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Web Design

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- Step-by-step instructions
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Rob Huddleston

Teach Yourself
VISUALLY™

Web Design



Rob Huddleston



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Rob Huddleston has been developing Web pages and applications since 1994, and has been an instructor since 1999, teaching Web and graphic design to thousands of students. His clients have included the United States Bureau of Land Management, the United States Patent and Trademark Office, the States of California and Nevada and many other federal, city, and county agencies; the United States Army and Air Force; Fortune 500 companies such as AT&T, Bank of America, Wells Fargo, Safeway, and Coca-Cola; software companies including Adobe, Oracle, Intuit, and Autodesk; the University of California, San Francisco State University, and the University of Southern California; and hundreds of small businesses and nonprofit agencies, both in the United States and abroad. Rob is an Adjunct Professor in the Interactive Media program at the Art Institute of California, Sacramento. He is an Adobe Certified Instructor, Certified Expert, and Certified Developer, serves as an Adobe User Group Manager, and has been named as an Adobe Community Professional for his volunteer work answering user questions in online forums. He also helps users as an expert moderator on Adobe's Community Help system. Rob lives in Northern California with his wife and two children.

Rob is the author of *XML: Your visual blueprint for building expert Web sites with XML, CSS, XHTML, and XSLT*; *HTML, XHTML, and CSS: Your visual blueprint for designing effective Web pages*; *Master VISUALLY: Dreamweaver CS4 and Flash CS4 Professional*; *ActionScript: Your visual blueprint for creating interactive projects in Flash CS4 Professional*; and the *Flash Catalyst CS5 Bible*. You can visit Rob's blog at www.robhuddleston.com, or follow him on Twitter at twitter.com/robhuddles.

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How to Use This Book

Who This Book Is For

This book is for the reader who has never used this particular technology or software application. It is also for readers who want to expand their knowledge.

The Conventions in This Book

1 Steps

This book uses a step-by-step format to guide you easily through each task. **Numbered steps** are actions you must do; **bulleted steps** clarify a point, step, or optional feature; and **indented steps** give you the result.

2 Notes

Notes give additional information — special conditions that may occur during an operation, a situation that you want to avoid, or a cross reference to a related area of the book.

3 Icons and Buttons

Icons and buttons show you exactly what you need to click to perform a step.

4 Tips

Tips offer additional information, including warnings and shortcuts.

5 Bold

Bold type shows command names, options, and text or numbers you must type.

6 Italics

Italic type introduces and defines a new term.

Create a Menu Using Spry

Spry is an Ajax framework from Adobe. Unlike many other frameworks, Spry focuses mostly on visual components and effects, although it does have the ability to read and interpret XML and HTML data files. You can use Spry with almost no code if you use Dreamweaver, because Spry functionality is included directly in the program. However, Adobe does make the Spry framework openly available for anyone to download and use if desired. One of the commonly used Spry widgets is its Menu Bar, which creates an interactive menu with flyout submenus.

- 1 In Dreamweaver, open an existing or new document.
- 2 On the Insert panel, click **Common**.
- 3 click **Spry**.
- 5 Use the links above to explore our site.

The Insert panel opens to show the Spry widgets.

- 6 If necessary, scroll down on the panel and click **Spry Menu Bar**.
- 7 Note: If you are prompted to save your document at this point, click **Yes**.
- 8 Select whether you want a vertical or a horizontal menu (⊖ changes to ⊕).
- 9 click **OK**.

The menu is added to the page.

- 7 Click **Spry Menu Bar: MenuBar1**. The Property Inspector displays the menu bar properties.
- 8 Replace Item 1 with descriptive text.
- 9 Type an address for the Item 1 link.
- 10 If desired, replace 1.1 to 1.3 with descriptive text and appropriate links; you can also use the minus button to remove them.
- 11 Repeat Steps 8 to 10 for the remaining links.

When the page is viewed in a Web browser, you can navigate between the tabs.

TIPS

Can I add more menu items?
Yes. You can click on the blue bar across the top of the tabbed panels widget and then use the Properties panel at the bottom of the screen to add and remove menu and submenu items.

Can I change the appearance of the menu?
Yes. The menu's appearance is completely controlled by CSS. Your CSS Styles panel displays a SpryMenuBar.css document that contains all of the style rules for the widget.

Table of Contents

Chapter 1 The Tools of Web Design and Planning Your Site

A Brief History of the Web	4
Understanding Browsers.....	6
Visual Design Tools	8
Code-based Tools	9
Graphics Programs	10
Understanding the Importance of Planning Your Site.....	11
Understanding Your Audience	12
Gather Your Materials	13
Plan Your Navigation Structure	14
Plan Your File Structure	15



Chapter 2 Getting Started with HTML

Introduction to HTML.....	18
Create Your First Web Page	20
Save Your Web Page	22
Preview a Page in a Browser	24
Declare Your Document Type.....	26
Add Headings.....	28
Add Paragraphs	30
Apply Logical Formatting	32
Understanding URLs and File Paths.....	34
Link to Other Pages in Your Site.....	36
Link to Pages on the Web.....	38
Link within a Page	40
Link to an E-mail Address.....	42
Link to Other Document Types	44
Show Tool Tips for Links	46



