controls

When you print or print-preview fields that can have variable text lengths, Access provides options for enabling a control to grow or shrink vertically, depending on the exact contents of a record. The option Can Grow determines whether a text control adds lines to fit additional text if the record contains more lines of text than the control can display. The option Can Shrink determines whether a control deletes blank lines if the record's contents use fewer lines than the control can display. Although these properties are usable for any text field, they are especially helpful for memo field controls like the Features control.

Table 8-3 explains the acceptable values for these two properties.

Table 8-3
Text Control Values for Can Grow and Can Shrink

Property	*Value*	*Description*
Can Grow	Yes	If the data in a record uses more lines than the control is defined to display, the control resizes to accommodate additional lines.
Can Grow	No	If the data in a record uses more lines than the control is defined to display, the control does not resize; it truncates the data display.
Can Shrink	Yes	If the data in a record uses fewer lines than the control is defined to display, the control resizes to eliminate blank lines.
Can Shrink	No	If the data in a record uses fewer lines than the control is defined to display, the control does not resize to eliminate blank lines.

To change the Can Grow settings for a text control, follow these steps:

1. Select the Features text box control.

2. Display the Property window.

3. Click the Can Grow property; then click the arrow and select Yes.

Note The Can Grow and Can Shrink properties are also available for report sections. Use a section's property sheet to modify these values.

The report is starting to look good, but you may want to see groups of like data together and determine specific orders of data. In order to do this, you will use sorting and grouping.

Sorting and grouping data

Sorting enables you to determine the order in which the records are viewed in a datasheet, form, or report, based on the values in one or more fields. This order is important when you want to view the data in your tables in a sequence other than that of your input. For example, new products are added to the tblProducts table as they are needed on an invoice. The physical order of the database reflects the date and time a product is added. Yet, when you think of the product list, you probably expect it to be in *alphabetical* order by Product ID, and you want to sort it by Description of the cost of the product. By sorting in the report itself, you don't have to worry about the order of the data. Although you can sort the data in the table by the primary key or in a query by any field you want, it is more advantageous to do it in the report. This way, if you change the query or table, the report is still in the correct order.

You can take this report concept even further by *grouping* — that is, breaking related records into groups. Suppose that you want to list your products first by Category and then by

Description within each Category group. To do this, you must use the Category and Description fields to sort the data. Groupings that can create group headers and footers are sometimes called *control breaks* because changes in data trigger the report groups.

Before you can add a grouping, however, you must first define a *sort order* for at least one field in the report using the Sorting and Grouping dialog box, which is shown completed in Figure 8-26. In this example, you use the Category field to sort on first and then the Description field as the secondary sort.

To define a sort order based on Category and Description, follow these steps:

1. Click the Sorting and Grouping button on the toolbar to display the Sorting and Grouping box.

2. Click in the first row of the Field/Expression column of the Sorting and Grouping box. A downward-pointing arrow appears.

3. Click the arrow to display a list of fields in the tblProduct table.

4. Select chrCategory in the field list. Notice that Sort Order defaults to Ascending.

5. Click in the second row of the Field/Expression column.

6. Click the arrow to display a list of fields in the tblProduct table.

7. Select chrDescription in the field list. Notice that Sort Order defaults to Ascending.
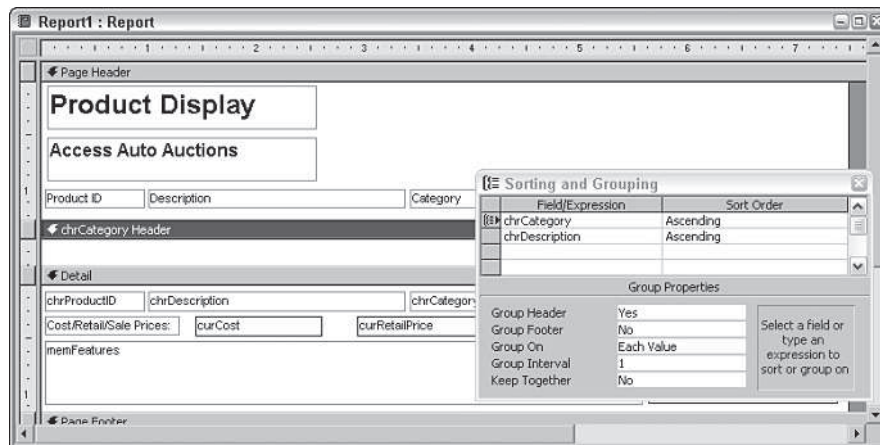
Figure 8-26: The Sorting and Grouping box completed.

Tip   To see more of the Field/Expression column, drag the border between the Field/Expression and Sort Order columns to the right.

> **Note** You can also drag a field from the Field List window into the Sorting and Grouping box Field/
> Expression column rather than enter a field or choose one from the field list in the Sorting and
> Grouping box Field/Expression column.

Although in this example you used a field, you can alternatively sort (and group) by using an expression. To enter an expression, click in the desired row of the Field/Expression column and enter any valid Access expression, making sure that it begins with an equal sign, as in =[curRetailPrice]-[curCost].

To change the sort order for fields in the Field/Expression column, simply click the Sort Order column and click the down arrow to display the Sort Order list; then select Descending.

Creating a group header or footer

Now that you have added instructions to sort by the Category and Description, you will also need to create a group header for Category to group all of the products by category. You don't need a group footer in this example because there are no totals by category or other reasons to use a group footer.

To create a group header that enables you to sort and group by the chrCategory field, follow these steps:

1. Click the Sorting and Grouping button on the toolbar if the Sorting and Grouping box is not displayed. The field chrCategory should be displayed in the first row of the Sorting and Grouping box; it should indicate that it is being used as a sort in Ascending order.

2. Click on the chrCategory row in the Field/Expression column.

3. Click the Group Header property in the bottom pane; an arrow appears.

4. Click the arrow on the right side of the text box; a drop-down list appears.

5. Select Yes from the list. (A header section bar appears on the report.)

After you define a header or footer, the row selection bar changes to the grouping symbol shown in Figure 8-26. This is the same symbol as in the Sorting and Grouping button on the toolbar. Figure 8-26 shows both the grouping row symbol and the newly created report section. The chrCategory header section appears between the page header and detail sections. If you define a group footer, it appears below the detail section. If a report has multiple groupings, each subsequent group becomes the one closest to the detail section. The groups defined first are farthest from the detail section.

The Group Properties pane (displayed at the bottom of the Sorting and Grouping box) contains these properties:

✦ **Group Header.** Yes creates a group header. No removes the group header.

✦ **Group Footer.** Yes creates a group footer. No removes the group footer.

✦ **Group On.** Specifies how you want the values grouped. The options you see in the drop-down list box depend on the data type of the field on which you're grouping. If you group on an expression, you see all the options. Group On has more choices to make.

For Text data types, there are two choices:

✦ **Each Value.** The same value in the field or expression.

✦ **Prefix Characters.** The same first *n* number of characters in the field.

For Date/Time data types, there are additional options:

✦ **Each Value.** The same value in the field or expression.

✦ **Year.** Dates in the same calendar year.

✦ **Qtr.** Dates in the same calendar quarter.

✦ **Month.** Dates in the same month.

✦ **Week.** Dates in the same week.

✦ **Day.** Dates on the same date.

✦ **Hour.** Times in the same hour.

✦ **Minute.** Times in the same minute.

Currency, or Number data types provide three options:

✦ **Each Value.** The same value in the field or expression.

✦ **Interval.** Values falling within the interval you specify.

✦ **Group Interval.** Specifies any interval that is valid for the values in the field or expression you're grouping on.

The Group Interval has its own options which include:

• **Keep Together.** This option controls what's known as widows and orphans in the word processing world so that you don't have a header at the bottom of a page with no detail until the next page.

• **Whole Group.** Prints header detail and group footer on one page.

• **With First Detail.** Prevents the contents of the group header from printing without any following data or records on a page.

• **No.** Do not keep together.

| Note | After you create the Category group header, you are done with the Sorting and Grouping box for this report on the CD-ROM that accompanies the *Access 2003 Bible*. You may need to make additional changes to groupings as you change the way a report looks; the following three sections detail how to make these changes. You should not make any of these changes, however, if you are following the examples or you should press the Save icon now to save the form in the current state and then discard the changes done to this form after this point. |

Changing the group order

Access enables you to easily change the Sorting and Grouping order without moving all the individual controls in the associated headers and footers. Here are the general steps to change the sorting and grouping order:

1. Click the selector bar of the field or expression you want to move in the Sorting and Grouping window.

2. Click the selector again and hold down the left mouse button.

3. Drag the row to a new location.

4. Release the mouse button.

Removing a group header or footer

To remove a page or report header/footer section, use the View⇨Page Header/Footer and View⇨Report Header/Footer toggles. To remove a group header or footer while leaving the sorting intact, follow these steps:

1. In the Sorting and Grouping window, click the selector bar of the field or expression that you want to remove from the grouping.

2. Click the Group Header text box.

3. Change the value to No.

4. Press Enter.

To remove a group footer, follow the same steps, but click Group Footer in Step 2.

To permanently remove both the sorting and grouping for a particular field (and thereby remove the group header and footer sections), follow these steps:

1. Click the selector of the field or expression you want to delete.

2. Press Delete. A dialog box appears asking you to confirm the deletion.

3. Click OK.

Hiding a section

Access also enables you to hide headers and footers so that you can break data into groups without having to view information about the group itself. You can also hide the detail section so that you see only a summary report. To hide a section, follow these steps:

1. Click the section you want to hide.

2. Display the section property sheet.

3. Click the Visible property's text box.

4. Click the drop-down list arrow on the right side of the text box.

5. Select No from the drop-down list box.

> **Note** Sections are not the only objects in a report that can be hidden; controls also have a Visible property. This property can be useful for expressions that trigger other expressions.

Sizing a section

Now that you have created the group header, you might want to put some controls in the section, move some controls around, or even move controls between sections. Before you start manipulating controls within a section, you should make sure the section is the proper height.

To modify the height of a section, drag the border of the section below it. If, for example, you have a report with a page header, detail section, and page footer, change the height of the detail section by dragging the top of the page footer section's border. You can make a section larger or smaller by dragging the bottom border of the section. For this example, change the height of the group header section to 3/8 inch with these steps:

1. Move your mouse pointer to the bottom of the chrCategory section. The pointer changes to a horizontal line split by two vertical arrows.

2. Select the top of the detail section (which is also the bottom of the chrCategory Header section).

3. Drag the selected band lower until three dots appear in the vertical ruler (3/8"). The gray line indicates where the top of the border will be when you release the mouse button.

4. Release the mouse button.

Moving controls between sections

You now want to move the chrCategory control from the Detail section to the chrCategory Header section. You can move one or more controls between sections by simply dragging the control with your mouse from one section to another or by cutting it from one section and pasting it to another section. Follow the instructions below to move the chrCategory control from the Detail section to the chrCategory section:

1. Select the chrCategory control in the Detail section.

2. Drag the chrCategory control up to the chrCategory Header section and drop it close to the vertical ruler, as shown in Figure 8-27.

3. Release the mouse button.

4. Press the Underline button to underline the chrCategory control to further highlight it as a group header. Sometimes, you might want to bold it or even increase the font size.

You should now do the following steps to complete the report design:

1. Delete the Category label from the Page Header.

2. Move the chrProductID control and its associated label after the chrDescription control and its associated label, as shown in Figure 8-27.

3. Move the chrDescription control and its associated label to the left so that it starts just to the right of the start of the chrCategory control in the chrCategory Header control.

   By offsetting the first control in the Detail section slightly to the right of the start of the control in the Group Header section, you show the hierarchy of the data presented in the report. It now will show that each group of products is for the category listed in the group header.

4. Lengthen the chrDescription control so that it approaches the chrProduct ID control.

   When you are done, the report design should look like the one shown in Figure 8-27.

Figure 8-27 shows this property window and the completed report design.
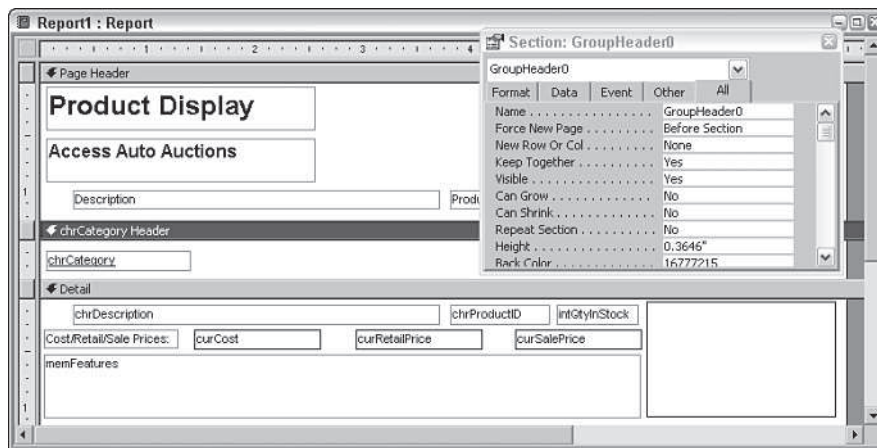
Figure 8-27: Completing the Group Header section and setting a Page Break.

Adding page breaks

Access enables you to add page breaks based on group breaks; you can also insert forced breaks within sections, except in page header and footer sections.

In some report designs, it's best to have each new group begin on a different page. You can achieve this effect easily by using the Force New Page property of a group section, which enables you to force a page break every time the group value changes.

The four Force New Page property settings are listed below:

✦ **None.** No forced page break (the default).

✦ **Before Section.** Starts printing the current section at the top of a new page every time there is a new group.

✦ **After Section.** Starts printing the next section at the top of a new page every time there is a new group.

✦ **Before & After.** Combines the effects of Before Section and After Section.

To create the report you want, you will force a page break before the chrCategory group by using the Force New Page property in the chrCategory header. To change the Force New Page property on the basis of groupings, follow these steps:

1. Click anywhere in the chrCategory header.

2. Display the Property window.

3. Select the Force New Page property.

4. Click the drop-down list arrow on the right side of the edit box.

5. Select Before Section from the drop-down list box.

Tip   Alternatively, you can create a Group footer and set its Force New Page property to After Section.

Sometimes, you don't want to force a page break on the basis of a grouping, but you still want to force a page break. For example, you may want to split a report title across several pages. The solution is to use the Page Break tool from the Toolbox; just follow these steps:

1. Display the Toolbox.

2. Click the Page Break tool.

3. Click in the section where you want the page break to occur.

Note   Be careful not to split the data in a control. Place page breaks above or below controls; do not overlap them.

Making the Report Presentation Quality

As you near completion of testing your report design, you should also test the printing of your report. Figure 8-28 shows a print preview of the first page of the Product Display report. You can see six records displayed. There are a number of things still to do to complete the report.

Obviously, the Picture needs to be changed so that it displays all of each car. Currently, the default Clip view is set. You will need to change that. But that is not the major problem. The report is very boring, plain, and not something you want to give to anyone else. If your goal is to just look at the data, this report is done. However, you need to do more before you are really done.

Although the report has good data that is well organized, it is not of professional quality. To make a report more visually appealing, you generally add some lines and rectangles, possibly some special effects such as shadows or sunken areas if you have a background on the report. You want to make sure sections have distinct areas separate from each other using lines or color. Make sure controls aren't touching each other (because text may eventually touch if a value is long enough). Make sure text is aligned with other text above or below and to the right or left.

In Figure 8-28, you can see some opportunities for professionalism.

Figure 8-28: Print previewing the data.

Adjusting the Page Header

In the Page Header are several large labels. They are too far apart. The column headers are too small and just hanging there. They could be underlined and made one font size larger. Access generally creates controls with 8 point fonts. These are great for screens but awful for people to view in a hard copy report. When you create a Word document, the default font size is 10 point. Most people change their default font size to 12 point because it is more easily readable. You should look at your hard copy report and decide if you need to issue magnifying glasses to people over 40. If so, you might want to enlarge some of your fonts.

Column headers should also be underlined and the entire Page Header should be separated from the Detail section by a line.

If you wanted to add some color to your report, you could make the report name a different color. Be careful not to use too many colors unless you have a specific theme in mind. Most serious business reports use one or two colors, and rarely more than three with the exception of graphs and charts.

Figure 8-29 shows these changes. The Product Display label has been changed to a reverse video blue background color with white foreground text. This is done by first selecting the control and then selecting Blue for the background. They have also been placed under each other and left aligned. The rectangle around each of the controls was also properly sized by double-clicking on the controls lower-right corner (or by selecting Format⇨Size⇨To Fit).

The column labels have been changed to 11 point text, bolded, and underlined. They were also moved to be above the controls for which they are the column headers.

The next step is to add a nice thick line separating the Page Header section from the chrCategory Group Header section. To draw this line, follow the steps below:

1. Select the Line tool in the toolbox.

2. Start the cursor near the far left side of the Page Header, just to the right and above of the 1 inch mark on the vertical toolbar, as shown in Figure 8-29.

3. Hold down the Shift key and then hold the left mouse button down and drag the mouse across the Page Header, releasing it just to the left of the 7 ½ inch mark.

   The Shift key is held down in order to draw a perfectly horizontal line.

4. Select the line and select the number 2 pt line thickness from the line thickness icon on the toolbar, or select the 2 pt Border Width property from the line's Property window.

   The line thickness icon should be next to the Border icon on the formatting toolbar.
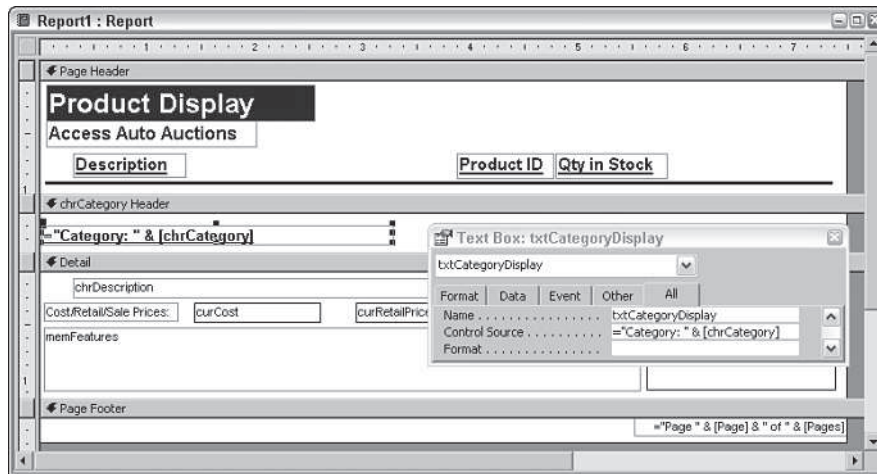
Figure 8-29: Adjusting controls in the Page Header.

Creating an expression in the Group Header

Figure 8-29 also shows that the chrCategory field has been replaced by an expression. If you just place the value of the category in the Group Header section, it looks out of place and may not be readily identifiable. Most data values should have some type of labels to identify what they are.

The expression ="Category: " & [chrCategory] will display the text Category: followed by a space and then followed by the data value of the chrCategory field. The & symbol (known as the concatenation symbol) joins a string to a data field. Make sure you leave a space after the colon or the value will not be separated from the label. The text control has been bolded, underlined, and the font point size increased as well.

There is one more very important task to complete. If you simply changed the chrCategory text box to the expression and displayed the report, you would have seen an error in the Group Header where the category expression would be. You must rename the control to something other than the original name of the data field. The original control name was chrCategory and that was also the control name. Under standard naming conventions, the control should have been renamed txtCategory, but this may not have been done. When you create an expression using the original text box control and you use the field name in the control, you will cause an error. You cannot name a control the same name as any data field used within the expression itself. This is a limitation of Access. See the Caution below for more information.

Caution

When you create a bound control, it often uses the name of the data field as the control name. If you then change the control to an expression using the data field in the expression without changing the name of your control, you will get a #Name or #Error when you display the control on a form or report. You must rename the control to something other than the original field name.

Follow the steps below to complete the expression and rename the control:

1. Select the chrCategory control in the chrCategory Group Header section.

2. Display the Property window for the control.

3. Change the Control Source property to **="Category: " & [chrCategory]**.

4. Change the Name property to **txtCategoryDisplay**.

Changing the picture properties and the Detail section

The Detail section is in fairly good shape. Make sure the Description control is slightly indented from the Category expression in the Group Header. A label should be created, as shown in Figure 8-30, which identifies the values in the Cost, Retail Price, and Sale Price controls.

A line is also good to add to this Detail section to separate one record from another. This is often done when there are multiple lines of a record displayed.

The next step is to add a nice thick line separating each record. Because you don't want two lines at the bottom of each page (you'll be adding a line to the Page Footer next), you will put this line at the top of the Detail section. To draw this line, follow the steps below:

1. Select the Line tool in the toolbox.

2. Start the cursor near the far left side of the Detail section, just to the right and above the 1/8 inch mark on the vertical toolbar, as shown in Figure 8-30.

   You may have to first move all of the controls down in the Detail section to do this.

3. Hold down the Shift key and then hold the left mouse button down and drag the mouse across the Page Header, releasing it just to the left of the 7 ½ inch mark.

   The Shift key is held down in order to draw a perfectly horizontal line.

4. Select the line and select the number 2 pt line thickness from the line thickness icon on the toolbar or select the 2 pt Border Width property from the line's Property window.

Normally, numeric fields are right aligned. Because they are next to each other horizontally and not above each other vertically, they can be left aligned. Though the repeating groups of records are above each other, they are separated by a wide space and left alignment is okay

One task to complete is to change the Picture control to make the picture fit within the control and to add a shadow to *dress up* the picture and give it some depth. Follow the steps below to complete these tasks:

1. Select the olePicture control in the Detail section.

2. Display the Property window for the control.

3. Change the Size Mode property to Stretch.

4. Select Shadowed from the Special Effect window.

Creating a standard page footer

The Page Footer currently contains a page number control that you created earlier in this chapter. A standard page footer is one that contains things you place at the bottom of all your reports and that your users come to expect.

Although a *Page n of m* control is at the bottom, a date and time control would be nice as well. Many times, you print off a copy of a report and then discover some bad data. You correct the values, print off another copy, and discover you can't tell them apart. Having a print date and time solves this problem.

To create a date/time control, follow the steps below:

1. Select the TextBox control in the Toolbox.

2. Select the Page Footer section and create a text box control near the left edge.

   A text box control should appear with an attached label.

3. Delete the attached label.

4. Display the property window for the control.

5. Enter **=Now()** into the text box's Control Source property.

   This displays the current date and time when the report is run. If you use the Date() keyword, you would only get the current date and not the current time.

6. Select **General Date** from the control's Format property.

7. Select *Align Left* text from the formatting toolbar for this control.

   This control should have its text left aligned, but make sure the page number control contains right-aligned text.

The last step is to move the controls down a little from the Page Footer section band and add a line between the Page Header section band and these controls:

1. Select both the date and page number controls and move them down 1/8 inch.

2. While they are selected, press the *Italic* icon on the formatting toolbar.

   An italicized page footer looks more professional.

3. Select the Line tool in the toolbox.

4. Start the cursor near the far-left side of the Page Footer, just to the right and above the 1/8-inch mark on the vertical toolbar, as shown in Figure 8-30.

5. Hold down the Shift key and then hold the left mouse button down and drag the mouse across the Page Header, releasing it just to the left of the 7 ½-inch mark.

   The Shift key is held down in order to draw a perfectly horizontal line.

6. Select the line and select the number 2 pt line thickness from the line thickness icon on the toolbar or select the 2 pt Border Width property from the line's Property window.

Your screen should look like the one shown in Figure 8-30. The Print Preview for this report is shown in Figure 8-31.
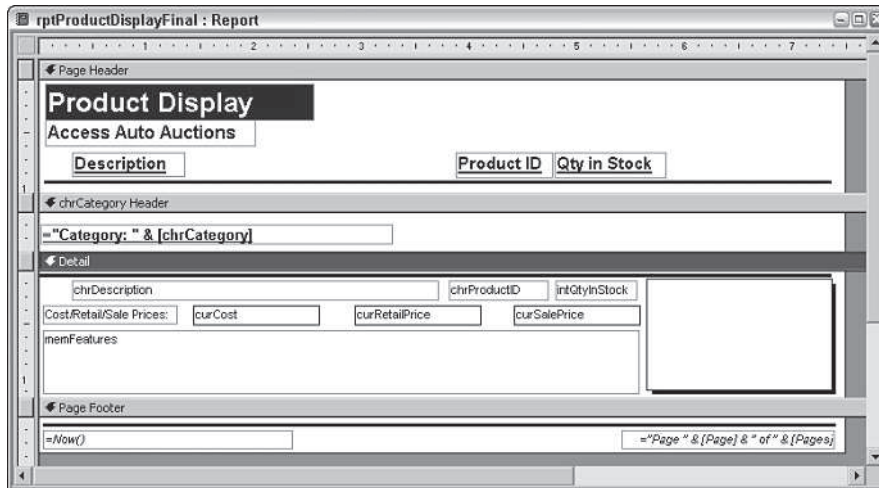
Figure 8-30: Adjusting controls in the Detail and Page Footer sections.

> **Caution**
>
> If every even-numbered page is blank, you accidentally widened the report past the 8-inch mark. If you move a control to brush up against the right page-margin border or exceed it, the right page margin increases automatically. When it is past the 8-inch mark, it can't display the entire page on one physical piece of paper. The blank page you get is actually the right side of the preceding page. To correct this, make sure that all your controls are within the 8-inch right margin; then drag the right page margin back to 8 inches.

Saving your report

After all the time you spent creating your report, you'll want to save it. It is good practice to save your reports frequently, starting as soon as you create them. This prevents the frustration that can occur when you lose your work because of a power failure or human error. Save the report as follows:

1. Select File⇨Save. If this is the first time you have saved the report, the Save As dialog box appears.

2. Type a valid Access object name. For this example, type **rptProductDisplayFinal**.

3. Click OK.

If you already saved your report, Access saves your file with no message about what it is up to.
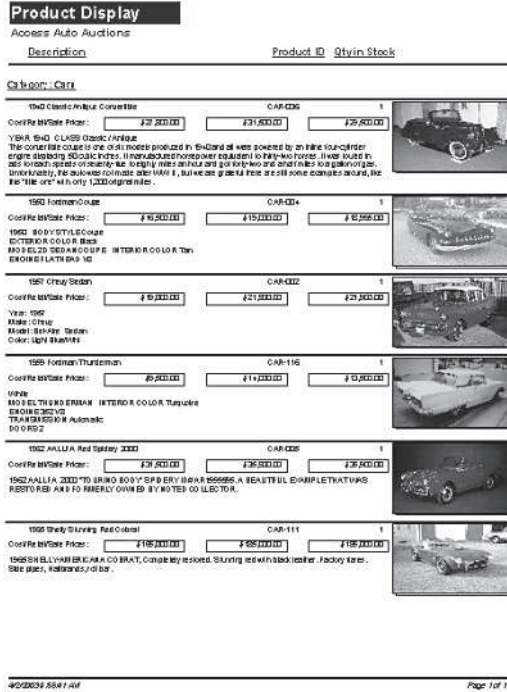
Figure 8-31: Print Preview of the Final Products Summary Report.

✦   ✦   ✦

Collaborating and Integrating with Microsoft Office 2003

T his part is comprised of chapters that enable users of one
particular Office 2003 application to more effectively
collaborate and integrate their efforts with coworkers and/or other
applications.

Building Integrated Documents

✦　　✦　　✦　　✦

In This Chapter

Inserting objects from other applications

Working with embedded objects

Working with linked objects

Other methods of sharing data

Sharing data with XML

✦　　✦　　✦　　✦

Each Office application is so powerful in its own right that you can usually find some way to make it do whatever you want it to. Forcing Excel to print a letter, however, or trying to make a Word table work like a spreadsheet isn't very efficient. That's where linked and embedded objects come in: You can use them to create an Office document in one application that contains objects you created in other applications. Not only that, you can configure Office so that changes made to objects in their original applications are automatically reflected in the document in which they all appear together.

First, a couple of definitions:

✦ A linked object is one that appears in your Office document but isn't really part of it: It's stored somewhere else. All that's really included in your document is the object's name and location; when you display or print the page that includes the linked object, Office fetches the object from wherever it is and dutifully includes it. One advantage of linking over embedding is that any changes made to the object in the original program (e.g., Excel or Word) will automatically be reflected in the Office document in which it is included.

✦ An embedded object is created and edited with another program, but all the data for it is contained within your publication. Whereas a linked object has little effect on the amount of disk space your publication takes up, an embedded object may have a much greater effect.

Inserting Objects from Other Applications

There's more than one way to insert an object created in another application into your current Office document.

Copy and paste

One simple method to move an object from application to application is simply to copy and paste it. For example, if you highlight a range of cells in an Excel spreadsheet, select Edit⇨Copy, go to Word, and select Edit⇨Paste, the spreadsheet will be pasted into Word as a Word table. The trouble with this is that you don't actually have an Excel spreadsheet in the Word document, which means you can't manipulate the information in that object the way you could before.

Tip   In Word, the Standard toolbar includes a button for creating an Excel spreadsheet. Click it and choose the number of rows and columns you want it to display, just as if you were adding a Word table. (It's really a full spreadsheet, by the way; if you decide later you need more rows and columns, you can simply drag its corner or side handles to reveal more.)

Using Paste Special in Word

A better choice is to select Edit⇨Paste Special in Word. This opens the dialog box shown in Figure 9-1. Choose the format in which you want to paste the object from the clipboard, and then click OK. By default, Paste Special creates an embedded object, but you can make it a linked object by choosing Paste Link.
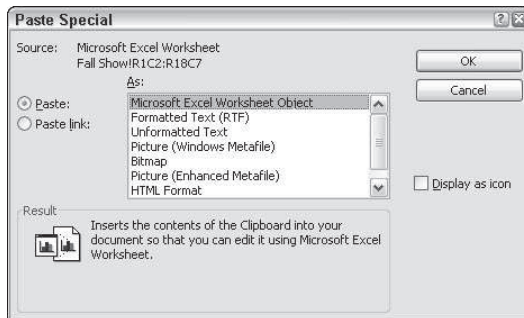
Figure 9-1: The Paste Special dialog box lets you choose how an object created in another application is pasted into the current one.

Choosing a paste method

You have several ways to paste your copied object into the new application:

✦ **Object.** This creates an embedded or linked object, depending on whether you have the Paste or Paste link radio button selected. If you want to be able to edit the object using the tools of the application that created it, this is the choice to make.

✦ **Text.** You can insert many objects as either formatted (RTF) or unformatted text. If it's primarily the words in the object you're interested in, choose one of these options.

✦ **Picture.** You can insert the object as a high-quality picture — the equivalent of a screenshot — of itself, in Picture (Windows Metafile) (the best choice for high-quality printers and also the one that takes up the least disk and memory space), Bitmap, or Picture (Enhanced Metafile) format. The only editing you'll be able to do to the object if you make this choice is the kind of editing you can do to an inserted piece of clip art: resizing, recoloring, and so on.

✦ **HTML.** This inserts the object in HTML format — extremely useful if you're building a Web page.

Using the Insert Object command

You can also insert objects into Office applications by choosing Insert⇨Object from the menu. This opens a dialog box similar to the one shown in Figure 9-2, from Word.
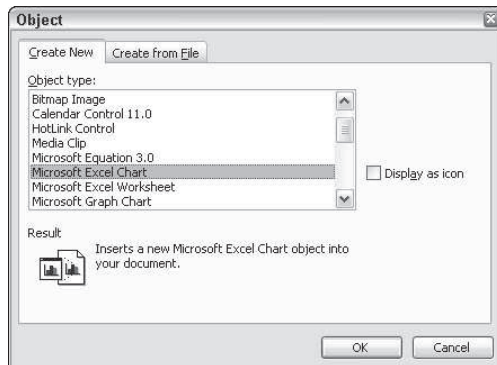
Figure 9-2: The Insert⇨Object command lets you insert a variety of objects created in other programs into an Office application.

By default, the Create New tab is selected. Choose the type of object you want to insert from the Object type list. Check the Display as icon box if you want to indicate the object with an icon (which users must double-click in order to view the object). When you've made your selection, click OK, and a new object of the type specified is embedded in your Office document.

Clicking the Create from File tab changes the look of the dialog box to that shown in Figure 9-3.
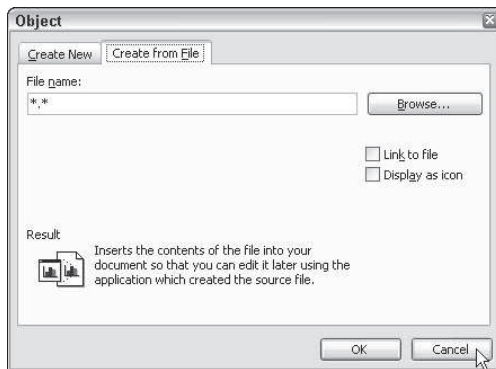
Figure 9-3: Use these tools in your Office application to create an embedded or linked object that already exists as a separate file elsewhere.
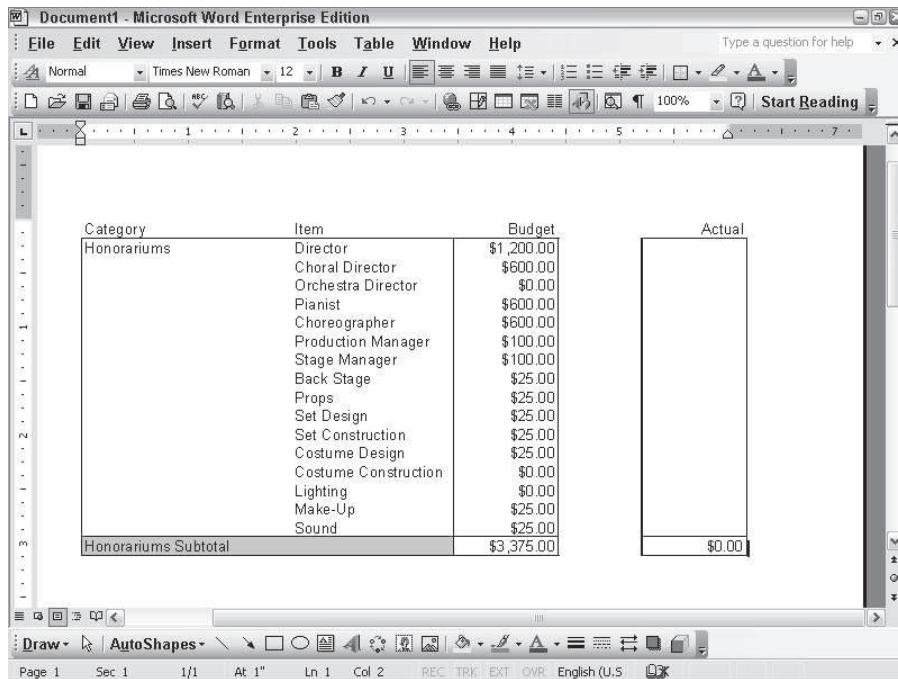
Click Browse to locate the file you want to insert as a new object. By default, this will create an embedded object, but you can make it a linked object by checking the Link to file box.

Although Paste Special and Insert Object can be used to accomplish the same ends, Insert Object has the advantage of being able to create new objects of specific types as well as create objects from existing files without your having to first open those files and copy their contents, as Paste Special requires.

Working with Embedded Objects

Once you've inserted an embedded object into an Office document, it appears to be part of the document. But there's a big difference: If you click the object once, you can move it around and possibly resize it, but you can't edit it. To do that, you have to double-click it. When you do, the menus and controls of the current application change to those of the application that created the object, so you can use the controls of the object's native application to edit it.

Figure 9-4 and 9-5 illustrate this concept. Figure 9-4 shows an embedded object, part of an Excel worksheet, as it looks embedded in a Word document; Figure 9-5 shows what it looks like when you double-click the embedded worksheet to edit it.

Figure 9-4: This embedded Excel spreadsheet looks pretty much like an ordinary Word table . . .
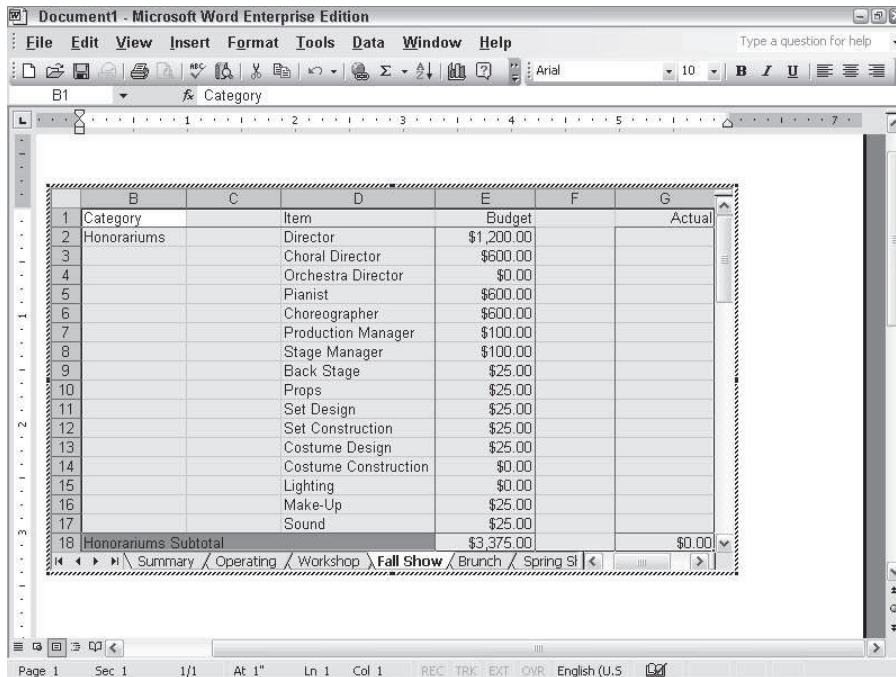
Figure 9-5: . . . but double-clicking it reveals its Excel roots — and Excel controls.

Working with Linked Objects

Linked objects, like embedded objects, look like they're part of your Office document — but they really aren't. They're simply displayed in it. They really still live somewhere else, associated with the program that created them. (They're a bit like graphics displayed on a Web page in that regard; what you really see is a graphic that's been called up from a different location, not something that's an integral part of the Web page, which, after all, is really only a text file marked with HTML tags.)

If you're working with dynamic data that changes all the time, linked objects are great, because it doesn't matter if someone changes some figures in the Excel spreadsheet you've linked to on page three of your report — the link, which, by default, is updated every time you open the document, ensures that your report reflects those changes.

Note   Linked objects require two documents in two different files — the source document and the destination document. If you want to send a document containing linked objects to someone else, you also have to send the source document for those objects — and make sure that the recipient stores the source document in exactly the same drive and file folder as you had it stored. If the source document isn't where the destination document expects it to be, the link won't work.

Moving and resizing linked objects

You can move or resize a linked object just as you can move or resize an embedded object. You can also edit it in its source application by double-clicking it, with one difference: When you double-click an embedded object, the menus and toolbars of the originating program are displayed in the destination document's application. Double-clicking a linked object opens the source document in the originating application: In the case of the previous example, it would open the source document in Excel in a new window.

Editing and updating links

If you have a lot of linked objects in the same document, the easiest way to work with them is to choose Edit➪Links. This opens a dialog box similar to the one shown in Figure 9-6. (Its appearance varies slightly among the various Office applications.)
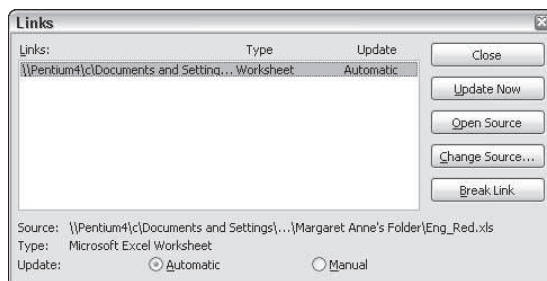
Figure 9-6: Edit your links using these controls.

The list box includes all the linked objects in the current document (in this case, only one). Down the right side are additional controls:

- ✦ Update Now updates the linked object in the destination document to match the source.

- ✦ Open Source opens the source file in its originating application.

- ✦ Change Source lets you browse your computer for a different source file. Obviously, changing source files is likely to completely change the appearance of your current document. You can also use Change Source to find a source file that has been relocated, thus repairing the severed link.

- ✦ Break Link turns the linked object into a picture, severing its connection with the source file.

You can also choose to either automatically update the linked object whenever you open the destination document or whenever the source file changes, or you can choose to update the linked object only when you click Update Now.

Using the Locked and Save picture options

Some applications include two additional options in this dialog box: Locked and Save Picture in Document. If Locked is available, you can select it to deactivate the Update Now button and prevent the linked object from being updated automatically. You might do this to freeze the data in your document at a particular point in time.

Save picture in document is normally checked. If you uncheck it, you can save a graphic as a linked object instead of inserting it into your document. This can save disk space.

Other Methods of Sharing Data

The four main Office applications (Word, Excel, PowerPoint, and Access) offer additional ways to share data. You'll look at collaborating on a network (including the Internet) in a separate chapter, but there are several other ways in which Office applications work together.

Cross-Reference For a full explanation of how you can collaborate on a network with Office applications, see Chapter 16 of this Super Bible eBook.

Sending a Word document to PowerPoint

Word lets you send the currently active document to PowerPoint as the basis of a new presentation. It automatically turns each paragraph of the document into a new PowerPoint slide (see Figures 9-7 and 9-8), which you can then edit and format as you wish in PowerPoint. To send a document to PowerPoint, choose File⇨Send To⇨Microsoft PowerPoint.

You can reduce the amount of formatting you'll have to do in PowerPoint by using styles. PowerPoint will interpret each Heading 1 style as a title slide, each Heading 2 style as the next level of text, and so on. For that reason, a Word outline actually makes a better PowerPoint presentation than a Word document consisting of long paragraphs of text.
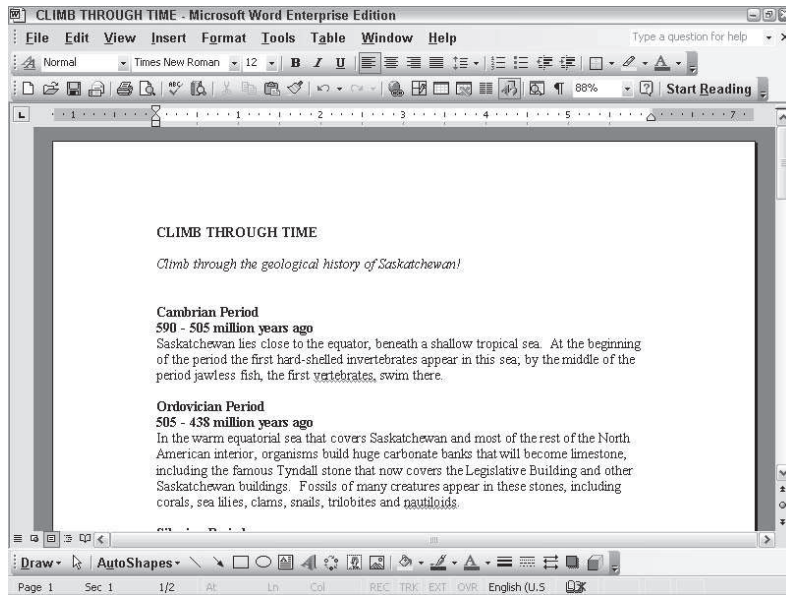
Figure 9-7: This ordinary Word document can be sent to PowerPoint . . .
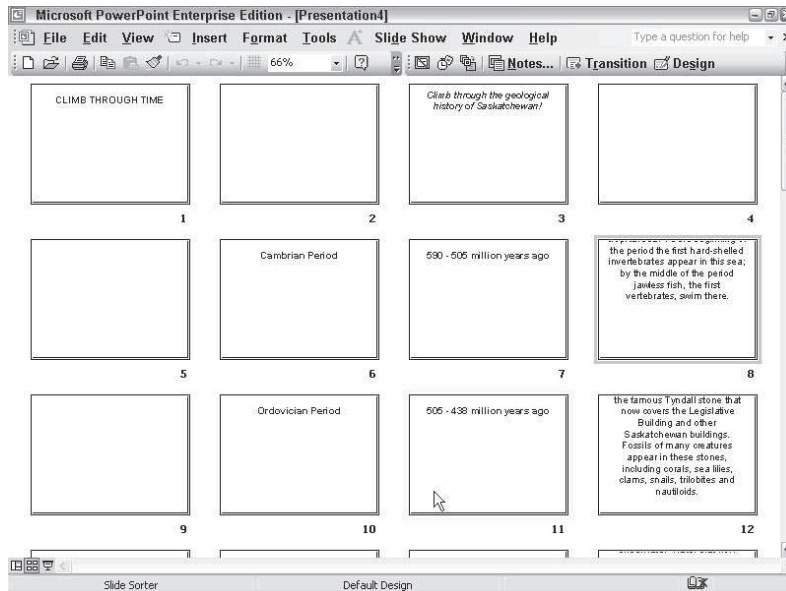
Figure 9-8: . . . where it becomes a presentation in which each paragraph forms a new slide (although obviously some formatting work is needed!).

Analyzing Access data in Excel

Access is a great application for storing and retrieving, but when you want to analyze data, Excel wins out. For that reason, Office makes it easy to analyze Access databases in Excel.

To do so, open the Access table you want to analyze, and then choose Tools⇨Office Links⇨Analyze it with MS Excel. Excel opens the table and converts it into a spreadsheet, where you can play with the data to your heart's content.

Publishing Access reports with Word

Access has a disadvantage when it comes to designing reports for its data: Its tools can seem awkward if you aren't thoroughly familiar with it. But one advantage of Office's integration is that you can usually use data from any application in another application with which you're more comfortable. For that reason, Access also makes it easy to publish reports in Word.

Open the report you want to publish in Word in Access, and then choose Tools⇨Office Links⇨Publish it with MS Word. Access opens Word and converts the report into a new document in RTF format.

Merging Access data in Word

Access also lets you easily merge data from a database table with a Word document. To do so:

1. In Access, open the table you want to merge, and then choose Tools⇨Office Links⇨Merge it with Microsoft Word. This opens the wizard shown in Figure 9-9.
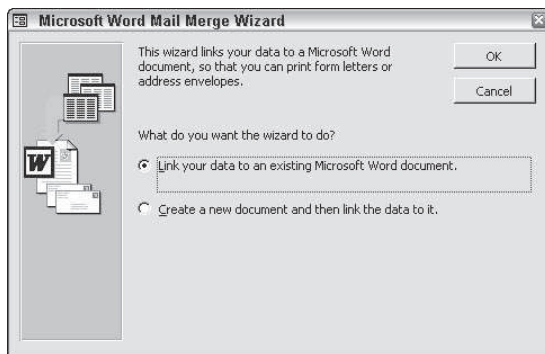
Figure 9-9: Use this wizard to merge Access data in Word.

2. Choose either to link your data to an existing Microsoft Word document — a form letter, for instance — or to create a new document and then link the data to it. If you choose to use an existing document, you'll be asked to select it.

3. Access opens Word and either displays the existing document you chose or a blank document that you can create and format. You can't see it, but the Word document and the Access document are linked.

4. From here on, the process of using the Access data is the same as creating any other mail-merged document in Word.

Sending a PowerPoint presentation to Word

Just as you can turn a Word document into the basis of a PowerPoint presentation, you can turn a presentation into a Word document which you can then edit and format. This can be a great way to create a hard-copy version of it.

To do so, open the presentation you want to turn into a Word document, and choose File⇨Send To⇨Microsoft Word. This opens the dialog box shown in Figure 9-10.
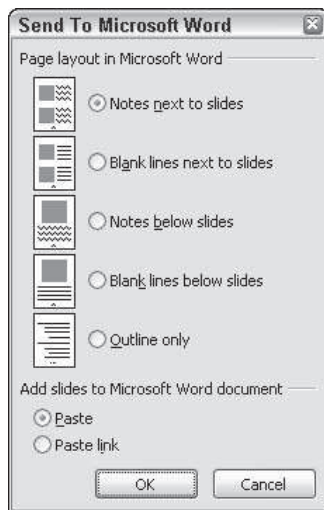
Figure 9-10: Turn your PowerPoint presentation into a Word document, laid out just the way you like it.

Choose how you want to lay out the pages (you can position slides two to a page, with notes or blank lines beside them; one to a page, with notes or blank lines below them; or send the outline only, without any slide images), and whether you want to paste (embed) the presentation into Word or paste it as a linked object.

Click OK. PowerPoint creates a new document in Word and pastes the presentation into it.

Sharing Data with XML

As has been pointed out several times already in this book, Office 2003 offers XML (eXtensible Markup Language) as a native file format — meaning you can save your files as XML files instead of as Office files.

XML is described in greater detail elsewhere, but it's worth reiterating what is likely the clearest definition of differences between HTML (the markup language used to create Web pages) and XML: XML was designed to describe data, focusing on what data is, whereas HTML was designed to display data, focusing on how data looks.

That makes XML an ideal format in which to exchange data between applications, especially between Office and non-Office applications (provided they, too, support XML to the extent Office does).

However, because Office applications do a fine job of interacting with each other with their standard file formats, there's no particular reason to use XML instead when sharing data between them — unless you're also planning to share that data with non-Office applications. In which case you'll find the techniques for inserting linked and embedded files work with Office documents saved in XML format just as they do for Office documents saved in their standard formats.

Summary

In this chapter, you learned ways to build documents using more than one Office application at a time. Key points included the following:

✦ There's more than one way to insert an object from one application into another. You can copy it and select Paste Special, choose Insert⇨Object from the menu, or, in some applications, use built-in tools.

✦ When you use Paste Special, you can choose to insert an object in a number of formats, which vary depending on what kind of object you copied. Typical options include inserting the object as text, as a picture, as a linked or embedded object, or as HTML.

✦ Embedded objects can be edited using the program that created them by double-clicking them.

✦ Linked objects can be edited in the same way. The difference is that linked objects are created from a source file, and if that source file is changed in the originating program, the display in the destination document also changes. This is useful for keeping documents up-to-date when data is changing rapidly.

✦ You can edit all the linked objects in your document by choosing Edit⇨Links. You can choose to update links automatically or manually.

✦ Other ways to share data in Office include sending Word documents to PowerPoint presentations (and vice versa) and sending Access data to Excel for analysis or to Word for publication or mail merging.

✦ You can integrate Office documents saved in XML format exactly the same way as those saved in standard Office formats — useful if you need to keep your documents in XML format for sharing with non-Office users.

✦   ✦   ✦

Integrating Outlook with Other Applications

Computers are wonderful and complex tools. Unlike a simple tool such as a hammer, a computer is intended to handle many very different tasks. This versatility is the result of the broad range of software that is available for modern computers.

In all likelihood, your copy of Outlook came as a part of Microsoft Office. But even if it did not, you probably have software that provides word processing functions, other software that manages database information, and software that handles calculations. You probably have many other applications on your computer, too. All these different pieces of software may seem totally independent of each other, but as you learn in this chapter, you may want to use some of them to complement each other. You might, for example, want to use the contact information that you have in Outlook to help you create perfectly addressed letters using your word processor. You might also want to send a spreadsheet file that you're working on as an e-mail message. These are just a few of the benefits you can gain from integrating Outlook with some of the other applications on your computer.

Integrating Outlook with Office

As you would probably expect, Outlook works very well with the other applications that are a part of Microsoft Office. If you want to use your Outlook Contacts list to create a mail merge in Microsoft, you'll find a command right on the Outlook menu to
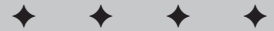
begin the process (Tools ⇨ Mail Merge). In fact, if you want to share information between applications, Outlook is ready both to provide information to other programs and to use information that is provided by other programs.

Much of this two-way data sharing can be thought of as common to many different programs. It's often quite easy to share data between programs provided by different software manufacturers. You don't have to use Word, Excel, or Access to share information with Outlook. Of course, because Microsoft would like you to use their products, they've made it just a bit easier to share information between the programs of Microsoft Office than with other programs.

One way to share information between programs is to use linking or embedding to place an object from one program into a document in another program. Linking places a link in your document so that changes in the original object are reflected in your document. Embedding places a static copy of the object into your document. Linking offers the advantage of smaller document size and always up-to-date content, but embedding offers the advantage of having everything combined into a single package.

You might include a chart from an Excel worksheet in an e-mail message to show your team members how expenses have really increased over the past year. Or you might use a Microsoft Visio image to illustrate an important point about how your new building proposal will fit in with the existing structures in the neighborhood.

Here's a quick example of how you might place an Excel chart into an e-mail message:

1. Create the chart in an Excel worksheet.

2. Select the object that you want to use in your e-mail message. In this case, select the chart of monthly expense.

3. Select Edit ⇨ Copy to copy the object to the Office Clipboard.

4. Switch back to Outlook. If the taskbar is visible, you can click the Outlook icon on the taskbar, or you can use Alt+Tab to switch between applications.

5. Click the Mail Button Bar icon and then click the New Mail Message button to display a new Message form.

6. Choose Format ⇨ Rich Text.

7. Enter the addresses and subject line.

8. Type your message.

9. Select Edit ⇨ Paste Special to display the Paste Special dialog box. You could simply choose Edit ⇨ Paste, but this won't enable you to choose the link option.

Note   A link option sends only a link, not actual data.

10. Choose Paste to embed the object.

11. After you have selected how you want to paste the object, you may be able to select the object type. Generally the types shown at the top of the list will remain the closest to the object's original appearance.

12. Click OK to paste the object as shown in Figure 10-1.
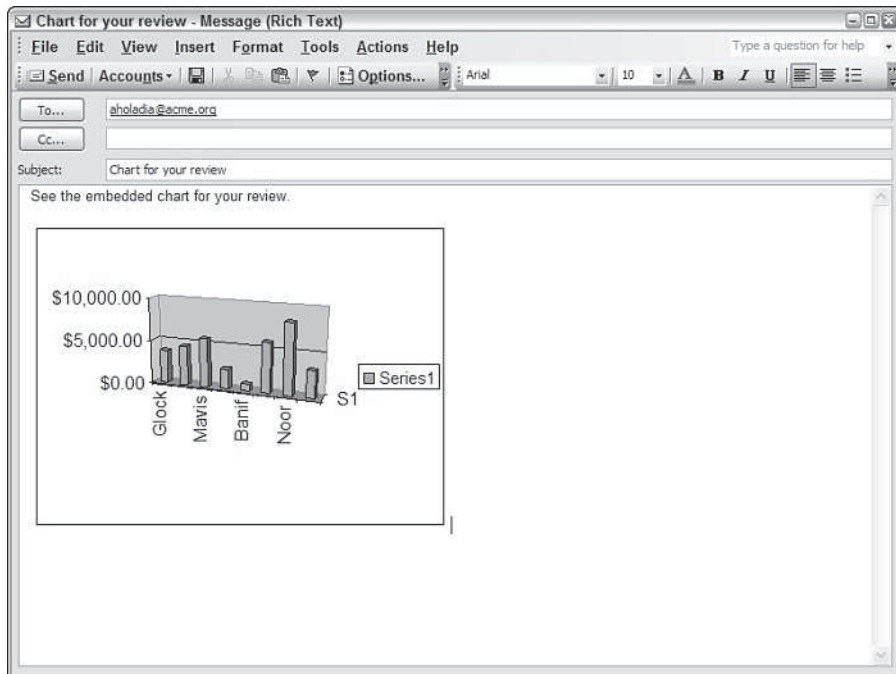
Figure 10-1: Inserted objects become a part of your document.

13. Click Send to send the e-mail message.

Note Don't use plain text as the message format if you want to place objects into the message. You can only paste text into a plain text message.

As you use Outlook and the other applications on your computer, it's a good idea to think about how you might share information between different applications. Don't make the all too common mistake of thinking that information can only be used in documents created in the application where the data resides. As you see in other examples in this chapter, you can almost always find a way to reuse data without going through the work of reentering it in a new program.

Creating a Mail Merge

A mail merge is the process of creating form letters, mailing labels, envelopes, or a catalog from a set of related information. There are several ways to create a mail merge document. You can either use your Outlook Contacts list to create these documents, or you can create them from lists of information that you have in other applications.

Choosing the source for your data can affect what you can do with mail merge:

✦ If you have all the names and addresses in Contacts, Outlook will be the easiest program to use because you won't have to export the information to another application.

✦ Outlook, however, doesn't offer some advanced capabilities that you'll find in other Office programs. If you need to do things like automatically separating the mail merge documents into individual zip codes to take advantage of special mailing rates, you may want to use Excel or Access to do the mail merge.

✦ If you need to produce a very large set of mail merge documents, such as thousands of form letters, you may want to use Access. This would be especially true if you have a huge database and need to be able to select a subset of the records for a particular need.

Getting names from contacts

If you already have the names that you want to use for your mail merge in your Outlook Contacts folder, creating a mail merge directly from Outlook is a simple process. Before you begin, however, you should put a little thought into what information the mail merge will use.

When you perform a mail merge, Outlook provides you with two options. You can create a mail merge using only the selected records, or you can create one from all the contact records that are shown in the current view. Unless you have applied a filter to the current view, Outlook includes all your contact records in the view. Although you may want to create a form letter to send to each of your contacts, it's more likely that you'll want to use a subset of the contact records. Suppose, for example, that you have assigned categories to each of your contacts. If you want to send a form letter to your relatives, you could create a view that shows only those contacts in the family category. You can learn more about filtering your contacts in Chapter 9 of Wiley's *Outlook 2003 Bible*.

To create a mail merge using records in your Contacts list, follow these steps:

1. Open the Contacts folder.

2. If you want to use a subset of the records in the mail merge, do one of the following:

   • Open a view that filters the records so that only the subset of records is shown.

   • Select the records that you want to use. Hold down Ctrl as you select each record to add it to the selection.

3. Select Tools ⇨ Mail Merge to display the Mail Merge Contacts dialog box, shown in Figure 10-2.
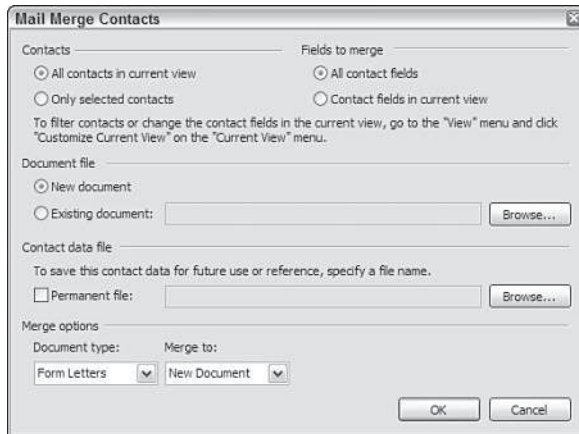
Figure 10-2: Use the Mail Merge Contacts dialog box to produce a mail merge from contact records.

4. Select which records to merge:

- Choose All contacts in current view if you have applied a filter to select a subset of records or if you want to use all your contacts.

- Choose Only selected contacts if you selected the subset of records manually before beginning the mail merge.

5. Select which fields to include:

- Choose All contact fields if you want the mail merge to include all of the contact information.

- Choose Contact fields in current view if you want the mail merge to include only those fields that are displayed in the current view.

6. Choose whether you want to create a new document or use an existing one. To use an existing document, you can locate the document via the Browse button.

7. Select the Permanent file check box and specify a filename if you want to save the mail merge data for future use. You might want to choose this option to provide a permanent record of the contacts that you used for this mail merge. Normally,

though, you'll want to perform a new mail merge each time you need the informa-
tion so that you don't accidentally use outdated information.

8. Select the type of mail merge document from the drop-down Document type
   list box:

   - Form letters are documents that include merged information along with additional
     text that you specify.

   - Mailing labels are documents that contain multiple labels on each sheet. These are
     generally printed on peel-off label stock in standard sizes.

   - Envelopes are similar to mailing labels, except that the addresses are printed
     directly on standard-size envelopes.

   - Catalogs are similar to mailing labels, except that they are usually printed on plain
     paper and are intended for uses such as membership lists.

9. Choose the destination from the drop-down Merge to list box, shown in Figure 10-3:

   - New Document produces a document file that you can further edit as needed
     before printing.

   - Printer sends the merged document directly to the default system printer.

   - E-mail creates e-mail messages and places them in your Outbox.
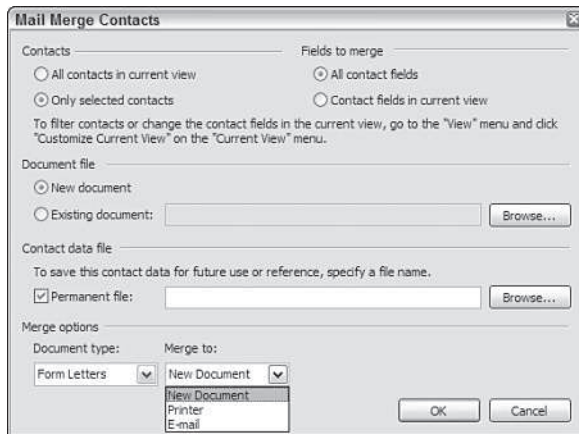
Figure 10-3: Choose the correct destination for the merged documents.

10. If your current view includes any distribution lists, they will not be incorporated in the mail merge. Click OK to confirm the message regarding this if it appears.

11. After Word opens, click the Insert Merge Field button to display the Insert Merge Field dialog box as shown in Figure 10-4. Double-click to add fields to the document. If you need to add spaces between fields, click Close, add a space, and reopen the Insert Merge Field dialog box.
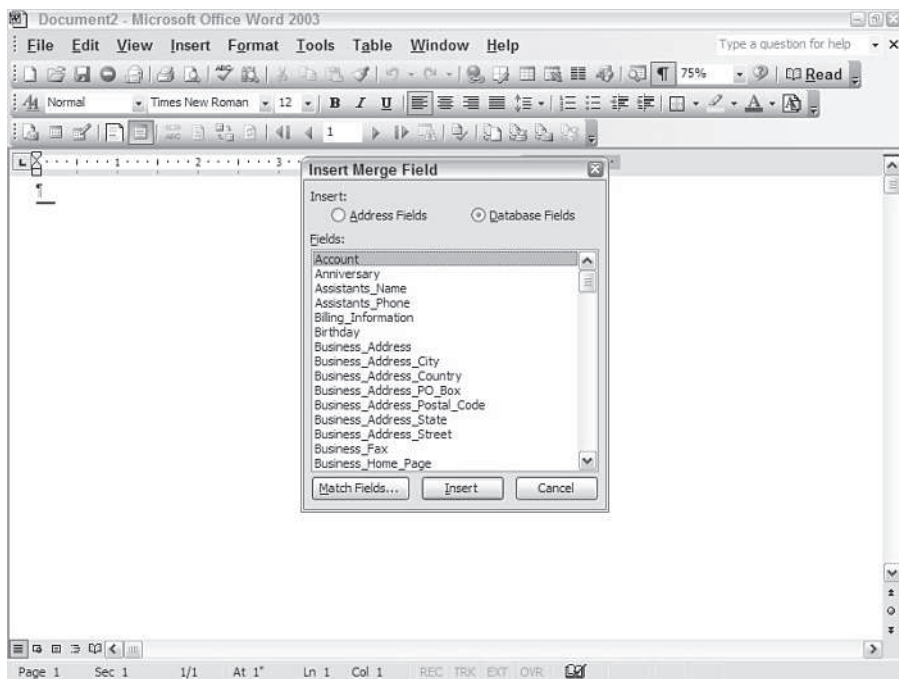
Figure 10-4: Add merge fields to your document.

12. Enter any additional text as necessary to complete your document.

13. Click the Merge to New Document button to display the Merge to New Document dialog box, shown in Figure 10-5.
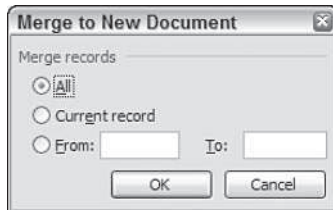
Figure 10-5: Select the number of records you want to use in your merge.

14. Click All, Current Record, or specify the range of contacts you want included in the mail merge.

15. Click OK to complete your mail merge. Figure 10-6 shows an example of a completed form letter with the contact information substituted for the merge fields. If you chose to merge to the printer, fax, or e-mail, the completed mail merge documents will be directed to the correct destination rather than to documents.

February·16,·2003¶

¶
¶
Angela·Barbor¶
Ace·Industries¶
123·Main·Street¶
Noble,·TN·55512¶

¶
(555)·555-1234¶

¶
Dear·Angela,¶

¶
We·wish·to·inform·you·of·our·upcoming·products·that·will·be·introduced·during·our·next·
quarter.·¶

Figure 10-6: Your completed mail merge replaces the merge fields with the information from your Contacts list.

16. Print and save your mail merge documents as necessary.

Note

Mail merge documents often contain nasty surprises such as missing or misplaced information. It's a good idea to practice using mail merge in advance to make certain that your mail merge works as you expect. In addition, it's always a good idea to take a quick look through the merged documents before you print and mail them. You may find that you need to do some additional tune-up of the master mail merge document before it is really ready to produce the documents that you want.

Sending an E-mail from an Application

Outlook's messaging capabilities make it easy for you to open Outlook and create a new e-mail message. Although this is certainly not a difficult task, switching between applications can be a distraction — especially if you're deep into a project and discover something important that you need to send out immediately. You've probably experienced this; you're working on a spreadsheet or a report and decide that you should send off a copy to someone else. So you switch over to Outlook and click the New Mail Message button, address the message, and begin to type your message. You then click the Insert File button and realize that you can't remember the correct filename. And even if you can remember the name of the file that you want to send, you aren't absolutely certain that you saved your latest revisions to the file. You switch back to the original program, click the Save button, note the filename, and switch back to your e-mail message. You complete the message and send it off, but you're frustrated by all the time that you've wasted.

Even if you've never thought about it before, you're probably starting to realize that it might be just a bit easier if you could send a document as an e-mail message without all that switching back and forth. Not only would it be less distracting to your train of thought, but you wouldn't have to try to remember the name of the file that you want to send, nor just exactly where you saved it.

You can send an e-mail message directly from any Office application as well as from many other Windows programs. The process is similar in most applications, so the following example shows you how to send an Excel worksheet from within Excel.

To send a document directly from an application, follow these steps:

1. Open the document that you want to send. In some programs, you must name the document by saving it before you can send it as an e-mail message.

2. Select File ⇨ Send To to display the Send To menu, shown in Figure 10-7. Different applications may have different sets of options on the Send To menu, but most will include a Mail Recipient option.
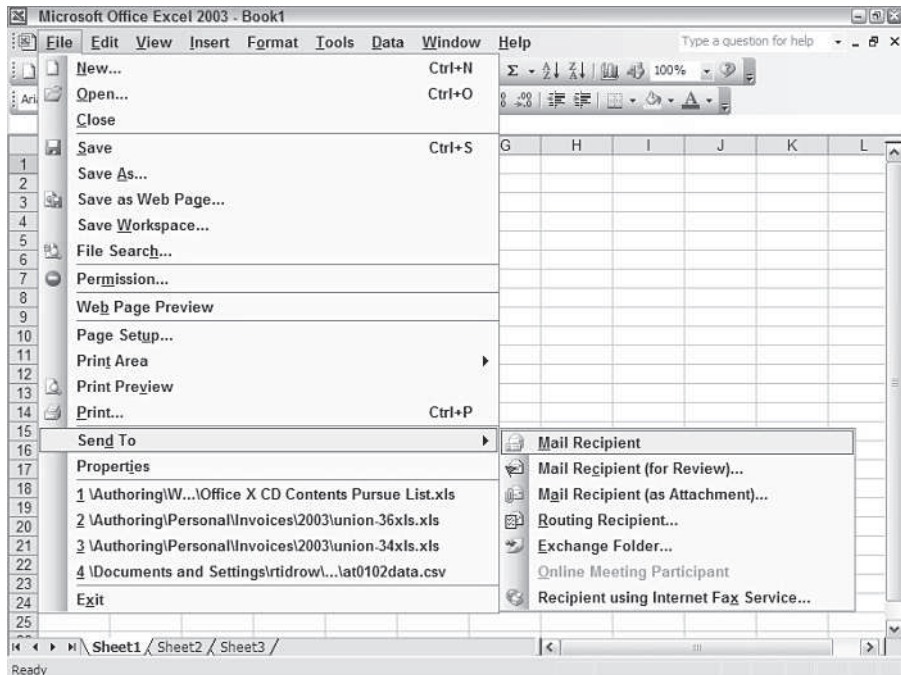
Figure 10-7: You can send a document from within the application that created it.

3. Choose the option you prefer:

- Mail Recipient generally sends the document as a file attachment, but in Office 2003 applications, you can choose to send the document as an HTML page.

- Mail Recipient (for Review) specifies that you want to send this file out for others to insert comments for review.

- Mail Recipient (as Attachment) specifies that you wish to send the document as a file attachment to a text message.

- Routing Recipient sends the file to a specified group of people and returns it to you when everyone has finished adding changes.

- Exchange Folder sends the file to an Exchange Server folder, where it will be available to all authorized users of that folder.

- Online Meeting Participant sends the file to someone who is participating with you in an online meeting using NetMeeting.

- Fax Service enables you to send the document as a fax using a fax driver or fax service (such as via the Internet).

4. If you selected Mail Recipient in an Office 2003 application, you'll next see a message similar to the one shown in Figure 10-8. Choose the format that best suits your needs and then click OK.
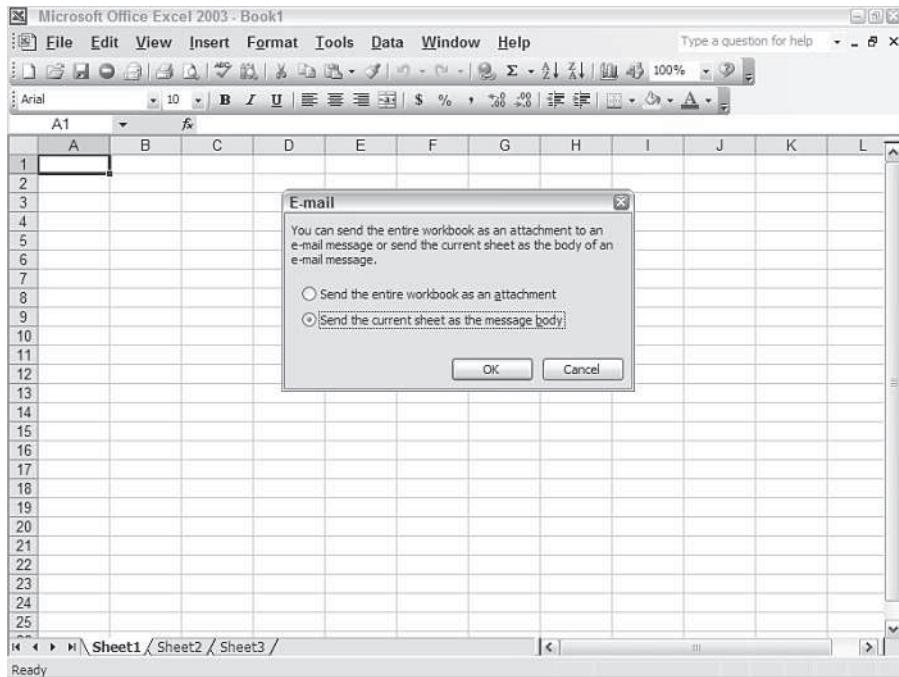
Figure 10-8: Choose the proper document format.

5. Select the message recipients.

6. Enter any additional text and set any message options as necessary. Figure 10-9 shows the message ready to send.
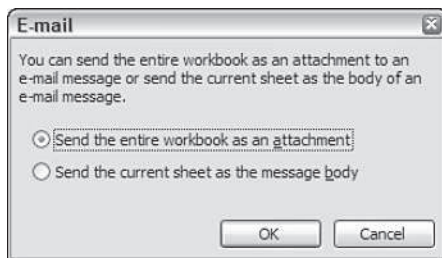
Figure 10-9: Complete the message just as you would if you were sending it from Outlook.

7. Click the Send button to send your message.

What happens after you click the Send button may depend on several factors. If Outlook is running, the message should be sent to your Outbox. If Outlook is not running, the message may be sent immediately using Outlook Express, or you may be prompted to select a messaging profile — depending on the application that you used to create the e-mail message. To prevent confusion, it's usually best to make certain Outlook is running before you decide to send an e-mail message.

Importing and Exporting Data

Your computer is probably worth a fraction of what the data it contains is worth to you. If you think about all the time and effort that you've put into entering information into various programs, documents, and databases, it's easy to see how valuable that information may be. As important as that data may be, it's not useful if you can't use the information the way you need to.

Outlook handles many different types of data. You may have several sources of data that you would like to use in Outlook, and you may have a number of places where your Outlook data might also be useful. The key to making all of this data more useful is to import and export the information so that you can use it where you need it.

Note   Outlook can import more types of data than it can export. If you need to use data from another program in Outlook, or use Outlook data in another program, you may encounter situations where neither program seems to support the other's format. If so, look for another format that both programs support such as dBase, comma-separated values, or even tab-separated values. If you cannot find a common format, you may be able to use Word, Excel, or Access to handle the format conversion.

Importing information into Outlook

There are several types of information that you may want to import into Outlook. Typically, though, these fall into a few categories:

✦ Contact information such as e-mail addresses

✦ vCard electronic business cards

✦ iCalendar scheduling information

✦ Messages stored in Personal Folder files

✦ Internet mail account settings, such as from other e-mail programs (Eudora Pro for example)

✦ Internet mail and addresses, such as from Eudora Pro

To import data into Outlook, follow these steps:

1. Select File ⇨ Import and Export to display the Import and Export Wizard.If you have the Microsoft Outlook Business Contact Manager installed, you will need to select File ⇨ Import and Export ⇨ Outlook.

2. Select the type of information that you want to import. If you aren't sure which option to choose, select each option and read the description in the lower part of the dialog box.

3. Click Next to continue.

4. Choose the type of file you wish to import. The choices will vary according to your selection in step 2.

5. Click Next to continue.

6. Select the name of the file that you want to import.

7. Choose any options for the import. These will vary according to the type of file that you are importing.

8. Click Next to continue.

9. If you are importing from a Personal Folder file, choose which folders you want to import. If you are importing data from other types of sources, you probably won't have to make this selection.

10. If you want to set up custom field mappings, click the Map Custom Fields button to display the Map Custom Fields dialog box. Drag values from the left list to the right list to map the fields as necessary.

11. Click OK.

12. Click the Finish button to import the data.

Other types of data sources will involve different sequences of steps, but the import process will be similar in all cases. You must choose the type of data, the source file, and how to handle duplicates.

Exporting information from Outlook

Just as you can import data into Outlook from several different formats, you can also export Outlook data into a number of formats. Sometimes, though, the way that Outlook exports data may leave something to be desired. Fortunately, there are alternatives that may work better in some cases.

To export data from Outlook, follow these steps:

1. Select File ⇨ Import and Export to display the Import and Export Wizard. If you have the Microsoft Outlook Business Contact Manager installed, you will need to select File ⇨ Import and Export ⇨ Outlook

2. Select Export to a file option.

3. Click Next to continue.

4. Choose the type of file you want to create. Most of the format options are best suited for exporting contact information.

5. Click Next to continue. If this is the first time that you have exported data to a particular format, you may need to insert your Outlook CD-ROM so that the correct export filter can be installed.

6. Select the folder that you want to export. If you choose a folder other than Contacts, you may not be pleased with the results — especially if you hope to save messages. See "Saving Outlook messages" later in this chapter for a better way to save your message text.

7. Click Next to continue.

8. Specify a name for the exported data file.

9. Click Next to continue.

10. Verify the actions to be performed, and then click the Finish button to export the data.

Note   Be sure to open the exported data file to verify the contents before you delete the data within Outlook. You may discover that the exported data is incomplete or unusable, and it is far better to determine this while you can still recover the information in Outlook.

Saving Outlook messages

If you look at data that you've exported from Outlook, you may be somewhat less than thrilled with the results. The reason for this is that data you export is generally saved in a database type of format, and this may not be what you intended — especially if you were trying to save a message for use in another program.

When you want to save a message, there's another way to do so that will generally produce better results than exporting the message. Follow these steps to save a message as a text file:

1. Select the message that you want to save.

2. Select File ⇨ Save As to display the Save As dialog box, shown in Figure 10-10.
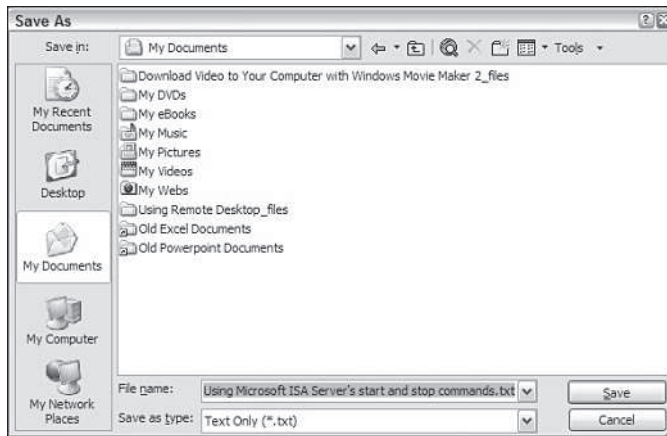
Figure 10-10: Save a message rather than exporting it if you want the message text to appear in a file.

3. Choose the destination for the file.

4. Enter a filename for the message. By default, Outlook will use the message subject as the filename.

5. Click Save to save the file.

When you save a message as a text file, Outlook includes the message header information at the top of the text file. This makes it easy for you to see the information such as who sent the message, the message date, the recipients, and the subject line. Following all of this, you'll see the message text.

Tip Saving a message as text does not save any message attachments. Be sure to save any important attachments separately.

Summary

Outlook is a capable program, but that doesn't mean you have to use it in isolation. As you learned in this chapter, Outlook works well with other programs. You saw that Outlook integrates with the other programs in Microsoft Office. You also learned how to use Outlook's Contacts list to produce form letters using mail merge. You saw that sending e-mail from within other applications is sometimes easier than switching back to Outlook, and you learned how to share data between Outlook and other programs.

✦   ✦   ✦

Comments and Reviewing Functions in Word

For many people — especially those employed in the publishing business — Word's reviewing tools have become an essential part of our word-processing arsenal. You might remember a few years ago when word-processed documents were still being marked up by hand. FedEx made a lot of money from the publishing business in those days, as editors would make changes to printed copies of pages and ship them to authors, who would make their changes and ship them back.

These days, FedEx isn't doing quite so well off publishers, and the publishing business has sped up. Everyone working on a file can now make changes to an electronic version and e-mail it to the next person. It's much easier, much quicker, and far less hassle. This chapter looks at the tools that Word provides to you for comments and reviews, tools that enable people to add information to your documents, yet still provide you with the power to approve or disapprove the changes.

There are two ways for people to make comments or changes to a document in a collaborative setting. You can place *comments* in the document, or you can *track changes* with the *reviewing* tools.

✦ Comments are great for when you don't want to change the text itself, you simply want to add your own thoughts to it.

✦ The track changes/reviewing feature is a more advanced feature that enables two or more people to actually modify the document, with Word tracking who made each change.
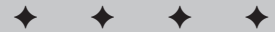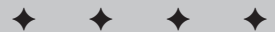
Placing Comments in Documents

Word's *comments* feature is a quick and easy way to add ancillary information to a document. You can use comments to leave reminders for yourself or notes to other people. Comments do not affect a document's formatting, and they do not print with the document (unless you specifically tell them to). Therefore, you can insert comments anywhere without worrying about them ending up in your final printout by mistake.

To insert a comment, choose Insert⇨Comment. Word places brackets around the word you just typed, inserts a tag showing your initials, and either opens the Reviewing pane — if you are in Normal or Outline view (see Figure 11-1) — or displays a comment balloon in the right margin if you are in any other view. It also opens the Reviewing toolbar. You can now type your comment.

Note   Word assigns reviewer initials based on the information in the User Information tab of the Options dialog box (Tools⇨Options). The Reviewing pane also shows your name, in the center of the comment's title bar. If you want to be identified differently, simply edit the User Information tab.
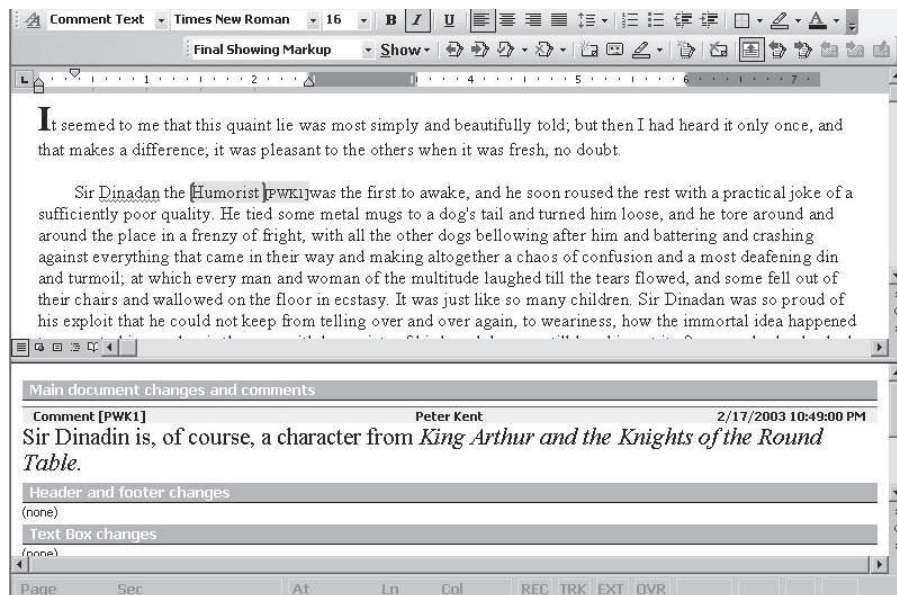
Figure 11-1: A comment placed into a document.

You can switch between the Reviewing pane — which contains both comments and information about reviewing changes, which is covered later in this chapter — and your document-editing area by clicking in either area or by pressing F6. You can adjust the size of the Reviewing pane by dragging the split bar that separates the two panes on your screen, and you can close it by double-clicking the split bar.

You can also use the Reviewing toolbar (View⇨Toolbars⇨Reviewing) to work with Comments. This toolbar is intended mainly for use with the Reviewing features, which you learn about later in the chapter, but it also has a few comment-related features. The toolbar includes the Insert Comment button and the Delete Comment button. You click the Insert Button at the point where you want to place a comment; you click inside a comment and then click the Delete Comment button to remove a comment. The Reviewing Pane button opens and closes the Reviewing pane. In Figure 11-2, the toolbar has been expanded. Not all the buttons appear by default. You can add several other comment buttons, including Previous Comment and Next Comment (used to move between comments) and Edit Comment.

Tip
To turn the display of comments on and off, you need to click the Show drop-down arrow on the Reviewing toolbar and select Comments from the list.

Figure 11-2: The Reviewing toolbar.

Working with comments

Comments can be identified in a number of ways, even while the Reviewing pane is closed. Assuming that you have turned on the display of comments in the Reviewing toolbar (Show⇨Comments), comments can be seen in all views. A light pink background is placed behind the word to which the comment is attached and behind the reviewer's initials. In addition, the word being commented on is enclosed in red brackets, and the initials are enclosed in black brackets. When you click on comment text inside the Reviewing pane, the corresponding comment tag within the document is shown with a deeper pink and darker, thicker red brackets.

In some views (Print Layout, Web Layout, Reading Layout, and Print Preview), you see a comment balloon instead of the pink background and brackets within the text (see Figure 11-3). The balloon appears in the margin to the right of the comment and has a pink background. Comment balloons are visible in the views just mentioned unless the display of balloons has been turned off. Click the Show button on the Reviewing toolbar and select Balloons to see if Word is set to Always Show Balloons or Never Show Balloons. (Note that you can choose View⇨Markup to turn off the color behind the comment but leave the initials in place.)
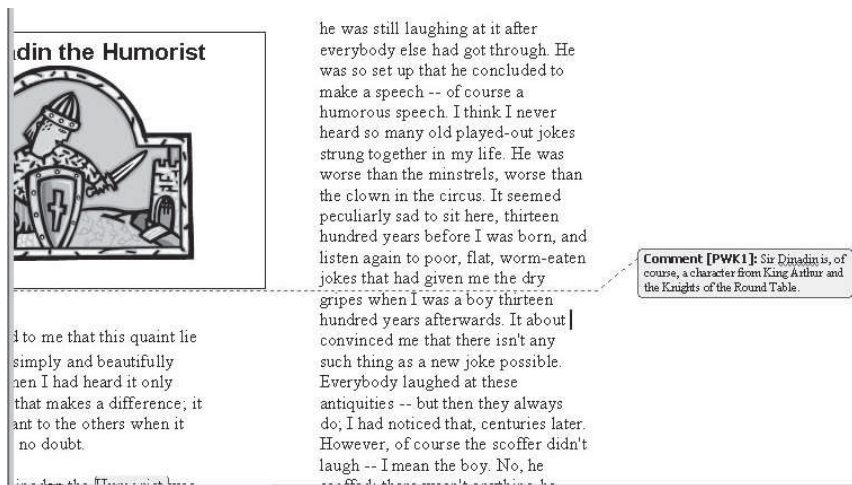
Figure 11-3: The comment balloon.

To reopen the Reviewing pane — in which you can read comments — double-click a comment mark in the document or click Reviewing Pane on the Reviewing toolbar. If you plan to insert or edit multiple comments, you can leave the Reviewing pane open while you work on your document.

When you select a comment in the Reviewing pane, Word automatically highlights the corresponding document text. If you want the comment to refer to more than one word in the document, select the text before inserting the comment.

Tip   Deleting comments is generally quite easy. Place the cursor immediately after a comment and press the Backspace key twice. Alternatively, you can right-click inside the comment, or in the comment text inside the Reviewing pane, and select Delete Comment.

Inserting voice comments

If your computer has sound capabilities — and most do these days — you can use voice comments to add some personality to your comments. You can even combine text and voice comments for the same reference area. Just create a standard text comment using the techniques described earlier. Then, with your insertion point directly after the comment mark in the document window, add the voice comment.

To insert a voice comment, follow these steps:

1. Position your insertion point where you want the voice comment to appear. If you want the comment to refer to a specific section, select the text before you proceed.

2. Click the Insert Voice button on the Reviewing toolbar. The Reviewing pane opens, the normal Comment brackets and shading are placed in the document, a loudspeaker icon is placed inside the Reviewing pane, and Windows Sound Recorder opens (see Figure 11-4).

3. Click the red Record button in Sound Recorder — the last button at the bottom right — and begin speaking.

4. Record your words and then click the black-rectangle Stop button in Sound Recorder when you have finished. You can record up to 60 seconds.

5. Close Sound Recorder.
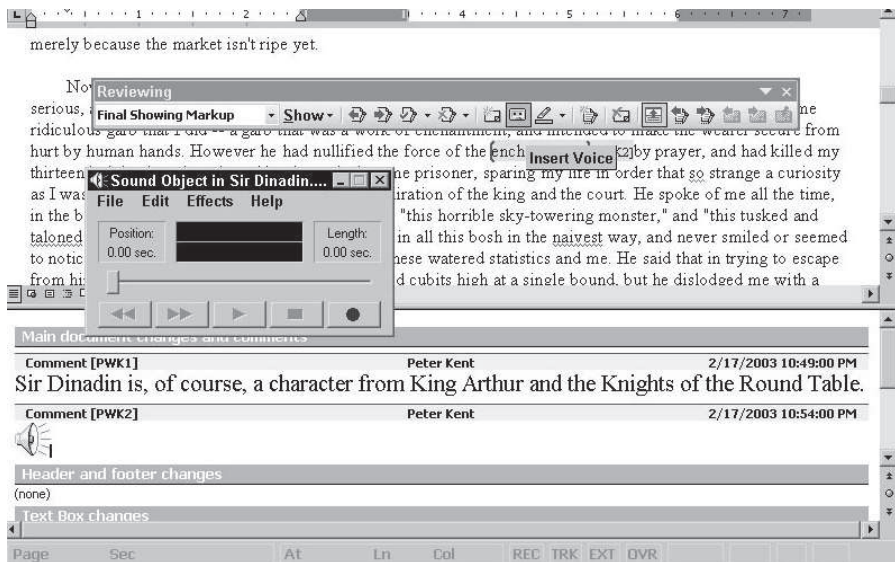
Figure 11-4: Use Sound Recorder to add a voice comment.

Tip

Before you create sound comments, be sure you know whether the other people looking at the document also have sound capabilities on their computers. If they don't, they won't be able to listen to your comments.

