part II

Web Page Authoring Fundamentals

How to create a Web site is one of the most empowering skills you will ever learn. Because the Internet is ubiquitous, Web page creation gives you a worldwide reach that enables you to communicate your message virtually everywhere. This part of the book teaches you how to put any form of media, including text, pictures, audio, and video, onto your Web pages. After studying Web page creation strategies, you learn how to create a résumé you can use to apply for a job. Creating a résumé on the Web provides you with the strategic advantage of being able to give prospective employers the World Wide Web

address of your résumé. This shows you have network savvy that can benefit an employer in an information society.

You also learn how to create your home page—the Web page that establishes your identity on the Web. By linking things to your home page, you can create a hierarchy that makes it easy for people to access resources you put on the Web. For example, you will link your Web page résumé to your home page.

Next, you learn how to interact with users by creating Web forms that enable your visitors to make choices as you keep track of each user's preferences. You will be pleasantly surprised by how easy it is to create a Buy Now button you can use to sell things at your Web site. Then you learn how to write little computer programs called scripts, which you can use to create more highly customized interactions.

Studying cascading style sheets (CSS) and the document object model (DOM) will reveal all of the dynamic objects and methods that are at your command. These are the raw materials of the digital age that companies such as Amazon, eBay, Google, and Yahoo! have used to build their empires. Learning these technologies will place the same potential for invention into your hands. Whether you end up creating something new or just studying to pass the CIW Foundations exam, Web creation is an exciting journey you are sure to enjoy.

chapter 5

Creating Web Pages

"If you can dream it, you can do it."

—Adobe slogan

In this chapter, you will learn how to:

- Identify the Web page creation strategies and adopt a strategy that is appropriate for your workplace.
- Define the HTML Web page elements and explain what they do on a Web page.
- Describe the principles of good screen design and give examples of each principle in action on a Web page.
- Analyze the layout of a Web page résumé by diagramming the HTML elements the page comprises.

ACCORDING to the Adobe slogan quoted at the beginning of this chapter, "If you can dream it, you can do it." This adage implies that you have the proper tools for doing what you dream. Enabling you to acquire these tools is what this chapter is about. First, this chapter takes you on a guided tour of the approaches various authors use when creating Web pages. Some of these approaches are surprisingly simple and cost-effective. Others are more expensive but may save you time or money in the long run. By reflecting on these choices, you can get a sense of what the proper tool is for different situations.

No matter what tool you adopt, every Web author needs to understand the HTML elements a Web page comprises. The second part of this chapter defines and illustrates those elements at work on actual Web pages. Then the third part helps you understand the screen design principles you should follow to make appropriate use of HTML elements onscreen.

Finally, this chapter concludes by analyzing the layout of a Web page that uses these elements to create a résumé, an important document that potential employers expect you to show them when you are looking for a job. This chapter enables you to dream up the content and visualize the appearance on the screen of your Web page résumé. In the next chapter, you will actually create such a résumé, which will come in handy whenever you are looking for a job.

Adopting a Web Page Creation Strategy

There are four ways to create Web pages. First, you can use a plaintext editor to type the HTML code of your Web page by hand. Doing this requires that you know the HTML tags, because a plain text editor does not have any built-in help for HTML coding. Second, you can use an HTML editor that contains toolbars and menus that help you insert the codes. This built-in help makes it easier to create a Web page, but still it is technical and requires that you have a good understanding of how HTML works. Third, you can use the Save As Web Page option to convert word-processed documents into Web pages. This is the most productive way to create Web pages from term papers and other forms of scholarly writing. Fourth, you can use a what-you-see-is-what-you-get (WYSIWYG) editor to create Web pages through a graphical user interface that lets you enter text and graphics directly onto the screen exactly as you want them to appear. As you create the screen, the WYSIWYG editor automatically generates the HTML codes that make the Web page.

Text Editors

You may be surprised to hear that some of the Web's most successful authors create their pages with a text editor. Because HTML is a textual encoding language, you can use a plaintext editor to create HTML Web pages. This book saves you some money by taking advantage of this fact. Instead of requiring you to buy a fancy tool, this book is written so you can complete all the HTML exercises with a simple text editor that you already own. If you have one of the fancier tools, on the other hand, you can also work through this book's tutorials with your more high-end tool. Before discussing more high-end tools, however, let us review the text editors you can use to create Web pages without needing to purchase any other software.

Notepad All Windows computers have a built-in text editor called **Notepad**. To get the Notepad running, you double-click its icon, which looks like the notepad after which it is named.

If the Notepad's icon is not visible, use the Windows Start | Programs | Accessories menu. If you have a Macintosh, use the Finder to locate the Notepad's launch icon. If you have OS X, the Macintosh text editor is called *TextEdit*.

WordPad In addition to the Notepad, the Windows operating system has a more powerful text editor called the WordPad.

The choice of which text editor to use is totally yours. Beginners might find the Notepad less confusing because there are some rich text format (RTF) tools in the WordPad that are not applicable to HTML Web page creation. You cannot, for example, create HTML italics or bolding by clicking the italics or bold options on the WordPad's toolbar. Instead, you must type the HTML codes, which you will learn later in the next chapter.

HTML Editors

As you learned in the first part of this book, Web pages are encoded in the hypertext markup language (HTML). This language consists of the text of the Web page plus special codes called **tags** that mark up the text. The tags determine how the text will flow onto the screen, whether it will contain pictures and where they will appear, and what will happen when the user triggers items linked to the document. An editor that lets you create Web pages by working directly with the HTML tags is known as an **HTML editor**. The advantage of creating Web pages with an HTML editor is that it gives you more control over the Web page than WYSIWYG editors and HTML translators, which create the HTML for you. The disadvantage is that for less technically inclined authors, editing HTML tags can seem tedious and time-consuming. The latest versions of the HTML editors, however, contain helpful dropdown menus so you can choose tags from a list as you type your code.

HomeSite

note *HomeSite was used to create the color-coded examples of HTML code that appear in the rest of this book's tutorials. This coloration is especially helpful for beginners who are learning HTML syntax.*

HomeSite is a popular HTML editor for creating Web pages under the Windows operating system. As shown in Figure 5-1, HomeSite lets you edit the HTML in one window and view how it will appear on the Web in another. HomeSite is a product of Macromedia, which sells it as a standalone package or in bundles with Macromedia's Dreamweaver software. For more information, go to www.macromedia.com/homesite, where you can get a 30-day free trial version.

The Edit tab shows the HTML editor.

The Browse tab shows the resulting Web page.

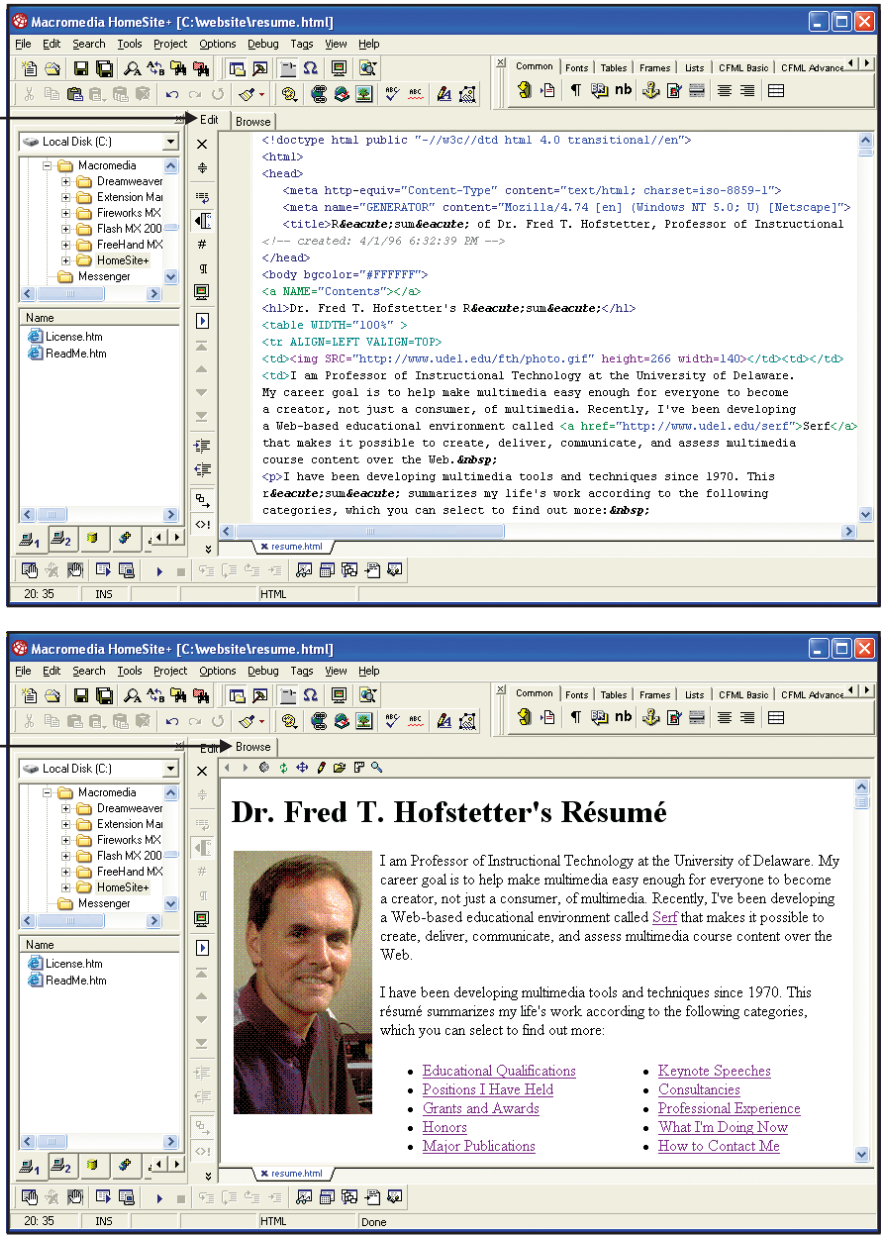


FIGURE 5-1 *HomeSite lets you edit the HTML source code in the Edit window. To see the resulting Web page, you click the Browse tab.* ■

BBEdit

On the Macintosh, the most popular HTML editor is Bare Bones Edit (BBEdit). As illustrated in Figure 5-2, BBEdit uses menus and buttons to make it easy to input HTML tags, choose colors, and enter special symbols. For more information, go to www.barebones.com/products/bbedit, where you can get a free demo version.

Other HTML Editors

There are dozens of other HTML editors that help you create Web pages by working directly with HTML tags. For information about the others, follow this book's Web site links to the Google and Yahoo! directories of HTML editors.

HTML Translators

An **HTML translator** is a tool that can convert an existing document into the HTML format. Microsoft Word, Excel, Access, and PowerPoint have HTML translators built in. If you have an existing document that you want to turn into a Web page, the most efficient way to create the page is to pull down the File menu and choose the Save As Web Page option.