Chapter 3

Creating Images

Understanding Image Formats	50
Legally Acquiring Stock Images.....	51
Understanding Image Optimization	52
Download a Stock Image from the Web	54
Get to Know the Photoshop Interface	58
Get to Know the Photoshop Elements Interface	59
Use Photoshop to Fix Colors	60
Crop and Resize an Image in Photoshop	62
Save an Image for the Web in Photoshop	64
Open an Image for Editing in Photoshop Elements.....	66
Use Photoshop Elements to Fix Colors	68
Rotate an Image in Photoshop Elements	69
Crop an Image in Photoshop Elements	70
Resize an Image in Photoshop Elements.....	71
Save an Image for the Web in Photoshop Elements	72
Get to Know the Fireworks Interface	74
Get to Know the Illustrator Interface	75
Create a Button in Fireworks.....	76
Save an Image for the Web in Fireworks	80
Create a Logo in Illustrator	82
Save an Illustrator Image for the Web.....	86
Add an Image to Your Web Page	88
Make Your Images Accessible.....	90
Use Images as Links	92



Table of Contents

Chapter 4 Formatting Your Pages

Introduction to CSS.....	96
Create an Embedded Style Sheet	98
Understanding Units of Measurement.....	100
Set the Font and Text Size on Your Page	102
Understanding Color on the Web	104
Determine a Color Scheme Using Kuler	106
Set Text Color.....	108
Set a Background Color	109
Add a Background Image	110
Control Background Image Tiling.....	112
Position Background Images.....	113
Apply Additional Text Formatting	114
Indent and Align Text	116
Apply Spacing with Padding	118
Control Whitespace with Margins.....	120
Specify Widths.....	122
Add Borders	124



Chapter 5 Advanced CSS

Style Multiple Elements	128
Format Text with Spans	130
Group Elements with Divs.....	132
Apply Styles with Classes	134
Apply Styles with IDs	136
Use Contextual Selectors.....	138
Use Pseudo-Elements.....	140
Use Pseudo-Classes	142
Create an External Style Sheet	144

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index: Notepad
File Edit Format View Help
http://www.w3.org/TR/xhtml1/DTD/xhtml1-transitional.dtd"
<html>
<title>Information</title>
<style type="text/css">
body
{
font-family: Arial, Helvetica, sans-serif;
font-size: 90%;
color: #540907;
background-color: #FFC955;
background-image: url("images/flowers.gif");
background-repeat: no-repeat;
background-position: 550px 0;
margin: 0;
}
h1, h2
{
font-family: Georgia, "Times New Roman", Times, serif;
}
h1
{
text-transform: uppercase;
padding-left: 20px;
margin-top: 0;
margin-bottom: 10px;
width: 520px;
border: 1px dashed #540907;
}
p
{
line-height: 1.5em;
}
```

Link a Style Sheet to a Page 146

Use the Cascade 148

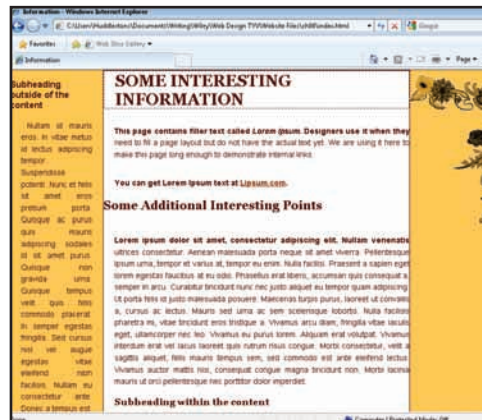
Chapter 6 Laying Out Pages

Set Up Your Page for CSS Layouts 152

Float Elements..... 154

Use Margins and Padding to Fix Float Problems 156

Work with Overflow 158



Chapter 7 Adding Tables and Lists

Add Data Tables..... 162

Format Tables with CSS..... 164

Create Complex Tables 166

Add a Header Row..... 168

Add Table Sections..... 170

Add an Unordered List..... 172

Add an Ordered List 174

Style Lists..... 176

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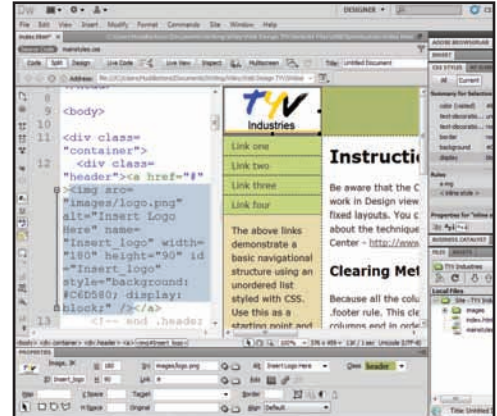
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background-color: #FFC955;
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}
</style>
</head>
<body>
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<thead>
<tr>
<th>Name</th>
<th>Department</th>
<th>Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td colspan="3">All numbers are area code 999
</td>
<td>Malcolm Reynolds</td>
<td>Administration</td>
<td>555-1212</td>
</tr>
<tr>
<td>Inara Serra</td>
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</tr>
<tr>
<td>Jayne Cobb</td>

```


Table of Contents

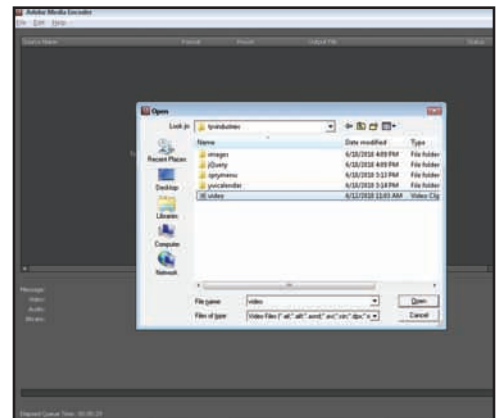
Chapter 8 Creating a Page Visually in Dreamweaver