To listen to a sound comment, simply double-click the loudspeaker icon in the Reviewing pane. You also can right-click the icon, point to Sound Recorder Document Object in the shortcut menu, and then choose Play.

Don't think, however, that you can use voice comments all over the place — whenever and wherever you want. Voice comments take up a lot of room. A single short comment may make the file too large to fit on a floppy disk for instance, or too large to place in an e-mail message.

> **Note**   If your computer system is pen-equipped, you can also add handwritten pen comments. Pen comments are treated like drawing objects.

Changing and manipulating comments

Working in the Reviewing pane, you can edit and format comments just like any other text. Use any of the techniques in the next section to find the comment that you want to edit or format, and then fire away. You can include most Word elements in a comment; graphics, frames, and even tables are all fair game. The TC (table of contents entry) and XE (index entry) fields cannot be inserted in comments, but most things that you can use in a regular document can also be used in a comment.

You can move, copy, or delete comments just like any other element. Just remember that you first must select the comment mark before you can move, copy, or delete it. When you move, copy, or delete comments, Word automatically renumbers the comment marks both in the document window and in the Reviewing pane.

To move or copy a selected comment to different locations in the same document, or even to different documents, use any standard cut, copy, or paste technique, including dragging and dropping with the mouse.

The Replace feature can globally delete all comments in your document. Just choose Edit⇨Replace and type **^a** in the Find What text box. Leave the Replace With text box blank, and choose the Replace All button.

If you plan to pass the document back to the original reviewer or to someone else for further edits, you can answer a comment inserted by someone else. After you view a particular comment in the ScreenTip to which you want to respond, place the insertion point to the right of the mark and then click the Insert Comment button on the Reviewing toolbar. Word then inserts a new comment directly following the current one, and Word also moves the insertion point to the Reviewing pane, in which you enter your comment. The new comment with your initials appears right after the original reviewer's comment, and all comments are renumbered accordingly. Figure 11-5 shows a new comment inserted in response to an existing comment. Note the different initials and the renumbering of the other comments. In addition, comments by different reviewers are displayed in different colors both in the document and in the Reviewing pane.
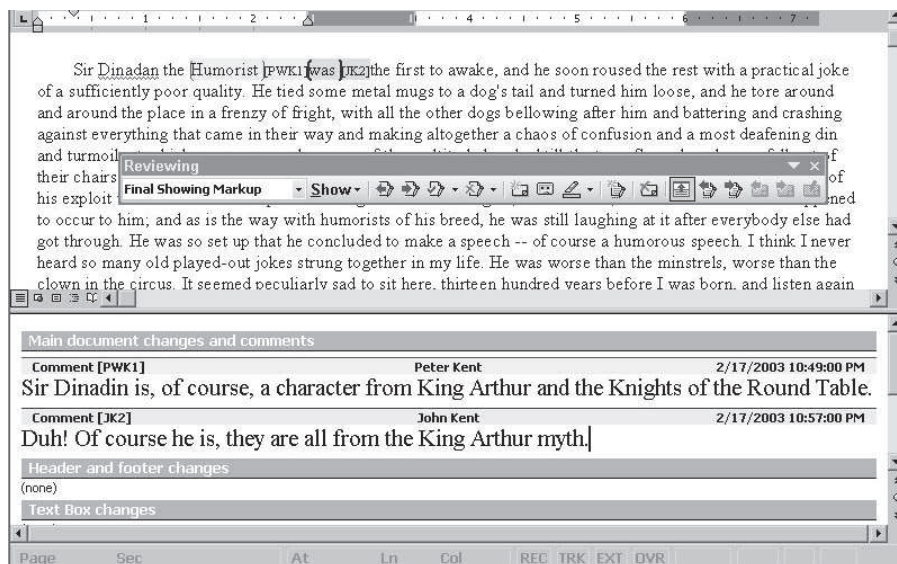
Figure 11-5: A response comment.

Reviewing comments

When the Reviewing pane is open, you can view all comments attached to the document simply by scrolling through the pane, just as you scroll through any other text. By default, all comments are visible when the Reviewing pane is open.

To review comments sequentially, you can use the Next Comment and Previous Comment buttons on the Reviewing toolbar. The vertical scroll bars in both the document and Reviewing pane also contain Next Comment and Previous Comment buttons below the scroll arrows. The button between Next and Previous is the Select Browse Object button, with which you can specify the type of object that you want to review. To move through comments, click the Select Browse Object button and then select Browse by Comment from the displayed palette.

To search for a specific comment or for comments from specific reviewers, use the Go To feature, which you can access by choosing Edit⇨Go To, pressing Ctrl+G, or pressing F5. Word numbers comments sequentially for all reviewers throughout a document, but comments by individual reviewers are not numbered separately. As comments are inserted or deleted, the existing comments are renumbered accordingly.

To search for a specific comment, follow these steps:

   1. Choose Edit⇨Go To, press Ctrl+G, or press F5. The Find and Replace dialog box appears with the Go To tab displayed.

2. Select Comment in the Go to What list. Figure 11-6 shows the Go To tab with Comment selected.
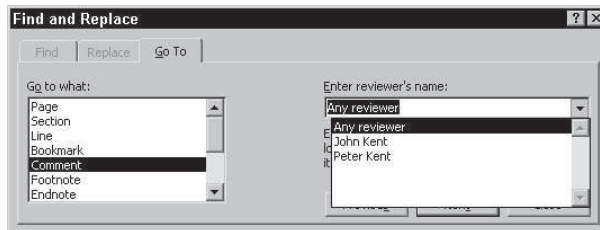
Figure 11-6: The Go To tab of the Find and Replace dialog box with Comment selected.

3. Do one of the following:

   • To find a specific reviewer's comment, select that reviewer's name from the Enter Reviewer's Name drop-down list. The names of all reviewers who have added comments to the document appear on this list.

   • To find a specific comment, enter the number of that comment (without the reviewer's initials) in the Enter Reviewer's Name text box. Note that when you enter a number, the Next button in the Go To dialog box is replaced by a Go To button.

   • To find a comment that is positioned relative to your current location, enter a number preceded by a plus or a minus sign. For example, to find the third comment following your current position, enter +3 in the text box.

4. If you specified a comment number or a relative position, click the Go To button. If you specified a reviewer, click the Next or Previous button to jump to the next or the previous comment for that reviewer.

   The insertion point jumps to the specified comment mark in your document window. You then can view, edit, or delete that comment.

Tip

You also can use Word's Find feature to search for comment marks without specifying a particular comment or reviewer. Just choose Edit⇨Find to open the Find and Replace dialog box. Type **^a** into the Find What box. When you use this feature to find a comment, Word opens the Reviewing pane and then moves the insertion point to the next or previous comment (depending on your Search rule) inside the Reviewing pane.

Note

If you want to prevent reviewers from changing a document, you can protect the document for comments. That way, the only elements that anyone can add to that document are comments.

Printing comments

Comments print depending on the manner in which you display them.

✦ Hide the balloons, hide the Reviewing pane, and print. Your document prints without comments.

✦ Show the balloons and print, and your document prints with the balloons in the right margin. Note, however, that Word may have to adjust the margins to provide room for the balloons.

✦ Open the Reviewing pane, click inside the pane, and print. The Reviewing pane itself is printed, without the rest of the document.

Highlighting text

The Highlight button on the Reviewing or the Formatting toolbar is another tool for online document revision. The button, and the ScreenTip text that appears when you point at it, indicates the current color selection.

You can use the Highlight button in several different ways:

✦ Select the text and click the button to color the text background.

✦ Select the text and click the Highlight down-arrow; then choose a color from the drop-down palette of colors.

✦ Don't select any text. Click the button or select a color, and the mouse pointer changes into a pen. Drag the pen across the text you want to color or, if you want to highlight only a single word, double-click that word. To discontinue highlighting, click the Highlight button again or press Esc. The highlight gives the effect of having marked the text with a colored felt pen.

Tip If you plan to print the document, be sure to use a light color. This way, the text shows through the highlight.

After you have added your highlighted comments or revisions, you can use the Edit⇨Find command to locate each occurrence. Select Highlight in the Format list and then click Find Next.

To change the color of all the highlighted text in the document, use the Replace option on the Edit menu. Start by selecting a new highlight color; then choose Edit⇨Replace, place the insertion point in the Find What text box, and select Highlight from the Format button menu. Place the insertion point in the Replace With text box, and again select Highlight from the Format button menu. Click Replace All, and the old color is replaced with the new.

Tip The View tab of the Options dialog box (Tools⇨Options) includes an option for showing or hiding the highlight both on-screen and when the document prints.

Using Reviewing Tools

You can use the Track Changes/Reviewing feature to keep track of the changes made to a document, no matter how many people work on it. Instead of each person actually changing the original document as he or she edits it, changes are marked as revisions that can later be accepted and incorporated into the document or rejected and discarded. The Reviewing toolbar has all of the tools you need for tracking as well as processing changes to your documents.

> **Note**   You can protect your document to stop reviewers making changes to the document without tracking changes.

Adding revision marks

To have Word mark additions, deletions, and format changes automatically, turn on the Track Changes option. After you turn on change tracking, any changes that you make are marked. For example, if you move text, the text in the original location does not disappear, but it is marked for deletion. Likewise, the text in the new location is marked for insertion. If you delete text that was added while editing, however, that text actually is deleted. Word also provides change tracking for changes in formatting as well as in text.

> **Tip**   Before you begin marking a document, save a copy of it under a different name. That way, you can always go back to the original if any problems arise or you need to double-check something.

To turn on change tracking, choose Tools⇨Track Changes, press Ctrl+Shift+E, or double-click the TRK box in the middle of the status bar. The Reviewing toolbar opens automatically. By default, Final Showing Markup appears in the drop-down list box. But if you don't want revision marks to be displayed while you work (they can be very distracting), select Final. Word will continue marking the changes, you just won't be able to see them until you change this setting.

Working in a document that displays all changes can be very confusing. With Final selected, you can go ahead and make whatever changes you want and forget about tracking . . . with one caveat. If you turn off the tracking of changes for some reason, you may forget to turn it back on because you are used to working without seeing the changes marked.

> **Note**   To turn off tracking, double-click the TRK box on the status bar, right-click the TRK box and select Track Changes, or click the Track Changes button on the toolbar.

Viewing changes

Now that you've made a few changes, how can you see them? Select one of the Display for Review settings from the drop-down list box on the Reviewing toolbar:

✦ **Final Showing Markup:** Shows the final document — containing all changes made — and marks all the changes so you can quickly see them.

✦ **Final:** Shows the way the final document would appear if you accepted all the changes. The changes are not marked in any way.

✦ **Original Showing Markup:** This is very similar to Final Showing Markup, with the exception that formatting changes are not included. For instance, if you changed a paragraph from one format to another, the paragraph will be shown with the original, not the final, formatting.

✦ **Original:** This shows the document as it appeared before changes were made.

To see the changes you need to select either Final Showing Markup or Original Showing Markup, which are very similar. In most cases, you'll probably want to use the former. The latter is the same with the exception that you will see the paragraph and font formatting that was in the original document rather than the final.

And what exactly will you see? Something like that shown in Figure 11-7.

✦ Text that has been added is shown underlined.

✦ Deleted text has a strikethrough line through it (although you don't see it in Page Layout view, it's simply removed).

✦ A vertical line is placed in the document margin next to changes.

✦ Changes from various reviewers are shown in different colors (up to eight reviewers).

✦ Point at a change and pause for a moment, and a box opens describing the change and telling you who made it and when (choose Tools⇨Options, click the View tab, and then click to enable the ScreenTips option in the Show section for this to work).

✦ In Print Layout, Reading Layout, Web Layout, and Print Preview, you'll see balloons in the right margin with lines pointing to the changes. The balloon text explains the change made. For this to work, Show⇨Balloons⇨Always Use Balloons must be selected on the toolbar. You can also choose Show⇨Balloons⇨No Insertion/Deletion Balloons to limit the number of balloons that appear. With this option selected, you see only balloons describing formatting changes.

✦ Choose Show⇨Insertions and Deletions to turn off the display of underlining, strikethrough, and color for insertions and deletions. Show⇨Formatting turns off the display of Formatting changes.

✦ Click the Reviewing Pane button to open the pane. Then scroll through to see a list of all the changes made in the document, with the name of the reviewer in the middle of each item's title bar. The title bar also shows the time and date of the change.
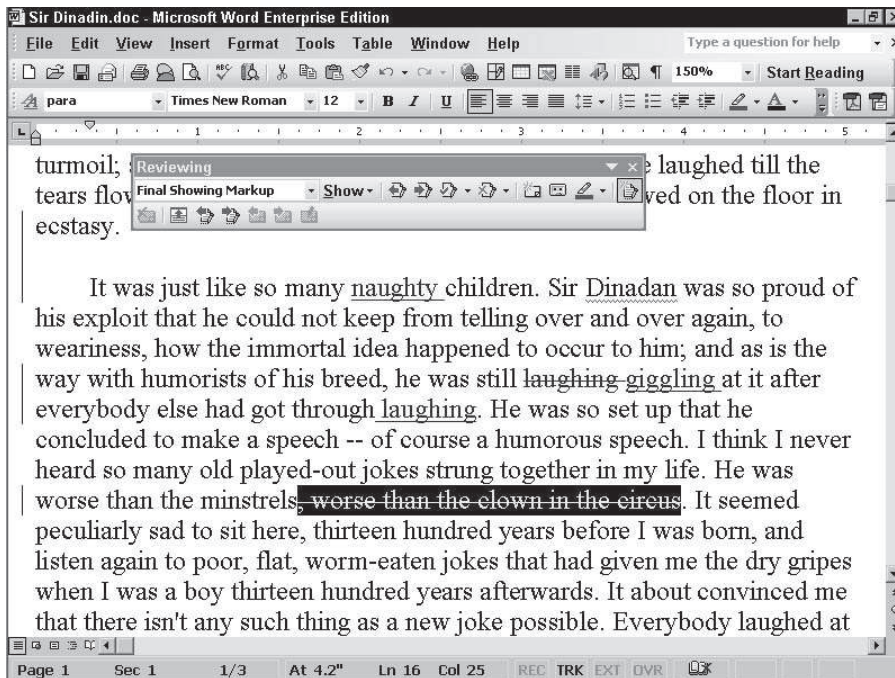
Figure 11-7: A document with revisions marked.

Reviewing, accepting, and rejecting changes

As you can see, you can view all the changes that have been made, and even tell who made them. You can read through, figure out which changes you want to keep, and accept or deny changes. When you accept a change, the revision marking for that item is removed. In other words, text marked for deletion is cut from the document, text marked as inserted text is incorporated into the document, and text marked for reformatting is reformatted.

Use the Reviewing toolbar buttons to quickly review changes:

✦ Jump between changes using the Previous and Next buttons.

✦ Accept a selected change by clicking the Accept Change button.

✦ Click the triangle on the Accept Change button to open a menu, and select Accept Change, Accept All Changes Shown, or Accept All Changes in Document (to accept all changes in the document in one fell swoop).

✦ Click the Reject Change button to reject the selected change.

✦ Click the triangle on the Reject Change button to open a menu, and then select Reject Change, Reject All Changes Shown, or Reject All Changes in Document (to reject all changes in the document in one fell swoop).

Note

Good news! When you click on Accept Change or Delete Change, the change is accepted or rejected . . . and Word doesn't move. You can now see the change you've just made, and then click the Next button to move on. That may not sound important, but some versions of Word automatically jumped to the next change when you accepted or rejected a change so that you couldn't see the change being incorporated. (You need to see the incorporation because it's hard to anticipate what the final text will look like.) This jumping to the next change was a huge mistake, and Word has finally returned to this way of working after several years of experimenting with the other method.

Note also that you can use the right-click pop-up menu to accept or reject revisions.

Customizing revision marks

You can change the options that control how revision marks appear in the document. Choose Tools⇨Options and click the Track Changes tab. Alternatively, right-click the TRK box in the status bar and select Options to open the Track Changes dialog box (see Figure 11-8). Table 11-1 describes the available options in this box.
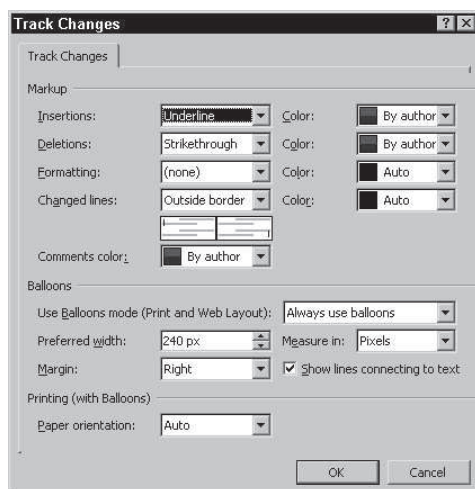
Figure 11-8: The Track Changes dialog box.

Option	Function
	Table 11-1
	The Track Changes Dialog Box
Insertions	Lets you choose how inserted text should be marked: under lined, shown only with a color, bold, italic, double-underlined, or shown with a strikethrough. You can also select the color to be used for the insertion. By default it's set to By Author, meaning Word selects a different color for each reviewer.
Deletions	Lets you choose how deleted text should be marked. In addition to the methods explained earlier, you can also have Word hide the text or replace the text with a # or ^ symbol.
Formatting	Lets you choose how Formatting changes should be indicated.
Changed Lines	Enables you to tell Word where to place the vertical line indicating a change — on the left border, the right border, or the outside border . . . or to omit them altogether.
Comments Color	Enables you to define how Word should color comments — different colors for each person entering comments or a specific color for all of them.
Use Balloons Mode	Enables you to define the manner in which balloons are handled — whether or not to use them at all and whether to display them for insertions and deletions.
Preferred Width	Lets you define the width of the balloons. Remember that balloons take up room in the margin, and Word has to "squeeze" the document to make room.
Measure In	Lets you choose the units used for measuring the balloon width.
Margin	Lets you choose which margin Word should place the balloons in.
Show Lines Connecting to Text	Lets you choose to have lines drawn from the balloons to the point in the text that they relate to.
Paper Orientation	Affects how the document prints with balloons displayed. You can force Word to print the document in landscape orientation, to print in the mode for which the document is set up, or to automatically select the most appropriate. (Note that this doesn't affect how the document appears in Print Preview, only how it prints.)

Comparing and merging documents

Here's a neat trick. Suppose you received a document that has been revised, but without tracking turned on. Or perhaps you didn't protect the document, and a reviewer turned off tracking.

Well, you can add revision marks to a revised version of a document that was edited with the change tracking feature not enabled. When you use this feature, the original document is not changed. The revised document is marked for your review instead. Text that appears in the original document but not in the revised version is marked for deletion, and text that appears for the first time in the revised document is marked for insertion.

You can use this comparison feature a couple of different ways:

✦ You can use it to compare two documents, and see a new document showing the differences between the two.

✦ You can use it to merge documents together, adding changes made to a copy — or multiple copies — back into the original.

Comparing documents

First take a look at how to compare documents. You open a document, select another document to compare to it, and then Word creates a third document that shows you the changes. This can be a little confusing at times because it's hard to figure out where all the changes came from. Think of it this way: You are creating a new document that shows you the revisions you would have to make to the *second* document in order to turn it into the *first* document you opened. Here is what you see in the third document that Word creates:

✦ Text that is in the first document but not the second is marked with revision marks and shown as an addition

✦ Text that is in the second document but not in the first is marked as a deletion

The system, it seems, is designed for comparing a revised document with the original. That is, you open the revision and then select the original to compare with the revision. However, you can open in any order you prefer.

To compare two versions of a document, follow these steps:

1. Open a document.
2. Choose Tools⇨Compare and Merge Documents. Select the document to compare with.
3. Make sure the Legal Blackline check box is selected — when it is, the button to the right will show the label Compare.
4. Click the Compare button.
5. If either of the documents has content that is already marked with revision marks, Word tells you that if you continue it's going to carry out the process under the assumption that revision marks should be accepted. Click the Yes button to continue.
6. Word now creates a new document, a copy of the first one you opened, and marks the differences between the two. Depending on the size of the document, this could take some time.
7. After you have marked a document using this technique, you can follow the procedures described earlier for accepting or rejecting the changes.

What is Legal Blackline? The wrong label! The way this is set up really doesn't make sense. If you want to compare documents, you have to select Legal Blackline. If you want to merge documents, you have to clear the Legal Blackline check box. Legal Blackline is simply the term given by Microsoft to the compare process, breaking two basic rules of software development: don't use multiple terms for the same function or component, and don't use ambiguous terms. Why are they using this term? Perhaps because WordPerfect was, for a long time, the word processor of choice for law firms, and Microsoft has had a long-term strategy of competing with WordPerfect. In the legal business, *blacklining* (not *blackline*) is the process of marking one document to show how it differs from another.

Notice also the Find Formatting check box. This check box tells Word to look for not only content additions and deletions, but changes in formatting. If selected, Word will place a bar indicating a change next to lines that contain formatting changes. For instance, if a word is normal text in one version, and bold in another, Word marks it with the revision bar in the margin.

Merging comments and revisions from multiple reviewers

Chapter 28 of Wiley's *Word 2003 Bible* discusses how you can route documents to multiple reviewers — you can send a single document, passing from one to another — but you can also send a copy of the document to *all* the reviewers at once. Word provides a way for you to merge multiple documents into one, so you can see all the revisions in a single document. To merge comments and tracked changes, do the following:

1. Open a copy of the original document to which you want to merge the changes.

> **Note** Make sure that all the revised documents that you want to merge have been marked for revisions. If changes were not tracked for any document, open that document and *compare* it to the original. Save the document with the revision marks included, and then merge it into the original.

2. Choose Tools⇨Compare and Merge Documents.

3. Select one of the shared documents that has changes you want to merge with the original file.

4. Clear the Legal Blackline check box. In effect, you are telling Word that you want to Merge documents, not compare. The button to the right now says Merge.

5. Click the triangle on the right side of the button, and a little menu opens.

6. Select one of the following:

    • **Merge:** Word marks up the *second* document, showing additions and deletions as if they had been made directly in the second document; you might think of this as merging the original document into the new document.

    • **Merge into Current Document:** Word adds the revisions to the original.

- **Merge into New Document:** Word creates a new document showing the revisions. Why would you do this? After all, if you compare the original with a single modified document, the new document will exactly match the modified document. But you could merge one revised document into the original, compare the modified original with another revised document, and end up with a new document showing the changes between the modified original and the second revision.

7. Repeat steps 2 through 6 for each revised version of the original document.

    Any comments or revisions that were already in the original document remain. Word uses different colors to distinguish the merged comments and revisions for each of as many as eight reviewers.

After merging the reviewed copies of the document, you can examine all the comments and proposed changes and either accept or reject them as discussed before.

Comparing side by side

Word provides another way to compare documents, a tool that helps you visually compare. Open the two documents you want to compare, and then select Window⇨Compare Side by Side With. You should see a list of the documents you have open. Select the one you want to compare with, and click OK.

Word opens a small toolbar with these three buttons:

✦ **Synchronous Scrolling:** Click this button to turn synchronous-scrolling mode on and off.

✦ **Reset Window Position:** Click this button to place the two documents side by side on your screen, if they are not in such a position already.

✦ **Break Side by Side:** Click this button when you're finished to turn off the Compare Side by Side mode.

The two documents will probably be placed on your screen side by side — but maybe not. If not, click the Reset Window Position button. You can switch between different modes as often as you like. Click one document's Maximize button (on the window's title bar) to open it up; then click Reset Window Position to bring it back to the side-by-side position.

With Synchronous Scrolling mode turned on, you can scroll in one document and the other document scrolls down, too. So if you have two versions of the same document — an original and a revised version — you can scroll through the two documents at once, and view the changes.

Reading Layout View

Word 2003 has a variety of features intended to help users *read* documents. Microsoft has been gradually developing a variety of e-book tools and features — such as Microsoft Reader — over the last few years, and some of these have found their way into Word.

These changes are in recognition of the fact that people spend a lot of time using Word to *read* documents, not just create them. Corporate users often e-mail each other documents, which recipients may read on-screen. In many cases, however, recipients print the documents before reading them because reading on-screen is not very comfortable. The e-book tools Microsoft has created are intended to make reading on-screen easier and more pleasant, making the wasteful practice of printing before reading unnecessary in many cases.

This is all part of a larger strategy of introducing the concept of e-books to the world. For example, in November 2002 Microsoft released *Windows XP Tablet PC Edition*, an operating system designed for use with the new Tablet PCs released by most major PC manufacturers at the same time.

Note   What's a Tablet PC? It's a laptop-sized computer with a touch screen that works with a pen (*stylus)* to give you the flexibility of pen and paper for note taking and similar tasks. Some Tablet PCs look just like laptops . . . until you spin the screen and close it so that the screen is on the *outside*. Others don't even include a keyboard. You can't open them, they're simply rectangular blocks with a screen on one side.

You'll find the new Reading Layout view a much easier way to read documents than any of the other views, even the Print Layout view. It's a great way for someone revising a document to read through the document on-screen. And the good news is that the reviewer can still make revisions to the document in Reading Layout view.

The Reading Layout view isn't intended to match Print Layout view. The purpose isn't to show you what the page would look like on paper, so page breaks will be different in Reading Layout view than what you see if you print the document.

To get to Reading Layout view, click the Read button (on the Standard toolbar), or choose View➪Reading Layout. The Word window changes to display your document in two pages. Most of the tools around the window are removed — the status bar, the Document Map and task pane, if they're open, most of the toolbars, and so on. You are left with a special Reading Mode toolbar, and a Reading Mode Markup toolbar (which is the same as the Reviewing toolbar covered earlier). You can replace components if you wish. For example, click the Document Map button to display the Map again (see Figure 11-9). And if you prefer, you can view two pages at a time. Simply click the Allow Multiple Pages button button near the right end of the toolbar.
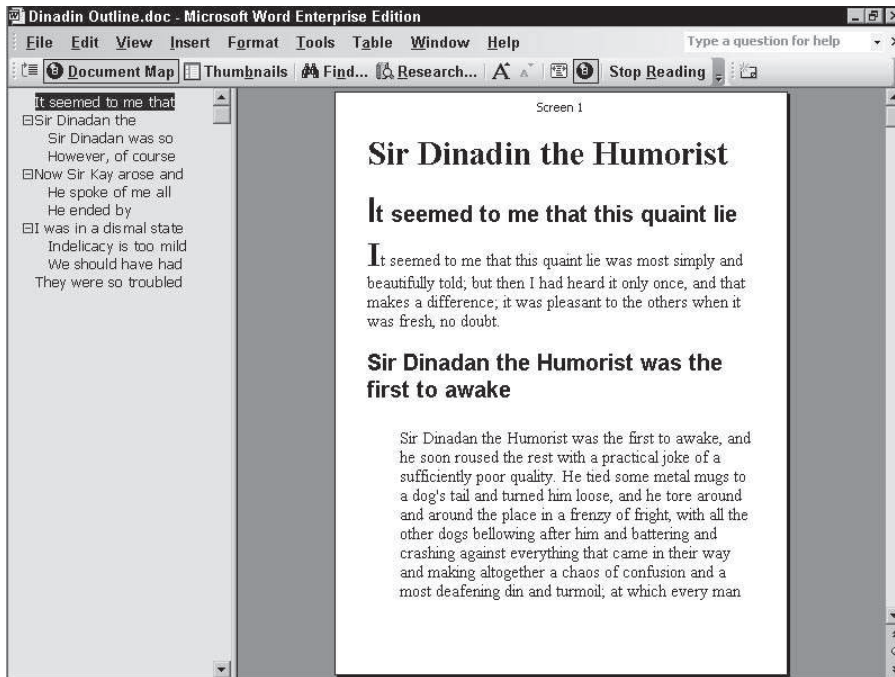
Figure 11-9: Viewing a document in Reading Layout view.

> **Note** When you switch a multi-column document to Reading Layout view, you lose the columns — Word displays it in a single-column layout.

Moving around in Reading Layout view

You have a variety of ways to move around in Reading Layout view. Table 11-2 describes these methods.

	Table 11-2
Moving Around in Reading Layout View	
Button or Key Name	*Action*
Up and Down Arrow keys Page Up and Page Dn keys	Moves you through the document a screen at a time.
Start of Document button	The last button on the Reading Layout toolbar; this displays the document's first page.
The scroll bar view	Use as normal to move around — of course, in Reading you'll move page by page, not line by line.
Thumbnails button	Click this to display thumbnail images of your pages. Use the scroll bar to move through these images, and click on an image to go to that page.
Document Map button	Click to display the document map; use as usual. Note that you can use the Document Map or the Thumbnails, but not both at the same time.
Find button	Use as usual; you can search for text, go to a specific page number, and so on.

Changing text size

Reading layout is all about legibility, so if you wish, you can change the text size to make the document easier to read. Simply click Increase Text Size and Decrease Text Size buttons on the toolbar. As you do so the text gets bigger or smaller, and Word reformats the paragraphs on the pages (or *screens*, as Word refers to them). The bigger the text, the less text appears on the page, but the page doesn't actually change size.

> **Note**   You *cannot* zoom into the document in this layout; the View⇨Full Screen and View⇨Zoom commands are disabled.

Editing in Reading Layout view

You can actually edit in the Reading Layout view, but it's a little inconvenient. When you first open Reading Layout view, the cursor is nowhere in the document. The arrow keys move pages, not the cursor, after all. If you want to edit text, double-click in the text you want to work with. The cursor is now placed in the text, so you can edit as normal. You can even use the View menu to add the toolbars you'll need, if you wish.

To get out of Edit mode and back into normal Reading mode, press the Esc key, or simply go to another page.

If you do make changes while in Reading Layout view, you may want to look at the effect; click the Actual Page button near the end of the toolbar to temporarily take you out of

Reading Layout view. While the window controls remain unchanged — you don't actually go back to the previous window settings, with all your toolbars, status bar, and so on — the page is displayed as it would appear on paper. Click the button again to return to full Reading Layout view.

Note If you have Wrap to Window turned on while working in Normal view, switch to Reading Layout, and then switch back to Normal. Wrap to Window is automatically turned off. You can find Wrap to Window under the View tab of the Options dialog box. The Wrap to Window option tells Word to make the text use the entire width of the screen in Normal view.

Summary

Many Word users work in conjunction with others, and Word's collaboration tools — comments, reviewing tools, comparison and merge tools, and Reading Layout view — are truly useful. In this chapter, you learned a number of things:

✦ Place comments into documents using the Insert⇨Comment command.

✦ Record and place comments into documents using the Insert Voice button on the Reviewing toolbar.

✦ Text can also be highlighted. Select the text and then click the Highlight button.

✦ Choose Tools⇨Track Changes to turn on reviewing mode.

✦ The Reviewing toolbar allows you to quickly review the changes made to the document, and accept or reject those changes.

✦ Use the Tools⇨Compare and Merge Documents command to see how documents differ and to merge changes from copies into an original.

✦ Choose View⇨Reading Layout to open Reading mode.

✦   ✦   ✦

Sharing Excel Data with Other Applications

Some Windows applications are designed to work together. The applications in Microsoft Office are an excellent example of this. These programs have a common look and feel, and sharing data among these applications is quite easy. This chapter explores some ways in which you can make use of other applications while working with Excel as well as some ways in which you can use Excel while working with other applications.

In addition, the chapter provides an introduction to the new XML features introduced in Excel 2003. XML files offer another way to share data between applications.

Understanding Data Sharing

Besides importing and exporting files, you can transfer data to and from other Windows applications in several other ways:

✦ Copy and paste, using either the Windows Clipboard or the Office Clipboard. Copying and pasting information creates a static copy of the data.

✦ Create a link so that changes in the source data are reflected in the destination document.

✦ Embed an entire object from one application into another application's document.

✦ Use an XML file to store the data.

This chapter discusses these techniques and shows you how to use them.

Pasting and Linking Data

This section describes various ways to paste and link data.

Using the Clipboards

Whenever Windows is running, you have access to the Windows Clipboard — an area of your computer's memory that acts as a shared holding area for information that you have cut or copied from an application. The Windows Clipboard works behind the scenes, and you usually aren't aware of it. Whenever you select data and then choose either Edit ⇨ Copy or Edit ⇨ Cut, the application places the selected data on the Windows Clipboard. Excel can then access the Clipboard data when you choose the Edit ⇨ Paste command (or the Edit ⇨ Paste Special command).

Note   If you copy or cut information while working in an Office application, the application places the copied information on both the Windows Clipboard and the Office Clipboard. After you copy information to the Windows Clipboard, it remains on the Windows Clipboard even after you paste it, so you can use it multiple times. However, because the Windows Clipboard can hold only one item at a time, when you copy or cut something else, the information previously stored on the Windows Clipboard is replaced. The Office Clipboard, unlike the Windows Clipboard, can hold up to 24 separate selections. The Office Clipboard operates in all Office applications; for example, you can copy two selections from Word and three from Excel and paste any or all of them in PowerPoint.

Copying information from one Windows application to another is quite easy. The application that contains the information that you're copying is called the *source* application, and the application to which you're copying the information is called the *destination* application.

The general steps that are required to copy from one application to another are

1. Activate the source document window that contains the information that you want to copy.

2. Select the information by using the mouse or the keyboard.

3. Select Edit ⇨ Copy.

4. Activate the destination application. If the program isn't running, you can start it without affecting the contents of the Clipboards.

5. Move to the appropriate position in the destination application (where you want to paste the copied material).

6. Select Edit ⇨ Paste from the menu in the destination application. If the Clipboard contents are not appropriate for pasting, the Paste command is grayed (not available). You can sometimes select the Edit ⇨ Paste Special command, which displays a dialog box that presents different pasting options.

In Step 3 in the preceding steps, you also can select Edit ⇨ Cut from the source application menu. This step erases your selection from the source application after placing the selection on the Clipboard.

Note If you repeat Step 3 in any Office application, the Office Clipboard task pane appears automatically. If it does not, select Edit ⇨ Office Clipboard.

To see an example of how this works, try copying an Excel chart into a Microsoft Word report. First, select the chart in Excel by clicking it once. Then copy it to the Clipboard by choosing Edit ⇨ Copy. Next, activate the Word document into which you want to paste the copy of the chart and move the insertion point to the place where you want the chart to appear. When you select Edit ⇨ Paste from the Word menu bar, the chart is pasted from the Clipboard and appears in your document (see Figure 12-1).
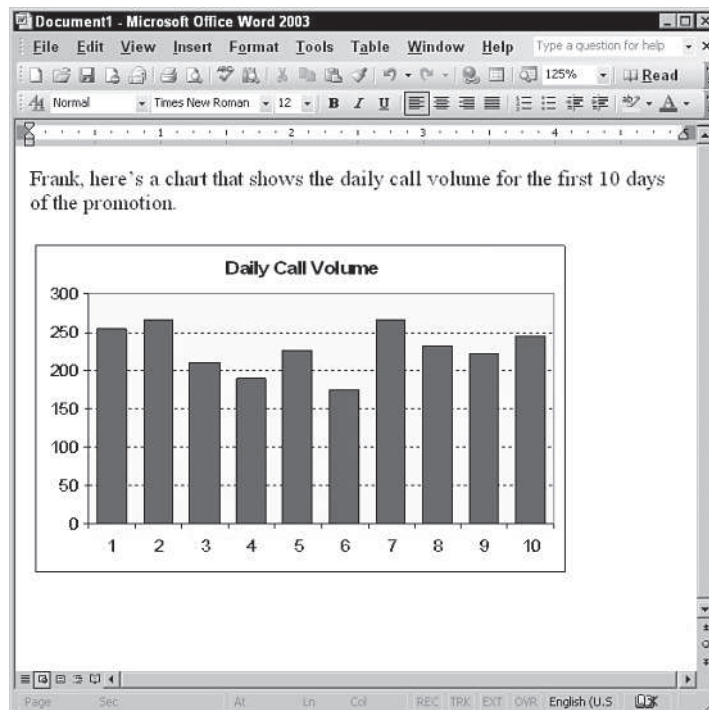
Figure 12-1: An Excel chart has been added to this Word document.

Note

Windows applications vary in the way that they respond to pasted data. If the Edit ⇨ Paste command is not available (is grayed on the menu) in the destination application, the application can't accept the information from the Clipboard. If you copy a range of data from Excel and paste it into Word, Word creates a table when you paste the data. Other applications may respond differently to Excel data.

The copy-and-paste technique is static. In other words, no link exists between the information that you copy from the source application and the information that you paste into the destination application. If you're copying from Excel to a Word document, for example, the Word document *will not* reflect any subsequent changes that you make in your Excel worksheet or charts. Consequently, you have to repeat the copy-and-paste procedure to update the destination document with the source document changes. The next topic presents a way to get around this limitation.

Linking data

If you want to share data that may change, the static copy-and-paste procedure described in the preceding section isn't your best choice. Instead, you can create a dynamic link between the data that you copy from one Windows application to another. In this way, if you change the data in the source document, you don't *also* need to make the changes in the destination document because the link automatically updates the destination document.

Note

Applications vary in how they handle linked data. In some situations, you may need to update the linked data manually.

When would you want to use this technique? If you generate proposals by using Word, for example, you may need to refer to pricing information that you store in an Excel worksheet. If you set up a link between your Word document and the Excel worksheet, you can be sure that your proposals always quote the latest prices. Not all Windows applications support dynamic linking, so you must make sure that the application to which you are copying is capable of handling such a link.

Setting up a link from one Windows application to another varies slightly from application to application. These are the general steps to take:

1. Copy the information to the Clipboard.

2. Switch to the destination application.

3. Select the appropriate command in the destination application to paste a link. This is usually Edit ⇨ Paste Special.

4. In the dialog box that appears, specify the type of link that you want to create. (See the next section, "Copying Excel data to Word," for an example.)

Keep in mind the following information when you're using links between two applications:

✦ Not all Windows applications support linking. Furthermore, you can link from, but not to, some programs.

✦ When you save an Excel file that has a link, you save the most recent values with the document. When you reopen this document, Excel asks whether you want to update the links.

✦ Links can be broken rather easily. If you move the source document to another directory or save it under a different name, for example, the destination document's application won't be able to update the link. In such a case, you'll need to re-establish the link manually.

✦ You can use the Edit ⇨ Links command to break a link. After breaking a link, the data remains in the destination document, but it is no longer linked to the source document.

✦ In Excel, external links are sometimes stored in array formulas. If so you can modify a link by editing the array formula.

Copying Excel data to Word

One of the most frequently used software combinations is a spreadsheet and a word processor. This section discusses the types of links that you can create by using Microsoft Word to create documents that include data from Excel.

Figure 12-2 shows the Paste Special dialog box from Microsoft Word after a range of data has been copied from Excel. The result that you get depends on whether you select the Paste or the Paste Link option and on your choice of the type of item to paste. If you select the Paste Link option, you can check the Display as Icon check box in order to have the information pasted as an icon. If you do so, you can double-click this icon to activate the source worksheet.
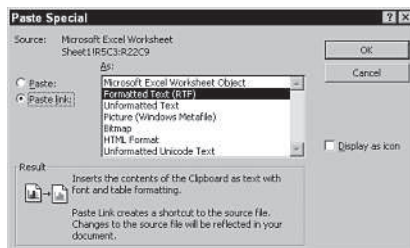
Figure 12-2: Use the Paste Special dialog box to specify the type of link to create.

Pasting without a link

Often, you don't need a link when you copy data. For example, if you're preparing a report in your word processor and you simply want to include a range of data from an Excel worksheet, you probably don't need to create a link.

If you select one of the choices in the Paste Special dialog box with the Paste option selected, the data is pasted without creating a link.

Tip   The pasted data looks the same regardless of whether the Paste or Paste Link option is selected.

Some Excel formatting does not transfer when pasted to Word as formatted text. For example, Word doesn't support vertical alignment for table cells (but you can use Word's paragraph formatting commands to apply vertical alignment).

Pasting with a link

If you think the data that you're copying will change, you may want to paste a link. If you paste the data by using the Paste Link option in the Paste Special dialog box, you can make changes to the source document, and the changes appear in the destination application (a few seconds of delay may occur). You can test these changes by displaying both applications on-screen, making changes to the source document, and watching for them to appear in the destination document.

Embedding Objects in Documents

Using *Object Linking and Embedding* (OLE), you can also embed an object to share information between Windows applications. This technique enables you to insert an object from another program and use that program's editing tools to manipulate it. The OLE objects can be such items as these:

✦ Text documents from other products, such as word processors

✦ Drawings or pictures from other products

✦ Information from special OLE server applications, such as Microsoft Equation

✦ Sound files

✦ Video or animation files

Many (but certainly not all) Windows applications support OLE. Embedding is often used for a document that you will distribute to others. It can eliminate the need to send multiple document files and help avoid broken link problems.

You can embed an object into your document in either of two ways:

✦ Choose Edit ⇨ Paste Special and then select the "object" choice (if it's available). If you do this, select the Paste option rather than the Paste Link option.

✦ Select Insert ⇨ Object.

Caution

Embedding an object can cause a dramatic increase in the size of your document.
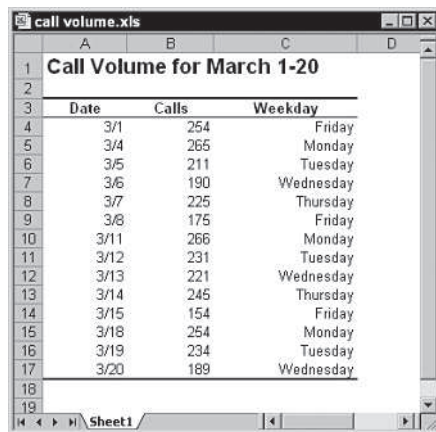
Tip

Some applications — such as those in Microsoft Office — allow you to embed an object by dragging it from one application to another.

The following sections discuss these two methods and provide a few examples using Excel and Word.

Embedding an Excel range in a Word document

This example embeds in a Word document the Excel range shown in Figure 12-3.

Figure 12-3: This worksheet includes a range that will be embedded in a Word document.

To start, select A1:C17 and copy the range. Then activate (or start) Word, open the document in which you want to embed the range, and move the insertion point to the location in the document where you want the table to appear. Choose Word's Edit ⇨ Paste Special command. Select the Paste option (not the Paste Link option) and choose the Microsoft Excel Worksheet Object format. Click OK, and the range appears in the Word document.

The pasted object is not a standard Word table. For example, you can't select or format individual cells in the table. Furthermore, it's not linked to the Excel source range. If you change a value in the Excel worksheet, the change does not appear in the embedded object in the Word document.

If you double-click the object, however, you notice something unusual: Word's menus and toolbars change to those used by Excel. In addition, the embedded object appears with Excel's familiar row and column borders. In other words, you can edit this object *in place* by using Excel's commands. Figure 12-4 shows how this looks. To return to Word, just click anywhere in the Word document.
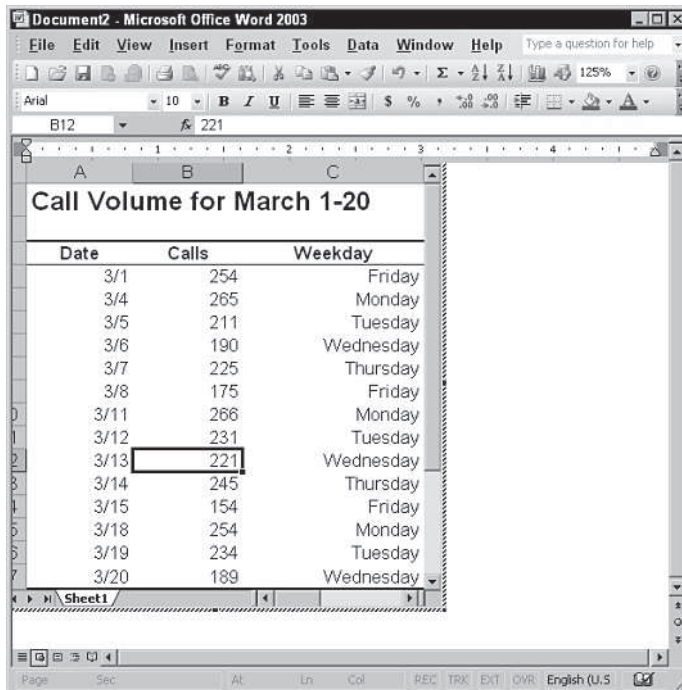
Figure 12-4: Double-clicking the embedded Excel object enables you to edit it in place. Note that Word now displays Excel's menus and toolbars.

> **Caution**
>
> Remember that no link is involved here. If you make changes to the embedded object in Word, these changes do not appear in the original Excel worksheet. The embedded object is completely independent from the original source.

By using this technique, you have access to all of Excel's features while you are still in Word.

> **Tip**
>
> You can accomplish the embedding previously described by selecting the range in Excel and then dragging it to your Word document. In fact, you can use the Windows desktop as an intermediary storage location. For example, you can drag a range from Excel to the desktop and create a scrap. Then you can drag this scrap into your Word document. The result is an embedded Excel object.

Creating a new Excel object in Word

The preceding example embeds a range from an existing Excel worksheet into a Word document. This section demonstrates how to create a new (empty) Excel object in Word. This may be useful if you're creating a report and need to insert a table of values that doesn't exist in a worksheet.

> **Tip**
>
> You could insert a normal Word table, but you can take advantage of Excel's formulas and functions in an embedded Excel worksheet.

To create a new Excel object in a Word document, choose Insert ⇨ Object in Word. Word responds with the Object dialog box. The Create New tab lists the types of objects that you can create. (The contents of the list depend on the applications that you have installed on your system.) Choose the Microsoft Excel Worksheet option and click OK.

Word inserts an empty Excel worksheet object into the document and activates it for you, as shown in Figure 12-5. You have full access to Excel commands, so you can enter whatever you want into the worksheet object. After you finish, click anywhere in the Word document. You can, of course, double-click this object at any time to make changes or additions.
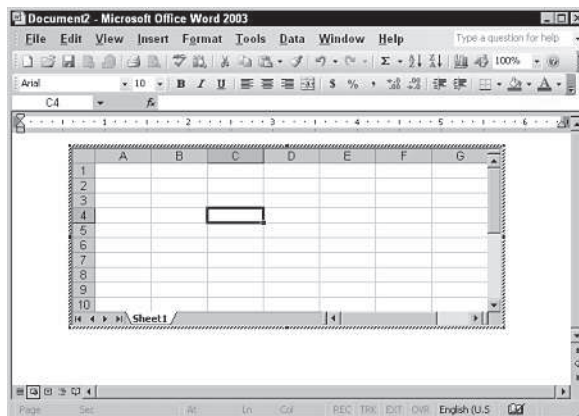
Figure 12-5: This Word document now contains an empty Excel worksheet object.

You can change the size of the object while it's activated by dragging any of the sizing handles (the little black squares and rectangles) that appear on the borders of the object. You also can crop the object so that when it isn't activated, the object displays only cells that contain information. To crop an object in Word, select the object so that you can see sizing handles. Then, display Word's Picture toolbar (right-click any toolbar button and choose Picture). Click the Cropping tool (it looks like a pair of plus signs), and then drag any sizing handle on the object.

Note   Even if you crop an Excel worksheet object in Word, double-clicking the object gives you access to all rows and columns in Excel. Cropping changes only the displayed area of the object.

Tip   When you click outside the Excel worksheet object, the worksheet's scrollbars, tabs, gridlines, and so on will disappear. Any data that you have added will remain visible, however.

Embedding objects in an Excel worksheet

The preceding examples involve embedding Excel objects in a Word document. The same procedures can be used to embed other objects into an Excel worksheet.

For example, if you have an Excel workbook that requires a great amount of explanatory text, you have several choices:

✦ You can enter the text into cells. This, however, is tedious and doesn't allow much formatting.

✦ You can use a text box. This is a good alternative, but it doesn't offer many formatting features.

✦ You can embed a Word document in your worksheet. This gives you full access to all of Word's formatting features.

To embed an empty Word document into an Excel worksheet, choose Excel's Insert ⇨ Object command. In the Object dialog box, click the Create New tab and select Microsoft Word Document from the Object type list.

The result is a blank Word document, activated and ready for you to enter text. Notice that Word's menus and toolbars replace Excel's menus and toolbars. You can resize the document as you like, and the words wrap accordingly.

You can embed many other types of objects, including audio clips, video clips, MIDI sequences, and even an entire Microsoft PowerPoint presentation.

Microsoft Office includes several additional applications that you may find useful. For example, you can embed a Microsoft Equation object in an Excel document to graphically illustrate a formula that you use in a worksheet.

Tip   Some of the object types listed in the Object dialog box can result in quite useful and interesting items when inserted into an Excel worksheet. If you're not sure what an object type is, try adding the object to a blank Excel workbook to see what is available.

Working with XML Data

This section introduces the new XML features found in Excel 2003. This feature provides another way to share data with other applications.

> **New Feature**
>
> This section is relevant only to those who use Excel 2003. If you're using Excel 2000 or Excel 2002, you'll find that you can open some XML files in Excel (using the File ⇨ Open command). But the features described here will not work.

What is XML?

XML is a accepted standard that enables exchange of data between different applications. XML is a markup language, just as HTML is a markup language.

XML uses tags to define elements within a document. XML tags define the document's structural elements and the meaning of those elements. Unlike HTML tags, which specify how a document looks or is formatted, XML can be used to define the document structure and content. Consequently, XML separates a document's content from its presentation.

Following is a very simple XML file that contains data from an e-mail message.

```
<?xml version="1.0" encoding="UTF-8"?>
<message>
<to>Bill Smith</to>
<from>Mark Jackson</from>
<subject>Meeting date</subject>
<body>The meeting will be at 8:00 a.m. on Tuesday</body>
</message>
```

When the file is viewed in Internet Explorer, the browser displays it as a structured document (as shown in Figure 12-6).
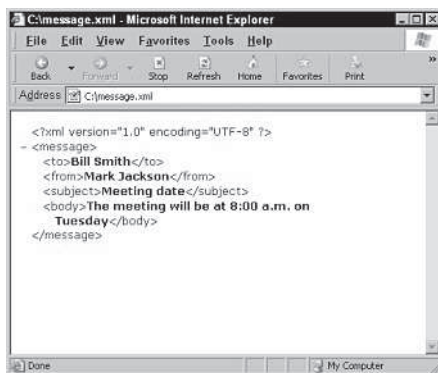
Figure 12-6: Internet Explorer displays XML files in a structured format.

Unlike HTML, the XML specification does not specify the tags themselves. Rather, it provides a standard way to define tags and relationships. Because there are no predefined tags, XML can be used to model virtually any type of document.

| **Note** | This is an admittedly cursory overview of XML. Fact is, XML can be extremely complex. Many entire books are devoted to XML. |

The two sections that follow consist of simplistic examples to give you a feel for how Excel handles XML.

Importing XML data by using a map

This example uses the worksheet shown in Figure 12-7. This worksheet uses data in column B to generate a loan amortization schedule. Assume that a back-end system generates XML files, and each file contains data for a customer. An example of such a file is shown below:

```
<?xml version="1.0"?>
<Customer>
  <Name>Joe Smith</Name>
  <AcctNo>32374-94</AcctNo>
  <LoanAmt>$325,983</LoanAmt>
  <IntRate>6.25%</IntRate>
  <Term>30</Term>
</Customer>
```


Figure 12-7: This worksheet uses imported XML data.

This file has five data elements: Name, AcctNo, LoanAmt, IntRate, and Term. Two of the fields (Prepared and Number of Pmt Periods) are calculated with formulas and are not considered data elements.

The trick here is to be able to import files, such as this, and have the data sent to the appropriate cells in the worksheet.

The first step is to add a Map to the workbook. Make sure that XML Source is displayed in the task pane (select Data ➪ XML ➪ XML Source).

To add the Map, follow these steps:

1. Click the Workbook Maps button at the bottom of the task pane. The XML Maps dialog box appears.

2. Click Add to display the XML Source dialog box.

3. Select one of the customer XML files. The exact file doesn't matter. This will be used only to infer the schema.

4. Click OK to dismiss the XML Maps dialog box.

   The task pane displays the data elements from the file (as shown in Figure 12-8).

Figure 12-8: The task pane shows the XML data elements.

The next step is to map the data elements to the appropriate worksheet cells.

1. In the task pane, click the Name element and drag it to cell B3.

2. Drag the AcctNo element to cell B5.

3. Drag the LoanAmt element to cell B6.

4. Drag the IntRate element to cell B7.

5. Drag the Term element to cell B8.

Finally, you can import an XML file. Choose Data ➪ XML ➪ Import, and select a customer XML file. You'll find that the data is fed into the appropriate cells. To calculate another amortization schedule, just import another XML file.

Importing XML data to a list

The example in the preceding section used XML files that contained only a single "record." XML files often contain multiple records, called *repeating elements.* Examples include a customer list or data for all employees in an organization.

You can use Excel's File ⇨ Open command to open an XML file that contains repeating elements. After you specify the filename, Excel presents the Open XML dialog box, as shown in Figure 12-9. This dialog box has three options:

   ✦ **As an XML List:** The file opens, and Excel converts the data to a List Range.

   ✦ **As a Read-Only Workbook:** The data is imported into the worksheet, but the workbook is read-only. This is to prevent you from accidentally over-writing the original file.

   ✦ **Use the XML Source Task Pane:** Excel infers the schema for the XML data and displays it in the task pane. (The data is not actually imported.) You can then map the elements to cells and import the actual data.
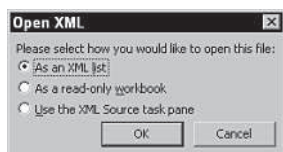
Figure 12-9: The Open XML dialog box.

Figure 12-10 shows an XML file that has been imported to a worksheet.
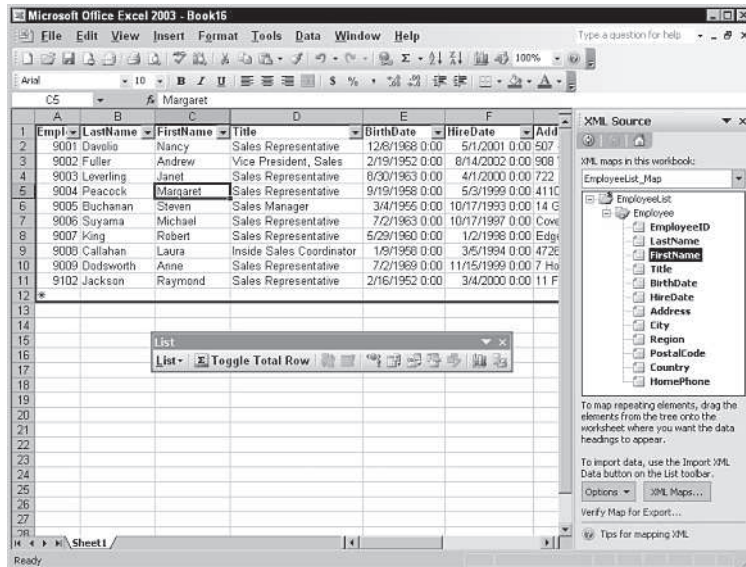
Figure 12-10: The imported XML data.

> **Note** When displayed in the task pane, repeating elements use a different icon (a "double folder").
> Nonrepeating elements display a single folder icon.

Exporting XML data from Excel

In order to export data to an XML file, you must add a map to the workbook, and the map must correspond to your data. Then you can use the Data ➪ XML ➪ Export command to create an XML file.

Contrary to what you may expect, it's not possible to export an arbitrary range of data in XML format. For example, if you create a List Range on your worksheet, you can't export that List Range to an XML file unless you add an appropriate map to your worksheet first. And it's not possible to create (or modify) a map using Excel.

> **Note** If you use Excel's File ➪ Save As command, you'll notice that one of the options is XML
> Spreadsheet. This produces an XML file that uses Microsoft's XMLSS schema. It will not export
> the data to a "normal" XML file.

✦   ✦   ✦

Team Collaboration on a Draft PowerPoint Presentation

Few people these days create a presentation with no input or feedback from another living soul. Presentations normally go through review cycle upon review cycle, and everybody gets to add his or her two cents about how to make the presentation slides stronger and more meaningful.

The old way of reviewing was to print out and distribute hard copies of a presentation and let everyone mark them up by hand. Then some poor assistant or junior executive would have to decipher all the handwritten notes (some of them directly conflicting with others!) and make the changes in PowerPoint.

Fortunately, PowerPoint 2003 offers many more appealing options for soliciting and receiving feedback on a presentation, as you learn in this chapter.

Sharing Your Presentation File on a LAN

If your company has a local area network (LAN), you can copy the presentation file to a drive that everyone can access and let whoever is interested in seeing it take a look. Interested people can then either copy the presentation to their own PCs or view it directly from the network.
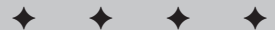
If not everyone has PowerPoint installed on their PCs, you might also want to place the PowerPoint Viewer program on the network, so people without PowerPoint can review the show.

Caution   Make sure you copy the presentation file to the network, rather than moving it there. That way, if something happens to the networked copy or the whole network server goes down, you still have access to your presentation. You might even want to rename the copy on the server so you can tell, at a glance, which is the original version.

Sharing the presentation locally

In a large company, the network includes one or more servers, which are computers that do nothing except run the network and serve up common files that multiple people need. If your network includes a server, one of its hard disks is probably the best place to copy your presentation file. That's because everyone on the network already has access to the server, so no special setup is necessary. See your network administrator for details.

However, if your company uses peer-to-peer networking, there may not be a server to which you can copy the presentation. In that case, you must make one or more folders on your own hard disk accessible to other network users.

Sharing in Windows 2000 or XP

If you have Windows 2000 or XP (and you probably do, because PowerPoint 2003 won't run on earlier Windows versions), here's what you need to do to share a folder on your PC.

First open the list of network connections:

✦ **In Windows 2000**, choose Start⇨Settings⇨Network and Dial-Up Connections.

✦ **In Windows XP**, open Network Connections from the Control Panel.

Then right-click the LAN connection and choose Properties, and make sure that File and Printer Sharing for Microsoft Networks is one of the installed services. See Figure 13-1. If it isn't, add it with the Install button. Then close all open dialog boxes.
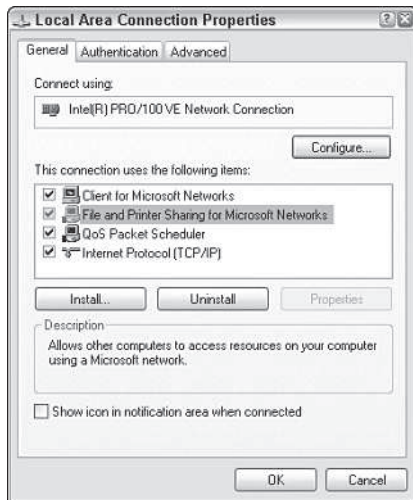
Figure 13-1: Make sure File and Printer Sharing is installed for the LAN connection.

Next, share the folder:

✦ **In Windows 2000,** right-click the folder and choose Sharing. Select the Share This Folder option button, and enter a Share Name. See Figure 13-2. The default is for others to have full access; if you want to change that, click the Permissions button and clear the Full Control and Change check boxes. Then close all open dialog boxes.
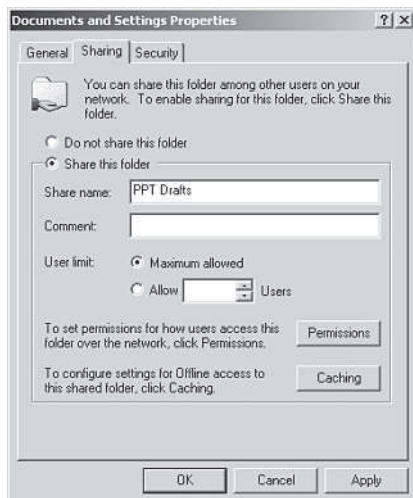
Figure 13-2: Share a folder in Windows 2000.

✦ **In Windows XP**, right-click the folder and choose Sharing and Security. Mark the Share This Folder on the Network check box. Enter a Share Name for the folder. See Figure 13-3. If others should be able to make changes, mark the Allow Network Users to Change My Files check box. Then click OK.

Posting a presentation to an Exchange folder

If your company uses a Microsoft Exchange server to share files, you can easily post a PowerPoint presentation there. (You can ignore this procedure if your company doesn't use Exchange.) To do so, follow these steps:

1. Open the presentation in PowerPoint.

2. Choose File⇨Send To⇨Exchange Folder. A list of folders appears.

3. Choose the folder you want to post the presentation to.

4. Click OK.
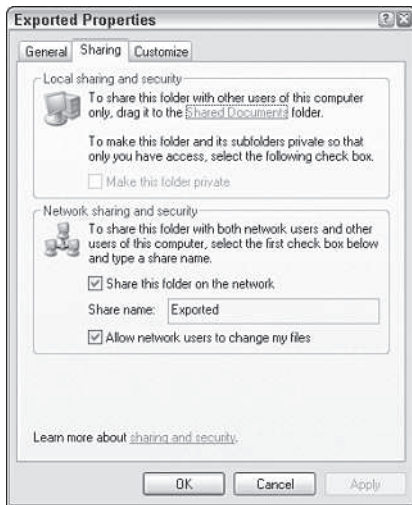
Figure 13-3: Share a folder in Windows 2000 or XP.

Mailing a presentation via e-mail

You can attach a PowerPoint presentation file to an e-mail message, just as you can attach any other file. If you use Outlook, for example, you can click the Insert File button on the toolbar to attach a file to an e-mail message you are creating. See Figure 13-4.
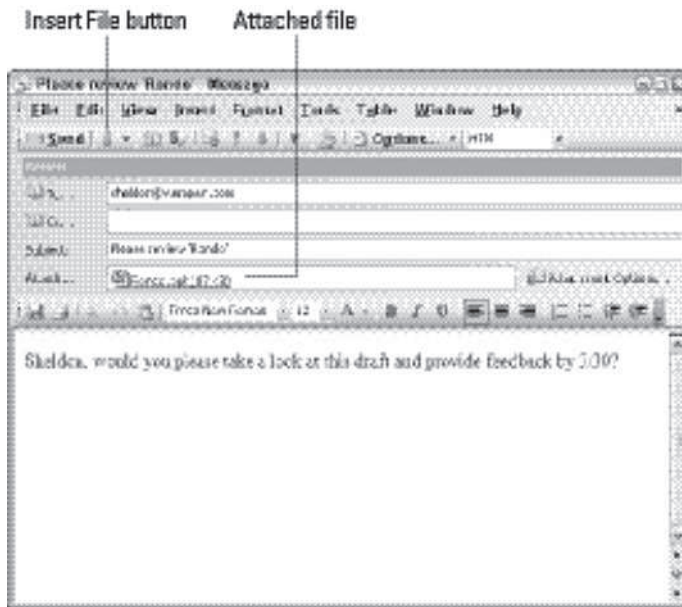
Figure 13-4: Most e-mail programs, including Outlook, let you attach files to send along with e-mail messages.

To send a presentation from PowerPoint, choose File⇨Send To and then choose Mail Recipient (For Review) or Mail Recipient (As Attachment).

Both of these commands compose an e-mail message with the presentation file as an attachment. The differences are as follows:

✦ The For Review command begins composing the message in Outlook with "Please Review {presentation name}" as the subject, and with a message already filled into the body. The As Attachment command makes the subject the presentation name by itself and does not fill in a default body message.

✦ The For Review version of the attachment is a slightly larger file, containing instructions for collecting the reviewers' responses for later merging back into the original file.

✦ The For Review command opens a new Outlook message with HTML as the message formatting. The As Attachment command starts the new message in plain text format.

Tip

If you use For Review, you can then click the Attachment Options in the Outlook message composition window and then click Live Attachments. A copy of the attached file is then saved in a team workspace. Recipients of the message are made members of that workspace automatically, and they can either open the attachment as their own copy or they can follow a link in the message to the workspace copy.

Note

You can set up Outlook so that As Attachment works just like For Review. (It's questionable whether you would *want* to do this, however, as it's nice to have the flexibility to choose.) In Outlook, choose Tools⇨Options, and click the E-mail Options button on the Preferences tab. In the dialog box that appears, click Advanced E-mail Options. Then in the dialog box that appears next, mark the Add properties to attachments to enable Reply with Changes checkbox.

Sharing a Presentation in a Document Workspace

A *document workspace* is a common accessible location where you store files that you want to make available to other people on a team. As a team you can then make edits to the documents, review each other's changes, deal with to-do items, retrieve contact information for one another, and more.

Document workspaces are based on *SharePoint Team Services (STS),* a Microsoft server technology that creates and maintains team spaces. You can log into an STS site from outside of Office applications, and upload, download, and manage shared files that way, but you can also do it from within most Microsoft Office applications. (For more information on SharePoint, see Chapter 17 of this Super Bible eBook.)

To create a new workspace for the document, you must have access to an STS server. If you do, choose Tools⇨Shared Workspace and then enter a name for the document workspace and the address to the server on which you will store it. See Figure 13-5.

Caution

If you get an error about the site being a restricted or non-trusted site, set it up as a trusted site in the Internet Options (from Internet Explorer, choose Tools⇨Internet Options).
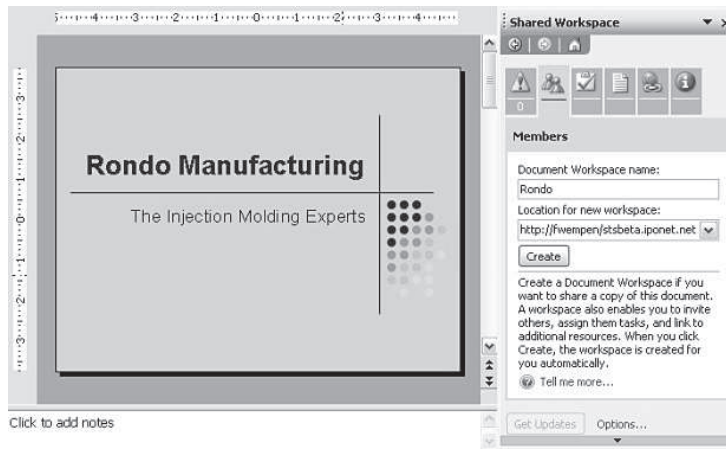
Figure 13-5: Create a new shared workspace for a presentation on a SharePoint Team Services server.

When a document with a shared workspace is open, you can access information about the workspace from the Shared Workspace task pane, shown in Figure 13-6. Click a tab to see the Status, Members, Documents, Links, and so on.
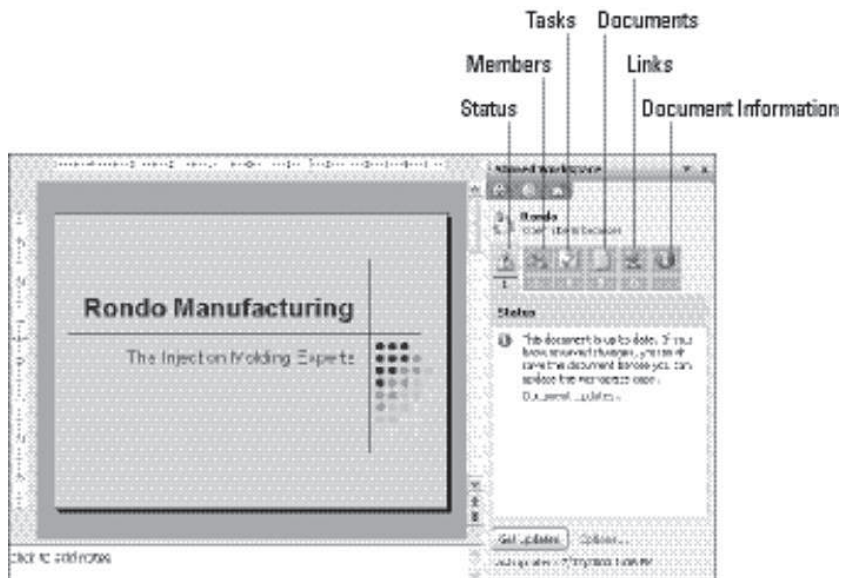
Figure 13-6: Information about the shared workspace is available through the Shared Workspace task pane.

You can also log into a SharePoint Team Services Web site independently of the application, and then locate the file you want and click its hyperlink to open it. Notice in Figure 13-6, the Open Site in Browser hyperlink. This will take you to the site. For example, Figure 13-7 displays the SharePoint Team Services list of shared documents, and the Rondo Manufacturing presentation can be opened from there.

Tip   When you work with a document from a shared workspace, some extra commands become available. For example, you'll find a Check Out command on the File menu that enables you to "check out" the document so that nobody else can edit it until you are finished. This prevents two people from making changes to the same document at the same time. You'll also find a Versions command on the File menu, from which you can select which version of the presentation to open. The latter works only if you enable version support for the document library from within the SharePoint Team Services site administration.
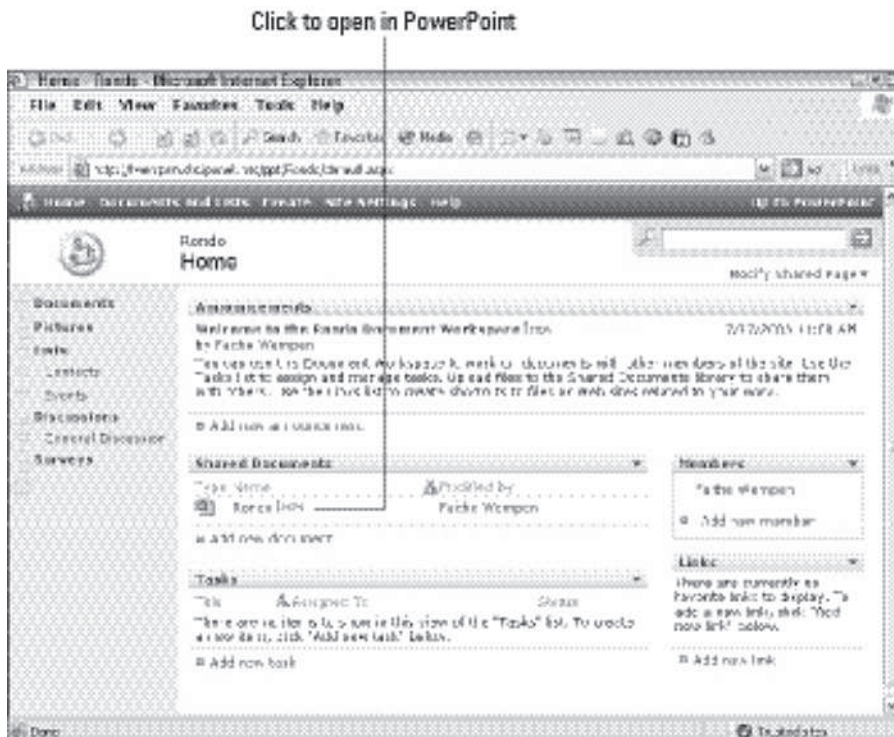
Figure 13-7: Shared documents may be accessed from the Web site as well as from within PowerPoint.

STS is a powerful application for sharing all kinds of files, not just PowerPoint. There is much more to it than can be covered in this chapter's overview of sharing techniques. Explore its features on your own if you have an STS server available.

Working with Comments

As you are soliciting feedback from reviewers, you might not want them to make changes directly to the presentation. Instead, you might request that they use the Comments feature to provide their feedback and leave the actual changes to you.

Comments are like yellow sticky-notes that people reviewing the presentation can add, letting you know what they think about individual slides. You can see them in Normal view, but they don't show up in Slide Show view.

Adding a comment

Here are the steps for adding a comment:

1. Display the slide on which you want to add a comment.

2. Choose Insert⇨Comment, or click the New Comment button on the Reviewing toolbar. A yellow box appears with your name in it.

3. Type your comment, as in Figure 13-8. When you are finished typing, click outside the comment box.
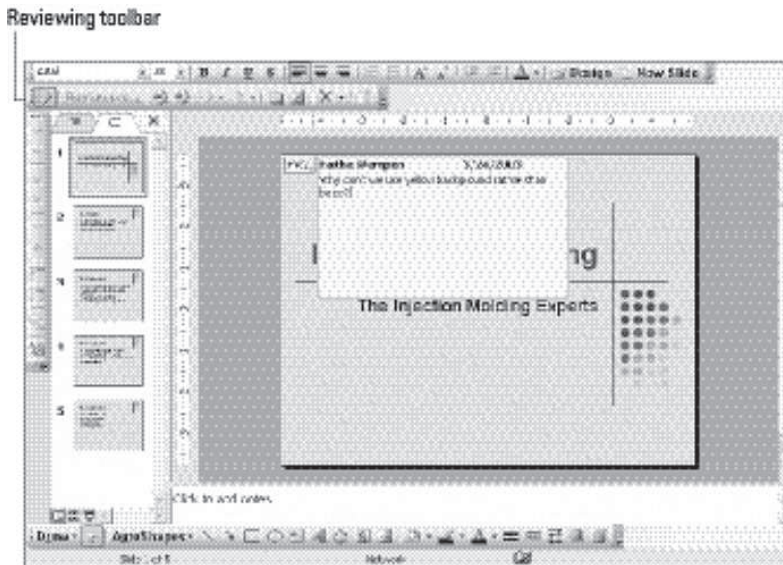
Figure 13-8: Type a comment in the comment box.

The comment floats on the slide, just like any other object. When you click away from it, it disappears except for the small box with your initials and the comment number. For example, in Figure 13-8, it's FW2. To redisplay the full comment, click the little box. (Double-click if you want to re-open it and add text.)

Moving, editing, and deleting comments

Figure 13-8 shows the Reviewing toolbar, which appears whenever you display or work with comments. Figure 13-9 shows it again, with the buttons labeled that pertain to comments. The other buttons, unavailable in Figure 13-9, are used for reviewing changes, as you will see later in this chapter.
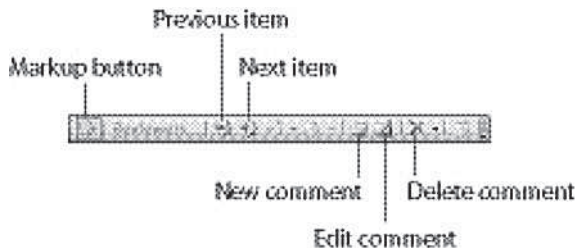
Figure 13-9: The Reviewing toolbar facilitates working with comments.

You can reposition a comment on the slide by dragging its box around. You might want to place a comment next to the item to which it pertains.

To edit a comment, double-click it to open it (or select it and click the Edit Comment button on the Reviewing toolbar) and then make your changes. If you edit someone else's comment, the initials change to your own and you become the "owner" of the comment.

To delete a comment, select it and press Delete (or click the Delete Comment button on the Reviewing toolbar).

You don't have to delete a comment in order to get it off the screen, however. To temporarily hide all comments, choose View⇨Markup or click the Markup button on the Reviewing toolbar. (Use that same command to turn them back on again.)

Reviewing comments

When you get a presentation back from a reviewer or from multiple reviewers, there will likely be many comments. (Different users' comments show up in different colors so you can more easily distinguish them.)

You can page through the slides one by one, looking for comments, or you can use the Next Comment and Previous Comment buttons on the Reviewing toolbar to move quickly to the next or previous slide that contains a comment.

Incorporating Changes from Reviewers

Suppose you distribute your presentation to several people for review. One way is to use the File⇨Send To⇨E-mail Recipient (For Review), as you learned earlier in the chapter. You can also simply send it as a normal e-mail attachment to someone, or even distribute it on a disk.

Now you've received two copies back from two different people. Each has made some changes to the presentation. How do you merge all those changes back into your original and sort them out? You do so using the Reviewing feature.

Merging review revisions

When you receive a revised presentation back via Outlook, and you open it from there, you might see a message asking whether you want to merge the changes with your original. If you get that, click Yes.

If you don't get that message for some reason, you can do the same thing with the Compare and Merge feature within PowerPoint:

1. Start with the original presentation file open in PowerPoint.

2. Choose Tools⇨Compare and Merge Presentations. A Choose Files to Merge with Current Presentation dialog box opens. See Figure 13-10.

3. Select the presentation file(s) to merge and then click Merge.
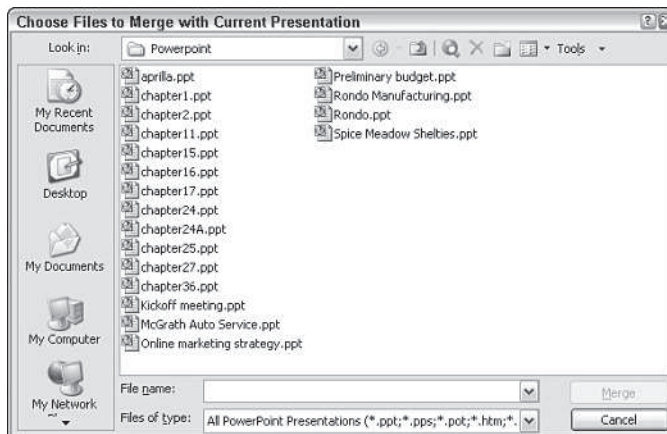
Figure 13-10: Select one or more presentation files to merge with the original.

Note If all the revised copies still have the same filename, you will not be able to store them in the same folder with one another, so you will not be able to select them all in Step 3. Instead choose one and click Merge, and then repeat Steps 2 and 3 for the next one from a different location.

Accepting or rejecting revisions

The important thing to know about revisions is that they are not accepted automatically. By default they do not appear at all, in fact. Your original presentation remains intact. When you review the revisions, you have the opportunity to individually view and select the revisions you want to apply. Any you do not choose are discarded.

To accept or reject changes:

1. Display a slide that contains revisions. You can tell because information about the revision appears in the Revisions Pane.

2. Click the Revision icon on the slide to see a detailed list of the revisions for that slide.

3. Mark the check boxes for the revisions you want to implement. When you mark one, its change shows on the current slide. See Figure 13-11.
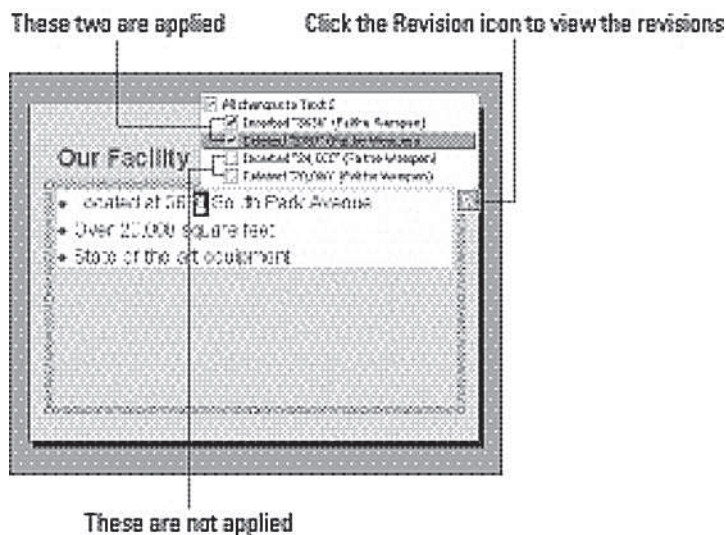
Figure 13-11: Accept or reject changes in the Revisions task pane.

4. To move to the next slide, click the Next button at the bottom of the Revisions pane or simply click a different slide in the Slides pane.

Using the Reviewing toolbar for revisions

As you are reviewing the revisions, the Reviewing toolbar is active. Figure 13-12 shows some of the buttons that come in handy during this phase.

- **Markup:** Toggles all markup on/off, including both revision icons and comments.

- **Apply:** Applies all revisions to either the current slide or to the entire presentation. (Open its drop-down list to choose which.)

- **Unapply:** Removes all revisions from either the current slide or from the entire slide. (Again, open its drop-down list to choose which.)

- **End Review:** Completes the review process, removing all unapplied revisions. Don't do this until you are completely finished reviewing.

- **Revisions Pane:** Toggles the Revisions Pane on/off.
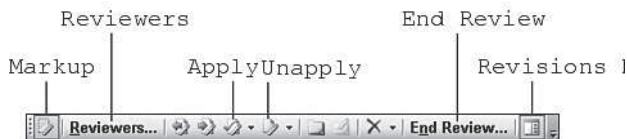
Figure 13-12: Some buttons on the Reviewing toolbar are active only when working with revisions.

Finishing a review of revisions

When you have accepted all the revisions that you want, you can exit from the Compare and Merge mode by clicking the End Review button on the Reviewing toolbar. A warning will appear; click Yes. Now you're back to normal, and the Reviewing toolbar disappears.

Live Collaboration with NetMeeting

PowerPoint 2003 supports NetMeeting, an application that you can use to collaborate in real-time with other people online. It includes application sharing, a "whiteboard" for drawing, a chat feature, and other handy activities.

In the past, Microsoft provided Internet Locator Service (ILS) public servers that you could use for this, but nowadays Microsoft is encouraging everyone to move to Windows Messenger instead, so they have discontinued support of public ILS servers. Therefore if you want to use NetMeeting from PowerPoint, you must access your company's own ILS server or a third-party ILS server.

This chapter does not delve into NetMeeting specifics because it's likely that most people will use Windows Messenger instead. However, if you are interested in exploring NetMeeting on your own, choose Tools⇨Online Collaboration⇨Meet Now.

Live Collaboration with Windows Messenger

Windows Messenger is a real-time chat program that comes free with Windows XP. You can also download it for free from Microsoft for any older 32-bit version of Windows.

Not only does Windows Messenger provide a means of chatting (that is, typing back and forth in real-time), but it also allows you to share applications over the Internet. That's where its usefulness for PowerPoint comes in. If all the meeting participants are Windows Messenger users, you can employ Windows Messenger to allow everyone to see and work with your copy of PowerPoint. You can then maintain a separate chat window where you and the other participants discuss the draft presentation.

Running Windows Messenger

To run Windows Messenger, choose it from the Start⇨All Programs menu. Some earlier versions were called MSN Messenger rather than Windows Messenger; it's the same thing.

To use Windows Messenger, you need a Microsoft .NET Passport. This is simple and free to obtain. The first time you try to log into Windows Messenger, a wizard will walk you through the process.

You also should have all the meeting participants added to your Contacts list. To add a contact, click Add Contact in the Windows Messenger window (see Figure 13-13) and follow the prompts in the wizard.

Figure 13-13: Add the meeting participants to your Contacts list if needed, so you can then invite them to share applications with you.

> **Tip**
>
> Actually having all the participants added to your Contacts list is not an absolute requirement. When selecting people with whom to share applications, you'll find an Other tab; click it and you can enter an e-mail address of a new contact. The new person must be a member of the Microsoft .NET Messenger service.

Inviting someone to share PowerPoint

First, start PowerPoint and open the presentation you want to collaborate on. Then do the following to invite someone else to see it:

1. From Windows Messenger, choose Actions⇨Start Application Sharing. A list appears of your contacts who are online. See Figure 13-14.

2. Click the contact with whom you want to share and then click OK.
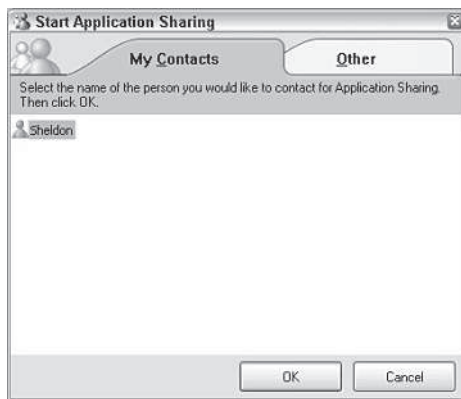
Figure 13-14: Select the online contact with whom you want to share an application.

A Conversation window appears on your screen. At the same time, a Conversation window appears on the other person's PC, with hyperlinks to Accept or Decline your request. See Figure 13-15. He or she clicks Accept to begin the application sharing.
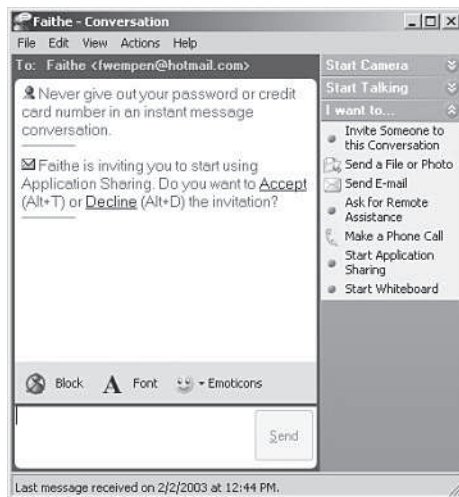
Figure 13-15: This is what the other person sees when you request an application sharing session.

3. A Sharing box appears on your PC's screen. Click PowerPoint and then click Share. See Figure 13-16.

   Also appearing on your screen at this point are the Sharing Session toolbar and the conversation window, both also shown in Figure 13-16. You can click the App Sharing button at any time to reopen the Sharing dialog box. The Close button closes the application sharing session. The Whiteboard button opens the Whiteboard application, discussed later in this chapter.
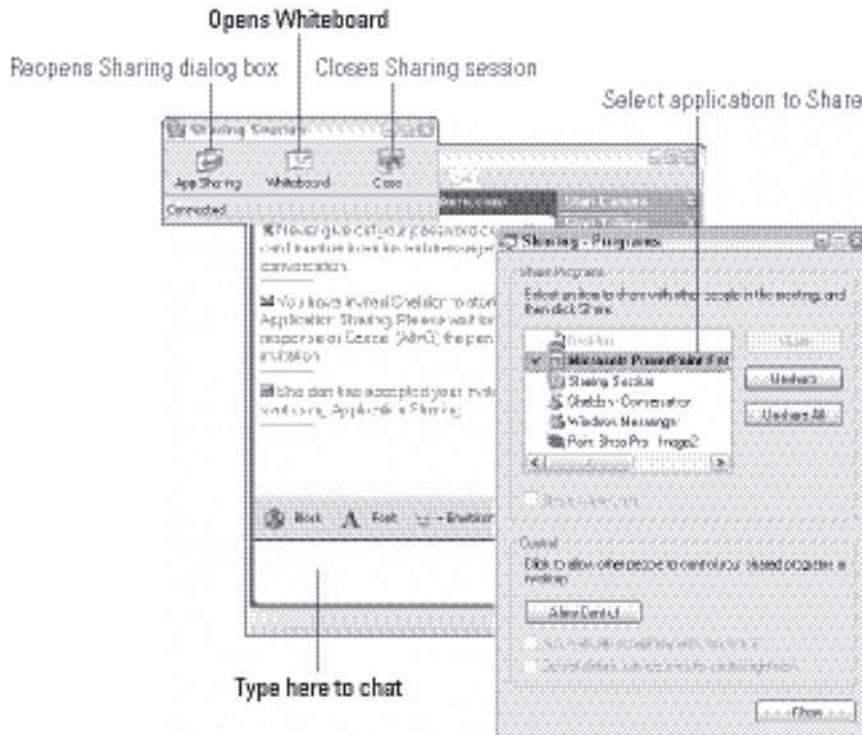
Figure 13-16: Select the application to share (in this case PowerPoint).

4. Now restore the PowerPoint window and begin working in PowerPoint. The person at the other end of the sharing connection will see everything you do in a Programs window. Figure 13-17 shows what they see. If you share more than one application, they see more than one window.
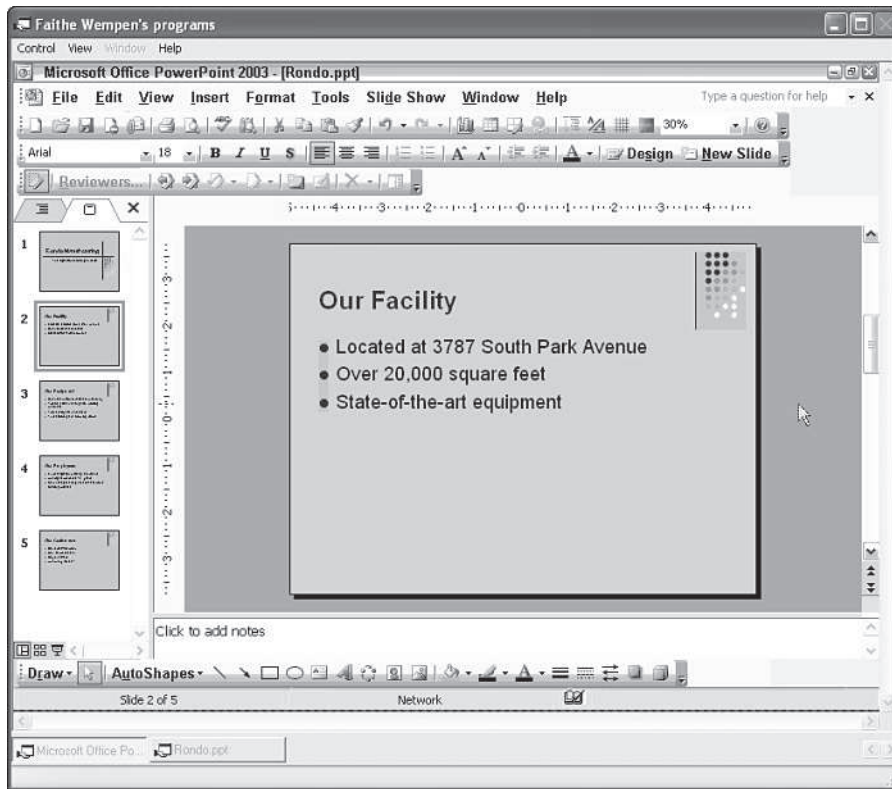
Figure 13-17: This is what the other person sees while you are sharing an application.