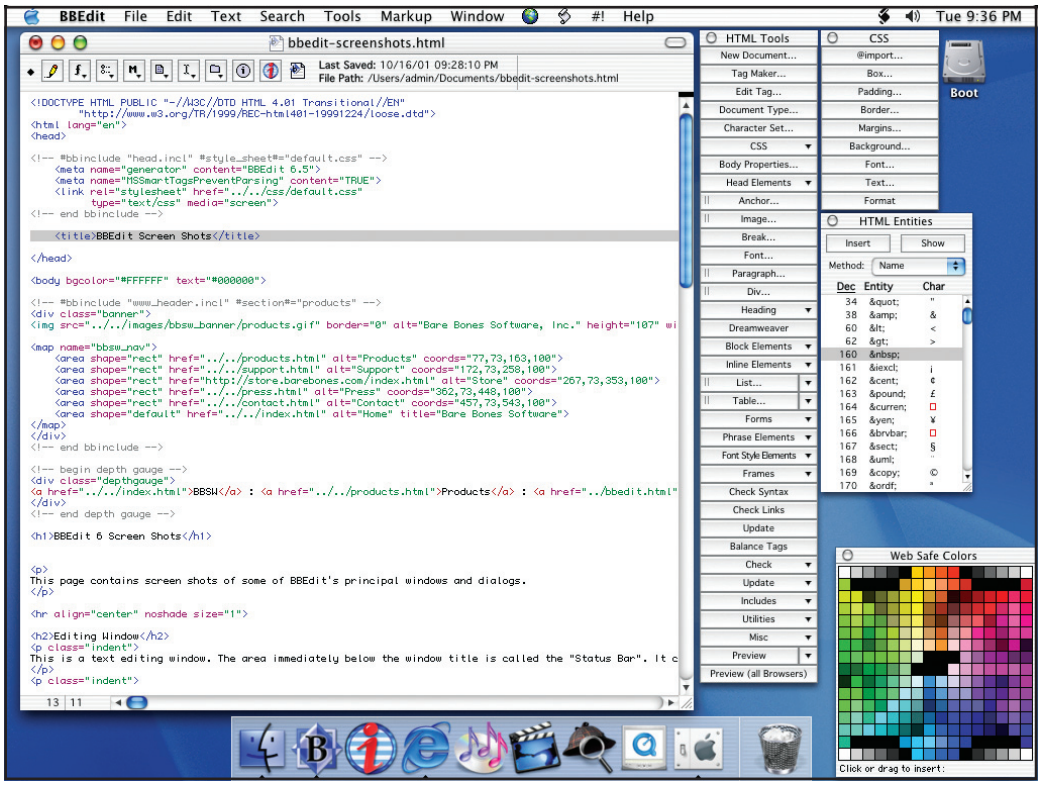


FIGURE 5-2 *BBEdit uses menus and buttons to make it easy to input HTML tags, choose colors, and enter special symbols.* ■

Word

Microsoft Word is a word processor that has an HTML translator built in. After you create a document with MS Word, you can easily translate it into a Web page. Simply pull down the File menu and choose Save As Web Page. This creates an HTML version of your document with the *.htm* filename extension. To see what the translated document will look like on the Web, you can use the browser's File menu to open the file you just saved.

Excel

Imagine being able to publish your spreadsheets to the Web. You can do this with Microsoft Excel. Simply pull down the File menu and choose Save As Web Page. This creates an HTML version of the spreadsheet with the *.htm* filename extension. To preview what the spreadsheet will look like on the Web, you can use your Web browser's File menu to open the HTML version you just saved. The information in your spreadsheet lines up neatly formatted in rows and columns on the Web page. HTML table tags are used to create the rows and columns. You will learn how to create tables with HTML in Chapter 6.

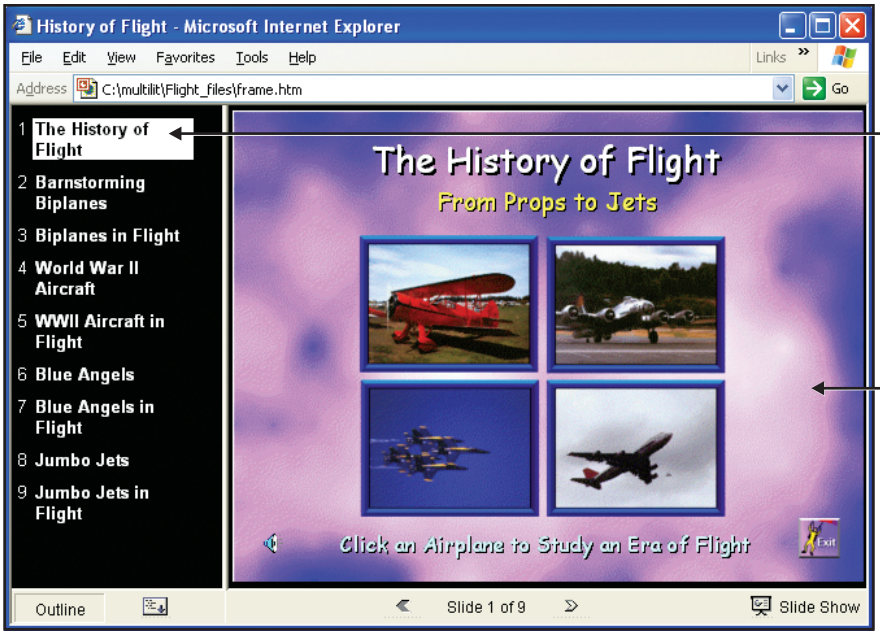
Access

Access is the name of the database program in Microsoft Office. To create a Web page version of a data table, you first select the table to view it. Then pull down the File menu and choose Export. When the Export dialog appears, set the Save As Type field to HTML Documents. Then click the Save button. This creates an HTML version of the data table that has the *.htm* filename extension. To preview how the data will appear on the Web, you can use your Web browser's File menu to open the HTML version you just saved. In Chapter 7, you learn how to publish the file to the Web.

PowerPoint

Microsoft's presentation software is called PowerPoint. It has a very powerful Web page creation capability. When you choose the option to save a presentation as a Web page, PowerPoint goes through your presentation and creates a separate HTML file for each one of your slides. The filename of your first slide is the name of your presentation followed by the *.htm* file extension. The HTML files for the rest of your slides get placed into a supporting folder that also includes any sounds and graphics used in your presentation. When you view the presentation with a Web browser, a menu of your slides appears alongside the startup screen, as shown in Figure 5-3. To navigate the Web site, the user can either click items on your presentation screen or use the menu to go to any slide at any time.

One of my other books, titled *Multimedia Literacy,* has a complete tutorial on creating multimedia applications and publishing them to the Web with PowerPoint. For more information, go to www.mhhe.com/cit/hofstetter.



Users can click items in this menu to jump to any slide at any time.

The browser displays your PowerPoint application in the large frame on the right.

FIGURE 5-3 *When you save a PowerPoint application as a Web page, PowerPoint creates a menu that lets the user jump to any slide at any time. You learn how to create this kind of menu in the frameset section of Chapter 7. PowerPoint does all this work for you, saving you the time you would otherwise need to spend creating such a menu.* ■

Try This!

Using a Word Processor to Make a Web Page

Both Microsoft Word and WordPerfect have HTML translators built in. Whenever you need to create an HTML version of a word-processed document, using this built-in translator will come in handy. To experience the power of an HTML translator, follow these steps:

1. Use Microsoft Word or WordPerfect to open a document you have written recently, such as a term paper or an essay.
2. Pull down the File menu and choose the option to Save As Web Page or Save As HTML. When the Save dialog appears, name the file whatever you want, but make careful note of what you name it. The filename extension will be either *.htm* or *.html*.
3. Get your Web browser running. Pull down the File menu, choose Open, click the Browse button, and use the controls to open the Web page you saved in the preceding step.
4. Compare how the document appears in your browser to how it looks in your word processor. Can you see any differences? If so, what are they? Did anything happen in the translation process that you would like to change in the Web page version of your document? You will be able to make these kinds of changes in your HTML documents after you complete this book's Web page creation tutorial.

WYSIWYG Editors

WYSIWYG is an acronym that stands for **what you see is what you get**. In a WYSIWYG editor, you create Web pages by typing your text directly onscreen, where it appears exactly as it will look on the Web. To change a font, size, color, or other text attribute, you select the text you want to change and then click a button or icon that makes the change. You do not need to know the HTML tags, because the WYSIWYG editor inserts them into the document automatically, depending on what you do with the WYSIWYG controls.

Dreamweaver

This chapter began by quoting the Adobe slogan, "If you can dream it, you can do it." The title of Macromedia's Dreamweaver software plays on this theme by implying that you can weave your Web via graphical tools that can do a lot of the work for you. Figure 5-4 shows how Dreamweaver appears onscreen. For authors who are less technically inclined, using a WYSIWYG tool such as Dreamweaver is easier than using a tag-oriented HTML editor. When you work with WYSIWYG tools, however, you do not have as much control over the appearance of the Web page as when you work directly with the HTML tags. To overcome this limitation, Dreamweaver provides a Code window where you can edit the tags directly. Figure 5-4 shows a Split view in which Dreamweaver simultaneously displays both the Code window and the WYSIWYG window. Any change you make in the Code window takes effect immediately in the WYSIWYG window, and vice versa. Thus, Dreamweaver provides you with the best of both worlds. A free-trial version of Dreamweaver is available at www.macromedia.com/dreamweaver.

FrontPage

Designed for use with Microsoft Office, the FrontPage Web page editor combines a WYSIWYG tool with an HTML editor. You can use the WYSIWYG tool to create a Web page in one window, and, at any time, you can switch to an HTML window where you can view and edit the HTML tags. Changes you make in the HTML window take effect instantly in the WYSIWYG window, and vice versa. FrontPage also includes support for creating advanced Web pages that use databases and scripts. Figure 5-5 shows a Web page being edited by Microsoft FrontPage. A free-trial version is available at www.microsoft.com/frontpage.

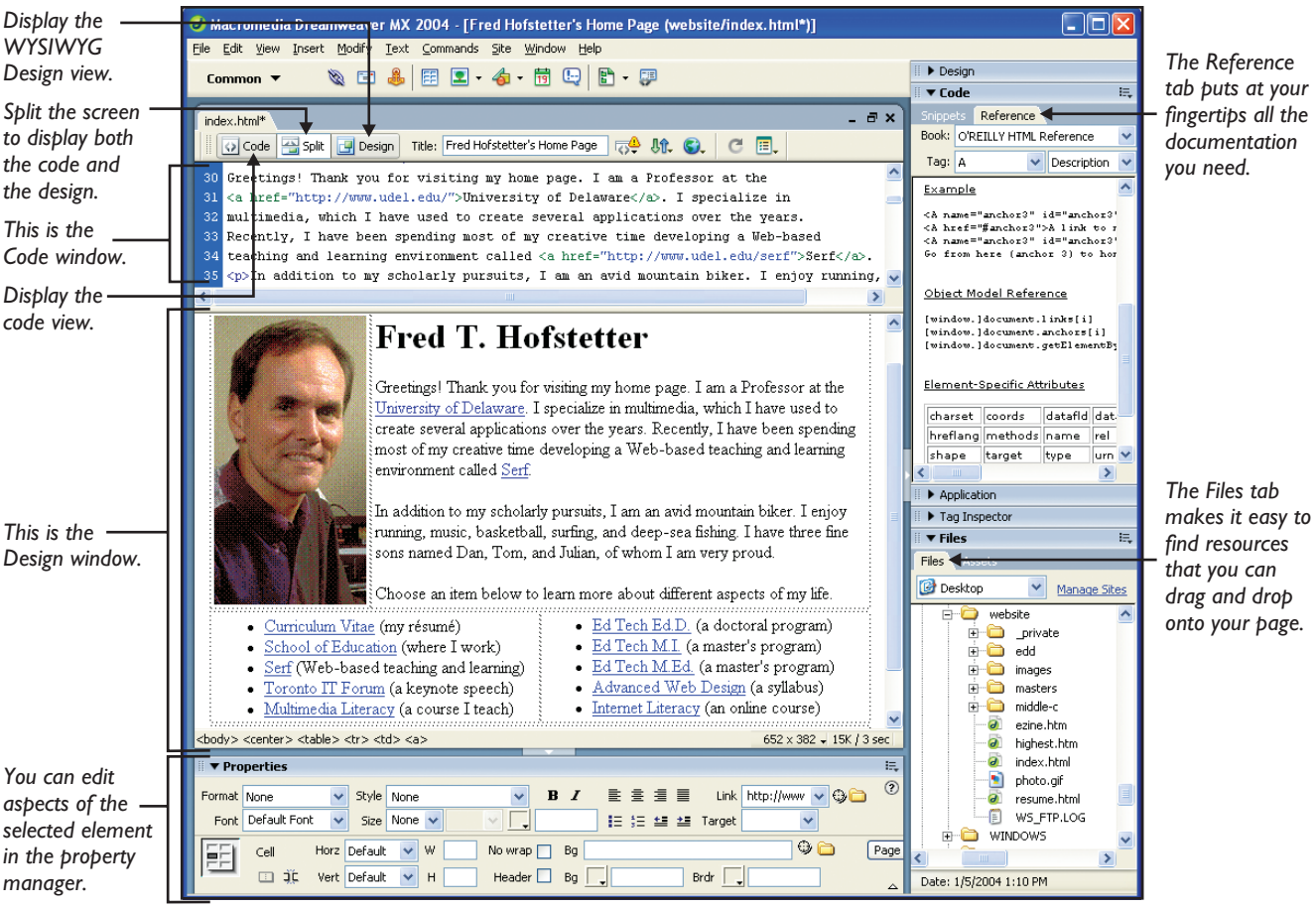


FIGURE 5-4 *Dreamweaver lets you view the WYSIWYG Design view, the Code view, or both views simultaneously. Illustrated here is the Split view, which displays both views onscreen.* ■

