

PUBLISHING AND MAINTAINING YOUR WEB SITE

When you complete this chapter, you will be able to:

- ◆ Publish your Web site
- ◆ Test your Web site
- ◆ Refine and update your content
- ◆ Attract notice to your Web site

You have done all the hard work, and now it is time to publish your Web site. Your first important decision is to choose a Web hosting service to host your Web site. You also need to know how to transfer your files from the computer you used to develop your Web page to the Web server. After the Web site is established, you should test it with the help of a variety of users and update or refine it as needed. Finally, you should make sure your Web site gets noticed. This chapter describes the details of publishing and maintaining a Web site.

PUBLISHING YOUR WEB SITE

To make your Web site live, you transfer your Web site files to a **Web server**, a computer connected to the Internet and running server software. The software lets the computer use the Hypertext Transfer Protocol (HTTP) to serve HTML files to Web browser clients. Unless your company or organization has a Web server and hosts its own content, you must use the services of a Web hosting provider. After you choose a server to host your files, you need to select file transfer software and upload the Web site files from your development machine to the Web server.

Choosing a Web Hosting Service Provider

One of the most important choices you will make is your Web hosting service. This is the company that hosts your Web pages on a Web server, making them available to anyone who knows your URL. Most **Internet service provider (ISP)** companies offer Web hosting services for both personal and business use. The ISP provides you with Internet access, e-mail accounts, and space for a personal or business Web site. If you are building a Web site for business use, your ISP can register a personalized domain name for your Web site. (See Chapter 3 for more information about a personalized domain name.)

ISPs provide dial-up access and most offer Web server space as part of the access package. Small Web sites (around 15–20 pages of content) do not need much more than 1 or 2 MB of server space to hold all of the HTML pages and graphics. Your ISP should provide at least 10 MB of space so your Web page has room to grow. Larger or more complex sites need more server space, especially if you have downloadable files, archives, lots of graphic content, or databases. If you are building a business Web site, seek out larger hosting services that are more appropriate for hosting a complex commercial site.

Shopping for an ISP can be a confusing experience, as no two are exactly alike. Do some research and learn about offerings from different vendors. The following sections discuss the features you should seek in an ISP.

Easy Dial-Up

Choose an ISP that allows you to connect to its network by placing a local phone call. Make sure that your provider has enough points of presence to make dialing easy. **Points of presence (POPs)** are dial-up access points to your service provider's network. Your service provider should have at least one POP available so you can dial a local number to access the network. Major ISPs, such as AT&T, have POPs throughout the United States. A local ISP covers only the area that includes its subscriber base. Try to match the size of your ISP to the size of your company—a local company does not need the services of a national ISP.

You should not receive a busy signal when you dial up to get Internet access. Unfortunately, you probably will not find out about access problems until after you have become a customer. Do not hesitate to change ISPs if you are not satisfied with ease of access.

DSL and Cable Access

A growing number of Internet users now have access to high-speed, broadband connection services through a Digital Subscriber Line (DSL) or cable modem. To take advantage of DSL or cable access to the Web, you need a network card for your computer and a DSL or cable modem. These providers usually supply a modem with the service. Check to make sure that the monthly fee does not include the equipment costs for the modem. Because DSL and cable are “always-on” connections, there is an increased security risk that your network is vulnerable to hackers. If your provider does not offer network security, you must purchase a network security device, known as a gateway router, to protect your computer with a security firewall. The router allows multiple computers in your home or business to share the high-speed Internet connection, while the firewall software blocks intruders from accessing your network.

Free Utility Software

Your ISP should provide you with a **File Transfer Protocol (FTP)** application for uploading files. (FTP is a standard communications protocol for transferring files over the Internet.) Some ISPs provide HTML editors and other software as well. Some of this software may be shareware, so if you decide to keep it, remember to register with the author.