5. Use the whiteboard and the Conversation window as needed to communicate. You can also give the other person control of PowerPoint temporarily, as described in the following section.

6. When you are finished, click the Close button on the Sharing Session toolbar to end the application sharing.

Giving another participant control

Only one person can have control of the meeting at a time. By default, this is the person who initiated the meeting. The person who has control can change views, show the presentation in Slide Show view, advance the slides, skip to other slides, and so on. Everyone else can only watch.

If you are holding a collaborative session, you might want to pass control to another meeting participant so he or she can make a point or show an example. You can always take control back later, as the meeting leader.

To let someone else control the presentation (temporarily), follow these steps:

1. On the Sharing Session toolbar, click the App Sharing button to reopen the Sharing dialog box (Figure 13-16).

2. Click the application to select it, and then click the Allow Control button. The Control section changes to the commands shown in Figure 13-18.
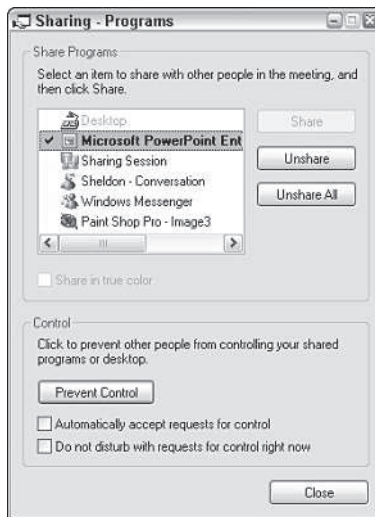
Figure 13-18: When you allow control for an application, choices for administering that control appear.

3. Mark either of the two check boxes as desired:

   • **Automatically Accept Requests for Control:** This bypasses the confirmation message that would normally appear on your screen when a participant requests control.

   • **Do Not Disturb with Requests For Control Right Now:** This prevents others from requesting control (temporarily).

4. Click Close. Now you are ready to share control of the application.

Note

To regain control at any time, the meeting leader can press Esc. This doesn't work for other meeting participants; they must wait until whoever is in control has ceded it before jumping in. If you are eager to gain control, you can make a comment to that effect using the Chat window, described in the following section.

Taking control as a participant

Someone else can take control on his or her own PC by following these steps:

1. Double-click the PowerPoint screen being displayed, or choose Control⇨Take Control. Then wait for the person currently in control to respond to a confirmation box that appears on his or her screen.

2. Once you are granted control, your mouse pointer begins working in the shared application box. Make any edits you like.

3. When you are ready to cede control to some other participant, choose Control⇨Release Control.

Chatting with other participants

The Conversation window is the main means of communication among participants. It appears initially when you are setting up the application sharing; it is where the Accept and Decline hyperlinks appear when you invite someone to application sharing.

You can chat by typing in this same window at any time during the application sharing. See Figure 13-19. Just type in the bottom box and then press Enter to send your message.
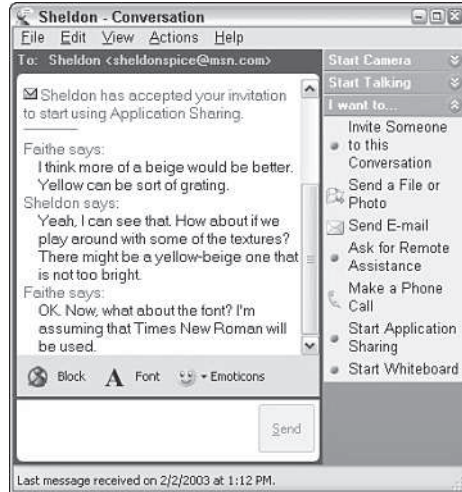
Figure 13-19: Participants communicate through the Chat window.

Caution   Sometimes when you start chatting after sharing applications, Windows Messenger will log you off and you'll have to log back on again.

Using the Whiteboard

The Whiteboard is a simple paint program that participants can use to share conceptual drawings with one another during the meeting.

To use the whiteboard, click the Whiteboard button on the Sharing Session toolbar. A Whiteboard window appears. It looks a lot like the Paint program that comes with Windows, but has some additional features. See Figure 13-20.
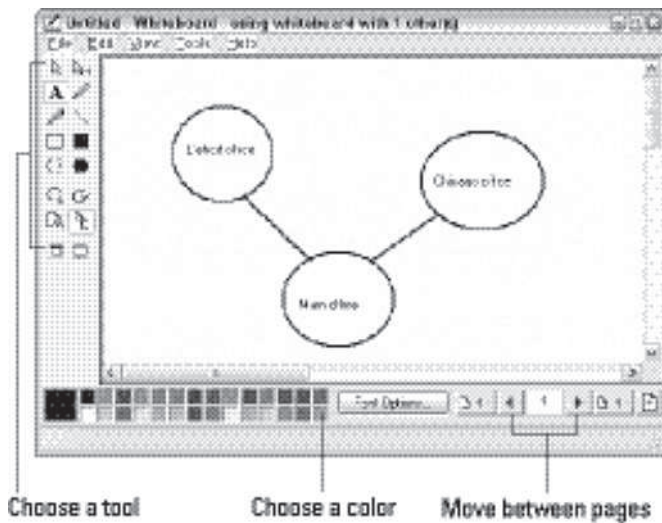
Figure 13-20: Use the Whiteboard program to draw conceptual diagrams during a meeting.

The Whiteboard is its own application, and there isn't space to cover it fully in this book. However, it is extremely intuitive to use, and you should not have any trouble with it. Select a tool from the palette on the left, and if applicable, select a line thickness from the thicknesses below the tools. Then, select a color from the color palette at the bottom. Finally, drag the mouse on the drawing area to create lines, shapes, text, or whatever.

For example, Figure 13-20 shows a diagram using three ovals and two straight lines. Text tool (A) was used to type some descriptions of the ovals.

You can have multiple pages of drawings and notes; to move to the next page, click the right arrow button in the bottom-right corner.

Ending an application sharing session

To end a session, you simply click the Close button on the Sharing Session toolbar.

Tip   If you used the Whiteboard during the session, a message appears asking whether you want to save your Whiteboard contents when you close the session. Click Yes or No. If you choose Yes, it'll be saved in Whiteboard (.NMW) format. You can reopen it later through Windows Messenger. From Windows Messenger, choose Actions⇨Start Whiteboard, and then within Whiteboard choose File⇨Open.

The Conversation window remains open after you terminate the sharing session. You can save the chat text from the Conversation window by choosing File⇨Save. It's saved in Text (.TXT) format.

There's a lot more you can do with Windows Messenger than has been covered in this brief overview in this chapter. In addition, Microsoft is always updating that program, so by the time you read this, Windows Messenger may look slightly different and have more features than you saw here.

Summary

In this chapter you learned about many different ways of collaborating with other people on a draft presentation. You learned how to e-mail presentation files, how to incorporate review feedback with Compare and Merge, and how to hold online meetings with Windows Messenger where you share control of a single copy of PowerPoint.

✦   ✦   ✦

Integrating FrontPage with Office Applications

Suppose you have documents in Word, illustrations in
PowerPoint, a brochure in Publisher, and a table in
Excel, and you need to integrate them all into your Web site.
This chapter shows you how to do just that. Along with
integrating Office content into FrontPage Webs, you can ship
FrontPage content back to Office. For example, you can dump
your FrontPage reports into Excel to analyze your database
of site files, or export collected FrontPage data to a Word
mail-merge file.

Finally, Office 2003 users can directly open spreadsheets and
PivotTables in your site right in Internet Explorer on Windows
computers.

In Figure 14-1, for example, a visitor is calculating values in a
spreadsheet embedded in a Web page.

Figure 14-1 You can provide interactivity for visitors by using an Office 2003 spreadsheet Web component.

From Office to FrontPage

All Office 2003 applications have their own distinct methods for converting documents to Web pages. Excel automatically generates Web sites that look like spreadsheets. Publisher creates Web site folders full of files, with a separate Web page for each page of a publication. PowerPoint Web sites look like slideshows; and Word, too, generates Web sites.

That's all fine for people using those programs who aren't demanding the capability to fine-tune their Web page display. However, as a FrontPage-empowered Web designer, you may want to select elements from Office applications to integrate into a Web site of your own design.

Importing Web components from Office applications requires an understanding of how they generate Web sites, where they stash the Web files, and how you can work around some of the automation routines to import just what you want into your Web site.

Moving from Word to FrontPage

Actually, you can move text from a Word file into a FrontPage Web site in several different ways. The quickest way is to copy text, although even this option presents several alternatives that affect how the text format is translated to your Web page.

Other options include saving the file as a text file or saving it as HTML. Each method has its advantages and drawbacks, which are explored in this section.

Note Most methods of integrating Office documents into Webs involve the Import dialog box, which is discussed in the section "Importing files into Webs."

Attaching text files to a Web site

If your Web design responsibilities include integrating many documents into a Web site, you will very likely want to import large blocks of text from Word (or another word processor) into FrontPage Web pages.

You have many options available for integrating word processing files into a Web site. If you are presenting documents that don't need any formatting or Web design features, you can simply save your documents as text (.txt) files and import them into your Web site.

One drawback of using .txt file format is that when visitors see this text on a Web page, it will be displayed in long lines, without text wrapping. You can easily import a Word file in FrontPage.

1. Open a page and choose Insert ⇨ File.

2. From the Files of Type drop-down list, choose Word from the list of file type options.

3. Select a Word file, as shown in Figure 14-2. FrontPage will convert the Word file as it is imported.
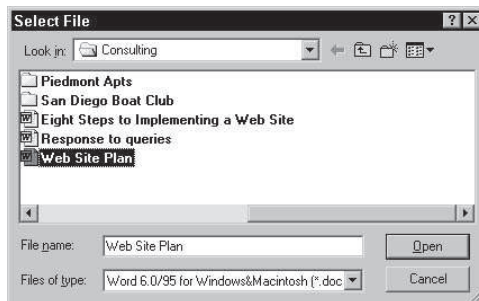
Figure 14-2 Inserting Word files in your Web site is a no-frills way to make a document available to visitors.

How Word creates HTML files

You can save Word files as HTML. Word 2003's File ⇨ Save as Web Page option converts an open document to an HTML file (or, in some cases, to several files, including image files). How good are the results? The resulting files often take some work to restore formatting and images. Publisher 2003 does a cleaner job of converting document files to Web pages. If you want to do complex page layout outside of FrontPage, Publisher is a better choice than Word. However, if you want to convert a 50-page Word document to a Web site, the Save as HTML option accomplishes the job in a hurry. In addition, you can touch up the formatting in FrontPage Page view.

If you do save a Word file as HTML, the best way to work with it in FrontPage is to *import* the HTML file (created by Word). Even after you import the file, however, FrontPage will still identify this imported file as a Word file, and when you double-click on the file in Folder or Navigation view, FrontPage launches Word again. To avoid having your file open in Word, right-click on the file and choose Open With from the context menu. Then, select *FrontPage* (instead of Word) to edit the file in FrontPage.

Word saves complex documents by generating several files. For example, long document footers generate multiple footer files. Similarly, separate files are generated for embedded image files. Word creates a new folder when these files are generated to keep them all together. In that case, when you import a Word file that has been saved to HTML, you import the entire folder. As you do, FrontPage retains the folder paths between the imported page and linked images.

Copying and pasting text into Web pages

The easiest way to get word processing documents into FrontPage Web pages is simply to copy and paste the text. First, copy all or part of a document into the Clipboard. Then, open a page in FrontPage Page view and select Edit ⇨ Paste Special. The Convert Text dialog box appears, as shown in Figure 14-3.
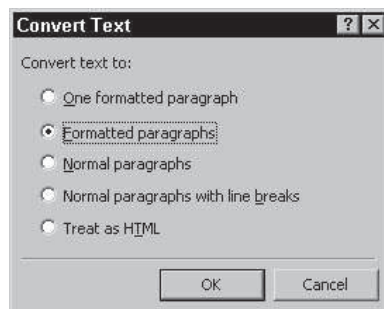
Figure 14-3 You have several options for pasting copied text into a Web page.

The following are the paste options:

✦ **One formatted paragraph:** Converts the text to one paragraph, replacing paragraph marks in the copied text with forced line breaks.

✦ **Formatted paragraphs:** Copies the text, preserving formatting and paragraphs.

| Note | The difference between One Formatted Paragraph and Formatted Paragraphs is that the One Formatted Paragraph option converts the copied text to a single paragraph. |

✦ **Normal paragraphs:** Copies the text, converting it to the Normal style defined for your Web site. If you assigned a theme with a defined Normal style, or if you defined a Normal style yourself, those attributes are assigned to the copied text.

✦ **Normal paragraphs with line breaks:** Converts copied text to Normal style (like the preceding option), but substitutes forced line breaks for paragraph breaks.

✦ **Treat as HTML:** Interprets any HTML code within copied text. You are unlikely to use this option for imported Word text, unless you include HTML tags in your text.

| Note | Use the Treat as HTML option when you copy HTML code into a FrontPage Web page. |

Creating Web sites from Publisher files

Microsoft Publisher follows its own rules when it generates Web sites. Those sites are fine, but they don't integrate well into FrontPage.

When you save a Publisher publication as a Web page, a new folder with multiple files is created. Publisher creates a new Web page for each page in your publication, and saves all of them to a folder. Therefore, when you save a Publisher publication as a Web site, you actually create and save to a folder, not to individual files.

To save your publication as a Web site in Publisher, select File ➪ Save as Web Page. You need to do this even if you saved your file prior to converting it to Web pages. The Save as Web Page dialog box prompts you to select a folder to which your many Web site files will be saved. The Save as Web Page dialog box prompts you for a file folder, not a filename. Be careful to save only one single set of Web files in a folder.

| Note | Publisher converts all embedded pictures into .gif format and stores them in the folder generated for your saved Web site. Because not all images save well as .gif files, you can substitute .jpeg files when necessary in FrontPage's Page view. |

What, then, is the best workaround if you have to convert Publisher files into FrontPage Webs? If you can, obtain the original text and image files and, if necessary, copy and paste them into FrontPage.

Sending Excel objects to FrontPage

Excel offers three options for sending spreadsheets and charts to FrontPage Web pages:

✦ Use copy and paste to transfer selected cells or charts to a Web page.

✦ Save selected cells, sheets, or charts as Web pages.

✦ Save an entire worksheet, including all tabs, as a set of Web files.

Copying and pasting works fine for quick transferring of cells into a FrontPage table. Copying charts works fine — you simply transfer the chart into Page view as a picture that can be edited or formatted using FrontPage's picture formatting tools. For example, you can copy a chart into FrontPage, assign a transparent background, save it as a `.gif` file, and make it into an image map with linked hotspots.

> **Cross-Reference**   For a full discussion of all of FrontPage's picture-editing features, see Chapter 12 of Wiley's *FrontPage 2003 Bible*.

To preserve cell formatting or to convert your entire spreadsheet (either one tab or all of them) into a Web site, you can save your spreadsheet to an HTML file.

Copying tables into FrontPage

The quick and easy way to move a table into FrontPage is to copy the cells in Excel and paste them into an open Web page in FrontPage. Copying and pasting cells preserves most formatting, including font color, font size, alignment, shading, and border formatting. In addition, you can always use FrontPage's own table formatting to restore or add table and cell formatting. Figure 14-4 shows a table from Excel moved into a FrontPage Web page.
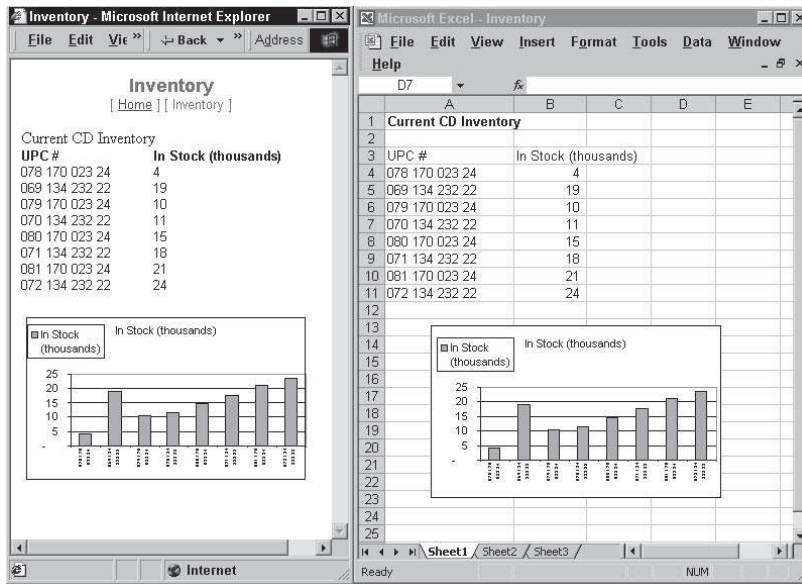
Figure 14-4 Charts copy and paste well in Office 2003 between Excel and FrontPage.

Exporting Excel sheets as HTML pages

You can send either a selected range of cells or an entire workbook to a Web page in Excel by selecting File ⇨ Save as Web Page from the Excel menu. If you first select the cells that you want to convert, you can use the Selection Chart radio button in the Save As dialog box, as shown in Figure 14-5.
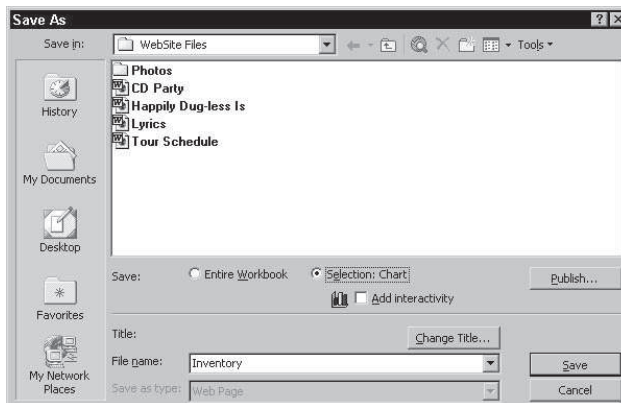
Figure 14-5 You can send convert a selected range of cells into a chart with the Select Chart option.

In the Save As dialog box, click the Selection: Chart button, choose a filename and destination folder, and then click Save.

The Add Interactivity checkbox in the Save As dialog box creates a page with an Office spreadsheet. For an explanation of how these interactive spreadsheets work in a Web page, see the "Adding Office spreadsheets" section later in this chapter.

Sending charts to FrontPage

You can copy Excel charts into FrontPage Web pages through the Clipboard. The results improved with Office 2003 — copied charts come into FrontPage as nice, clean embedded `.gif` images. When you save your page, you'll be prompted to save the chart as well.

Another option is to save a selected chart as an HTML page in Excel.

To save a chart as an HTML page, follow these steps:

1. Open the Excel workbook and select the chart that you want to save.

2. Select File ⇨ Save as Web Page. The Save As dialog box appears.

3. Click the Selection: Chart option button in the dialog box.

4. Select a folder in the Save In box to which you want to save your file.

5. Enter a filename for your chart in the File Name box, and click Save.

You can now import the HTML file into your FrontPage Web and use it in Web pages.

Saving Excel workbooks as folders

You can convert an Excel workbook with two or more tabs into a set of Web files. When you do, Excel simulates a tabbed workbook that can be used to create a familiar format for Web visitors who are used to looking up information in spreadsheets, as shown in Figure 14-6.
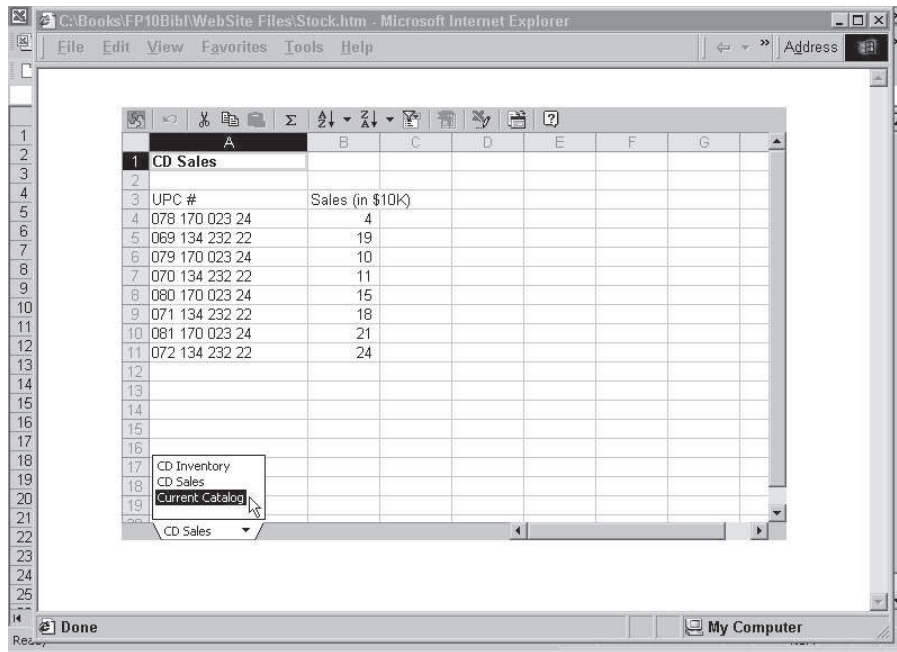
Figure 14-6 You can use Excel to generate framed Web pages that look like workbooks.

To generate an Excel-based Web folder, follow these steps:

1. Open an Excel workbook with multiple tabs.

2. Select File ⇨ Save as Web Page.

3. Select the Entire Workbook option button.

4. Navigate to the folder to which you want to save the generated Web files. Select Save to save the entire workbook, or select Publish to save selected elements of the workbook.

As you save or publish your workbook as a Web "page," a set of files is generated in a separate folder, which uses the name of your file followed by an underscore and the word "files." For example, if you save a workbook called Scores as a Web page, a folder is created called Scores_files. That folder includes several files required for a Web site that is based on your file. In addition, an .htm file is created in the parent directory (the one to which you saved your file in the Save As dialog box), with the name of the file (for example, Scores.htm).

When you import this generated Excel Web into FrontPage, you need both the .htm file generated in the folder that you specify in the Save As dialog box and all the files in the additional (_files) folder.

From PowerPoint to FrontPage

PowerPoint in Office 2003 converts slideshows to HTML pages when you select File ⇨ Save as Web Page. As with Excel, a whole batch of files, including HTML and image files, is generated when you do this conversion. In fact, rather than saving a "file" to a "page," you save many files to a folder filled with Web pages and other files.

The folders generated by PowerPoint don't mesh well with FrontPage Web sites. Basically, PowerPoint gives you a highly specialized Web site with complex page designs and links. Use PowerPoint's Publish as Web Page option, shown in Figure 14-7, if you want a seamless slideshow on your Web site.
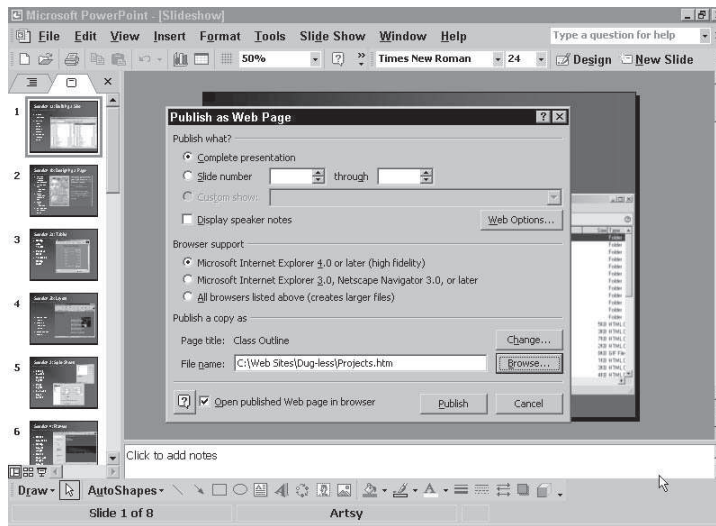
Figure 14-7 PowerPoint can generate Web pages.

Converting slides to Web pages

You don't have to convert an entire PowerPoint slideshow to a Web site. If you want only a single slide, you can save that slide as a .gif or .jpg (or .png) image. These picture files can then be added to a Web page just like any other image from a file.

To save a single slide as an image file, follow these steps:

1. Open the slideshow and the slide that you want to convert to a graphic file.

2. With the slide in view, select File ⇨ Save As. The Save As dialog box opens.

3. From the Save as Type drop-down list, select an image file format, such as .jpeg or .gif.

4. Navigate to a file folder and enter a filename in the File Name box.

5. Click the Save button.

6. When prompted with a dialog box that asks if you want to export every slide in the presentation, click No. You will save only the slide that you are viewing.

Integrating a slideshow into FrontPage

A useful Office-to-FrontPage option is converting PowerPoint slideshows into FrontPage Webs. The result is a JavaScript-driven online slideshow with expanding outlines and a full set of navigation buttons that enable you to jump around in your slideshow. Figure 14-8 shows a PowerPoint slideshow dumped into FrontPage.
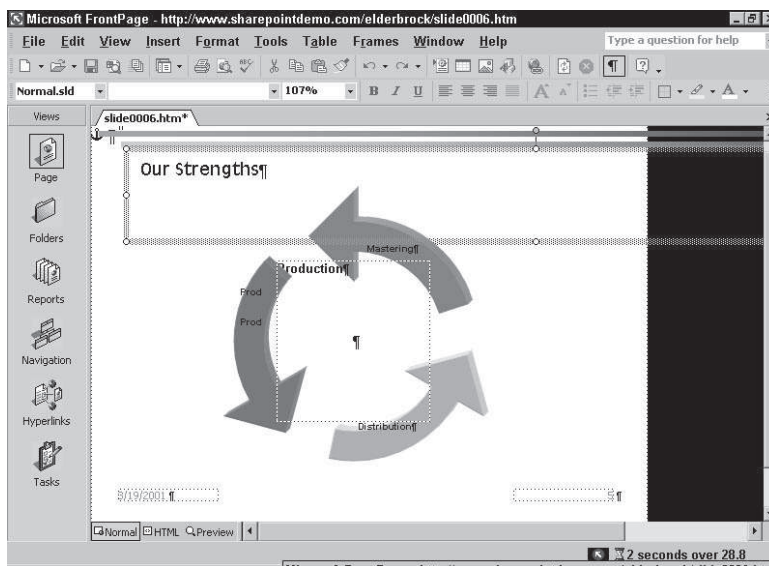
Figure 14-8: PowerPoint can generate automated online slideshows.

To convert a slideshow into a Web-based slideshow, choose File ⇨ Save as Web Page, and click Publish (not Save).

In the Publish as Web Page dialog box (Office 2003 really means Publish as Web *Site* dialog box), select the slides you wish to export to your new Web folder. Additional options enable you to include (or exclude) speaker notes. The three option buttons in the Browser Support area allow you to choose the generation of browsers for which you will generate Web pages.

Note Generally, selecting Microsoft Internet Explorer 4.0 or later won't harm anything. This option will embed some features (such as expanding outlines) that are not recognized by older browsers. Viewers using older browsers, however, will still see the content of your slideshow.

After you select options in the Publish as Web Page dialog box, click the Publish button. A set of HTML and image files will be generated. You can import these files into a FrontPage Web.

Importing files into Webs

Each of the applications in Office 2003 that have been examined thus far can be used to generate HTML files, and other Web files as well. You can use FrontPage's Import menu to integrate these generated Web pages or Web sites into FrontPage.

In many cases, when you import a file from Word, Excel, or PowerPoint, you must convert the original file into an entire folder full of Web files. The folder will likely include image files, but may also include scripts necessary to convert a slideshow, for example, into a Web site. To import an entire folder, you can use the Folder option in the Import dialog box.

To import a file or folder with Office Web files into FrontPage, follow these steps:

1. With a Web already created, select File ➪ Import. The Import dialog box appears.

2. Click the Add File button to import one or more files, or click the Add Folder button to import an entire folder with files.

Note   If you import a folder, that folder becomes a folder in your FrontPage Web, and the files within it are kept together in the folder.

3. You can use the Add File and/or the Add Folder buttons as often as you want, until you have selected all the files and/or folders that you want to import.

4. After you select your files, click OK in the Import dialog box to copy files to your Web server or FrontPage Web folder.

If you are creating a new Web site from files generated by an Office 2003 application, you can select File ➪ New ➪ Web and double-click the Import Web Wizard in the New dialog box.

The Import Web Wizard walks you through the process of selecting a folder to import. You can also use the Import dialog box to add files to a Web generated from imported files.

The following exercise requires a minimal knowledge of Word and Excel. If you can create a simple document in Word and a small spreadsheet and graph in Excel, you can test FrontPage's ability to integrate these files into a Web site.

Importing Word and Excel files into a Web site

Here are the steps to bring Word and Excel files into your Web site:

1. Create a document in Word with text at the top of the page that says "Welcome to My Web Site." Add a line of text with your name.

2. Assign a Heading 1 style to the top line of text, and a Heading 2 style to your name.

3. Add a paragraph of text below your name. Assign formatting to the text, such as boldface, italic, font styles, and colors. Center all the text.

4. Select File ⇨ Save as Web Page. Create a new folder called Web Files, and name the file index. Click Save.

5. Create a new Excel workbook. In cell A1, enter **Visitors this year**. In cells A2, A3, and A4, enter **January**, **February**, and **March**, respectively. In cells B2, B3, and B4, enter numbers.

6. Click and drag to select cells A2 through B4 and click the Chart Wizard button in the toolbar. In the first Chart Wizard dialog box, click Finish to accept the default chart settings.

7. Leave Excel open. In FrontPage, select File ⇨ New ⇨ Web. Enter a filename for your Web in the "Specify the location of the new web" box of the New dialog box.

8. Double-click the Import Web Wizard icon in the New dialog box.

9. Select the From a Source Directory of Files option button in the Import Web Wizard dialog box.

10. Click the Browse button and navigate to the folder in which you saved your Word file (Index.htm). Click OK in the Browse for Folder dialog box.

11. Click Next. The Add File to Import List dialog box displays all the files in the folder, as shown in Figure 14-9. Click Next, and then click Finish.
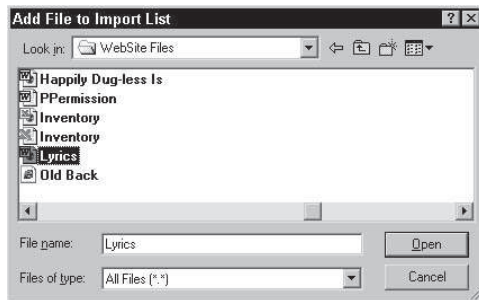
Figure 14-9 Selecting files to import

12. Switch to Navigation view. Your imported Word file has become your home page. Right-click on it and choose Open With from the context menu, and then select FrontPage in the Open with Editor dialog box to open the page in Page view.

Caution   Double-clicking on the icon in Navigation view opens up the document in Word rather than in FrontPage Page view.

13. Switch back to Excel. Select the chart and choose Edit ⇨ Copy.

14. Switch to FrontPage and, in Page view, click to set the insertion point in your open Web page. Select Edit ⇨ Paste to insert the cells.

15. Save the Web page. The embedded chart will be saved as an image file.

The copied spreadsheet cells become a table in FrontPage, and the copied chart becomes an embedded image file.

Adding Office Web Components to Web Pages

You can add spreadsheets, PivotTables, and graphs to FrontPage Web pages as interactive elements. Visitors who have Office 2003 installed on their systems can come to your Web site, enter data in a table, make calculations, and watch a graph display their input. Visitors who don't have Office 2003 can still download viewers that enable them to interact with your spreadsheets, charts, and PivotTables.

You can place interactive PivotTables in Web pages. PivotTables summarize information from spreadsheet or database tables and are somewhat complex. If, however, your visitors want to synthesize data from a database live at your Web site, you can provide the tools to do that.

Adding Office spreadsheets

You can use an interactive spreadsheet element that enables visitors to your Web site to make all kinds of calculations. For example, you can create a worksheet on which a visitor can calculate the cost of his or her purchase, including sales tax. You can protect some cells and leave others open for visitor input.

To place a spreadsheet on your Web page, follow these steps:

1. Open a Web page.

2. Select Insert ⇨ Web Component ⇨ Spreadsheets and Charts, and click Office Spreadsheet.

3. Click Finish to generate the spreadsheet.

4. Click and drag on side or corner handles to resize the spreadsheet, as shown in Figure 14-10.
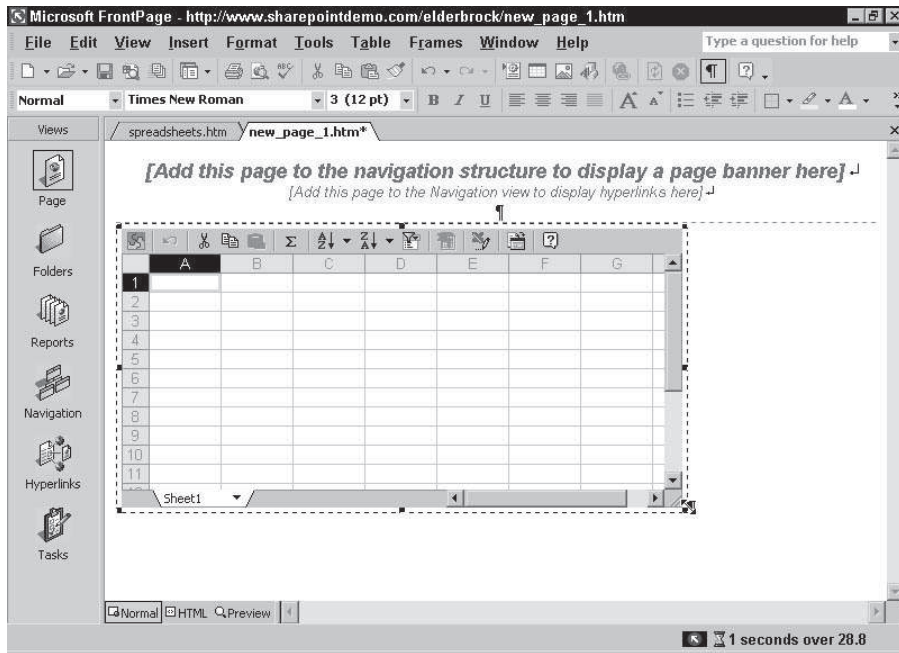
Figure 14-10: It's easy to embed and resize a spreadsheet in FrontPage.

Formatting Embedded Spreadsheets

Formatting, cell protection, and other display and function properties for embedded spreadsheet components are controlled by a combination of ActiveX control properties and spreadsheet properties. There is no particular rhyme or reason as to which options are controlled where. Some options can be defined in either dialog box, and some options (such as chart and cell protection) require attributes from both dialog boxes.

Let's face it — embedded spreadsheets are not the most frequently used feature of FrontPage, and Microsoft hasn't paid the same level of attention to organizing their use that was devoted to more popular features. However, If you persevere through both spreadsheet and ActiveX control properties, you can indeed create an interactive spreadsheet on your Web page.

The process of formatting an embedded spreadsheet is divided into two sections in this chapter: defining ActiveX control properties and defining spreadsheet properties.

Defining ActiveX control properties for a spreadsheet

You can control some of your spreadsheet attributes in the ActiveX Control Properties dialog box. These properties include alignment (such as left or right), borders, and spacing around the spreadsheet.

To define ActiveX control properties, follow these steps:

1. Right-click the spreadsheet and choose ActiveX Control Properties. The ActiveX Control Properties dialog box appears, as shown in Figure 14-11.
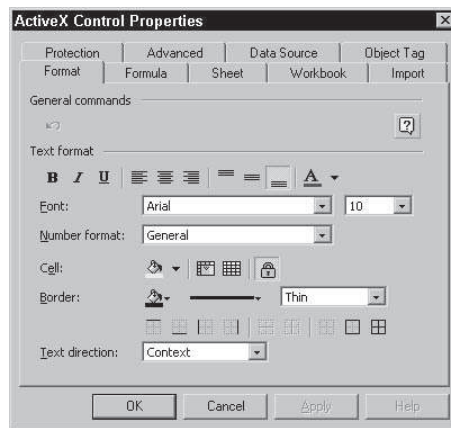
Figure 14-11 Use the ActiveX Control Properties dialog box to define how your spreadsheet will be displayed.

2. Use the dialog box to define any of the following attributes:

   • In the Workbook tab, specify the spreadsheet name: A name is required if you plan to link the spreadsheet to a chart (see "Adding Office charts," later in this chapter). You can also name sheets within the worksheet in this area. Use the checkboxes in the Show/Hide area to display (or hide) scroll bars, a sheet selector tab area, and a toolbar. Finally, choose one of the radio buttons to set calculations to automatic or manual (you will probably want your spreadsheet to calculate formulas automatically).

Note   You aren't likely to need the options in the Format or Formula tabs of the ActiveX Control Properties dialog box. You can create formulas and define most formatting in the spreadsheet.

   • In the Sheet tab, you can search your spreadsheet or use checkboxes to define how sheets are displayed.

   • The Import tab is used to import an existing XML file, and the Data Source tab is used to connect your spreadsheet to an existing database.

- The Object Tag tab ("tag" refers to the ActiveX control properties) defines the width and height, alignment, and spacing around your spreadsheet. The Width and Height boxes are an alternative way to size the spreadsheet (you can also resize in Page view by clicking and dragging sizing handles). The relevant options in the Alignment drop-down list are Left or Right. Use them to let text flow around the spreadsheet. Border thickness defines the width of a border around the spreadsheet. The HTML box defines a message, and URL displays if a visitor's browser doesn't support interactive spreadsheets. The default HTML informs visitors that they need a viewer to use this feature.

- The Advanced tab has some useful features, including the Autofit Spreadsheet checkbox, which enables you to define your spreadsheet as a fixed percentage of the browser window's width.

- The Protection tab enables you to define what editing features are accessible to visitors, including the capability to enter data in cells. You can modify the protection you define in the ActiveX Control Properties dialog box in the Spreadsheet Properties dialog box.

3. After you define properties, click Apply in the dialog box.

An embedded spreadsheet is shown in Figure 14-12.
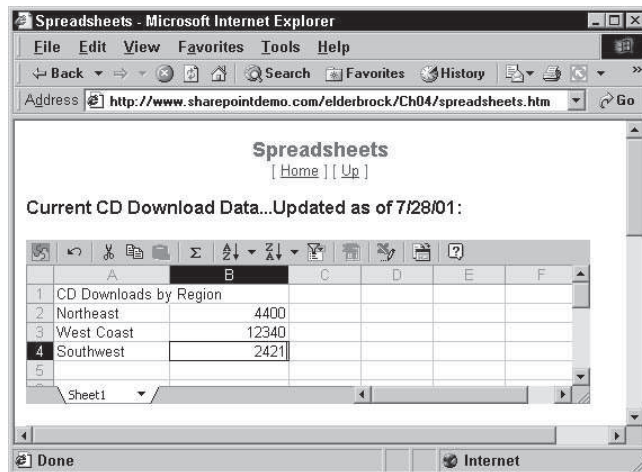
Figure 14-12: This interactive spreadsheet can be edited both in FrontPage and in a Web browser.

Defining spreadsheet properties

You can enter text, values, and formulas the same way that you do in Excel. Many other Excel functions are also available using the Commands and Options dialog box. Some, but not all, of these property controls can be made available for visitors. For example, visitors can be allowed to enter data into cells and change cell formatting, but visitors cannot be given access to features such as Protection (a feature that defines which cells, if any, a visitor can change).

Figure 14-13 shows the Commands and Options dialog box as it appears to visitors using Internet Explorer 5.5 and later.
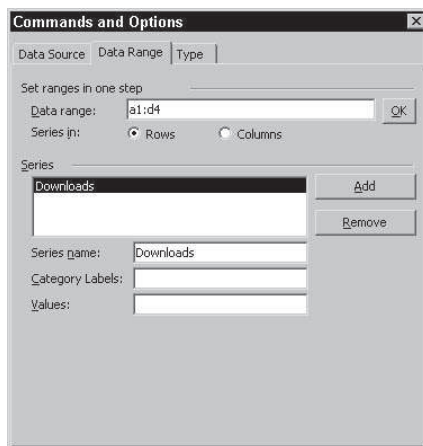
Figure 14-13: Most of the formatting attributes available in Excel are stashed in the Commands and Options dialog box, which can be made available to visitors who have Office 2003 on their computers.

The Format, Formula, Sheet, and Workbook sections of the Commands and Options dialog box are available in browser windows *provided that Commands and Options were enabled in the Protection tab of the ActiveX Control Properties dialog box*. Therefore, these features are defined not only by the page author (you), but also by visitors who work on the spreadsheet at your Web page.

A detailed description of all the features of the Commands and Options dialog box would really require a book about Microsoft Excel, but here is a quick overview of the features available in each tab:

✦ The Cell Lock/Unlock Cells button in the Format tab enables you to disable protection from selected cells. This feature is not available for visitors. The rest of the Format tab has a fairly full-featured Formatting toolbar for defining font type, style, size, and color. Other boxes in this section refine cell display. Of particular usefulness is the Number Format drop-down list, which includes currency and date formats.

✦ The Formula tab is redundant, because formulas are normally defined in cells.

✦ The Sheet, Workbook, Advanced, Import, and Data Source tabs duplicate the same tab settings in the ActiveX Control Properties dialog box.

For an example of defining a spreadsheet Web component, see the exercise at the end of this chapter.

Note   For all practical purposes, you must publish your Web to a server with FrontPage 2002 or FrontPage 2000 extensions to link an embedded spreadsheet to an embedded chart. (There are no new 2003 extensions.)

FrontPage will manage the process of connecting your data and your chart, as long as you confine your work to a FrontPage extension site.

Adding Office charts

You can generate Office charts in FrontPage using three sources of data: a spreadsheet on the Web page, data you enter specifically to be charted, or data from a server database.

The focus here is on Office charts that are linked to embedded spreadsheets in FrontPage. These charts can interactively display spreadsheet content, enabling visitors who change data in your spreadsheet to see the new data charted on the Web page.

To link a chart to a spreadsheet, follow these steps:

1. Start by creating an embedded spreadsheet in a Web page (see instructions in the previous section). Be sure to name the sheet (in the Object Tag tab of the ActiveX Control Properties dialog box, which you can access by right-clicking on your selected chart).

2. Next, insert a chart. This can be done right next to the spreadsheet if you wish (as illustrated in Figure 14-14). To insert the chart, select Insert ⇨ Web Component ⇨ Spreadsheets and Charts ⇨ Office Chart. Click Finish. The Commands and Options dialog box appears.
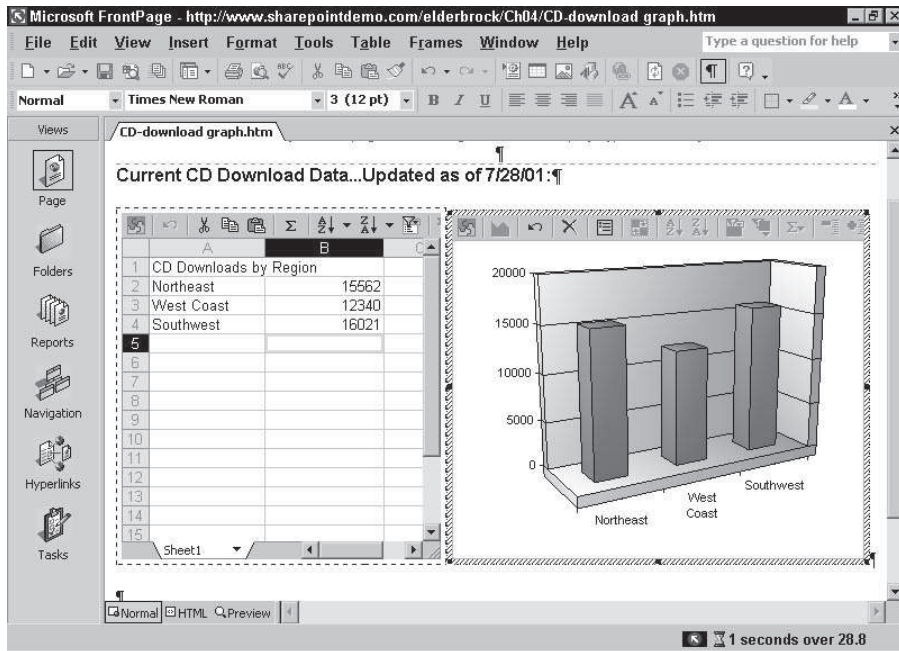
Figure 14-14: An interactive chart can be placed next to a spreadsheet.

3. In Area 1 of the Commands and Options dialog box, you have three options for a data source for your chart:

   • Choose the Data Typed into a Data Sheet option button to enter data to be charted.

   • Click the Data from a Database Table or Query option button to define a connection to an online database.

   • Click the Data from the Following Web Page Item option button to chart data from an existing embedded spreadsheet. If you choose this option, you can select from a displayed list of embedded spreadsheets. Use the Range button to define a graphing range (in the form of A1:D4, for example, to graph cells A1 through D4). You can name the range (the range name is defined in Excel).

4. Choose a chart type. Click outside the dialog box to display the chart.

Changing chart properties

You can resize a chart by selecting it and using the side or corner handles to change the size. Other chart properties are defined in the ActiveX Control Properties dialog box.

To change chart properties using the ActiveX Control Properties dialog box, follow these steps:

1. Right-click in the chart and select ActiveX Control Properties from the context menu.

2. Use the options available in the different tabs of the ActiveX Control Properties dialog box to change chart format or data. For example, use the Data Range area in the Data Range tab to redefine the data to chart, as shown in Figure 14-15.
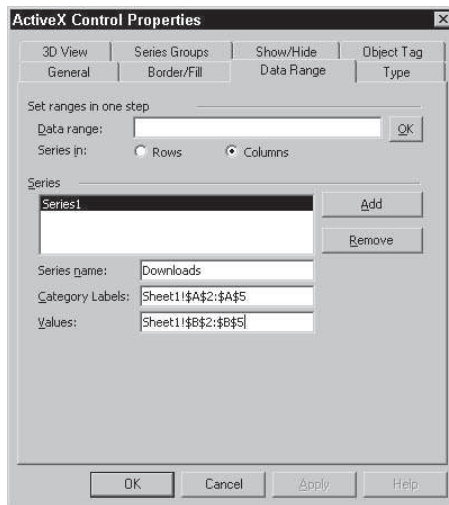
Figure 14-15 You can use the ActiveX Control Properties dialog box to redefine different elements of a chart.

Note Available chart options will vary depending on the type of chart and the data source.

Controlling charts using the chart menu

If you elect to display the toolbar (in the Show/Hide tab of the ActiveX Control Properties dialog box), an active toolbar is associated with an embedded chart. The features you controlled in the ActiveX Control Properties dialog box are now controlled by toolbar icons, some of which are made available to visitors.

The chart toolbar's active elements that are available in the FrontPage toolbar are shown in Figure 14-16.
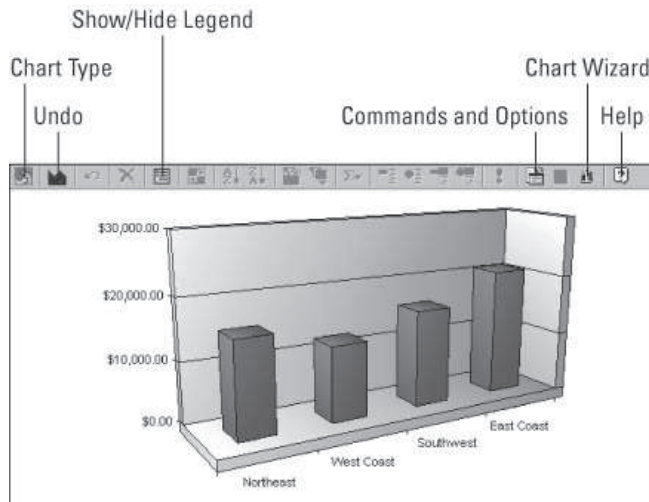
Figure 14-16 Visitors can control calculation, sorting, and formatting.

After you create a linked chart, you — or visitors — can enter data in the spreadsheet and see it graphed in the chart. Figure 14-17 shows a chart working interactively in a browser.
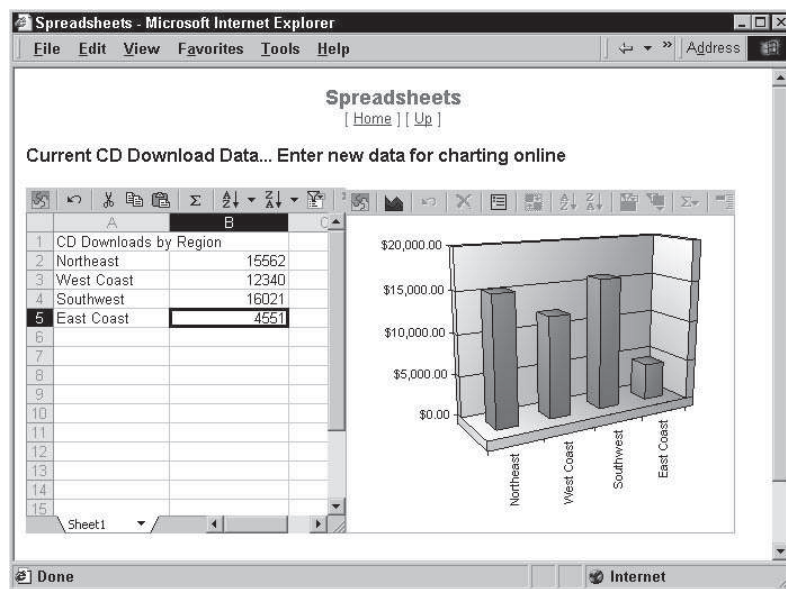
Figure 14-17 Graphing interactively in a browser

Presenting a database table in a Web spreadsheet

If you have an Access (or another) database at your Web server, you can present the contents of a table in that database in a spreadsheet. This first requires that you know how to import or create a database on your Web site. Very briefly, this can be accomplished by simply importing an existing database file (Access is the most hassle-free) into your Web using the File ⇨ Import menu command. Then, click the Add File button in the Import dialog box, and navigate to your database file. After you select the database and click OK, follow the prompts to create an online version of your database.

Alternatively, if you want to experiment with connecting a database to a spreadsheet before you are ready to create an online database, you can use the sample database that comes with FrontPage.

With a database imported into FrontPage (or using the sample database), follow these steps to display the content of that database in a Spreadsheet Web component:

1. Open a new page in FrontPage. You will use this page to display the database records in a database region.

2. Choose Insert ⇨ Database ⇨ Results.

3. If you have an imported (or FrontPage-generated) database, click Use an Existing Database Connection and choose your installed database from the Use an Existing Database Connection drop-down list. Alternately, click the Use a Sample Database Connection (Northwind) radio button.

Note This step-by-step set of instructions zips past many database options, focusing instead on just creating a simple database region on which to base a spreadsheet.

4. Click Next. In the Step 2 Wizard dialog box, choose a table from the Record Source drop-down list. Choose a table to display in your Web page database region.

5. Click Next. Accept the defaults in the Step 3 and Step 4 Wizard dialog boxes by clicking Next.

6. In the Step 5 Wizard dialog box, choose the Display All Records Together option button. Click Finish to generate a database region displaying the data from your database. A database region is shown in Figure 14-18.
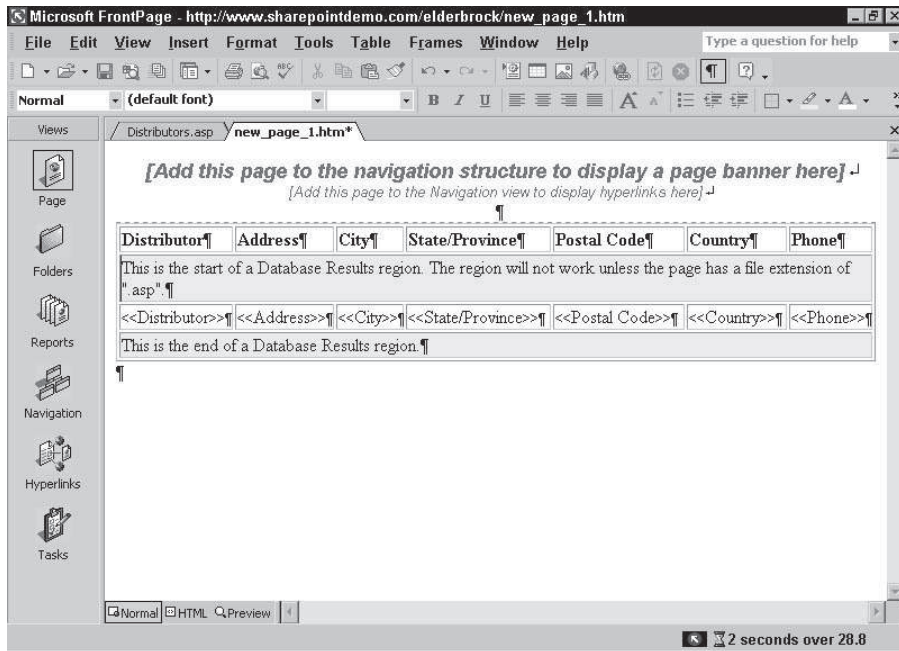
Figure 14-18: This database region presents data that can be displayed in a linked spreadsheet.

Note

You can generate a database region only if you are connected to a Web server with FrontPage extensions. In addition, you won't see the actual data until you preview your page in a Web browser.

7. Save the page with the database region as an `.asp` file page, and then use it as a base for spreadsheet data. Start by choosing File ⇨ Save As, and choose Active Server Pages from the Save As Type drop-down list in the Save As dialog box. Give the `.asp` file a name in the File Name box, and click OK.

Note

In this example, because we started with a blank page, FrontPage assigns an ASP filename extension by default. However, that doesn't always happen if the page isn't blank, so make a point of assigning ASP file format to this page.

8. Create a new Web page (or open an existing one), and choose Insert ⇨ Web Component ⇨ Spreadsheets and Charts. Click Office Spreadsheet in the Choose a Control list of the Insert Web Component dialog box.

9. Click Finish to generate a spreadsheet. In the spreadsheet component, click the Commands and Options icon to open the Commands and Options dialog box.

10. In the Import tab of the Commands and Options dialog box, choose HTML from the Data Type drop-down list, and enter the URL for your page (the one you saved in Step 7), as shown in Figure 14-19.
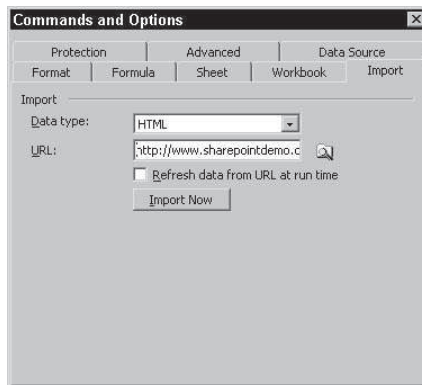
Figure 14-19 This spreadsheet component has been associated with a Web page with a database region.

Note Entering the absolute URL (that is, the entire URL, including `http://www`) seems to work best.

11. To continually update the spreadsheet, click the Refresh Data from URL at Run Time checkbox.

12. Click Import Now. The spreadsheet will display the content of the associated database region.

Creating Office PivotTables

Of the three interactive Office Web components that you can use in a Web page, PivotTables are the most complex. PivotTables themselves are fairly complicated. A full discussion of PivotTables is beyond the scope of this book, but in short, PivotTables summarize data from a table. Therefore, for example, if you have a list of 500 orders for 12 products and the dates the orders were placed, a PivotTable could summarize how many orders had been placed for each of the 12 products. Or, the PivotTable could be used to total how many orders were placed each day.

Assuming that you and your visitors are comfortable designing and manipulating fields in a PivotTable, you can create an interactive PivotTable that summarizes data in an Excel file or Access database table.

Connecting a PivotTable to an Excel data source

Steve Martin used to do a comedy routine around the theme of "how to make a million dollars and not pay *any* taxes." Part of the joke was that his starting point was "go get a million dollars," and then he would fill you in on the rest. The story's relevance to connecting a PivotTable to an Excel data source is that PivotTables are a rather complex art, and an advanced spreadsheet skill. If you're *already* comfortable with them, we can show you how to plug them into a FrontPage Web site.

Even if you are comfortable with PivotTables, connecting a PivotTable to an Excel data source is not a simple process. The basic process involves first connecting an existing Excel file to your site as a recognized Web database, and then generating a PivotTable from a named range in that file.

To generate an interactive online PivotTable from an Excel spreadsheet, follow these steps:

1. Create or open in Excel a worksheet that has the information you want to summarize in your PivotTable.

2. Select the data and then choose Insert ⇨ Name ⇨ Define.

3. Assign a range name (for example, "Data"). You may want to jot down the range name, because you'll need it again in a later step.

4. Save the Excel file and note the filename and folder to which it is saved.

5. In Page view, open the FrontPage Web page in which you will insert the PivotTable.

6. Select Insert ⇨ Web Component ⇨ Spreadsheets and Charts. Choose Office PivotTable, and click Finish. A blank PivotTable appears in Page view.

7. Click the Commands and Options button (the only active button in the PivotTable toolbar) to open the Commands and Options dialog box, shown in Figure 14-20.
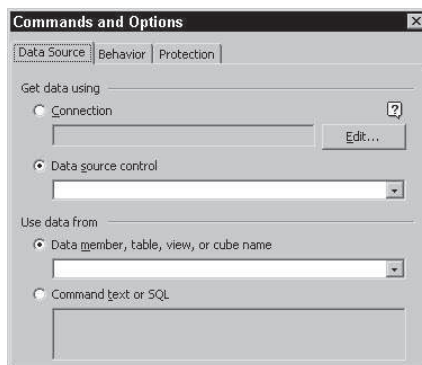
Figure 14-20: Buried in the PivotTable Commands and Options dialog box are the elements needed to connect your PivotTable to a data source.

8. Choose the Data Source tab in the Commands and Options dialog box. Click the Connection radio button, and then click the Edit button. The Select Data Source dialog box appears, as shown in Figure 14-21.
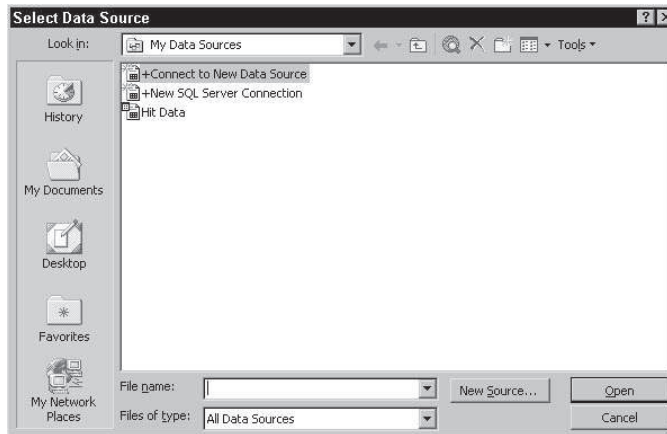
Figure 14-21 Choosing an Excel file to link to your Web PivotTable

9. Click the New Source button. You are about to connect your Excel file with your Web site. The Data Connection Wizard opens to walk you through that process.

10. Choose ODBC DSN as your database source. Click Next.

11. Choose Excel files as your data source, and click Next.

12. Navigate to your Excel Workbook in the Select Workbook dialog box. Choose your Excel file and click Next.

13. The Data Connection Wizard displays available named ranges (also referred to for these purposes as "tables") in your selected spreadsheet. Select one of these tables and click Next.

14. In the final Wizard window, enter a description and keywords to help identify and locate the PivotTable. These are optional. After you enter a description and keywords, click Finish. You will be returned to the Select Data Source dialog box, where your newly defined database connection (to your spreadsheet) is now one of the connection options. Click Open to connect your selected spreadsheet to the PivotTable.

15. Your PivotTable is now connected to your spreadsheet, and is ready to have fields added. Click the Field List icon in the PivotTable toolbar to display field names, as shown in Figure 14-22.

Note For a brief step-by-step explanation of how to put fields into a PivotTable, see the section "Adding fields to a PivotTable" later in this chapter.
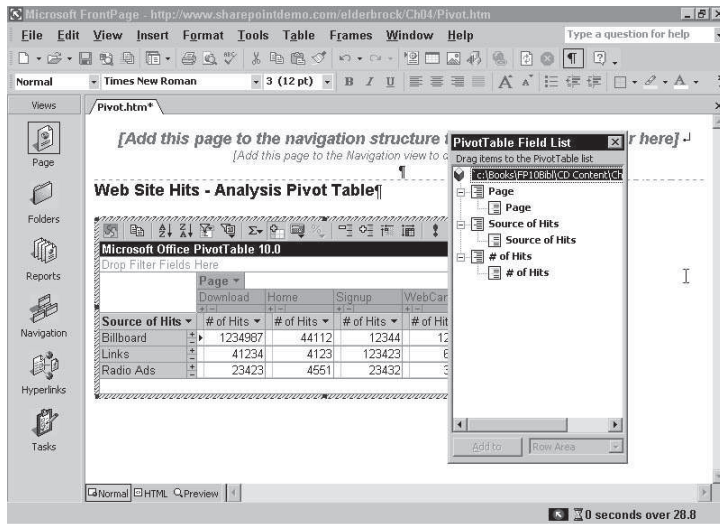
Figure 14-22: Once your PivotTable is connected to a data source, you can add fields.

16. Drag fields into place in your PivotTable.

17. Save your page. Your PivotTable is now ready to be both accessed by visitors to your Web site and utilized to synthesize table data, as shown in Figure 14-23.
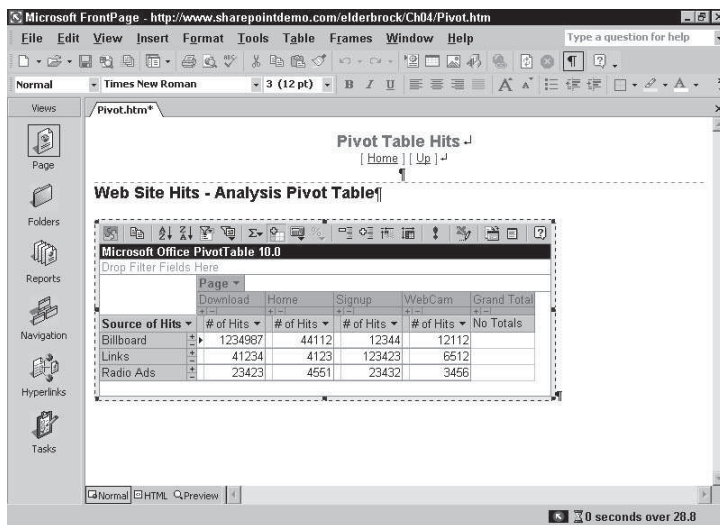
Figure 14-23 A completed PivotTable in FrontPage

Defining a PivotTable

Here is a quick summary of how to put a PivotTable together:

After your PivotTable control is connected to an Excel data source, you can use the Field List button in the PivotTable toolbar to add fields to the PivotTable displayed. Every PivotTable requires at least one Row or Column field and at least one Total or Detail Field.

The basic concept is to summarize data by sorting it into categories. For example, if you wrote books for a dozen publishers over the past four years, you could produce a PivotTable listing how many books you wrote for each publisher each year by making Year the column field, Publisher the Row field, and Books Written the Detail field.

Adding fields to a PivotTable

To add fields to a PivotTable, follow these steps:

1. Click the Field List button in the PivotTable toolbar to display a list of fields in your database.

2. Drag one of the fields into the Drop Column Fields Here area of the PivotTable, and drag one field into the Drop Row Fields Here area, as shown in Figure 14-24.
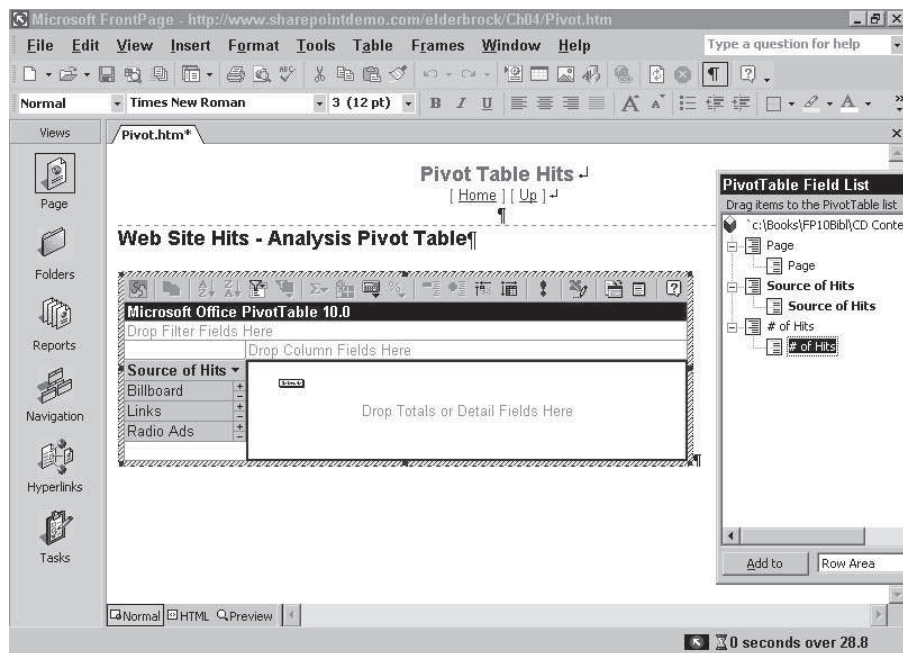
Figure 14-24: Adding fields to a PivotTable

3. You must have at least one field in the Detail area (in the middle of the PivotTable), so drag a field from the Field list into the middle of the PivotTable.

> **Note** The field in the Detail area normally displays values. These values can be summed, counted, or have other calculations performed on them.

4. You can drag a field into the Drop Filter Fields Here area at the top of the PivotTable to create a filtering drop-down list that will control what is displayed in the entire PivotTable. This field is optional and simply provides a higher level of filtering in addition to the options you already have in the PivotTable.

5. After you define your PivotTable, close the PivotTable Field List dialog box. Note that each field has a drop-down list associated with it. Use the checkboxes in these drop-down lists to filter your PivotTable results, as shown in Figure 14-25.

Figure 14-25: Filtering a PivotTable enables you to fine-tune your analysis of data.

6. You can remove fields by right-clicking them and selecting Remove Field from the context menu.

7. To calculate (count, sum, find maximum or minimum value), right-click a field in the Detail area and select AutoCalc. Then choose from calculation options such as sum, count, or average.

8. You can turn subtotaling on or off for fields where it applies by right-clicking on a field in the PivotTable and selecting or deselecting Subtotal from the context menu.

Formatting and calculating PivotTable data

After you define your PivotTable, save your Web page and preview it in Internet Explorer to test it. Figure 14-26 shows an interactive PivotTable in Internet Explorer.

Figure 14-26: Visitors can do their own synthesis of your data with a PivotTable in Internet Explorer — as long as they have Office 2003 installed.

In FrontPage, you can format, calculate, and sort PivotTable data by using the PivotTable toolbar, by right-clicking and choosing context menu options, or by using the Commands and Options button in the PivotTable toolbar to open the Commands and Options dialog box.

Some, but not all, of these filtering, sorting, formatting, and calculating features are available for visitors when they work with the PivotTable in a Web site. You can control table protection using the ActiveX dialog box associated with your PivotTable. This process is the same as for the ActiveX dialog box associated with a spreadsheet, explored earlier in this chapter.

Implementing an Office spreadsheet Web component

In this tutorial, you'll add a spreadsheet to a Web page.

1. Open an existing FrontPage Web or create a new one. Open a Web page in Page view.

2. Enter the title **See How Much of Your Time You Spend Commuting** on the page, and then press Enter.

3. Select Insert ⇨ Web Component ⇨ Spreadsheets and Charts, and choose Office Spreadsheet. Click Finish.

4. Click in cell A1 of the spreadsheet and type **How many hours do you spend commuting?** Press Enter.

5. In cell A3 of the spreadsheet, enter **=A2/24**.

6. Click the Commands and Options button in the spreadsheet. In the Format tab, select Percent from the Number Format drop-down list.

7. Click in cell A2. In the Commands and Options dialog box's Format tab, deselect the Lock Cells icon.

8. In the Protection tab of the Commands and Options dialog box, select Protect Active Sheet.

9. Save the file, and preview it in Internet Explorer.

10. While testing the spreadsheet in Internet Explorer, attempt to enter text in cell A1. Try to enter a number in cell A3. You should see a warning like the one shown on the bottom of the screen in Figure 14-27.
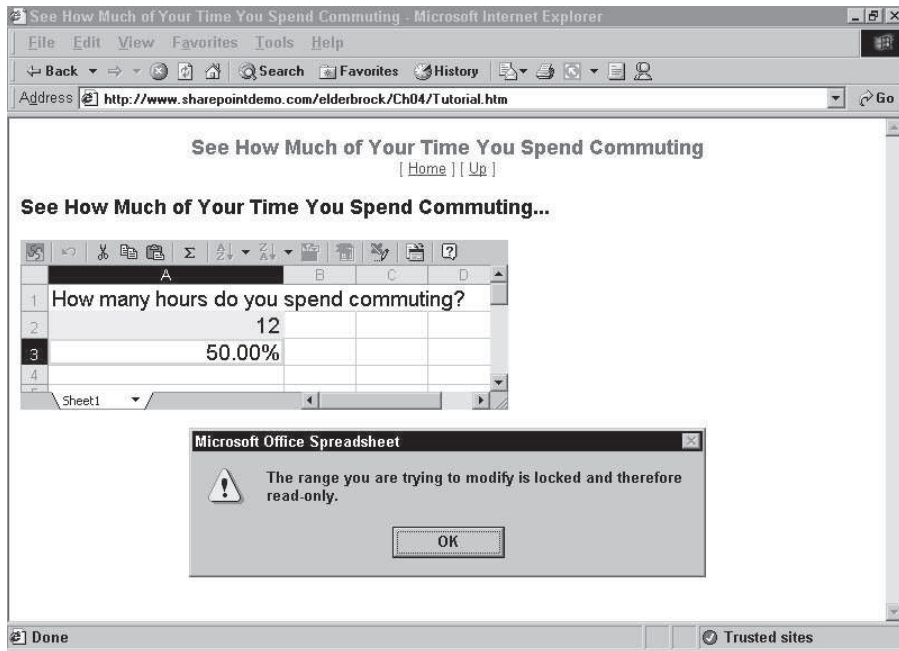
Figure 14-27: You can lock cells in a spreadsheet so that visitors can enter data only in cells that you designate to accept input.

From FrontPage to Office 2003

The discussion thus far has focused on how to create Web page content in Office and transfer it into FrontPage Web pages. You can also collect information in FrontPage and send it to text or spreadsheet files that are stored at your Web server.

Note Collecting data from input forms requires some advanced FrontPage skills that are covered in Chapter 17 of *FrontPage 2003 Bible*. This section takes only a quick look at input forms from the perspective of collecting data that can be used in a spreadsheet or text file.

Even before you examine how to create your own custom input forms, you can begin to experiment with the Feedback Form page template, which contains a pre-made input form.

Sending data to Word mail-merge files

You can create an input form by using the page template with an input form (using the Feedback Form page template, for example). With a Web open, select File ⇨ New ⇨ Page, and double-click one of the templates with an input form. The input forms are filled with different text and input fields and are surrounded by a dashed line.

To create an input form that sends data to a .doc file, follow these steps:

1. With a form on your page, right-click anywhere in the form (within the dashed lines) and select Form Properties from the context menu. The Form Properties dialog box appears.

2. Click the Send To option button and enter a filename with a .doc filename extension (for example, maillist.doc).

3. After you name the target file (the .doc filename extension is important), click the Options button in the dialog box and pull down the File Format list. Choose Text Database Using Tab As a Separator, as shown in Figure 14-28.

Note   Make sure you retain the .doc filename extension. FrontPage will try to change your filename extension to .txt when you choose the Text Database Using Tab As a Separator format.
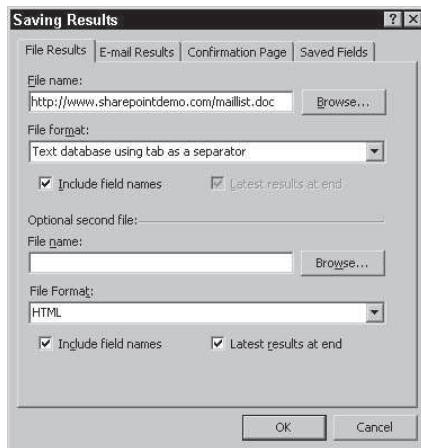
Figure 14-28: Sending input to a Word file

4. Click OK.

5. Save your Web page.

You can test your input form by clicking the Preview in Browser button and entering information in the input form. After you do, click the Submit button.

You will see your .doc file in Folder view (you may have to press the F5 function key to refresh the Folder view). As data is saved to your .doc file, you can open the file in Word by double-clicking it. With fields separated by tabs, you can use this file as a mail-merge data file in Word.

Sending data to Excel

You can save data to files that will open in Excel by using the same procedure previously outlined for saving to a Word file. The only difference is that your filename should have an .xls extension (for example, Feedback.xls). When you save tab-delimited text to an Excel file, you can open that file in Excel by double-clicking it.

Sending reports to Excel
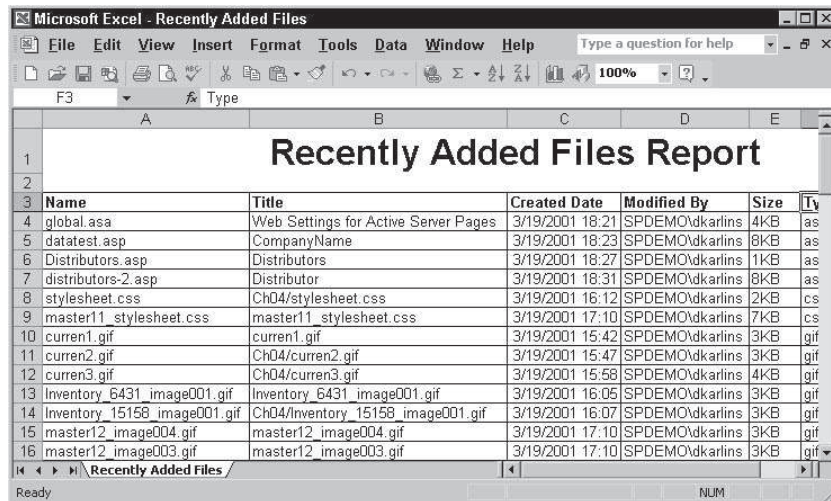
With FrontPage 2003, you can save reports as HTML files and then open them in Excel for printing, graphing, sorting, or other analysis.

To save a report as an HTML page, view the report (select View ⇨ Reports and choose any report except for Summary). With the Report in view, choose File ⇨ Save As, and save the file as an HTML file to any folder on your Web site or your local computer.

Note When you save your report, use an .htm filename extension.

Excel 2003 will open these HTML files for analysis, as shown in Figure 14-29.

Figure 14-29: Viewing a FrontPage site report in Excel

Caution   You can save any report as an HTML file *except* the Site Summary report. Unfortunately, you can't even copy and paste the cells from the Site Summary report into a spreadsheet.

Summary

With Office 2003, Microsoft has continued to smooth the integration between FrontPage and other Office applications. You can easily integrate Word documents, Excel spreadsheets, and PowerPoint presentations into your FrontPage Web.

You can also use FrontPage to create special components that allow you to put a little bit of Excel into your Web pages. These components display active, working spreadsheets, dynamically linked graphs, and even complex pivot tables in a Web browser.

Finally, you can export elements of a FrontPage Web into other Office applications. One particularly useful example of this is sending FrontPage reports to Excel, where you can sort, calculate, or even graph information about your Web site.

✦   ✦   ✦

Exchanging Access Data with Office Applications

Note This chapter originally appears in the *Access 2003 Bible*, which includes a CD with applicable sample databases and practice files. If you had that book and CD, you would use the database named CHAP33Start.mdb. A word template file named Thanks.dot, is also included for use in this chapter. You would need to copy those files to your machine now. There is no CHAP33End.mdb. Because this chapter relies on the use of Visual Basic code, it and the forms that are driven by it have already been created for you.

As companies standardize their computer practices and software selections, it is becoming more and more important to develop *total* solutions: In other words, solutions that integrate the many procedures of an organization. Usually, various procedures are accomplished by using different software packages, such as Word for letter writing, Exchange and Outlook for mailing and faxing, Powerpoint for presentations, and Excel for financial functions. If the organization for which you are developing has standardized on the Microsoft Office suite, you can leverage your knowledge of Visual Basic for Applications to program for all of these products.

> **Note**
>
> *Automation,* formerly called *OLE Automation,* is a means by which an application can expose objects, each with its own methods and properties, that other applications can create instances of and control through code. Not all commercial applications support Automation, but more and more applications are adopting Automation to replace the outdated DDE interface. Consult with a specific application's vendor to find out if it supports or plans to support Automation in the program.

Using Automation to Integrate with Office

The Microsoft Office applications mentioned in the previous section all support Automation. Using Automation, you can create objects in your code that represent other applications. By manipulating these objects (setting properties and calling methods), you can control the referenced applications as though you were programming directly in them, thus allowing you to create seamless integrated applications by using Automation.

Creating Automation references

Applications that support Automation provide information about their objects in an *object library.* The object library contains information about an application's properties, methods, and *classes*. An application's class is its internal structure for objects; each class creates a specific type of object—a form, a report, and so on. To reference an application's objects, Visual Basic must determine which specific type of object is being referenced by an object's variable in your code. The process of determining the type of an object variable is called *binding.* You can use two methods for binding an object—*early binding* and *late binding.*

Early binding an object

Using the References dialog box in the Visual Basic window of Access, you can explicitly reference an object library. When you explicitly reference an object library, you are performing early binding. Automation code executes more quickly when you use early binding.

> **Note**
>
> To access the References dialog box of VBA, you need to activate the Visual Basic window by either creating a new module or displaying the design of an existing module.

To create a reference, first create a new module or open any existing module in your application database in the Visual Basic Design screen. After you have a module in Design view, a new command, References, is available from the Tools menu. Figure 15-1 shows the References selection on the Tools menu. Select Tools⇨References to access the References dialog box. Figure 15-2 shows the References dialog box.
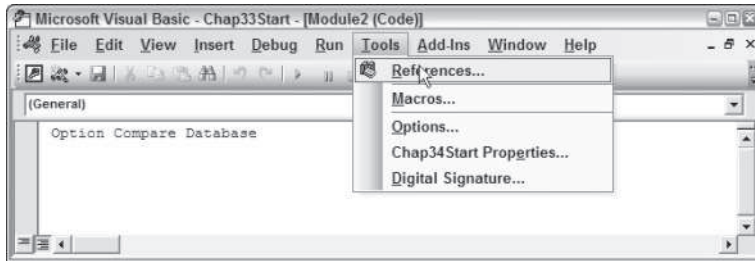
Figure 15-1: The Tools⇨References menu item is available only after you have a module in Design or New view in Access. This menu item activates the VBA window.
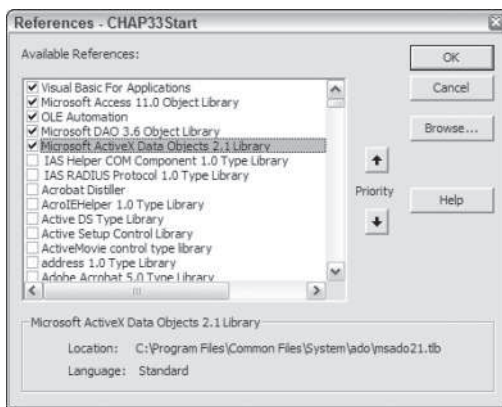
Figure 15-2: Early binding by setting references is the most efficient way to perform Automation.

In the References dialog box, you specify all the references that your application needs for using Automation or for using other Access databases as library databases. To select or deselect a reference, click its check box.

Caution

For this chapter, you will need to make sure that several reference libraries are active. You may not initially have the following four references available (checked):

```
Microsoft DAO 3.6 Object Library
Microsoft ActiveX Data Objects Recordset 2.7 Library
Microsoft Word 11.0 Object Library
Microsoft Office 11.0 Object Library
```

If these libraries aren't active (or, visible at the top of the list), find them in the selection list box by scrolling to them, and then check them on.

After you reference an application for Automation, you can explicitly dimension any object variable in that reference library. The New object coding help feature displays the available objects as you type, as shown in Figure 15-3. In addition, after you have selected the primary object and have entered a period (.), the help feature of Access enables you to select from the available class objects (see Figure 15-4).

Late binding an object

If you don't explicitly reference an object library by using the References dialog box, you can set an object's reference in code by first declaring a variable as an object and then using the Set command to create the object reference. This process is known as *late binding*.

To create an object to reference Microsoft Word, for example, you can use the following code:

```
Dim WordObj As Object
Set WordObj = New Word.Application
```

The Set command is discussed in the next section.

Tip

If you create an object for an application that is not referenced, no drop-down help box, such as the ones shown in Figures 15-3 and 15-4, will display.
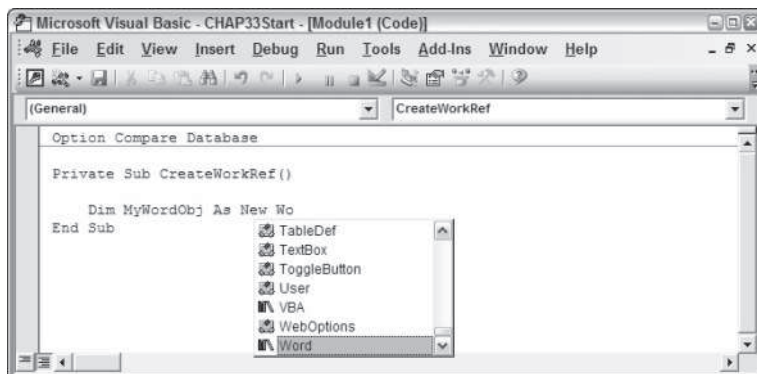
Figure 15-3: When an Automation Server is referenced, its objects are immediately known by Visual Basic.
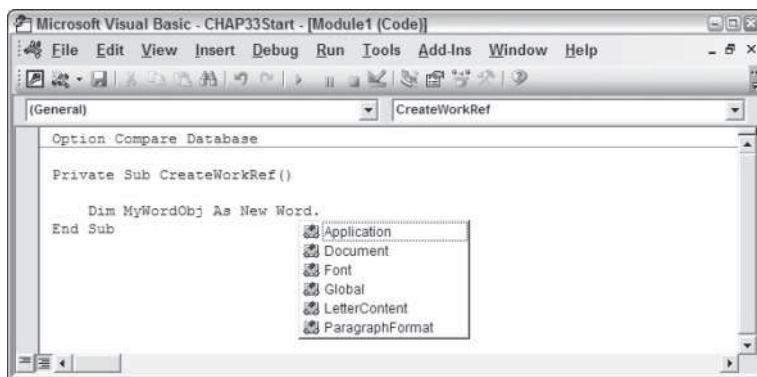
Figure 15-4: The new drop-down syntax help of Visual Basic makes using referenced Automation Servers easy.

Figure 15-3 shows the automatic drop-down box that appears immediately after you type the word **new** in the Dim statement. At this point, you can select one of the application object name types displayed (such as *word*) or enter a new application object name type that you define. Figure 15-4 shows the new drop-down box that appears when you type a period (.) after the object type *word*. This box helps you by displaying all known object types that can be associated with the particular primary object name. In this case, clicking the Application object type adds this to the *word.* portion of the object, thus *word.application*.

Creating an instance of an Automation object

To perform an Automation operation, the operating system needs to start the application—if it isn't already started—and obtain a reference, or *handle*, to it. This reference will be used to access the application. Most applications that support Automation, called *Automation Servers,* expose an Application object. The Application object exists at the top of the object application's hierarchy and often contains many objects, as well.

Using the New keyword to create a new instance

The simplest (and most efficient) method to create any Automation object is to early bind the specific Automation Server reference library to the module by activating it, using the Tools⇨References menu. After you bind it, you can then create a new instance of the object by using the New keyword in Visual Basic. In the examples shown in Figure 15-3 and Figure 15-4, the variable MyWordObj is set to a new instance of Word's Application object. If you have not bound the Microsoft Word 11.0 Object Library, you will need to do so or you will receive an error.

> **Caution**   If you don't create a reference to the Automation Server by using the References dialog box, Visual Basic doesn't recognize the object type and generates an error on compile.

Every time you create an instance of an Automation Server by using the New keyword, a new instance of the application is started. If you don't want to start a new instance of the application, use the GetObject function, which is discussed later in this chapter. Not all Automation Servers support the New keyword. Consult the specific Automation Server's documentation to determine whether it supports the New keyword. If the New keyword is not supported, you need to use the CreateObject function, which is discussed in the following section, to create an instance of the Automation Server.

Using the CreateObject function to create a new instance

In addition to creating an instance of an object library by using the New keyword, you can create an instance of an object library by using the CreateObject function. You use the CreateObject function to create instances of object libraries that do not support the New keyword. To use the CreateObject function, first declare a variable of the type equal to the type of object that you want to create. Then use the Set statement in conjunction with the CreateObject function to set the variable to a new instance of the object library.

For example, Microsoft Binder doesn't support the New keyword, but it does provide an object library, so you can reference it by using the References dialog box. To early bind the object library of Binder, use the CreateObject function, as shown in the following code:

```
Dim BinderObj As OfficeBinder.Binder
Set BinderObj = CreateObject("Office.Binder")
```

> **Note** In the preceding example, the object library name for Binder is `OfficeBinder.Binder`, and the class instance is "`Office.Binder.`" You can view the names of object libraries and their available classes by using the Object Browser.

You can create an object instance with the `CreateObject` function, which is late bound, by not declaring the object variable as a specific type. For example, the following code creates an instance of the Binder object by using late binding:

```
Dim BinderObj As Object
Set BinderObj = CreateObject("Office.Binder")
```

> **Note** If you have different versions of the same Automation Server on your computer, you can specify the version to use by adding it to the end of the class information. For example, the following code uses Office as the Automation Server:

```
Dim BinderObj As Object
Set BinderObj = CreateObject("Word.Application.11")
```

> **Tip** Word 97 was the first true Automation Server, and like its predecessor, Word 2003 doesn't require you to specify a version when creating instances of Word object libraries; Word is always used, regardless of the other versions of Word on the computer. In fact, you get an error if you try to specify a version number. Therefore, you can use the following syntax instead:

```
Set BinderObj = CreateObject("Word.Application.11")
```

Getting an existing object instance

As stated previously in this chapter, using the `New` keyword or the `CreateObject` function creates a new instance of the Automation Server. If you don't want a new instance of the server created each time you create an object, use the `GetObject` function. The format of the `GetObject` function is as follows:

```
Set objectvariable = GetObject([pathname] [, class])
```

The `pathname` parameter is optional. To use this parameter, you specify a full path and file name to an existing file for use with the Automation Server.

> **Note** The specified document is then opened in the server application. Even if you omit the parameter, you must still include the comma (,).

The *class* parameter is the same parameter that's used with the `CreateObject` function. See Table 15-1 for a list of some class arguments used in Microsoft Office.

Table 15-1
Class Arguments for Common Office Components

Component	Class Argument	Object Returned
Access	Access.Application	Microsoft Access Application object
Excel	Excel.Application	Microsoft Excel Application object
	Excel.Sheet	Microsoft Excel Workbook object
	Excel.Chart	Microsoft Excel Chart object
Word	Word.Application	Microsoft Word Application object
	Word.Document	Microsoft Word Document object

For example, to work with an existing instance of Microsoft Word, but not a specific Word
document, you can use the following code:

```
Dim WordObj as Word.Application
Set WordObj = GetObject(, "Word.Application")
```

To get an instance of an existing Word document called MyDoc.Doc, on your C: drive, you
can use the following code:

```
Dim WordObj as Word.Application
Set WordObj = GetObject("c:\MyDoc.Doc", "Word.Application")
```

Of course, this code is always placed in a new function or sub that you declare in your
module.