Introduction to Dreamweaver's Interface	180
Define a Site in Dreamweaver	181
Create a New Document	182
Replace the Logo Placeholder	184
Replace the Main Content	185
Replace the Content in the Sidebar and Footer	186
Add Navigation.....	187
Add Images	188
Insert a Photoshop Image.....	190
Edit a Photoshop Image in Dreamweaver	194
Modify CSS.....	196
Add New Styles.....	198
Preview the Page Using Live View.....	200
Preview the Page in a Browser	201
Preview the Page in Other Browsers Using BrowserLab.....	202



Chapter 9 Adding Interactivity and Multimedia

Introduction to JavaScript and Ajax	208
Embed JavaScript in HTML.....	210
Write a Function	212
Change the Visibility of an Object	214
Create a Menu Using Spry.....	218
Create a Calendar Control with YUI	220
Create an Image Gallery with jQuery	222
Create Animation Using Flash Professional.....	226
Publish a Flash Movie	230



Add a Flash Movie to Your Page in Dreamweaver.....	231
Convert a Video to Flash Video.....	232
Add Flash Video Using Flash Professional.....	234
Add Video with HTML5.....	236

Chapter 10 Making Sites Accessible

Understanding Web Standards.....	240
Understanding Web Accessibility.....	242
Add Captions and Summaries to Tables.....	244
Create Accessible Table Headings	246
Create Accessible Navigation	248



Chapter 11 Adding Forms to Your Site

Create a Form.....	252
Add a Text Field	254
Add a Label.....	256
Add Check Boxes.....	258
Add Radio Buttons.....	260
Create a Drop-Down List.....	262
Insert a Text Area.....	264
Add a Button to Your Form.....	266
Group Related Form Elements	268

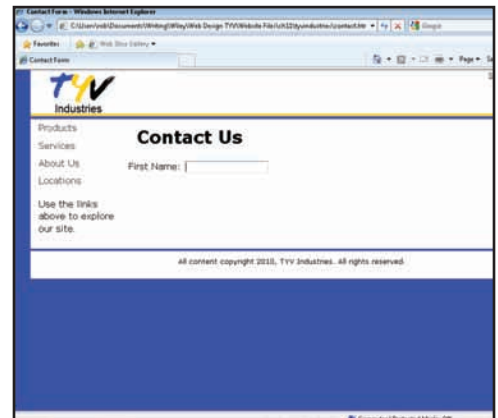


Table of Contents

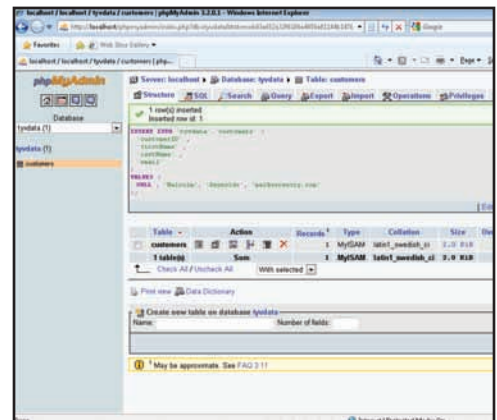
Chapter 12 Creating Dynamic Pages

Understanding Dynamic Web Applications	272
Download and Install WAMP on Windows.....	274
Download and Install MAMP on a Mac	278
Create a Basic PHP Page	280
Save and Test a PHP Page	282
Process Form Data.....	284
Send E-mail with PHP	286
Include External Files	288
Create Your Own PHP Function.....	290



Chapter 13 Adding Information from a Database

Understanding Relational Databases	294
Create a Database	296
Create a Table	298
Populate the Table with Data.....	300
Connect PHP to the Database	302
Display the Contents of a Table on a Web Page.....	304
Search the Database.....	308
Insert New Data into a Table with PHP.....	312



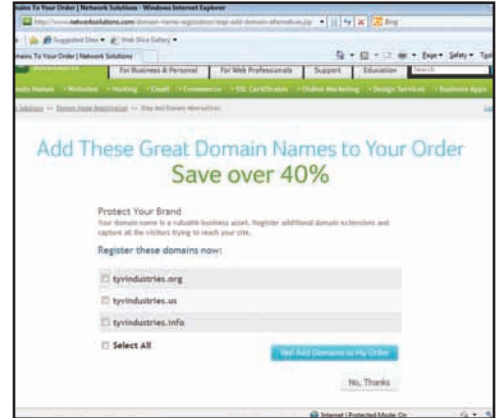
Chapter 14

Publishing Your Site and Getting Noticed

Find a Web Host	318
Buy a Domain Name	320
Publish Your Web Site Using FTP	322
Set Up Remote Server Information in Dreamweaver	324
Upload Your Files Using Dreamweaver	326
Understanding Search Engine Optimization.....	328
Use Meta Tags	330
Use Google Webmaster Tools	332
Create a Sitemap.....	334
Prevent Pages from Being Listed on Search Engines ...	336

HTML Colors..... 338

Index..... 340



The Tools of Web Design and Planning Your Site

Before you can dive into creating Web sites, you need to understand the tools that you need. This chapter shows you the software you need to create Web pages, add images to them, and preview the finished products. However, software alone cannot make a good Web site. You need to carefully plan your site's content, design and overall structure in order to create a site. Therefore, this chapter also details those steps you should undertake to plan your site before you begin building it.