Accessible Technical Support

Technical support is not a feature, but an absolute necessity. Make sure that your ISP has competent, accessible customer service. When you are checking into ISPs, call and talk with someone in customer service. Tell him or her how experienced you are with computers, and let him or her know what you hope to accomplish (such as set up a Web site or transfer files). Note how long you are on hold when waiting to speak with customer service. Local ISPs may not have a large staff, but they probably have fewer subscribers. National ISPs have so much volume that they may keep you on hold for an unacceptable length of time.

Additional E-mail Addresses

All access accounts come with at least one e-mail address, called a Post Office Protocol 3 (POP3) account. If you are part of a group, you may want an account that has more than one mailbox so that each person can receive his or her own e-mail.

Personal Versus Commercial Accounts

Personal ISP accounts generally are less expensive than business accounts. However, you have less disk space, fewer features, and a more complex URL, such as *www.Websserver.com/users/yourname/*. Once you buy a domain name, your ISP usually upgrades you to a commercial account. Commercial accounts pay more for services, so make sure you do receive more, such as some of the features listed below.

SQL Database Support

If you are planning on any type of electronic commerce or customized data presentation, you need database support. Databases that understand **Structured Query Language (SQL)**, a programming language that lets you select information from a database, are the most common and powerful type of database.

Secure Socket Layer (SSL) Support

The **Secure Socket Layer (SSL)** is an Internet communications protocol that allows encrypted transmission of data between the user and the server. SSL is necessary if you are planning to set up an electronic commerce site or transmitting other sensitive data. Encrypting the data ensures the information cannot be read if the transmission is intercepted.

Registering a Domain Name

Domain names are managed by the Internet Corporation for Assigned Names and Numbers (ICANN). ICANN has agreements with a number of vendors to provide domain name registration services. Until recently, Network Solutions was the only vendor of domain names. As more vendors become available, the market for domain names has become more competitive. You can visit Network Solutions to see whether a domain name is available, but you may want to shop around to get the best price. The site (*www.networksolutions.com*) contains a simple form that lets you check to see whether a domain name is already registered. If the domain name is available, you can register online. Domain names currently must be renewed every two years.

For an additional fee, your ISP often can register your Web site and provide Network Solutions with all the details, such as the server's primary and secondary Internet Protocol (IP) addresses. If you prefer, you can save the cost of doing this by filling out the online forms yourself, but you still need to contact your ISP to get the IP addresses.

ISP Comparison Checklist

Use the following checklist when you compare ISPs.

- Is the ISP local or national?
- Does the ISP have enough local POPs in your area code?
- Is space available on the ISP's Web server for your Web site?
- Does the ISP offer technical support? When is support staff available?
- How many e-mail addresses do you get with an account?
- Does the ISP provide software, such as an FTP client?
- Does the ISP support the latest connection technologies? (See the "Considering Connection Speed Differences" section in Chapter 1.)
- Does the ISP offer enhanced services, such as SQL database support, Secure Socket Layer (SSL), CGI scripting, and DSL support?



Always keep a backup of your Web site files in case you have any problems during FTP transmissions, or if you accidentally delete or overwrite existing files. Of course, if you ever accidentally delete or overwrite files on your local computer, you can always use your Web site files as a backup.

Using the File Transfer Protocol to Upload Files

To publish your pages on the Web, you must send your HTML code, image, and other files to the Web server. To do this, you need FTP software, often called an FTP client. Some HTML authoring software, such as Microsoft FrontPage 2000 and Macromedia Dreamweaver, include built-in software packages that let you upload files to your Web server if your ISP supports these features. You also can choose from many shareware FTP programs to upload your files. Visit your favorite shareware site, such as Shareware.com, and search for FTP clients. Figure 11-1 is from the WS_FTP Pro application developed by Ipswitch Software (www.ipswitch.com), but most FTP clients work on the same principles.