Working with Automation objects

After you have a valid instance of an Automation Server, you manipulate the object as though
you were writing code within the application itself, using the exposed objects and their
properties and methods.

For example, when developing directly in Word, you can use the following code to change
the directory that Word uses when opening an existing file:

```
ChangeFileOpenDirectory "C:\My Documents\"
```

Note   Consult the development help for the Automation Server for specific information on the objects,
properties, and methods available.

Just as in Access, Word is implicitly using its `Application` object; the command `ChangeFileOpenDirectory` is really a method of the `Application` object. Using the following code, you create an instance of Word's `Application` object and call the method of the object:

```
Dim WordObj As New Word.Application
WordObj.ChangeFileOpenDirectory "C:\My Documents\"
```

> **Tip** When using Automation, you should avoid setting properties or calling methods that cause the Automation Server to ask for input from the user via a dialog box. When a dialog box is displayed, the Automation code stops executing until the dialog box is closed. If the server application is minimized or behind other windows, the user may not even be aware that he or she needs to provide input, and therefore may assume that the application is locked up.

Closing an instance of an Automation object

Automation objects are closed when the Automation object variable goes out of scope. Such a closing, however, doesn't necessarily free up all resources that are used by the object, so you should explicitly close the instance of the Automation object. You can close an Automation object by doing either of the following:

- Using the `Close` or `Quit` method of the object (consult the specific Automation Server's documentation for information on which method it supports)

- Setting the object variable to nothing, as follows:

```
Set WordObj = Nothing
```

The best way to close an instance of an Automation object is to combine the two techniques, like this:

```
WordObj.Quit
Set WordObj = Nothing
```

An Automation Example Using Word

Perhaps the most common Office application that is used for Automation from a database application like Access is Word. Using Automation with Word, you can create letters that are tailored with information from databases. The following section demonstrates an example of merging information from an Access database to a letter in Word by using Automation and Word's Bookmarks. Ordinarily, you create a merge document in Word and bring field contents in from the records of an Access database. This method relies on using Word's MergeField, which is replaced by the contents of the Database field. It normally requires that you perform this action in Word—thus limiting the scope and capability of the function. For example, you will merge all records from the table that is being used rather than a single record.

The following example uses the Orders form, which calls a module named *WordIntegration.* The WordIntegration module contains a function named *MergetoWord()* that uses the Word Thanks.dot template file.
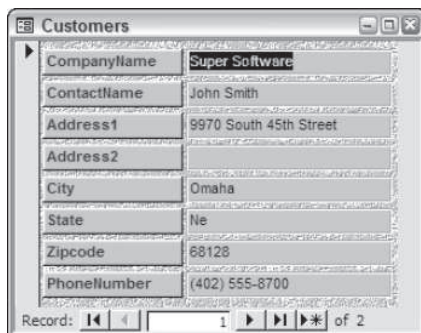
| Note | When you attempt to run this example, you must make sure that the path for the template in the Visual Basic code is the actual path in which the Thanks.dot template file resides. This path may vary from computer to computer. |

The items that are discussed in this Word Automation example include the following:

✦ Creating an instance of a Word object

✦ Making the instance of Word visible

✦ Creating a new document based on an existing template

✦ Using bookmarks to insert data

✦ Activating the instance of Word

✦ Moving the cursor in Word

✦ Closing the instance of the Word object without closing Word

This example prints a thank-you letter for an order based on bookmarks in the thank you letter template (Thanks.dot). Figure 15-5 shows the data for customers; Figure 15-6 shows the data entry form for orders; Figure 15-7 shows the Thanks.dot template; and Figure 15-8 shows a completed merge letter.

The bookmarks in Figure 15-7 are shown as grayed large I-beams (text insert). The bookmarks are normally not visible, but you can make them visible by selecting Tools⇨Options, selecting the View tab and going to the top section titled Show and then turning on the Bookmarks option by checking the option (third choice in the first column). The names won't be visible—only the bookmark holders (locations) will be visible, as shown in Figure 15-7. The names and arrows in Figure 15-7 were placed using text boxes to show where the bookmark names are assigned.

Figure 15-5: Customer data used in the following Automation example is entered on the Customers form.
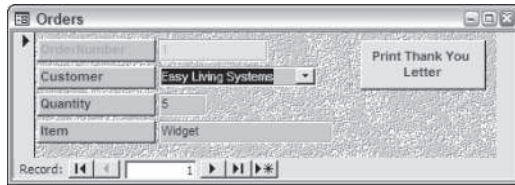
Figure 15-6: Each customer can have an unlimited number of orders. Thank-you letters are printed from the Orders form.
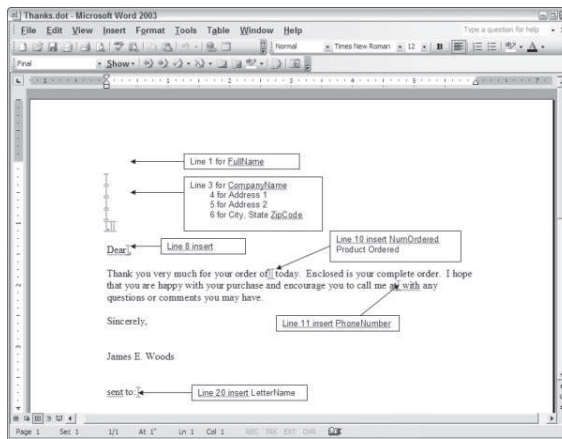
Figure 15-7: The Thanks.dot template contains bookmarks where the merged data is to be inserted.
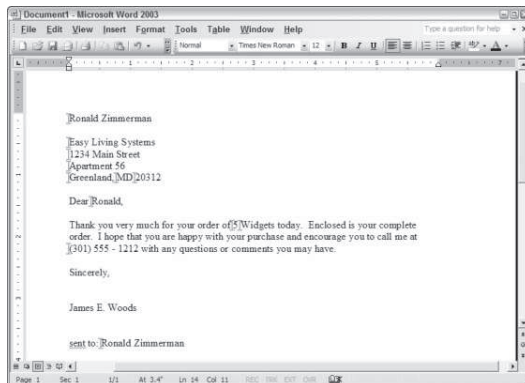
Figure 15-8: After a successful merge, all the bookmarks have been replaced with their respective data.

> **Caution** If you click the Print Thank You Letter button in Access while Word is open with an existing document—which lacks the bookmark names specified in the code—the fields will simply be added to the text inside Word at the point where the cursor is currently sitting.

When the user clicks the Print Thank You Letter button on the Orders form, Word generates a thank-you letter with all the pertinent information. The following code shows the `MergetoWord` function in its entirety so you can see in-depth how it works.

```
Public Function MergetoWord()
' This method creates a new document in MS Word
' using Automation.
On Error Resume Next
Dim rsCust As Recordset, iTemp As Integer
Dim WordObj As Word.Application
Set rsCust = DBEngine(0).Databases(0).OpenRecordset("Customers", _
dbOpenTable)
rsCust.Index = "PrimaryKey"
rsCust.Seek "=", Forms!Orders![CustomerNumber]
    If rsCust.NoMatch Then
        MsgBox "Invalid customer", vbOKOnly
        Exit Function
    End If
DoCmd.Hourglass True
Set WordObj = GetObject(, "Word.Application")
If Err.Number <> 0 Then
    Set WordObj = CreateObject("Word.Application")
End If
WordObj.Visible = True
WordObj.Documents.Add

' WARNING:
' Specify the correct drive and path to the
' file named thanks.dot in the line below.

  Template:="G:\Access 11 Book\thanks.dot",

' The above path and drive must be fixed

NewTemplate:=False
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="FullName"
    WordObj.Selection.TypeText rsCust![ContactName]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="CompanyName"
    WordObj.Selection.TypeText rsCust![CompanyName]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="Address1"
    WordObj.Selection.TypeText rsCust![Address1]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="Address2"
```

```
        If IsNull(rsCust![Address2]) Then
            WordObj.Selection.TypeText ""
        Else
            WordObj.Selection.TypeText rsCust![Address2]
        End If
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="City"
        WordObj.Selection.TypeText rsCust![City]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="State"
        WordObj.Selection.TypeText rsCust![State]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="Zipcode"
        WordObj.Selection.TypeText rsCust![Zipcode]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="PhoneNumber"
        WordObj.Selection.TypeText rsCust![PhoneNumber]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="NumOrdered"
        WordObj.Selection.TypeText Forms!Orders![Quantity]
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="ProductOrdered"
        If Forms!Orders![Quantity] > 1 Then
            WordObj.Selection.TypeText Forms!Orders![Item] & "s"
        Else
            WordObj.Selection.TypeText Forms!Orders![Item]
        End If
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="FName"
        iTemp = InStr(rsCust![ContactName], " ")
        If iTemp > 0 Then
            WordObj.Selection.TypeText Left$(rsCust![ContactName],
iTemp _ - 1)
        End If
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="LetterName"
        WordObj.Selection.TypeText rsCust![ContactName]
DoEvents
WordObj.Activate
WordObj.Selection.MoveUp wdLine, 6
' Set the Word Object to nothing to free resources
Set WordObj = Nothing
DoCmd.Hourglass False
Exit Function
TemplateError:
    Set WordObj = Nothing
    Exit Function
End Function
```

Creating an instance of a Word object

The first step in using Automation is to create an instance of an object. The sample creates an object instance with the following code:

```
On Error Resume Next
...
Set WordObj = GetObject(, "Word.Application")
If Err.Number <> 0 Then
    Set WordObj = CreateObject("Word.Application")
End If
```

Obviously, you don't want a new instance of Word created every time a thank-you letter is generated, so some special coding is required. This code snippet first attempts to create an instance by using an active instance (a running copy) of Word. If Word is not a running application, an error is generated. Because this function has On Error Resume Next for error trapping, the code doesn't fail, but instead proceeds to the next statement. If an error is detected (the Err.Number is not equal to 0), an instance is created by using CreateObject.

Making the instance of Word visible

When you first create a new instance of Word, it runs invisibly. This approach enables your application to exploit features of Word without the user even realizing that Word is running. In this case, however, it is desirable to let the user edit the merged letter, so Word needs to be made visible by setting the object's Visible property to True by using this line of code:

```
WordObj.Visible = True
```

Caution   If you don't set the object instance's Visible property to True, you may create hidden copies of Word that use system resources and never shut down. A hidden copy of Word doesn't show up in the Task tray or in the Task Switcher.

Creating a new document based on an existing template

After Word is running, a blank document needs to be created. The following code creates a new document by using the Thanks.dot template:

```
WordObj.Documents.Add Template:="G:\Access 11 Book\thanks.dot", _
NewTemplate:=False
```

Note   The path must be corrected in order to point to the Thanks.dot template on your computer.

The Thanks.dot template contains bookmarks (as shown in Figure 15-7) that tell this function where to insert data. You create bookmarks in Word by highlighting the text that you want to make a bookmark, selecting Insert⇨Bookmark, and then entering the bookmark name and clicking Add.

Using Bookmarks to insert data

Using Automation, you can locate bookmarks in a Word document and replace them with the text of your choosing. To locate a bookmark, use the `Goto` method of the `Selection` object. After you have located the bookmark, the text comprising the bookmark is selected. By inserting text (which you can do by using Automation or simply by typing directly into the document), you replace the bookmark text. To insert text, use the `TypeText` method of the `Selection` object, as shown here:

```
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="FullName"
WordObj.Selection.TypeText  rsCust![ContactName]
```

Note
You can't pass a null to the `TypeText` method. If the value may possibly be `Null`, you need to check ahead and make allowances. The preceding sample code checks the Address2 field for a `Null` value and acts accordingly. If you don't pass text to replace the bookmark—even just a zero length string (" ")—the bookmark text remains in the document.

Activating the instance of Word

To enable the user to enter data in the new document, you must make Word the active application. If you don't make Word the active application, the user has to switch to Word from Access. You make Word the active application by using the `Activate` method of the Word object, as follows:

```
WordObj.Activate
```

Tip
Depending on the processing that is occurring at the time, Access may take the focus back from Word. You can help to eliminate this annoyance by preceding the `Activate` method with a `DoEvents` statement. Note, however, that this doesn't always work.

Moving the cursor in Word

You can move the cursor in Word by using the `MoveUp` method of the `Selection` object. The following example moves the cursor up six lines in the document. The cursor is at the location of the last bookmark when this code is executed:

```
WordObj.Selection.MoveUp wdLine, 6
```

Closing the instance of the Word object

To free up resources that are taken by an instance of an Automation object, you should always close the instance. In this example, the following code is used to close the object instance:

```
Set WordObj = Nothing
```

This code closes the object instance, but not the instance of Word as a running application. In this example, the user needs access to the new document, so closing Word would defeat the purpose of this function. You can, however, automatically print the document and then close Word. If you do this, you may even choose to not make Word visible during this process. To close Word, use the Quit method of the Application object, as follows:

```
WordObj.Quit
```

Inserting pictures by using Bookmarks

It is possible to perform other unique operations by using Bookmarks. Basically, anything that you can do within Word, you can do by using Automation. The following code locates a bookmark that marks where a picture is to be placed and then inserts a .BMP file from disk. You can use the following code to insert scanned signatures into letters:

```
WordObj.Selection.Goto what:=wdGoToBookmark, Name:="Picture"
WordObj.ChangeFileOpenDirectory "D:\GRAPHICS\"
WordObj. ActiveDocument.Shapes.AddPicture Anchor:=Selection.Range,
_ FileName:= _
        "D:\GRAPHICS\PICTURE.BMP", LinkToFile:=False,
SaveWithDocument _
        :=True
```

Using Office's Macro Recorder

Using Automation is not a difficult process when you understand the fundamentals. Often, the toughest part of using Automation is knowing the proper objects, properties, and methods to use. Although the development help system of the Automation Server is a requirement for fully understanding the language, the easiest way to quickly create Automation for Office applications like Word is the Macro Recorder.

Most versions of Office applications have a Macro Recorder located on the Tools menu (see Figure 15-9). When activated, the Macro Recorder records all events, such as menu selections and button clicks, and creates Visual Basic code from them.
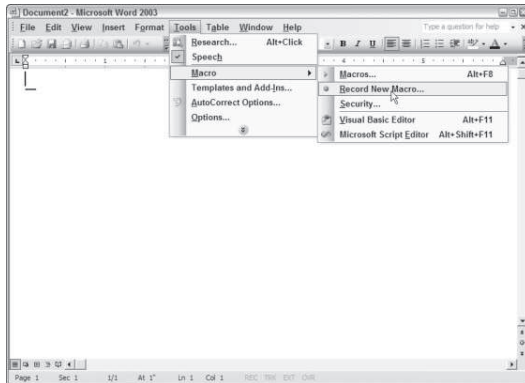
Figure 15-9: The Macro Recorder in Word is a powerful tool to help you create Automation code.

After selecting Tools⇨Macro⇨Record New Macro, you must give your new macro a name (see Figure 15-10). In addition to a name, you can assign the macro to a toolbar or keyboard combination and select the template in which to store the macro. If you are creating the macro simply to create the Visual Basic code, the only thing that you need to be concerned with is the macro name.
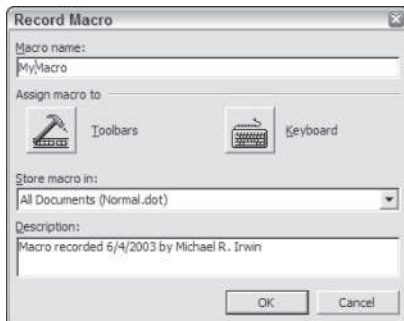
Figure 15-10: Enter a macro name and click OK to begin recording the macro. In this example, the macro is named "MyMacro."

After you enter a macro name and click OK, the Macro Recorder begins recording events and displays a Stop Recording window, and the arrow changes to an open pointer attached to a cassette, as shown in Figure 15-11. You can stop recording events by clicking the Stop button (the button with a square on it). To pause recording events, click the other button, which is the Pause button.
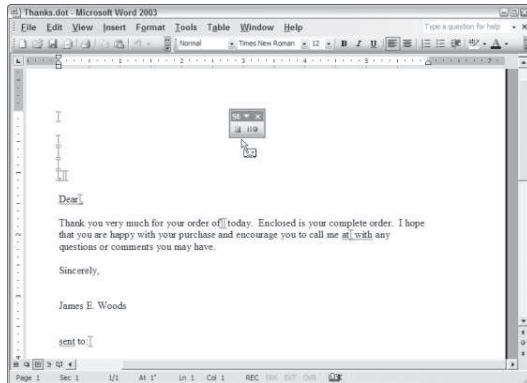
Figure 15-11: The Macro Recorder records all events until you click the Stop button.

After you have finished recording a macro, you can view the Visual Basic code created from your events. To view the code of a macro, select Tools⇨Macro⇨Macros to display a list of all saved macros. Then select the macro that you recorded and click the Edit button to display the Visual Basic editor with the macro's code. Figure 15-12 shows the Visual Basic editor with a macro that recorded the creation of a new document using the Normal template and the insertion of a picture using the Insert⇨Picture⇨From File menu item.

In the application for which a macro is created, the Application object is used explicitly. When you use the code for Automation, you must create an Application object accordingly. For example, the preceding macro uses the following code to create a new document:

```
Documents.Add Template:=" Normal.dot", NewTemplate:= False,
DocumentType:=0
```

This code implicitly uses the Application object. To use this code for Automation, copy the code from the Visual Basic editor, paste it into your procedure, and create an object that you use explicitly, as follows:

```
Dim WordObj as New Word.Application
WordObj.Documents.Add Template:=" Normal.dot", NewTemplate:= False,
DocumentType:=0
```
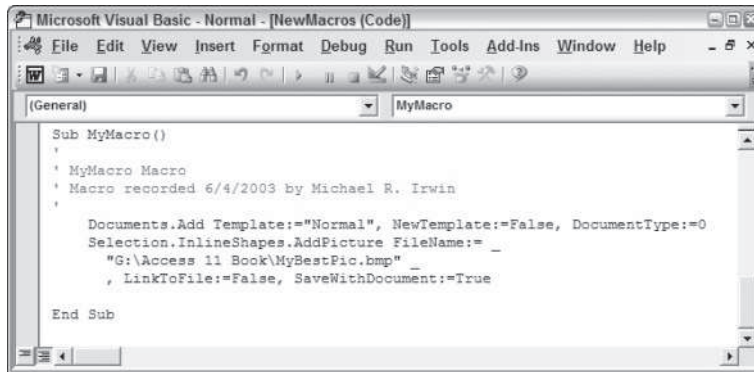
Figure 15-12: The Macro Recorder records all events until you click the Stop button.

The Macro Recorder enables you to effortlessly create long and complete Automation code without ever needing to read the Automation Server's documentation.

✦   ✦   ✦

Collaborating on a Network

I n most business environments, very few things are done solely by individuals. Projects are planned, discussed, dissected, and carried out by teams of people working together. If one of the final products of a project is to be an Office document, it's helpful if all members of the team can share information, files, and ideas online — either via the company's internal computer network or (if team members are more far-flung) via the Internet.

Office makes it possible!

Resource Sharing and Security

If your computer is hooked up to a local network of some type, chances are good you have a choice of saving your files either to your own computer or to a location somewhere on the network.

Access to various folders on the network is overseen by whoever looks after the network; it's quite likely that many people not in your workgroup have access to a particular folder. However, in most Office applications you can control who has access to files you place in network folders. You can also allow or deny access by network users to your own computer's hard drive.

Setting file-sharing options when saving

Whenever you save a Word or Excel document, you have the option of restricting access to it.

In Word's standard Save or Save As dialog box, choose Tools⇨Security Options. This opens the Security dialog box shown in Figure 16-1.

Figure 16-1: The Security dialog box in Word lets you restrict access to any file.

Three levels of file-sharing security are provided here:

✦ **Password to open.** If you enter a password here, only someone who knows the password can open the file. (Passwords can be up to 15 characters long and can contain letters, numbers, and symbols. They are case-sensitive. As you type them in, only asterisks are displayed.)

Caution   Password protection isn't as secure as you might think; there are utilities available on the Internet that claim to be able to crack open protected documents (in fact, a common question in Office-related newsgroups is "I've forgotten my password; how do I get in?").

✦ **Password to modify.** If you enter a password here, anyone can open the file, but only someone who knows the password can modify it. Users who don't know the password can open the file only as read-only — and that includes you if you forget your password, so don't!

✦ **Read-only recommended.** If you check this, users opening this file will get a message suggesting they open it as a read-only file. If they do, they can't change the original document; instead, any changes they make must be saved as a new document, under a different name.

In Excel, you have the same options, but you get to them by choosing Tools⇨General Options in the Save or Save As dialog box.

In PowerPoint, you have only the password-protection options; you don't have the Read-only recommended option. You get to the password-protection options by choosing Tools⇨Security Options in the Save or Save As dialog box.

Word offers additional Privacy options: You can choose to remove personal information (e.g., the document author's name and the names of people who have added comments) from the file before it is saved; have Word warn you before printing, saving, or sending a file that contains tracked changes or comments; and stop Word's usual practice of generating random numbers during merge activities to indicate to itself that two documents are related. Even though those numbers are hidden in the files, they could conceivably be used to show that two documents were related. Be aware, however, that removing this option will reduce the accuracy of merging operations.

Protecting documents

In addition, you can fine-tune the level of access you want to allow people to have to a particular file by applying protection to it.

Protecting documents in Word

To protect a document in Word:

1. Choose Tools⇨Protect Document (or click the Protect Document button in the Security Options dialog box from the previous section). This opens the Document Protection task pane shown in Figure 16-2.
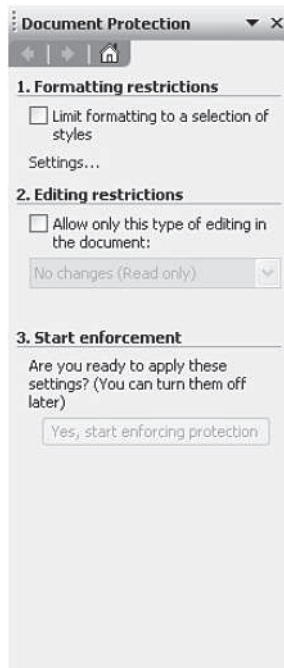
Figure 16-2: Protect Word documents using this task pane.

2. Under Formatting restrictions, check the checkbox if you want to limit formatting to a selection of styles, and then click Settings to open the Formatting Restrictions dialog box (see Figure 16-3).
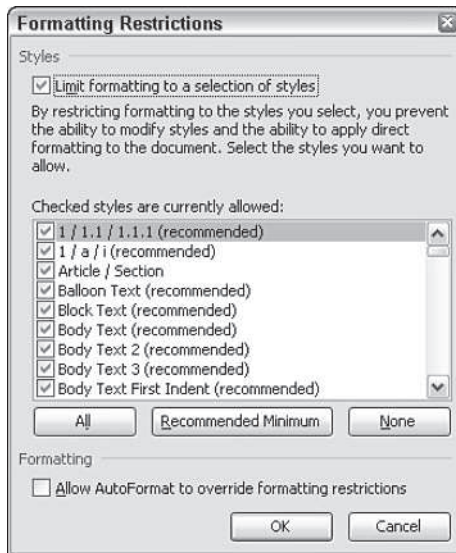
Figure 16-3: Specify formatting restrictions on a shared document here.

3. Uncheck any styles you don't want to allow in the document, or click the Recommended Minimum button to have Office automatically select what it considers to be a minimum number of styles. Click All to check all styles and None to uncheck them all.

4. If you want to allow AutoFormat to override these formatting restrictions, check that box at the bottom of the dialog box, and then click OK.

5. Back in the Document Protection task pane, if you want to allow only certain types of editing in the document, check the Editing restrictions box. This activates a drop-down list with four options: Tracked changes (all changes are permitted, but they're automatically tracked), Comments (no changes are permitted, but comments can be inserted), Filling in forms (no changes are permitted, but data can be entered into forms), and No changes (no changes are permitted — the document is read-only).

6. Next, enter any exceptions to the editing rules. If you have established user groups, they're listed; otherwise, click More users and enter the user names for those to whom you want to give greater editing access in the Add Users dialog box that appears.

7. Finally, back in the Document Protection task pane, click the Yes, start enforcing protection button if you're ready to apply the protection settings to your document.

Protecting documents in Excel

To protect an Excel worksheet or workbook:

1. Choose Tools⇨Protection.

2. From the submenu, choose which part of your Excel document you want to protect: a particular worksheet or the workbook. You can also choose to protect and share your workbook (more on sharing workbooks a little later in this chapter).

3. If you choose Protect Sheet, you'll see the dialog box shown in Figure 16-4. Here you can enter a password to unprotect the sheet, and then choose from the long list provided which actions you're willing to allow users of the worksheet to perform.
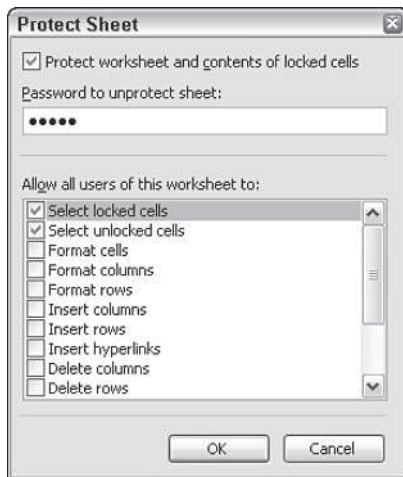
Figure 16--4: Set protection for Excel worksheets here.

4. If you choose Protect Workbook, you'll see the dialog box shown in Figure 16-5, which contains three options:

   • **Structure** prevents users from adding, deleting, moving, hiding, or unhiding worksheets.

   • **Windows** prevents users from moving, hiding, unhiding, resizing, or closing workbook windows.

   • **Password** allows you to enter a password that users must have before they can unprotect the workbook.
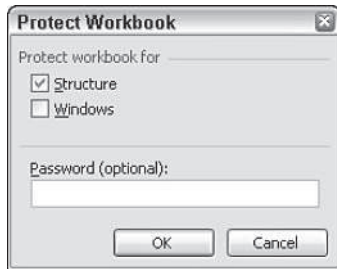
Figure 16-5: Protect elements of your workbook here.

5. Protect and Share Workbook brings up a dialog box with only one box you can check, to prevent those sharing the workbook from turning off change tracking. You can enter a password that they'll have to know before they can do so.

6. Allow Users to Edit Ranges opens the dialog box shown in Figure 16-6. Here you can apply passwords to specific ranges within your worksheet. Even if the worksheet as a whole is protected, users who have the password can edit the ranges you specify. You can also click Permissions to specify which users are allowed to edit the range without a password, and just so you don't forget, you can even paste permissions information into a new workbook so you can refer to it easily.
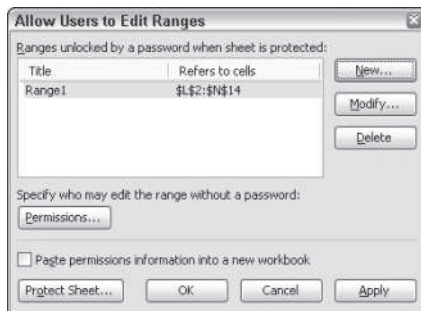
Figure 16-6: You can make ranges available for editing to those with the correct password even if the rest of the sheet is protected.

Protecting files in Access and PowerPoint

You'll learn about protecting Access files in detail later in this chapter. You need to use file system features to protect PowerPoint files; talk to your system administrator.

Using Information Rights Management tools

In previous versions of Office, the only way to protect sensitive information was to limit access to it, as described in the preceding sections. That didn't necessarily prevent the people who were granted access from copying the information and/or sending it to someone who wasn't supposed to have access to it.

Information Rights Management (IRM) is a new feature in Office 2003 that gives you greater control over files even when they're no longer on your computer or network. No matter where the file goes, the permissions you've assigned go with it, so that only those users you've approved can read or change it; you can also restrict printing and forwarding.

Note In order to use IRM, you must have access to a computer running Windows Server 2003, with Windows Rights Management activated. If you are working in a networked environment, consult your network administrator for details. As of this writing, Microsoft offers a trial Internet-based service for individuals based on the .NET passport system; follow the prompts the first time you attempt to use the feature to sign up for that service if it's available (because it's just a trial service at this writing, it may not be by the time you read this book). Undoubtedly other providers of public IRM servers will come forward as well.

Whenever you create a document in Word, Excel, or PowerPoint, you can set IRM policies for it by choosing File⇨Permission to open the Permission dialog box (see Figure 16-7).
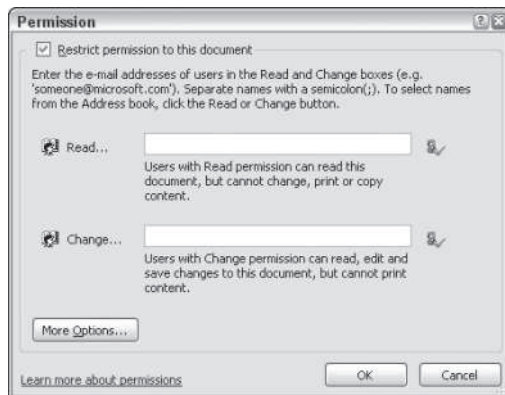
Figure 16-7: The Permission dialog box allows you to enter the e-mail addresses of users you'd like to be able to read or change a document's content.

Check the Restrict permission to this document box to activate the Read and Change options. Enter the e-mail addresses of users you want to give Read permission to (they can read the document but can't change, print, or copy its content) and those you want to give Change permission to (they can read, edit, and save changes to the document but can't print it). Click the Read and/or Change buttons to access e-mail addresses in your Address book.

To fine-tune permission, click More Options. This opens the dialog box shown in Figure 16-8.
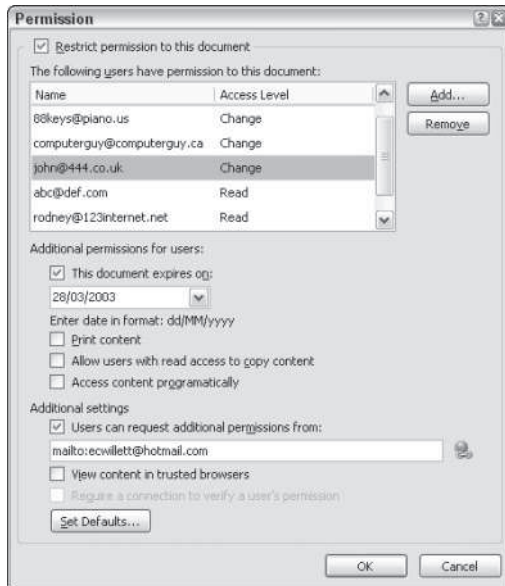
Figure 16-8: Fine-tune the permissions you grant with these controls.

At the top is a list of all the users you've given permission to access the document and the access level they currently have (your name shows up at the top of the list with Full Control). Highlight the user whose permissions you'd like to fine-tune, and then choose from the options in the Additional permissions for users area. You can:

✦ Set an expiration date for the user's permission.

✦ Allow users to print content.

✦ Allow a user with read access to also copy content.

✦ Give specific users permission to read a document, print a document, copy a document, or edit a document, or any combination of those; you can also set an expiration date.

✦ Allow users to access the content programmatically — that is, to open the file in the same program that created it and edit its content.

Under Additional settings, you can enter a link to an e-mail address (or other hyperlink) that will pop up whenever a document with restricted permission is forwarded to an unauthorized individual, so that that individual can request permission to view it. If you leave this blank, unauthorized individuals simply see an error message.

You can also choose to allow users to view the content in a browser; a Rights-Management Add-on for Internet Explorer makes this possible. Otherwise, IRM-protected files can be opened in Office 2003 only.

Tip If you generally provide the same permissions to many different users, click Set Defaults to make those permissions the default set.

Note Network administrators can create permission policies that define who can access documents, workbooks, and presentations and what editing capabilities (if any) they have. For example, a company might define a policy called "Confidential" that allows documents to be opened only by users whose e-mail addresses use the company's domain name. Once these policies have been defined, they appear in alphabetical order on a submenu under File⇨Permission; authors simply choose the one they want to use.

Sharing Excel Workbooks

One of the most common types of Office documents shared on a network is an Excel workbook because workbooks frequently contain budgetary or sales information that is constantly being updated by a variety of users. Excel lets multiple users share a workbook so they can all work on it at the same time; it also lets you combine several workbooks into a single workbook.

Creating a shared workbook

To create a shared workbook:

1. Choose Tools⇨Share Workbook. This opens the dialog box shown in Figure 16-9.
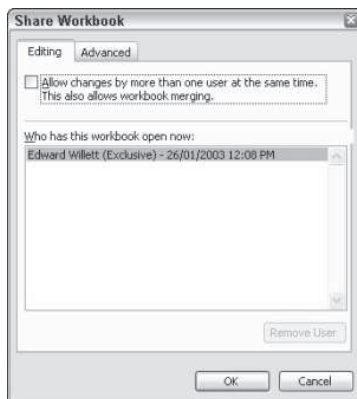
Figure 16-9: The Editing tab of the Share Workbook dialog box shows you who currently has the workbook open.

2. If you want more than one person to be able to edit the workbook at the same time, or to combine several workbooks into one shared workbook, check the box at the top of the dialog box.

3. To fine-tune the way the workbook is shared, click the Advanced tab (see Figure 16-10). In the Track changes section, choose the number of days you want to track changes — if at all.
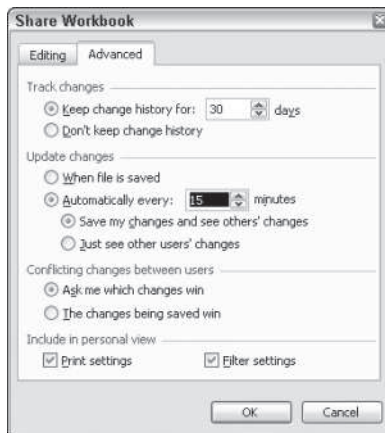
Figure 16-10: The Advanced tab lets you choose your method of tracking, updating, and dealing with conflicting changes.

4. In the Update changes section, choose when you want changes made to the workbook to be updated: whenever the file is saved, or automatically how ever often you specify. If you choose to automatically update changes, you can choose to save your changes and see everyone else's changes at the specified interval, or just see everyone else's changes at the specified interval without saving yours.

5. Sometimes two or more users will make conflicting changes to the workbook — changes that are mutually exclusive. You can decide here how to deal with those changes either by having Excel ask you which change should take effect or by replacing any conflicting changes with your own changes every time you save.

6. Click OK.

Here's one example of a shared workbook being useful: A sales group could share a common workbook, with each salesperson in the group recording his or her sales as they occur; that would give the sales manager the ability to monitor their sales, and the progress of the group as a whole, in "real time."

Reviewing changes

Once a workbook is being shared, you can review changes in it by choosing Tools⇨Track Changes⇨Accept or Reject Changes. Choose the changes you want to review in the Select Changes to Accept or Reject dialog box shown in Figure 16-11. You can filter the changes you want to look at by using the three fields. The When field lets you look for changes made on a specific date; the Who field lets you look at changes made by everyone, everyone but you, only you, or only any other user who has made changes; and the Where field lets you specify a range of cells in which to look for changes.

Any changes found are brought to your attention in the Accept or Reject Changes dialog box (see Figure 16-12). You can choose to accept or reject any or all of the changes brought to your attention.

Tip

Choose Tools⇨Highlight Changes to highlight any changes made throughout the workbook.

Figure 16-11: Use this dialog box to select the changes you want to review.
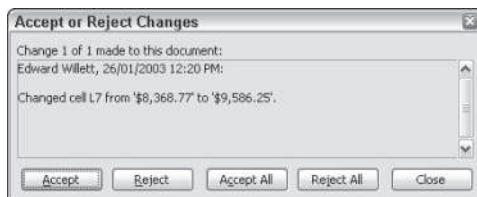
Figure 16-12: Changes made to the workbook are brought to your attention here.

You can merge different versions of the same shared workbook into a single workbook by choosing Tools⇨Compare and Merge Workbooks. Track Changes must be turned on (and the workbook must be shared) for this to work.

Collaborating in PowerPoint

You can send your PowerPoint presentation to others for comment and revision, and then combine all the reviewed presentations into one for easy review.

> **Note** The easiest way to send a presentation for review is to choose File⇨Mail Recipient (for Review). This feature, common to most Office applications, is discussed later in this chapter.

To do so, open the presentation you want to combine reviewed presentation with and choose Tools⇨Compare and Merge Presentations. Browse for the presentations you want to merge, and then click Merge.

PowerPoint opens the Revisions Pane and the Reviewing toolbar to allow you to sort through all the suggested revisions and decide whether you want to apply them (see Figure 16-13).
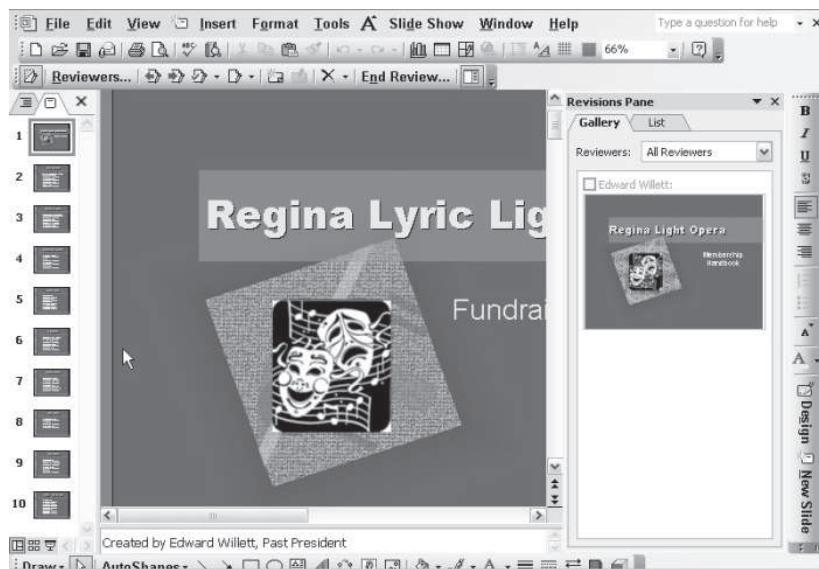
Figure 16-13: PowerPoint's Revisions Pane shows you all the changes reviewers have made to your presentation.

PowerPoint points out the suggested revisions in several ways. In the Revisions Pane, you can see graphical representations of the altered slides, or you can view them as a list. You can choose whether to look at the changes suggested by all reviewers, or just those made by specific reviewers. The names of reviewers who made changes to a particular slide appear above the thumbnail of the slide, color-coded. Click the name of any reviewer whose changes you want to accept.

You can also call up a shortcut menu by pointing at the thumbnail and then clicking the downward-pointing arrow that appears beside it. The shortcut menu also lets you apply changes by the current reviewer, show only that reviewer's changes, preview animation (in case there was a change to an animation) and, finally, finish off your review of that reviewer's changes by clicking Done With This Reviewer.

The list version of the changes in the Revisions Pane is a little different; it shows a list of changes to the slide (text edits, new graphics, etc.), and a separate list of Presentation changes (slide transitions, for instance). The Previous and Next buttons at the bottom of the task pane take you from slide to slide.

The Reviewing toolbar, also visible in Figure 16-13, is very similar to Word's Reviewing toolbar. You can step from item to item, choose to apply or unapply, edit and delete comments, choose which reviewers' changes you want to see, end the review, and toggle the Revisions pane off and on.

Caution Clicking End Review discards all unreviewed changes in the merged presentation, so don't click it until you're certain you're done.

You can also toggle markup on and off. The Markup feature shows callouts detailing changes made to the presentation without obscuring the presentation or affecting its layout (see Figure 16-14). Accepting a change is as simple as checking it off in the markup callout.
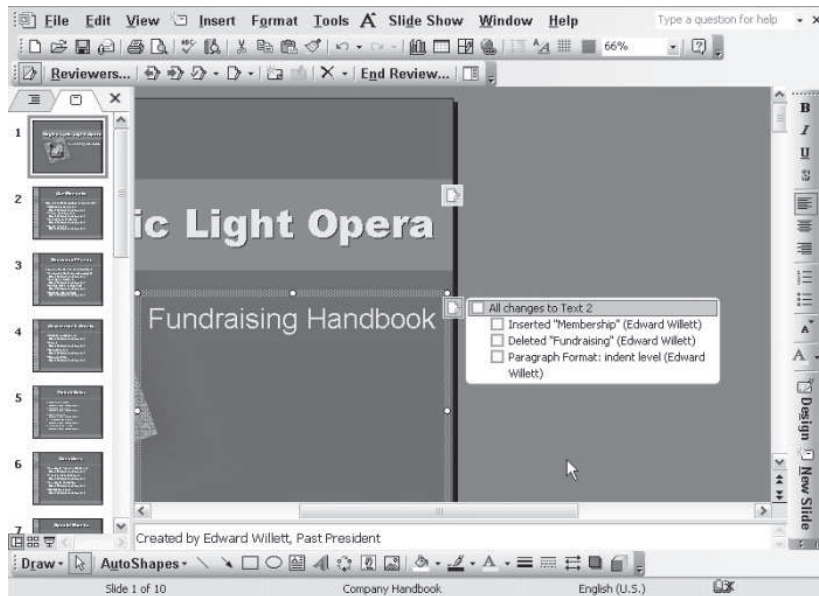
Figure 16-14: PowerPoint's Markup feature provides a way to see changes in the context of the slide they're on.

Sharing Access Databases

The information in the typical Access database is valuable not only to people working in Access but also to people working in all other Office applications. Typically, the Access database changes constantly as changes are made to the data in it; by drawing on it, network users can ensure that their own Office projects always contain the most up-to-date information.

If you don't need any extra security on your Access database, you can share it just as you can any other file in Office (see the first part of this chapter). If you do need extra security, however, Access can provide it in several ways: passwords, permissions, user groups and accounts, and encryption.

Using passwords

A password is the easiest way to protect a database. Every time a user tries to access a password-protected database, he or she is asked to provide a password. Without it, the database can't be opened.

To set a password for a particular Access database:

1. Choose File⇨Open.

2. In the Open dialog box, find the database you want to assign the password to and select it.

3. Click the down arrow next to the Open button and choose Open Exclusive. This ensures that no one else can open the database while you are assigning a password to it.

4. The database opens. Now choose Tools⇨Security⇨Set Database Password.

5. In the Set Database Password dialog box, enter the password once in the Password field and then enter it again in the Verify field (all you'll see are asterisks).

Note   Remember, passwords are case-sensitive, are limited to 15 characters, and can contain letters, numbers, and/or symbols.

6. Click OK.

Once the password is set, it doesn't matter if you're the user who created the database and assigned the password to it: If you forget or lose the password, you can't open the database (at least, not without the use of a third-party password-cracking tool like the ones available at `www.lostpassword.com` — the existence of which is why a password provides only low-level security).

To remove the password, open the file exclusively again, and then choose Tools⇨Security⇨Unset Database Password. Enter the password and click OK.

Creating user and group accounts

If a password doesn't provide enough security, you might want to set up user accounts and groups, which will require users to supply both an account name and a password before they can access a database. This is called user-level security.

To set up user and group accounts:

1. Open a database.

2. Choose Tools⇨Security⇨User and Group Accounts. This opens the dialog box shown in Figure 16-15.

Figure 16-15: Add new users and new user group accounts here.

3. By default, Access creates two groups: Admin and Users. Admin users can perform administrative functions such as adding users and groups; users can access only the database itself.

4. By default, Access creates an Admin user called, unimaginatively, Admin. Choose it from the Name drop-down list, and then click the Change Logon Password tab. Type the password you want to use in the New Password and Verify fields. (Once you've closed the database and Access, the next time you open it you'll have to log on using this account name and password.)

5. Click the Users tab.

6. To create a new account, enter the name of the user in the Name box, and then select the group you want to add him or her to; click the New button.

7. Enter the name of the user and the personal ID — a string of four to 20 characters of your choice that Access combines with the user's name to identify that user in the group.

8. Click OK to create the new account.

9. To create a new group, click the Groups tab, click the New button, and enter a name and personal ID for the new group.

10. To delete a user, click the group he or she is a member of in the Available Groups list; then locate the name in the Name list and click Delete. To delete a group, click the Groups tab, highlight the group you want to delete, and click Delete.

Securing the database

Access makes securing the database easy by providing a wizard. Choose Tools⇨Security⇨User-Level Security Wizard, and then follow the instructions, providing information as needed. At one point you're asked to choose which objects in the database should be secured. All secured objects will thereafter be accessible only by users in the Admin group until you grant other users permissions.

The Wizard makes a backup copy of your database and then encrypts the original.

Note

You can't run this wizard if the database is open in exclusive mode.

Assigning permissions

To assign permissions, choose Tools⇨Security⇨User and Group Permissions. This opens the dialog box shown in Figure 16-16.
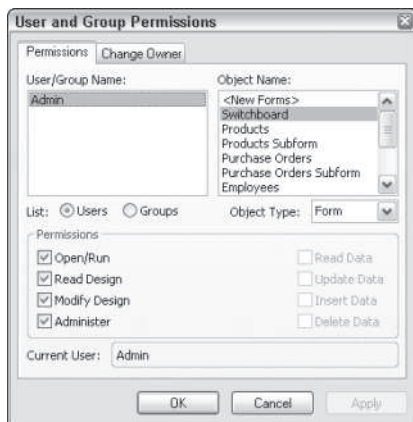
Figure 16-16: You can limit the access of certain users or groups of users to specific databases and objects by setting permissions.

To assign permissions from this dialog box:

1. Click the Users radio button if you want to assign permissions to individual users, or the Groups radio button if you want to assign permissions to groups.

2. Select the name of the user or group you want to assign permissions to.

3. Select the object you want to assign permissions for from the list of objects, and select the object type from the drop-down list.

4. Use the checkboxes to set permissions for that user or group: Check boxes to grant permission for the action described to be performed; uncheck boxes to deny that permission.

5. When you've set permissions for all the users and groups, click OK. You'll have to close and open the database again for the permissions to fully take effect.

6. Click the Change Owner tab to assign ownership for the database or objects in it to someone other than the Admin user.

Encryption

Encryption makes it impossible to view a database file in any other program except Access, and even in Access you have to decrypt it first. It's usually used in conjunction with a password or user-level security (remember, the User-Level Security wizard encrypts the database as part of securing it).

To encrypt a database:

1. Choose Tools⇨Security⇨Encrypt/Decrypt Database.

2. Locate the database you want to encrypt in the Encrypt/Decrypt Database dialog box, which looks just like a Save As dialog box.

3. Click OK.

4. Another dialog box opens that looks much like the first; in this one, specify the name and location of the encrypted file.

5. Click Save.

You can save the encrypted file over the original by specifying the same filename and location.

To decrypt a file, follow the same procedure, but choose an encrypted file to be decrypted in Step 2.

Distributing Office Documents

Group collaboration on documents requires the capability to save Office documents somewhere where they are available to everyone in the group. Office provides plenty of help to that end; the latest development in this process is SharePoint Team Services (STS).

Even if your organization isn't running STS, though, you can readily share documents and link them together by placing hyperlinks in them.

In Windows, any accessible network site shows up in your file-related dialog boxes and in My Computer, just like local disks and folders.

In Office dialog boxes such as Open and Save As, click the My Network Places icon to navigate to computers on the network and their folders (or else click on shortcuts you may have made to those locations, if you've gone that route). Once you've opened the right folder, you can store and retrieve documents on another computer exactly as you do those on your own PC.

Sharing documents via e-mail

Instead of sharing your documents over a network, you can share them via e-mail. This not only makes it possible for someone who isn't on your organization's network to view the document, it also enables you to more tightly control who sees the document, and when.

To do so, choose File⇨Send To and choose an option from the resulting menu:

✦ Choose one of the Mail Recipient options to send the document to a single person, or to several people at once. The disadvantage is that if you're sending a document to several reviewers for comments, they'll all get their own copy of the file. This means you'll have multiple copies of the document returned to you, which can be a nuisance.

✦ To avoid that, choose Routing Recipient to specify a series of recipients who will receive the document one at a time. This allows each of them to see the comments of previous reviewers, ensures that only one copy of the document is in circulation, and ensures that you get only a single copy of the document back, one that contains all the comments from all of the reviewers. You can also set up routing so that you're notified by e-mail each time the document is forwarded to a new recipient, and so that the document is automatically returned to you when the last reviewer on the list is done with it.

Sending a document (without routing it)

There are three versions of the Send To⇨Mail Recipient command:

✦ **Send To⇨Mail Recipient** sends the document in the body of the e-mail.

✦ **Send To⇨Mail Recipient (for Review)** sends the document as an attachment and fills in the Subject line and body with brief messages asking for the document to be reviewed.

✦ **Send To⇨Mail Recipient (as Attachment)** attaches the document to a blank message, which you then fill in as you want.

Routing a document

To route a document to a series of recipients, choose File⇨Send To⇨Routing Recipient. In the Routing Slip dialog box (see Figure 16-17), select recipients for the routing list by choosing Address (Outlook will pop up its security dialog box and ask you for permission to

access the Address book). The order of recipient names in the To list determines the order in which they receive the document. You can change the order by selecting a name and clicking the Move buttons at right.
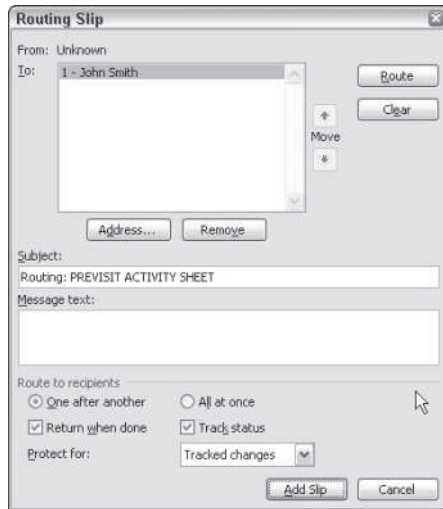
Figure 16-17: Route a document to a series of recipients using this dialog box.

Supply a subject and any text you want in the accompanying message, and then, at the bottom of the dialog box, specify whether you want the document to be sent to each recipient in sequence or to all of them at once. The difference between this option and simply sending out the document using the Send To⇨Mail Recipient command is that the Routing Slip option enables you to track the document's status and, in Word, protect the document from unauthorized changes.

Check Return when done if you want to get the document back automatically after the last reviewer is done with it, and check Track status if you want e-mail notification as it reaches each recipient

In Word, choose from among the following options in the Protect for list:

✦ **Comments.** This allows recipients to add comments but prevents them from changing the document's contents.

✦ **Tracked Changes.** This toggles the Track Changes command. By default it is on, so you can see all changes the reviewers make.

✦ **Forms.** Use this if the document you're sending around is a form that you want the recipients to fill in. They can then fill in the form but not alter the form itself.

✦ **(none).** This allows recipients to change the document as they want, and there's no automatic tracking of the alterations they make, although they can turn Track Changes on manually if they want.

To send the document to the first recipient immediately, choose Route. If you prefer, however, you can close the dialog box without sending the document by choosing Add Slip. When you've decided to send the document, choose File⇨Send To⇨Next Routing Recipient.

Sending documents that aren't already open

You don't have to open an Office document (or any other file, for that matter) to e-mail it to someone. Start from within an Office Open or Save dialog box — or in My Computer, Windows Explorer, or Outlook's own file manager. Right-click the document and choose Send To⇨Mail Recipient. Outlook creates an e-mail message containing the document as an attachment; you enter the message text and address.

Posting documents to Exchange folders

If you prefer not to e-mail your document to a large number of recipients, an alternative is to place it in an Exchange public folder, where it will be available to anyone who has access. Of course, this works only if your group is using Exchange Server.

With the document open, choose File⇨Send To⇨Exchange Folder. A list of Exchange public folders appears. Specify the destination folder and click OK.

Sending documents to online meeting participants

If you're participating in an online meeting, you can send an open document to someone else participating in the meeting by choosing File⇨Send To⇨Online Meeting Participant and choosing from the list provided the participant to whom you want to send the document.

Summary

In this chapter you learned some of the ins and outs of sharing Office information over a network. Highlights included the following:

✦ You can add a level of protection to Word and Excel documents when you're saving them by specifying passwords for opening and/or modifying the file.

✦ You can add protection to Word and Excel files by choosing Tools⇨Protect Document in Word and by choosing Tools⇨Protection in Excel.

✦ You can create a shared workbook in Excel by choosing Tools⇨Share Workbook.

✦ PowerPoint lets you merge presentations altered by reviewers with your copy and then provides a Revisions pane and onscreen markup features to help you accept or refuse the suggested changes.

✦ Access databases are one of the most commonly shared types of Office files. You can make them freely available or create very tight security for them by using the commands under Tools⇨Security on the menu.

✦ E-mail is another way to share Office documents. You can send documents to individuals or to a sequential group of recipients for review.

✦   ✦   ✦

Windows SharePoint Services with Office System

✦   ✦   ✦   ✦

In This Chapter

What are Windows
SharePoint Services?

Working with lists on
SharePoint sites

Collaborative
document authoring

Using powerful Excel-
like Datasheet views

Sharing contacts
and calendars

Conducting an online
meeting with the
Meeting Workspace

✦   ✦   ✦   ✦

Windows SharePoint Services is a Web-based service that provides a collaboration and information presentation environment that integrates with Microsoft Office 2003 applications such as Word 2003, Outlook, Excel, PowerPoint, and Access.

Windows SharePoint Services (WSS) is an evolution of SharePoint Team Services (STS), which shipped with Microsoft Office XP. If you have previously used SharePoint Team Services, you will find the new and improved features offered by WSS much more helpful. Windows SharePoint Services has the potential to become an integral and extremely useful part of your everyday Office experience.

> **Note**
>
> Windows SharePoint Services requires installation on Microsoft Windows Server 2003, Standard Edition, Enterprise Edition, or Datacenter Edition. This chapter assumes you have access to a server running Windows SharePoint Services. If you don't have such access, you might still find the information in this chapter informative. Visit `www.microsoft.com/sharepoint/` to locate a SharePoint hosting partner if you don't have access to your own SharePoint site.

In this chapter, you learn how to access and use the features of Windows SharePoint Services to collaborate on your Office 2003 documents. You learn how to create, share, and access Web-based contacts and calendars. You learn how to work with lists and how to use the powerful Datasheet list view and calculated columns to bring the power of Excel to SharePoint lists.
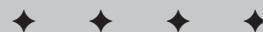
Working with SharePoint Sites and SharePoint Lists

One of the central features of Windows SharePoint Services is its use of lists. Lists include such items as Announcements, Contacts, Events, Links, and Tasks and Issue Tracking. The placement of these items on a Windows SharePoint Services Web page is up to the site designer. You can create, access, and modify lists and add new list items via your Web browser.

> **Note**   Although you can access and use many of the features of Windows SharePoint Services sites online using Web browsers such as Netscape, it's better to use Internet Explorer 6 or later when working with WSS sites. Support for browsers such as Netscape is improved with WSS, but IE 6 and later offer the highest level of support and compatibility.

Many of the features available with lists on Windows SharePoint Services sites are common to other Windows SharePoint Services items and views. Document Libraries, for example, are presented in a list-type view.

Accessing SharePoint Services sites

One of the advantages of Windows SharePoint Services is that SharePoint sites can be accessed via any Web browser that can access the server that hosts the SharePoint site. In some cases, site access can be restricted to local network users, whereas, in other cases, SharePoint sites can be accessed over the Internet from any location that can access the Internet. The capability to access Windows SharePoint Services sites over the Internet makes WSS a powerful and flexible collaboration environment.

> **Note**   Although you can, and do, perform many tasks with Windows SharePoint Services sites using a Web browser, such as Internet Explorer, you can more successfully work with Office 2003 documents on SharePoint sites if the Office 2003 application that is associated with those documents is also installed.

Access methods depend on your administrator and how the site and server that support the site are configured. In most cases, in order to access a Windows SharePoint Services site, you need an account on the server that hosts that site. An exception to this is when the site is configured for anonymous access. Anonymous users have basic read-only access to SharePoint sites. If you have any difficulty accessing your Windows SharePoint Services site, contact your SharePoint administrator or the Windows SharePoint Services documentation if you are the administrator.

When you first receive an account on a Windows SharePoint Services site, you will usually receive an e-mail similar to that shown in Figure 17-1. Save the e-mail for future reference.
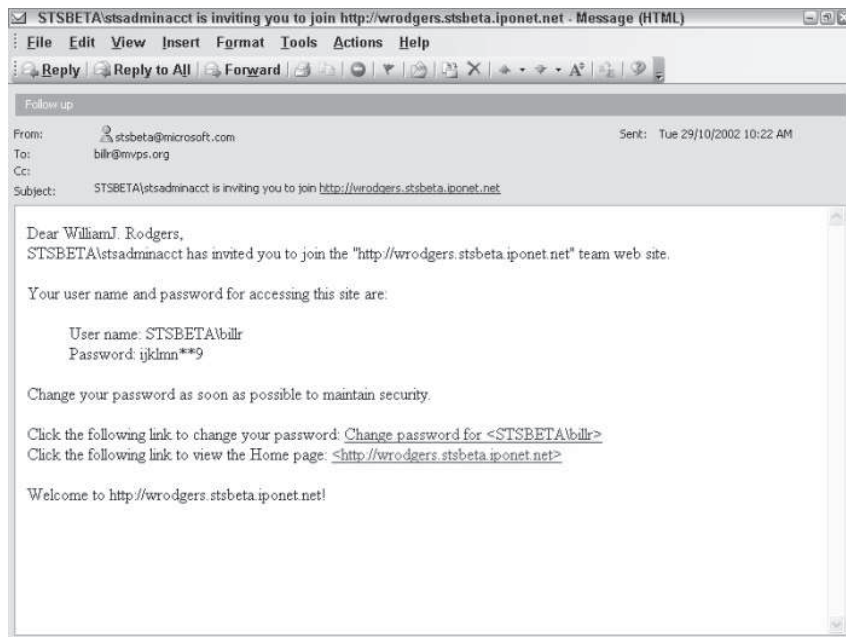
Figure 17-1: Your invitation to Windows SharePoint Services

You might also receive a separate e-mail specifying the site group you belong to. Site groups are dealt with in the section of this chapter entitled "Windows SharePoint Services site permissions."

The content of the introductory e-mail you receive might differ depending on whether the e-mail is from a server located on your LAN or on a server on the Internet. The e-mail shown in Figure 17-1 was generated from a WSS server located on the Internet and contains a username and randomly generated password in addition to a link to the SharePoint site.

Tip   If you receive a welcome e-mail, such as is shown in Figure 17-1, with a randomly generated password, take advantage of the Change Password link in the e-mail to change your password to one you can more easily remember.

Regardless of how you obtain your Windows SharePoint Services V2 login information, there are three basic pieces of information you will usually need in order to access and work with SharePoint sites:

✦ The location of the Windows SharePoint Services site. This is in the familiar form of a URL such as `http://Lindy`, `http://STS.Wigletco.net`, or `http://STS.Wigletco.net/mysite/`. The form of the URL depends on the location of the Server hosting the site and the location of the site on that server.

✦ The username you will use to access and use the Windows SharePoint Services site. Usernames are usually entered in the format SERVERNAME\username, where SERVERNAME is the name of the server or domain you are connecting to and username is, of course, your username.

✦ The password you will use to access and use the Windows SharePoint Services site. This can be a password generated by SharePoint, or, in some cases, it may be the password for the account you have on the server that hosts the site or the password of your domain user account.

To connect to a Windows SharePoint Services site you simply open the URL of the site in your Web browser. You can do this by entering the URL of the site in the address bar of your browser or by clicking the link provided in your welcome e-mail.

When accessing a SharePoint site, you might be presented with a login dialog box similar to that shown in Figure 17-2.

Figure 17-2: Use this dialog box to authenticate your username and password with the SharePoint server.

If presented with a login prompt, as shown in Figure 17-2, enter your username and password and then press OK to log on to the site. Refer to the preceding list if you have any difficulties.

If you are not presented with a login prompt similar to that shown in Figure 17-2 when you attempt to access your site, don't despair. You might later be presented with the login prompt or your network might be configured in such a way that you automatically authenticate with the server.

Note   The login prompt you see when accessing your Windows SharePoint Services site might be slightly different than the one shown in Figure 17-2, depending on the operating system installed on the machine you are using. The basic login information you need to provide, however, remains essentially the same.

Windows SharePoint Services site permissions

The operations you can perform on Windows SharePoint Services sites depend on the site group you are a member of. Although most site group names and permissions are configurable by the site administrator, there are five default site groups. The five default groups and a description of their rights are shown in Table 17-1. Users can also be given limited access rights to a particular page, Document Library, list, or item in a list without being specifically assigned to a group.

Table 17-1
Default SharePoint Site Group Permissions

Group Name	Description
Guest	Users who are given only limited rights to a particular page, Document Library, list, or item in a list are automatically assigned to the Guest group. This group cannot be deleted or customized.
Reader	Readers are given basic read-only access. They cannot add content and cannot personalize main sites. They can, however, create their own top-level sites using Self-Service Site Creation (SSSC) and can personalize and customize such sites. When a Reader creates their own site using SSSC, they become the Administrator and owner of that site without affecting their Reader group membership for any other site.
Contributor	Has all the rights of a Reader but can also manage list permissions, manage personal groups and views, personalize Web Part Pages, and add content to existing lists and Document Libraries. A Contributor can personalize Web parts. A Contributor cannot create new lists or Document Libraries.
Web designer	Has all the rights of Contributor but can also manage lists, delete items, define and apply themes and borders, link style sheets, and cancel checkout. Web designers can create new lists and Document Libraries and can modify the structure of the site.
Administrator	Has all the rights of other site groups, plus rights to manage site groups and view usage analysis data. An Administrator has complete control over the site. The Administrator group cannot be customized or deleted.

Note In order for a Reader, or any other user with adequate permissions, to be able to create a top-level site using Self-Service Site Creation (SSSC), the site administrator needs to have first enabled SSSC. When SSSC is first enabled, a new announcement is automatically made on the Announcements list of the home page of the root Web site. This announcement contains a link to the SSSC tool. SSSC sites are usually contained in the sites directory. A site created using SSSC is like your own personal little SharePoint site of which you are the administrator.

If, during use of your SharePoint site, you cannot perform the operations you want to, contact your site administrator and ask for your permissions or group membership to be changed.

Exploring the Windows SharePoint Services site

Figure 17-3 shows the start page of a typical Windows SharePoint Services site. Your site might look different but will still contain the same basic elements. The SharePoint main home page usually contains a Quick Launch Bar and a "main" Web part zone. The Quick Launch Bar provides quick and easy access to many of the Windows SharePoint Services features.
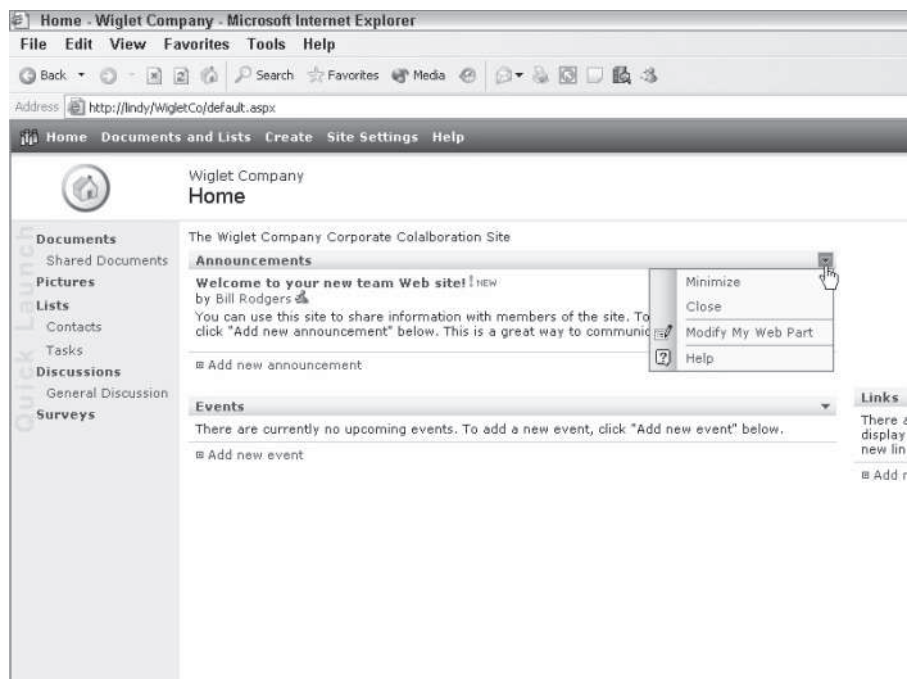
Figure 17-3: SharePoint sites are presented in the familiar HTML format in Internet Explorer.

Provided you have adequate permissions, you can customize the site layout to suit your own personal preferences. You can, for example, minimize existing Web parts or add Web parts to the main page frame. In Figure 17-3, the drop-down menu for customizing the Announcements list is expanded, whereas the MSNBC Stock News Web part is minimized. The Modify this page drop-down menu (shown at the top right in Figure 17-3) is available on some pages. This allows you to add Web parts and change the design of the main page.

Changes you make are stored in the server database. Log on to the site from another computer and you see your own personalized pages. Users with adequate permissions can apply changes made to pages to all other users.

Adding items to existing lists

Links, Announcements, Contacts, Events, Tasks, and the Issue Tracking feature are all examples of SharePoint lists. Lists provide a place to store and present data in a convenient, standardized format with some level of customization available. You can add and remove columns in lists and change the order of fields in a list.

The information stored in lists is available for export to many Office 2003 applications.

Figure 17-4 shows the default view for a Contacts list with an item's drop-down menu expanded. The drop-down menu shown in Figure 17-4 allows you to view, edit, or delete the item. By selecting the Alert Me entry in the drop-down menu, you can choose to receive an e-mail alert when changes are made to the item or the item is deleted. The default list style and layout for all lists are similar to that shown in Figure 17-4.
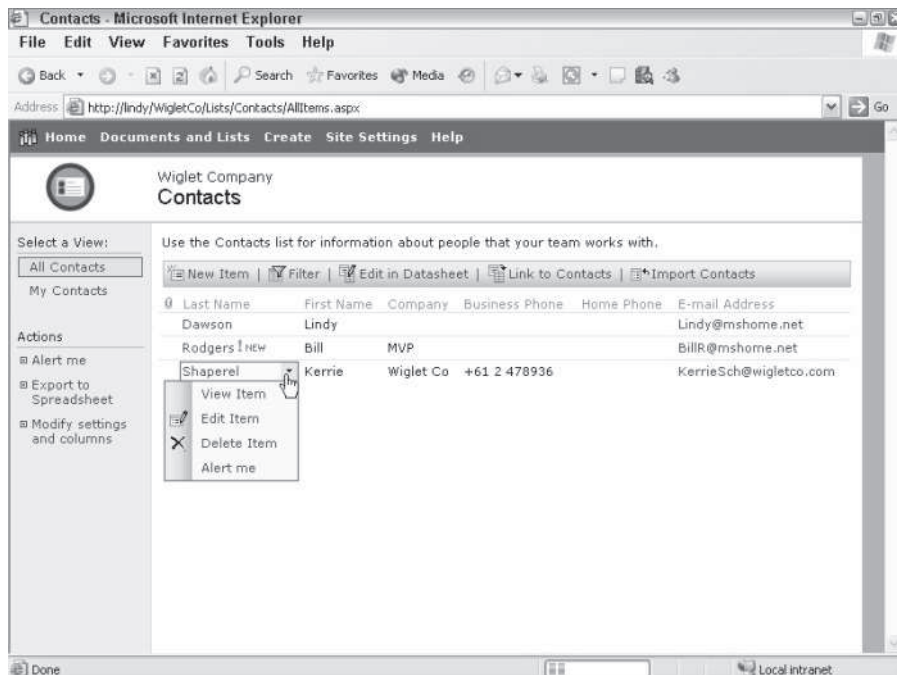
Figure 17-4: You can use the drop-down menu available with selected items to work with that item.

Tip

You will find the Actions submenu, shown in the left pane in Figure 17-4, in the views of many SharePoint libraries. Use the Alert me link to obtain an e-mail notification when items are added, changed, or deleted. This is particularly useful for new announcements and to keep your eye on documents, stored in a Document Library, that are modified by other users. The Export to spreadsheet link allows you to export the list to Excel. You can use the Modify settings and columns link to customize the display of the library and control many aspects of the library (including specific permissions for the library, general library settings, saving the list as a template, and modifying the list template). Explore what options are available to you. Note that here the term "library" includes all WSS views that are presented in a list format.

To add new items to an existing list, follow these steps:

1. Select the list by clicking its entry in the Quick Launch bar. You are presented with a view similar to that shown in Figure 17-4. For Events, Announcements, Links, and other lists shown in a Web part zone, you can select the item header in the Web part zone to give a view as shown in Figure 17-4 (to work with Announcements, for example, select Announcements by clicking the bold Announcements heading).

2. Select the New Item icon. You are presented with a New Item form customized to the particular type of list you are working with. For Events, Announcements, Links, and other lists shown in a Web part zone, you can skip Step 1 and go directly to the New Item form by selecting the relevant Add new link in the Web part zone (refer to Figure 17-3).

3. Complete the New Item form with relevant data. Fields marked with a red asterisk are required. You can also attach a file to the new item via the attach file icon.

Note

For security purposes, Windows SharePoint Services, by default, blocks the saving and retrieving of a number of file types. The SharePoint site administrator can configure the types of files that are blocked. Consult your administrator if you want to work with blocked file types.

4. Select Save and Close.

Note

Picture Libraries are a special type of list with unique features intended to suit the presentation of pictures and to integrate with Microsoft Picture Library. You can apply the same skills you use to create and work with SharePoint lists to Picture libraries. Unique features of Picture Libraries include the capability to edit pictures in the library directly with Microsoft Picture Library; the capability to send pictures from the library directly to Outlook, Word, Excel, or PowerPoint; the capability to download Full Size, Preview, or Thumbnail versions of the pictures; and a new View Slide Show feature for a stunning presentation of your pictures.

Creating new Windows SharePoint Services lists and libraries

Creating new Windows SharePoint Services lists and libraries is easy.

To create a new SharePoint list, follow these steps:

1. Click the bold Lists heading in the Quick Launch bar.

2. In the new Documents and Lists view, click Create List.

3. Choose the type of list you want to create by clicking it. You are presented with six types of lists to choose from by default: Links, Announcements, Contacts, Events, Tasks, and Issue Tracking.

4. In the New List Web form, enter a name and description for the list and choose whether to include the list in the Quick Launch bar. A list description is not mandatory.

5. Select Create.

New Document Libraries, Form Libraries, Picture Libraries, Discussions, and Surveys can be created using steps similar to the previous ones. Just replace "Lists" with the type of library you want to create in the previous steps and choose from the available library templates for that library type in Step 3.

> **Note** Libraries of any type can also be created via the Create link in the top bar of the Windows SharePoint Services home page (see Figure 17-3). The Create link additionally allows you to create a blank Web page, a Web Part Page, or a WSS Subweb. You can also create a custom list via the Create link. Custom lists can be created from a basic list that you can add columns to either using provided templates or in Datasheet view, or can be based on an existing Excel spreadsheet that already contains the data you want in your list. A Web Part Page is a special customized SharePoint page, composed from Web parts, that you can create to consolidate dynamic information into one central location. Datasheet views are discussed later in this chapter.

Working with Datasheet views and linking lists to Excel and Access

The Windows SharePoint Services Datasheet view brings the power and familiarity of Excel to list-type SharePoint libraries. The Datasheet view brings such features as Cut, Copy, Paste, Fill, and AutoComplete to list-type libraries. Column and row resizing is implemented, and you can sort and filter data in Datasheet view. Data analysis is available, and you can chart the list with Excel, export and link the list to Excel, export the list to Access, or create an Access or Excel PivotTable report from the list all from within Datasheet view.

You work with the Datasheet view in much the same way you work with Excel. Cells can be filled with data, and right-clicking areas of the Datasheet provides context-specific actions for a single cell, an entire row or column, or the whole list.

To explore the power and some of the features of the lists Datasheet view and the high level of integration with Excel, this section works through an example.

The example begins by opening Excel and creating a row of header information named Month, Expenses, and Approved. In the first cell of the Month column, enter January. In the first cell of the Expenses column, enter a currency such as $2687.43. Leave the first cell of the Approved column blank. Next, save the Excel spreadsheet with an appropriate name.

You are now ready to create a new list from the Excel spreadsheet. In this example, you'll create the list from within Excel and link the WSS list to Excel so that updates made in either the WSS list or the Excel spreadsheet can be synchronized with the other.

To create a new list from an Excel spreadsheet and link the spreadsheet to the new list, follow these steps:

1. Open the Excel spreadsheet.

2. Select the cells with data.

3. From the Excel Data menu, select List⇨Create List.

4. In the new Create List dialog box, ensure the My List Has Headers checkbox is selected and then press OK.

5. From the Excel Data menu or the List and XML toolbar, select List⇨Publish List. If not already visible, the List and XML toolbar can be displayed by right-clicking a toolbar and selecting it.

6. In the new Publish List to SharePoint - Step 1 of 2 dialog box, enter the location of the SharePoint server, give the list a name, and enter a description (optional).

7. To ensure that a link is established between Excel and the new list, select the Link to the new SharePoint list checkbox in the Publish List to SharePoint - Step 1 of 2 dialog box.

8. Select Next. The next Publish List to SharePoint - Step 2 of 2 dialog box gives you the opportunity to review the data types that SharePoint Team Services V2 will use for each column.

9. Select Finish.

Your new list can be accessed at any time by opening the original Excel spreadsheet, selecting the list in Excel, and choosing Data⇨List⇨View List on Server from the Excel main menu or by choosing List⇨View List on Server from the List and XML toolbar.

Tip   You can also create a new Windows SharePoint Services list from an Excel spreadsheet by selecting Create from the site Home page and then selecting Import spreadsheet from the Custom section of the Create Page Web page.

Now that you have the basis of your list created on the server, you are ready to work with the Datasheet view of the list. You can view and edit any list in Datasheet view by selecting the Edit in Datasheet link in the view of that list if it is provided.

First, let's take a look at the Fill feature implemented with Datasheets. The Month column in the Datasheet example is a prime candidate for demonstrating the Fill feature.

To use the Datasheet Fill feature, follow these steps:

1. Open the existing SharePoint list in Datasheet view.

2. Select the cell you want to use as the basis of the Fill and position your mouse at the lower-right corner of that cell until the mouse pointer turns into a cross.

3. Left-click and drag the mouse cursor vertically down until you have filled the number of cells you want.

4. Release the mouse button.

Figure 17-5 illustrates the procedure for using the Fill features with this example. Once the cursor is released, the enclosed cells are filled with incremented months. Cells are incremented only if SharePoint can predict some sort of pattern to the cells. If SharePoint cannot predict a pattern, the Fill method duplicates the initial cell over the range of selected cells.
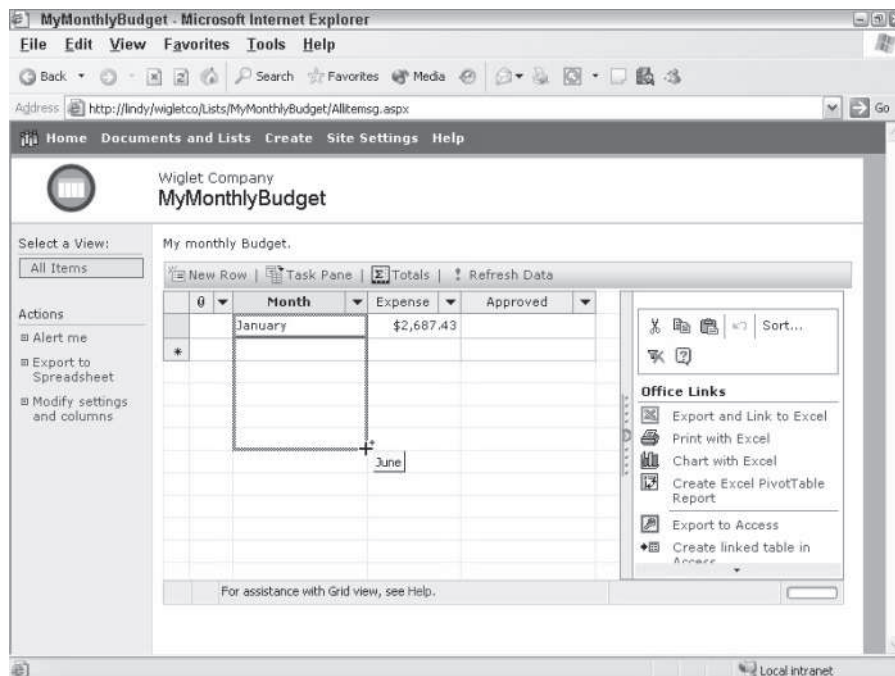
Figure 17-5: Drag and release to apply the fill to the Datasheet's columns.

Note   The Datasheet task pane is shown in Figure 17-5. The Office Links section of the task pane allows you to export and report a list with Excel or Access. Use the Export and Link to Excel option if you want to export and link an existing list to Excel. The task pane can be toggled on and off via the Task Pane link in the top bar in Datasheet view or by clicking the Show Task Pane arrow on the right side of the Datasheet component.

Next, you'll change the format of the Approved column in the example to display a drop-down menu with two options: Approved and Not Approved. Columns can be formatted in Windows SharePoint Services in a number of formats. The complete list of formatting that can be applied to columns is: Single line of text, Multiple lines of text, Choice (menu to choose from), Number, Currency, Date and Time, Lookup (information already on this site), Yes/No (checkbox), Hyperlink or Picture, and Calculated (calculation based on other columns).

Note that the format that can be applied to a column depends on the type of list you are working with and whether you are modifying an existing column or adding a new column.

To format a list column, follow these steps:

1. Open the list in Internet Explorer.

2. In the Actions submenu in the left pane, select Modify settings and columns by clicking it.

3. In the new Customize page, in the Columns section, select the column you want to modify by clicking its link.

4. In the Name and Type section of the new page, select the radio button for the type of format you want to apply to the column. The page updates to provide options specific to the type of formatting you want to apply.

5. Make any other changes that are required or appropriate. In the case of the Choice (menu to choose from) format you enter each of your choices, on a separate line, in the space provided, and can also choose a default value and whether the choice appears as a Drop-Down menu, Radio Buttons, or Checkboxes that allow multiple selections.

6. Press OK to return to the Customize page and then select the Go Back link to return to the newly formatted list.

You can use the same basic procedure to add an existing column to a list. To add a new column to a list, in the Columns section of the Customize page (Step 3), select Add a new column instead of the column you want to modify. Adding a new column consisting of calculations based on other columns is a particularly powerful feature of WSS.

Figure 17-6 shows the completed example with the drop-down menu of Approved and Not Approved demonstrated. Additional expenses have been entered in the example to complete the list.
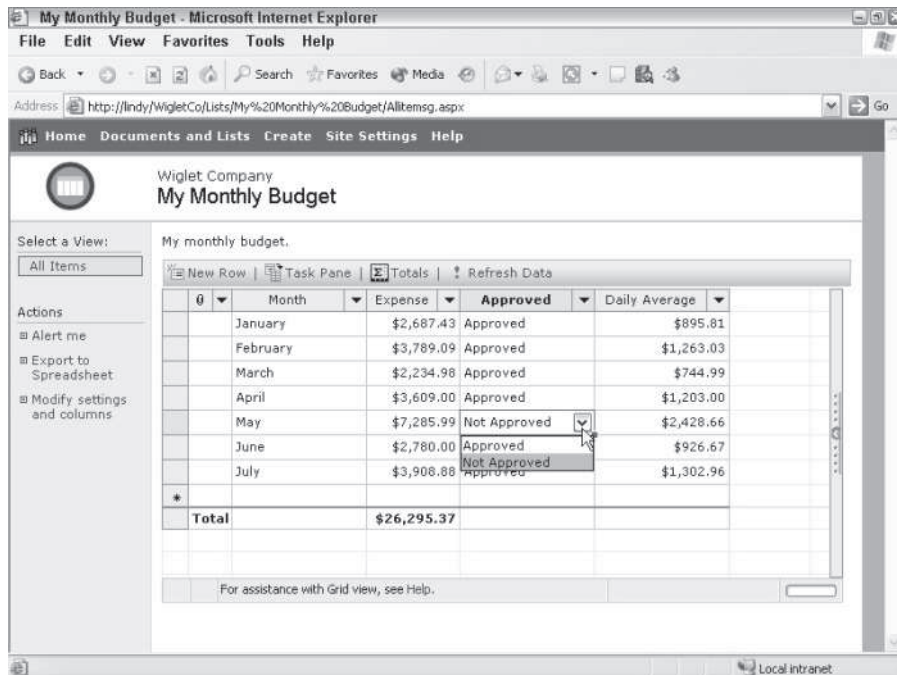
Figure 17-6: A custom choice and calculated column implemented in Datasheet view

Note the additional calculated column, called Daily Average, in the list shown in Figure 17-6. The Daily Average is simply Expense/30.

Calculated columns are added to lists using the same basic method you use to add any column. When creating a calculated column, you are required to enter a formula for that column and select the data type returned by that formula. In the above example, the formula for the daily average was entered as = [Expenses] /30 and the data type returned was set to number. The formula was entered by typing = into the Formula text box, selecting Expense in the Insert Column list, clicking Add to Formula from below the Insert Column list, and then typing /30 after [Expense] in the Formula text box.

Calculated columns support formulas using data in other columns and any Excel function with the exception of the following: Now(), Today(), Me(), and Rand(). Select any cell in a calculated column and the formula used is displayed in the status bar of the Datasheet view. When you hover your cursor over a cell in a calculated column in Datasheet view, the formula applied to that column is displayed as a ToolTip. Double-clicking in a cell in a calculated column in Datasheet view displays the formula for that column, in the cell, and allows you to edit it right there. The power of Excel is available with SharePoint lists.

Note also the Totals row in the list (shown in Figure 17-6). Totals can be calculated simply by selecting the Totals link in the top bar of the Datasheet view. The type of Totals that can be performed depends on the format of the columns in the list. In the case of the Month column in this example, all you can do is to count the months or leave that cell blank. For the Expense column, the Totals options available are None, Average, Count, Maximum, Minimum, Sum, Standard Deviation, and Variance.

To select the Totals expression to use in a Totals row, select the cell in the Total row where the Total will appear and select the type of calculation to be used from the drop-down menu displayed (by pressing the arrow in the left of that cell).

Figure 17-7 shows the options available for the Totals on the Expense column of the Budget example.

Figure 17-7: You can perform basic statistical analysis on columns using a Totals row.

Tip

To update the value in a calculated cell, simply select another cell.

Now that you have an Excel spreadsheet linked to a SharePoint list, you can add data to the list from within SharePoint or within Excel and easily synchronize those changes.

To synchronize a linked Excel spreadsheet with the SharePoint list it is linked to, follow these steps:

1. Open the linked Excel spreadsheet with Excel.

2. Select the list in the Excel spreadsheet.

3. From the Data menu in Excel, select List⇨Synchronize List.

The preceding procedure applies for all Excel spreadsheets that are linked to SharePoint lists and not just lists created from an Excel spreadsheet.

Tip   When a SharePoint list is created from an Excel list that contains a calculated column, WSS converts all cells with individual formulas to values. Such converted columns cannot be reformatted into calculated columns in WSS. Calculated columns created in SharePoint, however, when exported to and linked to Excel or synchronized with Excel retain their formulas for direct use in Excel. If you want to work with a calculated column in both Excel and SharePoint, you need to create the calculated column in SharePoint.

You can also synchronize an Access table that is linked to a SharePoint list. An Access table can be created from and linked to a SharePoint list by using the Create Linked Table in Access option (found in the Office Links section of the Datasheet task pane). An Access table can also be created and linked to data stored on a SharePoint server via File⇨Get External Data⇨Link Tables in the Access menu. In this case, you need to select SharePoint Team Services in the Files of Type drop-down menu in the Link dialog box. Doing so opens a new dialog box from which you can enter or select the SharePoint site.

To synchronize a linked Access table with its SharePoint list, first select Tools⇨Database Utilities⇨Linked Tables Manager from the open, linked, Access database. Next, in the Linked Table Manager dialog box, select the linked table or tables to be updated and then select OK.

Collaborative Document Authoring

Windows SharePoint Services provides two features that facilitate collaborative document authoring: Document Libraries and Shared Workspaces. Both provide the means in SharePoint where workers, from any location able to access the SharePoint site, can share documents in real time.

Document Libraries provide a central location intended to store and present almost any type of file. The exceptions are those file types blocked by SharePoint and your administrator. A Shared Workspace further enhances a Document Library by adding its own Tasks, Links, and Members lists. A Shared Workspace is like its own little SharePoint site that focuses exclusively on collaborative document authoring. Think of a Document Library like you

would the presentation area for your finished product, whereas a Shared Workspace is like the back office where you do the majority of your work and collaboration. Although some level of collaboration is supported in a Document Library, a Shared Workspace is specifically tailored to document collaboration and provides a high level of integration with supported Office 2003 applications.

Exploring Document Libraries and Shared Workspaces

Figure 17-8 shows a typical Document Library containing both an Excel spreadsheet and a Word document.
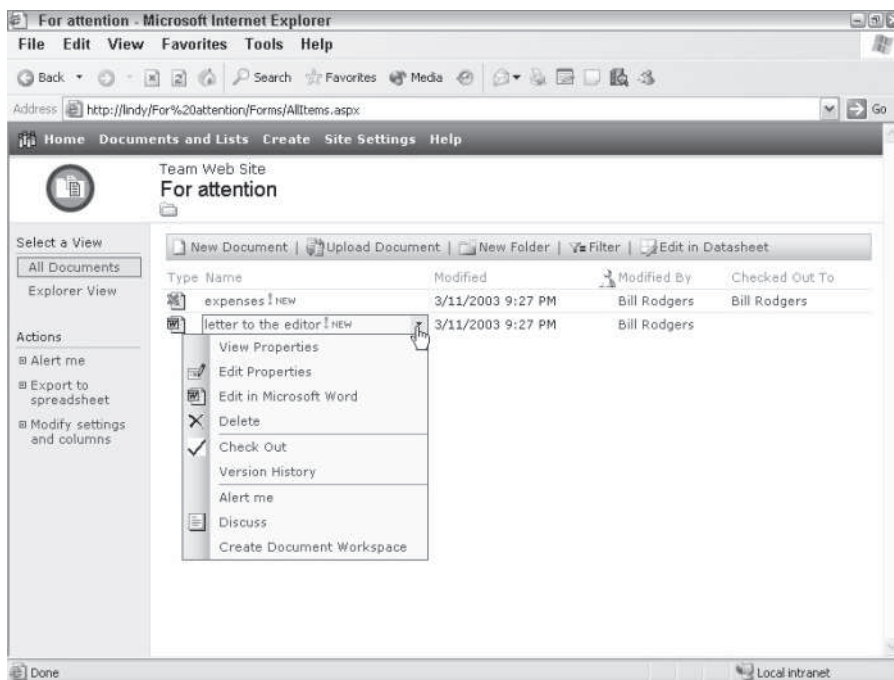
Figure 17-8: Use a Document Library to store and present important documents.

A Document Library has a default appearance similar to SharePoint lists. The left bar in Figure 17-8 contains an Actions submenu that can be used in the same manner as discussed earlier for lists.

The uppermost bar in Figure 17-8 has the following options:

- ✦ **New Document.** Allows you to create a new document in the library using the default template for that library. The default template for a library is usually specified when a library is first created. Default Document Library templates can be set to blank Microsoft Word, FrontPage, Excel, PowerPoint, Blank Page (.aspx Web page), or Web Part Page documents.

- ✦ **Upload Document.** Allows you to upload any supported file to the library. You can upload multiple files in an Explorer-like view by selecting Upload Multiple in the Upload Document page that appears after selecting this option.

- ✦ **New Folder.** Allows you to create a new folder in the Document Library.

- ✦ **Filter.** Enables you to filter columns by adding drop-down filter choices next to the properties column headings.

- ✦ **Edit in Datasheet.** Permits editing of editable document properties in Datasheet view. You can also access the same features of Datasheet view previously discussed in the section titled "Working with Datasheet views and linking lists to Excel and Access."

The list-type layout of a Document Library provides columns of document properties. By default these include Type, Name, Modified, Modified By, and Checked Out To. You can add columns of properties by using the Modify Settings and Columns link in the Actions submenu shown in the left pane in Figure 17-8. Property columns that are added appear in the Document Information tab of the Shared Workspace task pane in Word, Excel, or PowerPoint. To display the Shared Workspace task pane in Word, Excel, or PowerPoint, select View⇨Task Pane from the application's menu and use the drop-down menu in the task pane to select Shared Workspace.