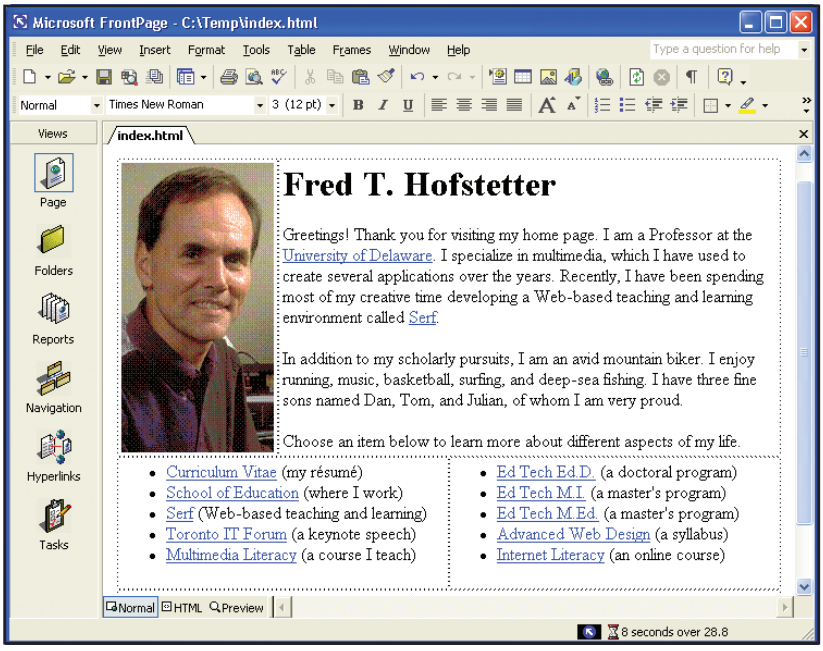


FIGURE 5-5 *Microsoft FrontPage is editing my home page. At any time, I can click the HTML button to view the code, or I can click the Preview button to see how the page will appear on the Web.* ■

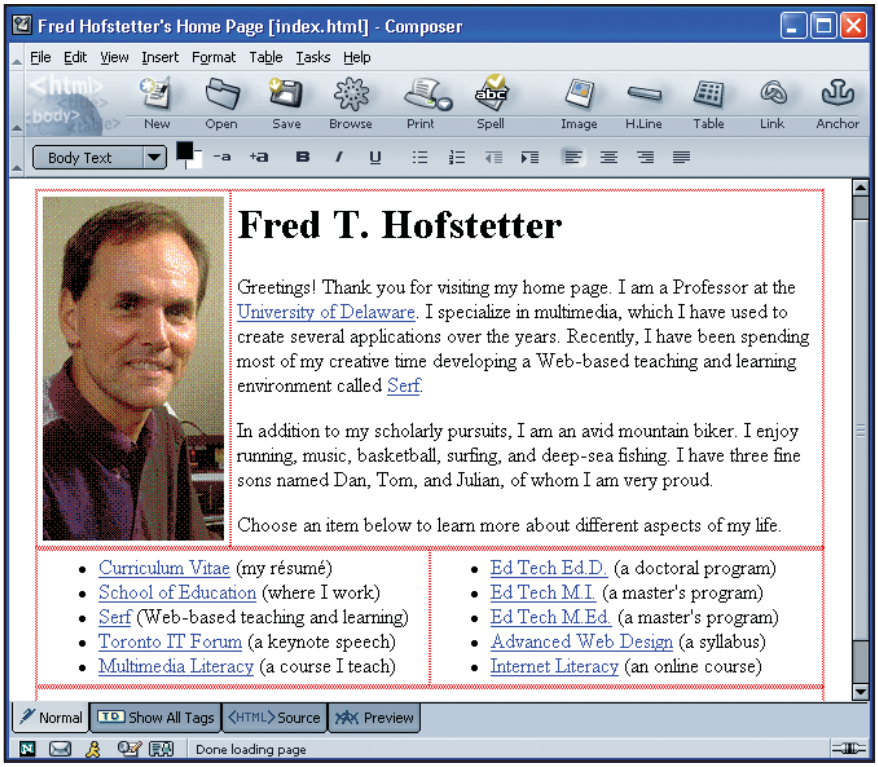


FIGURE 5-6 *Netscape Composer is editing my home page. At any time, I can click the HTML Source button to view the code, or I can click the Preview button to see how the page will appear in the Netscape Web browser.* ■

Netscape Composer

Netscape Composer is the name of the WYSIWYG Web page editor that comes as part of the suite of tools in Netscape Navigator. Figure 5-6 shows what Composer looks like onscreen. An HTML Source button lets you edit the code, and a Preview button shows you how the page will appear in the Netscape Web browser. Netscape Navigator is freely downloadable from www.netscape.com. To launch the Composer, you pull down the Netscape browser's Tasks menu and choose Composer.

Defining the Elements of Web Page Design

World Wide Web pages consist of elements defined in the HTML language that is used to create Web pages. As illustrated in Figures 5-7 to 5-15, these elements include:

- Backgrounds
- Bookmarks
- Frames
- Headings
- Horizontal rules
- Images
- Links
- Lists
- Paragraphs
- Special characters
- Tables

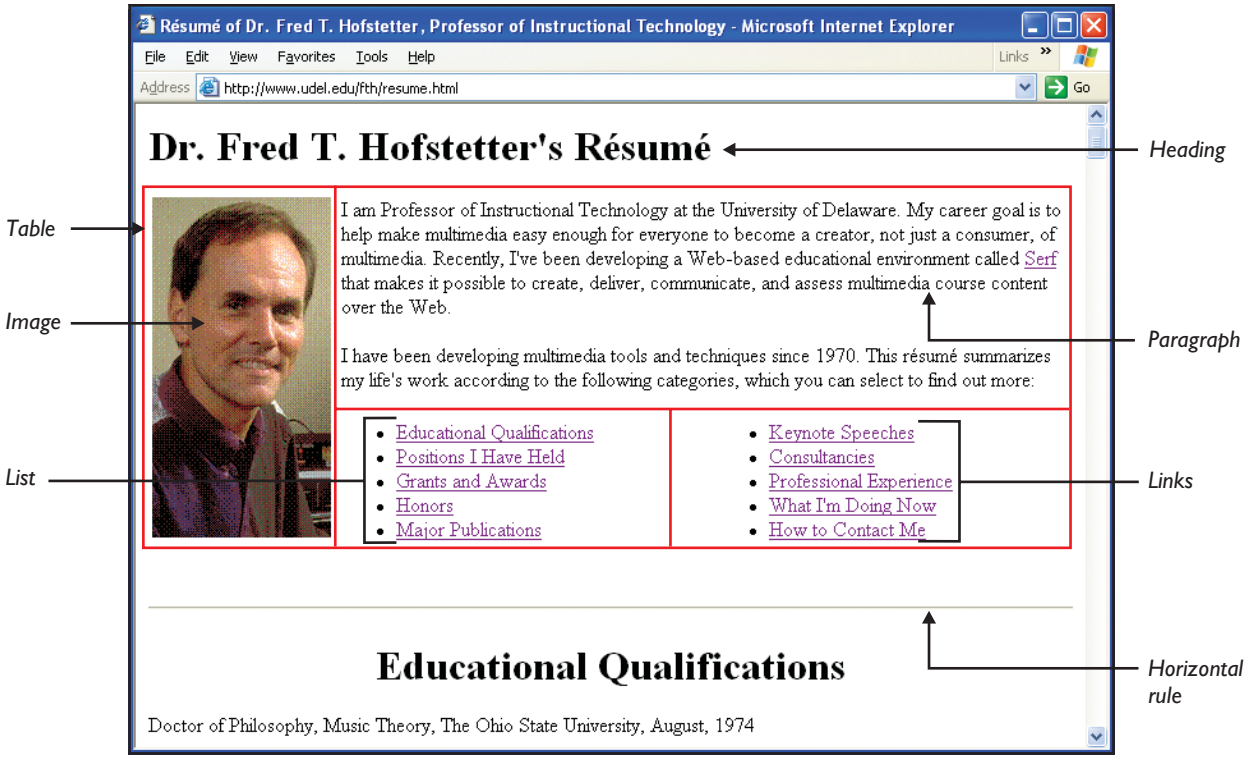


FIGURE 5-7 *Web page elements in action on my Web page résumé. The user can click any item in the bulleted list to jump to that section of the résumé. The next chapter shows you how to create your own Web page résumé, which will come in handy any time you are looking for a job.* ■

Headings

As illustrated in Figure 5-8, there are six HTML **heading** styles, numbered from H1 to H6. The smaller the number, the bigger the heading. H1 is the biggest or most important heading, and H6 is the smallest. Headings can be left justified, centered, or right justified. Although it is possible to create the same visual effect by simply enlarging and bolding the text, you can use heading styles to create a structure within a document that programs such as Microsoft Office can use to generate an outline or a table of contents. Therefore, it is a good idea to form the habit of using heading styles for the headings of sections and subsections within a Web page.

Paragraphs

Paragraphs consist of plaintext that flows onto the screen in a continuous stream of characters. Paragraph text automatically wraps at the right margin and adapts to changes in window size.

Horizontal Rules

A **horizontal rule** is a design element used to create a divider between sections of a Web page. As illustrated in Figure 5-9, horizontal rules appear with a neat three-dimensional effect. It is possible to vary the length, thickness, and shading of a horizontal rule, but the default settings look pretty good.

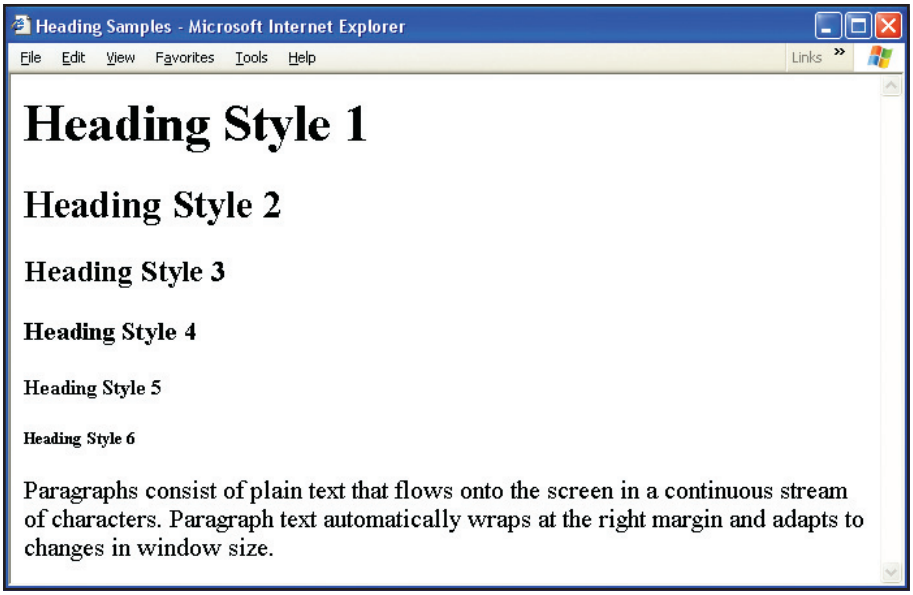


FIGURE 5-8 *There are six HTML heading styles that you can put onto a Web page. Onscreen, the headings appear larger or smaller, depending on their level of importance. Behind the scenes, the headings create a document structure that programs such as Microsoft Office can use to generate an outline or a table of contents.* ■

Lists

Lists can be ordered or unordered. In an **ordered list**, the items are numbered automatically; in an **unordered list**, the items are bulleted. Figure 5-9 shows examples of both types of lists.