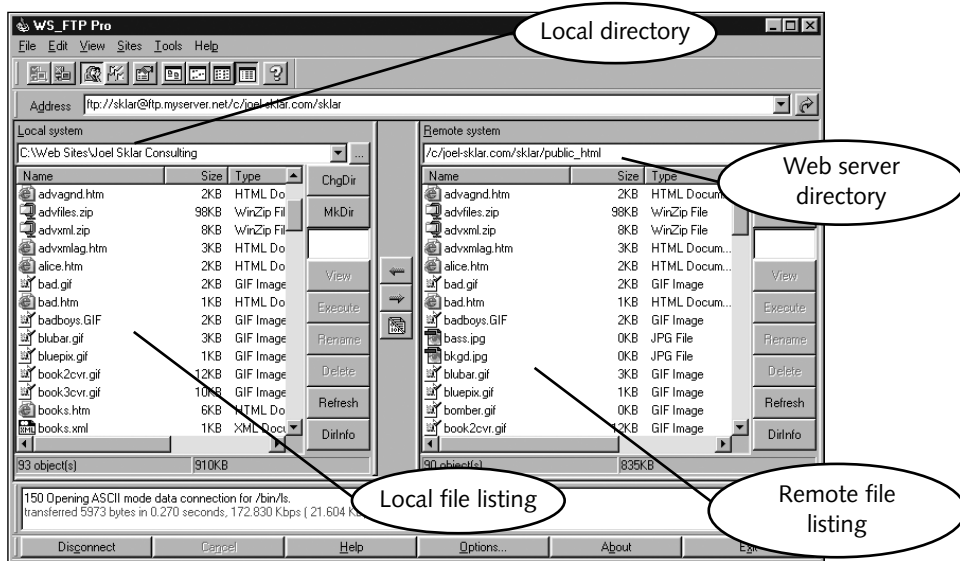


Figure 11-1 WS_FTP Pro window showing local and remote machines

When you have decided which FTP software to use, contact your ISP's customer service department and ask for the correct FTP address for the Web server. You also need your account name and password, which in most cases automatically points your FTP program to the proper directory on the server.

To upload your files, start your FTP program and connect to your Web server using the FTP information provided by your service provider. Your password allows you write access to your directory on the Web server. Once the FTP client has connected to the Web server, you have the option of choosing the files you want to transfer. The FTP client usually displays directories on both the local and remote computers. Figure 11-1 shows an FTP client with both local and remote system information.

Select the files that you want to upload in your local directory listing and transfer them to the Web server. You also can transfer files from the Web server to your computer. The first time you go live with your Web site, you must transfer all the files. Later you will need to upload only the files that you have updated. Once the files have reached the Web server, they are immediately available for access on the Web.

After you find an ISP and publish your Web site to the World Wide Web, it is time to test your Web site in the real-life Internet environment.

TESTING YOUR WEB SITE

Even though you performed tests throughout the development of your Web site, you need to continue testing after you post your files live on the Web. If possible, load your files to the Web server and test them before making your URL available for users to access the Web site. If you have enough server space, you may want to establish a testing area on the Web site. You can do this by creating a subdirectory in your public HTML directory. Do not publicize the URL so that your testing area can remain private.



TIP

As discussed in Chapter 3, make sure that you maintain the exact directory structure on the Web server that you used on your development computer to ensure that all relative file paths are correct.

Testing Considerations

Always test in as many different environments as possible. Remember to test for the following Web design variables:

- *Multiple browsers*—Test your site using as many browsers as you can to make sure your work is portable and is displayed consistently.
- *Multiple operating systems*—If you can, test your site from different operating systems. If you have a PC as a development machine, use a Macintosh for testing, and vice versa. You can even run different versions of UNIX on a PC, if necessary. Because computer chip development moves at a lightning pace, machines become outdated quickly. You can find discounted and used machines that often are Internet-capable as long as they have an updated modem. Because you won't use these machines to *develop* Web sites (only to *view* them), you do not need the latest or most powerful hardware.
- *Connection speeds*—Do not rely on the same connection speed when testing your Web site, especially if you work in a corporate environment where the connection to the Internet usually is faster than the average user's. Go to a friend's house, library, or Internet café and access your Web site from there. Test for download times at different connection speeds. According to Wired News (www.wirednews.com), 33% of Web users leave a Web site if a page takes longer than eight seconds to load. Make sure your pages download quickly.
- *Display types*—Test at different screen resolutions and color-depth settings to make sure your colors are displayed consistently. Make sure to test different color depths: 8-bit 256 color, 16-bit high color, and 24-bit true color.