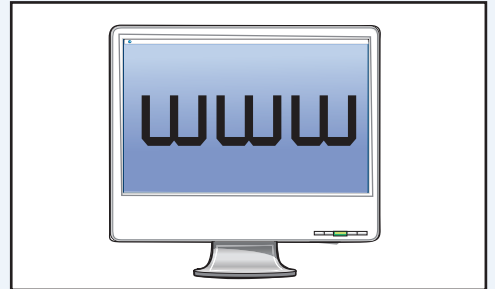
A Brief History of the Web4
Understanding Browsers6
Visual Design Tools.8
Code-based Tools.9
Graphics Programs	10
Understanding the Importance of Planning Your Site. . . .	11
Understanding Your Audience.	12
Gather Your Materials	13
Plan Your Navigation Structure	14
Plan Your File Structure	15

A Brief History of the Web

Only twenty years after its invention, the World Wide Web has become commonplace and has fundamentally changed the way we work, live, and interact with others. However, the medium is in many ways still in its infancy, and as you progress in learning about designing Web pages, you will encounter many significant limitations primarily because the Web was not created as a place to sell books or keep in touch with friends from high school. Understanding why the Web was invented and what its original goals were will help you better understand these issues.

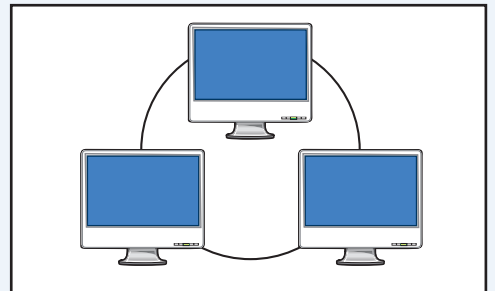
The Invention of the Web

The Web was invented in 1990 by Tim Berners-Lee. Berners-Lee was a physicist at CERN, the European laboratory for particle physics, located in Geneva, Switzerland. Berners-Lee noted that visiting scientists, while working on experiments that could have come straight from *Star Trek*, had to exchange most of their information with one another on paper because their computer systems were incompatible. He therefore created the Web as a way to allow these scientists to share their findings, regardless of what kind of computer system they used.



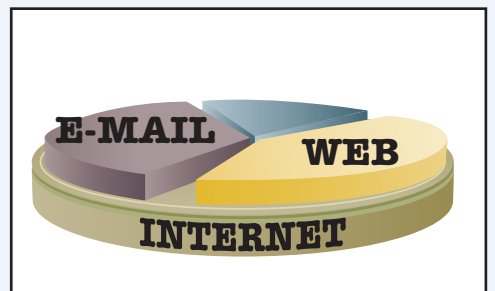
The Invention of the Internet

Jokes about politicians aside, no one person invented the Internet. Rather, it evolved over decades from a variety of other sources. Much of the early work on what became the Internet was done in the 1960s. Although the United States Department of Defense funded the early research, the Internet was not, contrary to popular belief, designed by or for the military directly.



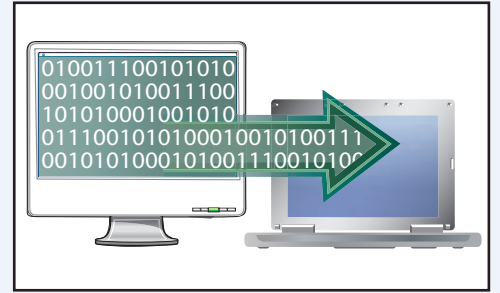
The Web versus the Internet

Many people confuse the Web with the Internet, but it is important to understand that they are not the same thing. The Web is best thought of as an application that runs on the Internet. E-mail is another application running on the Internet, entirely separate from the Web.



Protocols

Computer networking relies on *protocols*, which are essentially standards by which two computers can talk to one another using a common language. The Internet relies on a suite of two protocols: TCP, or Transmission Control Protocol, and IP, or Internet Protocol. TCP/IP was developed in the 1970s by Robert Kahn and Vinton Cerf. The Web primarily uses the Hypertext Transfer Protocol, or HTTP, developed in 1990 by Tim Berners-Lee.



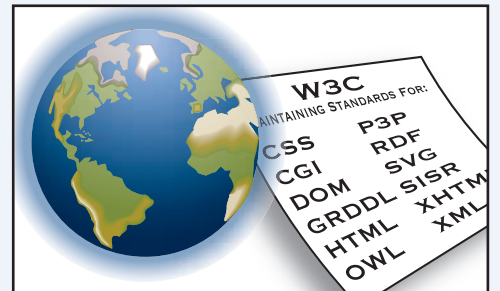
The Expansion of the Web

CERN did not show much interest in Berners-Lee's invention, and so allowed him to make it publicly available with no licensing restrictions. Soon, scientists at Stanford University and the National Center for Supercomputing Applications took his ideas and began building servers and browsers to work with. Companies soon followed, and by the mid-1990s, the Web had taken off.