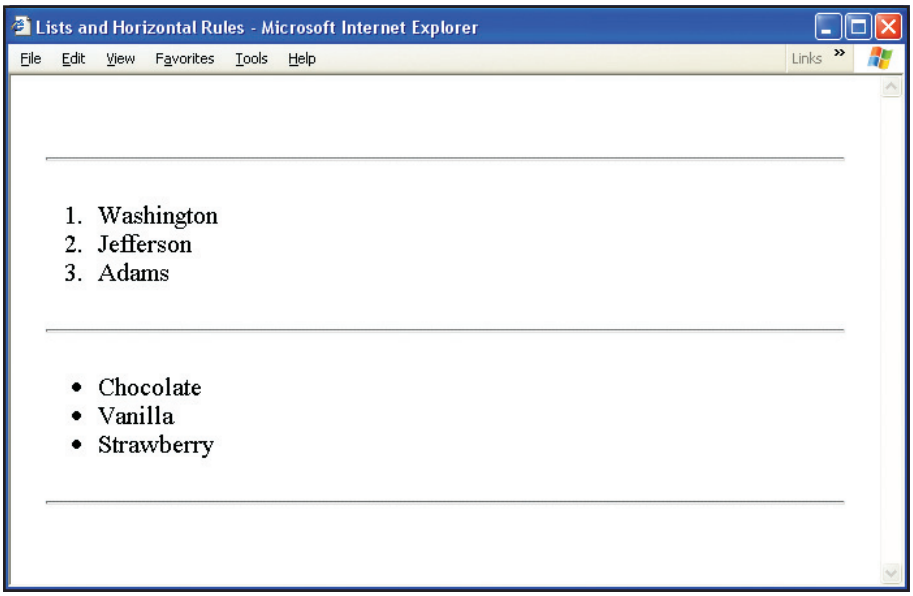


FIGURE 5-9 *Horizontal rules and lists help organize and delimit information on a Web page.* ■

Images

Images enhance the visual appeal of Web pages. Images can be left justified, right justified, or centered on the screen. Text can be made to flow around the left or the right side of an image, as illustrated in Figure 5-10.

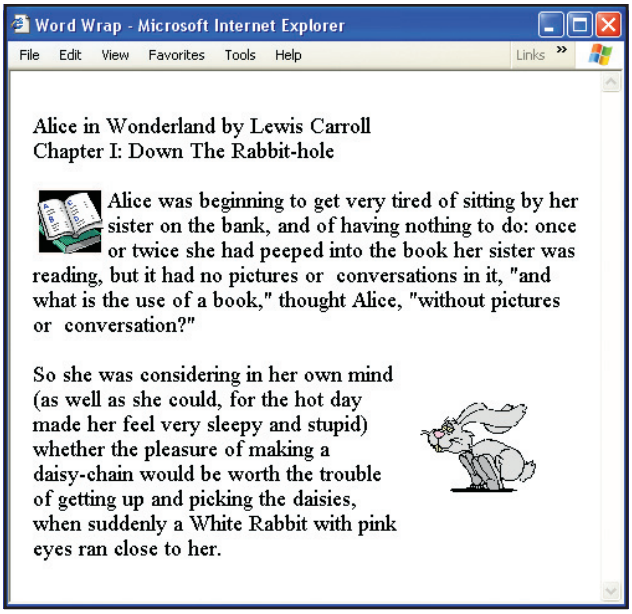


FIGURE 5-10 *Text can flow around the left or the right side of an image.* ■

Backgrounds

Backgrounds can be filled with a solid color, or you can tile a bitmap into the background to create a textured appearance. It is important to choose a background that does not detract from the readability of the text. For this reason, black text on a white background is the most frequent color choice on the Web.

When the Web started, the default background color was defined as gray. When the default black text color displays on a gray background, the screen is not as readable as black text on a white background, which provides better contrast. Figure 5-11 compares the black-on-gray color combination to the more readable black-on-white color scheme.

Bookmarks

A **bookmark** is a named anchor to which you can link a hot word or menu item so users can jump around to different places within a Web page. For example, you might create a bookmark anchor named "education" at the start of the education section of your résumé. In your résumé's bulleted table of contents, you would link the education bullet to the bookmark anchor named "education" to provide a quick way of jumping to your educational qualifications.

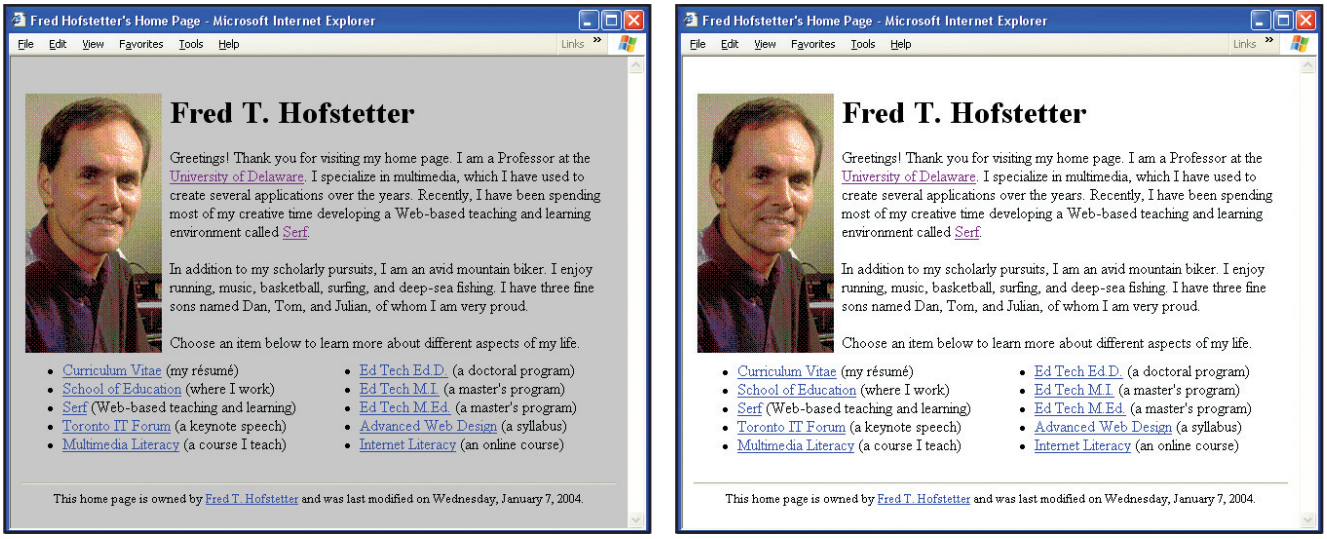


FIGURE 5-11 *When the Web started, the default background color was defined as gray, as illustrated on the left. Notice how much harder it is to read the text when it appears on the gray background as compared to the white background illustrated on the right.* ■

Links

Links are the most essential element in Web design, because links create webs. Without links, there would be no webs! On World Wide Web pages, links can be textual or pictorial. Any word or picture on the screen can be linked to any resource on the Web. Most **links** connect you to other Web pages or to bookmarks on the current Web page, as shown in Figure 5-12. As you learned in Chapter 2, however, any multimedia file or application can be the object of a link on the World Wide Web. For example, your term papers, scholarly publications, software, and multimedia applications can all be mounted on the World Wide Web and linked to your résumé so potential employers can review samples of your work. It is also common to find e-mail addresses linked to Web pages in a so-called mailto link; when you click the mailto link, an e-mail window opens, addressed to the person whose address is in the mailto. You learn how to create mailto links in Chapter 6.

FIGURE 5-12 *Named anchors work like bookmarks to provide easy access to sections within a Web page.* ■

Special Characters

Web pages can contain special symbols such as the Greek characters used in scientific notation, as well as mathematical functions, operators, delimiters, accents, arrows, and pointers.

Tables

Normally, the text of a Web page flows evenly onto the screen, aligning itself automatically with the left and right edge of your browser's window. The **table** is a design element that provides a way of dividing the screen into rectangular regions into which you can lay out text and graphics on a Web page. Text flows inside the rectangles of the table, creating a columnar appearance much like the columns of text that appear in printed newspapers. Graphics can also be made to flow into tabular columns. The borders of the rectangles in the table can be visible, creating onscreen dividing lines between the table elements, as shown in Figure 5-13, or the border can be invisible, as illustrated in Figure 5-14. Chapter 6 provides a lot of practice using tables to lay out Web pages.

note *When HTML was invented, there was no support for tables, and all Web pages looked pretty much the same in terms of design and layout. HTML was enhanced to provide this support, and today, tables are the most powerful way of positioning items on a Web page to create more interesting designs.*

Frames

Have you ever seen a TV that supports a feature called *picture in a picture*? While viewing one television program full-screen, you can watch another

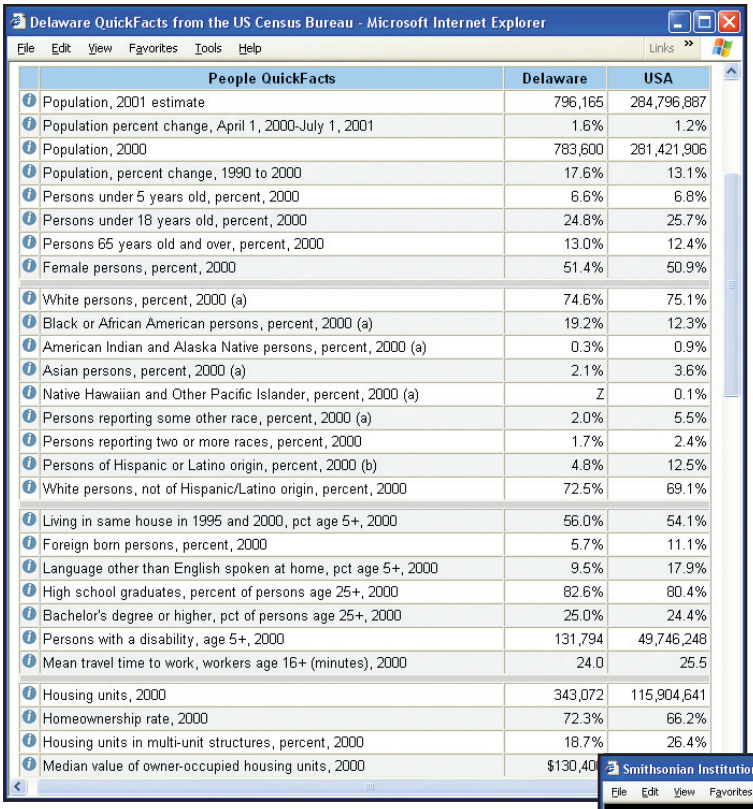


FIGURE 5-13 *Visible table borders help users follow data across the table. You should turn the borders on when you are displaying this kind of data.* ■

program in a smaller onscreen window. On Web pages, frames serve a similar purpose. The term **frame** refers to the border that appears around windows on your screen. When Web pages contain frames, more than one window appears on your Web page, and you can interact with the information in the windows independently. The collection of these inner windows is called a **frameset**.