In addition, continually test your links. Click through all the links on your Web site, making sure every one takes the user to the intended destination. Any pages that link outside of your Web site need to be tested on a regular basis to make sure that the destination site has not moved, shut down, or posted content different from what you expect.

User Testing

User testing can be as simple as asking a few colleagues to look at your Web site, or as complex as conducting extensive formalized testing. Some companies invest in special user testing labs with videotaping and one-way mirrors to record user behavior or software that can track users' mouse movements and eye coordination as they look at your Web site. Even if you do not need this level of sophisticated testing, you should perform some type of user assessment of your work. The goal of user testing is to determine whether your Web site is easy to navigate and provides easy access to content. Following are some considerations to take into account when planning for user testing of your site.

Vary Your Subjects

Draw your test subjects from a variety of backgrounds, if possible. Gather test subjects that are representative of your target audience. Find users with varying computing skills and familiarity with the information. Avoid using friends as test users, as they may only compliment your work. You might choose to let users look at the Web site on their own time, but you can learn a lot by watching users interact with your Web site. Make sure to let them navigate and use the Web site without any outside help from you. Just stand back and watch.

Formalize Your Testing

Formalize your testing by creating replicable methods of testing your Web site. Prepare a series of questions that users have to answer after viewing the Web site. Give them a specific task to complete or have them find a particular piece of information. Let them rate the ease of completing such tasks. Compare the results from different users to find any problem areas in navigation. Administer the same testing methods to a variety of users and watch for trends and consistencies. This lets you compare results or focus on a particular feature of the Web site.

Develop a Feedback Form

Develop a feedback form that users can fill out after they have tested the Web site. Include a set of criteria and let them rate the Web site on a progressive scale or ask them a series of open-ended questions. You also may want to provide the feedback form online, letting users offer feedback directly from the Web site. Here are some sample questions you might ask.

- Did you find the information you needed?
- Was it easy or difficult to access the information you needed?
- Did you find the Web site visually attractive?
- Did you find the content easy to read?
- Did you find the Web site easy to navigate?

- Did you think the information was presented correctly?
- Did the information have enough depth?
- What area of the Web site did you like the best? Why?
- What area of the Web site did you like the least? Why?
- Would you recommend the Web site to others?

REFINING AND UPDATING YOUR CONTENT

Refine your content and presentation based on your users' feedback. When you are evaluating user feedback, look for trends rather than individual aberrations, such as one person's vehement dislike of your color scheme. Pay particular attention to the ease of access to your information. Users should be able to find what they want quickly.

If you have a commercial site, ask your system administrator to set up a program that analyzes your visitors and their preferences when they visit. This type of reporting program, available on most Web servers, reads the communication logs created by the server and extracts information in a report format. These statistical reports vary from program to program, but they can tell you how often users visit, which pages they request the most, and how your Web site traffic varies from month to month.

Plan for ongoing maintenance of your Web site. This is vital to the success of the Web site. Plan to add new links, information, and featured content continually. The Web is a live, immediate medium, and you want your Web site to stay fresh. Test your links to other Web sites regularly to make sure they are active. You annoy your users if you send them to linked content that no longer exists. When you update your pages, inform users on your top-level page or on any page that promises up-to-date information.

Plan for major Web site design changes on a regular basis. Some Web sites reorganize their look on a yearly basis. You can perform ongoing testing and improve your test site while maintaining your live Web site. Pay attention to the trends in the industry by visiting lots of other Web sites. Consider new technologies as they become available and when the bandwidth or browser variables allow you to incorporate them.

ATTRACTING NOTICE TO YOUR WEB SITE

After you set up your live Web site, it is time to attract visitors. With the millions of pages on the Web, it can be difficult to get your Web site noticed. It is likely that you are trying to attract specific users to your site—people who use your product or who are interested in the same information. Within this narrow audience, publicize your URL as much as possible, in every collateral medium that you can, including business cards, letterhead, catalogs, mailings, and other media. Give users a reason to visit your Web site

by offering something they cannot get in any other medium, such as up-to-the-minute pricing or technical information. Give them a reason to come back to your Web site by making your information accessible and useful.