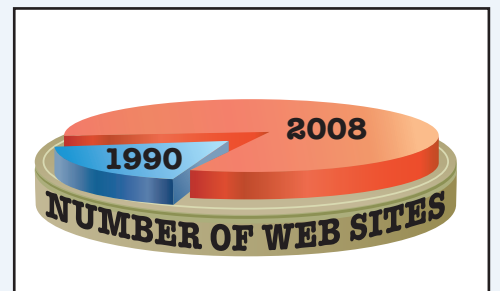
The World Wide Web Consortium

In October 1994, Berners-Lee left CERN and founded the World Wide Web Consortium (W3C) as a sort of governing body for the development of the Web. Today, the W3C is still responsible for maintaining and adopting standards for languages such as HTML, or **H**ypertext **M**arkup **L**anguage. They also promote standards for other aspects of the Web, such as graphics formats and **c**ascading **s**tyle sheets, or CSS.



The Web Today

Exact numbers are hard to find, but most estimates show that many billions of Web pages are in existence. Search engine Google announced in 2008 that it had indexed one trillion unique Web addresses. Hundreds of millions of Web sites are likely currently in operation. Considering that 2010 marks only the 20th anniversary of the Web, its expansion is truly amazing.



Understanding Browsers

The primary means by which most people access the Web is via a browser. Browsers are simply software applications that read and interpret HTML pages. In a way, you can look at browsers as the canvas for which you design your page. Unfortunately, browsers are inconsistent in the ways in which they display pages, and remain the primary source of Web designers' headaches. Although you can minimize these differences on your pages, understanding browsers is an important first step to learning how to create sites that avoid these issues.

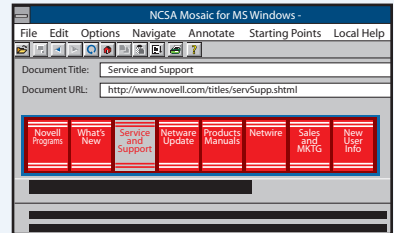
WWW: The First Browser

Tim Berners-Lee developed the first browser when he invented the Web. Although he considered many names for it, he finally settled on WorldWideWeb. His idea was to have browsers/editors, whereby users would rely on a single tool to both view and create pages.



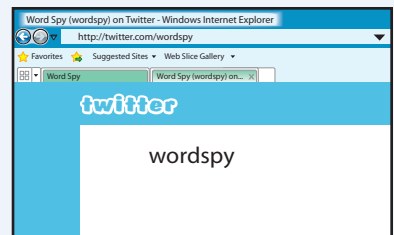
NCSA Mosaic and Other Early Browsers

One of the first graphical browsers, capable of displaying images alongside text, was developed by the National Center for Supercomputing Applications. The lead designer of the Mosaic browser, Marc Andreessen, left soon after to found Netscape Communications and create Navigator, the first commercial, widely adopted browser.



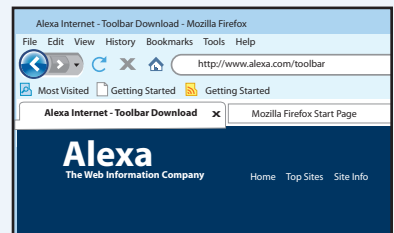
Internet Explorer

As the Web began to gain in popularity, Microsoft developed their own browser, which they called Internet Explorer, but which is most often referred to today simply as IE. Of the early browsers, IE is the only one still in existence in a recognizable form.



Mozilla Firefox

When AOL purchased Netscape, they decided that rather than compete with Microsoft, they would release the code upon which the Netscape browser was based as open source. The nonprofit Mozilla corporation used it as the basis for Firefox, which is today the second-most-popular desktop browser after IE.



Safari and Chrome

After years of relying on Netscape and Microsoft, Apple decided to build their own browser. Using the open-source WebKit browser code base, they released the Safari browser. Google, entering the browser market later, also used WebKit as the underpinning of their Chrome browser. Today, Safari is the main browser on Macintosh systems, although it is also available on Windows and Apple's mobile devices such as the iPhone and iPad. Chrome is increasingly popular on both Windows and Mac, along with mobile devices running the Android operating system such as the Nexus One and Droid phones.



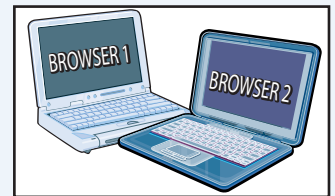
Opera

Although Netscape briefly flirted with the idea of charging for their browser, Norway's Opera browser was available in paid and free versions for many years, finally becoming completely free-only in 2000. It offers many features that make it popular to technically inclined users, but the general public remains mostly unaware of it.



Browser Differences

Though the original idea of the Web was to be able to create pages that would look the same on all computers everywhere, browsers have long rendered pages differently. Today, most browsers are to some extent standards-based, meaning that they display most pages the same most of the time. However, differences still exist, requiring that you test your pages in multiple browsers.



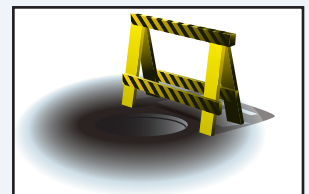
The Mobile Web

More and more people today are using cell phones and the newest generation of so-called smart phones to surf the Web, posing a new set of challenges for Web designers. Fortunately, most smart phones today rely on standard browsers: the popular iPhone, for example, uses Apple's Safari browser.



Upgrading Browsers

New versions of browsers are being constantly released. Unfortunately for you as a designer, each browser company releases their software on different schedules, making keeping up with the latest browsers challenging. Even though the browsers are free, many users do not upgrade their browsers, forcing designers to worry not only about new versions, but several iterations of old ones as well.