You can try out frames for yourself by following this book's Web site link to the presentation entitled "Emerging Technology and the Future of Education." This presentation was authored in Microsoft PowerPoint. The Web version was created by PowerPoint's Save As Web Page feature. Figure 5-15 shows how the Save As Web Page feature uses frames to provide you with three windows in the Web browser. The big window shows the slides. The window on the left displays an outline of the presentation. The window at the bottom displays the speaker notes that go with each slide.

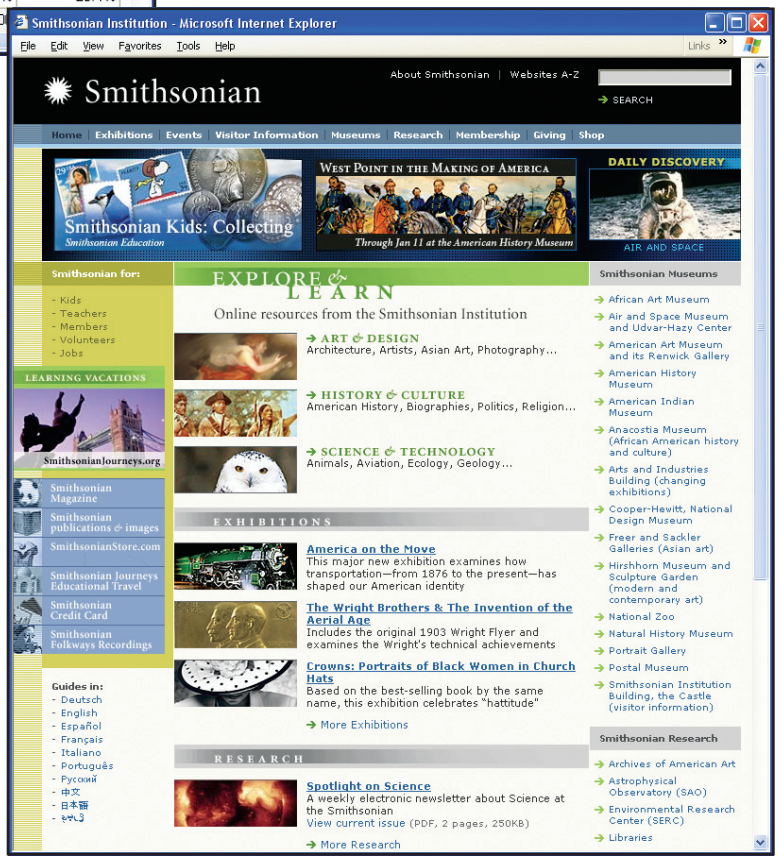


FIGURE 5-14 *Invisible borders permit a table to govern subtly the positioning of Web page elements. You make the borders invisible by setting their width to 0.* ■

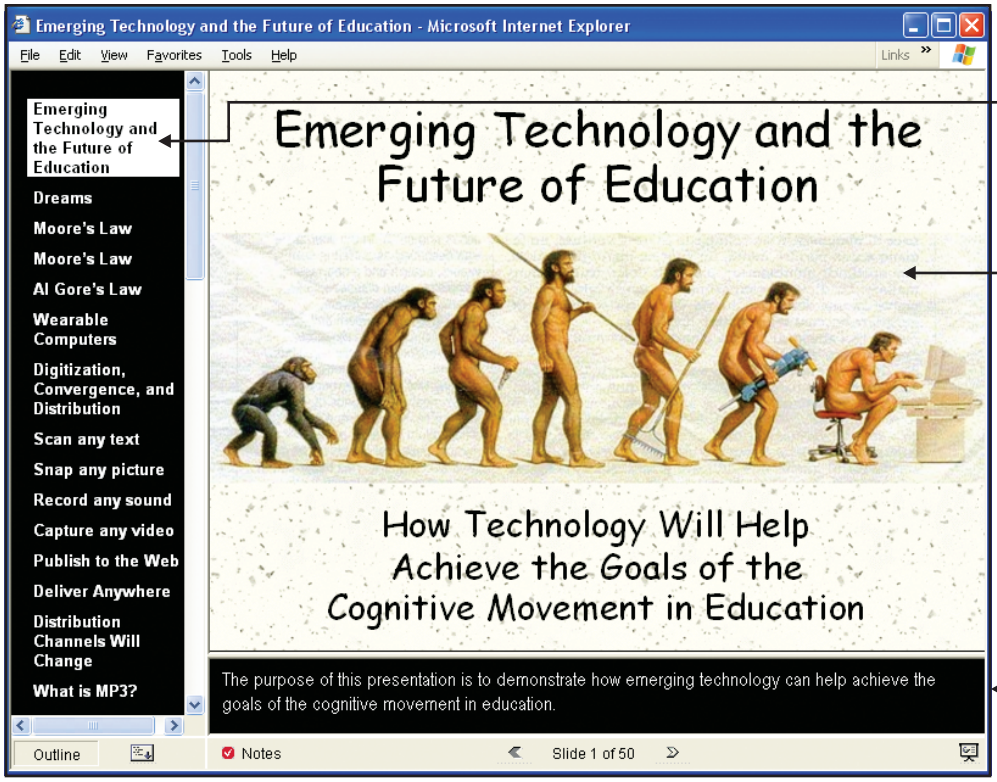


FIGURE 5-15 *This frameset provides three windows for viewing and controlling a PowerPoint presentation on the Web. PowerPoint created this frameset automatically when I used the PowerPoint option to save the presentation as a Web page. You learn how to create framesets in Chapter 7.* ■

Understanding Screen Design Principles

The hands-on tutorial in this part of the book teaches you how to create a Web page résumé. You will flow text onto the screen, create bulleted lists, and link items in the list to the different parts of your résumé. Then you will put pictures on the screen, either as backgrounds that appear behind the text or as design elements around which text flows. Before you begin, it is important to understand a few principles of Web page design that will help you make good layouts for your screens.

Layout

As you learned earlier in this chapter, Web pages consist of several design elements, including headings, paragraphs, horizontal rules, lists, images, backgrounds, bookmarks, links, special characters, tables, and frames. The relationship among these elements on the screen is called **layout**. When you create a Web page, you should plan its layout so your content is presented with good balance. Think of dividing the screen into regions, of which some will be pictorial, with others consisting of blocks of text. You must also think about how the user will interact with your screen and include the appropriate navigational buttons and hypertext links.

Figures 5-16 through 5-21 analyze the screen layouts of some example Web pages. Notice how some rely heavily on text, and others are more graphical. All the sample screens provide intuitive ways to navigate that make these Web pages user-friendly. Chapter 6 will show you how to use tables to lay out Web pages in rectangular regions such as these.

FIGURE 5-16 *Textual Screen Design* ■

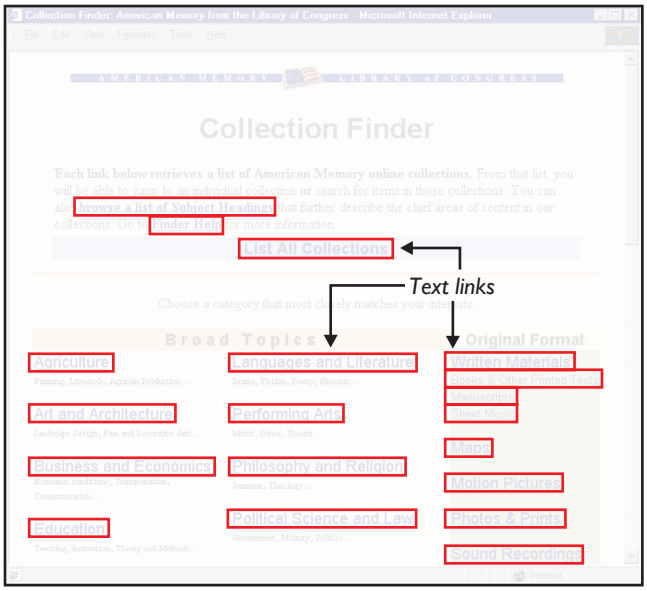


FIGURE 5-17 *Layout analysis of Figure 5-16* ■

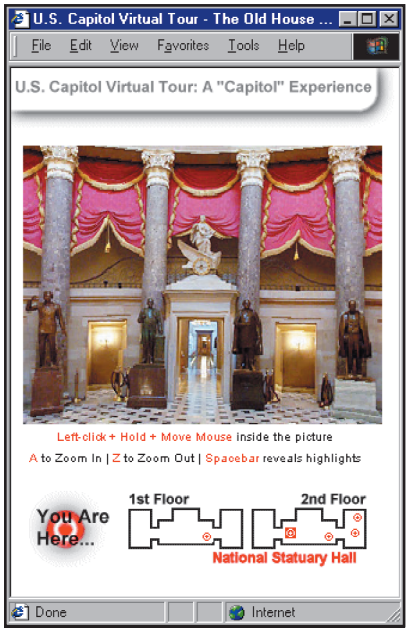


FIGURE 5-18 *Graphical screen design* ■

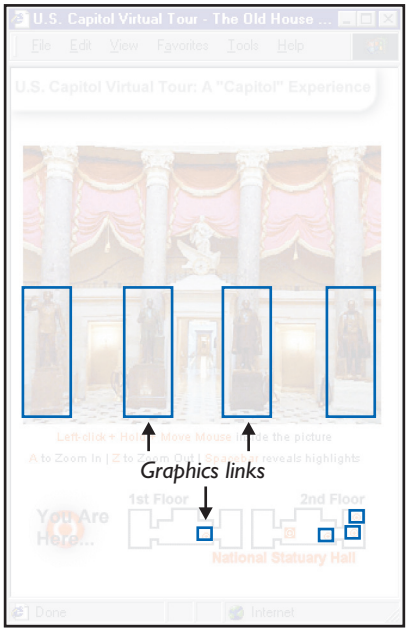


FIGURE 5-19 *Layout analysis of Figure 5-18* ■

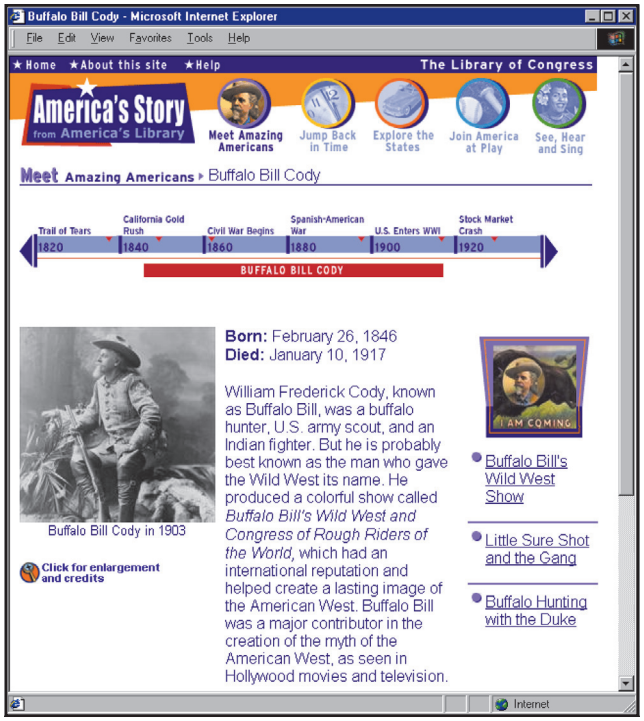


FIGURE 5-20 *Mixed screen design* ■

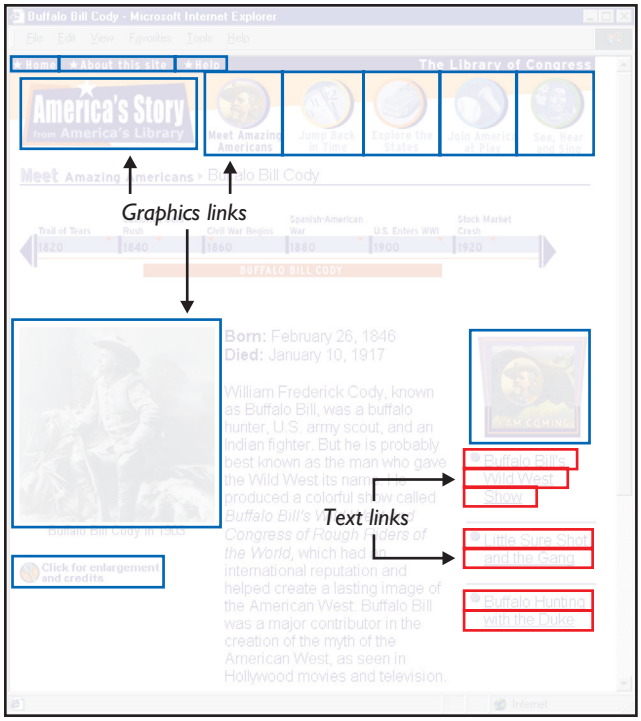


FIGURE 5-21 *Layout analysis of Figure 5-20* ■

note *For a font to appear on a Web page, that font must be installed on your computer.*