Working with Search Engines

Other than knowing your URL, consider how visitors will find your Web site. Many who are interested in a specific topic or information will use a **search engine** Web site to look for sites on a related topic. Search engines are software programs that search out and index Web sites in a catalog. The way search engines perform searches and arrange their catalogs differs greatly. You can enhance your Web site to take advantage of search engine behavior. Although the following tips can help, there is no guarantee that your Web site will rise to the top of a search engine listing.

For more information on search engine details, visit the Web site www.searchenginewatch.com. This site has search engine listings, reviews, ratings, and tests, as well as hints and tips to get your site listed properly with the major search engines.

Use Meaningful Titles

All the pages of your Web site need pertinent information in the <title> element. Some search engines read only the contents of the <title> for Web site information. Also, the contents of the <title> show up in the user's bookmarks or favorites list. Make sure to use meaningful titles that provide information to the user and accurately reflect your site.

Using <meta> Elements

You can use the <meta> elements on your Web site to raise your Web site listing with certain search engines, meaning your site will show up nearer the top of a list of search results. The <meta> tags affect your listing with AltaVista, Excite, and HotBot, but other search engines ignore them completely.

<meta> Element Syntax

The <meta> element is an empty element that resides in the <head> section of the HTML document. The <meta> element allows you to specify information about a document that is invisible to the user. Certain programs, such as search engines, can use this information for document cataloging. The <meta> element uses both name and content attributes, among others. The name attribute lets you specify a document property, such as "description" or "keywords". The content attribute contains the property's value. Table 11-1 lists the most commonly used name attribute values.

Table 11-1 <meta> name attribute values

Name Attribute Values	Description
author	The author of the page
description	A short text-based description of the content of the Web site
keywords	A comma-separated list of keywords that are potential search terms by which a user might find your site
generator	The name and version of the page authoring program that generated the site

The following code shows an example of the <meta> elements in use:

```
<html>
<head>
<meta name="description" content="Joel Sklar Consulting -
Specializing in Course Development and Delivery on Web-
related topics"/>
<meta name="keywords" content="Joel, Joel Sklar, Sklar, HTML,
XML, Web, Course Design, Course Development, Technical
Training, CSS, Cascading Style Sheets, HTML Resources, XML
Resources"/>
</head>
```

Notice that the code uses one <meta> element for each name and content attribute pair. The description property contains a short description of the Web site. The keywords property contains a list of potential search terms that the user might request.

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Be Careful with Frames

Avoid using a frameset at the top level of your Web site if at all possible. (Because frameset files have no content, they have no information to offer many search engines. If you need to use frames at the top level of your Web site, make sure to use both <meta> tags and information in the <noframes> element, as shown below. Many search engines read the contents of <noframes> if they encounter a frameset. Here is an example of a frameset with appropriate <meta> and <noframes> content.

```
<html>
<head>
<title>Joel Sklar Consulting - Main Page</title>
<meta name="description" content="Joel Sklar Consulting -
Specializing in Course Development and Delivery on Web-
related topics"/>
<meta name="keywords" content="Joel, Joel Sklar, Sklar,
HTML, XML, Web, Course Design, Course Development,
Technical Training, CSS, Cascading Style Sheets, HTML
Resources, XML Resources"/>
</head>
<frameset cols="150,*"/>
```

```

<frame src="navcol.htm"/>
<frame src="article1.htm" name="content"/>
<noframes>
<body>
The Joel Sklar Consulting Web site is a resource for HTML
authors and students.
<p>
You can view a <a href="index2.htm">non-framed</a>
version of the site.
</p>
</body>
</noframes>
</frameset>
</html>

```

Notice that the `<noframes>` code includes a link to a nonframed version of the Web site.