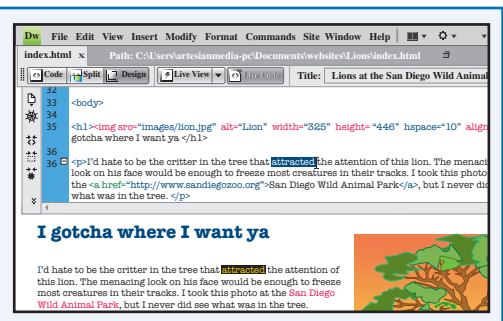


Visual Design Tools

All Web pages are, in the end, simple text files that contain the code the browser needs in order to display the page. Although HTML and CSS are not complicated programming languages, many designers would prefer to write as little code as possible. Many visual design tools over the years have attempted to come up with a way to allow designers to create pages using no code at all. Unfortunately, none have succeeded, so you need to gain an understanding of the code. That said, visual design tools allow you to minimize the amount of code you need to write.

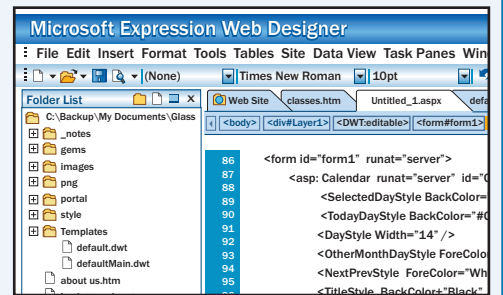
Adobe Dreamweaver

Dreamweaver has been the industry-standard design tool for many years. Originally created by Macromedia, Dreamweaver has existed as an integral part of Adobe's Creative Suite toolset since 2005. Dreamweaver provides both a Design view that approximates a browser window with a Live view feature that relies on an actual browser-rendering engine. Dreamweaver CS5 was released in April 2010.



Microsoft Expression Web

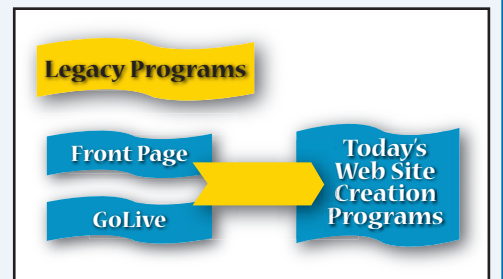
Microsoft's primary Web design tool, a direct competitor to Dreamweaver, shares many of the same features. It contains a design interface that allows you to create pages without writing code, along with tools to help manage your site's files. Expression Web 3 was released in 2008, and a new version is expected sometime in mid- to late-2010.



Legacy Programs

For many years, the go-to product for individuals and small businesses who wanted to create Web sites was Microsoft's FrontPage. FrontPage was discontinued in 2003, but some designers continue to use it today.

Before their acquisition of Macromedia, Adobe manufactured a competitor, GoLive. GoLive focused more heavily on design features than most other tools. It was discontinued in 2008.

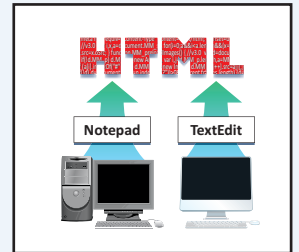


Code-based Tools

Because learning how to write HTML and CSS remains important for successful Web designers, many have decided that if they must write code anyway, they would prefer to use a pure code editor rather than rely on visual tools to do it for them. Perhaps the biggest advantage to code editors over visual design tools is that many hundreds of code editors exist as free downloads, whereas all of the best visual editors are commercial products that must be purchased. Using a coding tool also gives you complete control over your code.

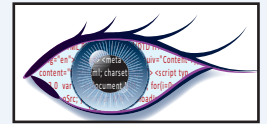
TextEdit and Notepad

Because HTML can be created in any text tool, some designers who do not want to purchase or download other tools use the free text editors that ship with operating systems, including TextEdit on Macintosh and Notepad on Windows.



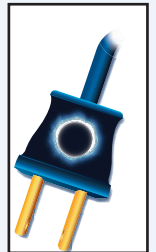
Dreamweaver and Expression Web

Although primarily visual tools, both Dreamweaver and Expression contain powerful code-editing capabilities. In fact, many day-to-day users of each program never use the visual tools at all, preferring to rely on them as code editors.



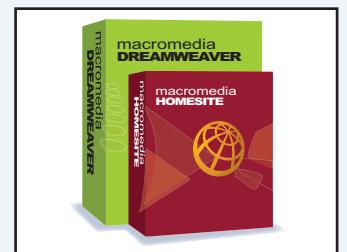
Eclipse

Eclipse is an open-source development toolset. Although it has no specific HTML-editing capabilities by itself, free plug-ins are available for it that add that functionality. Eclipse is available for free from www.eclipse.org; HTML and other plug-ins can be downloaded at www.eclipse.org/downloads.



HomeSite

For many years, HomeSite was packaged with Dreamweaver. No new version of HomeSite has been released since 2003, and Adobe officially discontinued its development in 2009. However, many developers enjoyed its powerful code-editing features and have continued to use their old copies of it.



Graphics Programs

The Web is a visual medium. As such, images and graphics play an important role in your site's development. Today, powerful graphics tools are available that enable you to create professional-quality images. The photographs you plan to use on your site may need colors corrected, they may need to be cropped or resized, or you may want to apply special visual effects. You may also need to create images from scratch, such as a site logo, buttons, or other icons. You therefore need to understand the tools available to you.

Adobe Photoshop

Photoshop has been the industry-standard tool for manipulating images for so long that its name is almost synonymous with editing. Today, Photoshop combines the same powerful tools for editing images with an ever-growing array of features targeted specifically at Web designers. The latest version, CS5, was released in April 2010.