You can display the drop-down menu shown in Figure 17-8 by selecting the cell in the Name column of the document or file in question and then selecting the arrow at the right side of that cell. This drop-down menu is the same regardless of whether you are working with a file in a Document Library or a Shared Workspace.

The drop-down menu, shown in Figure 17-8, provides the following options:

- ✦ **View Properties.** Provides a new view with the document properties.

- ✦ **Edit Properties.** Allows you to edit editable document properties including the filename and custom properties.

- ✦ **Edit in.** Allows you to open the file for editing in the application associated with it. You can also open a file for editing by simply clicking it. The Edit in option is available only for Microsoft Word, Excel, and PowerPoint documents.

- ✦ **Delete.** Allows you to delete a file if permissions allow.

- ✦ **Check Out.** Allows you to "check out" a document. A document can be checked out from a Document Library in a similar way that a book is checked out from a regular library. When you check out a document, you provide a long-term lock on

the file that prevents others from making changes to it while you want to work on it. This options changes to Check In when a document is already checked out.

✦ **Version History.** When file versioning is enabled, this allows you to View, Restore, or Delete specific versions of that file. You can view comments on the file and enable file versioning for the Document Library that file is in via the Modify Versioning Settings link that appears in the new page when you select this option.

> **Note** Versioning is not enabled by default when new Document Libraries or Shared Workspaces are created.

- **Alert me.** You can use this to receive an e-mail alert when the specific document is changed or deleted or when a Web discussion on the document has changed.

- **Discuss.** Displays a discussion bar in Internet Explorer where you can comment on and discuss the document with your colleagues. Inline discussions can be inserted in HTML documents only. You can create a discussion about any type of document.

- **Create Document Workspace.** Allows you to create a Document Workspace "around" a document in an existing Document Library. When working with a document in a Shared Workspace created from a source file in a Document Library, this option becomes Publish to Source Location and allows synchronization between the file copy in the Document Workspace and the original source file.

Figure 17-9 shows a typical Shared Workspace containing a central Word document and other supporting files.
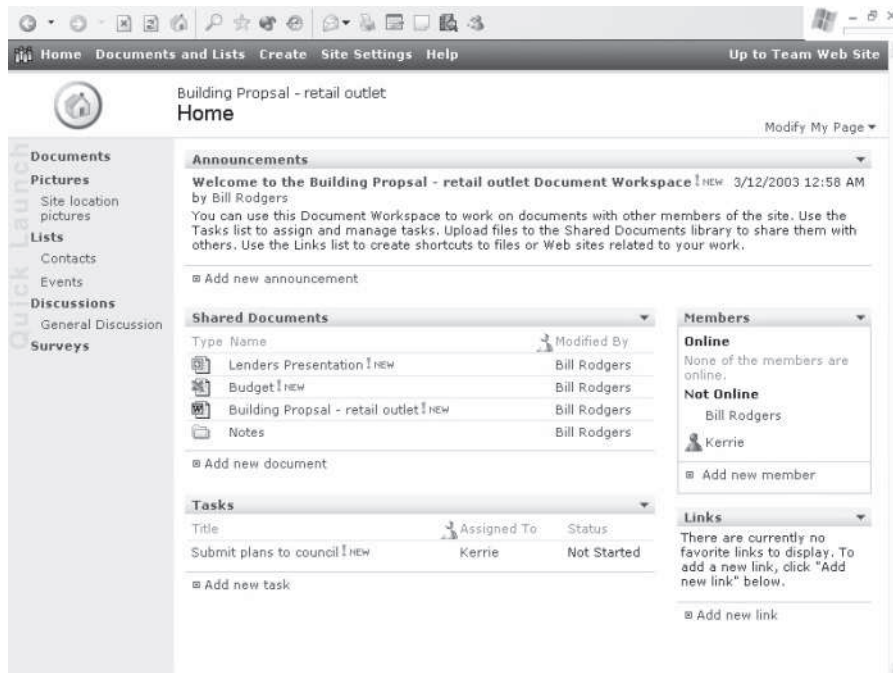
Figure 17-9: A Shared Workspace is specifically suited to collaborative document authoring.

A Shared Workspace has an appearance similar to a SharePoint site. You can customize the site and work with the features just as you would with a regular SharePoint home page. From within the Shared Workspace you can add members, assign tasks, upload related documents, add hyperlinks contacts and events, and create and participate in discussions and surveys all from within Internet Explorer.

The high level of integration between a Shared Workspace and Office 2003 also allows you to perform many of these tasks, and more that aren't available via the Web interface, from within the supported Office 2003 application.

Before delving into working with a Shared Workspace from within Office 2003 applications, the next section takes a look at how to create your own Shared Workspace.

Creating Shared Workspaces

You can create a Shared Workspace using any of the following methods:

To create a Shared Workspace for an existing document in a Document Library, follow these steps:

1. Connect to the SharePoint site with Internet Explorer and open the Document Library containing the document you want to create a workspace from.

2. Hover your mouse over the Name cell in the name column for the document in question and select Create Document Workspace from the drop-down menu (see Figure 17-8).

Use this method when you want to retain a copy of the document in a Document Library while collaborating on it in a Shared Workspace. You can work behind the scenes on a document using this method and then publish the final, completed document back to the original Document Library. To publish a document in a Shared Workspace back to its original Document Library, select Publish to Source Location from the drop-down menu in the Name column associated with that file in the Shared Workspace. Users can open the document from the workspace and work with it as if were saved on their machines. Users will need to open and then save the document to have their own local copy of the document that is dynamically linked to the copy in the Shared Workspace.

To create a Shared Workspace from an existing document in Word, Excel, or PowerPoint, follow these steps:

1. Open the file in its associated application.

2. From the Tools menu in Word, Excel, or PowerPoint, select Shared Workspace to display the Shared Workspace task pane. If a task pane is already visible in the application, you can simply select Shared Workspace from the drop-down menu at the top right of that task pane.

3. In the Document Workspace Name section of the Shared Workspace pane, change the name for the new Document Workspace if you desire. This field will already contain the name of the open file.

4. In the Location for New Workspace section of the Shared Workspace pane, use the drop-down menu to select the SharePoint site where the Document Workspace will be created or enter the location of the SharePoint site.

5. Click the Create button in the Shared Workspace pane.

Use this method when you want to create a Shared Workspace from an existing supported Office 2003 file type and have your own local copy of the file dynamically linked to the copy in the Shared Workspace. Other users of the Shared Workspace will need to visit the workspace and open and save the file to have their own local copies.

To create a Shared Workspace using Outlook, follow these steps:

1. Create a new e-mail message in Outlook addressed to yourself and others you want to collaborate with on the document. Users can be added in the To, CC, or BCC fields.

2. Attach the file you want to use as the basis of the Shared Workspace via the Insert File paperclip icon in the Outlook toolbar.

3. If the Attachment Options pane is not displayed in Outlook, display it by selecting the Attachment Options button to the right of the attached file.

4. Select the Shared Attachments option in the Attachment Options pane.

5. In the Create Document Workspace At text box, use the drop-down arrow to select a SharePoint server to create the workspace on. You can also simply enter the location of the SharePoint server.

6. Choose the account you want to send the e-mail from and click the Send button in Outlook to send the e-mail.

Outlook creates a Shared Workspace on the specified server of the same name as the attached file and sends a hyperlink to the workspace in the sent e-mail. If the attached file is a Word, Excel, or PowerPoint file, the copy of the file received by the recipient is linked directly to the newly created Shared Workspace. The recipient can save and work on the file locally and synchronize changes with the copy stored in the Shared Workspace. Use this method when you want to create a Shared Workspace and distribute a copy of the document dynamically linked to the copy in the workspace.

Regardless of which method you use to create a Shared Workspace, the file is available in the workspace to all users with appropriate access permissions. Users can simultaneously open and work on a document in a Shared Workspace and update the copy they are working on with the centrally stored copy in the workspace.

Working with Shared Workspaces inside Office 2003 applications

Now that you have some familiarity with Document Libraries and Shared Workspaces, and understand how to create them, you can focus exclusively on document collaboration from solely *within* supported Office 2003 applications. Although Document Libraries support collaboration, this section focuses on using a Shared Workspace. From the applications covered in this book, Word, Excel, and PowerPoint support the Shared Workspace task pane with the capability to not only create a Shared Workspace but to also work with the Shared Workspace from within the Shared Workspace task pane.

Note Some Office 2003 applications not covered in this book also utilize the Shared Workspace task pane. The skills you learn here to work with the Shared Workspace task pane can be applied to any Office 2003 application that implements it.

Figure 17-10 shows the Shared Workspace task pane, displayed in Word, for a local copy of a document that is linked to a shared copy in a Shared Workspace.
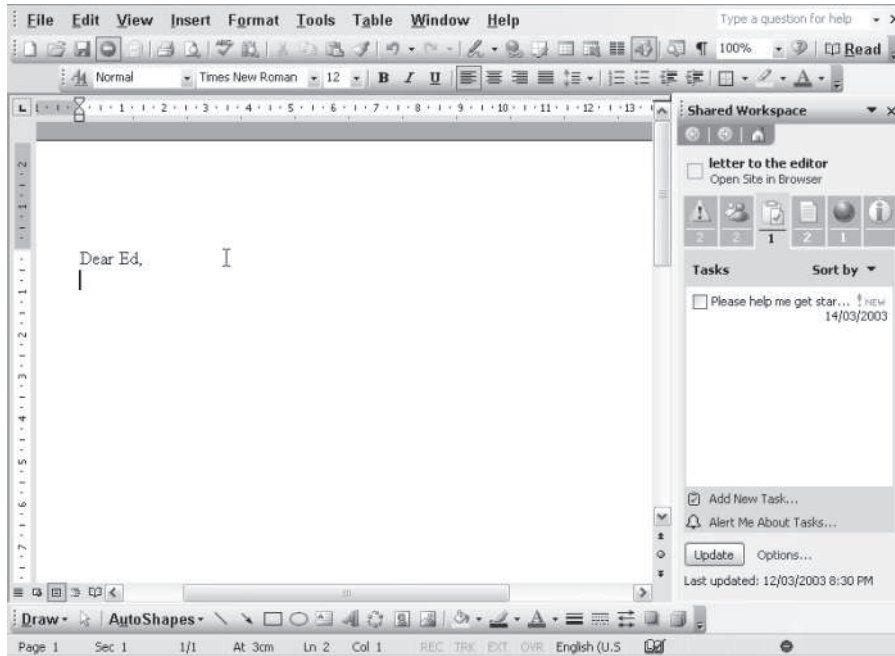
Figure 17-10: You can create and manage a Shared Workspace using the Shared Workspace task pane.

Regardless of whether you are collaborating on a Word, Excel, or PowerPoint file, the options and tabs in the Shared Workspace task pane are the same.

Before taking a closer look at how to work with the Shared Workspace task pane, let's consider the updating of linked files saved locally when you open and close them and discuss how to deal with conflicts between local file copies and those on the server.

The first thing you might notice when opening a local copy of a document linked to a central copy in a Shared Workspace is that the Office 2003 application will ask you whether you want to check the Shared Workspace for updates to the document. You can choose from among any of the following options:

✦ **Update.** Selecting Update immediately checks the Shared Workspace for updates to the document. If changes are made to the local copy that is in conflict with changes made to the central copy, you are prompted to review and resolve the conflicts. Selecting Yes opens the Document Updates pane from which you can choose to merge copies, open the workspace copy for comparison, or select one copy to replace the other.

Note If, at any time, SharePoint detects conflicts between a local copy and the copy in the Shared Workspace, those conflicts can be resolved via the Document Updates task pane. When conflicts between copies exist, they are reported in the Status tab (the first tab) of the Shared Workspace pane. The content of and options available in the Document Updates pane depends on the current status of conflicts between documents. Use of the Document Updates task pane, when required, is pretty much self-explanatory.

✦ **Don't Update.** If you select this option, the document remains linked to the central copy but many of the Shared Workspace task pane tabs that require a connection with the server are unpopulated. The Office 2003 application will not then periodically check the server to determine whether any updates are available. Select Don't Update at those times when you want to solely work on a local copy of the file for a period of time or when the SharePoint site that hosts the file is inaccessible or access to it is slow. At any time, you can manually check for updates by pressing the Update button at the bottom of the Shared Workspace task pane. This will reconnect the local copy to the workspace copy and repopulate empty tabs in the Shared Workspace pane.

✦ **Don't Ask Again.** Selecting this disconnects the file from the Shared Workspace, thereby removing any link between the local copy of the document and the copy on the Shared Workspace. Select this only if you are certain you want to unlink the two copies and not receive any further document updates. If you choose this option and later want to receive updates to the document, you might need to visit the Shared Workspace and save a new linked copy of the file to your computer. You might then need to merge any changes you have made to the local file into the newly saved and linked file.

When you close the local copy of a linked file, you are presented with only the option to update the workspace copy with your changes. If conflicts between copies are determined, you can resolve them using the Document Updates task pane.

You can control how the Office 2003 application checks for updates on opening and closing the document and the period of automatic update checking via the Options button at the bottom of the Shared Workspace task pane. Options include the capability to automatically update on opening and closing (and thereby disable any dialog box prompts) and to globally turn off automatic updating.

To demonstrate how to use the Shared Workspace task pane, this section works through an example. In this case, an existing Word document is used. This document can be opened directly from a Shared Workspace or from a local copy linked to a Shared Workspace. Remember that the same techniques also apply to Excel and PowerPoint.

Note
The following operations assume you are working with an open document linked to a Shared Workspace and that the Shared Workspace task pane is displayed. The document can be opened directly from the workspace or can be a local copy of the document that is linked to the workspace. If the Shared Workspace task pane is not displayed, display it via Tools⇨Shared Workspace in the application's main menu.

First, you need to assign members to the Shared Workspace.

To assign members to a Shared Workspace, follow these steps:

1. Select the Members tab in the Shared Workspace task pane.

2. From towards the bottom of the Members tab, select Add New Members to open the new Add New Members dialog box.

3. In the Choose Members section of the Add New Members dialog box, enter the e-mail address or usernames of the new members separated by a semicolon.

4. In the Choose Site Group section of the Add New Members dialog box, select the group you want those new members to be assigned to. If you want to assign new members to different site groups, you need to add those new members individually.

5. Select Next and then, in the new dialog box that opens, select Finish.

Note
If SharePoint cannot properly identify any users you are trying to add with the host server, you might be presented with the requirement to enter additional information or to correct existing information after pressing Next in Step 5. If then, after pressing Finish and confirming that you do indeed have the correct details entered, you are presented with a new dialog box stating that the usernames are not valid, you should contact your SharePoint administrator to determine whether the users you are trying to add have access to the SharePoint site.

6. In the next new dialog box that opens, you can choose to send an e-mail to the newly added members. To send an e-mail to the new members informing them of their new membership and their workspace's location, ensure the Send E-Mail Invitation to the New Members checkbox is checked.

7. Click OK.

The E-Mail All Members option at the bottom of the Members tab of the Shared Workspace task pane allows you to send an e-mail to all members at once.

Members are grouped into categories in the Members tab of the Shared Workspace task pane according to whether they are Online or Offline; you are listed separately at the top of that pane.

Figure 17-11 shows the Members tab of the Shared Workspace task pane with newly added members.
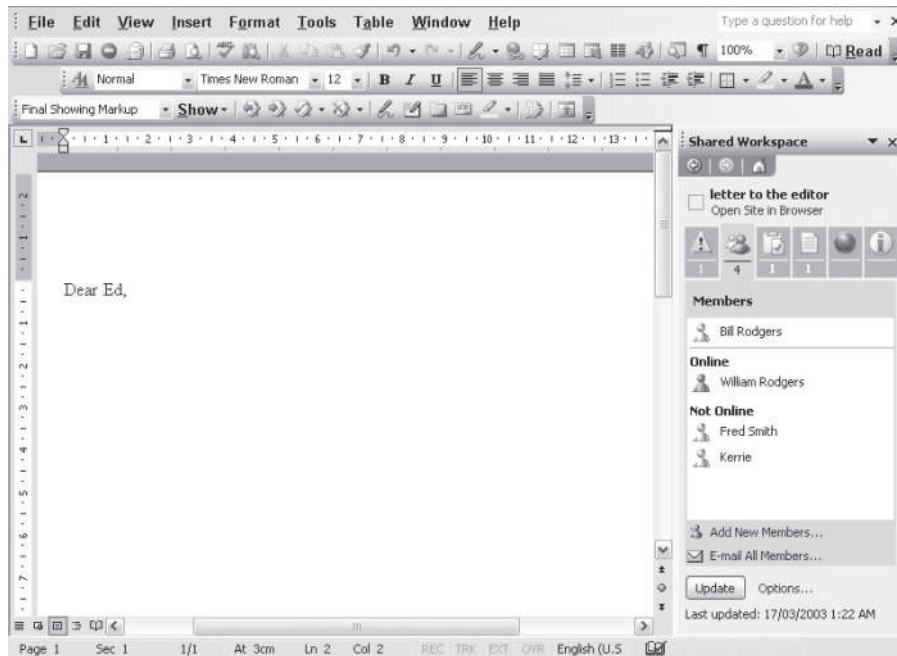
Figure 17-11: Use the Members tab to manage and communicate
with workspace members.

You can use the drop-down arrow at the right of the member entry (shown in Figure 17-11
but not expanded) to manage Shared Workspace members. Among the options available,
you can choose to remove the member, edit the member's group membership, send an
Instant Message to the member (provided that member and you are online), add a member to
Messenger Contacts, edit the member's user information, schedule a meeting with the
member using Outlook, and add the member to your Outlook Contacts. Additional actions
are available. Explore the Member-entry menu to see which options are available to you.
The online/offline status of members is refreshed when you select the Update button at the
bottom of the Shared Workspace task pane.

Now that you have added members to your Shared Workspace and are aware of how to
manage your members, you're ready to assign tasks and work with assigned tasks.

To assign a task to a Shared Workspace member, follow these steps:

1. Select the Tasks tab in the Shared Workspace task pane.

2. Select Add New Task from the Tasks tab to open the new Task dialog box.

3. In the Task dialog box, enter a Title, Status, Priority, and a task Description, and
   assign the Task as shown in Figure 17-12. Only a Title is compulsory.
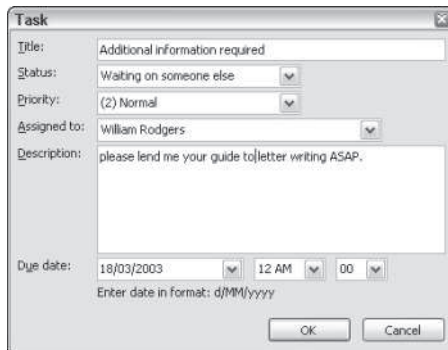
Figure 17-12: Create, use, and assign tasks with the Tasks tab.

4. Select OK.

Completed tasks are displayed with a green tick in the checkbox next to the task in the task tab of the Shared Workspace pane, whereas tasks not yet started are shown with no fill in that checkbox. Tasks with any other status are shown with a partly filled checkbox. High Priority tasks are also marked with a red exclamation mark. You can mark a task as complete or change the status of a task from complete to incomplete by selecting the checkbox next to that Task.

You can open the Task dialog box to edit a task simply by double-clicking the task in the Task tab of the Shared Workspace pane. Alternatively, open the task for editing via the menu available to the right of the task when that task is selected. This menu also contains options to delete a task and to create an alert about a task. The capability to create an alert for a task is also available at the bottom of the Task pane. All options that are available to you when you create a task are available when you edit the task provided you have adequate permissions in the Shared Workspace.

Now that you know how to assign tasks, you're ready to learn how to work with documents and folders using the Shared Workspace pane.

To add a new document to a Shared Workspace, follow these steps:

1. Select the Documents tab in the Shared Workspace pane.

2. From the bottom of the Documents tab, select Add New Document.

3. In the new Add New Document dialog box, use the Browse button to select a file to upload. Only single files can be selected. To link the newly uploaded documents to the local copy of that document ensure the Make Workspace Updates Available When I Open My Copy checkbox is selected.

4. Press OK.

To create a new folder, simply select Add New Folder in Step 2, enter the folder name in the Add New Folder dialog box, and press OK. To view the contents of a folder, click it or select View Contents from the menu available to the right of that folder. You can also delete a folder *and* its contents via the available menu on the right of its entry. Be sure you don't delete a folder without first checking that it doesn't contain important files. To return to the main view after a folder is in its contents view simply select the folder again. Documents are added to a folder using the same method as before, but with that folder's contents in view.

The menu available to the right of a documents entry in the Documents pane allows you to delete the document or to obtain an alert when changes are made to the document. Alerts are also available via the Alert Me About Documents link at the bottom of the Documents pane. When a document is not the currently open document, the menu to the left of that document allows you to open the document in its associated application. You can also open a document in its associated application by clicking its entry in the Documents pane.

Entries in the Tasks tab are refreshed when you press the Update button at the bottom of the Shared Workspace pane.

You can easily add links to the Shared Workspace by using the Links tab of the Shared Workspace pane. Links are added by selecting the Add New Link hyperlink from the bottom of the Links pane, entering the location, description, and any Notes relevant to the link in the new Link dialog box, and then pressing OK. From the menu available to the right of the link in the Links tab, you can choose to edit or delete the link or to receive an alert when that item is changed.

The Document information tab in the Shared Workspace displays information about the currently open document. From the Alert me link towards the bottom of the Document information tab you can choose to receive an e-mail alert when changes are made to the item or when Web discussions on the item have changed.

The Restrict Permissions link towards the bottom of the Document information tab allows you to set permissions on the file in the same way that you can via the Permissions button on the standard toolbar.

You can open, restore, delete, and view comments for versions of the document stored in the Shared Workspace via the Version History link at the bottom of the Information tab of the Shared Workspace pane. Versioning can be enabled via the Modify Settings for Document Versions link in the new Versions Saved For dialog box that opens after selecting the Version History link. The Version History is also accessible via File⇨Versions⇨In a Document Library from the standard toolbar.

Figure 17-13 shows the Versions Saved For dialog box opened from the Version History link in the Information tab in the Shared Workspace pane in Word.
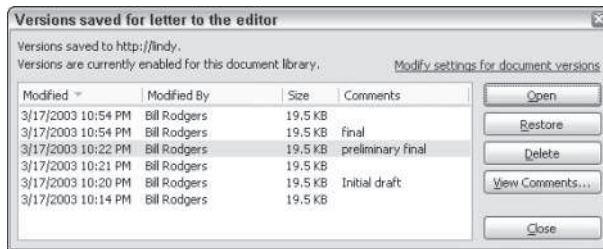
Figure 17-13: Enable and work with versions via the Document Information tab.

To open, restore, delete, or view comments on a document version, simply select that version in the Versions Saved for dialog box, choose the appropriate action from the options available on the right, and respond appropriately to any subsequent prompts. Restoring a document does not delete it but, instead, makes it the current and active available document. You cannot restore or delete the currently open and active document. Use the Open button to view the contents of document versions prior to deleting or restoring them unless comments you have added to the version adequately describe that version.

Comments can be added to a document only when it is checked in. To check in a document you, naturally, need to have first checked it out. Checking out a document, as covered previously, provides a long-term lock on the file that prevents others from making changes to it while you want to work on it. The Check Out and alternate Check In links in the Document Information tab of the Shared Workspace pane are available only when you are working with a writeable copy of the file opened directly from the Shared Workspace.

Tip   Check the Status tab (the first tab of the Shared Workspace pane) to determine whether a document has been checked out and to whom it is checked out.

To check out a document, follow these steps:

1. Open the document from the Shared Workspace by clicking it.

2. If the document opens as a read-only file, select the Save button on the standard toolbar and select Save in the new Save As dialog box to overwrite the Workspace copy. This makes the currently open file writeable. This then makes Check Out and the alternate Check In available in the Document Information tab of the Shared Workspace task pane. If a Word document was opened from the Workspace in Reading Layout, for editing purposes, select the Close button on the standard Word toolbar to change to your preferred editing layout.

3. Select the Check Out link from the bottom of the Document Information pane (see Figure 17-13).

To check a document back in and add comments to it, select the Check In link from the bottom of the Document Information pane, add your comments in the new Check In Comments dialog box, and then select OK.

A checked-out document can also be checked in, and comments added, when the file is closed. When closing a checked-out document that is opened directly from a Shared Workspace, you are prompted to check in the file, keep the file checked out, or to discard changes and undo the check out. Respond accordingly to your requirements at that time.

Note To provide a lock on a copy of a document in a Shared Workspace while you work on a local copy of that file that is linked to the workspace copy, you need to visit the workspace using Internet Explorer and check out the document using the menu available to the right of that file. The file remains synchronized to the workspace copy, but only you can make changes that can be updated to the workspace copy. When you want to check the file back in, simply visit the workspace again and use the same menu to, this time, check the file in. Comments can then be added to the file version in the Check In Web page in Internet Explorer.

SharePoint as a Central Contacts and Calendar Server

Two of the useful features available with Windows SharePoint Services are the capability to act as a central server for calendars and contacts. You can maintain a central database of contacts and events that can be linked directly to Outlook and are accessible by anyone with access to the Contacts and Events folders on the SharePoint site. These features, although not as powerful as those available with Microsoft Exchange, provide an alternative to comparable Exchange features when that server is not available.

Linking a SharePoint Events folder (which is essentially a calendar) to Outlook is particularly useful when you want to compare events in the SharePoint calendar with another calendar in your Outlook profile.

Figure 17-14 shows a linked SharePoint calendar opened side by side with an Outlook calendar. Multiple SharePoint calendars can also be opened side by side for comparison.
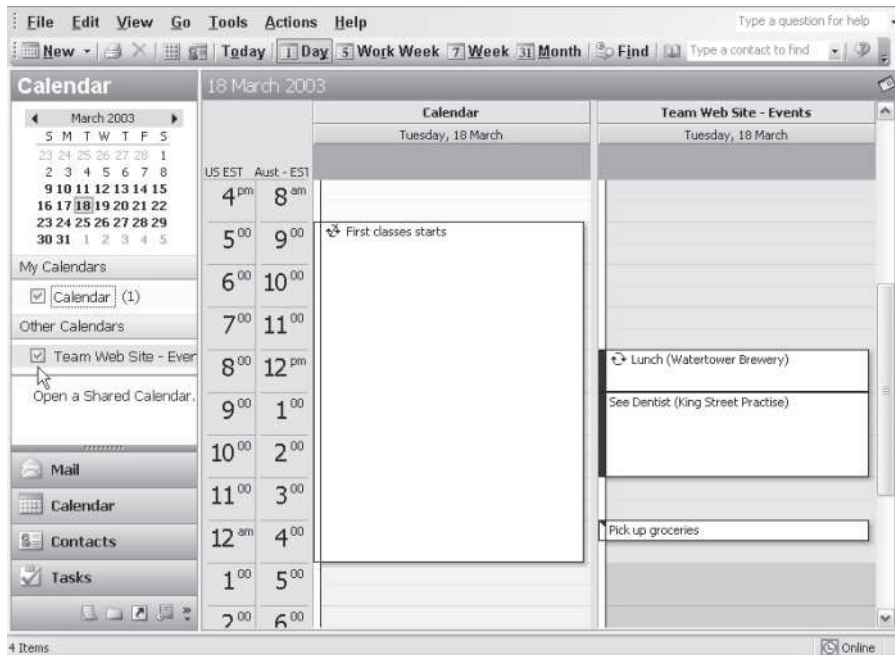
Figure 17-14: View a SharePoint calendar in Outlook

In Figure 17-14, my girlfriend has access to a SharePoint events folder and uses it to remind me of certain appointments I am "required" to do. You can use this feature for many imaginable scenarios. Perhaps you want to maintain a SharePoint calendar of company meetings and events and make that available to all employees from within Outlook.

SharePoint calendars are listed in the Other Calendars section of the Calendar view in the Outlook Navigation pane. Linked SharePoint calendars are cached for offline use in Outlook when the SharePoint server is inaccessible. To view a linked SharePoint calendar in Outlook, simply select its checkbox in Other Calendars. When connected to the SharePoint server, you can refresh the SharePoint calendar by deselecting and then selecting its entry in Other Calendars.

Linking a SharePoint Events folder to Outlook (regardless of where it is located on the SharePoint server), and therefore making its information available in Outlook, is as easy as opening that Events folder in Internet Explorer, selecting the Link To Outlook link in the top bar of that folder's view, and selecting Yes when you receive the prompt from Outlook to add it.

SharePoint calendars are opened in Outlook as read-only. You need to edit the SharePoint calendar and add events at the SharePoint site. You can, however, add events from the SharePoint calendar to your default Outlook from within Outlook. The reverse, unfortunately, doesn't apply.

To add an event from a SharePoint calendar opened in Outlook to your default Outlook calendar, open the calendars side by side and drag and drop the event from the SharePoint calendar to the Outlook one. You can drag and drop the event into any time slot you choose.

Tip You might need to compensate for differing time zones when adding events from the linked SharePoint calendar to one of your other available non-SharePoint calendars. Check with your SharePoint administrator to determine the time zone used on the SharePoint server.

To remove a linked Calendars folder from Other Calendars, right-click its entry in Other Calendars and select Remove from Other Calendars.

Making SharePoint contacts available to Outlook

The integration of SharePoint with Outlook also includes the capability to open a SharePoint Contacts folder as a read-only Contacts folder in Outlook and the capability to import Outlook contacts into a SharePoint Contacts folder. This is particularly useful when you want to maintain a shared, central global address list accessible from Outlook to all who have access to the SharePoint Contacts folder. You can add contacts from your Outlook address book to the SharePoint Contacts folder and make them available to all others with access to the SharePoint Contacts folder. SharePoint Contacts folders that are linked to Outlook can be made available in the Outlook address book and are also available to Outlook as an address list for checking purposes when Outlook sends e-mail. Linked SharePoint contacts are cached in Outlook so the information is available offline or when the server is not accessible.

SharePoint Contacts folders that are linked to Outlook are opened as read-only, and, therefore, you have to edit the SharePoint Contacts folder at the SharePoint server. You can drag and drop the contacts from the linked SharePoint Contacts folder to other non-SharePoint Outlook Contact folders.

To import Outlook contacts into a SharePoint Contacts folder, follow these steps:

1. Connect to the SharePoint site in Internet Explorer.

2. Locate and then open the Contacts folder by clicking its entry. In the case of the default SharePoint Contacts folder, the link to the folder is found in the Quick Links section of the main SharePoint Home Page.

3. Select the Import Contacts link in the top bar of the Contacts Web page to open the Select Users to Import dialog box. This dialog box is a representation of the Outlook address book.

4. In the Show Names From The drop-down menu of the Select Users to Import dialog box, select the address list you want to import from.

5. Select the entries you want to import from the main pane in the Select Users to Import dialog box (a modification of the Outlook address book) and press Add to add them to the list of contacts to be imported. Use Ctrl+Click to select multiple entries. Contiguous entries can be selected using Shift+Click. You can resize the

Select Users to Import dialog box to more easily locate contacts by dragging the bottom-right corner of that dialog box. You can also begin typing a contact's name in the Type Name or Select From List text boxes to assist in locating a contact.

6. Press OK to finalize the import and to add the selected contacts to the SharePoint Contacts folder.

Note   Outlook contacts with multiple e-mail addresses and fax numbers are listed in the Select Users to Import dialog box as separate entries (one entry for each e-mail address and one for each fax number). When these entries are imported into SharePoint and subsequently viewed as a linked Outlook contacts folder, each e-mail address and fax number is displayed as a separate contact.

To link a SharePoint Contacts folder to Outlook, simply select Link To Outlook in Step 3 and then select Yes when prompted by Outlook to add the link.

Contacts folders linked to Outlook are available in the Other Contacts section of the Contacts view in the Outlook navigation pane. Select the linked SharePoint Contacts folder from Other Contacts to view its entries. Contacts folders in other Contacts can be enabled or disabled as an Outlook address book via the Outlook Address Book tab in the Properties dialog box, which becomes available when you right-click on the entry in Other Contacts and select Properties. Other options in the right-click menu include the capability to remove the link from Other Contacts.

Conducting an Online Meeting with the Meeting Workspace

A Meeting Workspace is a special type of workspace designed specifically to centralize all the information needed to conduct a meeting. The Meeting Workspace can be used to publish the attendee list, agenda, and documents you plan to discuss prior to the meeting. After the meeting, you can use the workspace to track tasks and to publish information gathered during the meeting. You work with Meeting Workspaces using Internet Explorer in much the same way as you do with other SharePoint sites. The familiarity you have gained using SharePoint sites in the rest of this chapter can be easily extended a to Meeting Workspace.

Outlook includes the capability to create a Meeting Workspace and simultaneously invite attendees while checking on their availability to attend the meeting.

To create a schedule and invite attendees to a Meeting Workspace using Outlook, follow these steps:

1. Select Meeting request from the drop-down menu next to the New button in the standard Outlook toolbar.

2. In the To field of the Meeting Request form, enter the e-mail addresses of attendees separated by semicolons. You can use the To button to select attendees from Outlook address lists.

3. In the Subject text box of the Meeting Request form, enter a Subject for the meeting.

4. Complete the Start Time and End Time for the meeting. You can use the Scheduling tab in the Meeting request form to check the availability of attendees who have published Free/Busy times and to auto-pick a time for the meeting.

5. Add any notes about the meeting in the Notes area of the form, give the Meeting a label, set the Show Time As, and link to any Contacts and Categories as required.

6. In the Outlook Meeting request form, select the Meeting Workspace button to display the Meeting Workspace task pane. You can choose to use the workspace setting given in the Create a Workspace section of the Meeting Workspace task pane or customize the Meeting Workspace. If you choose to use the displayed settings, skip ahead to Step 11.

7. To customize the Meeting Workspace, select Change Settings in the Create a Workspace section of the Meeting Workspace task pane. This allows you to reformat the Meeting Workspace pane as shown in Figure 17-15.
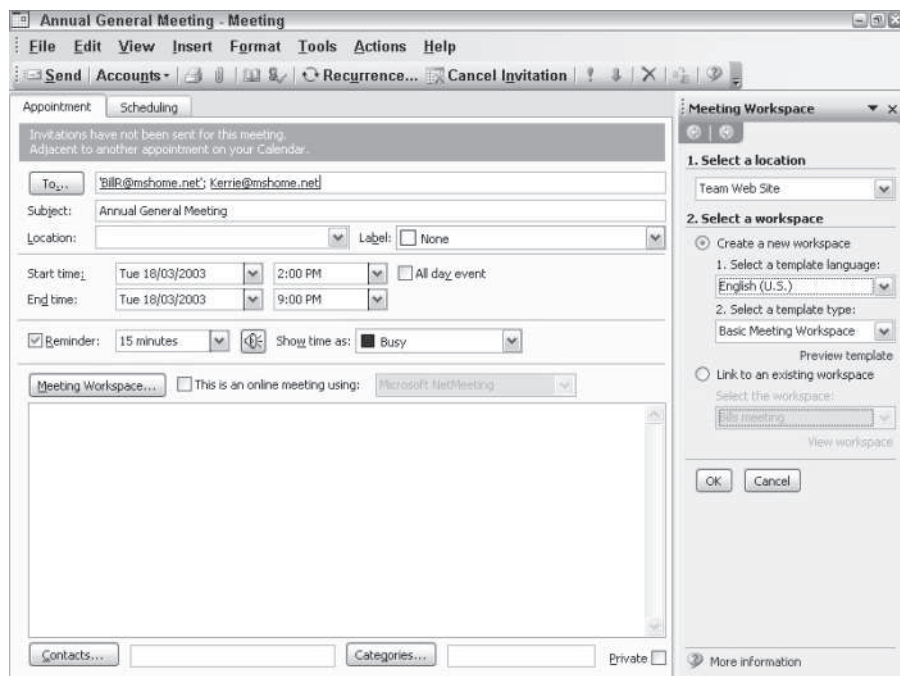
Figure 17-15: Create a custom Meeting Workspace and invite attendees using Outlook.

8. In section 1 of the Meeting Workspace pane, Select a Location, you can use the displayed server or select another server to host the Meeting Workspace. Use the adjacent drop-down menu to select another server. If the server you want to create the Meeting Workspace on is not listed, select Other from the drop-down menu and enter the location of the server in the new Other Workspace Server dialog box.

9. In section 2 of the Meeting Workspace pane, Select a Workspace, you can choose to create a new workspace or to link to an existing Meeting Workspace. To create a new workspace, select the Create a New Workspace button. You can choose a template language for a new workspace from the available templates using the Select a Template Language drop-down menu. You can choose a template type for a new workspace from the Select a Template Type drop-down menu. Available templates include Basic Meeting Workspace, Blank Meeting Workspace, Decision Meeting Workspace, Social Meeting Workspace, and Multipage Meeting Workspace.

10. Select OK to refresh the meeting Workspace pane with a similar view as seen in Step 6.

11. Select Create to create the new workspace. If you chose to link to an existing workspace, select Link. Outlook will either create a new workspace or link to an existing workspace depending on your choice in Step 9. The location of the meeting is automatically entered into the Notes field in the Outlook Meeting Request form. The Meeting Workspace task pane is updated to provide a link to the workspace for your own reference and a Remove button from which you can remove the workspace link.

12. If desired, select an account using the Accounts button in the standard toolbar of the Meeting Request form and then click the Send button in the standard toolbar of the Meeting Request form to send the Meeting Request to addressed attendees.

Recipients of the request receive the meeting invitation with a link to the meeting and can respond to it in the same way that they do to any other Outlook Meeting request.

After the invitation has been sent, the meeting is added to your default Outlook calendar with a designation of "M" for, of course, Meeting. The Tracking tab on the opened meeting allows you to track responses to your invitation. Use the hyperlink in the Notes section or in the Meeting Workspace task pane of the opened Meeting to customize and prepare the workspace for your meeting.

Summary

In this chapter, you learned how to access a Windows SharePoint Services site and about site permissions. You learned how to create lists using SharePoint and Excel, how to use the powerful Datasheet view to present data in an Excel-like view and perform Excel-like calculations, and how to dynamically link lists to Excel and Access. You learned how to create and use a Shared Workspace to collaborate on documents from within Office 2003, and how to add new workspace members and assign tasks using the Shared Workspace pane.

You learned how to view and use SharePoint contacts and events in Outlook, and how to create a Meeting Workspace with Outlook.

✦ SharePoint provides the powerful Datasheet list view that allows you to perform Excel-like calculations and dynamically link lists to Excel and Access.

✦ You can create and manage a Shared Workspace from within Word, Excel, and PowerPoint, allowing you to collaborate on documents with anyone who can access the workspace.

✦ SharePoint provides default Web pages and event, contacts, announcements, tasks, and shared document components that are highly flexible and customizable to suit your needs or personal preferences.

✦ SharePoint allows you to share central calendar and contacts databases with any user who can access the SharePoint site and to access and use those databases in Outlook.

✦ SharePoint site permissions can restrict user groups to have specific rights on the SharePoint server.

✦ You can send a meeting request with Outlook and simultaneously create a specialized Meeting Workspace to help facilitate the meeting.

✦ SharePoint provides a high level of security such that access to the server can be restricted. You might need to log on to the server to use it.

✦　　✦　　✦

Beyond Mastery: Initiative within Office

This part is comprised of chapters that are the special "extras" that many people know about, but might not be quite as familiar with as some of the other day-to-day functions. Now that you've read a sampling of the meat-and-potatoes functions in each application, and then how to more efficiently work with your coworkers and other applications, these chapters should enable you to take the initiative and go that next step.
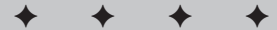
Getting Organized with Outlines and Master Documents

In this chapter, you learn how to use outlines to organize your thoughts and give focus to your ideas. In addition, you learn how the master document feature, which builds on Word's outlining techniques, makes it easy to apply consistent formatting to long documents by combining small documents into a large framework.

Using Outlines

The outline feature in Word is intertwined with the heading styles. When you create an outline, Word automatically assigns the appropriate heading style to each level of the outline. For example, a level one heading uses the Heading 1 style, and if you change the heading to level two, that heading automatically takes on the Heading 2 style. Conversely, assigning a standard heading style to text in Normal or Page Layout view automatically prepares the document for an outline. Therefore, if you use the standard heading styles as you create the document, you can also make an outline of the document simply by switching to Outline view (View⇨Outline).

Cross-Reference You can format heading styles just as you do any style in Word. For more on working with styles, see Wiley's *Word 2003 Bible*, Chapter 13.
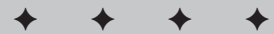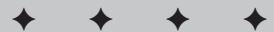
This marriage of outlines and styles provides considerable flexibility in approaching the outlining process. You can create an outline from scratch by turning on Outline view and then assigning levels to your headings and body text as you type. Alternatively, you can write your document in Normal or Page Layout view and then switch to Outline view to make it easier to arrange sections and to assign or reassign heading levels. Some people use Outline view only now and then, as a way to help them rearrange things in large documents — because you can control the amount of text that is visible on the screen in Outline view, you can move large chunks of text with minimal effort. Others write virtually everything in Outline view.

You can use outlines as a brainstorming aid: just type your thoughts without worrying where they fit into the overall picture. Then, after you have a basic outline in place, you can change the heading levels and rearrange entire sections of data. Creating an outline has other benefits as well. For example, you can use an outline to create a table of contents, to number headings, and even to build a master document.

Understanding Outline View

Whether you want to create an outline from scratch or work with an existing document in outline format, you must first turn on Outline view. Choose View⇨Outline, or click the Outline View button on the left side of the horizontal scroll bar. (Alternatively, you can press Alt+Ctrl+O to change to Outline view. To return to Normal view, press Alt+Ctrl+N; to return to Print Layout view, press Alt+Ctrl+P.) Figure 18-1 shows a document in Normal view. Figure 18-2 shows the same document in Outline view.

Figure 18-1: A document in Normal view. All headings are formatted using Word's built-in heading styles.
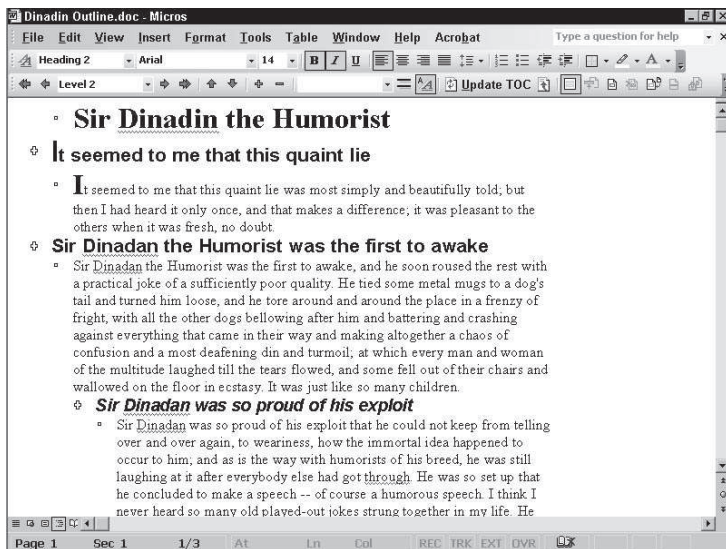
Figure 18-2: The same document shown in Figure 18-1 but in Outline view.

When you activate Outline view, the Outlining toolbar replaces the horizontal ruler — Outline view is not a page-layout view, so you don't need the ruler. In other words, you can't define exactly where on the page the text appears in this view. Rather, Outline view uses the page to show you different hierarchical levels, but indenting sub-levels to the right. The outline display has nothing to do with the document's formatting, so don't try to do any document formatting you can do in Normal or Print Layout view. In fact, the paragraph formatting features of Word aren't even accessible in Outline view.

> **Note**
>
> In some ways, Outline view is similar to the Document Map. There are two major differences, however. Document Map doesn't require that you use the Heading styles. It does its best to build an outline based on what it thinks are probably headings. And, of course, Document Map is a simple feature — it doesn't have all the tools associated with Outline view.

Each heading or text paragraph is indented to its respective level and preceded by a plus sign, a minus sign, or a box. The plus sign indicates that body text, headings, or both are below the heading. The minus sign indicates that body text or headings are not below the heading. The small box indicates a body text paragraph.

Creating outlines

To create an outline from scratch or to outline an existing document, switch to Outline view and then assign outline levels to your headings and paragraphs.

To create a new outline, follow these steps:

1. Switch to Outline view. Figure 18-3 shows the Outlining toolbar and identifies its buttons; Table 18-1 describes the buttons on the Outlining toolbar. Note, however, that the Outlining toolbar also displays Word's Master Document buttons, which are explained later in this chapter.

   Word assigns the Heading 1 style to the first paragraph where you have positioned the cursor. If you don't want the entry to be at the first level, promote or demote the heading using the techniques described in step 4 before proceeding to step 2.

Figure 18-3: The Outlining toolbar.

2. Type your first heading.

3. Press Enter when you finish with the first heading.

   Each time that you press Enter, Word begins a new paragraph at the same level as the previous heading.

4. To promote or demote a heading, do one of the following:

   • To demote a heading (move it to a lower level), click the Demote button on the Outlining toolbar or press Alt+Shift+right arrow until the heading is at the level that you want.

   • To promote a heading (move it to a higher level), click the Promote button on the Outlining toolbar or press Alt+Shift+left arrow as many times as necessary.

5. To change to body text, rather than merely a lower-level heading, click the Demote to Body Text button on the Outlining toolbar or press Ctrl+Shift+N. To change from body text back to a heading, press Ctrl+Shift+left arrow.

Note   The term *Body Text* is a little confusing here. The button should really be called *Normal Text.* Selecting Demote to Body Text converts the text to the Normal style, *not* the Body Text style present in the default Word template.

6. Continue entering text, promoting and demoting it through the levels as desired.

	Table 18-1 **Buttons on the Outlining Toolbar**	
Button	*Name*	*Action*
	Promote to Heading 1	Promotes a heading or body text to the Heading 1 level.
	Promote	Promotes a heading to the next higher level or body text to the level of the preceding heading.
Body text	Outline Level drop-down list box	Displays the outline level of the selected text. Select a level from the drop-down to change the text to that level.
	Demote	Demotes a heading to the next lower level or body text to a heading at a level below that of the preceding heading.
	Demote to Body Text	Demotes a heading to Normal text.
	Move Up	Moves the selected heading or body text up the page to above the previous heading or body text paragraph. Only visible paragraphs are taken into account, and moved headings and body text retain their current levels.
	Move Down	Moves the selected heading or body text down the page to below the next outline item. Only visible items are taken into account, and moved headings and body text retain their current levels.
	Expand	Expands the heading in which the insertion point is placed to show the level below it, showing the hidden text.
	Collapse	Collapses all of the headings and body text subordinate to the selected heading, hiding them.
Show All Levels	Show Level	Selects a level to view; all levels, starting from Level 1 down to the selected level will be shown. Lower levels will be hidden.
	Show First Line Only	Toggles between displaying the full text of each body text paragraph and displaying only the first line of each paragraph. (Multi-line headings are not affected; all lines of a heading are shown even if you turn on Show First Line Only.)

Continued

Button	Name	Action
	Show Formatting	Toggles between displaying and hiding character formatting.
🔄 **Update TOC**	Update TOC	Updates the Table of Contents, if you have one in the document.
	Go to TOC	Moves the display to the Table of Contents and selects it.
	Master Document View	This button, and all those to the right, are related to master documents, which we look at a little later in this chapter.

<div align="center">Table 18-1 (continued)</div>

To create an outline from existing text, switch to Outline view and promote or demote levels as desired using the toolbar. If you haven't used any of Word's nine built-in Heading styles, everything in the document will be shown as body text. As you promote text to a heading level, Word applies the appropriate style.

Note   Don't select text while promoting or demoting, simply place the insertion point in the paragraph. In some cases, if text is selected and you promote Word will apply the Heading style to the selected text, not change the outline level or change the paragraph style.

As you promote and demote headings, you can see the current level by looking at the Style box on the Formatting toolbar. In addition, if you want to view all of your styles at once, you can display the style area. Choose Tools⇨Options, click the View tab, and then enter a measurement in the Style Area Width box. When the style area is displayed, you can adjust its width by dragging the vertical line that divides the style area from your document text. You can also close the style area display by dragging the vertical line to the left until the style area disappears.

Rearranging your outline

As you create an outline, don't worry about getting the arrangement and levels exactly the way that you want them. The beauty of working with outlines is that you can enter your thoughts as they occur and later rearrange the text in a flash by moving sections up and down.

Selecting in Outline view

Before you rearrange an outline, you need to understand how selection works in Outline view. The following list describes selection techniques that apply specifically to outlines:

✦ When you click a plus icon, the heading and all of its subordinate levels are selected.

✦ When you click a box symbol, or a minus sign, only that paragraph of body text is selected.

✦ When you click in the selection bar to the left of a paragraph, only that paragraph is selected. Therefore, if you click in the selection bar next to a heading with a plus sign, only that heading (and not any of its subordinate levels) is selected.

✦ You can select multiple headings or paragraphs by dragging up or down the selection bar.

✦ You can use any standard Word technique for selecting text in an outline paragraph, but once a selection crosses to a new paragraph, both paragraphs are selected in their entirety. In other words, you cannot select only a portion of more than one paragraph in Outline view.

Tip   If your text moves when you try to select it, you may have accidentally dragged a plus or minus symbol instead of clicking it. In this situation, choose Edit⇨Undo and try again.

Promoting and demoting outline levels

To promote or demote a heading, place your insertion point anywhere in the heading and then use one of the following methods:

✦ **The Outlining toolbar.** Choose the Promote or Demote button to change the heading level. Choose the Demote to Body Text button to change any heading to body text.

✦ **Keystroke shortcuts.** Press Alt+Shift+left arrow to promote a heading to the next level, or press Alt+Shift+right arrow to demote a heading to the next level. For the first three heading levels, you can also press Alt+Ctrl+#, with # standing for the outline level to which you want the text assigned. For example, to change a heading to level two, press Alt+Ctrl+2.

✦ **The mouse.** Drag the plus symbol to the left or the right. When you place the mouse pointer over an outline icon, the pointer changes to a four-headed arrow, and as you drag, a vertical line appears at each heading level. Release the mouse button when you reach the desired level.

You can promote or demote multiple headings or body text paragraphs at the same time.

Tip   Here's a great trick for globally promoting or demoting outline headings. Suppose that you want to change all level two headings to level three headings. Simply use Word's Find and Replace feature. Choose Edit⇨Replace. Then, with your insertion point in the Find What text box, choose More⇨Format⇨Style and select the Heading 2 style from the Find What Style list box. In the Replace With text box, select the Heading 3 style from the Replace With Style list box. Finally, click Replace All. You can also use the Styles and Formatting task pane, using the Select All button.

When you use the Outlining toolbar buttons to promote or demote a heading, only the actual paragraph where your insertion point is located is moved. Unless you select an entire section by clicking the plus icon or by using any other selection method, subordinate levels aren't affected — with the following exceptions:

✦ Body text is always promoted or demoted along with its heading.

✦ Any outline elements that are collapsed under the heading are always moved along with that heading.

If a heading is collapsed, any structural changes that you make to that heading affect any subordinate headings or body text paragraphs. This makes it easy to move sections of a document. Simply collapse your outline to its highest level, and then promote, demote, and move the headings.

Moving outline headings

Before you move headings, decide whether you want to move only one particular heading or all of the subheadings and body text associated with that heading. If a heading is collapsed when you move it, any subordinate text moves with that heading. If the heading is expanded to show its subordinate levels, however, some movement techniques move only the specified heading. You can take advantage of this to move whole sections without going through the process of selecting text. With the outline collapsed, dragging any plus icon will move all of its associated text.

To move a heading without moving any of its associated subheadings or body text, use the Move Up or Move Down button on the Outlining toolbar or press the Alt+Shift keys in combination with an up- or a down-arrow key. Whenever you drag a plus icon, all of the text associated with that heading is moved.

When you place your mouse pointer on a plus icon, the pointer changes to a four-headed arrow. Then, as you drag up or down, a horizontal line with a right arrow is displayed. Release the mouse button when the line is positioned where you want the text to be located.

To move multiple headings, select the headings that you want to move. Then hold down the Shift key as you drag the last heading icon in your selection. Make sure that you don't drag any heading except the last one. Once you click any heading in a selection other than the last one, your selection is cleared and only the heading where your mouse pointer is at is selected.

Tip   Outline view is a handy way to rearrange table rows. When working in a table, you can move a row or selected rows to a new location by switching to Outline view and then dragging them.

Using keyboard shortcuts

When your fingers are already on the keyboard, pressing a keystroke combination is often easier than lifting your fingers off the keyboard to use the mouse. For example, if you're all set to type a body text entry, press Ctrl+ Shift+N rather than choosing the Demote to Body Text button. Table 18-2 lists some of the most useful keystroke shortcuts for working with outlines.

> **Note**
>
> Tab and Shift+Tab are two handy keystroke shortcuts in Outline view. With your insertion point in a heading, pressing the Tab key demotes that heading to the next level, and pressing Shift+Tab promotes that heading to the next level (or promotes body text to a heading). These keystrokes have this effect only in Outline view, however. To promote or demote a heading in Normal view, use the Alt+Shift+arrow key combinations. To insert an actual tab character in Outline view, press Ctrl+Tab.

Table 18-2
Keystroke Shortcuts in Outlines

To Do This	Use These Keys
Switch to Outline view	Alt+Ctrl+O
Switch to Normal view	Alt+Ctrl+N
Promote a heading or body text to the next level	Alt+Shift+left arrow (or press Tab)
Demote a heading to the next level	Alt+Shift+right arrow (or press Shift+Tab)
Promote or demote a heading to a specific level	Alt+Ctrl+1 through Alt+Ctrl+3. Note that keystrokes are assigned only for the first three levels.
Demote a heading to body text	Ctrl+Shift+N
Move a paragraph up	Alt+Shift+up arrow
Move a paragraph down	Alt+Shift+down arrow
Show all headings and body text, or show all headings without body text	Alt+Shift+A
Show only the first line of body text, or show all body text	Alt+Shift+L
Show or hide character formatting	/ on the numeric keypad
Expand selected headings	Alt+Shift++ on the numeric keypad
Collapse selected headings	Alt+Shift+- on the numeric keypad

Viewing both Outline and Normal view at once

One way to work effectively with outlines is to split the document screen into two panes. In one pane, you can display your document in Outline view, and in the other pane, you can display your document in Normal view. This way, you can take advantage of Outline view to rearrange your text while simultaneously viewing the result of your actions in the full document.

To split your document into two equal panes, double-click the split bar (at the top of the vertical scroll bar) or choose Window_Split. You can also simply drag the split bar to tailor the size of the panes. To restore the split window to its original condition, double-click the split bar or choose Window_Remove Split. Figure 18-4 shows an outline in split view.
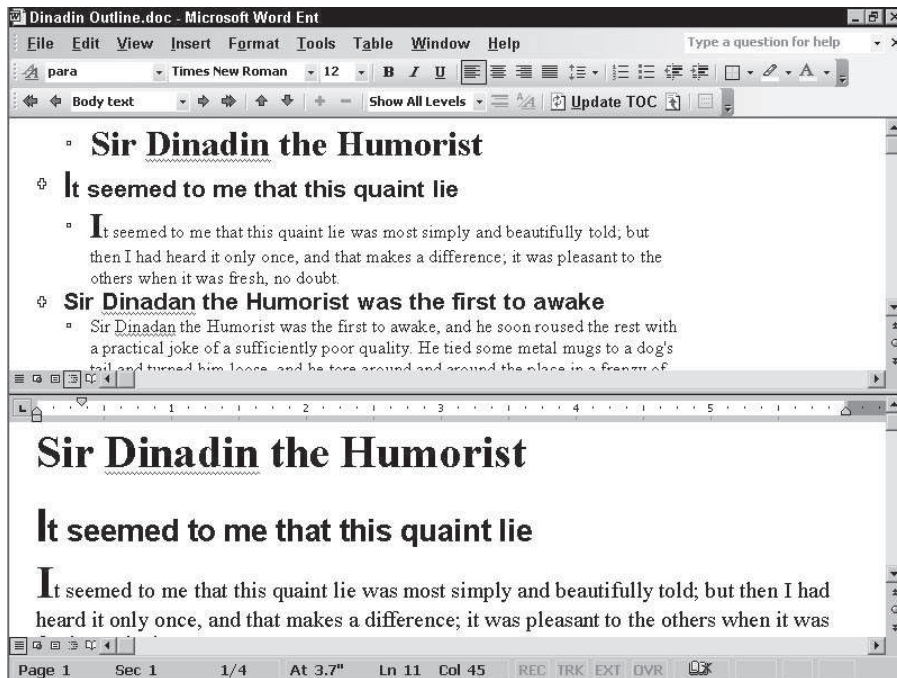
Figure 18-4: An outline split into two panes.

Printing an outline

When you print from Outline view, only the visible portion of your document is printed. For example, if your outline is collapsed to level one, only the Level 1 headings are printed. The Outline symbols don't appear on a document printout, though.

Before you print from Outline view, expand or collapse your outline to display what you want to print. To print your document as it should appear in its final form, switch to Normal or Print Layout view before you print.

Copying an outline

In Outline view, if you select and copy headings that include collapsed subordinate text, the collapsed text is also copied. Unfortunately, you cannot copy just the visible headings with Word. You can, however, quickly list those headings in a table of contents and then omit the page numbers. For more information about creating a table of contents using the Index and Tables command (Insert menu), see Chapter 12 of Wiley's *Word 2003 Bible*.

After you create a table of contents, click in it and press Ctrl+Shift+F9 to convert the table of contents to regular text. You can then copy the headings from the table of contents.

Understanding Master Documents

Suppose that you want to add all your data into one colossal document or take several existing documents and turn them into one larger document. If you do this, you may find yourself running into a couple problems:

✦ Word begins to function less efficiently when a document is too large. (What's too large? There's no hard-and-fast rule, it all depends on the speed of the computer you have, the amount of memory, the number of images in the document, the number of links to external content, and so on.) Certain tasks such as scrolling and searching can take longer to accomplish, and the possibility of a system error increases.

✦ Only one person can work on any given file at a time. Therefore, if everything is crammed into the same file, you lose the capability to have different people working on a project.

With the master-document feature in Word, however, you can consolidate several documents into a large framework. This provides the consistency and other advantages of working with one large document and also keeps the convenience of working with individual subdocuments. In addition to these advantages, the master document feature enables you to

✦ Cross-reference items among several documents.

✦ Use the Outline view tools to rearrange items spread among several documents.

✦ Create indexes, tables of contents, and lists that span several documents.

✦ Easily assign consistent page numbering, headers, and other formatting across multiple documents.

✦ Print multiple documents with one command.

A book is ideally suited to the master document feature. Each chapter can be a subdocument, and the elements common to the entire book can be contained in the master document itself.

> **Note**   In earlier versions of Word, the master-document feature has a reputation for being a little unstable. With today's faster computers, master documents may not be as necessary as before.

The Master Document view

Imagine an outline view that combines multiple documents. That's Master Document view. In effect it's an extension of Outline view, and uses the Outlining toolbar — the buttons on the right side of the bar that we haven't looked at yet.

What's the point? Imagine you have a very large document, perhaps hundreds of pages long, with lots of pictures. Such a document can get unwieldy — moving around can take a long time, Word can slow down, and so on. On the other hand, having everything in one document is rather nice — you can use Outline view to move things around, search the entire document to find things, create tables of contents and indexes spanning all the documents, and so on. The answer, the compromise, is the master document. Bring all the text into one document when you need it there, but work on small portions, in individual files, when you don't.

You can create a master document from scratch or combine existing documents into a master document. Turn on Master Document view by choosing View⇨Outline. The last eight buttons on the bar are master-document buttons, but the last seven are not always displayed. Click the Master Document View button to expand or contract the toolbar; the button also changes the document display, though until you've actually created a master document you won't notice any difference.

> **Note**   You might think of the master document as a sort of interactive index inside a normal document. A master document contains two things: normal document stuff — text and graphics, tables and text boxes, and so on — and links to other documents. Those links can be used to pull in the information from the documents to which the master documented is linked.

Figure 18-5 shows the Master Document buttons on the Outlining toolbar, and Table 18-3 identifies and describes those buttons.

Figure 18-5: The Master Document buttons.

	Table 18-3	
	Master Document Buttons on the Outlining Toolbar	
Button	*Name*	*Action*
	Master Document View	Switches between Master Document and Outline views, and expands and contracts the toolbar.
	Expand/Collapse Subdocument	Expands the master document, by pulling in data from the subdocuments, or collapses the document, by removing the information and displaying the links to the subdocuments.
	Create Subdocument	Turns selected headings and text into subdocuments, automatically saving a new document and creating a link from the master document to the subdocument.
	Remove Subdocument	Pulls the data from the subdocument into the master document and breaks the link to the subdocument — but it doesn't actually delete the subdocument file.
	Insert Subdocument	Enables you to create a link to use an existing file as a subdocument.
	Merge Subdocument	Combines multiple subdocuments into one subdocument.
	Split Subdocument	Divides one subdocument into two subdocuments.
	Lock Document	Toggles the entire document or selected subdocuments to a locked or an unlocked state. Note that this provides only cursory protection, however. Any user can unlock the subdocument simply by choosing the Lock Document button again.

Building a master document

There are three main methods of building a master document:

✦ Begin a new document in Master Document view. Create an outline for your master document, and then use those headings to break the outline into separate subdocuments.

✦ Break an existing document into subdocuments.

✦ Combine existing documents into a master document by inserting them as subdocuments. Any existing Word document can be treated as a subdocument.

Master documents, like outlines, use Word's built-in heading styles (Heading 1 through Heading 9).

Starting from scratch

To build a master document from scratch in Master Document view, follow these steps:

1. Open a new document.

2. Switch to Master Document view by choosing View⇨Outline; then click the Master Document View button on the Outlining toolbar.

3. Create an outline for your master document using any of the techniques covered previously in this chapter, typing headings to begin each subdocument. Before you create the outline, however, decide which heading level you want to use to begin each subdocument.

4. When you're ready to break portions of the document into subdocuments, select all of the headings and text that you want to convert. You can expedite this process by collapsing the outline to the heading level at which you want to begin your subdocuments before you make your selection.

Note   You cannot convert body text without a heading into a subdocument. The selected text must have at least one heading.

Word uses the level of the first heading in your selection to determine where each subdocument begins. For example, if your selection begins with a level two heading, Word begins a new subdocument at each level two heading in your selected text area.

5. Click the Create Subdocument button.

Each subdocument is enclosed in a box, and a subdocument icon is displayed in the upper-left corner of each box, as shown in Figure 18-6.

6. Save the master document.
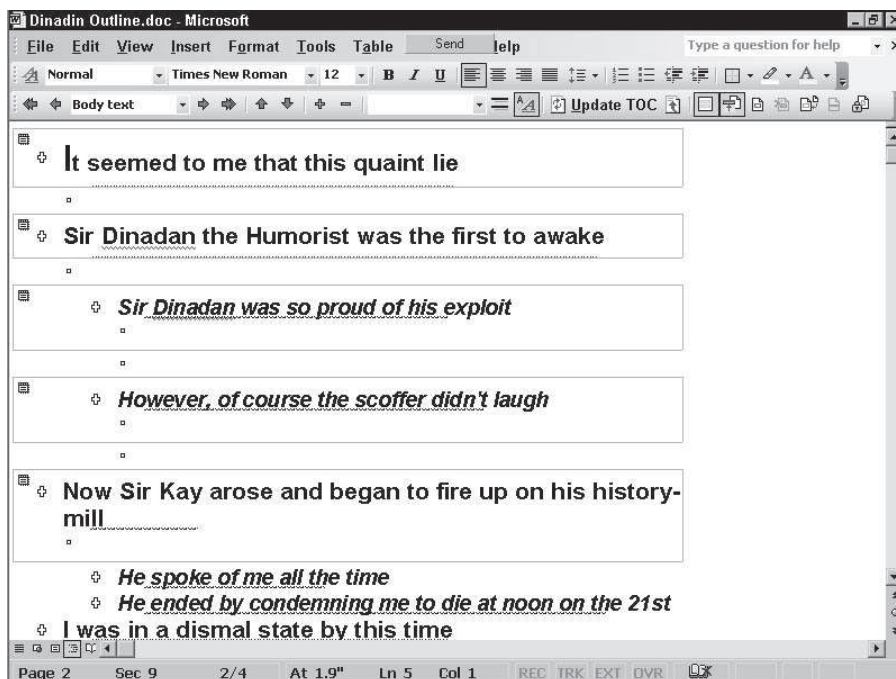
Figure 18-6: A master document divided into subdocuments.

When you save a master document, Word creates a new file, in the same directory as the master document, using a file name based on the first line of text in the file. Note also that Word adds a body text paragraph between each subdocument. This makes it easy to add additional text or subdocuments outside the existing subdocument boundaries.

Caution
Because Word automatically assigns subdocument file names, you can end up with strange results if your headings have similar names or if the file names assigned by Word would conflict with files already in the destination directory. As a simple demonstration, suppose that your directory contains a document called *Chapter 1.doc*. Now suppose that you create a subdocument in which the first heading is titled *Chapter 1*. When you save the master document, Word assigns the name *Chapter 2.doc* to your subdocument because *Chapter 1.doc* is already taken. When a naming conflict occurs, Word uses numbers to differentiate the file names. Therefore, your neatly numbered headings may not correspond with their subdocument file names. For this reason, you should check and, if necessary, rename subdocument file names before you close the master document. For instructions, see the "Renaming or moving a subdocument" section later in this chapter.

Converting an existing document

To convert an existing document to a master document, open the file and switch to Outline view. Set up all the headings and levels the way you want them.

Next, select the section that you want to split into subdocuments. Make sure, however, that the first selected heading is the level at which you want each subdocument to start. Click the Create Subdocument button, and save the master document. At that point Word creates the subdocuments, saving them in the same directory.

Inserting existing documents into a master document

You can create master document from a number of existing files. Open the document you want to become the master document — it could be a new blank document, or an existing document to which you want to add subdocuments.

Place the insertion point where you want to add a subdocument, and click the Insert Subdocument button. Find the file you want to insert in the Insert Subdocument dialog box, and click Open. That's it; the document link is dropped into the master document.

> **Note** When you open a subdocument from within its master document, the template and formatting assigned to the master document take precedence over any formatting originally assigned to the subdocument. If you open the subdocument separately, however, the subdocument reverts to its original formatting.

Working with master documents

After you build a master document, you have several options for working with it. In Outline view, you can treat the entire document as one large outline, and you can expand, collapse, promote, and demote sections at will. In Normal view, you can work with the document just as you would with any other document. You can cut and paste text or graphics between sections, add formatting, and perform any other document task. You can also open an individual subdocument and work on it separately by double-clicking the subdocument icon in the left margin.

> **Note** When you switch from Outline/Master view to any other view, even Reading view, you'll see the document in the condition it was in before you switched. That is, if you had collapsed the document, you'll see the links to the subdocuments. If you had expanded the document, you'll see all the text from the subdocuments, with a section break before and after each subdocument.

Be aware that Word inserts section breaks for each subdocument, because this may affect your formatting decisions. You can apply different formatting (including headers, footers, margins, paper size, page orientation, and page numbering) for different sections. You can see the section breaks in Normal view by clicking the Show/Hide button on the Standard toolbar.

> **Note**   Working with a master document in Normal or Print Layout view is just like working with any other document. You can apply formatting to the entire document or any part of it. In addition, because each subdocument is a section, you can apply or modify any section-level formatting, such as page numbering or margins. You can also insert new sections within the subdocuments for formatting purposes.

If you follow the next two rules, you won't have any problems formatting master documents:

✦ If you want the formatting (for example, page numbering) to apply to the entire document, apply that formatting in the master document rather than in a subdocument.

✦ If you want the formatting to apply only to one subdocument, place your insertion point inside the subdocument in which you want to apply the formatting (or open the subdocument) before you proceed.

Also, remember that if you insert an existing document as a subdocument, that subdocument retains its original section formatting — except where that formatting would be overridden by the master document's template or styles. If you want one header or footer to continue throughout the entire master document, make sure that your individual subdocuments don't contain their own headers or footers. To create different headers or footers for each subdocument, however, set them up in the individual subdocuments.

Working with the entire master document in Normal or Print Layout view makes it easy to move text and graphics among the subdocuments using Word's standard cut-and-paste techniques, including drag-and-drop. You can also navigate through a large document and use Word's Find and Replace feature to make global changes across several documents.

Working with subdocuments

In Master Document view, you can open any subdocument to work on it separately. This is especially useful if several people are working on a project, because different people can then open and edit several subdocuments simultaneously. You can also change the order of the subdocuments, combine subdocuments, nest subdocuments within other subdocuments, and even break a portion of a subdocument into a new subdocument.

Opening a subdocument

You can open an individual subdocument from within a master document by double-clicking its subdocument icon in Master Document view. If you make changes to the subdocument, however, save both the edited subdocument and the master document before closing the master document. In case someone else may need to work on another part of the master document while you're editing the subdocument, close the master document once you open the subdocument in which you want to work. As long as your subdocument has been previously saved with the master document, that subdocument retains its link to the master document even after you close the master document file.

You can also open a subdocument using the File⇨Open command, but with this method, certain changes may not be properly updated in the master document. To ensure that a subdocument's links are accurately updated in the master document, open subdocuments from the master document.

If you opened the subdocument from the master document, closing that subdocument returns you to the master document. If you opened the subdocument as a normal document or you opened it from the master document but then closed the master document with the subdocument still open, closing the subdocument is the same as closing any regular document.

Renaming or moving a subdocument

In order to rename a subdocument or move it to a different directory or drive, open the subdocument from the master document and use the File⇨Save As command. Then resave the master document.

Caution   If you move or rename a subdocument through Windows Explorer or use any method other than the one just described, the master document loses its link with the subdocument.

Removing subdocuments

To merge a subdocument into a master document, click the subdocument icon to select the subdocument and then choose the Remove Subdocument button. When you do this, the text remains in the master document but is no longer attached to the subdocument.

To remove the subdocument text entirely from the master document, click the subdocument icon and press Delete. The subdocument text — and the link to it — is then deleted from the master document.

Neither of these actions deletes the subdocument file from the disk. They only break the subdocument's attachment to the master document. To delete the subdocument file from the disk, you must do so from outside, using Windows Explorer or another standard file-deletion method.

Caution   Don't delete a subdocument from the disk without first deleting it from the master document. If you delete the subdocument file first, you get an error message the next time you open the master document. Be very careful when working with master documents that are entirely on, or have components on, removable disks. Don't remove the disk until you've closed Word completely. Simply closing the master document may not be enough in some cases, and removing the disk can damage the files.

Rearranging the order of subdocuments

Master Document view makes reorganizing your subdocuments a snap. You can also reorganize subdocuments by selecting and moving text in Normal view, but reorganizing subdocuments in Master Document view is a simple matter of dragging the subdocument icon.

You can also move a subdocument by positioning your insertion point anywhere in the subdocument. Then hold down the Alt+Shift keys as you press an up- or a down-arrow key.

If you move a subdocument inside the boundaries of another subdocument, the subdocument that you move becomes part of the destination subdocument. If you want a subdocument to retain its integrity as a separate subdocument, move it to a location outside any other subdocument's boundaries.

Splitting subdocuments

A subdocument may become too large to work with effectively. Alternatively, you may want more than one person to work on different portions of the subdocument simultaneously.

To split a subdocument into two separate subdocuments, follow these steps:

1. Open the master document, and switch to Master Document view.

2. Select the entire heading or body text paragraph that will begin the new subdocument.

3. Click the Split Subdocument button on the Outlining toolbar. The subdocument then splits just above the selected paragraph.

Merging subdocuments

You can also combine several small files into one subdocument. You may want to do some editing afterward, however.

To merge multiple subdocuments into one subdocument, make sure that the subdocuments you're going to merge are adjacent; then select them and click the Merge Subdocument button on the Outlining toolbar. When you save the master document, Word assigns the file name of the first document in your selection to the merged subdocument.

Sharing subdocuments

Word uses the Author information in Summary Info to determine the owner of each subdocument. If you're the owner, you have full rights to open and edit the document. If you didn't create the document, however, the document is locked, and a small padlock icon appears just under the subdocument icon. Figure 18-7 shows a master document in Master Document view with one subdocument locked.
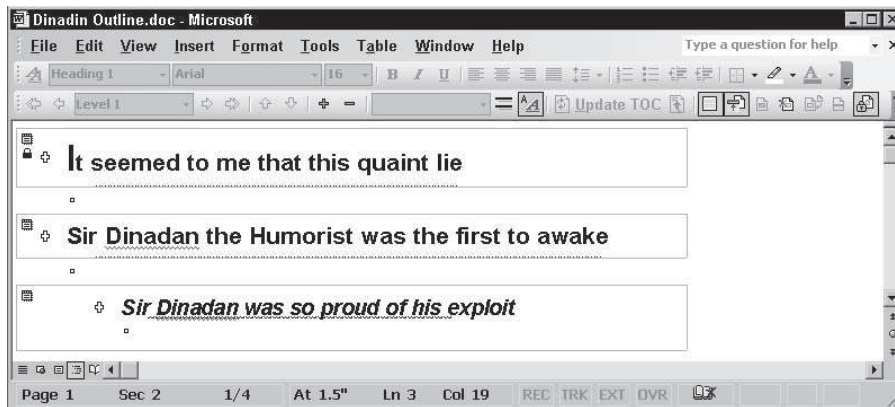
Figure 18-7: The first subdocument on this screen has been locked using the Lock Document button. Note the padlock under the subdocument icon.

To lock or unlock a subdocument, select the subdocument and click the Lock Document button on the Outlining toolbar. Remember, though, that Document option doesn't provide real protection. Anyone can unlock the document simply by clicking the Lock Document button. If you need a higher level of protection, add a password.

Summary

With the outline feature in Word, you can organize your thoughts into headers and then rearrange them as needed. With the Master Document feature, you can create large documents by combining subdocuments, which provides you the best of both worlds: the capability to work with all the files at once without forcing you to deal with one huge file. In this chapter, you learned how to

✦ Create and work with outlines using the Outlining toolbar, which appears when you choose View⇨Outline or click the Outline View button on the horizontal scroll bar. The outline feature is essential for helping you to organize your thoughts in a document using headings.

✦ Create and work with master documents by clicking the Master Document View button on the Outlining toolbar. With the Master Document feature, you can work efficiently with large documents by organizing them into subdocuments.

✦   ✦   ✦

Processing Outlook Messages Automatically

You are probably inundated with e-mail messages each day. The flood of e-mail only continues to get worse, even though many states are finally starting to take action to try to stem the flood from spammers. Even solicited mail can become a burden unless you know how to process it automatically, moving it to specific folders or handling it in other ways when it arrives.

Note The term *spam* refers to unsolicited and unwanted e-mail. A *spammer* is a person or entity that sends out spam.

Outlook provides an excellent set of features that enable you to process messages automatically, both when they arrive in your Inbox and when you send messages out. You can use these rules to move messages to specific folders, generate automatic responses, filter out unwanted messages, and much more. In this chapter you will learn how to put Outlook's rules to work for you, how to back them up and restore them if needed, and how to use the Out of Office Assistant to manage your messages in your Exchange Server mailbox when you are out.

Securing Against HTML Content

Junk mail — or *spam*, as it is generally called — can be a major headache for anyone who has an e-mail account. Although most spam includes instructions on how to unsubscribe to the list that generated it, unsubscribing often yields questionable results. Some
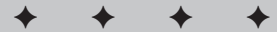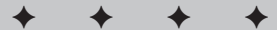
spammers simply ignore your requests, while others use the request to validate your e-mail address so they can continue sending to you. However, others have gone to a more indirect but more effective method, explained next.

Blocking external HTML content

Many spammers are now using more advanced methods to validate addresses, such as sending HTML-based messages that contain embedded external links. When you open the message, your e-mail application attempts to retrieve the external content, and server-side software then identifies your e-mail address as valid. These embedded URLs are often called *Web beacons*.

Outlook 2003 helps reduce spam by blocking external content in HTML messages. This is the default configuration, but if needed, you can configure Outlook to allow external content:

1. In Outlook, choose Tools ⇨ Options and then click the Security tab.

2. Click Settings in the Junk E-mail Prevention group to open the External Content Settings dialog box (Figure 19-1).
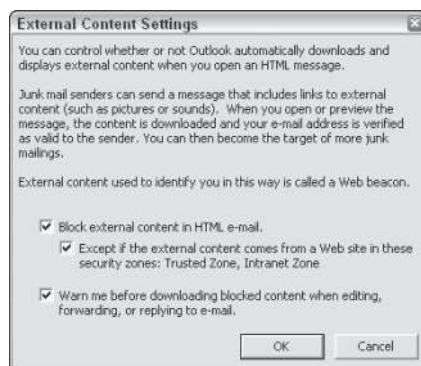
Figure 19-1: The External Content Settings dialog box.

3. Choose options based on the following list:

Block external content in HTML e-mail. Select this option to block Web beacons; clear the option to allow Outlook to retrieve external content.

Except if the external content comes from a Web site in these security zones: Trusted Zone, Intranet Zone. Allow Outlook to retrieve external cntent only if the target site is listed in the Trusted Zone or Intranet Zone. You define the sites that belong in this zone through Internet Explorer's security settings.

Warn me before downloading blocked content when editing, forwarding, or replying to e-mail. Have Outlook prompt you that a message contains external content when you edit, forward, or reply to the message.

Configuring security zones

Outlook uses the security zones you define in Internet Explorer to decide not only how to handle messages with external content, but also how to handle messages that contain scripts. By default, Outlook uses the Restricted Sites zone for handling messages. The default settings for this zone prevents HTML messages from accomplishing potentially dangerous or harmful tasks such as running scripts, downloading unsigned ActiveX controls, and scripting Java applets. Regardless of the zone you select, however, Outlook always deactivates ActiveX controls and does not run scripts. Even so, there might be other settings that you want to configure for the security zone. Keep in mind that changing the settings affects Internet Explorer as well as Outlook.

Tip Outlook does not take into account any domains you might add to a particular zone. It uses the settings for the zone, but ignores the domains. For example, if you add sites to the Trusted Sites zone but configure Outlook to use the Restricted Sites zone, it will use the settings defined for the Restricted Sites zone even if you receive a message from a domain in the Trusted Sites zone.

To change zone settings, in Outlook choose Tools ⇨ Options and then click the Security tab. Choose from the Zone drop-down list the zone you want Outlook to use for processing HTML-based messages. Click the Zones Settings button if you want to change zone settings, click OK at the warning message, and configure settings in the resulting Security dialog box (Figure 19-2).
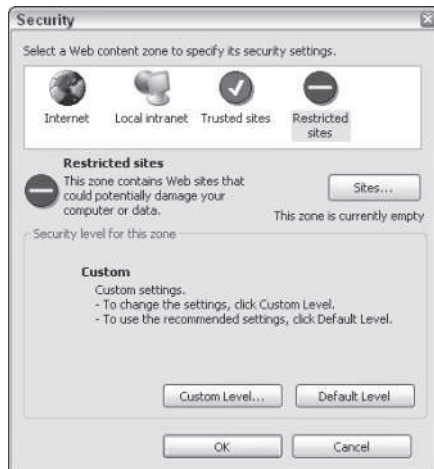
Figure 19-2: The Security dialog box.

Select one of the four zones and click Custom Level to open the Security Settings dialog box. Configure settings as needed and then click OK. Change other zones as needed, click OK on the Security dialog box to close it, and return to Outlook.

| Note | The default settings for Outlook generally provide good protection against unwanted content and malicious code. For that reason, you should modify the security settings only if you have a very specific reason to do so. For that reason, and because these settings are more applicable to Internet Explorer than to Outlook, this chapter doesn't cover zone settings in detail. |

Using Rules

Rules are sets of instructions that you create to tell Outlook how to handle certain types of messages. Rules are sometimes called filters, and they are often used to screen out unwanted messages. You can set up your own rules to give special handling to important messages and to send junk mail directly to the Deleted Items folder without it ever appearing in your Inbox.

You can set up rules for handling both incoming and outgoing e-mail messages. Most of the time, you'll only concern yourself with incoming messages. Still, it's nice to know that you can automate both if necessary, and there are some important uses for outgoing rules. For example, you might want to keep a copy of outgoing messages to certain people in a folder other than Sent Items to make these messages easier to locate. For example, you could create a folder for several of your most important clients, and store sent messages for those people in their respective folders.

Although it's really quite easy to set up rules, Outlook has a few rules that have been set up and are ready to use immediately. In the following sections, you learn first about setting up rules of your own and then about how you can use the junk e-mail lists that are built into Outlook.

Using the Rules Wizard

Outlook provides a Rules Wizard to help you set up your own rules for handling e-mail messages. This Rules Wizard steps you through the entire process so that creating or modifying rules is really simple and straightforward.

Creating a rule

To use the Rules Wizard to set up an e-mail message-handling rule, follow these steps:

1. Select Tools ⇨ Rules and Alerts. This will display the Rules and Alerts dialog box (Figure 19-3).
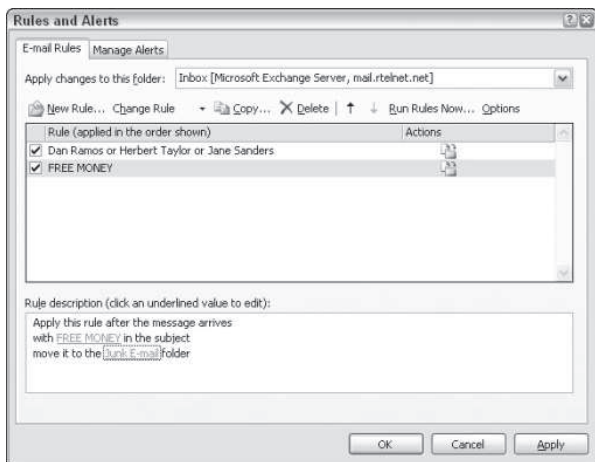
Figure 19-3: The Rules and Alerts dialog box.

2. Click the New Rule button to start the Rules Wizard, and begin creating a new rule. You can start from a blank rule or use one of several rule templates to create the rule, as explained in the next step.

3. Select a rule template from the Step 1 box, as shown in Figure 19-4. As you select different types of rules, the Step 2 box provides a brief description of the rule. If you choose the option Start from a Blank Rule, you can instead choose Check Messages When They Arrive or Check Messages After Sending to create a rule that processes messages either when they arrive or when you send them, respectively.
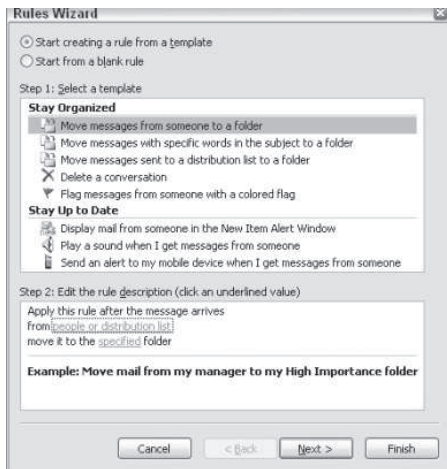
Figure 19-4: Use the Rules Wizard to create and modify Outlook message rules.

> **Tip** Choosing a rule template simply predefines certain rule properties. You can then modify these properties to customize the rule as needed. If you choose to start from a blank rule, you must manually select all rule properties. The general process is the same regardless of which method you choose.

4. Click Next to continue.

5. Scroll through the Which condition(s) do you want to check? list box, and choose the items that you want to apply to this rule. You can specify multiple conditions.

   Keep in mind that all the conditions that you choose must be met before the rule will be applied. If you were to choose both the where my name is in the To box and the where my name is in the Cc box conditions, for example, the rule would apply only if your name were in both the To and the Cc boxes. The more conditions you specify, the less likely it is that any message will meet the full set of conditions. It's generally better to set as few conditions as possible — you can always go back later and add additional conditions if you discover that the rule is too broad.

6. After you have applied all the necessary conditions to the rule, click each of the underlined items in the Rule description list box in turn. This will enable you to edit the item, as shown in Figure 19-5.
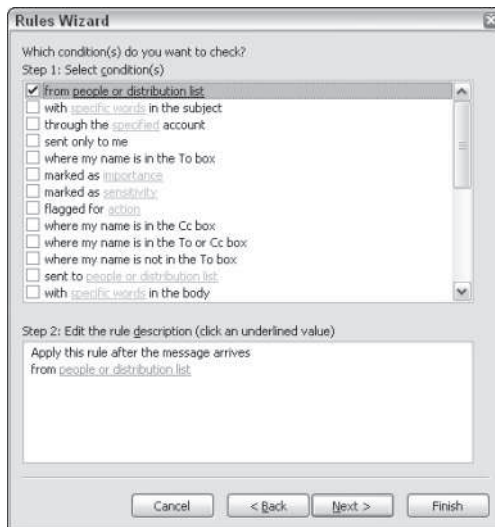
Figure 19-5: Click the underlined values to replace each with specific condition criteria.

7. The choices you must make will vary depending on the type of value you are editing. When you have selected all the items for the selected value, click OK to continue.

8. If there are additional underlined items, click each in turn and choose the values. When you have completed your selections, the Rules Wizard dialog box should look something like Figure 19-6, with no remaining underlined items that need to be specified.
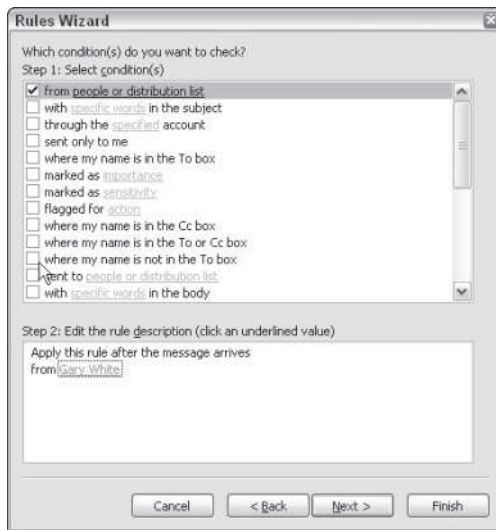
Figure 19-6: Make certain that you have specified the values for all underlined items before continuing.

9. Click the Next button to continue.

10. Choose any additional actions for this rule from the What do you want to do with the message? list box, as shown in Figure 19-7.
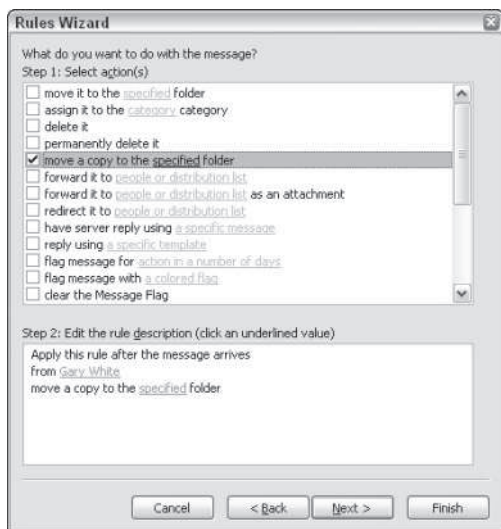
Figure 19-7: Add any additional actions for the rule.

11. Notice that specifying additional actions generally adds additional underlined items to the Rule description list box. Click the new underlined items to edit them as you did for the rule conditions. Click OK when you are done specifying the actions.

12. Click the Next button in the wizard to continue.

13. If necessary, select any exceptions to the rule using the options in the Are There Any Exceptions list box. If you add exceptions, you may need to edit additional underlined items that appear in the rule description list box.

14. Click the Next button to continue.

15. Enter a descriptive name in the Specify a name for this rule text box (Figure 19-8). The name you enter should clearly identify the rule — especially if you plan to specify a number of rules in the future.
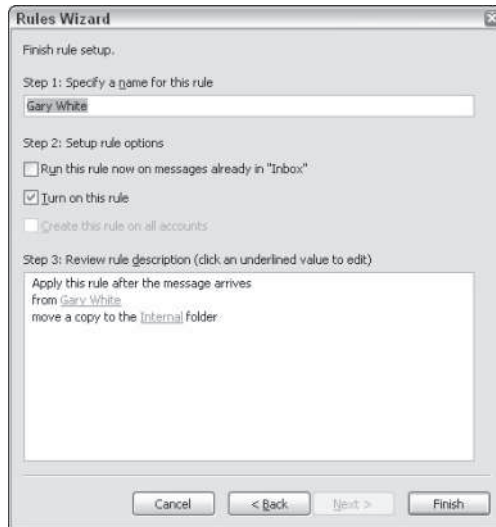
Figure 19-8: Set final options for the rule.