Use alt Text with Images

Always add alt information to all of the graphics on your page. Some search engines read the contents of the alt attribute, which is especially useful if you start your page with a graphic. Refer to Chapter 8 for more information on the alt attribute.

Submit URLs to Search Engines

One way to have search engines list your URL is to submit it to each of the popular search engine sites. The site's search engine searches your Web site and indexes the information. Periodically return to the search engine site and search for your Web site name or pertinent search terms. Some search engines are much faster at this process than others, so you may have to resubmit your URL if you do not see your page listed.

CHAPTER SUMMARY

After you plan, design, and build your Web site, you are ready to publish it on a Web server. Keep the following in mind:

- Publishing your Web site involves transferring files to a Web server. Internet service providers (ISPs) provide space on their Web servers for their subscribers. You can use a File Transfer Protocol (FTP) application to transfer the files.
- Shop carefully and compare features when you are looking for an ISP or Web host. Consider the future disk space and technology needs of your content.
- Download and learn to use an FTP client for use in the often-repeated task of transferring files to your Web site.
- After your Web site is live, test it against the basic Web variables of browser, operating system, display resolution, and connection speed.

- Test your Web site with a variety of users. Listen carefully to their feedback to identify trouble spots in your information design.
- Plan for the maintenance, upkeep, and redesign of your Web site. Keep your content up to date. Let users know when you have made updates to the Web site.
- To take advantage of search engine behavior, enhance your Web site by using meaningful titles, including <meta> elements, avoiding a frameset at the top level of your Web site, using alt attribute text with images, and submitting your URLs to search engines.

REVIEW QUESTIONS

1. How does a Web site become live?
2. What is the difference between an Internet service provider (ISP) and a Web hosting service?
3. What is a point of presence (POP)?
4. What is the Secure Socket Layer (SSL)?
5. When you are testing your Web site, how can you re-create a user's experience of his or her first visit to your Web site?
6. List the four variables to consider when testing your Web site.
7. Why is it helpful to vary your user testing subjects?
8. What are the benefits of formalizing user testing?
9. What aspect of Web site maintenance is often overlooked?
10. What is a search engine?
11. Where does the content of the <title> element appear to the user?
12. What are the two most common attributes of the <meta> element?
13. Why are frames a problem for search engines?
14. List two methods that help search engines with framed Web sites.

HANDS-ON PROJECTS



1. Browse the Web for Internet service providers and Web hosting services. A good place to start is The List Web site (*thelist.Internet.com*).
 - a. Find three different ISPs in your area.
 - b. Prepare a comparison chart listing the major features and drawbacks of each ISP. Include information on pricing options.
 - c. Choose the ISP you would use and explain why.

2. Download a shareware FTP program from the Web and set it up on your computer. (If you are working in a lab, you might not be able to perform this project.)
3. Write a test plan for your Web site.
 - a. Create a section for each design variable.
 - b. Spell out the exact steps of the test and the different variables to be tested. State explicitly which browsers and version should be used, and on which operating system. Detail the different screen resolutions and connection speeds. List the exact pages that should be tested.
 - c. Walk through the test procedure to test its validity.
4. Write a sample user feedback questionnaire.
5. Write a maintenance plan for your Web site.
 - a. Include a schedule of content updates for the different sections of the Web site.
 - b. Include a schedule of design reviews.
 - c. Plan for link maintenance.
6. Visit some of the more popular Web search engines, such as Google, Lycos, and Excite. Using each Web site's Help features, try to determine the best methods you can use to get each search engine to index your Web site properly.

CASE PROJECT



CASE PROJECTS

If you have access, publish your Web site using an FTP client. (If you cannot post your Web site to the Web, make it available on your computer.) Prepare for a round of user testing. Create a user feedback form and perform user testing on your Web site. Enlist six to ten people to review the Web site and fill out the form. Compile the results and write a paper detailing the results of the testing and what they indicate about the effectiveness of your design. Point out areas that you feel could benefit from user recommendations. Be sure to list any assumptions you made about the Web site and how users either confirmed or denied these assumptions.