Adobe Illustrator

Illustrator is to vector-based drawing programs what Photoshop is to photo editing. Artists and graphic designers have relied on it for decades to create everything from logos to full print campaigns. Like Photoshop, many of its newer features are targeted at Web designers. Illustrator CS5 was released in April 2010.

Adobe Fireworks

Originally created by Macromedia as a competitor to both Photoshop and Illustrator, Fireworks today is the graphics tool of choice for many Web designers due to its ease of use, wide set of tools, and extremely efficient graphics optimization features. Fireworks CS5 was released in April 2010.

Corel Draw

Corel Draw is, like Adobe Illustrator, a vector-based drawing tool. Today, it contains many features similar to Illustrator, making it an ideal tool for working on Web graphics. A new version, known as X5, was released in February 2010. Its only main disadvantage to designers today is that it is available only for Windows-based systems.

GIMP

An open-source graphics toolset designed to mimic many of the features of Photoshop and other commercial products, GIMP, whose name is short for **GNU Image Manipulation Program**, is a viable option for budget-minded designers. It can be downloaded for free from www.gimp.org.

Adobe Photoshop Elements

The full version of Photoshop is designed with professionals in mind. Adobe created Photoshop Elements for hobbyists and home users. However, even though its price is roughly 1/5 of that of Photoshop, Photoshop Elements actually contains a very large number of Photoshop's features.

Aperture

Aperture is manufactured by Apple and is the preferred image-editing tool for many Macintosh users. It has many features in common with Photoshop, including a set of tools designed specifically for use on the Web. Its main disadvantage is that it is available only for Macintosh computers.

Although you may be tempted to sit down at your computer and simply start coding your site, good Web sites do not come together by chance. Rather, careful planning is needed to ensure that your site's content is organized logically, that your site fits your user's needs, and that your navigation works and is intuitive. Planning a site may not be the most exciting task in the overall process, but it is perhaps the most important. In general, well-planned sites come together much more quickly and are more likely to end up being something you can be proud of.

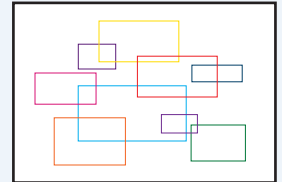
Brainstorm Design Concepts

Most successful finished designs are the result of taking parts from several ideas and combining them into a whole. In your brainstorming session, whether you are working alone or in a team, always remember that no idea should be rejected out-of-hand.



Wireframe the Design

A wireframe is simply a representation of the site's structure and layout. It does not need to be fancy — many wireframes are simply boxes with labels — but you should try to get proportions correct to make sure the design works. You can draw the wireframes by hand or use a graphics program such as Adobe Fireworks.



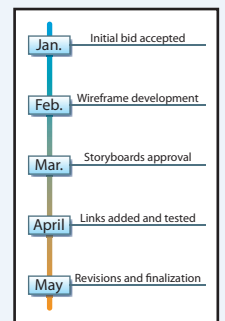
Storyboard Pages

Storyboards provide more detailed representations of your design. You can use storyboards to see how the color scheme from your project will work and begin to get an idea of what graphics you might use. You can create a storyboard for each page in your site, although sites with animated elements may require multiple storyboards.



Develop a Timeline for Completion

If you are working for a client or developing a Web site for your company, you need to discuss with your client or boss a realistic timeline that includes deadlines along the way in which you can complete the project. If you are creating a personal site, a timeline can be just as important to keep you on track.



Understanding Your Audience

The Web is a user-centric environment. Almost all of your users will approach your site with a “what’s in it for me” attitude. Traditional businesses can, to a point, rely on the fact that by the time a customer walks in their door, the customer has already invested something in the trip, such as time and gas. Thus, they may be more likely to endure a certain level of inconvenience. On the Web, your customers have invested next to nothing in getting to your site. Understanding your audience is the key to being able to meet their needs and keep them on your site.

Market Studies

Companies have long understood the importance of studying the market in which they plan to do business in order to target advertising and products to their important customers. Many Web sites, however, forego this step, to their peril. Web market studies are every bit as important as those for traditional offline businesses.



Demographics

Demographics is the study of populations. You need to get an idea of the demographics of your potential audience in order to ensure that your site meets their needs. General questions to research include your audience’s age, educational level, socioeconomic background, and more.



Local Businesses with Global Customers

The global scope of the Web is one of its more exciting aspects. Even the smallest of businesses can now reach companies on the other side of the world, but that same global scope presents many challenges as well. How will you handle foreign orders? Will you present your site in multiple languages?

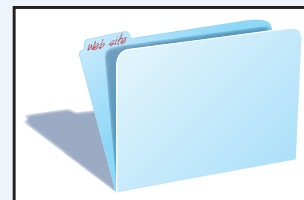


Gather Your Materials

Building a Web site requires that you manage a host of assets, from the pages themselves to the style sheets that control their appearance to the images, ads, and videos you use. Keeping yourself organized makes the whole process much simpler. Whether you are working with a large site with many hundreds, or possibly thousands of files, or a smaller site with only a few dozen files, disorganization can quickly eat up large amounts of your time and thus the site's budget. There is not one correct way to organize your site; use whatever method works best for you.

Root Folder

All of your Web site's files and assets eventually need to reside within a single folder on your hard drive. Thus, you should begin by creating this folder and moving any existing assets into it. The folder can be anywhere on your computer, and can be named however you want, but in Web terms the folder is known as the *root*.