16. If you want to apply the new rule to existing messages, select the Run this rule now on messages already in "Inbox" check box. Selecting this option is a good way to check the operation of your new rule.

17. Make certain the Turn on this rule check box is selected. You can deselect this checkbox if you don't want the rule to apply immediately, but you'll have to remember to apply the rule later.

18. Select the option Create this rule on all accounts option if you want to apply the rule to all of your e-mail accounts. This option is available only if you have multiple accounts.

19. Click the Finish button to complete the creation of your new rule.

20. Click OK to close the Rules Wizard dialog box.

Controlling rule processing order

If you set up a number of rules for handling your messages, you may discover that some of those rules conflict with each other. As an example, consider what would happen if you set up a rule that displayed a special message telling you that an important message had arrived whenever someone marked their message as important. In addition, suppose you decided that you wanted to forward all incoming messages from a particular person to an assistant without reading them yourself. If the sender marked all messages as important, which rule

would apply? The answer is simple — Outlook applies rules starting at the top of the list of rules as they appear in the Rules Wizard dialog box. To change the order in which the rules are applied, you can use the Move Up and Move Down buttons in the Rules and Alerts dialog box.

Keep in mind that more than one rule can apply to the same message. If the rule notifying you of important messages appears before the rule forwarding the message, both rules would likely be triggered by messages sent by that person. If you move the forwarding rule up above the important message notification rule, then the message would be forwarded before the important message notification rule could be applied.

Running rules manually

In most cases, your rules will fire automatically when messages arrive or depart. In a few cases, however, you might need to run rules manually, such as when you create a new rule and want to apply it to messages already in the Inbox. The Rules and Alerts dialog box enables you to do just that.

1. Create the rule as explained in the previous section.

2. In the Rules and Alerts dialog box (Figure 19-9), click Run Rules Now to display the Run Rules Now dialog box.
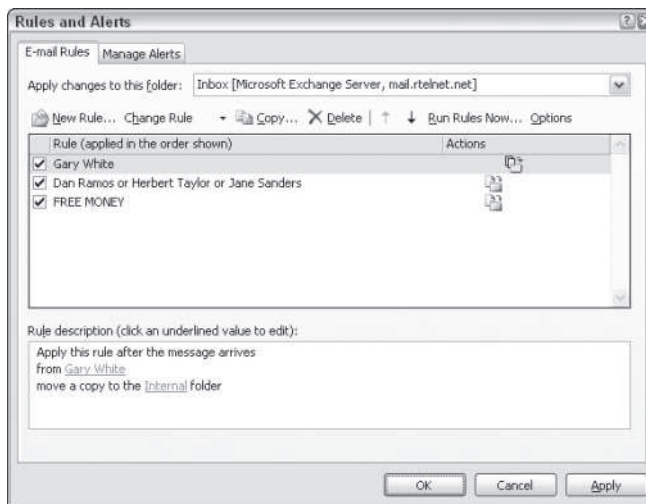
Figure 19-9: The Rules and Alerts dialog box.

3. Place a check by each rule you want to run; then click Browse to select the folder in which to run the rules.

4. Choose the Include Subfolders option if you want to run the rules on subfolders of the specified folder.

5. Select from the Apply Rules To drop-down list the types of messages to which you want to apply the rules.

6. Click Run Now to run the rules on the specified folders and messages.

7. Click Close when finished.

Modifying and copying rules

It's likely that you will at some point need to change a rule to fine-tune its behavior or adjust to changes in the way you receive or send messages. You can easily modify any custom rule through the Rules and Alerts dialog box. Simply select the rule and then click Change Rule to display a menu of actions you can assign to the rule. Choose Edit All Rule Settings if you want to make step-by-step changes to a rule.

The Rules and Alerts dialog box also enables you to copy rules between locations. For example, you might have two mail servers, each of which enables you to define rules. When you create a rule, it is assigned to a particular location. To copy it to another, open the Rules and Alerts dialog box, select the rule, and click Copy in the toolbar to open a simple dialog box in which you select the target server from a drop-down list. Select the server and then click OK.

Responding automatically to messages

One reason to use rules is to process messages when they arrive, deleting or moving them as needed; however, one very useful purpose for rules is to create automatic replies, or *auto-responders*, for incoming messages that fit certain conditions. For example, perhaps you have a product for which you want to provide information to your clients. You can create a message that contains information about the product and then send that message any time someone sends a message requesting the information.

You can use a couple of methods to generate the reply. You can set up a special e-mail address in your mail server that points to your mailbox, and when you receive a message for that address, have Outlook send the appropriate reply. For example, the person might send a message to `productinfo@yourdomain.tld`. A rule you define in Outlook checks the messages as they come in; when it finds one addressed to that address, it replies with the information.

Another method is to have people send their message with certain identifying text in the subject. For example, any messages with "Product Info" in the subject field of the incoming message could trigger the rule.

Setting up an automatic response is fairly easy:

1. Open Outlook and start a new message.

2. Enter the Subject field, but leave the address fields blank.

3. Add the desired information in the body of the message and then choose File ⇨ Save As.

4. Choose Outlook Template from the Save As Type dialog box.

5. In the Save As dialog box, enter a name for the message, such as Product Info. Choose the path for the file and then click Save. Close the message form.

Tip   You can place the message anywhere you want, but using the default location will help you quickly locate the message in the future if you need to edit it.

6. Choose Tools ⇨ Rules and Alerts.

7. Click New Rule to start the Rules Wizard, choose Start from a Blank Rule, and click Next.

8. Set the condition you want to match (such as With Specific Words in the Subject or Body), specify the words or other criteria in the bottom pane of the dialog box, and click Next.

9. Select the action Reply Using a Specific Template, click the underlined A Specific Template link, and select the Outlook template created in step 5. Click Open.

10. Click Next, set exceptions as needed, and click Finish.

11. Click OK to close the Rules and Alerts dialog box.

Which condition or method you use to identify incoming messages depends in part on your mail server. If you set up an account specifically for the auto-responder, you can use a condition that identifies the message by its account or address. If you can't create a separate account, the best option is to use the Subject field as the condition trigger.

Note   Unless you are using Exchange Server, which supports server-side rules that can continue to function even when Outlook is not running, you must leave Outlook running to process incoming messages. You must also configure Outlook to process messages automatically and set the scheduled time for send/receive.

Importing, exporting, and backing up rules

Outlook 2003, similar to Outlook 2002, stores rules in the PST if you use a PST as your message store, or stores them in your Exchange Server mailbox. If you have created several rules, it's a good idea to back them up so you don't have to recreate them from scratch if something happens to your mail store. What's more, you can move rules from one computer to another, such as when you get a new computer or you want to share your rules with someone else.

Back up rules to a file

You simply export your rules to a file whenever you want to back them up or copy them to another computer:

1. In Outlook, choose Tools ⇨ Rules and Alerts.

2. Click Options in the Rules and Alerts dialog box to open the Options dialog box shown in Figure 19-10.
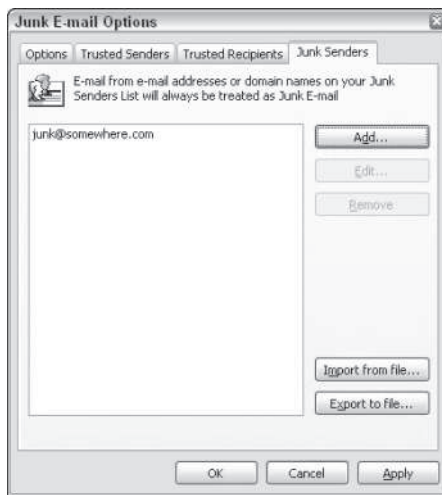
Figure 19-10: The Options dialog box

3. Click Export Rules to open the Save Exported Rules As dialog box.

4. Enter a file name, choose a path for the file, and click Save. Outlook saves the file with a RWZ file extension.

Import rules from a file

When you need to import rules from another computer or another profile, you can do so easily. After you export the rules to a file as explained in the previous section, follow these steps to import the rules:

1. In Outlook, choose Tools ⇨ Rules and Alerts.

2. Click the Options button to open the Options dialog box.

3. Click Import Rules, locate and select the rule file, and click Open.

4. Click OK to close the Options dialog box, and verify that the rules now appear in the Rules and Alerts dialog box; then click OK to close the Rules and Alerts dialog box.

Filtering junk and adult content mail

Because junk e-mail is such a common problem, Outlook already has rules in place to handle junk mail. These rules are already in place, but you might need to adjust them to suit your needs.

Outlook actually defines two classes of junk e-mail messages — junk messages and adult content messages. In both cases, those classes of messages are defined by keywords that Outlook looks for in the messages.

Because no simple keyword search can be 100% effective, Outlook can also maintain lists of people who send junk or adult content e-mail messages. By adding someone to one of these lists, you are telling Outlook to apply the junk or adult content e-mail message rules to all messages that you receive from that person — whether those messages include the keywords or not.

To modify the junk mail settings, follow these steps:

1. Select Tools ➪ Options, and click the Preferences tab.

2. Click Junk E-mail to open the Junk E-mail Options dialog box.

3. Select one of the four options to set the level of protection. Each option is explained on the dialog box.

4. Click the Safe Senders tab and select the option Also trust e-mail from my Contacts if you want Outlook to accept e-mail from senders in your Contacts folder regardless of the message content, subject, or other message properties.

5. Click Add and enter the e-mail address of a sender whose messages you don't want Outlook to treat as junk mail. You do not need to add the address if the contact is already in your Contacts folder and you enabled the option in step 4 to allow messages from your contacts.

6. Click OK.

Tip   To add someone to the junk or adult content e-mail message lists, select a message from that person and then choose Actions ➪ Junk E-mail ➪ Add Sender To Blocked Senders List. You can also add addresses to this list from the Blocked Senders tab of the Junk E-mail Options dialog box.

After you have specifically added someone to the junk e-mail message lists, all messages they send to you will be handled according to the rules you have specified. To remove someone from the list, follow these steps:

1. Choose Tools ➪ Options and click Junk E-Mail on the Preferences tab.

2. Click the Blocked Senders tab.

3. Click the address and click Remove.

4. Click OK.

All messages from someone that you add to the junk or adult content e-mail message lists will be treated the same regardless of their content. If someone only occasionally sends you offensive or unwanted messages, you may find that it is more effective to use the Rules Wizard to create a special filter that applies to messages from that person.

Using the Out of Office Assistant

Exchange Server users have one additional means for automatically processing messages: the Out of Office Assistant. This handy tool helps you automatically responds to messages when you are out of the office. For example, you might want to have each sender receive a reply similar to the following when they send you a message:

Thanks for your message. I am out of the office until Monday of next week. I will respond to your message when I return.

The main reason to use the Out of Office Assistant rather than create a rule in the Rules Wizard is that the Assistant keeps track of the senders to which it has already sent an out-of-office reply. That means that senders only receive one copy of the automatic reply, rather than a reply for each message they send you. You can't accomplish this through the Rules Wizard.

Setting up the Out of Office Assistant isn't difficult. Follow these steps:

1. In Outlook, choose Tools ⇨ Out of Office Assistant to open the Out of Office Assistant dialog box (Figure 19-11).
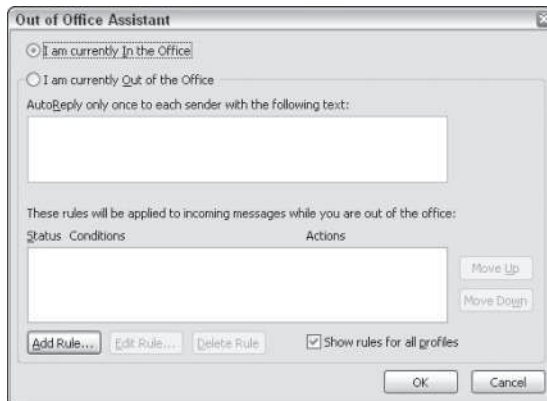
Figure 19-11: The Out of Office Assistant dialog box

2. Click in the field AutoReply only once to each sender with the following text: then type the text you want sent automatically when you are out of the office.

3. When you are satisfied with the reply text and ready to turn on the assistant, choose I am currently Out of the Office, and click OK.

The Out of Office Assistant is a server-side mechanism that continues to fire even when Outlook is not running; therefore, you can close Outlook, shut down your computer, and the Exchange Server will still generate automatic replies to incoming messages. When you get back in the office and are ready to turn off the Out of Office Assistant, open Outlook, choose Tools ⇨ Out of Office Assistant, select I am currently In the Office, and click OK.

Tip   Turning off the Out of Office Assistant clears the sent list that Exchange Server maintains to keep track of the people to whom it has sent out-of-office replies.

When you define the general reply and turn on the assistant without taking any other action, Exchange Server sends the out-of-office reply to all senders alike, but only the first time they send a message. You can create custom rules to provide additional processing, if needed. For example, you might want all messages from a particular sender or group of people to be forwarded to your assistant for handling, or to an external e-mail account to enable you to process it yourself.

Follow these steps to create custom Out-of-Office Assistant rules:

1. Choose Tools ⇨ Out of Office Assistant.

2. In the Out of Office Assistant dialog box, click Add Rule to open the Edit Rule dialog box shown in Figure 19-12.
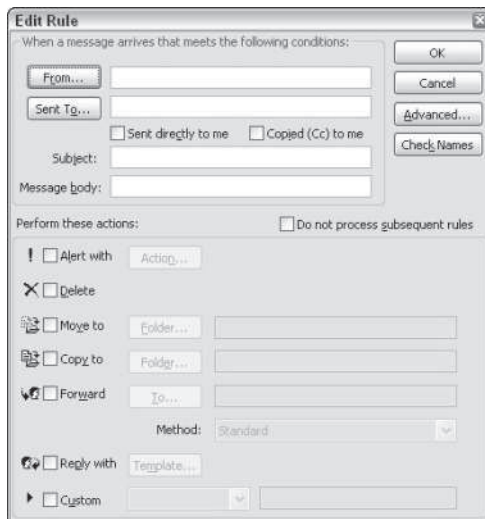
Figure 19-12: The Edit Rule dialog box

3. Use the condition controls to specify the condition that identifies the message, just as you do for rules created with the Rules Wizard.

4. Use the controls under the Perform these actions group to specify what you want Exchange Server to do with the items.

5. Click OK to save the rule. Outlook automatically names the rule and it appears in the Out of Office Assistant dialog box, as shown in Figure 19-13.

6. Repeat steps 2 through 5 to create other rules as needed and then click OK to close the Out of Office Assistant dialog box.
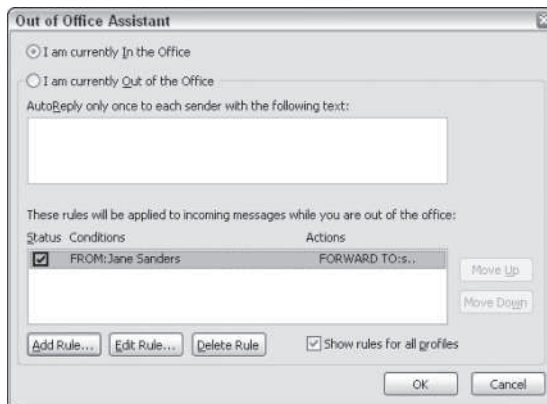
Figure 19-13: A custom rule added to the Out of Office Assistant

Summary

Rules are a very important feature of Outlook that enable you to gain quite a bit of control over your messages. For example, you can use rules to automatically move messages from certain people to special folders to help you identify them quickly. Rules also are an important means for helping you recognize and respond to important messages when they arrive.

Outlook 2003 incorporates some major changes to the junk e-mail filter found in previous editions. Outlook's Junk E-mail Options dialog box helps you identify messages from certain senders as junk mail so those messages are routed automatically to the Junk E-mail folder. With just a little bit of configuration, it's a good bet that the junk filter in Outlook will be able to do a very good job of separating the good messages from the junk.

Finally, this chapter explained how to use the Out-of-Office Assistant, a component of Exchange Server that enables your mailbox to automatically respond to messages when you are out of the office.

✦   ✦   ✦

Analyzing Data with Pivot Tables in Excel

✦ ✦ ✦ ✦

In This Chapter

An introduction
to pivot tables

How to create a
pivot table from
a database

How to group items
in a pivot table

How to create a
calculated field
or a calculated item
in a pivot table

✦ ✦ ✦ ✦

The pivot table feature is perhaps the most technologically sophisticated component in Excel. If you haven't yet discovered the power of pivot tables, this chapter demonstrates how easy it is to create powerful data summaries using pivot tables.

About Pivot Tables

A pivot table is essentially a dynamic summary report generated from a database. The database can reside in a worksheet or in an external data file. A pivot table can help transform endless rows and columns of numbers into a meaningful presentation of the data.

For example, a pivot table can create frequency distributions and cross-tabulations of several different data dimensions. In addition, you can display subtotals and any level of detail that you want. Perhaps the most innovative aspect of a pivot table lies in its interactivity. After you create a pivot table, you can rearrange the information in almost any way imaginable and even insert special formulas that perform new calculations. You even can create post hoc groupings of summary items (for example, combine Northern Region totals with Western Region totals).

One minor drawback to using a pivot table is that, unlike a formula-based summary report, a pivot table does not update automatically when you change the source data. This does not pose a serious problem, however, because a single click of the Refresh toolbar button forces a pivot table to use the latest data.

A pivot table example

The best way to understand the concept of a pivot table is to see one. Start with Figure 20-1, which shows a portion of the data used in creating the pivot table in this chapter.

Figure 20-1: This database is used to create a pivot table.

This database consists of daily new-account information for a three-branch bank. The database contains 350 records and tracks the following:

    ✦ The date that each account was opened

    ✦ The opening amount

    ✦ The account type (CD, checking, savings, or IRA)

    ✦ Who opened the account (a teller or a new-account representative)

    ✦ The branch at which it was opened (Central, Westside, or North County)

    ✦ Whether a new customer or an existing customer opened the account

The bank accounts database contains a lot of information. But in its current form, the data does not reveal much. To make the data more useful, you need to summarize it. Summarizing a database is essentially the process of answering questions about the data. Following are a few questions that may be of interest to the bank's management:

    ✦ What is the total deposit amount for each branch, broken down by account type?

    ✦ How many accounts were opened at each branch, broken down by account type?

✦ What's the dollar distribution of the different account types?

✦ What types of accounts do tellers open most often?

✦ How does the Central branch compare to the other two branches?

✦ Which branch opens the most accounts for new customers?

You could, of course, write formulas to answer these questions. Often, however, a pivot table is a better choice. Creating a pivot table takes only a few seconds and doesn't require a single formula.

Figure 20-2 shows a pivot table created from the database displayed in Figure 20-1. This pivot table shows the amount of new deposits, broken down by branch and account type. This particular summary represents one of dozens of summaries that you can produce from this data.

Figure 20-2: A simple pivot table.

Figure 20-3 shows another pivot table generated from the bank data. This pivot table uses a page field for the Customer item (refer to Figure 20-1). In this case, the pivot table displays the data only for existing customers (the user could also select New or All from page field list). Notice the changes in the orientation of the table; branches appear in rows, and account types appear in columns. This is another example of the flexibility of a pivot table.

Figure 20-3: A pivot table that uses a page field.

Data appropriate for a pivot table

Not all data can be used to create a pivot table. The data that you summarize must be in the form of a database. You can store the database in either a worksheet (sometimes known as a *list*) or an external database file. Although Excel can generate a pivot table from any database, not all databases benefit.

Generally speaking, fields in a database table can consist of two types:

✦ **Data:** Contains a value or data to be summarized. In Figure 20-1, the Amount field is a data field.

✦ **Category:** Describes the data. In Figure 20-1, the Date, AcctType, OpenedBy, Branch, and Customer fields are category fields because they describe the data in the Amount field.

A single database table can have any number of data fields and category fields. When you create a pivot table, you usually want to summarize one or more of the data fields. Conversely, the values in the category fields appear in the pivot table as rows, columns, or pages.

Exceptions exist, however, and you may find Excel's pivot table feature useful even for databases that don't contain actual numerical data fields. The database columns A:C in Figure 20-4, for example, don't contain any numerical data, but you can create a useful pivot table that counts the items in fields rather than sums them. The pivot table cross-tabulates the Month Born field by the Sex field; the intersecting cells show the count for each combination of month and gender.

Figure 20-4: This database doesn't have any numerical fields, but you can use it to generate a pivot table.

Pivot Table Terminology

Understanding the terminology associated with pivot tables is the first step in mastering this feature. Refer to the accompanying figure to get your bearings.

✦ **Column field:** A field that has a column orientation in the pivot table. Each item in the field occupies a column. In the figure, Customer represents a column field that contains two items (Existing and New). You can have nested column fields.

✦ **Data area:** The cells in a pivot table that contain the summary data. Excel offers several ways to summarize the data (sum, average, count, and so on). In the figure, the Data area includes C5:E20.

✦ **Grand totals:** A row or column that displays totals for all cells in a row or column in a pivot table. You can specify that grand totals be calculated for rows, columns, or both (or neither). The pivot table in the figure shows grand totals for both rows and columns.

✦ **Group:** A collection of items treated as a single item. You can group items manually or automatically (group dates into months, for example). The pivot table in the figure does not have any defined groups.

✦ **Item:** An element in a field that appears as a row or column header in a pivot table. In the figure, Existing and New are items for the Customer field. The Branch field has three items: Central, North County, and Westside. AcctType has four items: CD, Checking, IRA (Investment Retirement Account), and Savings.

✦ **Page field:** A field that has a page orientation in the pivot table — similar to a slice of a three-dimensional cube. You can display only one item (or all items) in a page field at one time. In the figure, OpenedBy represents a page field that displays the New Accts item.

✦ **Refresh:** To recalculate the pivot table after making changes to the source data.

Continued

Continued

✦ **Row field:** A field that has a row orientation in the pivot table. Each item in the field occupies a row. You can have nested row fields. In the figure, Branch and AcctType both represent row fields.

✦ **Source data:** The data used to create a pivot table. It can reside in a worksheet or an external database.

✦ **Subtotals:** A row or column that displays subtotals for detail cells in a row or column in a pivot table. The pivot table in the figure displays subtotals for each branch.

Creating a Pivot Table

You create a pivot table by using a series of steps presented in the PivotTable and PivotChart Wizard. You access this wizard by choosing Data ⇨ PivotTable and PivotChart Report. Then, carry out the steps outlined here.

> **Note**   This discussion assumes that you use Excel 2000 or later. The procedure differs slightly in earlier versions of Excel.

Step1: Specifying the data location

After you choose Data ⇨ PivotTable and PivotChart Report, you see the dialog box shown in Figure 20-5.

Figure 20-5: The first of three PivotTable and PivotChart Wizard dialog boxes.

In this step, you identify the data source. Excel is quite flexible in the data that you can use for a pivot table. (See the nearby sidebar, "Pivot Table Data Sources.") This example uses a worksheet database.

Note You see different dialog boxes while you work through the wizard, depending on the location of the data that you want to analyze. The following sections present the wizard's dialog boxes for data located in an Excel list or database.

Pivot Table Data Sources

The data used in a pivot table can come from a variety of sources, including Excel databases or lists, data sources external to Excel, multiple tabled ranges, and other pivot tables. These sources are described here.

Microsoft Excel List or Database

Usually, the data that you analyze is stored in a worksheet database (also known as a *list*). Databases stored in a worksheet have a limit of 65,535 records and 256 fields. Working with a database of this size isn't efficient, however (and memory may not even permit it). The first row in the database should contain field names. No other rules exist. The data can consist of values, text, or formulas.

External Data Source

If you use the data in an external database for a pivot table, use Query (a separate application) to retrieve the data. You can use dBASE files, SQL Server data, or other data that your system is set up to access. Step 2 of the PivotTable and PivotChart Wizard prompts you for the data source. Note that in Excel 2000 or later, you also can create a pivot table from an OLAP (OnLine Analytical Processing) database.

Multiple Consolidation Ranges

You also can create a pivot table from multiple tables. This procedure is equivalent to consolidating the information in tables. When you create a pivot table to consolidate information in tables, you have the added advantage of using all of the pivot table tools while working with the consolidated data.

Another Pivot Table Report or Pivot Chart Report

Excel enables you to create a pivot table from an existing pivot table or pivot chart. Actually, this is a bit of a misnomer. The pivot table that you create is based on the *data* that the first pivot table uses (not the pivot table itself). If the active workbook has no pivot tables, this option is grayed — meaning you can't choose it. If you need to create more than one pivot table from the same set of data, the procedure is more efficient (in terms of memory usage) if you create the first pivot table and then use that pivot table as the source for subsequent pivot tables.

Step 2: Specifying the data

To move on to the next step of the wizard, click the Next button. Step 2 of the PivotTable and PivotChart Wizard prompts you for the data. Remember that the dialog box varies, depending on your choice in the first dialog box; Figure 20-6 shows the dialog box that appears when you select an Excel list or database in Step 1.

Figure 20-6: In Step 2, you specify the data range.

If you place the cell pointer anywhere within the worksheet database when you select Data ⇨ PivotTable Report, Excel identifies the database range automatically in Step 2 of the PivotTable and PivotChart Wizard.

You can use the Browse button to open a different worksheet and select a range. To move on to Step 3, click the Next button.

> **Tip**
>
> If the source range for a pivot table is named *Database*, you can use Excel's built-in Data Form to add new data to the range. The named range will extend automatically to include the new records. In addition, if you create the pivot table from a list (designated by using the Data ⇨ List ⇨ Create List command), the pivot table will be linked to the list. Therefore, the pivot table will be accurate if the list shrinks or grows.

Step 3: Completing the pivot table

Figure 20-7 shows the dialog box for the final step of the PivotTable and PivotChart Wizard. In this step, you specify the location for the pivot table.

Figure 20-7: In Step 3, you specify the pivot table's location.

If you select the New Worksheet option, Excel inserts a new worksheet for the pivot table. If you select the Existing Worksheet option, the pivot table appears on the current worksheet. (You can specify the starting cell location.)

At this point, you can click the Options button to select some options that determine how the table appears. (Refer to the nearby sidebar "Pivot Table Options.") You can set these options at any time after you create the pivot table, so you do not need to do so before creating the pivot table.

You can set up the actual layout of the pivot table by using either of two techniques:

✦ By clicking the Layout button in Step 3 of the PivotTable and PivotChart Wizard. You then can use a dialog box to lay out the pivot table.

✦ By clicking the Finish button to create a blank pivot table. You then can use the PivotTable Field List toolbar to lay out the pivot table.

Both of these options are described in the following subsections.

Using a dialog box to lay out a pivot table

When you click the Layout button of the wizard's last dialog box, you get the dialog box shown in Figure 20-8. The fields in the database appear as buttons along the right side of the dialog box. Simply drag the buttons to the appropriate area of the pivot table diagram (which appears in the center of the dialog box).
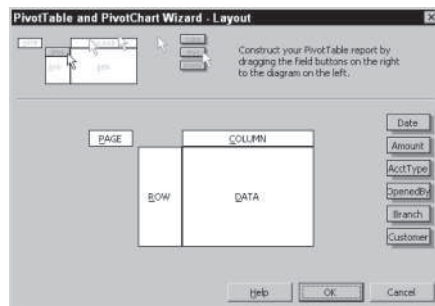
Figure 20-8: Specify the table layout.

The pivot table diagram has four areas:

✦ **Page:** Buttons in this area appear as page items in the pivot table.

✦ **Row:** Buttons in this area appear as row items in the pivot table.

✦ **Data:** Buttons in this area indicate the data that is summarized in the pivot table.

✦ **Column:** Buttons in this area appear as column items in the pivot table.

You can drag as many field buttons as you want to any of these locations, and you don't have to use all the fields. Any fields that you don't use simply don't appear in the pivot table.

When you drag a field button to the Data area, the PivotTable and PivotChart Wizard applies the Sum function if the field contains numeric values; it applies the Count function if the field contains non-numeric values.

While you set up the pivot table, you can double-click a field button to customize it. You can specify, for example, to summarize a particular field as a Count or other function. You also can specify which items in a field to hide or omit. If you drag a field button to an incorrect location, just drag it off the table diagram to get rid of it. Note that you can customize fields at any time after you create the pivot table.

Figure 20-9 shows how the dialog box looks after dragging some field buttons to the pivot table diagram. This pivot table displays the sum of the Amount field, broken down by AcctType (as rows) and Customer (as columns). In addition, the Branch field appears as a page field. Click OK to redisplay the PivotTable and PivotChart Wizard — Step 3 of the dialog box.
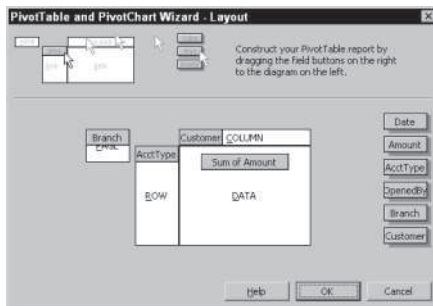
Figure 20-9: The table layout after dragging field buttons to the pivot table diagram.

Using the PivotTable Field List toolbar to lay out a pivot table

You may prefer to lay out your pivot table directly in the worksheet by using the PivotTable Field List toolbar. The technique closely resembles the one just described because you still drag and drop fields. But in this case, you drag fields from the toolbar into the worksheet.

> **Note**
> You cannot use this technique with versions prior to Excel 2000. Also, note that Excel 2000 doesn't have a PivotTable Field List toolbar. Rather, the fields are displayed as buttons on the PivotTable toolbar.

Complete the first two steps of the PivotTable and PivotChart Wizard. If you want, set options for the pivot table by using the Options button that appears in the third dialog box of the wizard. Don't bother with the Layout button, however. Select a location for the pivot table and choose Finish. Excel displays a pivot table template similar to the one you see in Figure 20-10. The template provides you with hints about where to drop various types of fields.
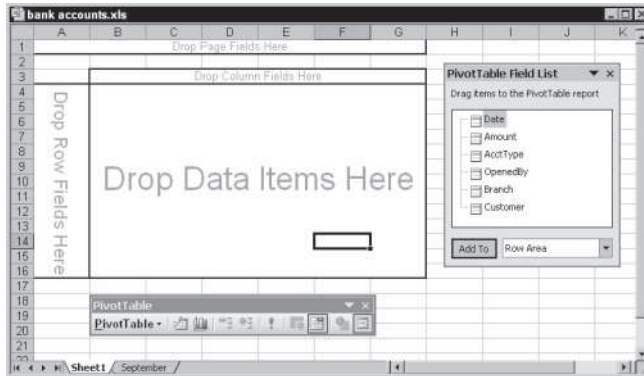
Figure 20-10: Use the PivotTable Field List toolbar to drag and drop fields onto the pivot table template that Excel displays.

Drag and drop fields from the PivotTable Field List toolbar onto the template. Or select the field name, choose the location from the drop-down list, and click the Add To button. Excel continues to update the pivot table as you add or remove fields. For this reason, you'll find this method easiest to use if you drag and drop *data* items last. In other words, set up the field items and then specify the data to summarize.

If you make a mistake, simply drag the field off the template and drop it on the worksheet — Excel removes it from the pivot table template. All fields remain on the PivotTable Field List toolbar, even if you use them.

The finished product

Figure 20-11 shows the result of this example. Notice that the page field displays as a drop-down box. You can choose which item in the page field to display by choosing it from the list. You also can choose an item called All, which displays all the data.

Figure 20-11: The pivot table created by the PivotTable and PivotChart Wizard.

Pivot Table Options

Excel provides plenty of options that determine how your pivot table looks and works. To access these options, click the Options button in the final step of the PivotTable and PivotChart Wizard to display the PivotTable Options dialog box. You also can access this dialog box after you create the pivot table. Right-click any cell in the pivot table and then select Table Options from the shortcut menu. The accompanying figure shows the PivotTable Options dialog box.
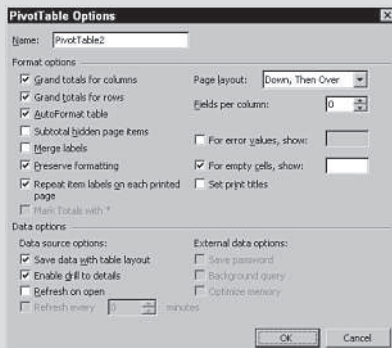
Here are its choices:

✦ **Name:** You can provide a name for the pivot table. Excel provides default names in the form of PivotTable1, PivotTable2, and so on.

✦ **Grand Totals for Columns:** Check this box if you want Excel to calculate grand totals for items displayed in columns.

✦ **Grand Totals for Rows:** Check this box if you want Excel to calculate grand totals for items displayed in rows.

✦ **AutoFormat Table:** Check this box if you want Excel to apply one of its AutoFormats to the pivot table. The selected AutoFormat sticks with the pivot table, even If you rearrange the table layout.

✦ **Subtotal Hidden Page Items:** Check this box if you want Excel to include hidden items in the page fields in the subtotals.

✦ **Merge Labels:** Check this box if you want Excel to merge the cells for outer row and column labels. Doing so may make the table more readable.

✦ **Preserve Formatting:** Check this box if you want Excel, when it updates the pivot table, to keep any of the formatting that you applied.

✦ **Repeat Item Labels on Each Printed Page:** Check this box to set row titles that appear on each page when you print a pivot table report.
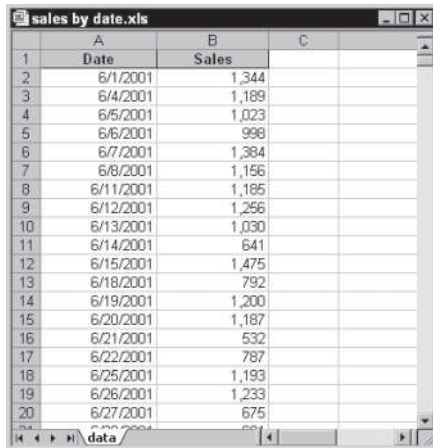
Continued

- ✦ **Mark Totals with:** Available only if you generated the pivot table from an OLAP data source. If checked, displays an asterisk after every subtotal and grand total to indicate that these values include any hidden items as well as displayed items.

- ✦ **Page Layout:** You can specify the order in which you want the page fields to appear.

- ✦ **Fields per Column:** You can specify the number of page fields to show before starting another row of page fields.

- ✦ **For Error Values, Show:** You can specify a value to show for pivot table cells that display an error.

- ✦ **For Empty Cells, Show:** You can specify a value to show for empty pivot table cells.

- ✦ **Set Print Titles:** Check this box to set column titles that appear at the top of each page when you print a PivotTable report.

- ✦ **Save Data with Table Layout:** If you check this option, Excel stores an additional copy of the data (called a *pivot table cache*), which is stored with the workbook. If this option is not enabled, then Excel must refresh the pivot table with the file is opened.

- ✦ **Enable Drill to Details:** If checked, you can double-click a cell in the data area of the pivot table to view the records that contributed to the summary value.

- ✦ **Refresh on Open:** If checked, the pivot table refreshes whenever you open the workbook.

- ✦ **Refresh Every *x* Minutes:** If you are connected to an external database, you can specify how often you want the pivot table refreshed while the workbook is open.

- ✦ **Save Password:** If you use an external database that requires a password, you can store the password as part of the query so that you don't have to reenter it.

- ✦ **Background Query:** If checked, Excel runs the external database query in the background while you continue your work.

- ✦ **Optimize Memory:** This option reduces the amount of memory used when you refresh an external database query.

Grouping Pivot Table Items

One of the more useful features of a pivot table is the ability to combine items into groups. To group items, select them, right-click, and choose Group and Outline ⇨ Group from the shortcut menu that appears.

When a field contains dates, Excel can create groups automatically. Figure 20-12 shows a portion of a simple database table with two fields: Date and Sales. This table has 370 records and covers dates between June 1, 2001, and October 31, 2002. The goal is to summarize the sales information by month.
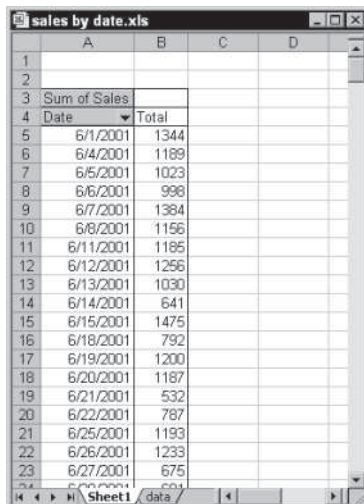
Figure 20-12: You can use a pivot table to summarize the sales data by month.

Figure 20-13 shows part of a pivot table created from the data. Not surprisingly, it looks exactly like the input data because the dates have not been grouped. To group the items by month, right-click the Data heading and select Group and Show Detail ⇨ Group. You'll see the Grouping dialog box shown in Figure 20-14.

Note   In versions prior to Excel 2002, the shortcut menu command is Group and Outline ⇨ Group.

Figure 20-13: The pivot table, before grouping by month.
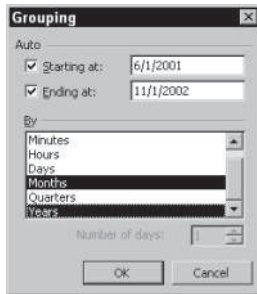
Figure 20-14: Use the Grouping dialog box to group items in a pivot table.

In the list box, select Months and Years, and verify that the starting and ending dates are correct. Click OK. The Date items in the pivot table are grouped by years and by months (as shown in Figure 20-15).

Figure 20-15: The pivot table, after grouping by month.

Note   If you select only Months in the Grouping list box, months in different years combine together. For example, the June item would display sales for both 2001 and 2002.

Copying a Pivot Table

A pivot table is a special type of *object*, and you cannot manipulate it as you may expect. For example, you can't insert a new row or enter formulas within the pivot table. If you want to manipulate a pivot table in ways not normally permitted, make a copy of it.

To copy a pivot table, select the table and choose Edit ⇨ Copy. Then activate a new worksheet and choose Edit ⇨ Paste Special. Select the Values option and click OK. The contents of the pivot table are copied to the new location so you can do whatever you like to them. You also may want to repeat the Edit ⇨ Paste Special command and select Formats (to copy the formatting from the pivot table).

This technique is also useful when you want to create a standard chart. If you attempt to create a chart from a pivot table, Excel always creates a pivot chart that contains field buttons. Sometimes you may prefer a standard chart.

Note that the copied information is no longer linked to the source data. If the source data changes, your copied pivot table does not reflect these changes.

Creating a Calculated Field or Calculated Item

After you create a pivot table, you can create two types of calculations for further analysis:

✦ **A calculated field:** A new field created from other fields in the pivot table. A calculated field must reside in the Data area of the pivot table. (You can't use a calculated field in the Page, Row, or Column areas.)

✦ **A calculated item:** A calculated item uses the contents of other items within a field of the pivot table. A calculated item must reside in the Page, Row, or Column area of a pivot table. (You can't use a calculated item in the Data area.)

The formulas used to create calculated fields and calculated items are not standard Excel formulas. In other words, you do not enter the formulas into cells. Rather, you enter these formulas in a dialog box, and they are stored along with the pivot table data.

The examples in this section use the worksheet database table shown in Figure 20-16. The table consists of five fields and 48 records. Each record describes monthly sales information for a particular sales representative. For example, Amy is a sales rep for the North region, and she sold 239 units in January for total sales of $23,040.

Figure 20-16: This data demonstrates calculated fields and calculated items.

Figure 20-17 shows the basic pivot table created from the data. This pivot table shows sales, broken down by month and sales rep.

Figure 20-17: This pivot table was created from the data in Figure 20-16.

The examples that follow will create

✦ A calculated field, to compute average sales per unit

✦ A calculated item, to summarize the data by quarters

Creating a calculated field in a pivot table

Because a pivot table is a special type of data range, you can't insert new rows or columns within the pivot table. This means that you can't insert formulas to perform calculations with the data in a pivot table. However, you can create calculated fields for a pivot table. A *calculated field* consists of a calculation that can involve other fields.

A calculated field is basically a way to display new information in a pivot table. It essentially presents an alternative to creating a new *Data* field in your source database. A calculated field cannot be used as a Row, Column, or Page field.

In the sales example, for instance, suppose you want to calculate the average sales amount per unit. You can compute this value by dividing the Sales field by the Units Sold field. The result shows a new field (a calculated field) for the pivot table.

Use the following procedure to create a calculated field that consists of the Sales field divided by the Units Sold field:

1. Move the cell pointer anywhere within the pivot table.

2. Using the PivotTable toolbar, choose PivotTable ⇨ Formulas ⇨ Calculated Field. Excel displays the Insert Calculated Field dialog box.

3. Enter a descriptive name in the Name field and specify the formula in the Formula field (see Figure 20-18). The formula can use other fields and worksheet functions. For this example, the calculated field name is Avg Unit Price, and the formula appears as the following:

   ```
   =Sales/'Units Sold'
   ```
4. Click Add to add this new field.

5. Click OK to close the Insert Calculated Field dialog box.
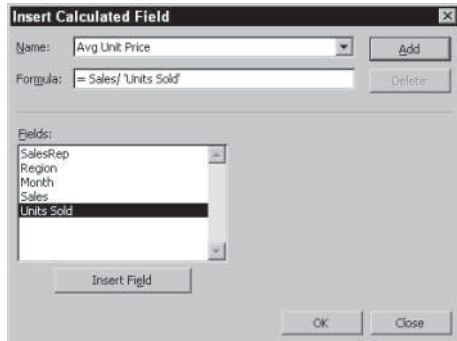
Figure 20-18: The Insert Calculated Field dialog box.

> **Note**   You can create the formula manually by typing it or by double-clicking items in the Fields list box. Double-clicking an item transfers it to the Formula field. Because the Units Sold field contains a space, Excel adds single quotes around the field name.

After you create the calculated field, Excel adds it to the Data area of the pivot table. You can treat it just like any other field, with one exception: You can't move it to the Page, Row, or Column area. (It must remain in the Data area.)

Figure 20-19 shows the pivot table after you've added the calculated field. The new field displays as Sum of Avg Unit Price. (You can change this text, if desired, by editing any of the cells in which that text appears.) The calculated field also appears on the PivotTable Field List toolbar, along with the other fields available for use in the pivot table.

Figure 20-19: This pivot table uses a calculated field.

Tip

The formulas that you develop can also use worksheet functions, but the functions cannot refer to cells or named ranges.

Inserting a calculated item into a pivot table

The preceding section describes how to create a calculated field. Excel also enables you to create a *calculated item* for a pivot table field. Keep in mind that a calculated field can be an alternative to adding a new field to your data source. A calculated item, on the other hand, uses the contents of items within a single field.

The sales example uses a field named Month, which consists of text strings. You can create a calculated item (called Qtr-1, for example) that displays the sum of Jan, Feb, and Mar.

You also can do this by grouping the items, but using grouping hides the individual months and shows only the total of the group. Creating a calculated item for quarterly totals is more flexible because it shows the total and the individual months.

To create a calculated item to sum the data for Jan, Feb, and Mar, follow these steps:

1. Move the cell pointer to the Row, Column, or Page area of the pivot table that contains the item that will be calculated. In this example, the cell pointer should be in the Month area.

2. Use the PivotTable toolbar, and choose PivotTable ⇨ Formulas ⇨ Calculated Item from the shortcut menu. Excel displays the Insert Calculated Item dialog box.

3. Enter a name for the new item in the Name field and specify the formula in the Formula field (see Figure 20-20). The formula can use items in other fields, but it can't use worksheet functions. For this example, the new item is named Qtr-1, and the formula appears as follows:

   ```
   =Jan+Feb+Mar
   ```
4. Click Add.

5. Repeat Steps 3 and 4 to create additional calculated items for Qtr-2 (=Apr+May+Jun), Qtr-3 (=Jul+Aug+Sep), and Qtr-4 (=Oct+Nov+Dec).

6. Click OK to close the dialog box.
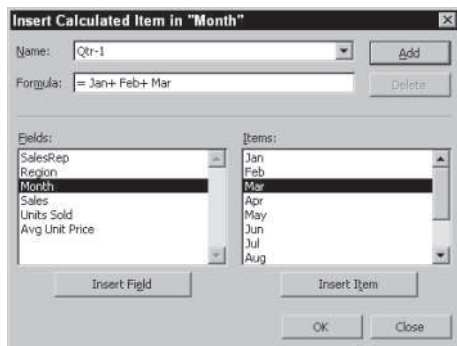
Figure 20-20: The Insert Calculated Item dialog box.

> **Caution**
> If you use a calculated item in your pivot table, you may need to turn off the Grand Total display to avoid double counting. In this example the Grand Total includes the calculated item, so each month is counted twice. To turn off Grand Totals, use the PivotTable Options dialog box (see the "Pivot Table Options" sidebar, earlier in this chapter).

After you create the items, they appear in the pivot table. Figure 20-21 shows the pivot table after you've added the four calculated items. Notice that the calculated items are added to the end of the Month items. You can rearrange the items by selecting and dragging. Figure 20-22 shows the pivot table after rearranging the items logically. (Calculated items were made bold.)

Figure 20-21: This pivot table uses calculated items for quarterly totals.

Figure 20-22: The pivot table, after rearranging the calculated items.

> **Note**
>
> A calculated item appears in a pivot table only if the field on which it is based also appears. If you remove or pivot a field from either the Row or Column category into the Data category, the calculated item does not appear.

It's also possible to get quarterly summaries by grouping items. Because the month names are not actual dates, the grouping must be done manually. Figure 20-23 shows the pivot table after creating four groups. You create the first group by selecting the Jan, Feb, and Mar items. Then you right-click, and choose Group and Show Detail ⇨ Group from the shortcut menu. Excel inserted the default name, Group 1 — which you then change to Qtr 1. Next, right-click the group item and chose Field Settings to display the PivotTable Field dialog box. In this dialog box, you would specify the Sum function to summarize the grouped data. Finally, you then repeat this process for the other three quarters.

Figure 20-23: Grouping items to show quarterly summary information.

Summary

This chapter demonstrated the powerful capabilities of Excel's pivot tables. Hopefully, you now have the knowledge and ability to create the kind of reports and calculations that will make your work easier. Key points from the chapter include:

✦ After you create a pivot table, you can rearrange the information in almost any way imaginable and even insert special formulas that perform new calculations.

✦ You can create a pivot table from a database by executing the following steps: Specifying the data location, specifying the data, and specifying how you want to display the relationship between that data and completing the table.

✦ One of the more useful features of a pivot table is the ability to combine items into groups. To group items, select them, right-click, and choose Group and Outline ⇨ Group from the shortcut menu that appears.

✦ A calculated field is basically a way to display new information in a pivot table. It essentially presents an alternative to creating a new *Data* field in your source database. A calculated field cannot be used as a Row, Column, or Page field.

✦   ✦   ✦

21

C H A P T E R

✦   ✦   ✦   ✦

In This Chapter

Creating user
interaction

Adding hyperlinks
to slides

Placing action
buttons

Distributing
user-interactive
presentations

✦   ✦   ✦   ✦

Designing User-Interactive PowerPoint Presentations

Self-running presentations do their jobs without any intervention from the audience or from you. If a self-running presentation runs at a trade show and there is no one to hear it, it runs nonetheless.

In contrast, user-interactive shows also lack a human facilitator or speaker, but they rely on an audience's attention. The audience presses buttons, clicks a mouse, or clicks graphics or hyperlinks on-screen to advance the show from one slide to the next, and they might even be able to control which content is displayed. (See the "Interactive Presentation Ideas" section at the end of this chapter for some usage ideas.)

What Is a Hyperlink?

The navigational controls you place in your presentation take various forms, but are all hyperlinks. A *hyperlink* object is a bit of text or a graphic that you (or your audience) can click to jump somewhere else. When you click a hyperlink, you might jump to a different slide in the same presentation, to a different presentation, to another program on your computer, or even to an Internet Web page.

Note   Most people associate the word *hyperlink* with the Internet be-
cause of their familiarity with the Web and with hyperlinks on Web
pages. However, a hyperlink is simply a link to somewhere else;
it does not necessarily refer to an Internet location.

The most common type of hyperlink is underlined text. Hyperlink text is typically underlined and a different color than the rest of the text on-screen. In addition, followed links may be a different color from ones that you have not yet checked out, depending on the program.

| Tip | If you want a hyperlink that never changes its color, place a transparent object over it, such as a rectangle, and apply the hyperlink to that object rather than the text. The user will think he is clicking the text, but he will actually be clicking the rectangle. You can also assign a hyperlink to a whole text box (manual text boxes only, not placeholder text boxes) as opposed to the text within it. |

You are not limited to underlined bits of text for your hyperlinks. You can also use graphics or any other objects on your slides as hyperlinks. PowerPoint provides some special-purpose graphics called *action buttons* that serve very well with hyperlinks. For example, you can assign a hyperlink to the next slide to the action button that looks like a right arrow, as you see in Figure 21-1 in the following section.

Navigational Control Choices

Figure 21-1 shows a slide with several types of navigational controls, any of which you can use in your own slides.
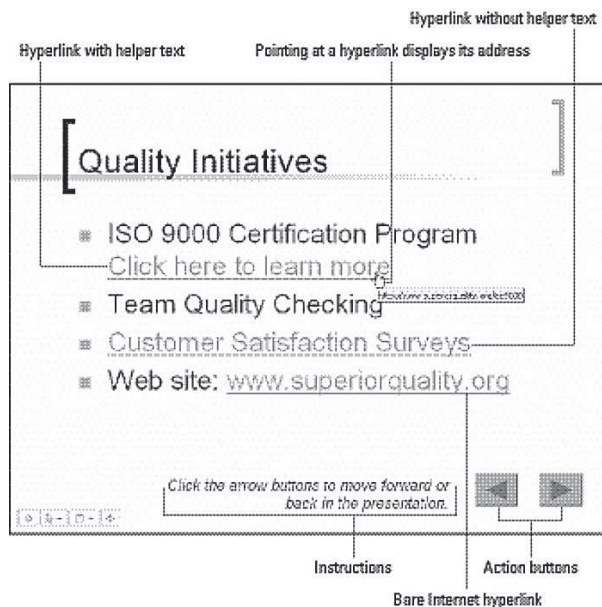
Figure 21-1: Use one or more of the navigational aids shown here.

✦ **Action buttons:** These graphics come with PowerPoint. You can set them up so that clicking them moves to a different slide in the presentation. The ones in Figure 21-1 move forward (to the next slide) and back (to the previous slide).

✦ **Hyperlink with helper text:** The text "Click here to learn more" in Figure 21-1, for example, provides built-in instructions for less technically sophisticated users. The hyperlink could refer to a Web site, as in Figure 21-1, to a hidden slide in the same presentation, or to any other location.

✦ **Hyperlink without helper text:** The text "Customer Satisfaction Surveys" in Figure 21-1 is a hyperlink, but the audience must know enough about computers to know that clicking those underlined words jumps to the slide containing more information.

✦ **ScreenTip:** Pointing at a hyperlink displays a pop-up note listing the address to which the hyperlink refers. Viewers can jot it down for later exploration if they don't want to visit the page right now.

✦ **Bare Internet hyperlink:** The Internet address in Figure 21-1, `http://www.superiorquality.org`, is also a hyperlink — in this case, to a Web page on the Internet. This kind of hyperlink can be intimidating for beginners who don't recognize Internet syntax, but it is very good for the advanced audience member because it lists the address up front. No clicking or pointing is required to determine the address.

✦ **Instructions:** If you do not build specific navigation controls into the presentation, you may want to add instructions on the slide that tell the reader how to move forward and backward in the presentation. The instruction box at the bottom of Figure 21-1 does just that.

Choosing Appropriate Controls for Your Audience

Before you dive into building an interactive presentation, you must decide how the audience will navigate from slide to slide. There is no one best way; the right decision depends on your audience's comfort level with computers and with hyperlinks. Consider these points:

✦ Is the audience technically savvy enough to know that they should press a key or click the mouse to advance the slide, or do you need to provide that instruction?

✦ Does your audience understand that the arrow action buttons mean forward and back, or do you need to explain that?

✦ Does your audience understand hyperlinks and Web addresses? If they see underlined text, do they know that they can click it to jump elsewhere?

✦ Is it enough to include some instructions on a slide at the beginning of the show, or do you need to repeat the instructions on every slide?

Think about your intended audience and their needs and come up with a plan. Here are some sample plans:

✦ **For a beginner-level audience:** Begin the presentation with an instructional slide explaining how to navigate. Place action buttons on the same place on each slide (using the Slide Master) to help them move forward and backward, and include a Help action button that they can click to jump to more detailed navigation instructions.

✦ **For an intermediate-level audience:** Place action buttons on the same place on each slide, along with a brief note on the first slide (such as the instruction in Figure 21-1) explaining how to use them.

✦ **For an advanced audience:** Include other action buttons on the slide that allow the users to jump around freely in the presentation — go to the beginning, to the end, to the beginning of certain sections, and so on. Advanced users understand and can take advantage of a more sophisticated system of action buttons.

Understanding Kiosk Mode

Kiosk mode places the keyboard and mouse in limited functionality mode during the presentation, to give you more control over the audience's experience.

Specifically, here's what happens when you use Kiosk mode:

✦ The keyboard does not work, except for the Esc key (which exits the presentation).

✦ The mouse can be used to click on action buttons and hyperlinks, but clicking in general does not do anything.

✦ The control buttons do not appear in the bottom left corner of the display, and you cannot right-click to open their menu. Right-clicking does nothing.

To turn on Kiosk mode, do the following:

1. Choose Slide Show⇨Set Up Show. The Set Up Show dialog box opens.

2. Click Browsed at a Kiosk (Full Screen).

3. Click OK.

Caution   If you turn on Kiosk mode, you **must** use action buttons or hyperlinks in your presentation. Otherwise users will not be able to move from slide to slide.

Using Action Buttons

Action buttons, which you saw in Figure 21-1, are the simplest kind of user-interactivity controls. They enable your audience members to move from slide to slide in the presentation with a minimum of fuss. PowerPoint provides many preset action buttons that already have hyperlinks assigned to them, so all you have to do is place them on your slides.

The action buttons that come with PowerPoint are shown in Table 21-1, along with their preset hyperlinks. As you can see, some of them are all ready to go; others require you to specify to where they jump. Most of the buttons have a default action assigned to them, but you can change any of these as needed.

Tip

At first glance, there seems little reason to use action buttons that simply move the slide show forward and backward. After all, isn't it just as easy to use the keyboard's Page Up and Page Down keys, or to click the left mouse button to advance to the next slide? Well, yes, but if you use Kiosk mode, described in the preceding section, you cannot move from slide to slide using any of the conventional keyboard or mouse methods. The only thing the mouse can do is click on action buttons and hyperlinks.

<table>
<tr><td colspan="3" align="center">Table 21-1
Action Buttons</td></tr>
<tr><td>*Button*</td><td>*Name*</td><td>*Hyperlinks to*</td></tr>
<tr><td></td><td>None</td><td>Nothing, by default. You can add text or fills to the button to create custom buttons.</td></tr>
<tr><td></td><td>Home</td><td>First slide in the presentation. (Home is where you started, and it's a picture of a house, get it?)</td></tr>
<tr><td></td><td>Help</td><td>Nothing, by default, but you can point it toward a slide containing help.</td></tr>
<tr><td></td><td>Information</td><td>Nothing, by default, but you can point it to a slide containing information.</td></tr>
<tr><td></td><td>Back or Previous</td><td>Previous slide in the presentation (not necessarily the last slide viewed; compare to Return).</td></tr>
<tr><td></td><td>Forward or Next</td><td>Next slide in the presentation.</td></tr>
<tr><td></td><td>Beginning</td><td>First slide in the presentation.</td></tr>
<tr><td></td><td>End</td><td>Last slide in the presentation.</td></tr>
<tr><td></td><td>Return</td><td>Last slide viewed, regardless of normal order. This is useful to place on a hidden slide that the audience will jump to with another link (such as Help), to help them return to the main presentation when they are finished.</td></tr>
<tr><td></td><td>Document</td><td>Nothing, by default, but you can set it to run a program that you specify.</td></tr>
</table>

	Table 21-1 (continued)		
Button	*Name*	*Hyperlinks to*	
◁:	Sound	Plays a sound that you specify. If you don't choose a sound, it plays the first sound on PowerPoint's list of standard sounds (Applause).
🎞	Movie	Nothing, by default, but you can set it to play a movie that you specify.

Setting up action buttons

To place an action button, follow these steps:

1. If you want to place the button on the Slide Master, display it
   (View⇨Master⇨Slide Master).

Tip

Some action buttons are best placed on the Slide Master, such as Next and Previous; others, such as Return, are special-use buttons that are best placed on individual slides.

2. Choose Slide Show⇨Action Buttons. A palette of buttons appears, corresponding to the buttons you saw in Table 21-1. See Figure 21-2.

Figure 21-2: Choose a button from the Slide Show menu.

3. Click the button that you want to place. Your mouse pointer turns into a crosshair.

Tip You can drag the Action Buttons palette off the Slide Show menu, making it into a floating toolbar.

4. To create a button of a specific size, drag on the slide (or Slide Master) where you want it to go. Or, to create a button of a default size, simply click once where you want it. You can resize the button at any time later, the same as you can any object.

Tip If you are going to place several buttons, and you want them all to be the same size, place them at the default size to begin with. Then select them all, and resize them as a group. That way they will all be exactly the same size.

5. The Action Settings dialog box appears. Make sure the Mouse Click tab is on top. See Figure 21-3.
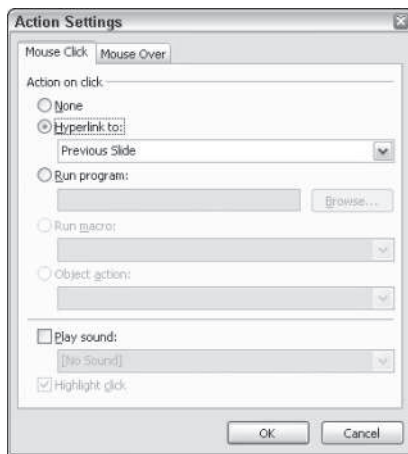
Figure 21-3: Specify what should happen when you click the action button.

6. Confirm or change the hyperlink set up there:

  • *If the action button should take the reader to a specific location,* make sure the correct slide appears in the Hyperlink To box. Refer to the right column in Table 21-1 to see the default setting for each action button. Table 21-2 lists the choices you can make and what they do.

- *If the action button should run a program,* choose Run program and enter the program's name and path, or click Browse to locate it. For example, you could open a Web browser window from an action button. The executable file that runs Internet Explorer is iexplore.exe.

- *If the action button should play a sound,* click None in the Action on Click section, make sure the Play Sound check box is marked, and choose the correct sound from the Play Sound drop-down list (or pick a different sound file by choosing Other Sound).

Tip   You can also run macros with action buttons. This is not all that common, however, because most of the macros you record in PowerPoint apply to *building* a presentation, not showing one. For example, you might create a macro that formats text a certain way. You would almost never need to format text while a presentation was being shown to an audience.

7. Click OK. The button has been assigned the action you specified.

8. Add more action buttons as desired by repeating these steps.

9. If you are working in Slide Master view, exit it by clicking the Close button.

10. Test your action buttons in Slide Show view to make sure they jump where you want them to.

To edit a button's action, right-click it and choose Action Settings to reopen this dialog box at any time.

Table 21-2
Hyperlink to Choices in the Action Settings Dialog Box

Drop-Down Menu Choice	*Result*
Previous Slide Next Slide First Slide Last Slide Last Slide Viewed	These choices all do just what their names say. These are the default actions assigned to certain buttons you learned about in Table 21-1.
End Show	Sets the button to stop the show when clicked.
Custom Show . . .	Opens a Link to Custom Show dialog box, where you can choose a custom show to jump to when the button is clicked.
Slide . . .	Opens a Hyperlink to Slide dialog box, where you can choose any slide in the current presentation to jump to when the button is clicked.

Continued

Table 21-2 (continued)	
Drop-Down Menu Choice	**Result**
URL . . .	Opens a Hyperlink to URL dialog box, where you can enter a Web address to jump to when the button is clicked.
Other PowerPoint Presentation . . .	Opens a Hyperlink to Other PowerPoint Presentation dialog box, where you can choose another PowerPoint presentation to display when the button is clicked.
Other File . . .	Opens a Hyperlink to Other File dialog box, where you can choose any file to open when the button is clicked. If the file requires a certain application, that application will open when needed. (To run another application without opening a specific file in it, use the Run Program option in the Action Settings dialog box instead of Hyperlink To.)

Adding text to an action button

The blank action button you saw in Table 21-1 can be very useful. You can place several of them on a slide and then type text into them, creating your own set of buttons.

To type text into a blank button, follow these steps:

1. Place a blank action button on the slide.

2. Right-click the action button and choose Add Text. An insertion point appears in it. (You can also select the button and simply start typing.)

3. Type your text. Format it as desired using the normal text formatting commands and buttons.

4. When you are finished, click outside of the button to stop.

5. Resize the button, if needed, to contain the text more neatly. You can drag a button's side selection handles to make it wider.

6. If you need to edit the text later, simply click the text to move the insertion point back into it, just as you do with any text box.

Figure 21-4 shows some examples of custom buttons you can create with your own text.
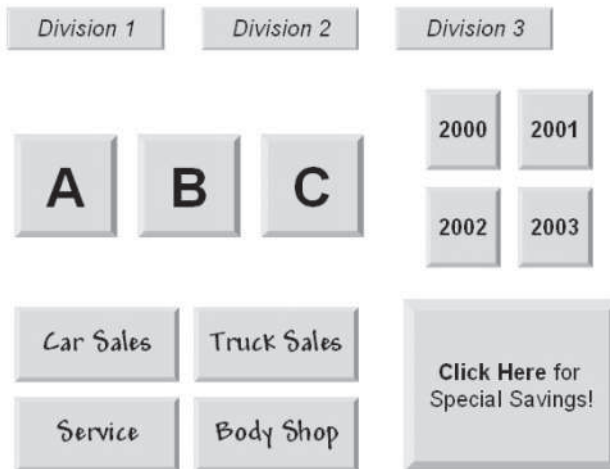
Figure 21-4: You can create any of these sets of action buttons by typing and formatting text on blank buttons.

Creating your own action buttons

You can create an action button out of any object on your slide: a drawn shape, a piece of clip art, a photograph, a text box — anything. To do so, just right-click the object and choose Action Settings. Then, set it to Hyperlink To, Run Program, or Play Sound, just as you did for the action buttons in the preceding sections.

Make sure you clearly label the object that you are using as an action button so that the users will know what they are getting when they click it. You can add text to the object directly (for example, with an AutoShape), or you can add a text box next to the button that explains its function.

Adding Text-Based Hyperlinks to Slides

Now that you know that hyperlinks are the key to user interactivity, you will want to add some to your presentation. You can start with text-based hyperlinks since they're the easiest. You can either add them bare or with explanatory text.

Typing a bare hyperlink

The most basic kind of hyperlink is an Internet address, typed directly into a text box. When you enter text in any of the following formats, PowerPoint automatically converts it to a hyperlink:

✦ **Web addresses:** Anything that begins with `http://`.

✦ **E-mail addresses:** Any string of characters with no spaces and an @ sign in the middle somewhere.

✦ **FTP addresses:** Anything that begins with `ftp://`.

Figure 21-5 shows some examples of these "bare" hyperlinks. They are called bare because you see what's underneath them — the actual address — right there on the surface. There is no friendly "click here" text that the link hides behind. For example, the text `support@microsoft.com` is a hyperlink that sends e-mail to that address. In contrast, a link that reads "Click here to send e-mail to me" and contains the same hyperlink address is *not* bare, because you do not see the address directly.

| Note | If PowerPoint does not automatically create hyperlinks, the feature may be disabled. Choose Tools⇨AutoCorrect Options. Click the AutoFormat As You Type tab, and make sure the Internet and network paths with hyperlinks checkbox is marked. |

Figure 21-5: Some examples of bare Internet hyperlinks.

You do not have to do anything special to create these hyperlinks; when you type them and press Enter or the space bar, PowerPoint converts them to hyperlinks. You know the conversion has taken place because the text becomes underlined and different-colored. (The exact color depends on the color scheme in use.)

> **Note**
>
> FTP stands for File Transfer Protocol. It's a method of transferring files via the Internet. Up until a few years ago, FTP was a totally separate system from the Web, but nowadays, most Web browsers have FTP download capabilities built in, so anyone who has a Web browser can receive files via FTP. However, to *send* files via FTP, the user must have a separate FTP program.

Creating text hyperlinks

A text hyperlink is a hyperlink comprised of text, but not just the bare address. For example, in Figure 21-1, "Click here to learn more" is a text hyperlink. So is "Customer Satisfaction Surveys."

You can select already-entered text and make it a hyperlink, or you can enter new text. Either way, follow these steps:

> **Note**
>
> These steps take you through the process generically; see the sections in "Choosing the Hyperlink Address" later in the chapter for specific information about various kinds of hyperlinks you can create.

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens. See Figure 21-6.
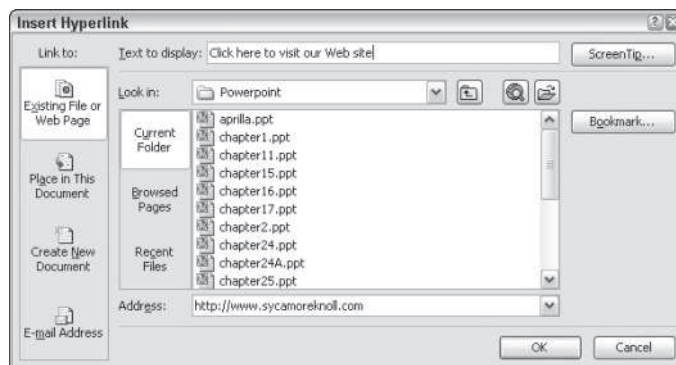
Figure 21-6: Insert a hyperlink by typing the text to display and choosing the address of the slide or other location to jump to.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide. Any text you've selected will appear in this field by default; changing the text here changes it on your slide as well.

4. Enter the hyperlink or select it from one of the available lists. (See the following section, "Choosing the Hyperlink Address," to learn about your options in this regard.)

5. *(Optional)* The default ScreenTip for a hyperlink is its address (URL). If you want the ScreenTip to show something different when the user points the mouse at the hyperlink, click the ScreenTip button and enter the text for the ScreenTip. See Figure 21-7.
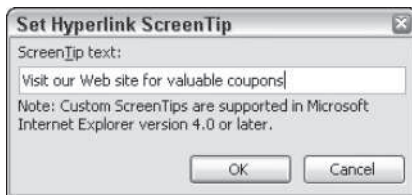
Figure 21-7: Enter a custom ScreenTip if desired.

> **Caution** Internet Explorer supports ScreenTips (in version 4.0 and higher), but other browsers may not. This is not an issue if you plan to distribute the presentation in PowerPoint format, but if you plan to convert it to Web pages, it might make a difference.

6. Click OK to close the Set Hyperlink ScreenTip dialog box.

7. Click OK to accept the newly created hyperlink.

Choosing the hyperlink address

You can use the Insert Hyperlink dialog box to create a hyperlink to any address that's accessible via the computer where the presentation will run. Although many people think of a hyperlink as an Internet address, it can actually be a link to any file, application, Internet location, or slide.

> **Caution** A hyperlink will not work if the person viewing the presentation does not have access to the needed files and programs or does not have the needed Internet or network connectivity. A hyperlink that works fine on your own PC might not work after the presentation has been transferred to the user's PC.

Possible addresses to hyperlink to include the following:

✦ Other slides in the current presentation

✦ Slides in other presentations (if you provide access to those presentations)

✦ Documents created in other applications (if the user has those applications installed and those document files are available)

✦ Graphic files (if the user has access to an application that can display them)

✦ Internet Web pages (if the user has an Internet connection and a Web browser)

✦ E-mail addresses (if the user has an Internet connection and an e-mail program)

✦ FTP site addresses (if the user has an Internet connection and a Web browser or an FTP program)

Creating a link to a slide in this presentation

The most common kind of link is to another slide in the same presentation. There are lots of uses for this link type; you might, for example, hide several backup slides that contain extra information. You can then create hyperlinks on certain key slides that allow the users to jump to one of those hidden slides to peruse the extra facts.

To create a link to another slide, follow these steps:

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide. Any text you've selected will appear in this field by default; changing text here changes it on your slide as well.

4. Click the Place in This Document button. The dialog box controls change to show a list of the slides in the presentation. See Figure 21-8.
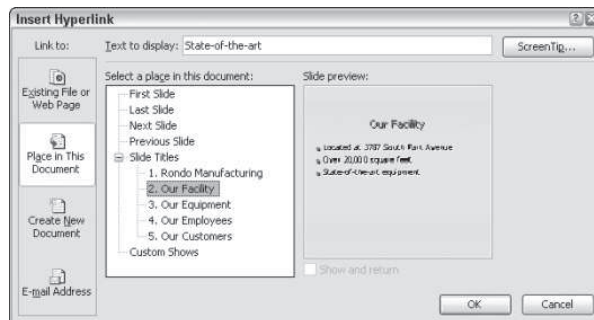
Figure 21-8: Select the slide that the hyperlink should refer to.

5. Select the slide you want.

6. *(Optional)* If you want the presentation to continue from the original spot after showing this slide, mark the Show and Return check box. If you prefer that the presentation continue from the new location forward, leave it unmarked.

7. Click OK.

Creating a link to an existing file

You can also create a hyperlink to any file available on your PC's hard disk or on your local area network. This can be a PowerPoint file or a data file for any other program, such as a Word document or an Excel spreadsheet. Or, if you don't want to open a particular data file, you can hyperlink to the program file itself, so that the other application simply opens.

For example, perhaps you have some detailed documentation for your product in Adobe Acrobat format (PDF). This type of document requires the Adobe Acrobat reader. So you could create a hyperlink with the text "Click here to read the documentation" and link to the appropriate PDF file. When your audience member clicks that link, Adobe Acrobat Reader opens and the documentation displays.

To link to a file, follow these steps:

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide.

4. In the Insert Hyperlink dialog box, click the Existing File or Web Page button.

5. Do one of the following:

   Click Current Folder to display a file management interface from which you can select any folder or drive on your system. Then navigate to the location containing the file and select the file. See Figure 21-9.

   OR

   Click Recent Files to display a list of the files you have recently opened on this PC (all types). Then click the file you want from the list.

Note
You are not limited to only the folder on your local drives if you choose Current Folder; you can open the Look In list and choose My Network Places to browse the network. However, make sure that the PC on which the presentation will be displayed will also have access to this same location.
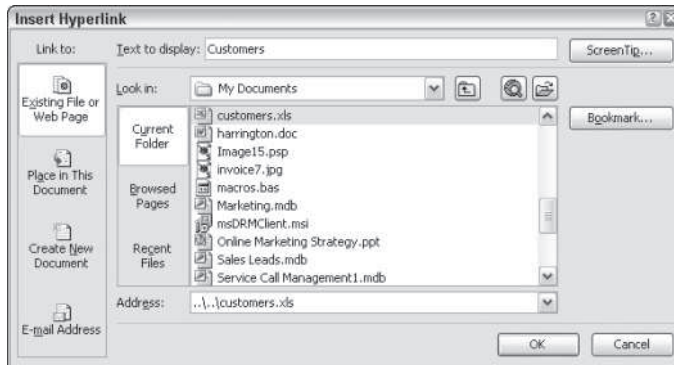
Figure 21-9: Select any file to hyperlink to.

6. Click OK to return to the Insert Hyperlink dialog box.

7. Click OK to insert the hyperlink.

Tip Using a hyperlink to an executable file can result in a warning message each time it is clicked if the file being linked to is executable or is a data file containing macros. To avoid this, first ensure that macro security is set to Low (Tools⇨Macro⇨Security). Then, instead of using a hyperlink, use an Action Setting and choose Run Program as the action. For the program to run, use the full path to the application, in quotation marks, followed by a space and then the full path to the document, also in quotation marks. Because you must enter the full paths to each of these, the link will probably not work when the presentation is run on a different computer.

Creating a link to a Web or FTP site

If you want to link to a Web or FTP site, as you learned earlier in the chapter, you can simply type the address directly into any text box. Alternatively, you can use the Insert Hyperlink command to create the link, as follows:

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide. Any text you've selected will appear in this field by default; changing text here changes it on your slide as well.

4. From the Insert Hyperlink dialog box, click the Existing File or Web Page button.

5. If you know the exact Web or FTP address that you want to link to, type it in the Address box. Then click OK. Otherwise, go to Step 6.

6. Click Browsed Pages to display a list of pages you have visited recently (including pages from PowerPoint's Help system). See Figure 21-10.

Browse the Web button
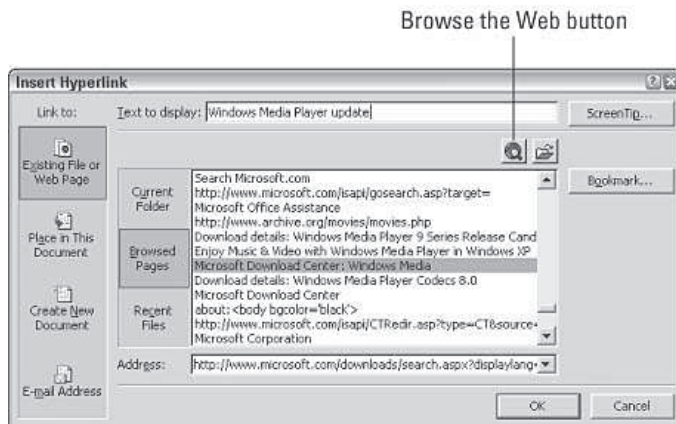
Figure 21-10: You can select recently viewed or recently linked files from the list, or click Browse the Web to open a Web browser from which to find the desired page.

7. If the address you want appears as a result of Step 6, click it and click OK. Otherwise, go on to Step 8.

8. Click the Browse the Web button to browse for the page you want. Internet Explorer (or your default Web browser) opens.

Note If the Dial-Up Connection dialog box appears prompting you to connect to the Internet, enter your username and password, if needed, and then click Connect.

9. In Internet Explorer, navigate to the page that you want to hyperlink to. You can use your Favorites list or look up the page with a search site such as the one found at www.google.com.

10. When you have arrived at the page you want, copy the URL from the address bar in your browser, and then jump back to PowerPoint by clicking its button on your Windows task bar. Paste the URL in the Address box of the PowerPoint dialog box using Ctrl+V.

11. Click OK to create the link.

Creating a link to a new document

Perhaps you want the audience to be able to create a new document by clicking a hyperlink. For example, perhaps you would like them to be able to provide information about their experience with your Customer Service department. One way to do this is to let them create a new document using a program that they have on their system, such as a word processor.

Caution   Be careful to set up a new document hyperlink to create a new document using a program that you are sure your audience members will have access to.

To create a link to a new document, follow these steps:

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide.

4. From the Insert Hyperlink dialog box, click Create New Document. The dialog box controls change, as shown in Figure 21-11.
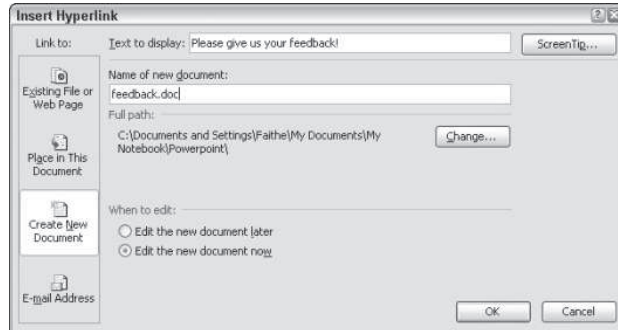
Figure 21-11: PowerPoint prompts you to enter the new document name and location.

5. Enter the name of the new document that you want to create. The type of document created depends on the extension you include. For example, to create a Word document, use the `.DOC` extension. See Table 21-3 for other extensions.

Caution   If you provide this presentation to multiple users, each one will use the same file name for the new document. This can be a problem because one file may overwrite another. It might be easier and less trouble-free to collect information from multiple users using an E-Mail Address hyperlink (discussed later in this chapter).

6. If the path where it should be stored is not correct in the Full Path area, click the Change button. Navigate to the desired location, and click OK to return.

7. Click the Edit the New Document Later option.

8. Click OK.

The most important part about adding a link to create a new file is to make sure that you use an extension that corresponds to a program that users have on the PCs where they will be viewing the presentation. When a program is installed, it registers its extension (the three-character code after the period in a file's name) in the Windows Registry, so that any data files with that extension are associated with that program. For example, when you install Microsoft Word, it registers the extension .DOC for itself, and PowerPoint registers .PPT for its own use. Table 21-3 lists some of the more common file types and their registered extensions on most PCs. Also make sure that the location you specify for the Full Path will always be accessible whenever the presentation is run.

Table 21-3
Commonly Used Extensions for Popular Programs

Extension	Associated Program
DOC	Microsoft Word, or WordPad if Word is not installed. Use for documents if you are not sure whether your audience has Word, but you are sure they at least have Windows 95.
WRI	Write, the predecessor to WordPad. WordPad and Word also open these if Write is not installed. Safest to use for documents if you do not know which version of Windows your audience will be using.
TXT	Notepad, a plain text editor. Creates text files without any formatting. Not my first choice for documents unless you specifically need them to be without formatting.
WPD	WordPerfect, a competitor to Word.
BMP	Microsoft Paint (which comes free with Windows), or some other more sophisticated graphics program if one is installed.
MDB	Microsoft Access, a database program.
MPP	Microsoft Project, a project management program.
PPT	Microsoft PowerPoint (you know what that is!).
XLS	Microsoft Excel, a spreadsheet program.

Creating a link to an e-mail address

You can also create a link that opens the user's e-mail program and addresses an e-mail to a certain recipient. For example, perhaps you would like the user to e-mail feedback to you about how he liked your presentation or send you requests for more information about your product.

Caution   For an e-mail hyperlink to work, the person viewing the presentation must have an e-mail application installed on his or her PC and at least one e-mail account configured for sending e-mail. This isn't always a given, but it's probably more likely than betting that they have a certain application installed (as in the preceding section).

To create an e-mail hyperlink, follow these steps:

1. To use existing text, select the text or its text box. Otherwise, just position the insertion point where you want the hyperlink.

2. Choose Insert⇨Hyperlink or press Ctrl+K. The Insert Hyperlink dialog box opens.

3. In the Text to Display field, type or edit the hyperlink text. This text is what will appear underlined on the slide.

4. From the Insert Hyperlink dialog box, click the E-mail Address button. The dialog box changes to show the controls in Figure 21-12.
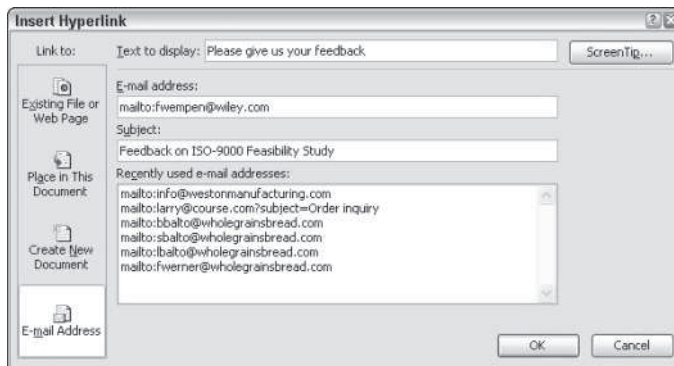
Figure 21-12: Fill in the recipient and subject of the mail-to link.

5. In the E-mail Address box, enter the e-mail address. PowerPoint automatically adds `mailto:` in front of it. (You can also select from one of the addresses on the Recently Used E-Mail Addresses list if there are any.)

6. In the Subject field, enter the text that you want to be automatically added to the Subject line of each e-mail.

7. Click OK. The hyperlink appears on the slide.

Editing a Hyperlink

If you need to change the displayed text for the hyperlink, simply edit it just as you do any text on a slide. Move the insertion point into it and press Backspace or Delete to remove characters; then retype new ones.

If you need to change the link to which the hyperlink points, follow these steps:

1. Right-click the hyperlink.

2. On the shortcut menu that appears, choose Edit Hyperlink. The Edit Hyperlink dialog box appears. It is exactly the same as the Insert Hyperlink dialog box except for the name.

3. Make changes to the hyperlink. You can change the displayed text, the address it points to, or the ScreenTip.

4. Click OK.

Removing a Hyperlink

If you decide not to hyperlink in a particular spot, you can delete the displayed text, effectively deleting the hyperlink attached to it. But if you want to leave the displayed text intact and remove the hyperlink only, follow these steps:

1. Right-click the hyperlink.

2. On the shortcut menu that appears, choose Remove Hyperlink.

Creating Graphics-Based Hyperlinks

There are two ways to create a graphics-based hyperlink. Both involve skills that you have already learned in this chapter. Both work equally well, but you may find that you prefer one to the other. The Action Settings method is a little bit simpler, but the Insert Hyperlink method allows you to browse for Web addresses more easily.

Creating a hyperlink with Action Settings

A graphics-based hyperlink is really no more than a graphic with an action setting attached to it. You set it up just as you did with the action buttons earlier in this chapter:

1. Place the graphic that you want to use for a hyperlink.

2. Right-click it and choose Action Settings.

3. Choose Hyperlink To.

4. Open the Hyperlink To drop-down list and choose a URL to enter an Internet address, or choose one of the other options from Table 21-2 to link to some other location or object.

5. Click OK.

Now the graphic functions just like an action button in the presentation; the audience can click on it to jump to the specified location.

Creating a hyperlink with the Insert Hyperlink feature

If you would like to take advantage of the superior address-browsing capabilities of the Insert Hyperlink dialog box when setting up a graphical hyperlink, follow these steps instead of the preceding ones:

1. Place the graphic that you want to use for a hyperlink.

2. Right-click it and choose Hyperlink. The Insert Hyperlink dialog box appears.

3. Choose the location, as you learned earlier in this chapter for text-based hyperlinks. The only difference is that the Text to Display box is unavailable because there is no text.

4. Click OK.

Distributing a User-Interactive Presentation

One of the easiest and best ways to distribute a user-interactive presentation is via CD. You can also distribute the presentation to people within the same company by placing it on a shared network drive and then inviting people to access it. Or you can attach the presentation to an e-mail message and distribute it that way.

Another way is to make the presentation available as a Web page (or series of pages). This is good for information delivery, and it doesn't require the audience to have any special software, but you do lose some of the animation and special effects.

You can also place the PowerPoint file on a Web server and then create a link to it from a Web page. This lets people run the presentation in PowerPoint itself (or the PowerPoint Viewer) with all the bells and whistles.

Note   If you are interested in learning how to use the Internet to distribute or present a PowerPoint Presentation, Wiley's *PowerPoint 2003 Bible* covers it in depth in chapter 30.

Interactive Presentation Ideas

You have probably thought of some good ideas for interactive presentations as you worked through this chapter. Here are some more:

✦ **Web resource listings:** Include a slide that lists Web page addresses that the users can visit for more information about various topics covered in your presentation. Or, include Web cross-references throughout the presentation at the bottom of pertinent slides.

✦ **Product information:** Create a basic presentation describing your products, with For More Information buttons for each product. Then, create hidden slides with the detailed information, and hyperlink those hidden slides to the For More Information buttons. Don't forget to put a Return button on each hidden slide so users can easily return to the main presentation.

✦ **Access to custom shows:** If you have created custom shows, as described in Chapter 24, set up action buttons or hyperlinks that jump the users to them on request. Use the Action Settings dialog box's Hyperlink To command and choose Custom Show; then choose the custom show you want to link to.

✦ **Quizzes:** Create a presentation with a series of multiple-choice questions. Create custom action buttons for each answer. Depending on which answer the user clicks, set it up to jump either to a Congratulations, You're Right! slide or a Sorry, Try Again slide. From each of those, include a Return button to go on with the quiz.

✦ **Troubleshooting information:** Ask the users a series of questions and include action buttons or hyperlinks for the answers. Set it up to jump to a slide that further narrows down the problem based on their answers, until they finally arrive at a slide that explains the exact problem and proposes a solution.

✦ **Directories:** Include a company directory with e-mail hyperlinks for various people or departments so that anyone reading the presentation can easily make contact.

Summary

In this chapter, you learned how to create action buttons and hyperlinks in your presentation that can help your audience jump to the information they want in a self-service fashion. Now you can design great-looking presentations that anyone can work their way through on their own, without assistance.

✦   ✦   ✦

Adding Security to Access Applications

✦ ✦ ✦ ✦

Although Access provides the interface to maintain security options, it is Jet that actually performs security functions. The Jet security model has changed little since Access 95. Jet's security is still a workgroup-based security model; all users in a workgroup are bound to the same security rules. The rules enforced for individual users may vary from user to user, based on the permissions assigned to each user.

Note This chapter is from the *Access 2003 Bible*, which includes a CD with sample applications on it to give you real hands-on experience. If you have that book, you would use the database file Chap34Start.mdb.

Understanding Jet Security

Jet security is defined at the object level for individuals or groups of users. The Jet security model is rather complex, but it isn't too difficult to understand when broken down into its core components, which are as follows:

✦ Workgroups

✦ Groups

✦ Users

✦ Object owners
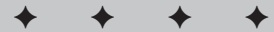
✦ Object permissions
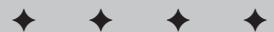
The two main reasons for employing user-level security are

✦ To protect sensitive data in the database.

✦ To prevent users from accidentally breaking an application by changing the objects (tables, queries, and so on) of the application.

By using passwords and permissions, you can allow or restrict access of an individual or groups of individuals to the objects (forms, tables, and so on) in your database. This information, known as a *workgroup,* is stored in a workgroup information file.

Understanding workgroup files

Jet stores security information for databases in workgroup information files, usually the default file is named "SYSTEM.MDW." This *workgroup information file* is a special Access database that contains a collection of user names and passwords, user group definitions, object owner assignments, and object permissions. The SYSTEM.MDW file is often located, by default, in the C:\Documents and Settings\<user name>\Application Data\Microsoft\Access\System.MDW folder. When Access opens a database, it reads the workgroup information file associated with the database. Access reads the file to determine who is allowed — and at what level — access to the objects in the database and what permissions they have to those objects.

You can use the same workgroup file for multiple databases. After you enable security for a database, however, users must use the workgroup information file containing the security information. If users use a workgroup other than the one used to define security, however, they are limited to logging into the database as the Admin user — with whatever permissions the database administrator left for the Admin user.

Tip   When securing a database, one of the first things that you need to do is to remove all permissions for the Admin user. Removing these permissions prevents other users from opening the database as the Admin user by using another Access workgroup file and obtaining the rights of the Admin user. Users can still open the database as the Admin user by using a different workgroup, but they won't have any object permissions. This measure is discussed later in this chapter in the section "Working with workgroups."

Understanding permissions

The permissions in Jet security are defined at the object level; each object, such as a form or report, has a specific set of permissions. The system administrator defines what permissions each user or group of users has for each object. Users may belong to multiple groups, and they always inherit the highest permission setting of any of the groups to which they belong.

For example, every table object has a set of permissions associated with it: Read Design, Modify Design, Read Data, Update Data, Insert Data, Delete Data, and Administrator. (See Table 22-1, later in this chapter, for a complete list of permissions and their meanings.) The database administrator has the ability to assign or remove any or all of these permissions for

each user or group of users in the workgroup. Because the permissions are set at the object level, the administrator may give a user the ability to read data from Table A, as well as read data from and write data to Table B, but prevent the user from even looking at Table C. In addition, this complexity allows for unique security situations, such as having numerous users sharing data on a network, each with a different set of rights for the database objects. All security maintenance functions are performed from the Tools⇨Security menu item (see Figure 22-1).
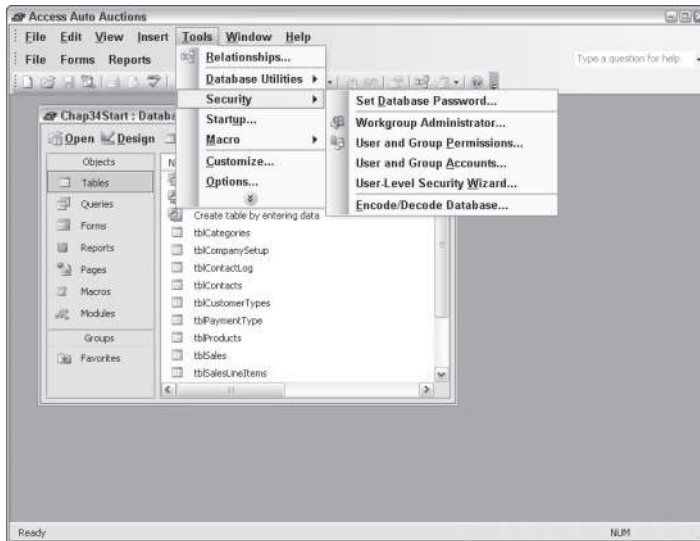
Figure 22-1: All Jet security functions are performed from the Tools⇨Security menu.