Font Selection

Most Web browsers support the fonts listed in Figure 5-22. Web pages can either set these fonts specifically or leave the choice of the font up to the user. When no font is specified, the browser displays text in the default font. Most people have the default font in their browser set to Times New Roman. The Arial font, however, is generally considered to be more readable on Web pages.

All of the fonts illustrated in Figure 5-22 are proportionally spaced except Courier. Proportional spacing means that fat letters like *m* and *w* take up more space than thin letters like *l* and *i*. Normally you will want to use a **proportional font**, because proportional spacing is easier to read than nonproportional fonts. However, if you want to make columns of numbers line up precisely on the screen, such as in a spreadsheet, you will need to use the nonproportional Courier font. Figure 5-23 illustrates the difference between proportional and nonproportional spacing.

Times New Roman ABCDEFG abcdefg 1234567
Courier New ABCDEFG abcdefg 1234567
Arial ABCDEFG abcdefg 1234567
Book Antiqua ABCDEFG abcdefg 1234567
Comic Sans MS ABCDEFG abcdefg 1234567
Century Gothic ABCDEFG abcdefg 1234567
Century Schoolbook ABCDEFG abcdefg 1234567
Garamond ABCDEFG abcdefg 1234567
Impact ABCDEFG abcdefg 1234567
Tahoma ABCDEFG abcdefg 1234567
Verdana ABCDEFG abcdefg 1234567

FIGURE 5-22 *Most Web browsers support the fonts listed here. Times New Roman is the default font, although the Arial font is generally considered to be more readable on Web pages, especially when the text is very small. Book Antiqua creates a schoolbook effect, and the Comic font creates a handwritten look for less formal situations.* ■

Times New Roman

Proportional fonts are pleasing to the eye; their characters are varied in width and easier to read. You cannot use spaces to achieve vertical alignment:

Sales:	$100,000	$85,000	$43,614
Taxes:	54,521	3,425	6,921
Fees:	231,947	41	324
Total:	$386,468	$88,466	$50,859

Courier New

Nonproportional, or monospaced, fonts are regimented and somewhat graceless, but make vertical alignment much easier:

Sales:	$100,000	$85,000	$43,614
Taxes:	54,521	3,425	6,921
Fees:	231,947	41	324
Total:	$386,468	$88,466	$50,859

FIGURE 5-23 *Compare the proportional spacing on the left to the nonproportional spacing on the right. Because nonproportional spacing appears regimented, save it for situations in which you need things to line up, such as the columns in a spreadsheet.* ■

Times and Arial are the most popular proportionally spaced fonts. The primary difference between the Times and Arial fonts is that Times has serifs, whereas Arial does not. A **serif** is a decorative line stemming at an angle from the upper and lower ends of the strokes of a letter. Figure 5-24 compares a few characters from the Times and Arial fonts, pointing out the serifs in the Times font.

Much of the fancy, stylized text you see on the Web is actually a graphic that was made from a font on a graphic artist's computer. This book's Web site links to some cool sites where you can make fancy text for use in banners and other places where you might want highly stylized text. In Chapter 6, you learn how to put these kinds of images onto your Web pages.

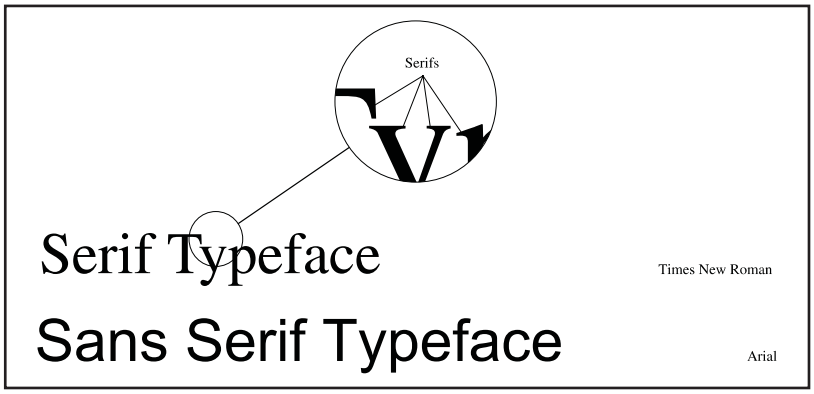


FIGURE 5-24 *When you compare the Times New Roman and Arial fonts, you notice that Times New Roman characters have special effects called serifs, which are not used in Arial. This may help explain why the Arial font is generally regarded as easier to read on a Web page, especially when the text is small and there is not as much room for the serifs.* ■

Text Sizing

Text size is measured in points, which tell how high the text is. In print media, a point is one seventy-secondth (1/72) of an inch. On a typical computer screen, a point is about the height of a single pixel. Because monitors are different sizes, the actual size of the text varies somewhat, depending on the physical height of the screen. Figure 5-25 illustrates different **point sizes** used on the Web.

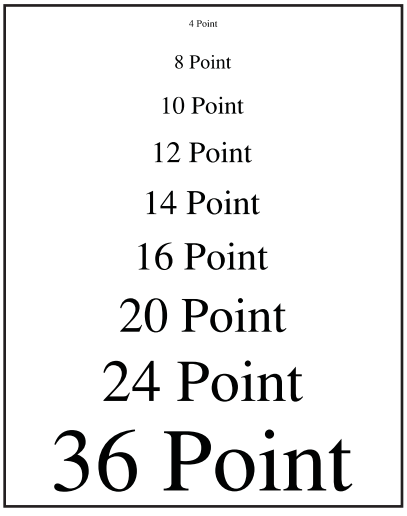


FIGURE 5-25 *Comparison of point sizes. The higher the point size, the larger the font.* ■

Foreground vs. Background Colors

You can select from a wide range of colors for the text and the background of a Web page. Some color combinations work better than others. Figure 5-26 illustrates recommended color combinations as well as colors to avoid.

There are sites on the Web where you can see what different color combinations look like. To explore different foreground/background combinations, follow this book's Web site links to Color Pickers.

Background Color	Recommended Foregrounds	Foregrounds to Avoid
White	Black, DarkBlue, Red	Yellow, Cyan, LightGray
Blue	White, Yellow, Cyan	Green, Black
Pink	Black, White, Yellow, Blue	Green, Red, Cyan
Red	Yellow, White, Black	Pink, Cyan, Blue, Green
Yellow	Red, Blue, Black	White, Cyan
Green	Black, Red, Blue	Cyan, Pink, Yellow
Cyan	Blue, Black, Red	Green, Yellow, White
LightGray	Black, DarkBlue, DarkPink	Green, Cyan, Yellow
Gray	Yellow, White, Blue	DarkGray, DarkCyan
DarkGray	Cyan, Yellow, Green	Red, Brown, Gray
Black	White, Cyan, Green, Yellow	DarkRed, DarkCyan
DarkBlue	Yellow, White, Pink, Green	DarkGreen, Blue, Black
DarkPink	Green, Yellow, White	Blue, Black, DarkCyan
DarkRed	White, LightGray, Yellow	Black, DarkBlue
Brown	Yellow, Cyan, White	Red, Pink, DarkGreen
DarkGreen	Cyan, White, Yellow	DarkBlue, DarkRed
DarkCyan	White, Yellow, Cyan	Brown, Blue, Gray

FIGURE 5-26 *Compare the recommended colors on the left with the color combinations to avoid on the right. You will probably agree that the colors on the right are not as easy to read as those on the left.* ■

tip *As you explore the use of colored backgrounds, keep in mind that the most readable combination is black text on a white background. Because you want the bulk of your text to be readable, save the razzle-dazzle colors for special effects.*

Photographic Backgrounds

Exercise care when placing text on photographic backgrounds. Some photos are so busy that text placed atop them is difficult to read. Bolding can improve the readability of text placed on photographic backgrounds. Figure 5-27 illustrates text printed on top of a background photo in different colors and sizes, with and without bolding.

Tiled Backgrounds

A **tiled background** is a graphical effect created when a bitmap smaller than the screen is drawn repeatedly up, down, and across the screen until the entire screen surface has been covered. As illustrated in Figure 5-28, a tiled background can create a special effect on a Web page. You must be careful, however, to select a tile that does not interfere with the readability of the text printed on top of it.

Tiles should be **seamless**, meaning that when the bitmap replicates itself up and down the screen, you cannot perceive the edges of the bitmap or detect a regular interruption in the pattern caused by the edges of the bitmap not fitting against each other smoothly. Figure 5-29 shows an example of a bad tile, in which you can clearly see a rectangular interruption around the edges of the bitmap. It is also difficult to read the text on top of this tile, making it a doubly bad choice on a Web page.