Images

Most sites require a lot of images. At this opening stage, you should be thinking about the images you need and begin collecting them, whether from your own collection, your company's media department, or online stock-image resources.



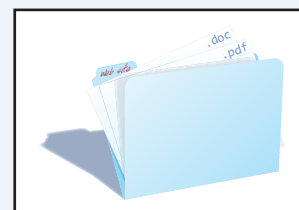
Multimedia Assets

If you plan to use audio and video files, you should begin to prepare for them early on because production of that media can require a lot of additional time and effort. If you have existing multimedia that you plan to use, copy it to your root now. Otherwise, begin the preproduction process as soon as you can to ensure that it does not delay the project.



Source Documents

Many companies have marketing and other materials already prepared in various electronic formats. You should try to collect those documents that contain information you need and place them in your root folder for easy access later.

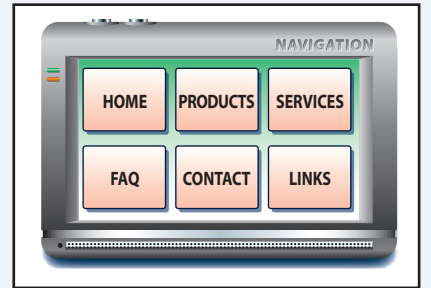


Plan Your Navigation Structure

Carefully laid-out navigation makes your site easy and intuitive to use, which in turn ensures that users have a more successful experience in your site. You should plan your navigation early in the design process, to make sure that all important pages are navigable and to ensure that the navigation works with your design. Sites with poorly designed navigational structures quickly confuse and frustrate your users, which is likely to cause them to give up and find another site. Good navigation should be so intuitive that the user never has to consciously think about it.

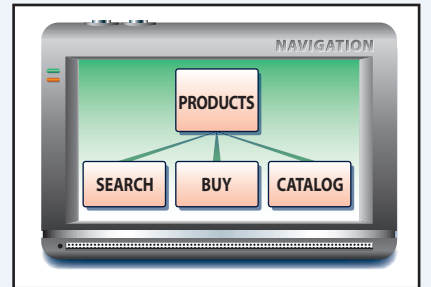
Main Navigation

Your site's main navigation is the area that contains links to the primary sections of your site, such as your home page and departmental pages. The main navigation will likely appear on every page in the site, and is traditionally displayed either horizontally near the top of the site or vertically along the left side.



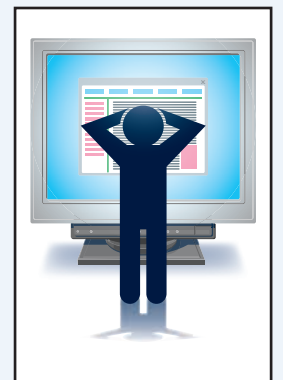
Section Subnavigation

Each section of your site will likely require its own navigation to the pages within the section. Section navigation can be presented directly below or next to the main navigation, or as an independent unit. It should be visually obvious to users that these areas represent links within the section.



Think Like Users

Do not organize your site's navigation based on the internal organization of your company. Rather, approach the site from an outsider's view, and organize your navigation based on the needs of your prospective users.

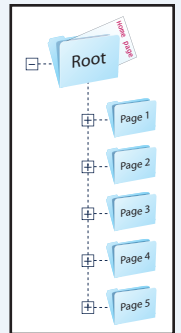


Plan Your File Structure

Your site's file structure is mostly for your benefit. You want to be sure that your site is organized in such a way as to allow you to easily find files as you need them. As with organizing the site's files, there is not any one "correct" way to lay out your site structure; you simply need to make sure that it makes sense to you. Most designers rely on nested folders to keep files organized. As important as the folder structure is the naming of folders: be sure that you use logical names.

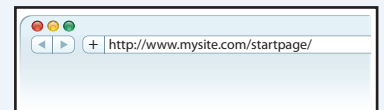
Organizing Below the Root

Some designers prefer to place only the home page directly in the root folder, and then place all other pages in the site in subfolders of the root. Others prefer to have all top-level pages directly in the root, with subfolders for each section. Use whatever plan makes sense to you, but be consistent.



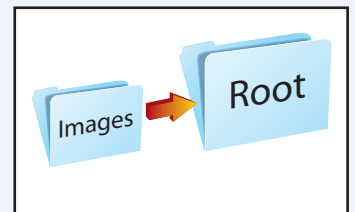
Naming Folders

The names of the folders in your site are visible to your site's users on their browser's navigation bar, so be sure to give your folders names that make sense to you but also assist your users in navigating the site. Folder names must begin with a letter and cannot contain spaces.



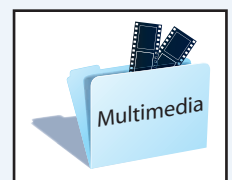
Images Directory

Most designers place an *images* folder in the root, and put all of the site's graphics in it. Bigger sites might require that the image folder contain subfolders, or you might prefer each section of the site have its own images directory. As long as the organization is logical, you can use whichever method works best for you.



Other Assets

Multimedia should most likely be placed in a single directory, although media-heavy sites may need further organization. Every site will contain one or more style sheets, which can either be placed directly in the root, in their own directory, or in each section's directory. See Chapter 5 for more details on style sheets.



CHAPTER 2

Getting Started with HTML

HTML is the language of the Web, and in this chapter, you learn the fundamentals of the language and get started building your first pages.