Understanding security limitations

You need to be aware of the fact that you can't depend on the Jet security model to be foolproof. For example, security holes have been discovered and exposed in previous versions of Access — in effect, unprotecting every database distributed under the assumption that the code and objects were protected. The amount of resources involved in developing an application is often huge, and protecting that investment is essential. The most that you can do for protection is to fully and properly implement the Jet 4.0 security model and use legally binding licensing agreements for all of your distributed applications. Unfortunately, the security of your databases is at the mercy of software hackers.

As of the printing of this book, Microsoft has released the Microsoft Jet 4.0 Service Pack 7 update, which provides an updated sandbox mode. Sandbox mode allows Microsoft Office Access 2003 to block potentially unsafe expressions. In fact, if you do not install this service pack, some features in Office Access 2003 will not function properly.

Tip   You should monitor the Microsoft Update service on the Web at `http://office.microsoft.com/ProductUpdates/default.aspx` to keep your Windows operating system and Office programs up to date.

We recommend that you use Microsoft Access security to lock up your tables and prevent access to the design of your forms, reports, queries, and modules. However, if you want to control data at the form level — for example, suppose that you want to hide controls or control access to specific form-level controls or data — you have to write your own security commands. You can also use the operating system (Windows) to prevent access to the directories.

Choosing a Security Level to Implement

As an Access developer, you must determine the level of security appropriate for your application — not every database needs user-level security. If your application contains non-sensitive data or is implemented in a fairly low-risk workgroup, you may not need the powerful permission protection of Jet's security. For applications that need to be secure, you need to make the following decisions:

✦ Which users are allowed to use the database?

✦ Can individual users be categorized into similar groups?

✦ Which objects need to be restricted for individual users or groups?

After you have made these determinations, you are ready to begin implementing security in your application. Access includes a tool to help you implement security — the User-Level Security Wizard (available from the Tools⇨Security menu choice). This chapter teaches you how you can implement security by using Access's interface; each security element is discussed in detail. A thorough understanding of the workings of the security model is essential in developing well-secured applications. (The wizard is discussed later in this chapter.)

Creating a Database Password

You can use Jet security at its most basic level simply by controlling who can open the database. You control database access by creating a password for the databases that you want to protect. When you set a database password for a database, users are prompted to enter the password each time they attempt to access the database. If they don't know the database password, they are not allowed to open the database. When using this form of security, you are not controlling specific permissions for specific users; you are merely controlling who can and can't access the secured database.

To create a database password, follow these steps:

1. In Access, open the Chap34Start.mdb database exclusively.

Note You *must* open the database exclusively in order to set the database password. To open the database exclusively, select the Open Exclusive button from the Open pull-down menu in the lower-right corner of the Open dialog box, as shown in Figure 22-2.
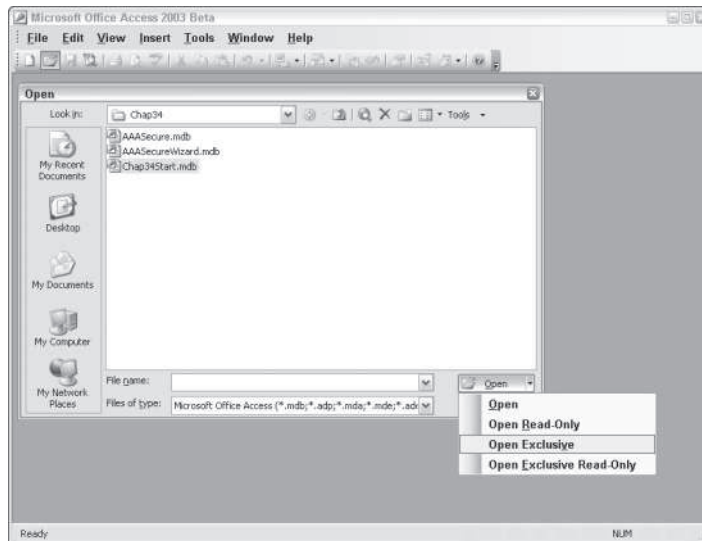
Figure 22-2: Opening a database in exclusive mode.

2. Select Tools⇨Security⇨Set Database Password (refer to Figure 22-1).

3. In the Password field, type the password that you want to use to secure the database (see Figure 22-3). For this example, use the password *bible*. Access does *not* display the password; rather, it shows an asterisk (*) for each letter.

Figure 22-3: Creating a database password is the simplest way to secure your database.

4. In the Verify field, type the password again. This security measure ensures that you don't mistype the password (because you can't see the characters that you type) and mistakenly prevent everyone, including you, from accessing the database.

Tip

For maximum security, when entering a password, you should follow standard password naming conventions. That is, you should make the password a combination of letters and numbers that won't represent any easily known or deduced combination. People often unwisely use a birthday, their name, their address number, or a loved one's name, which are all poor choices for passwords because another person could deduce them fairly easily. On the other hand, you shouldn't make the password so difficult to remember that you and others accessing the database will have to write it down to use it. A written password is a useless password.

5. Click OK to save the password.

Caution

You can't synchronize replicated databases that have database passwords. If you plan to use Jet's replication features and you need database security, you must use user-level security.

After you save the database password, any user who attempts to open the database must enter the password. Although this method controls *who* can access the database, it doesn't control *what* users are allowed to do with the objects and data after they have opened the database. To control objects, you need to fully implement Jet's user-level security, which is discussed in the following section.

Note

After a database has been protected with a database-level password, you must supply the password when linking to any of its tables. This password is stored in the definition of the link to the table.

To remove a database password, follow these steps:

1. In Access, open the secure database exclusively. You must open the database exclusively to be able to remove the database password.

2. Select Tools⇨Security⇨Unset Database Password. This menu option replaced the option labeled Set Database Password before the database password was set.

3. In the Password field, type the password of the database (see Figure 22-4).

4. Click OK to unset the password.

Figure 22-4: You can remove a database password by entering the password in the Unset Database Password dialog box.

If you remove a database password from an Access database, users are no longer required to enter a password to access the database unless you have enabled user-level security.

> **Note**
>
> Any user who knows the database password has the ability to change or remove the database password. You can prevent this situation by removing the Administer permissions from the database for all users except the database administrator. This is discussed in more detail later in this chapter.

> **Caution**
>
> Microsoft Access stores the database password in an unencrypted form. If you have sensitive data, this can compromise the security of the password-protected database. In situations where data security is critical, you should consider defining user-level security to control access to sensitive data. User-level security is covered in depth later in this chapter.

Using Visual Basic to Set A Password

You also can set a database password using Visual Basic code. The following code changes the database password of the currently opened database:

```
Public Sub ChangeDatabasePassword()
   On Error GoTo ChangeDatabasePasswordErr
   Dim szOldPassword As String, szNewPassword As String
   Dim db As Database
   Set db = CurrentDb
   szOldPassword = ""
   szNewPassword = "shazam"
   db.NewPassword szOldPassword, szNewPassword
   Exit Sub
   ChangeDatabasePasswordErr:
     MsgBox Err & ":  " & Err.Description
     Exit Sub
   End Sub
```

If no database password is set, you pass a zero-length string ("") as the old password parameter. If a database password is assigned and you want to remove the password, pass the database password as the old password parameter and pass a zero-length string ("") as the new password.

Using the /runtime Option

If you're not concerned with protecting your application but simply want to prevent users from mistakenly breaking your application by modifying or deleting objects, you can force your application to be run in Access's *runtime mode*. When a database is opened in Access'

runtime mode, all the interface elements that allow changes to objects are hidden from the user. In fact, while in runtime mode, it is impossible for a user to access the Database window. When using the runtime option, you must ensure that your application has a startup form that gives users access to whatever objects that you want them to be able to access. Normally this is the main menu or main switchboard of your application.

Note   You must purchase and install the Microsoft Visual Studio Tools for the Microsoft Office System to use the /runtime switch. This suite of tools includes a runtime version of Access that allows you to distribute a royalty-free licensed copy of your Access 2003 applications to users, whether they have Access on their machine or not.

Tip   To assign a form as a startup form, open the database that you want to use, choose Tools⇨Startup and select the form that you want to be the startup form from the Display Form/Page drop-down list. Startup forms are covered more in-depth in the following section.

To create a shortcut to start your application in Access's runtime mode, follow these steps, using the Chap34Start.mdb database:

1. Go to the subdirectory that contains Microsoft Access (MSACCESS.exe).

Note   On most computers, the MSACCESS.EXE file is located in the "C:\Program Files\Microsoft Office\OFFICE11\" folder.

2. Highlight the Microsoft Access program and select File⇨Create Shortcut, or right-click on the program file and select Create Shortcut from the menu-on-demand.

   Windows creates a shortcut in the same directory, naming it "Shortcut to Msaccess.exe."

3. Right-click the newly created shortcut, select Properties from the menu, and then click the Shortcut tab when the Properties dialog box opens.

4. In the Target: field, append the following parameters to the path of MSACCESS.EXE (program): A space, the full path name and filename of the database to open in runtime mode, another space, and then /runtime.

   For example, the following command line starts Access and opens the Chap34Start.mdb database in runtime mode on our computers:

   ```
        "C:\Program Files\Microsoft Office\OFFICE11\MSAccess.exe"
   "C:\Access 2003 Access Auto Auctions\Chap34Start.mdb" /runtime
   ```

Note   The path to MSAcess.exe should have already been in the Target: field. Note that Windows automatically places the path and filename for MSAccess.exe in quotation marks. The /runtime switch should not be enclosed in quotes. If you enclose the /runtime switch in quotes, an error occurs when you attempt to execute the shortcut.

5. After you have specified the path and filename, placing the /runtime switch at the end of the Target: field, you can optionally remove the path name in the Start in: field.

Figure 22-5 shows how the Shortcut properties should look at this point.
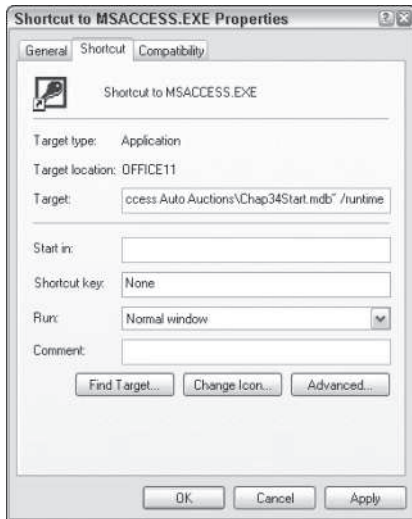
Figure 22-5: Modifying the Target: and Start in: fields of the shortcut by using the / runtime switch of Access 2003.

6. After the fields have been updated, click the Apply button to process the changes and save the shortcut.

7. Finally, you can rename the shortcut icon to any name that you want and move it from the current directory to another directory, or even to the desktop. After you have created the shortcut, you can distribute or re-create the same shortcut for each user installation.

Tip   If your database has a password associated with it, the user will still be prompted to enter the password prior to opening the database.

Using a Database's Startup Options

A slightly less secure alternative to using the /runtime option is to set a database's startup options. This alternative is not a complete solution for situations where tight security is paramount. Figure 22-6 shows the Startup options dialog box. To access the Startup options dialog box, select Tools⇨Startup.
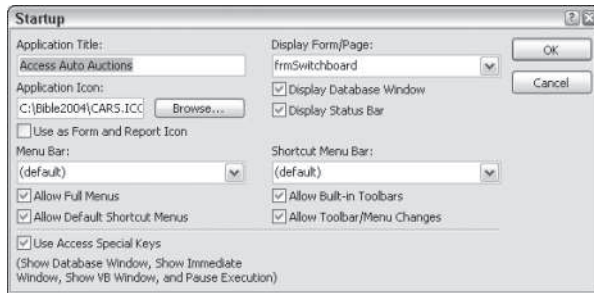
Figure 22-6: Using the Startup options dialog box provides another option for securing an application.

By making the appropriate specifications in the Startup options dialog box, you can do the following:

✦ Assign a title to the application.

✦ Assign an Application Icon to the application.

✦ Assign a form or data access page to immediately run when the database is open.

✦ Prevent the Database window (container) from being displayed.

✦ Prevent the status bar from being displayed.

✦ Designate a menu bar to be used on startup of your application.

✦ Designate a shortcut menu to be used on startup of your application.

✦ Prevent Access's built-in menus (full menus) from being displayed.

✦ Prevent Access's built-in shortcut menus from being displayed.

✦ Prevent Access's built-in toolbars from being displayed.

✦ Prevent users from modifying toolbars (toolbar/menu changes).

✦ Prevent users from using Access's special keys to display the Database window, display the immediate window, display the VB window, or pause execution.

To designate the frmSwitchboard form as the default form to open whenever the Chap34Start.mdb database opens, follow these steps:

1. Open the Chap34Start.mdb database and select Tools⇨Startup to open the Startup dialog box.

2. Click in the Display Form/Page: field and select the frmSwitchboard form from the pull-down list (refer to Figure 22-6).

3. Click OK.

After you have assigned a form to open automatically, you can also specify that the Database window or status bar not be displayed to give even greater security to your application. By selecting these two items, when the user clicks the Close button on the startup form, the database window (container) will not display. By using a database password and the Startup options, you can assign minimum security to the database and your application.

Caution The user can bypass the Startup options by simply holding down the Shift key while opening the database. However, if you assign a database password, users will still be required to enter the password in order to use the database.

Using the Jet User-Level Security Model

Most often when security is required, setting a database password and run-time options is simply not enough.

When you need more security, you can use Access user profiles that are implemented by the user-level/object permissions security of Jet 4.0. The Jet Database Engine offers additional levels of customization and security for your application. When using Jet level security, you need to complete the following series of functions:

1. Select or create a workgroup database.
2. Define the workgroup database's security groups.
3. Create the users of the workgroup database.
4. Define permissions for each user and security group.
5. Enable security by setting an Admin user password.

What Is Jet and a User Profile?

When you create a Microsoft Access database (.mdb or .mde), Access uses an internal program to create and work with the database and its objects. Microsoft calls this internal program the *Jet Database Engine*. Its purpose is to retrieve and store data in user and system databases. Some people refer to the Jet engine as a *data manager* that the database system is built upon. Jet only works with Access databases — it doesn't work with other ODBC databases, such as SQL Server, Oracle, and others. The current version of Jet is 4.0 (also in Access 2000 and 2002). When you installed Access, the installation program created several registry settings for the Jet engine. You can use the Registry Editor to examine and even change these settings for Access. However, we highly recommend that you do not change the setting in the Microsoft Windows registry.

Using Jet, you can build an Access user profile that is comprised of a special set of Window's registry keys, which will override the standard Access and Jet database engine settings.

Enabling security

Jet database security is always on. Whenever a new workgroup database is created, an Admin user is automatically created within the workgroup. This Admin user has no password assigned to it. When the Admin password is blank, Access assumes that any user attempting to open the database is the Admin user, and that this user is automatically logged in to the database as the Admin user. To force Access (Jet) to ask for a valid user name and password to log in to the database (see Figure 22-7), you simply need to create a password for the Admin user. (Creating passwords is discussed later in this section.) To disable security, simply clear the Admin user's password. The security permissions that you have designed are still in effect, but Access doesn't ask for a user name and password — it logs on all users as the Admin user with whatever permissions were assigned to the Admin user. Be careful about clearing the Admin user's password when you have modified the permissions of your users.
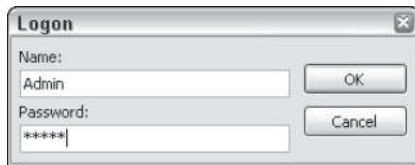
Figure 22-7: When security is enabled, Jet forces all users to enter a valid user name and password to use the secured database.

> **Tip**
>
> Any changes that you make to security won't take effect until you restart Access. If you have cleared the Admin password only to find that some or all of the Admin user's permissions have been revoked, open the database and create a password for the Admin user. Then exit Access and restart Access (not the database). When you restart Access, you are prompted to enter a user name and password.

Working with workgroups

A *workgroup* is a collection of users, user groups, and object permissions. You can use a single workgroup file for all of your databases, or you can use different workgroups for different databases. The method that you use depends on the level of security that you need. If you give Administrative rights to users of some databases but not to users of other databases, you need to distribute separate workgroup files with each database. Access always uses a workgroup file when you open it. By default, this workgroup file is the SYSTEM.MDW workgroup file. This file comes with Access 2003.

Creating a new workgroup

You can create new workgroups or join existing workgroups by using the Workgroup Administrator program that comes with Access 2003 (see Figure 22-8). To begin creating a new workgroup, select Tools⇨Security from the Access menu.

Figure 22-8: Using the Workgroup Administrator to create new workgroups and to join existing workgroups.

> **Note** You should completely close down Access after creating new workgroups or joining existing workgroups. When you use the Workgroup Administrator to join a workgroup, that workgroup is not actually used until the next time you start Access.

To create a new workgroup file, follow these steps:

1. Start Access (with or without a database), select Tools⇨Security, and then select Workgroup Administrator.

2. Select the Create button in the Workgroup Administrator dialog box to display the Workgroup Owner Information dialog box.

The workgroup that you create is identified by three components: Name, Organization, and Workgroup ID (see Figure 22-9).

> **Caution** In order to re-create the workgroup file in the event that it becomes corrupt or deleted, you need all three pieces of information. For this reason, to ensure that no other user can create your workgroup and access your secured database, you should supply a unique, random string for the Workgroup ID. Someone may possibly guess the name and organization used in your workgroup file if he or she knows who you are, but to guess all three items — especially if you create a random, unique ID — is almost impossible.

Figure 22-9: Workgroups are identified by these three key pieces of information. A workgroup can't be re-created without all three of these items.

3. When you are satisfied with your entries, select OK to display the Workgroup Information File dialog box.

4. Enter a name for the new workgroup file, and select OK to save it (see Figure 22-10). If you enter a filename that already exists, like SYSTEM.MDW, you will receive a confirmation box requesting that you confirm replacing the existing file.
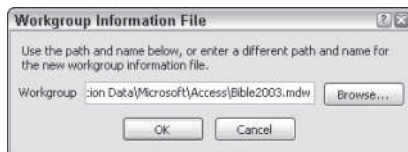
Figure 22-10: Assigning a filename for the new workgroup.

5. The Workgroup Administrator displays a confirmation dialog box (see Figure 22-11) containing the information that you entered for the new workgroup and explains the importance of writing down and storing the information. If you are satisfied with your entries, select OK to save your workgroup. If you want to change anything, click the Change button to return to Step 3.

Figure 22-11: Confirming the information for the new workgroup.

When you select the OK button in the Confirm Workgroup Information dialog box, a message displays to inform you that you have created the workgroup information file correctly.

Tip

In order to ensure that you can recover from the loss of your workgroup file, you should immediately make a copy of the workgroup file. In addition, you should write down the three pieces of information that you used to create the workgroup file, exactly as they were entered, in the event that you have to re-create the workgroup file from scratch. Store both the backup file copy and the written information in a secure place.

Joining an existing workgroup

When you create a new workgroup, Access automatically joins the new workgroup. If you don't want to use the new workgroup right away, or if at any time you need to use a workgroup other than the current workgroup, you can use the Workgroup Administrator to join another workgroup.

To join an existing workgroup, follow these steps:

1. Activate the Workgroup Administrator program from the Tools⇨Security menu.

2. The Workgroup Administrator dialog box displays the current workgroup (refer back to Figure 22-10). Click the Join button to select a workgroup file. If you aren't sure of the filename, click the Browse button to display a File dialog box in which to locate the workgroup file.

3. A prompt displays so that you can confirm or cancel joining the workgroup. Select OK and then select Exit to close the Workgroup Administrator.

Working with users

Every time a user opens an Access (Jet) database, Jet must identify the user opening the database. In Access, security is always enabled — regardless of whether or not you have explicitly created a workgroup for your database. If you have not defined a workgroup, Jet assumes that any user who opens the database is the Admin user. When a new workgroup is created, Access automatically creates a default user named Admin. The Admin user automatically receives full permissions to all objects in the database. Obviously, when you secure a database, you don't want everyone to be able to open the database with full permissions on all objects, so you must create additional users for the workgroup.

Adding and deleting user accounts

To add, delete, and edit user information, you use the User and Group Accounts dialog box (see Figure 22-12). To open the User and Group Accounts dialog box, select Tools⇨Security⇨User and Group Accounts … from the Access menu. The Users tab of the User and Group Accounts dialog box consists of two sections: User and Group Membership. You use the User section to create and maintain user names and passwords. You use the Group Membership section to assign users to user groups. Assigning users to groups is discussed in detail later in this chapter.

Figure 22-12: Creating and maintaining users in the User and Group Accounts dialog box.

To fully secure your database with users and groups, you should generally follow these steps:

1. Create a new user.

2. Add the new user to the Admins group.

3. Remove the Admin user from the Admins group.

4. Assign all object ownerships to the new user.

When you create a user, you supply the user name and a personal identifier. Jet then combines these two items and processes them in a special algorithm, producing a unique security ID (SID). It is this SID that Jet uses to recognize users. In order to re-create a user in the workgroup, you need to know the user name and the personal ID (PID) that was used to create the user. Consequently, you should always write down and store all names and PIDs of users that you create in a safe place.

To create a new user in a workgroup, follow these steps:

1. Open the database Chap34Start.mdb.

2. Select Tools⇨Security⇨User and Group Accounts to display the User and Group Accounts dialog box.

3. Select the New button in the User section to display the New User/Group dialog box (see Figure 22-13).
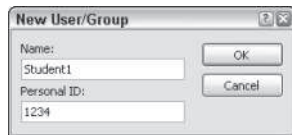
Figure 22-13: Jet combines the User Name and Personal ID to create a unique SID for the user.

4. Enter the name **Student1** for the Name, and enter a unique Personal ID of **1234**. (You can enter any appropriate information into these two fields, if you don't want to use these example names.) Write this information down and store it in a safe place; you will need it if you have to re-create the user in the workgroup.

5. Select OK to save the new user.

After you have created the new user, Student1, you can assign Group Memberships and/or a password for the user. Notice that Student1 is automatically a member of the Users group. Any new member must at least belong to this group. You can make Student1 a member of the Admins group by simply selecting the Add button in the Group Membership section.

Caution To fully secure your database, you must remove all permissions for the Admin user, found under the Tools⇨Security⇨User and Group Permissions menu. (Defining Group Permissions is covered later in this chapter.) All Admin users share the same SID in all workgroups, on all machines. If you don't remove the permissions for the Admin user, an unauthorized user using a different workgroup can open the database as the Admin user with all permissions of the Admin user. The Admin user can't be deleted, so the Admin user account needs to be adjusted accordingly.

If you want to delete the user Student1 that you just created, follow these steps:

1. Select Tools⇨Security⇨User and Group Accounts to display the User and Group Accounts dialog box.

2. From the User Name drop-down list, select the User Student1.

3. Click the Delete button to delete the selected user.

Creating and changing user passwords

Any user who is a member of the Admins group can remove a password from any user account. A user who is a not a member of the Admins group can change his or her own password. However, a user who is not a member of the Admins group cannot change or create a password for any other user.

Caution When Access opens and a password has been assigned to any user, the Logon Dialog box displays (refer back to Figure 22-7).

If no passwords are assigned to any of the users, however, Access will automatically open, using the Admin user. This means that any additional users that you create in Security will *not* be able to set a password. To correct this, you will need to create a password for the Admin user. Then exit from Access and restart Access, logging on as the user whose password you want to change.

To create or change the Admin password, follow these steps:

1. Open the database Chap34Start.mdb.

2. Select Tools⇨Security⇨User and Group Accounts.

Caution

Make sure that the user name selected is Admin (not Student1 that you created earlier).

3. Click the Change Logon Password tab (see Figure 22-14).

Figure 22-14: The Change Logon Password tab of the User and Group Accounts dialog box. Notice that the name is "Admin" and can't be changed.

4. Because no password has been assigned to Admin, leave the Old Password field blank.

Tip If you are logging on as the Admin user after you have assigned a password, or if a password exists for the user that you logged on as, enter it in the Old Password field. If no password is assigned to the user, leave the Old Password field blank.

5. Move to the New Password field and enter the new password **Admin** (or any other password that you want to assign — remember that Access's security is case-sensitive) in the New Password field. Access *won't* show you the word that you are typing; rather, it shows an asterisk for each character that you type.

6. Move to the Verify field and enter the new password **Admin** again. (Again, remember that Access's security is case-sensitive.) Each character is replaced with an asterisk.

7. Click the Apply button to save the new password for the Admin user.

8. Click OK to close the User and Group Accounts dialog box.

Tip After you have created a password for the user, you will have to exit from Access and restart Access for the changes to take effect. Simply closing the database and opening it again won't activate the security changes (such as assigning a password to Admin) that you made.

Tip The Logon dialog box will not display if no passwords have been set for any users.

Tip

Users can't create or change passwords for other users, regardless of their permission settings.

Tip

Any user who is a member of Admins can clear the password of another user, so that user can log on if he or she has forgotten his or her password.

To change another person's password, you will have to start Access and open the database by logging on as the user whose password you want to change.

Working with groups

Groups are collections of users. A user may belong to one or more groups. You use groups to organize multiple users together who will be granted the same object permission privileges. You can then define object permissions to the group once, versus having to assign them individually for each user. When you create a new user, you simply add the user to the group that has the object permission privileges that the new user should have.

For example, you may have a number of users in a credit department and in a sales department. If you want to allow all of these users to look at a customer's credit history but restrict the sales staff to viewing only basic customer information, you have the following options:

✦ Create an individual user account for each user in each department and assign object permissions for each user.

✦ Allow all users in the credit department to log on as one user, and allow all users in the sales department to log on as a different user. You can then restrict the object permissions for each of these two users.

✦ Create an individual user account for each user in each department, and create a group account for each department. You can then make the permissions assignments for each of the two groups and place each user into his or her respective group to inherit the group's permissions.

Although creating a unique user account and assigning specific permissions to each user is a valid scenario, it is an administrator's nightmare. If policy dictates that one of the departments needs to have permissions added or revoked, the change has to be made to each of the users' accounts in that department.

The second method is straightforward and simple but presents many problems. If a user transfers from one department to another, he knows the user names and passwords for both departments and may be able to retrieve data that he is no longer authorized to view. In addition, if an employee leaves, the user name and password need to be changed, and each user of the workgroup has to be made aware of the change. In a multi-user environment, creating a unique user account for each user and then grouping them accordingly is a much better solution.

With the third option, the change can be made to the department group once, and all users inherit the new permission settings.

Adding and deleting groups

Just as Access automatically creates an Admin user in all new workgroups, it also automatically creates two groups: Users and Admins. Every user account in the system belongs to the Users group; you can't remove a user from the Users group. The Admins group is the all-powerful, super-user group. Users of the Admins group have the ability to add and delete user and group accounts, as well as to assign and remove permissions for any object for any user or group in the workgroup. In addition, a member of the Admins group has the ability to remove other user accounts from the Admins group. For this reason, you need to carefully consider which users you allow to be a member of the Admins group. The Admins group and the Users group are permanent groups; they can never be deleted.

Tip

Access doesn't enable you to remove all users from the Admins group; one user must belong to the Admins group at all times (the default is the user named Admin). If you were allowed to remove all users from the Admins group, you could set up security so tight that you would never be able to bypass it yourself! In general, when securing a database, you should place only one user and one backup user in the Admins group.

Note

Unlike the Admin user's SID, which is identical in every Access workgroup, the Admins group's SIDs are not identical from workgroup to workgroup, so unauthorized users using a workgroup other than the one that you used to define security can't access your database as a member of the Admins group. The Users group's SIDs are the same throughout all workgroups, however, so you need to remove all permissions for the Users group. If you don't remove permissions from the Users group, any user in any workgroup can open your database with the Users group's permissions.

To create a new group named *Sales,* follow these steps:

1. Open Access and then open the Chap34Start.mdb database and log in with the Admin user name and Admin password. Then select Tools⇨Security⇨User and Group Accounts to display the User and Group Accounts dialog box.

2. Select the Groups tab.

3. Select the New button to display the New User/Group dialog box (see Figure 22-15).
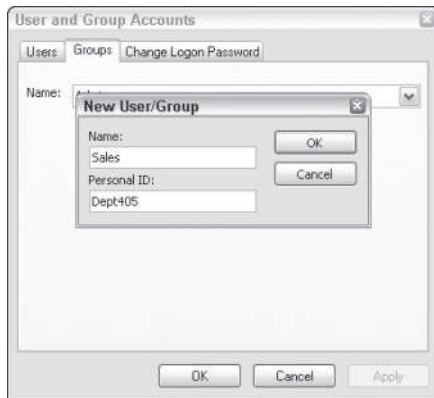
Figure 22-15: Jet uses the group name and personal identifier to create a unique SID for a group, just as it does for user accounts.

4. Just as you do to create users, enter the group name **Sales** and a personal ID of **Dept405**. (If you aren't following along with this example, you can enter your own group name and personal ID.) Also, just as before, write down this information and put it in a safe place because you will need it if you ever need to re-create the group.

5. Select OK to save the new group.

6. After this is complete, you can select OK in the User and Group Accounts dialog box to save your work.

If, at a later time, you want to delete the Sales group that you just created, follow these steps:

1. Select Tools⇨Security⇨User and Group Accounts … to display the User and Group Accounts dialog box.

2. Select the Groups tab (refer to Figure 22-15).

3. From the drop-down list, select the Sales group to delete.

4. Select the Delete button to delete the selected group.

Assigning and removing group members

Assigning users to and removing users from groups is a simple process. You use the Users tab on the User and Group Accounts dialog box to add to and remove users from a group. You may place any user in any group, and a user may belong to more than one group. You cannot remove a user from the Users group nor can you remove all users from the Admins group — you must always have at least one user in the Admins group.

To add the user Student1 to the new group Sales, follow these steps:

1. Open Chap34Start. Select Tools⇨Security⇨User and Group Accounts to display the User and Group Accounts dialog box.

2. From the User Name drop-down list, select the user Student1 to modify her group assignments.

3. To assign the user Student1 to the group Sales, select the Sales group in the Available Groups list and select the Add button (see Figure 22-16). The Sales group displays in the Member Of list.

Figure 22-16: Assigning users to groups makes controlling object permissions much easier for the system administrator.

4. Select OK to save the new group assignments.

To remove the user Student1 from the group Sales, follow these steps:

1. Select Tools⇨Security⇨User and Group Accounts to display the User and Group Accounts dialog box.

Caution

Make sure that the user name selected is Student1 (not Admin).

2. Select the group Sales in the Member Of list and select the Remove button. The Sales group no longer displays in the Member Of list.

3. Select OK to save the new group assignments.

4. Because Jet uses the same SIDs for all Admin user accounts throughout all workgroups, you always need to remove the Admin user from the Admins group when securing a database. Figure 22-16 shows that the user Student1 has been added to the Sales group. Notice that Student1 is a member of two groups: Users and Sales. Before leaving this section, assign Student1 to the Admins group so that you can use this example later in this chapter.

The only remaining task is to set the appropriate object permissions for the Users and Sales groups.

Securing objects by using permissions

After you have defined your users and groups, you must determine the appropriate object permissions for each group. Permissions control who can view data, update data, add data, and work with objects in Design view. Permissions are the heart of the Jet security system and can be set only by a member of the Admins group, by the owner of the object (see the next section), or by any user who has Administrator permission for an object.

Setting an object's owner

Every object in the database has an owner. The *owner* is a user account in the workgroup that is designated to always have Administrator rights to the object. Administrator rights override the permissions defined for the logged-on user or defined for any of the user's groups. You can designate one user to be the owner of all the objects in a database, or you can assign an owner to individual objects.

Access queries require special consideration when assigning owners to objects. When creating a query, you can set the Run Permissions property of the query to either User's or Owner's (see Figure 22-17). When a password is defined for a workgroup, Run Permissions is automatically set to User's. Setting Run Permissions to User's limits the users of the query to viewing only the data that their security permissions permit. If you want to enable users to view or modify data for which they do not have permissions, you can set the Run Permissions property to Owner's. When the query is run with the Owner's permissions (WITH OWNERACCESS OPTION in an SQL statement), users inherit the permissions of the owner of the query. These permissions are applicable only to the query and not to the entire database.
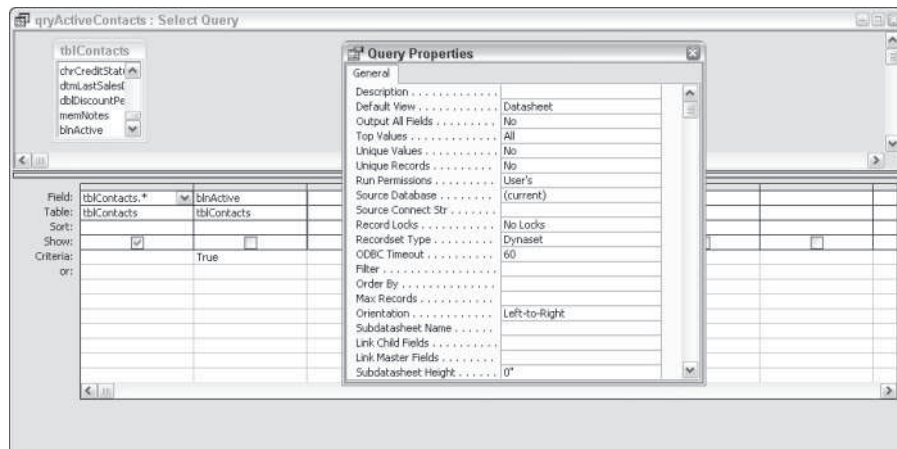
Figure 22-17: Setting a query's Run Permissions determines which users can run the query or modify the query.

Tip

When a query's Run Permissions property is set to Owner's, only the owner can make changes to the query. If this restriction poses a problem, you may want to set the owner of the query to a group rather than to a user account. Note that only the owner of an OwnerAccess query can change the query's owner.

Note

If you haven't assigned passwords to Admin or other users, the user is automatically assumed to be Admin and the query's Run Permissions property is set to Owner's.

To change the owner of any object in the database, follow these steps:

1. Select Tools⇨Security⇨User and Group Permissions to display the User and Group Permissions dialog box.

2. Select the Change Owner tab (see Figure 22-18).

Figure 22-18: Transferring ownership of one or more tables from the Admin user to the Sales group.

3. Select the object (or objects) whose ownership you want to transfer. You can select the type of objects to display by changing the Object Type field.

4. Select the user or group that you want to make the owner of the selected object. To select a group name, first select the List: Groups radio button.

5. Select the Change Owner button to change the object's owner to the selected user or group.

> **Note**   Each object in a database has an owner. The database itself also has an owner. You can
> view the owner of the database by selecting Database from the Object Type drop-down list.
> You can't change an object's owner by using Access's interface. The only way to change a
> database's owner is to log on as the user that you want to make the owner of the database,
> create a new database, and then import the original database into the new database by
> using the File⇨Get External Data⇨Import menu option. When you import a database, the
> current user is assigned as the new owner of the database and all of its database objects.
> This is essentially what the Security Wizard (discussed later in this chapter) does for you.

Setting object permissions

Object permissions are the heart of Jet security. You can set one or more object
permissions at a time for a user or group. When assigning permissions, you must keep in
mind that some permissions automatically imply other permissions. For example, if you
assign a user Read Data permission for a table, the Read Design permission is also granted
because a table's design must be available to access the data. A more complex example is
assigning permission for Insert Data — this automatically grants permission for Read Data
and Read Design.

An object's permission assignments are persistent until one of the following conditions
occurs:

✦ A member of the Admins group changes the object's permissions.

✦ The object is saved with a new name by using the Save As command from the File
   menu.

✦ The object is cut and pasted in the Database window.

✦ The object is imported or exported.

If any of the preceding actions occurs, all permissions for the manipulated object are lost
and you will need to reassign them. When you perform any of these actions, you are actually
creating a new object. Access assigns default permissions for each object type.

There are two ways that permissions can be granted to a user:

✦ **Explicit permissions** are permissions that are granted directly to a user. When you
   manually assign a permission to a user, no other user's permissions are affected.

✦ **Implicit permissions** are permissions that are granted to a group. All users belong-
   ing to a group inherit the permissions of that group.

> **Note**   Because permissions can be assigned implicitly and because some permissions grant
> other permissions (Insert Data, Read Data, and Read Design permissions), users may be
> able to grant themselves permissions that they do not currently have. Because of this
> possibility, you must plan carefully when assigning permissions to groups of users and to
> individual users.

To assign or revoke a user's permissions for an object, follow these steps:

1. Select Tools⇨Security⇨User and Group Permissions … to display the User and Group Permissions dialog box. Select the Permissions tab.

2. In the Object Type drop-down list, select the type of object whose permissions you want to change.

3. In the User/Group Name list box, select the user or group account that you want to modify. To see a list of all Groups, click the List: radio button in the Name section.

4. In the Object Name list box, select the object (or objects) that you want to modify.

5. In the Permissions grouping section, select or unselect the permissions check boxes for the object(s).

6. Select Apply to save the permission assignments.

Remember that Admin user SIDs are identical throughout all workgroups. So after you assign Administer permissions to a specific user, you need to remove all permissions for the Admin user in order to secure your database. Figure 22-19 shows the Admin user's permissions being revoked for all tables in the database. Notice that all checkboxes have been cleared for all tables. Clearing the checkboxes prevents an Admin user from doing anything with table objects. You must repeat the process for each Object type until the Admin user has no permissions for any object.
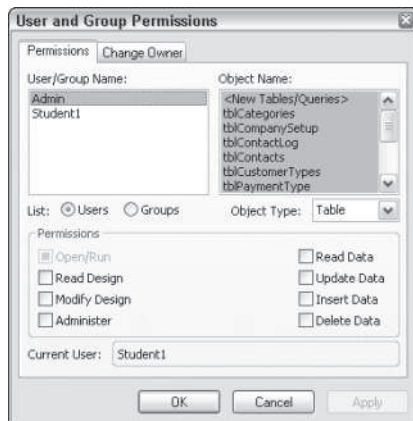
Figure 22-19: Removing all permissions for the Admin user is critical to securing your database.

Setting default object permissions

You can create default permission assignments for each type of object in a database. These default permissions are assigned when you create new objects in the database. You set the default permissions just as you set them for any other object's permissions. You select the user or group to assign the default permissions, but you do not select a specific object name. Instead, select the first item in the Object Name list that is enclosed in <> and begins with "New." When you select the Object Type Table, for example, you select <New Tables/ Queries> in the Object Name list. When you assign permissions for users and groups to these <New> items, the permissions are used as defaults for all new objects of that type.

Caution   When removing default permissions for table objects, make sure that users have the necessary permissions to create new tables. Otherwise, users will not be able to execute make-table queries.

Setting database permissions

Just as objects in a database have permissions, the database itself also has its own permissions. Selecting Database from the Object Type drop-down list will display the database permissions that can be modified (see Figure 22-20). The database permissions enable you to control who has administrative rights to the entire database, who can open the database exclusively (locking out other users), and who can open or run the database.
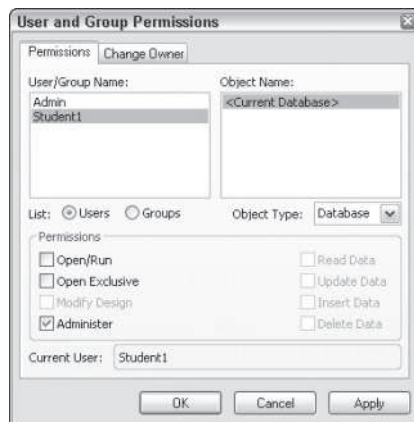
Figure 22-20: Assigning permissions for the entire database.

Securing your database for distribution: A basic approach

If you are securing a database for distribution, setting up detailed security for multiple users for all the objects in your database may not be important to you. Often, the only concern with shipping a secured database is protecting your development investment by securing the design of the application's objects and code. If you need this type of protection, you can distribute your application as an .MDE file (see the section "Protecting Visual Basic Code").

Another method is to follow these steps:

1. Create a workgroup to distribute with your database.

2. Remove the Admin user from the Admins group.

3. Remove all permissions for the Users group.

4. Remove all design permissions for the Admin user for all objects in the database.

5. Do not supply a password for the Admin user.

Remember that if you do not specify a password for the Admin user, Access will log on all users as the Admin user. Because the Admin user has no rights to the design of any object, users cannot access objects or code in Design view.

Table 22-1 summarizes the permissions that you can assign.

<table>
<tr><td colspan="3" align="center">Table 22-1
Summary of Assignable Permissions</td></tr>
<tr><td>*Permission*</td><td>*Permits a User To*</td><td>*Applies To*</td></tr>
<tr><td>Open/Run</td><td>Open a database, form, or report, or run a macro.</td><td>Databases, forms, reports, and macros</td></tr>
<tr><td>Open Exclusive</td><td>Open a database with exclusive access.</td><td>Databases only</td></tr>
<tr><td>Read Design</td><td>View objects in Design view.</td><td>Tables, queries, forms, macros, and modules</td></tr>
<tr><td>Modify Design</td><td>View and change the design of objects, macros, and modules</td><td>Tables, queries, forms, or delete them.</td></tr>
<tr><td>Administer</td><td>For databases, set database password, replicate a database, and change start-up properties. For database objects, have full access to objects and data, including the ability to assign permissions.</td><td>Databases, tables, queries, forms, reports, macros, and modules</td></tr>
<tr><td>Read Data</td><td>View data.</td><td>Tables and queries</td></tr>
<tr><td>Update Data</td><td>View and modify but not insert or delete data.</td><td>Tables and queries</td></tr>
<tr><td>Insert Data</td><td>View and insert but not modify or delete data.</td><td>Tables and queries</td></tr>
<tr><td>Delete Data</td><td>View and delete but not modify or insert data.</td><td>Tables and queries</td></tr>
</table>

Using the Access Security Wizard

Access includes the Security Wizard tool to assist you in securing your database. The Security Wizard makes it easy for you to select the objects to secure. It then creates a new database containing secured versions of the selected objects. The Security Wizard assigns the currently logged-in user as the owner of the objects in the new database and removes all permissions from the Users group for those objects. The original database is not modified in any way. Only members of the Admins group and the user who ran the Security Wizard have access to the secured objects in the new database.

> **Tip** When you use the Security Wizard, make sure that you are logged in as the user that you want to become the new database's owner. You must already belong to the Admins group and you cannot log in as Admin. If you log in as Admin, Access will report an error when you attempt to run the Security Wizard. If you receive this error, simply log in as another Admins group user.

To start the Security Wizard, log into the database as a user who is a member of the Admins group. Then select Tools⇨Security⇨User-Level Security Wizard.

Follow these steps to create and open the AAASecureWizard database.

> **Note** These steps assume that you have created the user Student1 and assigned the user to the Admins group.

1. Exit Access and open the folder that contains Chap34Start.mdb. Copy this file and name the new copy AAAS*ecureWizard.mdb.*

2. Start Access and open the AAASecureWizard database. When Access attempts to open the database, the Logon dialog box displays. The Logon dialog box displays automatically because the AAASecureWizard database inherited its permissions from the original database (Chap34Start).

3. Enter **Student1** in the Name field and select OK. (The user Student1 has no assigned password.) Access opens the AAASecureWizard database.

4. Select Tools⇨Security⇨User-Level Security Wizard from the menu to start the wizard.

The wizard displays a message advising you that you will need to use the existing workgroup information file, or it can create a new one for the current open database (see Figure 22-21). Select Create a new workgroup information file and click the Next button.
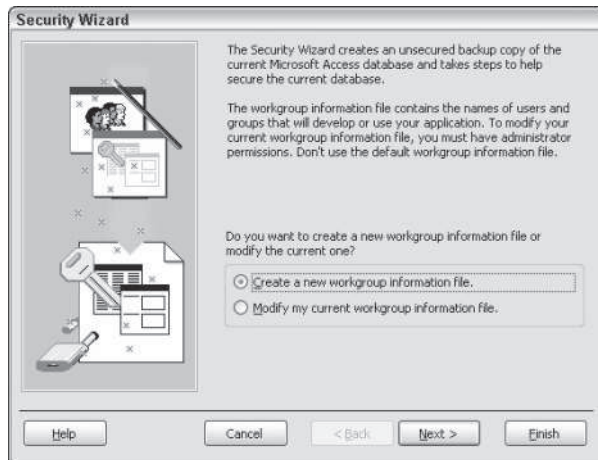
Figure 22-21: The Security Wizard helps jump-start your security implementation.

When you select Create a new workgroup information file, the next screen, shown in Figure 22-22, asks you for the filename for the new file, a Workgroup ID number (WID) — which you should write down and save, and optionally, your name and company.
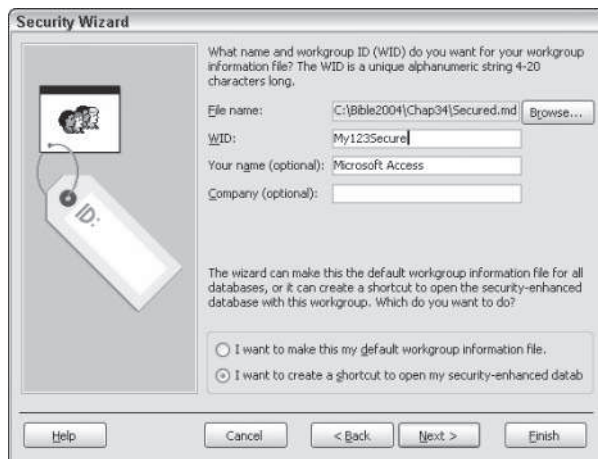
Figure 22-22: Assigning a unique WID and name to new workgroup information file.

When the new workgroup information file screen appears, it automatically assigns a random 20-character string of numbers and letters to the WID (Workgroup ID) field. You can change this WID to any value.

As Figure 22-22 shows, you can choose to make this the new default workgroup file for all databases (not recommended), or have Access create a shortcut to use this file only for this database (default). Selecting the option to create a shortcut associates this file with only one database. Click the Next button to display the next screen of the wizard.

The next screen of the wizard, shown in Figure 22-23, lets you select the objects to secure. By default, the wizard secures all objects in the database. If you deselect an object type (such as Tables or Forms), none of the objects of that type are exported to the secured database. If you do not want to restrict security permissions for a set of objects but still want those objects included in the new secured database, be sure to select the objects in the wizard. Later on, modify the user and group permissions for those objects in the new secured database. When you are satisfied with your object selections, select the Next button to continue.
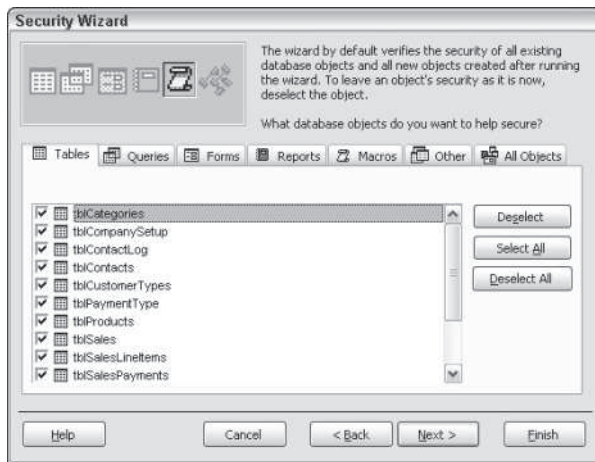
Figure 22-23: Selecting the objects to secure.

The next screen of the wizard, shown in Figure 22-24, asks you to create an optional security group account for a series of group actions. These include:

✦ **Backup Operators:** Can open the database exclusively for backing up and compact-ing.

✦ **Full Data Users:** Can edit data, but not alter design.

✦ **Full Permissions:** Has full permissions for all database objects, but can't assign permissions.

✦ **New Data Users:** Can read and insert data only (no edits or deletions).

✦ **Project Designers:** Can edit data and objects, and alter tables or relationships.

✦ **Read-Only Users:** Can read data only.

✦ **Update Data Users:** Can read and update, but can't insert or delete data or alter design of objects.

Check all of the optional security groups displayed in the wizard screen. After you have selected all groups, select the Next button to continue.

Figure 22-24: Additional optional security groups for the database.

Notice that the next page of the wizard, shown in Figure 22-25, lets you choose to grant permissions to the Users group (the default is no permissions). By selecting Yes, you are able to assign rights to all object types in the database. Figure 22-25 shows this page with the Yes option selected. However, you should select the default choice: No — the Users group should not have any permissions. Select the Next button to continue to the next wizard screen.
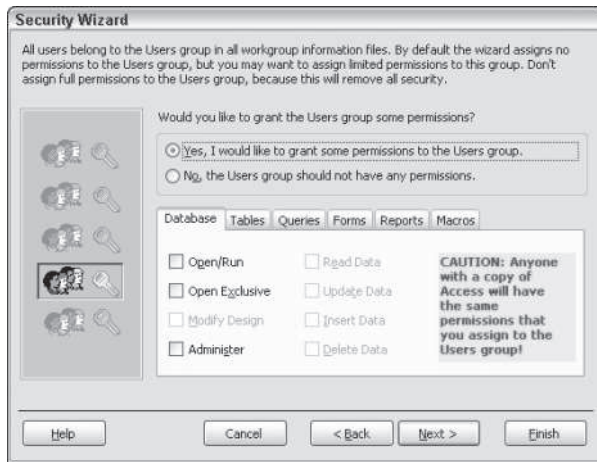
Figure 22-25: Choosing whether or not to assign permissions to the Users group.

Caution   If you decide to grant any permissions to the Users group, you should be aware that anyone with a copy of Access will have the same permissions that you assign to this group. Essentially, you are exposing the database to a security breach if you assign rights to this group.

The next page, shown in Figure 22-26, lets you add users to the workgroup information file. To add a user, enter the name and password information in the appropriate fields and select the Add a New User button.

Figure 22-26: Adding users and passwords to the workgroup information file.

As Figure 22-26 shows, you can also remove users from the list by simply selecting their name from the list box on the left and selecting the Delete User from the List button. Select the Next button to continue.

The next wizard screen to display, shown in Figure 22-27, enables you to assign users to groups in your workgroup information file. If you added optional groups from the previous page (as shown in Figure 22-24), you can assign a user to any of these groups by checking the appropriate check box. To assign rights to a user, simply select the user from the drop-down list and then assign that user to groups using the check boxes. By default, all users, except the person creating the wizard, are assigned to new groups. Click the Next button to continue on to the next screen.
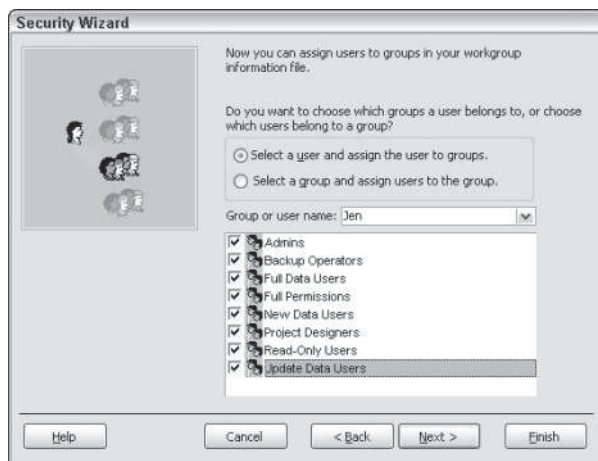
Figure 22-27: Adding users to groups for group rights.

The last page of the wizard displays, as shown in Figure 22-28. In this screen, the Security Wizard asks you to provide a name for the old, and now unsecure, database. The default name is the same name as the current database with the extension .bak. Select the Finish button to finish creating the new secure database.

Figure 22-28: In the Final wizard screen, the Security Wizard asks you to assign a name for the old database.

Technically, the Security Wizard doesn't make any modifications to the current database; rather, it makes a backup copy by using the name that you specify and creates an *entirely new* database with secured objects. However, the new database is given the name of the original database.

Caution   When you distribute your secured application, be sure to distribute the database that the Security Wizard created for you.

When the Security Wizard has finished creating the new database, it generates a report called *One-Step Security Wizard Report*, as shown in Figure 22-29. The report contains all of the settings used to create the users and groups in the workgroup information file. You should keep this information. You will need it if you ever have the need to re-create the workgroup file.

Figure 22-29: Choosing whether or not to assign permissions to the Users group.

Caution

If you click the Finish button and Access finds any problems, it won't create the security database or the backup that you requested. Generally, you will get this error if you have created the database and logged on as a user that secured the table and then re-logged on as another user to secure it. This wizard works best with databases that have not had any previously defined security.

Generally, making a copy of the original database and working with the secured database is a good idea. If you make changes to the original database, you will need to run the Security Wizard again to create a secured version of the database. In addition, making a copy of the original database and then removing it from development helps prevent accidentally distributing the unsecured database.

Encrypting a Database

When security is of utmost importance, one final step that you need to take is to *encrypt* the database. Although it takes a great deal of skill (far more than the average computer user — or developer — possesses), it is possible to view the structure of an unencrypted database. A skilled hacker may use this information to reconstruct SIDs and gain full access to your secured database.

Encrypting a database makes using such tools to gain any useful information about the database virtually impossible. Only the database owner or a member of the Admins group (or a really good computer hacker) can encrypt or decrypt a database.

To encrypt a database, follow these steps:

1. Open Access, but do not open a database. Select Tools➪Security➪Encrypt/Decrypt Database (see Figure 22-30).
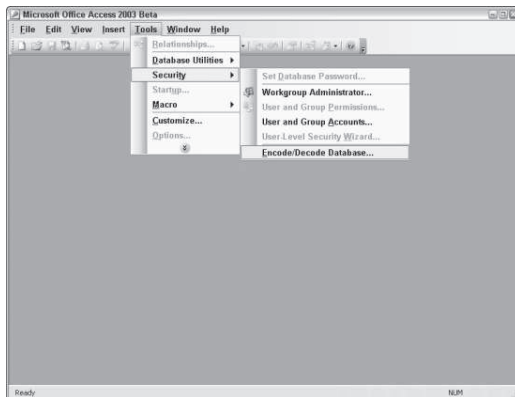
Figure 22-30: Encrypting a database helps secure it from highly skilled hackers.

2. Select the database to encrypt from the Encrypt/Decrypt dialog box.

3. Provide a name for the new encrypted database.

Access doesn't modify the original database when it encrypts it. Rather, Access creates a clone of the database and encrypts the clone. Just like when using the Security Wizard, you should make a backup copy of the original database and store it somewhere safe to prevent accidentally distributing the unencrypted database. Remember that in a world of rapidly changing data, your backup will rapidly become out of date.

When encrypting a database, however, be aware of the following drawbacks:

✦ Encrypted databases don't compress from their original size when used with compression programs, such as WINZIP or the ODE Setup Wizard. Encryption modifies the way that the data is stored on the hard drive so compression utilities have no effect.

✦ Encrypted databases suffer some performance degradation (up to 15 percent). Depending on the size of your database and the speed of your computer, this degradation may be imperceptible.

Note Encryption is performed in addition to securing a database. A secure database is one that is secured using users, groups, and permissions. Simply encrypting a database does nothing to secure the database for general Access users.

Decrypting a Database

You can decrypt a previously encrypted database. To decrypt a database, simply follow these steps (which are similar to the encrypting process):

1. Start Access but do not open a database. Select Tools⇨Security⇨Encrypt/Decrypt Database.

2. Select the database to decrypt from the Encrypt/Decrypt dialog box.

3. Provide a name for the new decrypted database.

Protecting Visual Basic Code

Although setting user-level security allows you to restrict access to tables, forms, and reports in your database, it does not prevent access to the Visual Basic code stored in modules. You control access to the Visual Basic code in your application by creating a password for the Visual Basic project that you want to protect. When you set a database password for a project, users are prompted to enter the password each time they attempt to view the Visual Basic code in the database.

Note A Visual Basic project refers to the set of standard and class modules (the code behind forms and reports) that are part of your Access database (.mdb) or Access project (.adp).

1. Open any standard module in the database. For this example, open the basSalesFunctions modules in Chap34Start.mdb. When you open the basSalesFunctions module, the Visual Basic Editor displays.

2. In the Visual Basic Editor, select Tools⇨Access Auto Auctions Properties. The Access Auto Auctions — Project Properties dialog box displays.

3. Select the Protection tab in the Project Properties dialog box. Check the option labeled "Lock project for viewing."

4. In the Password field, type the password that you want to use to secure the project (see Figure 22-31). For this example, use the password *bible*. Access does *not* display the password; rather, it shows an asterisk (*) for each letter.
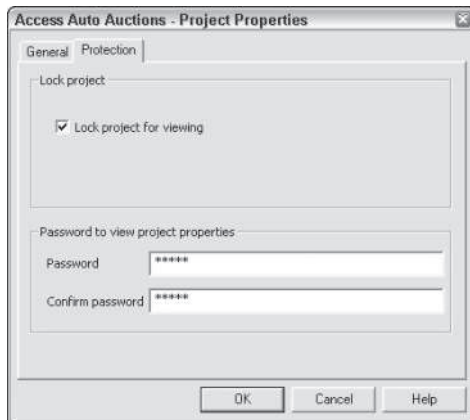
Figure 22-31: Creating a project password restricts users from viewing the application's Visual Basic code.

   5. In the Confirm Password field, type the password again. This security measure
      ensures that you don't mistype the password (because you can't see the characters
      that you type) and mistakenly prevent everyone, including you, from accessing the
      database.

   6. Click OK to save the password.

After you save and close the project, any user who attempts to view the application's
Visual Basic code must enter the password. Access prompts for the project password only
once per session.

A more secure method of securing your application's code, forms, and reports is to distribute
your database as an .MDE file. When you save your database as an .MDE file, Access
compiles all code modules (including form modules), removes all editable source code, and
compacts the database. The new .MDE file contains no source code but continues to work
because it contains a compiled copy of all of your code. Not only is this a great way to
secure your source code, it also enables you to distribute databases that are smaller (because
they contain no source code) and always keep their modules in a compiled state.

Preventing Virus Infections

Implementing a good user-level security scheme will protect your database from
unauthorized access to the information or objects in your database. User-level security does
not, however, protect the physical database file from malicious macro virus attacks.

You probably have had experience at some point with a virus attack on your computer. Or
most likely, you know someone who has. It goes without saying that it is imperative to
install and run a virus scanning utility on your workstation. Even though you may be
religious about keeping your virus scanner up to date, new viruses crop up all the time.

Therefore, you have to be proactive about protecting your applications and sensitive data from exposure to these kinds of attacks.

When you run forms, reports, queries, macros, data access pages, and Visual Basic code in your application, Microsoft Office Access 2003 uses the Microsoft Jet Expression Service to scan the commands these objects execute to make sure that these commands are safe. Unsafe commands could allow a malicious user to hack into your hard drive or other resource in your environment. A malicious user could possibly delete files from your hard drive, alter the computer's configuration, or generally create all kinds of havoc in your workstation or even throughout your network environment.

The Microsoft Jet Expression Service checks its list of unsafe commands. When Access encounters one of the unsafe commands, it can block the command from execution. To tell Access to block these potentially unsafe commands, you must enable *sandbox mode*.

Tip   To review the list of unsafe commands, search Access help for "About Microsoft Jet Expression Service sandbox mode."

Enabling sandbox mode

Sandbox mode allows Access to block any of the commands in the unsafe list it encounters when running forms, reports, queries, macros, data access pages, and Visual Basic code. To enable sandbox mode, follow these steps:

1. Open Access, but do not open a database. Select Tools⇨Macro⇨Security. The Security dialog box displays, as shown in Figure 22-32.

2. In the Security dialog box, select the High or Medium option.

3. Select the OK button to close the Security dialog box.

4. Restart Access to apply the security change.

Figure 22-32: Enabling sandbox mode.

Note

When you enable sandbox mode, it applies to all Access users on the workstation.

The Security dialog box provides three levels of macro security:

✦ **High:** Macros must be digitally signed. Unsigned macros will not run. The status of the macro's digital signature is validated for digitally signed macros.

✦ **Medium:** The status of the macro's digital signature is validated for digitally signed macros. For unsigned macros, a prompt displays advising the user to enable the macro or to cancel opening the database.

✦ **Low:** Macros are not checked for digital signatures and no warning displays for unsigned macros.

A digital signature is an encrypted secure file that accompanies a macro or document. It confirms that the author is a trusted source for the macro or document. A digital signature is contained in a digital certificate. You, or your organization's IT department, can obtain a digital certificate through a commercial certification authority, like VeriSign, Inc. Search www.msdn.com for "Microsoft Root Certificate Program Members" to obtain information on how to obtain a digital certificate.

If you are sure of the integrity of your database, you can select the Low security setting. Digital signatures are generally implemented within large organizations that are willing to fund the added expense of purchasing and keeping digital signatures up to date. For most applications, however, you will probably use the Low setting.

If you or your organization has acquired a digital certificate, you can use it to digitally sign your Access project. To digitally sign your Access project, follow these steps:

1. Open the Access database to digitally sign. Select Tools⇨Macro⇨Visual Basic Editor from the Access menu. The Visual Basic Editor opens.

2. Select Tools⇨Digital Signature from the Visual Basic Editor menu. The Digital Signature dialog box displays, as shown in Figure 22-33.

Figure 22-33: Digitally signing an Access project.

3. Select Choose. The Select Certificate dialog box displays, as shown in Figure 22-34.
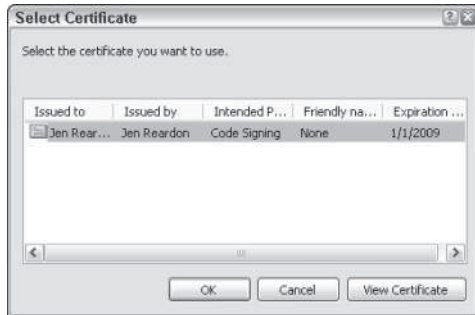
Figure 22-34: Choosing a digital certificate.

4. Select the certificate to add to the Access project. Then select OK to close the Select Certificate dialog box.

5. Select OK to close the Digital Signature dialog box and save the security setting.

Note

Do not sign your Access project until the application has been thoroughly tested and you do not expect to make any further changes to it. Modifying any of the code in the project will invalidate the digital signature.

Tip

To prevent users from making unauthorized changes to the code in your project, be sure to lock the project and apply a project password.

With a full understanding of the Jet security model and how to manage it, you can create databases that protect your development investment and your users' data.

✦   ✦   ✦

Adding FrontPage Web Components

This chapter introduces FrontPage Web Components, a.k.a. FrontPage components, a.k.a. Web components, and a.k.a. just plain ol' components. These handy features allow you to do everything from generate and automatically update a table of contents, to create hover buttons that change when a visitor moves over them with a cursor.
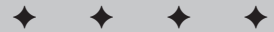
Adding FrontPage Web Components

Many of the Web components add *interactivity* to your site. These interactive elements respond to the actions of visitors. For example, a *hit counter* responds to a visit by changing the number of visitors displayed, and *search boxes* respond to a visitor's query with a list of matching pages.

Note
Prior to FrontPage 98, FrontPage components were called WebBots. Now we are in the new millennium, and Microsoft still uses WebBots in the HTML codes for FrontPage components. As you add components to your page, you can click the HTML tab to see the WebBot terminology in place.

Defining and using components

FrontPage components are actually small programs that are embedded in FrontPage. You don't need to know how Web components work to use them, but you should be aware of two particular attributes of components:
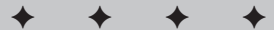
✦ Web components enable you to use preprogrammed elements that normally require a
  scripting language to create.

✦ Many (roughly half) of the Web components work only after your Web is published
  to a Web server with FrontPage extensions.

Note   We'll explore the implications of having (or not having) access to a server with FrontPage exten-
           sions throughout this chapter, both in relation to using components in general, and in relation to
           specific components.

Web components are programs

Web components are prefabricated programming modules that you can customize and insert
into your Web pages. When you add a Web component to your Web page, FrontPage inserts
HTML tags that reference it, much as HTML is used to reference a graphic, a sound file, or
a Java applet.

Customization of components is done through HTML attributes in the component tag.
Figure 23-1 shows an example of the HTML used to point to a component. In this case, you
can see WebBot tags for a Navigation component.

Figure 23-1 HTML for a component

If FrontPage components are little programs, where the heck are these programs stored? That depends. Components that require FrontPage server extensions are stashed on Web servers, and simply called by the code that FrontPage inserts into your page. No connection to a FrontPage Web server? In that case, these components won't work.

While about half of the FrontPage components rely on FrontPage server extensions to work, other components (like the Photo Gallery) generate JavaScript code. All recent version browsers (going back to version 4) support JavaScript, and so the programming support for these components is essentially in a visitor's own Web browser. Still other components (like hover buttons or the Banner Ad Manager) generate Java programs, which are saved to your Web.

Many Web components require FrontPage server extensions

The following FrontPage components work only when your site is published to a Web server with FrontPage server extensions:

✦ Web Search

✦ Hit Counter

✦ Top 10 List

✦ List View

✦ Document Library View

If you aren't publishing your Web to a server armed with FrontPage extensions, you can disable the components that require extensions by selecting Tools ⇨ Page Options, and clicking the Authoring tab. Then, use the FrontPage and SharePoint technologies drop-down menu to select "custom" or "none" in order to use selected or no FrontPage components. x. After you do that, only those components that do not require FrontPage extensions will display. When you choose Insert ⇨ Navigation, the rest of the components are grayed out, as shown in Figure 23-2.
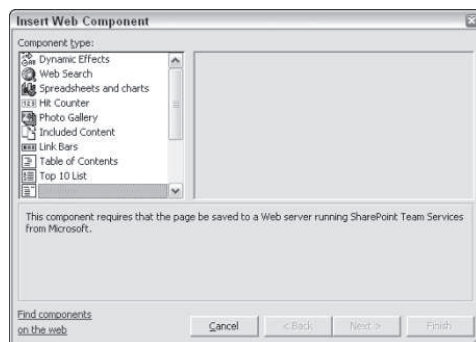

Figure 23-2 Hit counters components require FrontPage extensions.

If you are saving your Web to a disk folder (a disk-based Web), the FrontPage server extension requiring Web components will be grayed out automatically.

Developing on a Disk but Developing for a Server?

Suppose you are developing your Web site using a drive-based Web or a server that doesn't have FrontPage extensions, but you plan eventually to publish your Web to a server that *does* have FrontPage extensions. If you are using a server without FrontPage extensions, you can still *install* (non-working) components. In this scenario, do not disable components. You can still place them on Web pages — you just can't test them or use them in a Web site until you publish to a FrontPage-friendly Web server with FrontPage extensions.

On the other hand, if you are developing your site using a disk-based Web, but eventually plan to publish it to a server with FrontPage extensions, you have to turn on the features that require FrontPage server extensions. Do this by choosing Tools ⇨ Page Options, and selecting the Enabled with FrontPage Server Extensions check box in the Compatibility tab of the Page Options dialog box. In this scenario, you are fooling FrontPage, telling it that your site is published to a FrontPage Web. Remember, some components *won't work* until you actually publish your site to a FrontPage server.

Because components require FrontPage-enabled servers, they are less portable than standard CGI applications or Java applets and are more akin to other Microsoft technologies, such as Active Server Pages (ASP), that are limited to servers supported by Microsoft. But, if you have access to a FrontPage-enabled Web server, the ease with which you can add components makes using them hard to resist.

If you don't plan to publish your Web site to a FrontPage server and you are inclined to do your own scripting and programming, you can jump ahead to Part V of this book, which introduces other programming components that you can use to create many of the same functions (with perhaps a bit more labor on your part).

Many components don't require FrontPage extensions

If you are creating a Web for a server without FrontPage extensions, you can use the components identified in Table 23-1. Some of these components simply generate HTML code. Others generate Java applets, and others create JavaScript.

	Table 23-1
	Coding and Scripting for Various Web Components
Component	*Type of Script or Coding*
Hover buttons	Java applets
Marquees	HTML
Banner Ad Manager	Java applets
Photo Gallery	JavaScript
Included Content	HTML
Link Bars	HTML
Table of Contents	HTML
Commercial components (bCentral, Expedia, MSN, and so on)	Remote sites linked through HTML
Advanced Controls	Various scripting languages

Some components require SharePoint servers

As if all this wasn't complicated enough, some Web components are only functional when you are publishing a Web to the SharePoint server that comes with Office XP. SharePoint servers are designed with built-in intranet tools, like bulletin boards, up-loaded document libraries, and customizable interfaces. You can use the SharePoint server as-is, out of the box, on your intranet (or Internet). Or, you can customize a SharePoint server by editing pages in FrontPage and adding lists and other features proprietary to the SharePoint server.

The SharePoint server files (called SharePoint Team Services)

This chapter takes a quick look at the components that require SharePoint servers. However, its focus is on publishing FrontPage Web on Office 2003's SharePoint server, as well as the lists and other special features available for this server.

Spreadsheet Components

Spreadsheet Web components (Office Spreadsheet, Office Chart, and Office Pivot Table) are actually embedded pieces of Microsoft Excel.

The main deal with these components is that they allow visitors to your Web site to see and interact with elements of a spreadsheet. To do this, visitors must have Excel installed, or download programs that function as a kind of limited Excel viewer.

As we go to press, Microsoft has not yet released a public domain downloadable Excel viewer for Excel 2003. However, downloadable viewers for older versions of Excel are available at `http://office.microsoft.com/Downloads/`.

Web site visitors who use a downloaded viewer will not have full functionality for spreadsheet components, but will be able to view spreadsheet data.

Both in their use and their function, the three Spreadsheets and Charts components fall more in the category of Microsoft Office application integration.

Inserting Components
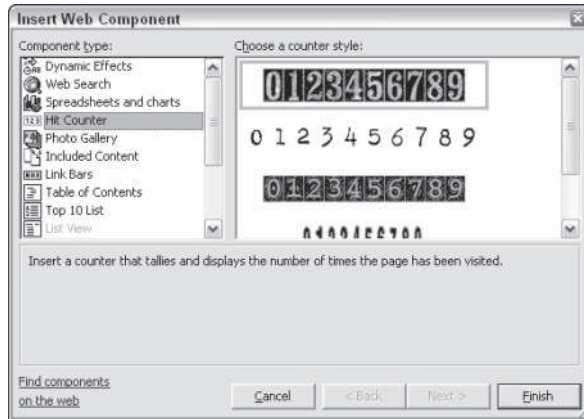
You can add a component to your Web page in two ways:

✦ Insert the component directly into your Web page (the primary method).

✦ Use one of the many Web page templates and wizards that come with preconfigured Web components (secondary method).

Page templates that generate components include:

✦ **Confirmation Form:** Generates a confirmation form for an input form, using the Confirmation Field Component (found in the Advanced Components submenu).

✦ **Table of Contents:** Generates a page with a table of contents.

In addition, many page templates include comments. And most Web templates include many components.

To insert a component in an existing Web page, first position the cursor where you want the component to appear. Select Insert ⇨ Web Component, or click the Web Component icon in the toolbar. The Insert Web Component submenu is a dialog box, as shown in Figure 23-3.

Figure 23-3 Choosing Web Component from the Insert menu brings up this dialog box.

After you select a component, additional options may appear, enabling you to customize the component's properties. After you add a component to your Web page, you can edit it by double-clicking it. Alternatively, you can right-click the component and select (Component's Name) Properties from the pop-up menu.

Using Components that Aren't "Components"

In addition to the components listed in the Insert Web Components submenu, the main Insert menu includes a few miscellaneous but highly useful objects that work like components, such as Date and Time (which works like a time stamp), and Comments. These features are explored in this chapter, even though they aren't listed in the Component submenu.
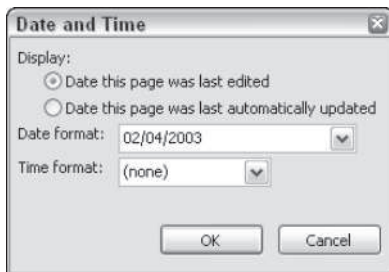
Using Date and Time

The Date and Time and the Comments elements could have been put in the Components submenu, but they weren't. Nevertheless, they work like components. When you insert a Date and Time code, you create a time stamp WebBot code in HTML. Comments also generate WebBot coding.

The Date and Time component displays the modification time and date of the Web page on which it resides. In other words, you can tell visitors exactly when the page was last changed, so that they can quickly decide whether the material at your Web site is current enough for their needs.

Including a last-modified date on your Web pages is a courtesy to visitors because it helps them judge whether the information on your site is up-to-date. Of course, if currency isn't that important to your Web page, you certainly aren't required to have a time stamp on it.

Every time you save your Web pages, the time stamp (Date and Time code) updates. So, the only "revising" reflected by your time stamp may simply be that you actively maintain the page. Manually updating the modification date by resaving a page is one way to indicate that you are maintaining the page, even if the content has not changed recently.

To add a Date and Time code, position the cursor at the location where you want the component to appear. Select Insert ⇨ Date and Time. The Date and Time properties dialog box appears, as shown in Figure 23-4.


Figure 23-4 Adding a time stamp to a page

The Date this Page Was Last Edited radio button revises the displayed date when you update the page. The Date this Page Was Last Automatically Updated radio button changes the Date and Time code if the page was changed by the action of a Web component or other applet, or if an embedded page changed.

> **Note** Still don't get the difference between the Date this page was last edited button and the Date this page was last automatically updated button? Here it is in a nutshell: When you select the Date this page was last edited button, merely opening the page in the Page view will update the time stamp. You don't even have to change the page — just open and close it. When you select the Date this page was last automatically updated button, the time stamp will also update every time you open the page. However, and in addition, if you include content (such as a table of contents or another HTML page) and you change the embedded content, the time stamp updates then as well.

Use the Date Format drop-down menu to select from a variety of date formats. Use the Time Format drop-down menu to select from a list of time formats.

After you make your selections, click OK to insert the Date and Time code in your page. The time stamp appears just as it will look in the Web page. You can also format the date text. When you edit in Page view, you can distinguish the date and time data from regular text because its code has an icon over it rather than an insertion cursor, as shown in Figure 23-5.
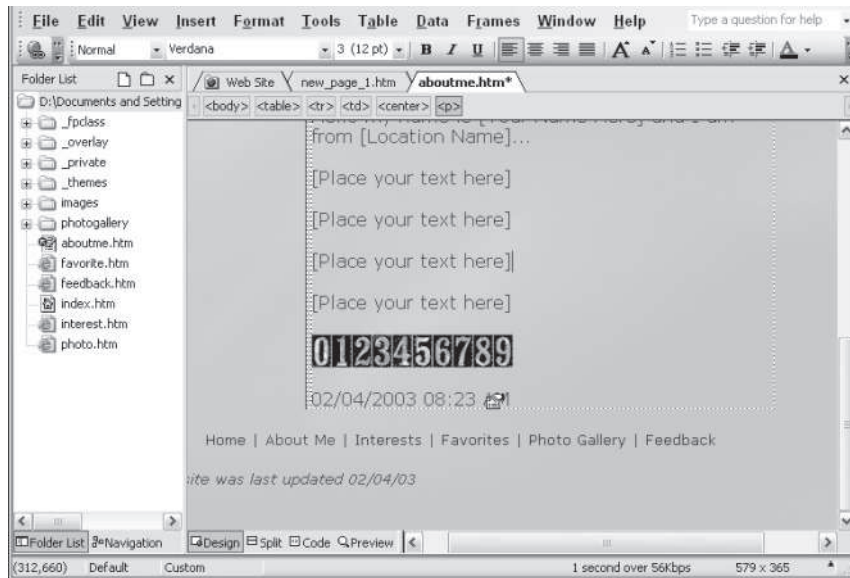
Figure 23-5 The Web Component icon is your clue that this date is not text, but a generated component.

> **Note** The Date and Time component displays only a date. If you want text like "Date page was last updated," you have to add that yourself.

Adding comments

Comments are just little pieces of information you add to a Web page for your personal purposes. They do not directly show up on the page, but they can remind you about certain page development issues or help you keep track of changes. In short, anything can be a comment, so how you use the feature is up to you.

To add a comment, position the cursor where you want the comment to appear in the Web page, and then select Insert ⇨ Comment. The dialog box allows you to enter the text of your comment.

As you can see in Figure 23-6, comments show up in FrontPage in the visited link color, which is purple by default (in fact, the actual name of this component is PurpleText, as you will notice if you look at the HTML). Comment text doesn't appear when the page is viewed by a Web browser, because the entire component is enclosed in a standard HTML comment tag.
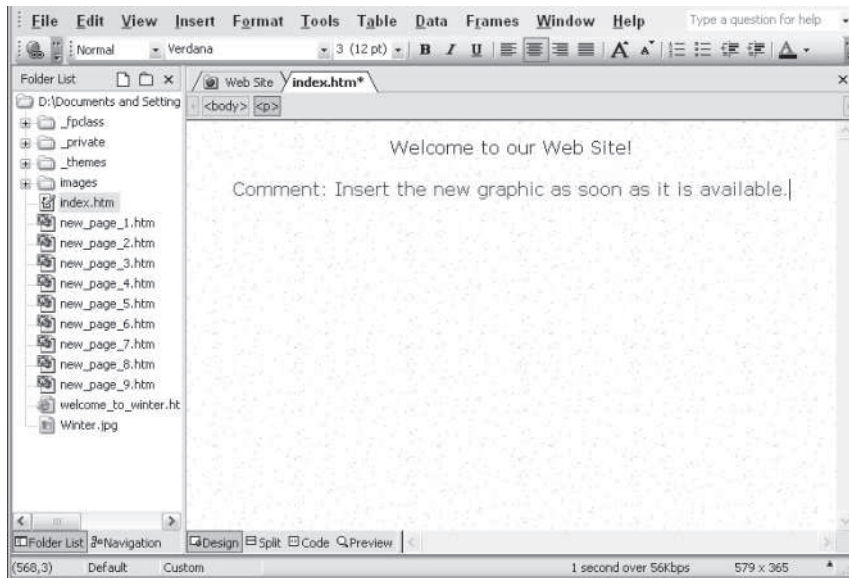
Figure 23-6 Comments don't show up in Web browsers.

Caution

The comment may not appear on the Web page, but it is still there in the HTML, viewable by anyone who decides to view the HTML source code of the page. As a result, use of the Comment component to record your trade secrets or the combination of your safety deposit box is, as they say, discouraged.

The Comment component is used in almost every template, to instruct you about the purpose of the template or to teach you how to customize it.

Exploring Web Components

This section briefly examines the operation of all the components that come packaged with FrontPage 2003.

Dynamic effects

The Dynamic Effects option in the Insert Web Component dialog box offers two options for presenting *active* page elements: interactive buttons and scrolling text marquees, and banner ads. These elements (text and/or images) are active, as opposed to *static* text and images that just sit there.

Other options for dynamic objects include Dynamic HTML formatting, which is explored in Chapter 13 of Wiley's *FrontPage Bible*. Dynamic HTML (DHTML) effects rely on a browser's ability to accurately interpret the DHTML specifications that FrontPage uses to generate animation and interactivity. Some of these effects are not supported by Netscape Navigator 4.7.

As opposed to DHTML effects, the dynamic effects Web components rely on HTML and Java to generate small programs right in your Web site to produce interactivity. Therefore, *these* Web components are compatible with Netscape 4.7. And, they do *not* require FrontPage Server Extensions, or even a Web server to work.

Interactive buttons

Interactive buttons display an effect when visitors to your page pass their cursor over the button. Interactive buttons provide a way to make boring buttons more interesting. Effects range from a glow to color changes. You can even define images and sounds to display for the button, to provide a more interactive look and feel to your pages.

To add an Interactive button, select Insert ➪ Web Component ➪ Interactive Button, and then click Finish. The Interactive Buttons dialog box appears, as shown in Figure 23-7.
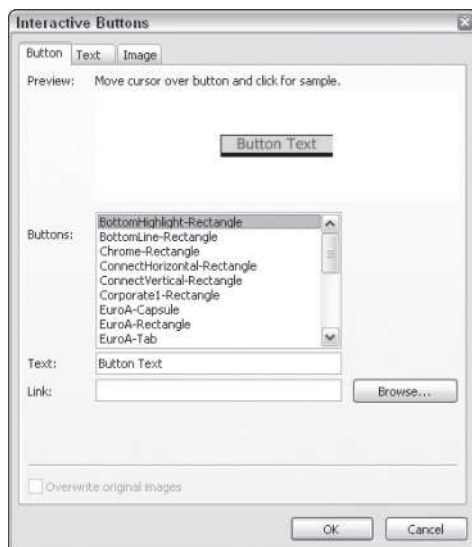
**Figure 23-7** Defining a hover button

You can make the following selections in the Hover Button dialog box:

✦ **Button Text:** The text that is displayed on the button's face. You can change the font, color, style, and size by clicking the Font button.

✦ **Link To:** The page or file that is opened when the button is clicked by visitors. Enter the URL directly in the text box, or click the Browse button to select a page.

✦ **Button Color:** On the Text tab, you can change the button color. You can configure the button's "static" color, used when the button is not in use. Notice you have a hovered color and a pressed color.

✦ **Image:** On the Image tab, you can see a preview of the button, and you can adjust the button's image. For example, you can change the width and height of the button, create buttons with solid backgrounds, and create buttons with transparency.

Scrolling marquees

Scrolling marquees present text scrolling across your screen. A scrolling marquee is one Web component that doesn't require you to save your site to a Web server. You don't need to preview your Web page in a browser to see how your marquees will look. You can test them in the Preview tab of Page view.

To create a scrolling marquee, click in Page view to set the insertion point for the marquee. Then, select Insert ⇨ Web Component ⇨ Dynamic Effects, and double-click Marquee. The Marquee Properties dialog box displays, as shown in Figure 23-8.
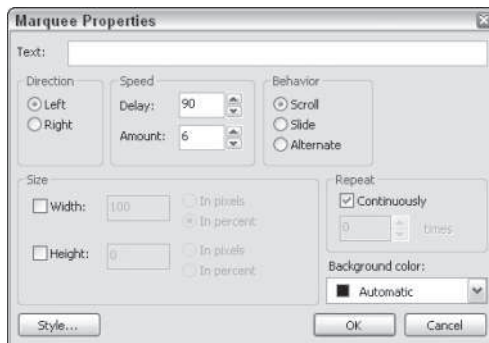
Figure 23-8 The Marquee Properties dialog box

You can adjust many scrolling text properties via the Marquee Properties dialog box. The Background Color drop-down menu lets you select a background for the scrolling text. Experimenting with the three radio buttons in the Behavior area is pretty safe. And you can use the Right or Left radio buttons to define the direction of your scroll. You can also fiddle with the Delay and Amount spin boxes in the Speed area of the dialog box.

After you enter text in the Text field, click OK. You can see how your scrolling text will look in a browser by using the Preview tab of Page view. To resize your scrolling text marquee, click and drag side or corner handles (back in the Normal tab of Page view).

For those of you determined to blaze the cutting edge of scrolling text displays, feel free to experiment with the various options available. Remember that if you get in trouble, you can always delete a messed up marquee and start from scratch with the default settings. The following are the available options in the Marquee Properties dialog box:

✦ **Scroll:** The text starts at the left (unless you have Right set under Direction) and moves to the right until all the text has moved off the screen, and then it repeats.

✦ **Slide:** Similar to Scroll, except that when the first letter hits the right edge of the marquee, the text disappears and starts again at the left.

✦ **Alternate:** The text bounces back and forth between the left and right edges of the marquee, like a ping-pong ball.

You can edit many of the marquee properties in Page view using the Formatting toolbar. For example, you can click the marquee and select text size, color, and font, and apply attributes such as italics or boldface. You can also resize the marquee in Page view by clicking and dragging the sizing handles.

Web search

The Web Search component creates a form that allows visitors to search all or part of your Web for pages containing one or more text strings. Results of a search are displayed by listing the titles of matching pages, with each title hyperlinked to the actual page. Details of the results page can also be controlled via the Search Form component. If you have a content-rich Web and are looking for a relatively simple way to enhance the usability of your Web site, the Search Form component could be just the thing.

Note

Search forms only work if your Web is published to a server with FrontPage extensions.

To place a Web search form in your Web page, place your insertion point where the search box should appear, and select Insert ⇨ Web Component ⇨ Web Search, and double-click Current Web in the Insert Web Component dialog box. The Search Form Properties dialog box appears, as shown in Figure 23-9.
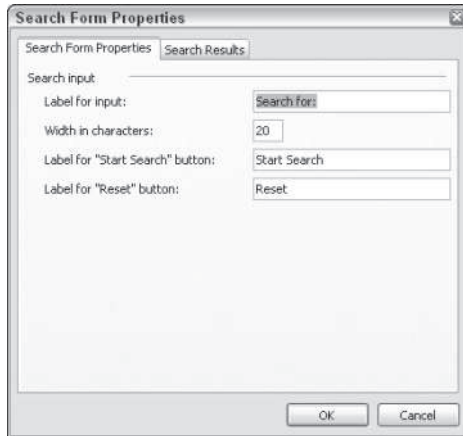
Figure 23-9 Defining a search box

At this point, you can click OK to insert a default search box, or you can adjust the way the search box collects input and the results that it generates.

Search form properties

The redundantly named Search Form Properties tab of the Search Form Properties dialog box enables you to define how your search form will look. You can change these options:

✦ **Label for Input:** Displays a label for your search box input field. You can change it to "Tell us what topic you are interested in" or "What are you looking for?" or some other label. Often, the default "Search For:" works fine.

✦ **Width in Characters:** Controls the width of the input field display, not how much data users can input. Visitors can still enter 40 characters in a 20-character field.

✦ **Label for "Start Search" Button:** Displays a name for the button that starts the search. Keep the default, or create your own.

✦ **Label for "Reset" Button:** You can change the default name for the button that clears whatever a visitor has typed into the search box field.

Caution   The width in characters displays differently in Internet Explorer and Netscape Navigator. Test your page in both browsers to ensure that your visitors are seeing what you want them to see.

Displaying search results

The Search Results tab in the Search Form Properties dialog box controls which pages are included in search results, and how results are displayed.

The three menu options at the top of the Search Results tab control the results:

✦ **Word List to Search:** Searches all folders in your Web site including subwebs, except those that begin with an underscore (for example, `_private` or `_borders`).

✦ **Date Format:** Displays the date format that will be used.

✦ **Time Format:** Displays the time format that will be used.

Search Result Options Vary

Not only is the Web Search component dependent on a server with FrontPage Server Extensions, but the options for displaying search results vary depending on which version of server extensions are installed. They even vary depending on what kind of server you are using.

Most Web component options that require FrontPage extensions work the same on any kind of server — UNIX, Linux, Microsoft Internet Information Services (IIS), and so on. However, search form properties are a little different for IIS, and other servers. The description of search results options here may differ slightly from your options depending on the kind of server you use.

If your site is published to a server running IIS, the search form uses Microsoft's Indexing Service to search the text index. Since Indexing Service has more extensive support for searching Microsoft Office documents, you get more search options when your site is connected to an IIS server.

If you publish your site to a server using FrontPage extensions on a non-IIS server, FrontPage uses a different search engine — the Wide Area Information Server (WAIS) — to search the text index.

Finally, depending on which server you publish to, index files must sometimes be activated by server providers. If your search engine isn't working, contact your server provider and make sure the necessary index files have been created at the server.

As we go to press, Microsoft is providing information on these issues at:

`www.microsoft.com/TechNet/sharepoint/admindoc/owsi06.htm`

Is all this too much hassle? One option is to use one of the free, downloadable search boxes available from folks like FreeFind.com (`www.freefind.com`) These search boxes don't require FrontPage Server Extensions.

The three check boxes under Display Options determine the display results that are used, which include Display score (closeness of the matches), file date, and file size of the matches. Figure 23-10 shows the Search Results tab of the Search Form Properties dialog box.
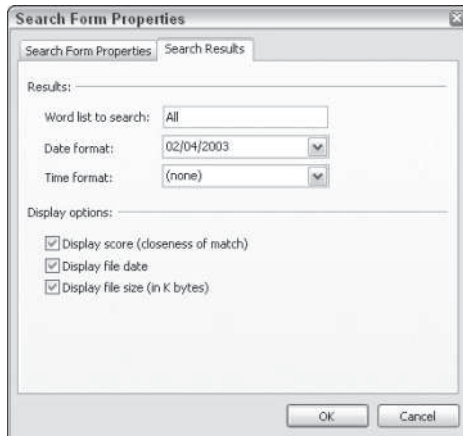
Figure 23-10: FrontPage allows tremendous control over how search results are displayed.

Spreadsheets and charts

You can insert Office spreadsheets, charts, and Office PivotTables into your Web pages.

Hit counters

The Hit Counter component displays the number of times a particular page has been accessed, or hit. To insert a hit counter, select Insert ➪ Web Component, and click Hit Counter. Then, select one of the counter styles that appears on the right side of the Insert Web Component dialog box, and click Finish. The Hit Counter Properties dialog box appears.