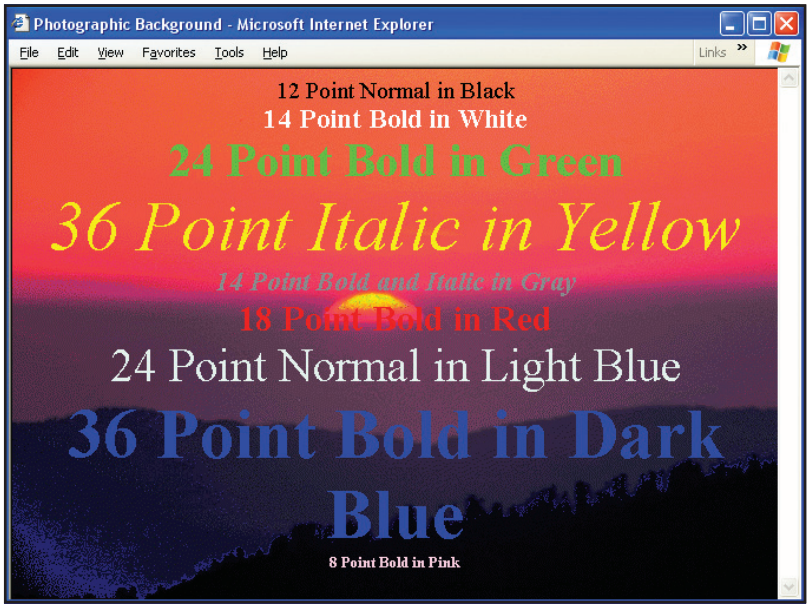


FIGURE 5-27 *Sizing, bolding, and coloring affect the readability of text on a photographic background. Notice how the color combinations with greater contrast are more readable than the colors that blend.* ■

Navigational Icons

Some Web pages contain navigational icons that give the user the option to page forward or backward, go to a menu, or return to a home page. Navigational icons normally work best when they appear lined up in the same region of the screen instead of scattered about the screen. Try to position the icons in a logical order. For example, it is logical to place the page-back icon in the lower left corner of the screen and the page-forward icon in the lower right. Here is a suggested sequence of icons that gives the user the option to page back, return to the menu, go to a home page, or page forward:

FIGURE 5-28 *Example of a seamless tile in the background of a Web page. This tile image is:* 

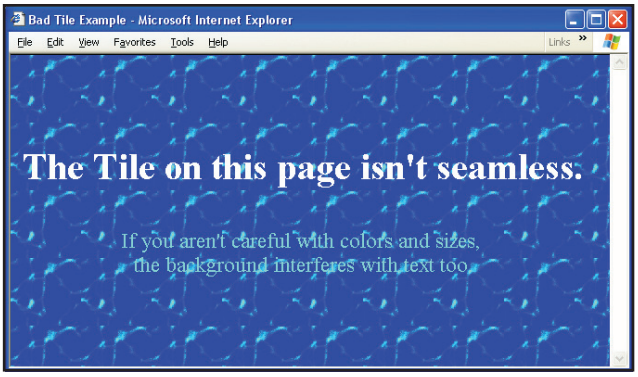


FIGURE 5-29 *Example of a bad tile that is not seamless and interferes with the readability of the text. This tile image is:* 

Scrolling

When you design a Web page, keep in mind that the user can scroll up and down through the information in it. Imagine what the user will see on each screen of your Web page document, and plan the layout accordingly. If your document is long, provide navigation options periodically in the midst of the document instead of putting them only at the end. Otherwise, the user will have to scroll all the way down to find the navigation options.

When you have a long document, organize it into sections divided by horizontal rules, and put the navigation options at the end of each section. You learn how to do this in Chapter 6 by providing navigation options at the end of each section of your Web page résumé.

As a general rule, it is best to keep the front page of a Web site short if you can, and use it to provide links to the longer pages. My home page at www.udel.edu/fth is very short, for example, and some of the documents it links to are quite long.

Usability

Web pages need to be easy to use. When you plan your layout and decide where you will place pictures and text on your screen, make sure you include navigational buttons, icons, or hypertext to clarify what the navigational options are and where the user should click to navigate.

Word your hypertext links to make it clear what will happen when the user clicks them. Descriptive phrases are better than single words. A descriptive phrase such as “table of contents” tells what will come onscreen when the link is clicked. Try to avoid the temptation to include the word “click” in your instructions. Telling users to click this to go here and click that to go there gets old after a while and sounds overly technical.

Iconic navigation is often more effective than words, takes up less screen space, and works better with international audiences because the icons can be understood regardless of what language the user speaks.

Be consistent. If you adopt navigational icons, use them consistently throughout your Web site. If you use hypertext navigation, be consistent in how you word the directions.

Consistency

Avoid the temptation to demonstrate every trick you know when you design a Web page. Keep it simple. Do not make every screen look and work a different way. Rather, adopt a common look and feel so the user will be able to navigate through your Web site intuitively.

It is frustrating to use a Web site with mixed metaphors and icons that change their meaning on different screens. Be consistent.

Analyzing the Layout of a Web Page Résumé

Figure 5-30 contains a layout analysis of a Web page résumé. Notice how the text, fonts, sizes, and colors enhance the readability of the text. Each item in the menu serves as a hypertext that links to different sections of the résumé. The navigation options at the end of each section make it clear how to move around on the page. The common look and feel of each section makes it easy for a prospective employer to find out about your job skills and work experience.

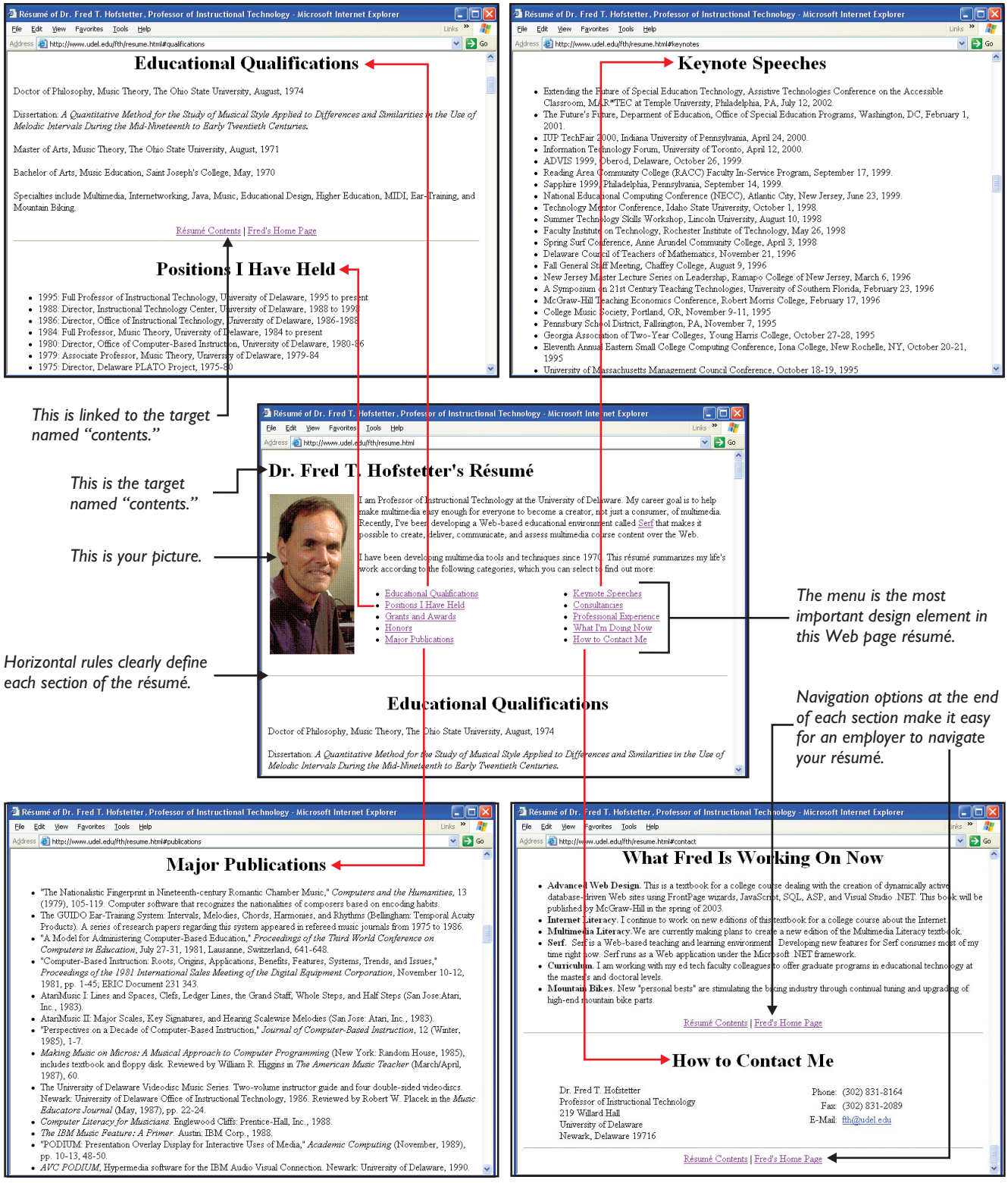


FIGURE 5-30 *Layout analysis of a Web page résumé. This is my résumé, which you can visit on the Web at www.udel.edu/fth/resume.html. The HTML tutorial in Chapter 6 steps you through the process of creating your own Web page résumé, which will come in handy whenever you are looking for a job.* ■

Chapter 5 Review

Chapter Summary

After reading this chapter and completing the step-by-step and Try This! exercises, you should understand the following facts about Web page authoring:

Adopting a Web Page Creation Strategy

- There are four ways to create Web pages. First, you can use a plain text editor to type the HTML code of your Web page by hand. Second, you can use an HTML editor that contains toolbars and menus that help you insert the codes. Third, you can use the Save as Web Page option to convert word-processed documents into Web pages. Fourth, you can use a WYSIWYG editor to create Web pages through a graphical user interface that lets you enter text and graphics directly onto the screen exactly as you want them to appear.
- Because HTML is a textual encoding language, you can use a plain text editor to create HTML Web pages. All Windows and Macintosh computers have a built-in text editor called Notepad, which you can use to create HTML Web pages.
- An editor that lets you create Web pages by working directly with the HTML tags is known as an HTML editor. HomeSite is the most popular HTML editor for Windows. On the Macintosh, the most well-known HTML editor is BBEdit.
- An HTML translator is a tool that can convert an existing document into the HTML format. Microsoft Word, Excel, Access, and PowerPoint have HTML translators built in.
- WYSIWYG is an acronym that stands for *what you see is what you get*. WYSIWYG editors let you create Web pages by typing your text directly onscreen, where it appears exactly as it will look on the Web. Dreamweaver, FrontPage, and Netscape Composer are three popular WYSIWYG Web page editors.

Defining the Elements of Web Page Design

- World Wide Web pages consist of elements defined in the HTML language that is used to create Web pages. These elements include headings, bookmarks, paragraphs, links, horizontal rules, special characters, lists, tables, images, frames, and backgrounds.
- There are six heading styles, numbered from H1 to H6. The smaller the number, the bigger the heading.
- A horizontal rule is a design element used to create a divider between sections of a Web page.
- Lists can be ordered or unordered. In an ordered list, the items are numbered automatically; in an unordered list, the items are bulleted.
- Images can be left justified, right justified, or centered on the screen. Text can be made to flow around the left or the right side of an image.
- Backgrounds can be filled with a solid color, or you can tile a bitmap into the background to create a textured appearance. It is important to choose a background that does not detract from the readability of the text. For this reason, black text on a white background is the most frequent color choice on the Web.
- A bookmark is a named anchor to which you can link a hot word or menu item to provide a way for the user to jump around to different places within a Web page.
- Links are the most essential element in Web design, because links create webs. Without links, there would be no webs.
- Tables provide a way of dividing the screen into rectangular regions into which you can lay out text and graphics on a Web page.
- The term frame refers to the border that appears around windows on your screen. When Web pages contain frames, more than one window appears on your Web page, and you can interact with the information in the windows independently. The collection of these inner windows is called a frameset.

Understanding Screen Design Principles

- The relationship among the elements that appear onscreen is called layout. When you create a Web page, you should plan its layout so your content is presented with good balance. Think of dividing the

screen into regions, of which some will be pictorial, with others consisting of blocks of text. You must also think about how the user will interact with your screen, and include the appropriate navigational buttons and hypertext links.