To define a hit counter begin in the Hit Counter Properties dialog box, and click a radio button to select a style for your hit counter. Use the Reset Counter To check box if you want to enter a starting number other than zero (which is the default). Use the Fixed Number of Digits check box to enter a set number of digits for your hit counter. After you define your hit counter, click the OK button. Your hit counter displays when you preview your Web page in your browser. You will see a code Hit Counter in Page view.

In Design mode, the hit counter appears as a series of numbers displayed on your page, as shown in Figure 23-11. The hit counter doesn't actually work until the page has been published to a server with FrontPage Server Extensions.
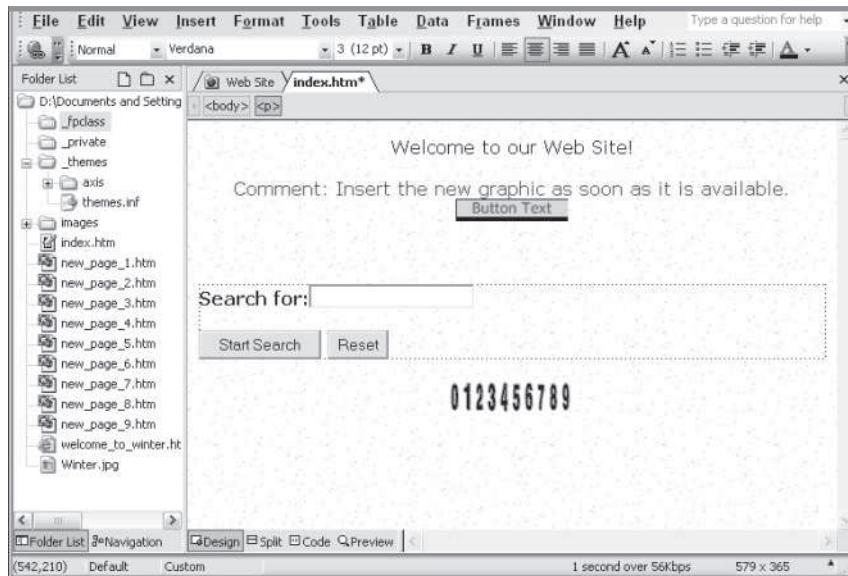
Figure 23-11: Hit counters don't work in Page view.

Hit counters record how many hits your Web site has received. Hits correspond to visits (if a visitor refreshes his or her browser window, that counts as an additional hit). The following are the two basic approaches to using a hit counter:

✦ Use it to show off how many hits your site is getting. Of course, the credibility of a hit counter is somewhat suspect, because (as you'll soon see) you can set your own starting number. Still, a valid reason sometimes exists to display a count of how many folks have been to a site.

✦ Use it for your own purposes, just to keep track of the effectiveness of your site. You can place a hit counter at the bottom of a page, where visitors are not likely to notice it.

Figure 23-12 shows a hit counter that is subtly stashed at the very bottom of a Web page, where it quietly keeps track of visitors.
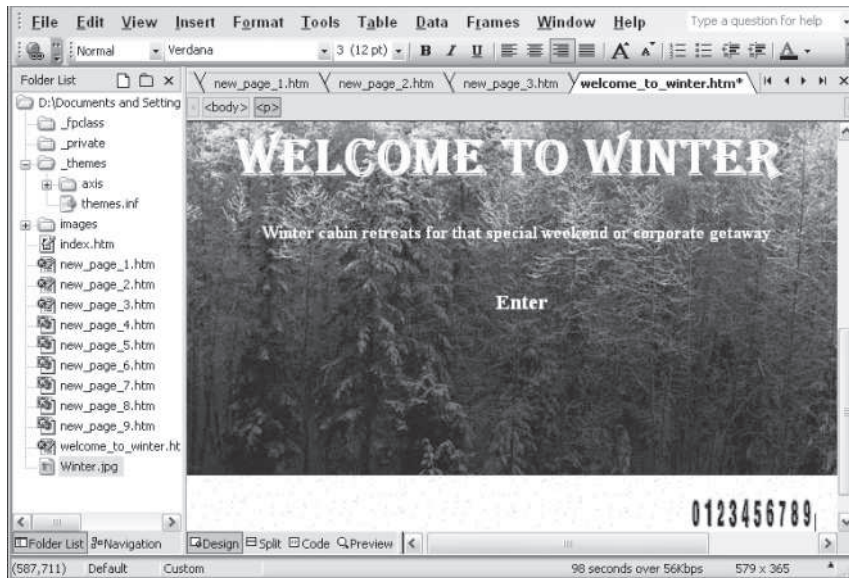
Figure 23-12: Hit counters can be placed where they are not a focus of attention for visitors. In this page, the counter is in the lower-right corner of the page.

Free Hit Counters on the Web

Want a hit counter, but don't have FrontPage extensions? Many companies offer free, embeddable hit counters. In turn, they have you display ad banners for their service. You can find free hit counters at www.cybercount.com/, http://www.beseen.com/hitcounter/, and www.easycounter.com/.

And guess what? These hit counters provide a lot more information than the FrontPage version. Many provide detailed logs showing where your visitors came from, what time they visited your site, the browser they used, and other valuable information if you are trying to monitor and evaluate the traffic on your Web site.

Third-party providers let you embed their hit counters in your site by providing you with some lines of HTML that you insert in your site. Often, they e-mail this code to you. Other times, they provide it on their Web site. In either case, copy the HTML code into the Clipboard. To paste it into FrontPage, click to place your insertion point in Page view, and choose Edit, Paste Special. From the Paste Special dialog box, choose the Treat as HTML options button, and click OK. The HTML code will be pasted into your page, and the third-party hit counter will appear.

With a little work, you can set up one of these free hit counters with the accompanying banner ad stashed quietly out of everyone's way. (Hint: try making them smaller.)

Photo Gallery

The Photo Gallery Web component generates a JavaScript element that allows you to display photos in tables. With your cursor where you want to place the Photo Gallery, choose Insert ⇨ Web Component, and click Photo Gallery in the list of components. Choose one of the photo gallery options (except the slideshow) that displays on the right side of the Insert Web Component dialog box. When you click Finish, the Photo Gallery Properties dialog box opens, allowing you to define your photo display.

Included content

The Included Content category of Web components has five helpful ways to embed content from your Web site in a Web page. The options vary from embedding the content of one page in a second page, to embedding a picture based on a schedule. All the Included Content Web components are tools for *automating* site content. For example, you can use the Page option to create an "updateable" page that is embedded in other pages. Every time you update the embedded page, the content changes on all pages in which this page is embedded.

Creating Substitutions

Suppose you are responsible for a 28,000-page Web site, and the slogan of your corporation is on each of those pages. When you show up for work on Monday morning, you learn that the company motto has changed, and must be substituted on every page where it appears.

Yes, one option is to search and replace, but that's tedious, and requires that the text being searched for is a perfect match. The other option is to create a *parameter* called `motto`, and then simply change the definition of that parameter when you need to update your Web site. You substitute with author, description, modified by, and page URL.

To add parameters, select Tools ⇨ Web Settings, and click the Parameters tab. This tab displays your existing parameters, as shown in Figure 23-13.
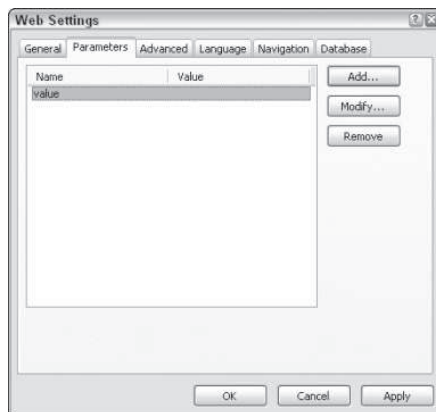
Figure 23-13 Substitution fields are used to instantly update the content of an entire site. They are defined in the Parameters tab of the Web Settings dialog box.

You can add a new parameter by clicking the Add button, entering a name and value for your parameter, and then clicking OK, as shown in Figure 23-14.
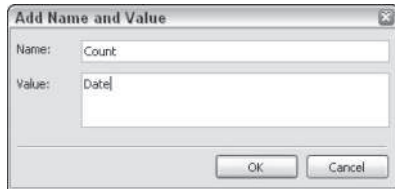
Figure 23-14 Creating your own substitution field in the Add Name and Value dialog box

Use the Modify button in the Parameter tab of the Web Settings dialog box to change a parameter value, or the Delete button to delete the parameter. After you define parameter names and values, click OK in the FrontPage Web Settings dialog box.

With your own parameters defined, you can insert them into any Web page. Just set your insertion point, and select Insert ⇨ Web Component ⇨ Substitution. Pull down the Substitute With list and select a field. When you modify the Substitution parameter value, your Web pages are updated with the new value. Each time visitors view your Web page or refresh their browser window, they see the latest value for a Substitution component.

> **Note** Sometimes substitution values aren't automatically changed. When that happens, you can force FrontPage to update substitution values by choosing Tools ⇨ Recalculate Hyperlinks.

Including pages

The Include Page component enables you to insert the contents of another file into your Web page.

If you want a page embedded in the top, bottom, right, or left of your page, use shared borders. Creating a bottom shared border usually is easier than creating a new page to function as a footer.

The Include Page component is a useful way to include elements that are common to many pages (see Figure 23-15), such as a chunk of page data that you want to embed in several different pages. By including these elements in a separate Web page, you can edit the included page, and the changes will be reflected on all pages.
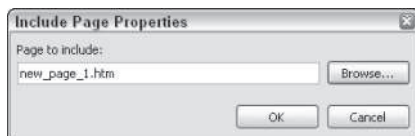
Figure 23-15 Including a page in a page

To edit the *content* of an included page, double-click the included page area. This will open the included page in a new Page view.

Embedding a page based on schedule or a picture based on schedule

With the Page Based on Schedule and Picture Based on Schedule Web Components, you never again have to worry about your Web page advertising a fantastic offer that expires on June 1, 2002. Scheduled Pictures and Scheduled Include Pages can be defined so that they vanish on a set date, or are replaced by new content.

To add a page or picture based on a schedule, position the cursor on the Web page where you want the page or image to appear. Select Insert ⇨ Web Component ⇨ Included Content. From the Included Content choices, click Page Based on Schedule or Picture Based on Schedule. Then click Finish.

In the Scheduled Picture Properties or Scheduled Include Page Properties dialog box, indicate the image or page to include, the starting and ending times to display the picture or page, and, optionally, a picture or page to display before and after the scheduled time frame.

Figure 23-16 defines a picture that displayed until March 6, 2003.
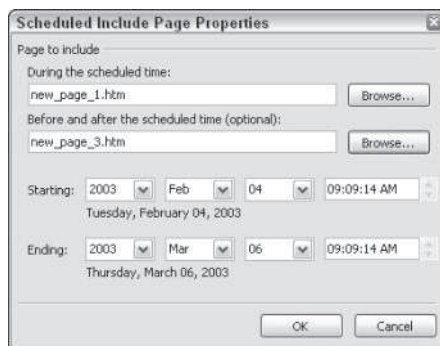
Figure 23-16 Defining a starting (and ending) date for an included picture

If the current time is within the range of the scheduled image time, the selected picture or page displays in Editor. If not, FrontPage displays an error dialog box notifying you that you've defined an invalid date range.

Including a page banner

Page banners display the page title either as text, or (if you have a theme assigned), as a graphic. To embed the page title, position the cursor on the Web page where you want the title to appear and select Insert ⇨ Web Component ⇨ Included Content. From the Included Content choices, click Page Banner, and then click Finish. The Page Banner Properties dialog box appears, as shown in Figure 23-17.

Figure 23-17 A page banner being defined. A page banners will display as a picture only if a theme is assigned to a page.

In the Page Banner Properties dialog box, choose either Text or Picture and click OK. You can format the text of a banner using the regular text formatting tools in Page view. If you change a page title, the content of the banner will change.

Tip   If you place a Page Banner component in a shared border, the component will reflect the title of the page in which the border is embedded. This is a quick and easy way to add the page title to every page in your Web.

Link bars

Link Bar components provide a variety of generated links on a page. This component can be accessed two ways, either through the Insert ⇨ Web Component menu, or through the Insert ⇨ Navigation menu. Link bars can be based on a defined set of pages, or they can be generated by a site's navigational structure.

Inserting a table of contents

FrontPage provides options for generating a table of contents (TOC). You can create a table based on the entire Web site, or based only on a selected category of Web pages.

A table of contents can be an effective tool for embedding automatically updated site maps in a page. Figure 23-18 shows a site using a TOC as a navigation tool.
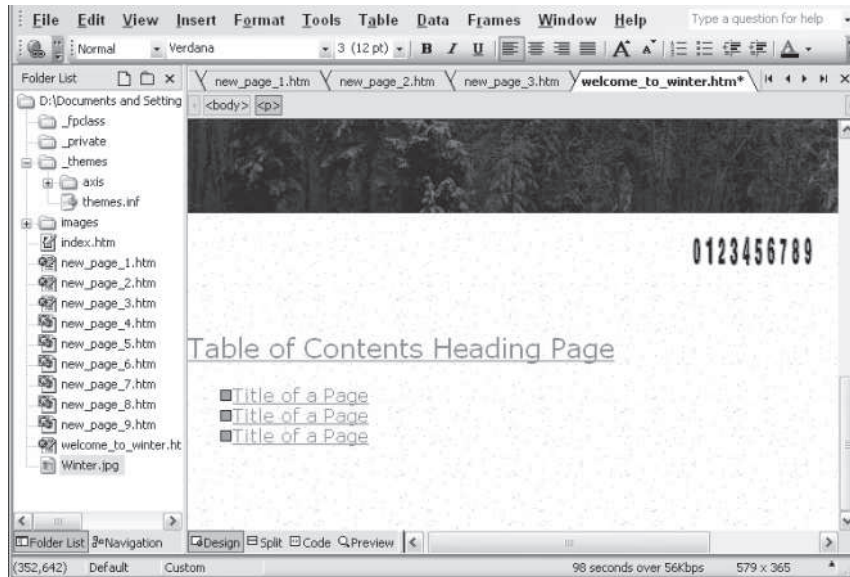
Figure 23-18: This site map, generated by a table of contents, automatically updates whenever the site is updated.

To add a TOC, position the cursor on the Web page and select Insert ⇨ Web Component ⇨ Table of Contents. From the Included Content choices, click For This Web Site, or click Based on Web Category. Click Finish.

Assigning categories

If you choose Based on Page Category, the Categories Properties dialog box appears, as shown in Figure 23-19. Categories can be assigned to a page by right-clicking, choosing Page Properties from the context menu, and selecting one or more categories in the Workgroups tab of the Page Properties dialog box. These assigned categories then govern which pages are included in a table of contents that is restricted to only certain categories.
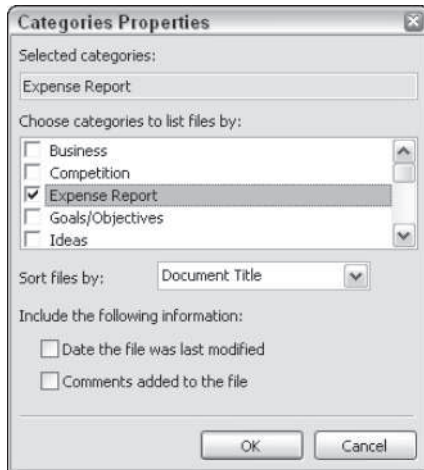
Figure 23-19: The Categories Properties dialog box
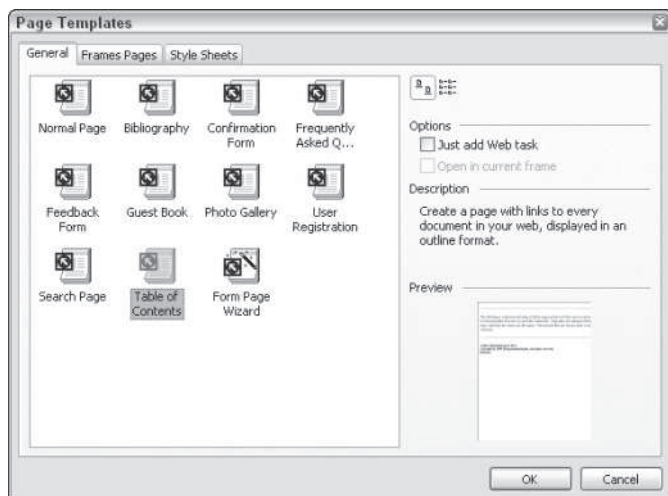
Table of contents options

Whichever method you use for selecting pages to include in a table of contents, you can define what information to display when the TOC is generated. Depending on the type of TOC you are creating, different dialog boxes will allow you to define whether to include the date a file was last modified, and/or comments added to the file in the generated table of contents.

If you generate a TOC for an *entire* site, the Table of Contents Properties dialog box allows you to define a starting point for your TOC. The Page URL for Starting Point of Table box in the Table of Contents dialog box defines only the page that will serve as a title for your TOC. And the Heading Font Size drop-down list defines the size of the title, based on the defined heading styles for your site or page.

Using the Table of Contents template

The quickest way to get a TOC is to use the provided page template to create a separate Table of Contents page. To use this template, select File ⇨ New, and click Page Templates in the Task pane (that opens when you choose New from the menu).

Clicking Page Templates in the Task Pane opens the Page Templates dialog box. In the General tab of the Page Templates dialog box, click the Table of Contents template, as shown in Figure 23-20, and then click OK. This opens a new page.

Figure 23-20: Need a quick TOC? Use the template.

Of course, you are free to change the introductory text provided by the template. If you want to modify the table of contents generated by the template, double-click the TOC to open the Table of Contents Properties dialog box.
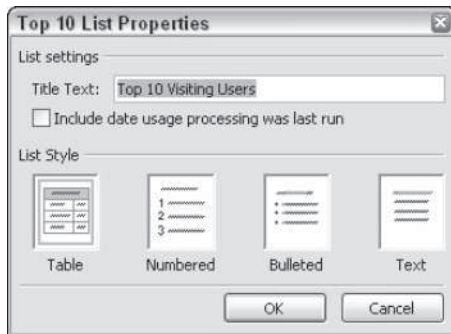
Top 10 lists

Top 10 lists work for pages saved to Webs on servers with FrontPage 2003 extensions. They generate lists based on data collected by the server when visitors come to your site.

Top 10 lists are a way of sharing with your visitors information similar to what you see *internally* when you view usage reports. To see a usage report, choose View ⇨ Reports ⇨ Usage, and select one of the usage reports listed. For example, the information shown in the Browsers usage report tells you how many people visited your site and which browsers they used. That same information can be shared with visitors in a Top 10 browsers list. Overall, this feature is just an easy and automated way to share statistical information about your site with visitors. The available Top 10 lists are as follows:

✦ Visited pages

✦ Referring domains

✦ Referring URLs

✦ Search strings

✦ Visiting users

✦ Operating systems

✦ Browser

All lists are embedded in a page the same way:

1. Select Insert ⇨ Web Component, and click Top 10 List.

2. Choose one of the available lists.

3. Click Finish to display the Top 10 List Properties dialog box, shown in Figure 23-21.

Figure 23-21: Top 10 lists can be displayed in a variety of list formats.

4. You can edit the default list title by entering new text in the Title Text area of the dialog box.

5. Select the Include date usage processing was last run check box to let visitors know when the list was last updated.

6. Choose one of the four formats for displaying your list, and click OK.

Top 10 lists must be previewed in a browser (not in Preview tab) to see actual content.

Note　As of this writing, the latest version of FrontPage 2003 does not allow you to apply local (inline) formatting to the text generated by Top 10 lists. To format the fonts in these lists, you can instead use page or external style settings.

Here's one way to change the formatting of a Top 10 list: right-click a page and choose Page Properties to open the Page Properties dialog box. Click the Style button and choose Format ⇨ Font. Define a font, and then click OK. This will define a new default font style for your page, which will be applied to your Top 10 list.

Top 10 lists require servers with the SharePoint Extensions.

List view and document library components

List views and document libraries are interactive ways for visitors to a site to upload documents, and contribute to online discussions. These components require that a site is published to a server with SharePoint Extension files.

List views and document libraries are a central part of the SharePoint Office Server shipped with the current release of Microsoft Office. This server and its built-in features are mainly designed to quickly generate an out-of-the-box intranet portal for an organization.

Commercial and additional components

FrontPage offers a number of embedded commercial content options. These options are generally self-explanatory content that is provided by other companies (or Microsoft). When you embed this content in your page, you advertise their product, provide a link to their site, and facilitate their sales. In return, you get their content.

You can purchase additional Web components from third-party vendors, including J-Bots, which creates Java-based interactive components for Web sites, and FrontLook, the maker of additional themes and other FrontPage enhancements. If you do incorporate such third-party add-ons, they attach themselves to the Component submenu and appear when you select Insert ⇨ Web Component ⇨ Additional Components.

Creating a page with Web components

In the following tutorial, you will create a Web page with a scrolling text marquee, hover buttons, a hit counter, and a Date and Time stamp.

1. Create a new FrontPage Web from the Personal Web template (select File ⇨ New ⇨ Page or Web. Click Web Templates in the Task Pane, and then double-click Personal Web).

2. Open the file Index.htm in Page view.

3. Click at the end of the first line of text ("Welcome to My Web Site") and press Enter to create a new line.

4. Select Insert ⇨ Web Component ⇨ Dynamic Effects ⇨ Marquee, and click Finish.

5. Type **Welcome to the ultimate Web site** in the Text field and click OK in the dialog box.

6. Place your cursor at the end of the second paragraph and press Enter to create another blank line. Select Insert ⇨ Web Component ⇨ Dynamic Effects ⇨ Hover Button.

7. Type **Photos** in the Button Text field and **photo.htm** in the Link To field (or use the Browse button to find the file photo.htm). Click OK. Create a few additional hover buttons linked to the Interests and Favorite pages.

8. Press Ctrl+End to move to the end of the page. Select Insert ⇨ Web Component ⇨ Hit Counter, and click Finish.

9. In the Hit Counter Properties dialog box, click the radio button next to a hit counter that has a style you like. Click OK.

10. Note that the Web template generates a Date and Time field on the home page (at the bottom of the page). You can identify the date as a Web component because when you hover over it, an icon appears. Double-click the date to open the Date and Time Properties dialog box, and add a Time format from the drop-down menu. Click OK.

Advanced Controls

The Insert Web Component dialog box contains the Advanced Controls options that allow you to insert certain controls that you can use in your Web site. For example, you can insert an HTML control that will not be modified by FrontPage, a Java Applet, a plug-in, or even a Flash movie. When you choose to insert these items, most ask you for the source of the control, such as the source Java Applet you want to use.

If you choose to insert an ActiveX control, you'll see a dialog box where you select the kind of control you want to insert. For example, in Figure 23-22, you'll notice an ActiveMovieControl object. You can now right-click the inserted object and click Properties to determine playback functions, audio volume, and other movie options that allow users to view movies found on the site.
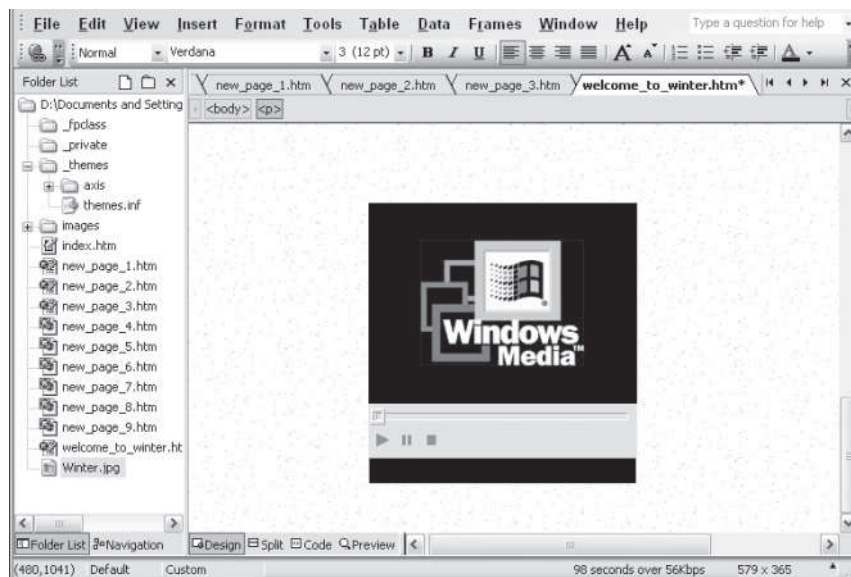
Figure 23-22 You can insert movie controls and a variety of multi-media content controls into your FrontPage Web.

Summary

Much of the value in using FrontPage comes from its impressive set of Web components. Unfortunately, most of these components are rather inelegantly packed into a single menu option, and may thus be hard to find. A good percentage of the best features in FrontPage are found by choosing Insert ⇨ Web Component in the FrontPage menu.

Web components are mini-programs, and they utilize different scripting languages to do their jobs. Therefore, some components work in all development environments, while others are browser- or server-specific. FrontPage 2003 includes a few components, like Top 10 Lists, that require that your site be published to a site with SharePoint Server Extensions.

Web components can be used to make sites interactive. Search engines react to user input to help visitors find pages in your site. Hit counters react to each visit by counting visitors.

Other components are used to automate site content. The Table of Contents component generates a table of contents automatically. Included pages can be used to automatically update many pages.

Finally, some components provide site content, like those that link to MSNBC, MSN, or bCentral sites for news, sports, stock quotes, and Internet search engines.

✦   ✦   ✦

Advanced Publisher Techniques

This chapter takes a look at some advanced techniques that can add extra pizzazz to your creations and shows you how you can use Publisher to design Web pages. You'll also learn about printing: both printing to your personal printer and preparing your publication for printing by a print shop.
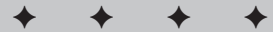
Adding Special Effects

Why settle for ordinary text in ordinary text frames, when you can dress up your text in a number of ways? With its border art, drop caps, and WordArt tools, Publisher can give your publication the added oomph it needs to catch and hold your reader's attention.

BorderArt

To add an ordinary border to a text box or picture frame in Publisher, click the Line/Border Style button on the Formatting toolbar, click More Lines, choose a size and color of line and which sides of the frame to apply it to in the Format dialog box (under the Colors and Lines tab), and then click OK.

Note   If you check the "Draw border inside frame" box, the entire border, no matter how wide, is drawn inside the edges of the frame. If you don't check the box, the border overlaps the edges of the frame.
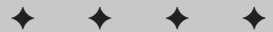
But while you're in the Colors and Lines tab of the Format dialog box, you'll see a button labeled BorderArt. Click it, and the border possibilities suddenly expand exponentially (see Figure 24-1).
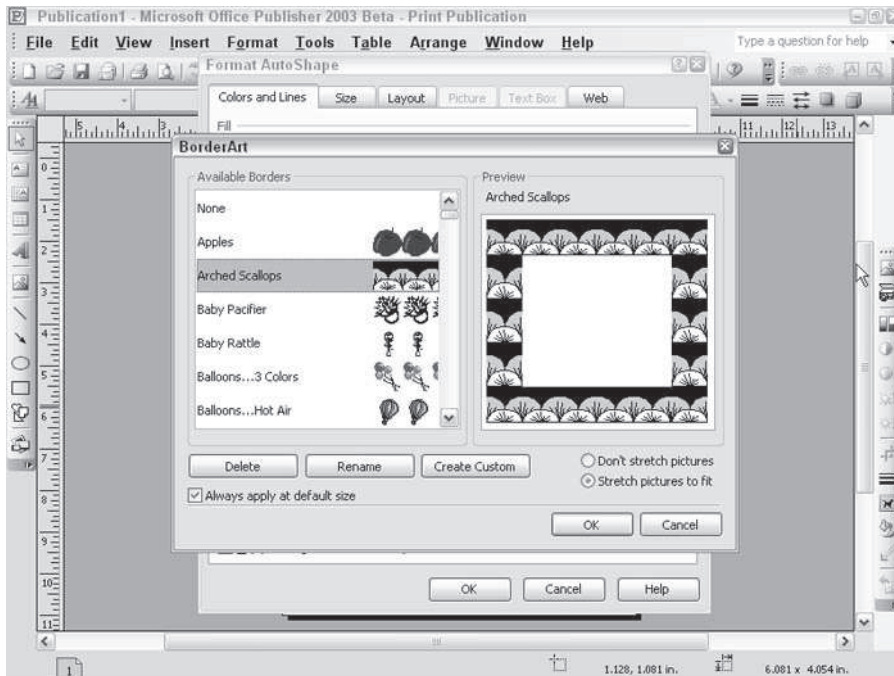

Figure 24-1: You're not limited to ordinary lines when you create borders in Publisher.

Publisher comes with a number of decorative borders, which you can peruse and choose from in the Available Borders area of this dialog box — literally everything from apples to zigzags.

Each border has a default size; if you think the border is too thick or too thin, though, you can change it by unchecking the "Always apply at default size" box and then returning to the Colors and Lines tab to set the border width as usual. You can also modify the color under the Colors and Lines tab, just like you can an ordinary line border.

The BorderArt dialog box also enables you to choose whether or not to deform the individual pictures that make up some borders (such as the apples in the figure) to make a more continuous border.

Figure 24-2 shows how the appropriate border can dress up your text.
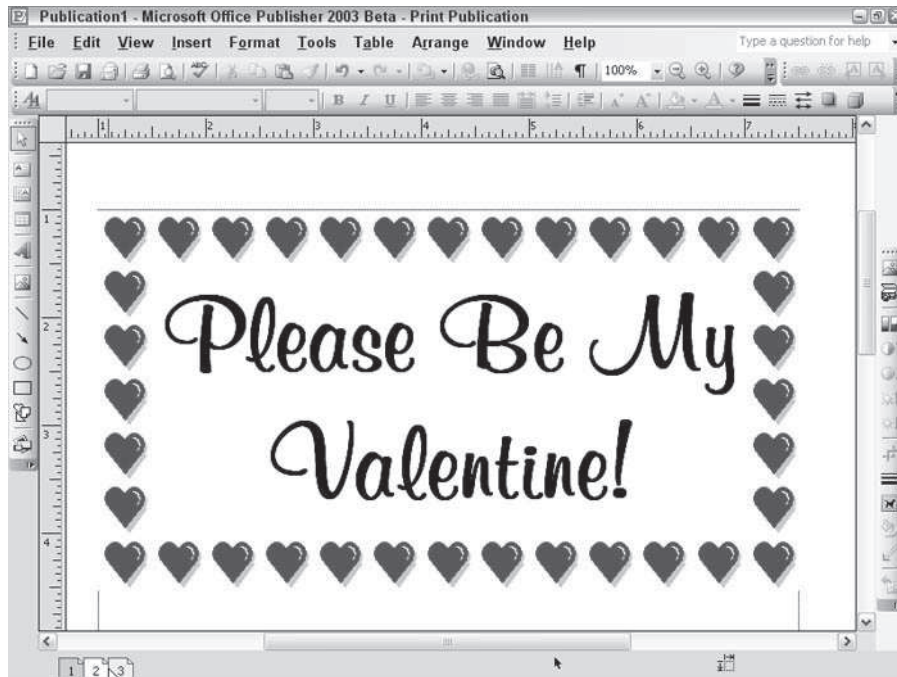
Figure 24-2: "Please Be My Valentine!" looks a lot more romantic with a few shiny red hearts around the edges.

You're not limited to the available borders; you can also create your own border using any graphic image. Click Create Custom in the BorderArt dialog box and then choose a picture file from your computer or from the Clip Organizer. Publisher converts it into a border, which you can then name what you wish. That border continues to appear in your list of available borders until you choose it and click Delete.

Note A picture has to be pretty simple to be made into a border. A digital photograph of a winter scene, for instance, would be too complex. A simple line drawing of a snow-covered tree, however, would not.
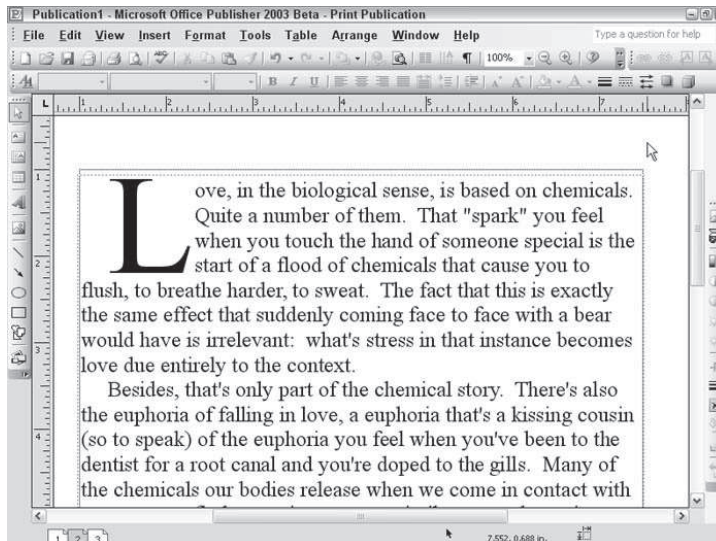
Drop caps

A *drop cap* is a large initial letter in a piece of text, reflecting the style of the illuminated manuscripts of the Middle Ages, when books often began with large, lavishly decorated initial letters.

To apply a drop cap to the beginning of a particular paragraph, click anywhere in that paragraph, then choose Format ⇨ Drop Cap. This opens the dialog box shown in Figure 24-3.
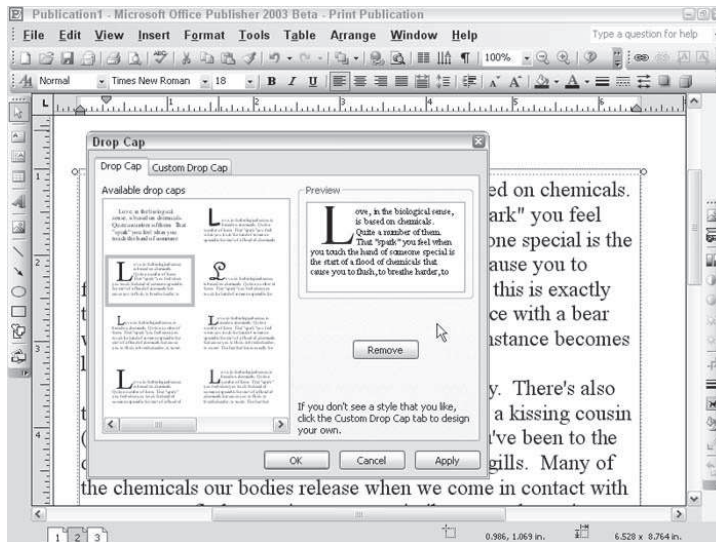
**Figure 24-3:** Create a fancy initial letter for a paragraph with the Drop Cap dialog box.

As with borders, Publisher has several available styles of drop caps ready and waiting for you. Click the one you like and then click OK. The drop cap is added to your paragraph (see Figure 24-4).

Figure 24-4: Drop caps are an ornamental touch that can bring your text alive.

If you don't see a drop cap you like in the Drop Cap dialog box, click the Custom Drop Cap tab and you can design your own, using the tools shown in Figure 24-5.
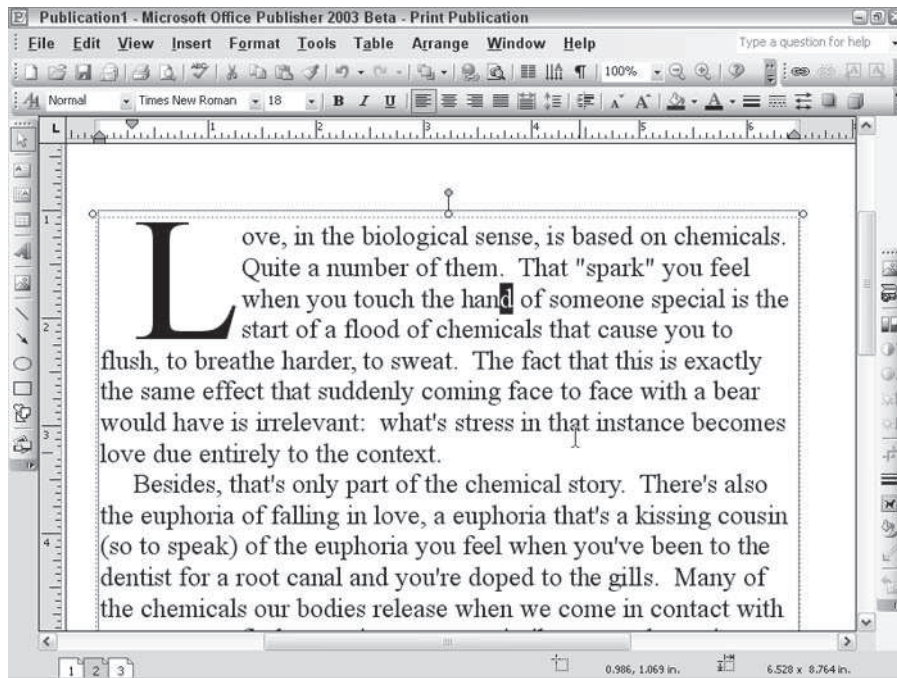
Figure 24-5: Don't like Publisher's available Drop Caps? Then design your own!

This dialog box is divided into two sections, one in which you choose the appearance of the initial letter and one in which you determine its position and size.

In the "Select letter position and size" area, you can choose to make your drop cap drop into the paragraph until its top is even with the top of the first line of text (as in Figure 24-4) or have it rise above the paragraph so that the bottom of the drop cap is level with the bottom of the first line of text. Or you can compromise, and have it rise a specified number of lines above the paragraph.

You can also set the size of the drop cap, in lines, and how many letters you want in the drop cap style — typically just one, but some of the preset drop caps include two letters, and you might want to set the entire first word in drop-cap style.)

In the "Select letter appearance" area, you choose a font for the drop cap, a style (regular, italic, bold, or bold italic), and a color. If you wish, you can automatically use the font, style, and color of the rest of the paragraph.

When you're happy with your drop cap, click OK.

WordArt

Another form of fancy text is WordArt, which applies special formatting to text — shapes, shadows, and so forth that you can't apply through the ordinary formatting tools.

To create a WordArt object, follow these steps:

1. Click the Insert WordArt button on the Object toolbar to open the WordArt Gallery shown in Figure 24-6.
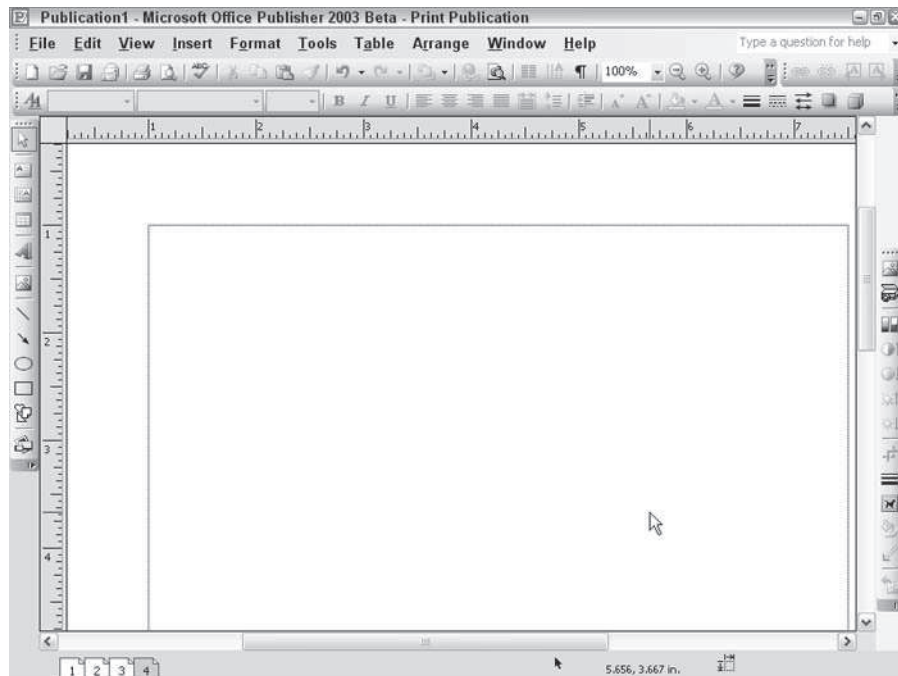
Figure 24-6: WordArt Gallery offers you a lot of fancy formatting to choose from.

2. Choose the WordArt style you'd like to use.

3. Type the text that you want to apply WordArt formatting to in the Text window in the Edit WordArt Text dialog box that now appears. Press Return to add a second line of text and any additional lines of text after that.

4. Choose a font and font size from their respective list boxes, and apply bold or italic style, if you wish.

5. Click OK. WordArt applies the style you chose to the text you entered (see Figure 24-7).
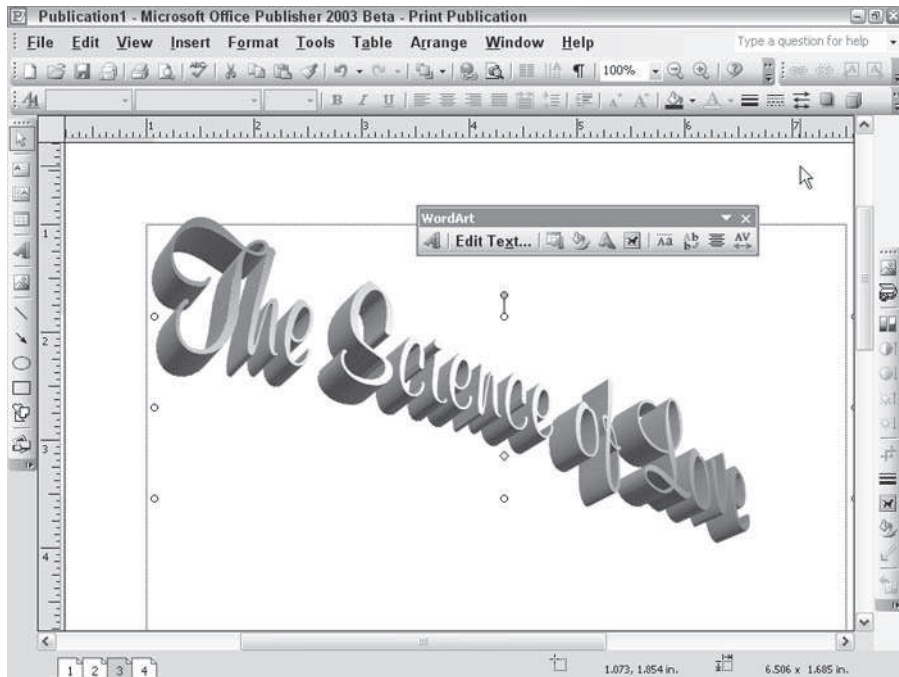
Figure 24-7: Here's the text rendered in the WordArt style that was chosen. Notice the WordArt toolbar that opened automatically.

Editing WordArt is easy with the WordArt toolbar, which opens automatically whenever you create a WordArt object, and with other tools Publisher makes available. You can do all the following:

✦ **Resize it:** Use the handles as you would on any other object to adjust its height and width. Because WordArt is really a graphic, not text, the shape of the letters deforms along with the shape of the frame.

✦ **Reshape it:** Many WordArt styles, including the one in Figure 24-7, include a small yellow diamond or two somewhere inside them. Clicking and dragging this diamond adjusts the shape of the object. In Figure 24-7, clicking and dragging the diamond adjusts the thickness of the central part of the WordArt object in relation to the outside edges. You can also change the shape of the WordArt object by clicking the WordArt Shape button on the WordArt toolbar and choosing the shape you want to apply from the menu provided.

✦ **Change shadow style and 3D style:** Whenever you're working with a 3D object in Publisher, you can apply a shadow style or 3D style to it by clicking the Shadow Style and 3D Style buttons on the Formatting toolbar. Choose the style you want from those offered, and click to apply, or click Shadow Settings or 3D Settings to create your own shadow or 3D style.

✦ **Edit text:** Click the Edit Text button on the WordArt toolbar to reopen the Edit WordArt Text dialog box and change the text, or its font, style, or size.

✦ **Change the WordArt style:** Click the WordArt Gallery button on the WordArt toolbar to reopen the WordArt Gallery; click any of the styles offered to change the style of the currently selected WordArt object to the new style.

✦ **Format the WordArt object:** Click the Format WordArt button on the WordArt toolbar (or choose Format ⇨ WordArt) to open the Format WordArt dialog box, which includes tabs very similar to the Format dialog boxes for text boxes and graphics. You can apply borders, change the fill of the object, and make other changes using this dialog box.

✦ **Change text wrapping:** Click the Text Wrapping button on the WordArt toolbar to change the way text in a text box wraps around the WordArt object.

✦ **Make all letters the same height:** Click the WordArt Same Letter Heights button on the WordArt toolbar to make both uppercase and lowercase letters in your WordArt object the same height. This is an interesting effect that's more noticeable in some fonts (those with a greater difference in height between uppercase and lowercase letters) than others.

✦ **Change the text orientation to vertical:** Click the WordArt Vertical Text button on the WordArt toolbar to make the text in the WordArt object run up and down instead of side to side. Click it again to return the text orientation to horizontal.

✦ **Change the alignment:** The WordArt Alignment button on the WordArt toolbar enables you to set alignment to center, left, right, stretch justify (which justifies text by horizontally stretching the letters), letter justify (which justifies text by adding spaces between letters), and word justify (which justifies text by adding spaces between words).

✦ **Change the spacing:** Click the WordArt Character Spacing button on the WordArt toolbar to adjust the spacing between characters to anything from very loose to very tight. You can also choose to Kern Character Pairs, which moves certain characters closer together to improve their appearance.

You can edit your WordArt at any time by double-clicking the frame to bring up the Edit WordArt Text dialog box and the WordArt toolbar.

Using Linked and Embedded Objects

Sometimes you may want to insert an object into a Publisher document that you can't create with Publisher's own tools. An Excel spreadsheet is a good example. Another is an image that you may have created using a specialized graphics program. You can insert these objects and continue to edit them if the program they were created in supports linking and embedding. First, a couple of definitions:

✦ A *linked* object is one that appears in your publication but isn't really part of it: It's stored somewhere else. All that's really included in your publication is the object's

name and location; when you display or print the page that includes the linked object, Publisher fetches the object from wherever it is and dutifully includes it. One advantage of linking over embedding is that any changes made to the object in the original program (that is, Excel or Word) are automatically reflected in the Publisher publication to which the object is linked.

✦ An *embedded* object is created and edited with another program, but all the data for it is contained within your publication. Whereas a linked object has little effect on the amount of disk space your publication takes up, an embedded object may have a much greater effect.

Embedding a new object

To insert a new embedded object into your publication, follow these steps:

1. Choose Insert ➪ Object from the menu bar. This opens the dialog box shown in Figure 24-8.
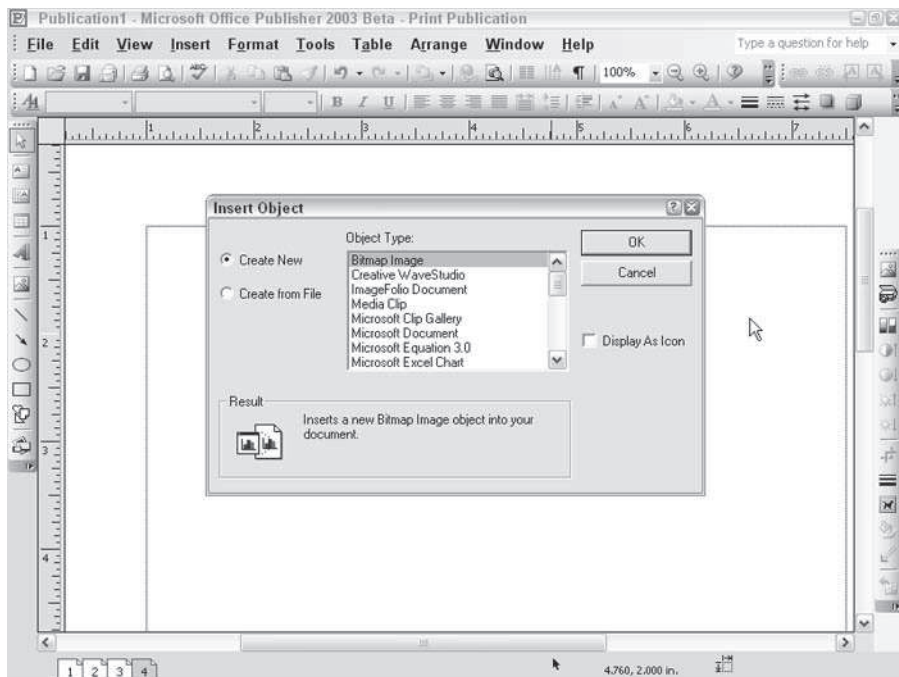
Figure 24-8: You can insert any of the objects listed here into your publication. The list that appears depends on what software is installed on your computer.

2. Choose the type of object you'd like to embed from the Object Type list. If you want to simply display an icon representing the object, check Display as Icon; otherwise, the entire object is displayed.

3. Check the Create New box.

4. Click OK. In Figure 24-9, you'll see an embedded Microsoft Excel chart. Notice that Publisher's toolbars have vanished, replaced by the Excel toolbars.
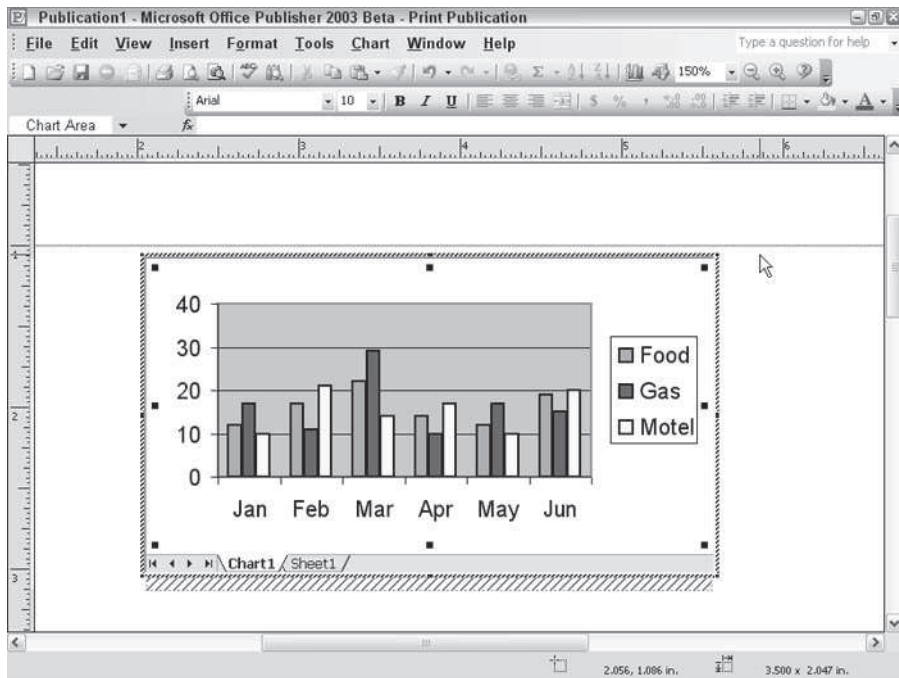
**Figure 24-9:** When you create a new embedded object, Publisher's controls are sometimes replaced by controls specific to that object.

When you've finished creating your embedded object, click anywhere outside the object's frame. Publisher's controls reappear, and you can continue creating your publication as normal. Whenever you want to edit the embedded object, just double-click it and its controls reappear.

Embedding an existing object

To insert an object that already exists as a file created by another program, follow these steps:

1. Choose Insert ➪ Object.

2. This time, click Create from File.

3. Enter the path to the file, or click Browse to browse for it on your computer.

4. If you want the object to be linked, check Link; otherwise the object is embedded.

5. Click OK. The file you selected is inserted into your publication (see Figure 24-10).
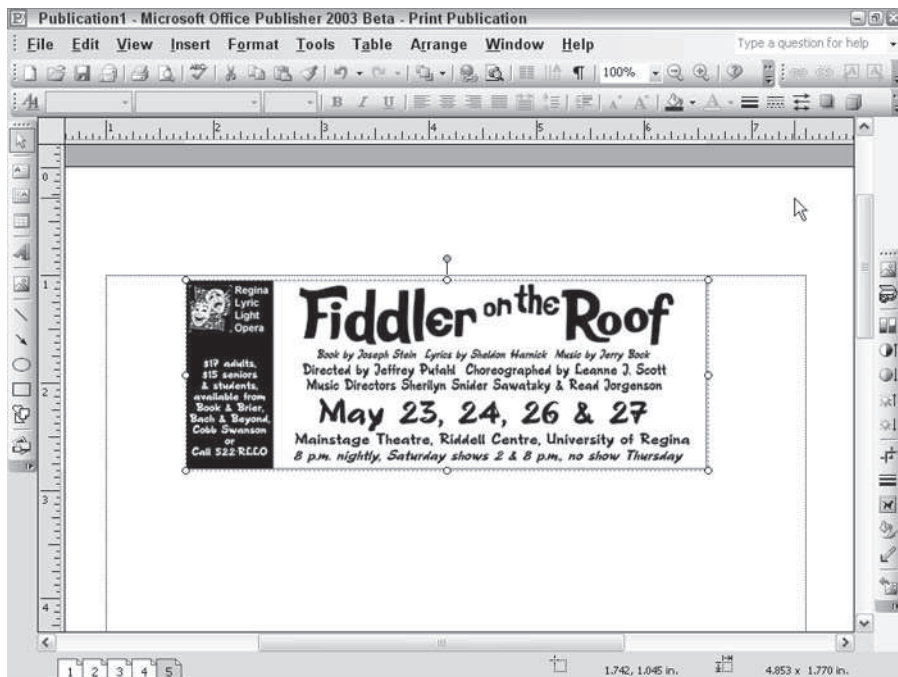
Figure 24-10: This ad was created in another program, then inserted into the Publisher publication as a linked object. Any changes made to this image using the program in which it was created are now automatically reflected in this publication.

Mail and Catalog Merging in Publisher

Another useful tool in Publisher is mail and catalog merge capability. You can create a database in Publisher specifically for that purpose, or you can use a database you created in another program. Publisher provides a helpful wizard to make the process easy.To open the Mail and Catalog Merge Wizard, choose Tools ⇨ Mail and Catalog Merge ⇨ Mail and Catalog Merge Wizard. This opens the task pane shown in Figure 24-11.
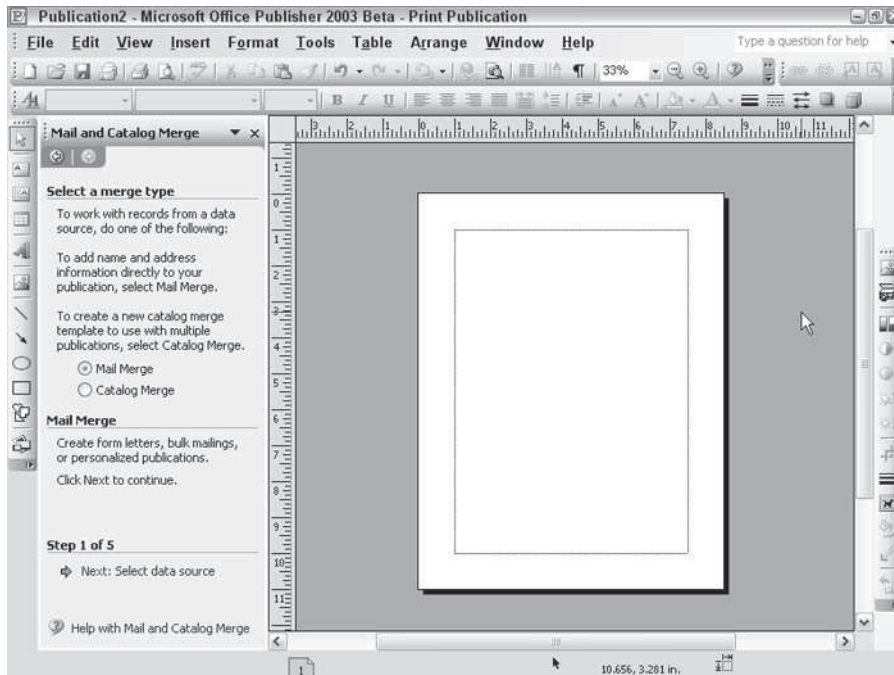
Figure 24-11: Use this wizard to set up mail and catalog merging in Publisher.You'll look at mail merging first; then you will learn how catalog merging, new in Publisher 2003, differs a bit.

The first step is to select a data source. You can use an existing list, create a list by selecting from among your Outlook contacts, or type in an entirely new list.

Using an existing list or Outlook contacts

If you choose to use an existing list, you'll be asked to locate the list on your computer (it must be either a database file or in table format).

When you've located it, you'll see the Mail Merge Recipients dialog box shown in Figure 24-12. This lists all the fields you have set up in the database, and lets you choose which ones to include in your mail merge, sort the list by any of the fields just by clicking the appropriate column heads, or narrow down the lists by clicking the arrow beside the column name and filtering the information. (You can choose to view only entries that have blank spaces in that column, only entries that have nonblank spaces in that column, or look for other criteria you provide by choosing the Advanced option. For instance, you could filter the database so it merges only the people whose first names are *John* or whose postal codes exceed a certain number.)

If you choose to select from Outlook contacts, you'll see them displayed in the same Mail Merge Recipients dialog box.
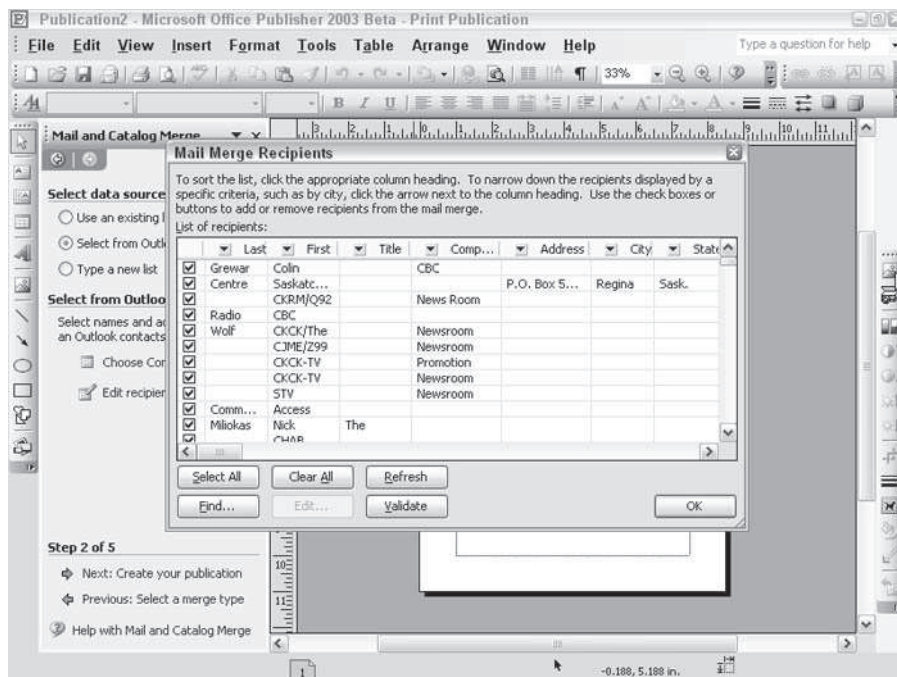
Figure 24-12: Sort and filter the entries you want included in your mail merge using this dialog box.

Creating a new list

To create a new list, choose "Type a new list" from the "Select data source" area of the Mail and Catalog Merge task pane and then click the Create link under "Type a new list." This opens the New Address List dialog box shown in Figure 24-13.
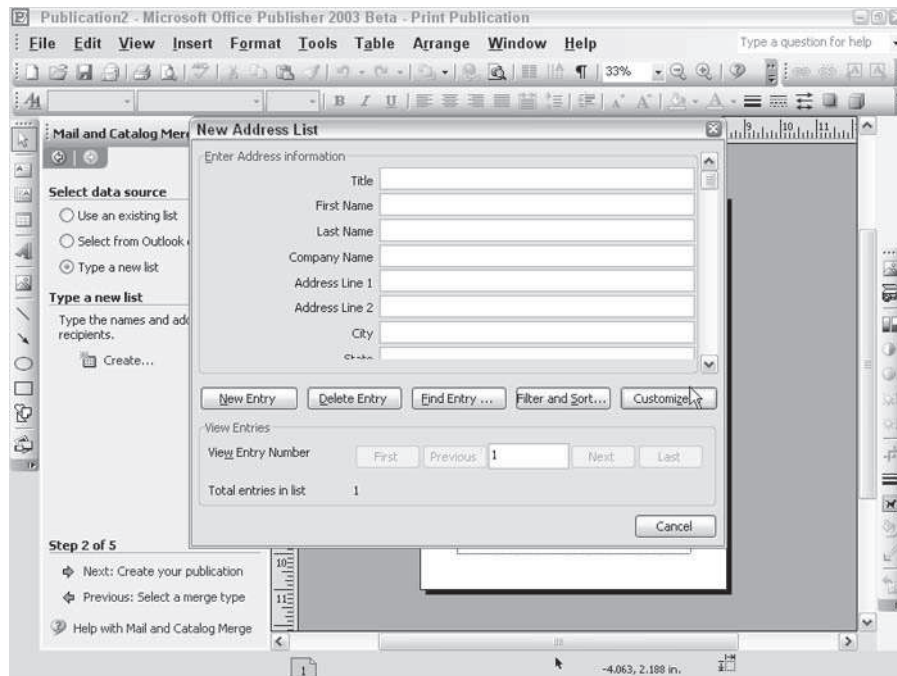
Figure 24-13: Create a new address list for mail merging using this dialog box.

By default, the dialog box includes fields for the most common fields used in address lists. If these fields suit your purpose, just type the information into the blanks. Click New Entry to create a new entry.

When you've finished, click Close and save your database using the Save Address List dialog box that opens.

You can locate a specific entry using the View Entry Number controls, or conduct a search for a specific entry by clicking Find Entry.

If the fields included by default don't suit you, you can customize fields by clicking Customize. You can add new fields, delete fields, or rename fields.

After you've created a database, you can edit it at any time by choosing Tools ⇨ Mail and Catalog Merge ⇨ Edit Address List.

Create the publication

The next step in the Mail and Catalog Merge Wizard is to create your publication, if you haven't already done so.

To add recipient information, click where you want the information to appear and then click the items you want to add from the list provided. These include an address block (the address of the recipient, which would typically appear at the top of a business letter), a greeting line (Dear, To, and so forth), both of which you can customize in the dialog boxes that open.

To insert a single field, choose it from the scroll box provided. You have the option to insert any field as either text or a picture. If it's inserted as text, you can edit its contents directly in Publisher after its merged; if it's inserted as a picture, you can't, but you can resize it, recolor it, and do all the other things you can do to a graphic in Publisher.

Note   You must have a text box or table selected in your publication before you can insert fields. The inserted field appears in the selected text box or table.

Clicking Address fields opens the Insert Address Field dialog box shown in Figure 24-14. This lists standard address field, which you can then match to the fields in the database you're using by clicking Match Fields.
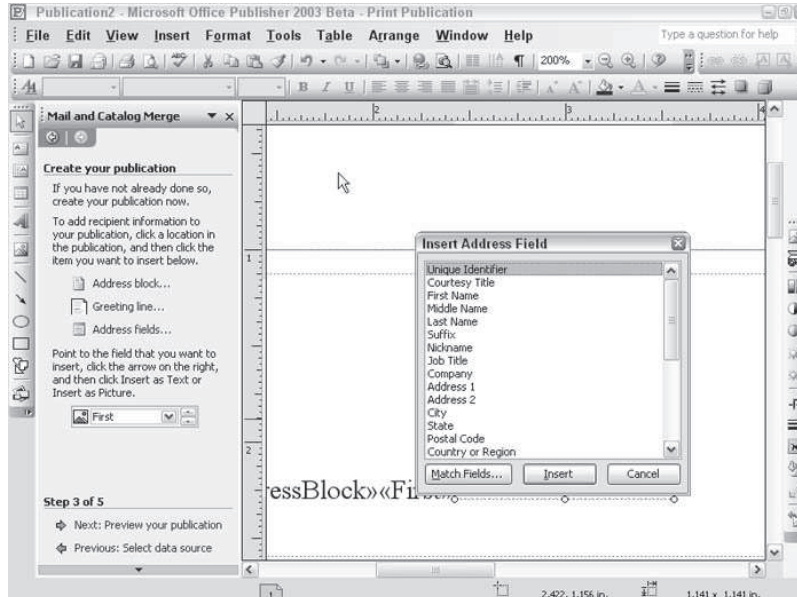
Figure 24-14: Use this dialog box to insert the information from the list you created or opened in the previous step.

Fields appear in your publication as the name of the field surrounded by double brackets on each side (see Figure 24-15).
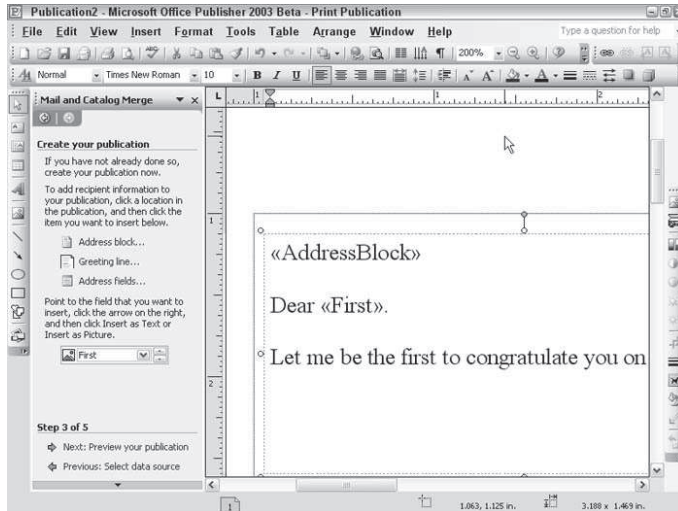
Figure 24-15: Mail merging fields look like this once inserted into your publication. They'll be replaced by data from the list once you run the mail merge.

Preview your publication

The next step the wizard offers is a preview of your publication. Publisher inserts the data from the database into your publication one entry at a time and lets you page through the results forward and backward to make sure that including data hasn't caused any unexpected problems within your publication, such as inserting a blank line or pushing some text out of sight in a text box.

You can click "Find a recipient" to find a particular data entry, you can edit the Recipient list further, or you can choose to exclude whichever recipient you're currently viewing.

When you're happy with the way things look (and you can always return to the previous "Create the publication" step of the wizard to make changes to the publication itself), click "Complete the merge" to move on to the wizard's final step.

Merging

Publisher replaces the field codes with data from the database file and offers you the opportunity to print. Clicking the Print link opens the Print Merge dialog box, which varies slightly from the regular Print dialog box discussed later in this chapter; it asks you which entries you want to print, if you want to skip over rows on a sheet of labels, and if you want to print lines that contain empty fields.

> **Tip** It's almost always a good idea to avoid printing lines that contain empty fields, because otherwise they'll create awkward gaps in your printed document.

You can also click the Test button to print the results of merging a single entry from the database, to make sure everything looks all right before you commit to what may be a very large print job if you've got a long list of recipients.

Merging a Catalog

The Catalog Merge option is designed to allow you to create a template for a merged publication that contains multiple records, such as a catalog, directory, or photo album.

Your first task in the wizard is still to select a data source; a Browse link lets you search for and select the one you want to use.

Next, you choose the fields you want from a list, which looks a little different from the Mail Merge version (see Figure 24-16). You can still insert fields into a text box or table that you create on your page; however, if you have fields you want to repeat for each record (in a catalog, for instance, it might be a phone number or e-mail address you want to appear with every item in the catalog), you can insert those fields into the special Catalog Merge Area provided, and then move them around and format them as usual.

After that, you preview and merge just as you did with Mail Merge.
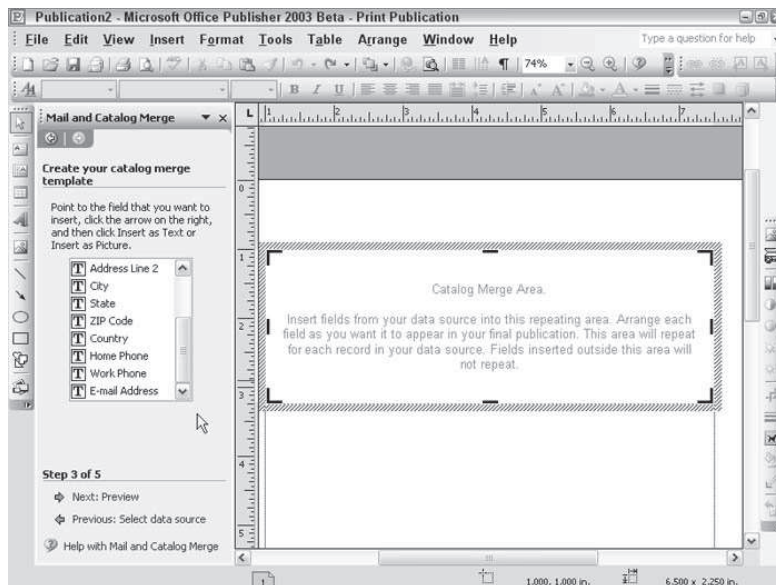
Figure 24-16: The Catalog Merge Wizard creates this special Catalog Merge Area into which you can insert fields that should repeat for each record in your data source.

Designing Web Sites with Publisher

You can turn any publication you've created with Publisher into a Web page by choosing File ⇨ Convert to Web Publication. But you can also use Publisher to create a Web site right off the bat.

The New Publication task pane includes a number of designs for Web sites, using the same design schemes as are used for other publication types (see Figure 24-17). Alternatively, you can create some other type of publication using one of the Publication Gallery designs (say, a brochure) and convert it into a Web site by clicking Convert to Web publication on the options task pane that opens whenever you create a new publication from one of Publisher's designs (see Figure 24-18).
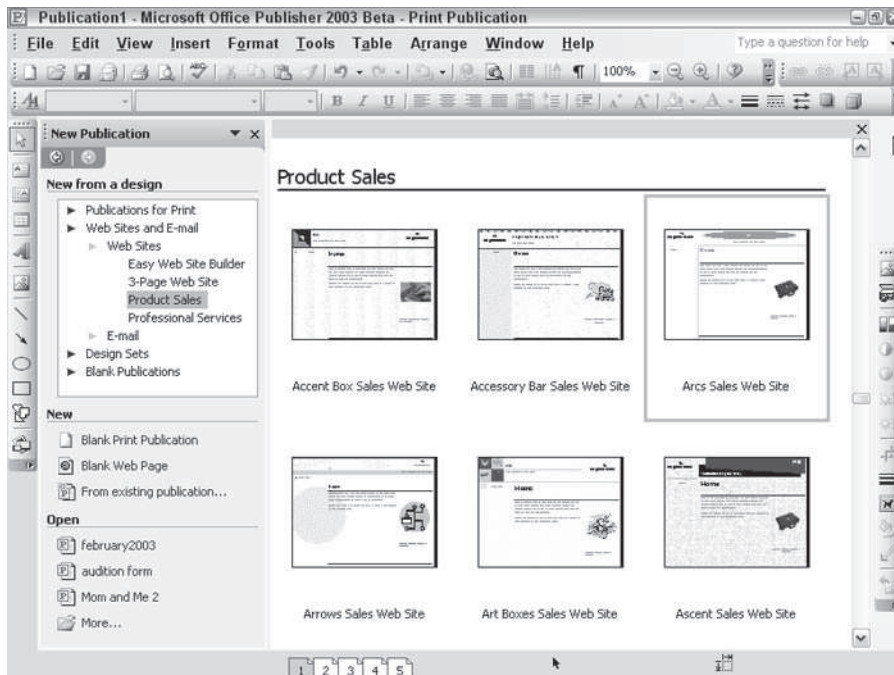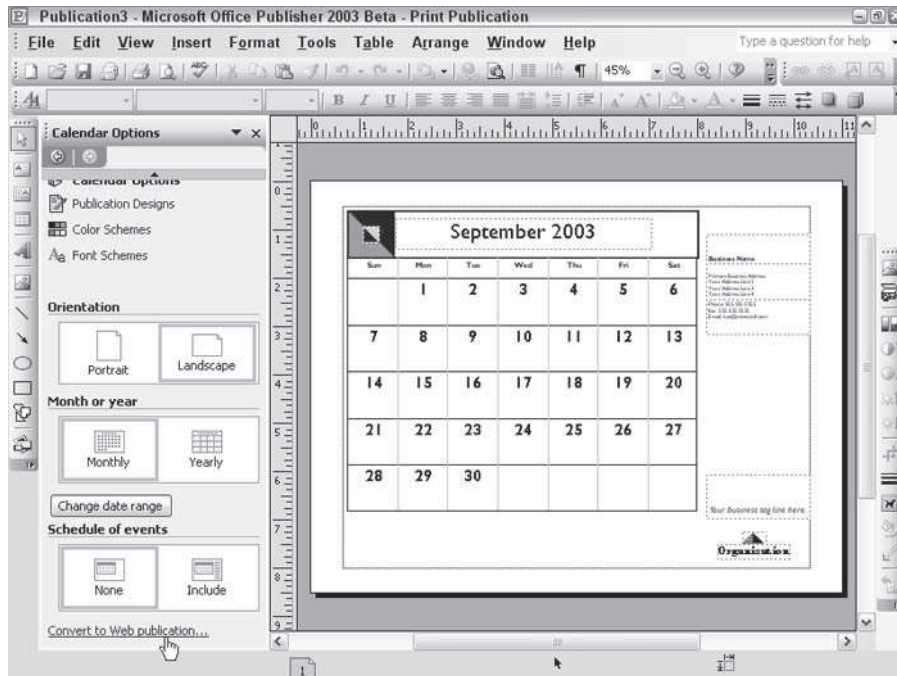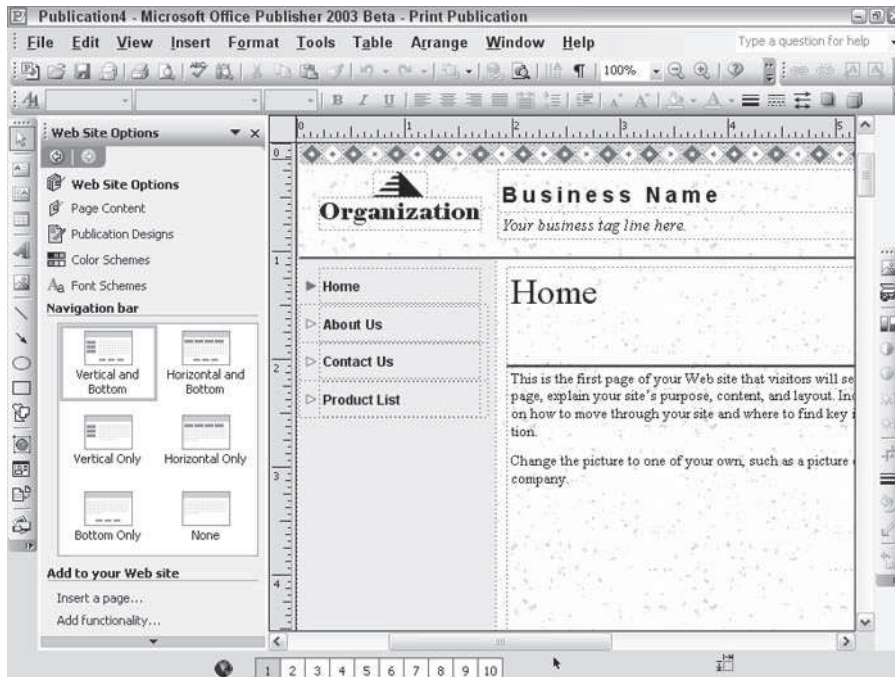

Figure 24-17: Publisher provides these designs for Web sites.

Figure 24-18: You can convert any type of Publisher design into a Web site by clicking the Convert to Web publication link on the Options task pane.

After you've created a Web site, you're offered several options (see Figure 24-19) in the task pane. You can choose from several types of navigation bars.

Figure 24-19: The Web Site Options task pane lets you add various elements to your Web site automatically.

You can add to your Web site with additional pages. Click "Insert a page" at the bottom of the task pane. Choose the type of page you want (from the drop-down list provided), and then click More to refine the page further.

If you click "Add functionality," you open another task pane where you can modify your site with a variety of other predesignedpages by choosing what you want the additions to the site to accomplish — i.e., "Tell customers about my business," "Tell customers how to contact us," "Sell products," etc.

Creating a hotspot

A *hotspot* is a specific area within a Web page that a viewer can click to activate a hyperlink. Hot spots are generally used in conjunction with graphics. To create a hotspot, click the Hot Spot button on the toolbar, then draw the hotspot onto your Web page, just as you would any other type of Publisher frame.

As soon as you do, the Insert Hyperlink dialog box pops up. It gives you four choices:

✦ **Existing File or Web page:** Enter the URL for an existing Web page in the Address blank or browse for a file or Web site you want the hotspot to link to.

✦ **Place in this Document:** You can choose from First Page, Last Page, Next Page, Previous Page, or a specific page.

✦ **Create New Document:** Provide the name and path for a new document for the hotspot to link to, and Publisher creates it for you. You can edit it now or later.

✦ **E-mail address:** Type in the address you want the hotspot to link to. You can provide a subject to be automatically appended to any e-mail sent using the link.

In Figure 24-20, the airplane in the image of an airport has been turned into a hotspot.
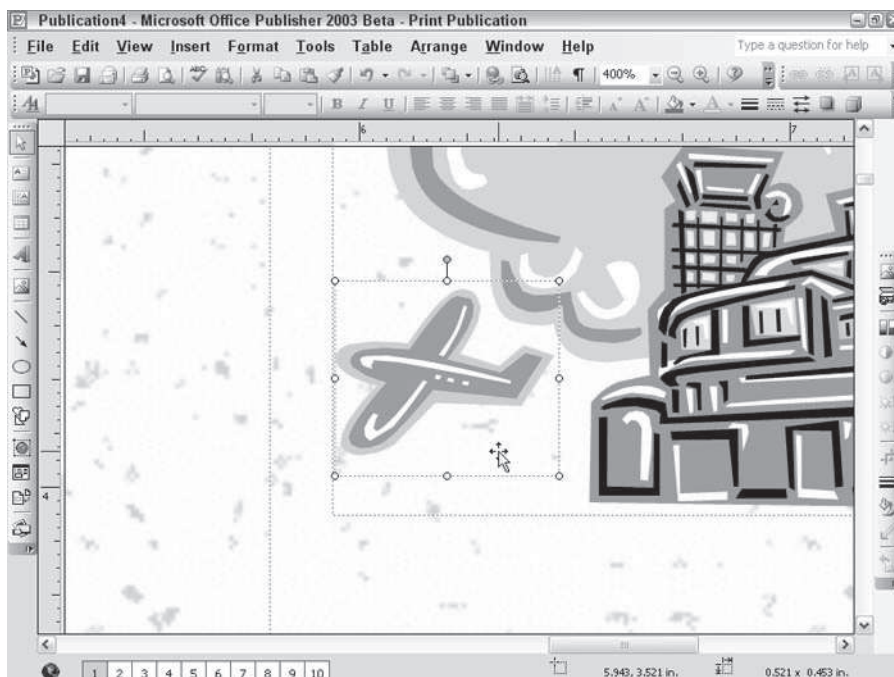
Figure 24-20: Creating a hotspot is as easy as creating any other frame in Publisher. Pointing a the frame shows the hotspot's corresponding URL.

Inserting hyperlinks

To insert an ordinary hyperlink, simply click the object you want the hyperlink to be attached to — or highlight the specific text. Then press Ctrl+K or choose Insert ⇨ Hyperlink. The Insert Hyperlink dialog box opens; make your choice, enter the necessary information, and click OK.

Tip   To remove a hyperlink, select it and press Ctrl+K or choose Insert ⇨ Hyperlink — just as you did to insert it; then click the Remove Link button in the Edit Hyperlink dialog box.

Adding a form control

Form controls are objects that enable the viewer of your Web page to make choices and/or enter data that you can later retrieve (you'll have to talk to your Internet service provider or network manager about how, exactly).

To add a form control, click the Form Control tool in the Object toolbar, choose the type of form control you want to add, and draw a frame as you would for any other object. Publisher can create five form controls (illustrated in Figure 24-21): a single-line text box, a text area, a checkbox, an option button, and a list box.
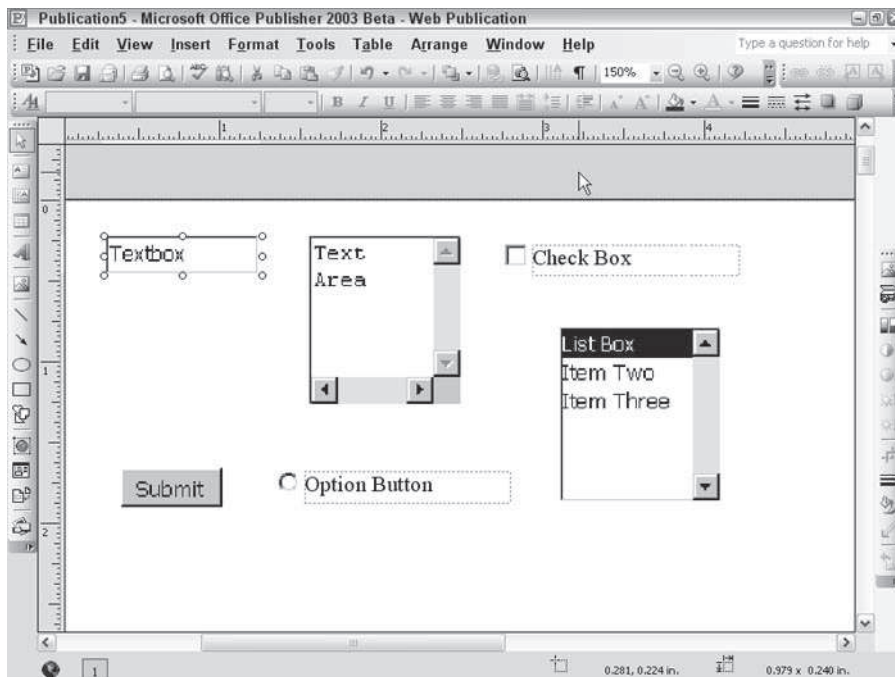
Figure 24-21: Publisher can create these five form controls for your Web page.

Each can be edited by double-clicking it. You can set a variety of options, including how the data contained in the form is labeled when it's submitted to you and the default text that appears.

The Form Control tool can also create a command button that you can define as either a Submit button (which submits the data entered in the form controls) or a Reset button (which erases everything and has the submitter start over.) When you create a command button, you're given options as to how data contained in forms is to be submitted to you: as a file on your Web server you can retrieve, as an e-mail message, or via a program that's provided by your Internet service provider.

Note You may need to talk to your ISP or network manager to determine what settings to use with form controls.

Inserting an HTML code fragment

Sometimes you want to insert a specific piece of HTML code into your Web page. Publisher lets you do that without having to open your Web page in a text editor. Simply click the HTML Code Fragment button on the Object toolbar, draw a frame, and type your HTML code into the dialog box that opens. Click OK when you're done. The HTML code appears just as typed within the frame in Publisher; when the Web page is viewed in a browser, the specified hyperlinks, images, and so forth appear.

Previewing your Web page

To see what your Web page will look like once you've published it to the Web, choose File ⇨ Web Page Preview. This opens the page in your default browser.

Using the Design Gallery

No matter what kind of publication you're working on — from a postcard to a Web site — Publisher has already done a lot of the design work for you. The results are stored in the Design Gallery, where you can find everything from logo designs to order forms to newsletter mastheads.

To insert an object from the Design Gallery, click the Design Gallery Object button at the bottom of the Object toolbar. This opens the Design Gallery, which shows three tabs:

✦ **The Objects by Category tab:** Lists all the categories of objects in the Gallery (see Figure 24-22); click the category and then choose the object you want from those displayed.

Figure 24-22: The Design Gallery contains dozens of ready-made objects you can use in your own publications.

✦ **The Objects by Design tab:** Shows the same objects but organizes them differently — by related designs, rather than by category.

✦ **The My Objects tab:** Shows objects you've created and added to the Design Gallery. To add an object, select it, then choose Insert ⇨ Add Selection to Design Gallery. You'll be asked to give the object a name and assign it to a category. When you've done that, the object remains in the Design Gallery until you remove it, and you can add it to any future publications by choosing the Design Gallery Object button and clicking the Your Objects tab.

Grouping by Design

Sometimes you'll create designs that are made up of many different objects — several text boxes mixed with graphics, for example. You can make it easier to move that design or resize it by grouping all its constituent objects together.

To do that, select them, either by drawing a box around them with your mouse pointer or clicking each in turn while holding down Shift. A border appears around the outside of all the selected items, with a button at the bottom with two blue squares in it. Click that button and all the objects in the group are locked together.

Now, whenever you click one of them, the whole group is selected; you can move or resize it as you wish. (Note, however, that if you resize a group, the text in it doesn't resize like the graphics do; you'll have adjust font sizes manually to make them fit the resized group.) A border can be added only to the active object in the group selection.

Saving and Printing

To save a Publisher publication, choose File ⇨ Save and assign the publication a name. By default, Publisher saves publications in its own file format, but you can also save them in a variety of other file formats, including word processor formats, graphics formats, PostScript, or as a Publisher template — in which case, it's accessible through the New Publication task pane and you can use it as the basis for future publications.

Caution In any format except Publisher's own, you run the risk of losing formatting, so unless you have a really good reason to do otherwise, it's probably best to leave your publications in the default format.

Using the Design Checker

Before you print your publication (or, in the case of a Web page, save it to your Web server), it's a good idea to run Publisher's Design Checker.

Choose Tools ⇨ Design Checker. Among the problems Design Checker looks for are text in overflow areas, disproportional pictures, empty frames, covered objects, objects partially off the page, objects in nonprinting regions, blank space at the top of the page, spacing between sentences, and (for Web sites) a page unreachable by hyperlinks.

The Design Checker is particularly useful if you're new to Publisher, because it can spot errors you might not even be aware can be a problem. When you're more comfortable with Publisher, you'll probably find that you seldom use Design Checker.

Printing

When you're satisfied your publication is as near perfect as you can make it, you're ready to print. Printing is pretty much the same as in any Office application — choose File ⇨ Print and then select a printer, a range of pages to print, and the number of copies you want.

The Print dialog box contains an additional button, Advanced Print Settings. These options include the following:

✦ What resolution to print linked graphics at.

✦ Whether to allow the printer to substitute its own fonts for those used in the publication.

✦ Whether to allow bleeds (images that extend to the edge of the paper). Since most printers won't print right to the edge, you have to make your page size slightly smaller than your paper size and then trim the paper to achieve this effect.

✦ Options for creating a publication that can be turned into the separations needed for color printing on a printing press. You can choose the output (i.e., Composite Grayscale, Composite CMYK, Composite RGB or Separations), the resolution, and more. You'll probably want to consult with your printer before selecting any options here.

Preparing for Outside Printing

Sometimes you want to be able to send your publication to a print shop for printing on a professional press rather than on your own printer. Publisher can help you prepare your files for that purpose.

Choose File ➪ Pack and Go ➪ Take to a Commercial Printing Service. (The other option here, Take to Another Computer, can split your file over multiple disks, embed necessary fonts, and include linked graphics, making it easy for you or someone else to work on your publication on another computer.) This opens a wizard that takes you step by step through the process of preparing your files for outside printing, including embedding TrueType fonts, including linked graphics, creating links for embedded graphics, compressing your publication, and adding an unpacking utility for uncompressing it when it gets to its destination.

Summary

This chapter focused on some of Publisher's more advanced features for creating graphically interesting publications, as well as using Publisher to create Web sites. Points covered included:

✦ You can add an intriguing border to any frame with BorderArt, choosing from a number of ready-made designs or creating your own.

✦ Publisher's Drop Cap tools add a nice flair to the start of any paragraph — and again, you can either choose a ready-made one or design your own.

✦ WordArt takes you beyond the normal text tools to enable you to create an eye-catching hybrid of text and graphics.

✦ You can insert objects created in other programs easily, and either embed them or link them.

✦ Publisher has powerful merging tools that allow you to use it to create personalized form letters, brochures and catalogs.

✦ You can turn any Publisher publication into a Web publication, or use Publisher to create a Web site from scratch.

✦ Publisher's Design Gallery offers a plethora of premade objects to dress up any publication.

✦ Publisher's Print dialog box offers extra options designed to help you print your publication as prettily as possible.

✦   ✦   ✦