- When no font is specified, the browser displays text in the default font. Most people have their browser's default font set to Times New Roman, although the Arial font is generally considered to be more readable on Web pages, especially when the text is very small. Book Antiqua creates a schoolbook effect, and the Comic font creates a handwritten look for less formal situations.
- Proportional spacing means that fat letters like *m* and *w* take up more space than thin letters like *l* and *i*. Normally you want to use a proportional font, because proportional spacing is easier to read than nonproportional fonts. If you want to make columns of text line up precisely on the screen, you need to use the nonproportional Courier font. Because nonproportional spacing appears regimented, save it for situations in which you need things to line up, such as the columns in a spreadsheet.
- Text size is measured in points, which tell how high the text is. In print media, a point is one seventy-secondth (1/72) of an inch. On a typical computer screen, a point is about the height of a single pixel. Because monitors are different sizes, the actual size of the text varies somewhat, depending on the physical height of the screen.
- Sizing, bolding, and coloring affect the readability of text on colored or photographic backgrounds. Color combinations with greater contrast are more readable than colors that blend.
- A tiled background is a graphical effect created when a bitmap smaller than the screen is drawn repeatedly up, down, and across the screen until the entire screen surface has been covered. You must be careful to select a tile that does not interfere with the readability of the text printed on top of it. Tiles should be seamless, meaning that when the bitmap replicates itself up and down the screen, you cannot perceive the edges of the bitmap or detect a regular interruption in the pattern caused by the edges of the bitmap not fitting against each other smoothly.
- Navigational icons normally work best when they appear lined up in the same region of the screen instead of scattered about the screen. Try to position the icons in a logical order. For example, it is logical to place the page-back icon in the lower left corner of the screen and the page-forward icon in the lower right.
- Imagine what the user will see on each screen of your Web page document, and plan the layout accordingly. If your document is long, provide navigation options periodically in the midst of the document instead of putting them only at the end. Otherwise, the user will have to scroll all the way down to find out the navigation options.
- Word your hypertext links to make it clear what will happen when the user triggers them. Descriptive phrases are better than single words. A descriptive phrase such as "go to the table of contents" tells what will happen when the icon is clicked.
- Iconic navigation is often more effective than words, takes up less screen space, and works better with international audiences because the icons can be understood regardless of what language the user speaks.
- It is frustrating to use a Web site with mixed metaphors and icons that change their meaning on different screens. Be consistent. If you adopt navigational icons, use them consistently throughout your Web site. If you use hypertext navigation, be consistent in how you word the directions.

Analyzing the Layout of a Web Page Résumé

- Layout analysis diagrams the positional and navigational relationships among the textual and graphical elements of a Web page.
- When you design a Web page, think about the menu choices and navigational options you want to provide for your site's visitors.
- Plan the layout according to what you want the user to see on each screen of your Web site. Visualizing the layout prior to creating the pages can save you a lot of time in Web development.
- Remember to be consistent and avoid mixing metaphors. Use navigational icons consistently, and make hypertext links intuitive by wording the text in such a way that users know what will happen when they click.

Key Terms

bookmark *(15)*
frame *(17)*
frameset *(17)*
heading *(13)*
horizontal rule *(13)*
HTML editor *(5)*
HTML translator *(7)*
layout *(18)*
link *(16)*
Notepad *(5)*
proportional font *(20)*
point size *(21)*
ordered list *(14)*
seamless *(22)*
serif *(21)*
table *(16)*
tags *(5)*
tiled background *(22)*
unordered list *(14)*
what you see is what you get (WYSIWYG) *(10)*

Key Terms Quiz

1. The special codes that mark up the text of an HTML document are called _____.
2. WYSIWYG is an acronym that stands for _____.
3. There are six _____ styles, which are numbered from H1 to H6.
4. The Web page design element that creates a divider between sections of a Web page is called a(n) _____.
5. On a Web page, lists can be ordered or unordered. In a(n) _____ list, the items are numbered automatically; in a(n) _____ list, the items are bulleted.
6. Normally, the text of a Web page flows evenly onto the screen, aligning itself automatically with the left and right edges of your browser's window. The _____ provides a way of dividing the screen into rectangular regions into which you can lay out text and graphics on a Web page.
7. When Web pages contain frames, more than one window appears on your Web page, and you can interact with the information in the windows independently. The collection of these inner windows is called a(n) _____.
8. Web pages consist of several design elements, including headings, paragraphs, horizontal rules, lists, images, backgrounds, bookmarks, links, special characters, tables, and frames. The relationship among these elements on the screen is called _____.
9. In print media, a(n) _____ is one seventy-secondth (1/72) of an inch. On a typical computer screen, this is about the height of a single pixel.
10. A bitmap that repeats up, down, and across the screen until the entire screen surface has been covered is known as a background _____.

Multiple-Choice Quiz

1. What kind of a tool lets you create Web pages by working directly with the HTML tags?
   a. HTML editor
   b. HTML translator
   c. Layout analyzer
   d. WYSIWYG
2. What is the most popular HTML editor for Windows?
   a. BBEdit
   b. HomeSite
   c. Notepad
   d. WordPad

3. What is the name of the Macromedia program you can use to create Web pages from a Code view, a Design view, or a Split view that combines both the Code and Design views?
   a. Composer
   b. Dreamweaver
   c. FrontPage
   d. WebEdit
4. Which Web page editor was designed for use with Microsoft Office?
   a. Composer
   b. Dreamweaver
   c. FrontPage
   d. WebEdit
5. Which Web page editor ships freely as part of Netscape Navigator?
   a. Composer
   b. Dreamweaver
   c. FrontPage
   d. WebEdit
6. What is the most frequent color choice on the Web?
   a. Black text on a white background
   b. Black text on a blue background
   c. White text on a red background
   d. Yellow text on a brown background
7. Which color combination provides the most contrast onscreen?
   a. Black text on a gray background
   b. Black text on a white background
   c. Gray text on a black background
   d. Gray text on a white background
8. What kind of link causes an e-mail window to open onscreen?
   a. FTP
   b. Hypertext
   c. Mailto
   d. News
9. Which of the following fonts uses nonproportional spacing?
   a. Arial
   b. Book Antiqua
   c. Courier
   d. Times Roman
10. When you cannot perceive the edges of the background tile or detect a regular interruption in the pattern caused by the edges of the tile not fitting against each other smoothly, the background tile is said to be:
    a. Aligned
    b. Proportional
    c. Repetitive
    d. Seamless

Essay Quiz

1. In your own words, describe when it is best to use an HTML editor, a WYSIWYG tool, or an HTML translator to create a Web page.
2. Go to Macromedia's HomeSite page at www.macromedia.com/homesite. What is the version number of the latest HomeSite update? What is the hottest new feature you see advertised for the latest update?
3. Using the design elements presented in this chapter, plan the layout of your Web page résumé. Think about the menu choices you want to provide prospective employers who visit your Web page to find out about your experience and qualifications. Include this menu as one of the design elements in your résumé. Possible menu items include:

- Educational Qualifications
- Work Experience
- Computer Skills
- Grants and Awards
- Honorary Societies
- Professional Association Memberships
- Publications
- Software
- Presentations
- How to Contact Me

If you are just starting out, you may not have this many items, but remember not to be shy on a résumé. Think about all the things you have done, the part-time jobs you have had, the organizations for which you have volunteered, the sports teams on which you have played, and the clubs you joined. You probably have more things to list on a résumé than you can think of at first. You do not want to go overboard, however, because a résumé should be succinct, but if you cannot fill a screen or two, think harder about the things you have done in life.

4. Because you can link any document, audio, picture, movie, or software application to your Web page, you can link your résumé to examples of your work to prove your worth to a prospective employer. What examples would you like to link to your résumé? Include these links in the design of your résumé.
5. There is a knack to writing hypertext in such a way that the wording makes it clear what will happen when the user triggers the link. Write three examples of text containing a word or a phrase which, when clicked, takes the user to your home page.
6. Draw three different ways of providing an icon that moves forward to the next screen of an application.

Lab Projects

• Lab Project 5-1: Web Page Creation Strategy

When employees can create their own Web pages and publish them to the Web, a school or company becomes much more efficient in posting and sharing information. Hyperlinking enables the Web page author to link items on the page to other information that a coworker, student, or customer might be expected or encouraged to access as related information. The search engine selected in Lab Project 2-3 will enable users to search via keyword for any other page at the site to which they have access. This kind of information-publishing, linking, and search capability is the very reason Tim Berners-Lee gives for inventing the Web back in 1989. In his 1989 proposal for creating the Web, Berners-Lee (1989, ¶ 5) said his goal was to help his coworkers keep track of things in a large project. Imagine that your employer wants to empower your coworkers to take advantage of the power of publishing, linking, and searching school or company information on the Web. Your employer wants you to recommend a Web page creation strategy that is appropriate for your workplace. In developing a recommendation for the best approach for your school or company to take in creating Web pages, consider these issues:

- **Technical support** How much technical support is available to coworkers in your school or company? If your company has an IT organization with a support staff that helps employees troubleshoot technical problems, you may be able to recommend a more technical solution than for a small company or school that does not have a lot of technical support staff, if any.
- **Other software products** Take into account other software products that your school or company is already using. If all your coworkers are using Microsoft Office, for example, that might direct your choice toward a FrontPage solution. If your school or company has adopted Netscape as its standard browser, on the other hand, Netscape Composer may be the obvious choice.
- **Training** How will your coworkers learn how to use the Web page creation software you recommend? If you recommend FrontPage or Netscape Composer, you could use the Web page creation tutorial in McGraw-Hill's *Internet Literacy* textbook as training material.

Use a word processor to write up your answer to this assignment in the form of a two-part essay. In the opening paragraph, tell what Web page creation strategy you recommend and briefly state the reason for choosing it for use in your workplace. Then write another paragraph or two describing the other approaches you considered, and state your reasons for rejecting them. Conclude your recommendation with a paragraph describing how empowering you feel your recommended strategy will be, and give examples of a few ways in which creating Web pages in this manner will empower your coworkers and improve operations in your workplace. If your instructor has asked you to hand in this assignment, make sure you put your name at the top; then save it on disk or follow the other instructions you may have been given for submitting this assignment.

• Lab Project 5-2: Adopting a Common Look and Feel

Whether or not the Web page author is aware of it, every Web page has a certain look and feel. If the look and feel is consistent from page to page, coworkers and others who visit the site frequently get used to looking in certain places on the page to find such things as menus, link bars, headlines, different kinds of content, and navigation buttons. If the look and feel is not consistent from page to page, the user must spend more time finding where things are on the page. This is inefficient at best and can be frustrating as well. Imagine that your employer has decided that your school or company Web site needs to adopt a common look and feel. Your employer has asked you to create a design specification recommending a common look and feel for Web pages created in your workplace. In creating this design spec, address the following issues:

- **Templates** What kinds of pages do your coworkers typically create? The pages probably fall into a few basic types, such as home pages for different projects or products, search pages for finding things, catalog pages for listing products for sale, and document pages containing reports, product information, or scholarly papers.
- **Design elements** What are the design elements that are likely to appear on the kinds of pages you identified? Make an outline that lists the basic kinds of pages typically used in your workplace. Under each kind, list the design elements that appear on that kind of page. Consider all the different elements that can appear on your workplace Web pages, such as banners, menus, search buttons, quick links, newsfeeds, headlines, navigation buttons, pictures, icons, logos, prose, products, catalogs, advertisements, and bibliographies.
- **Positioning** Add to this outline an indication of where each element will go on the Web page. If you are not sure where things should go, visit some Web sites of organizations like yours and study their Web page designs. If you have FrontPage, you can look at the built-in templates there. Pull down the File menu, choose New | Page, and click the option to see the templates. As you click each template, a preview pane shows the layout. There is also a template gallery at officeupdate.microsoft.com/templategallery. Surf these templates and visit other Web sites in your industry or subject matter to get more design ideas.
- **Navigation** Include in your design spec a strategy for placing navigational elements at consistent places onscreen.

Use a word processor to write up your answer to this assignment in the form of a three-part essay. In the first part, describe the overall approach you recommend. Mention the three or four basic kinds of templates you feel your school or company needs. In the second part, present the outline of design elements that will typically appear on each template. Conclude by describing where onscreen these design elements will appear.

If you are graphically inclined, you can use your word processor's table feature to create a prototype of the screen designs you envision. Otherwise, you can describe the layout prosaically. Make sure you specify where the navigational elements will be onscreen. If your instructor has asked you to hand in this assignment, put your name at the top; then save it on disk or follow the other instructions you may have been given for submitting this assignment.

Main text file is embedded
because of difficulty w/ keyword references.
PLS. always export the text after done with the chapter.
(File - Export Text ...)

PLEASE PLACE THIS NOTE AT END OF CHAPTER,
AFTER BUILDING AS A REMINDER
DURING CORRECTIONS