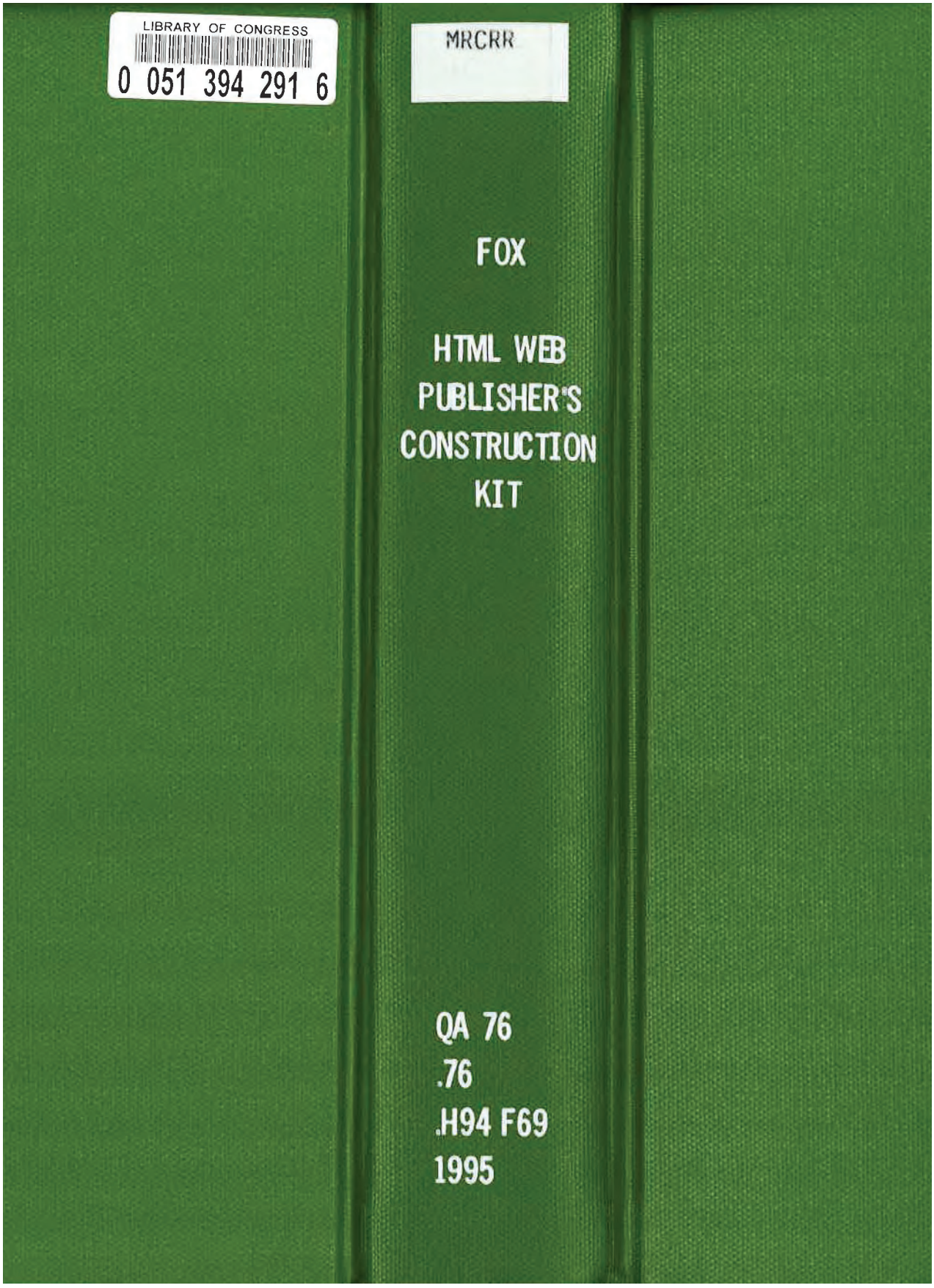
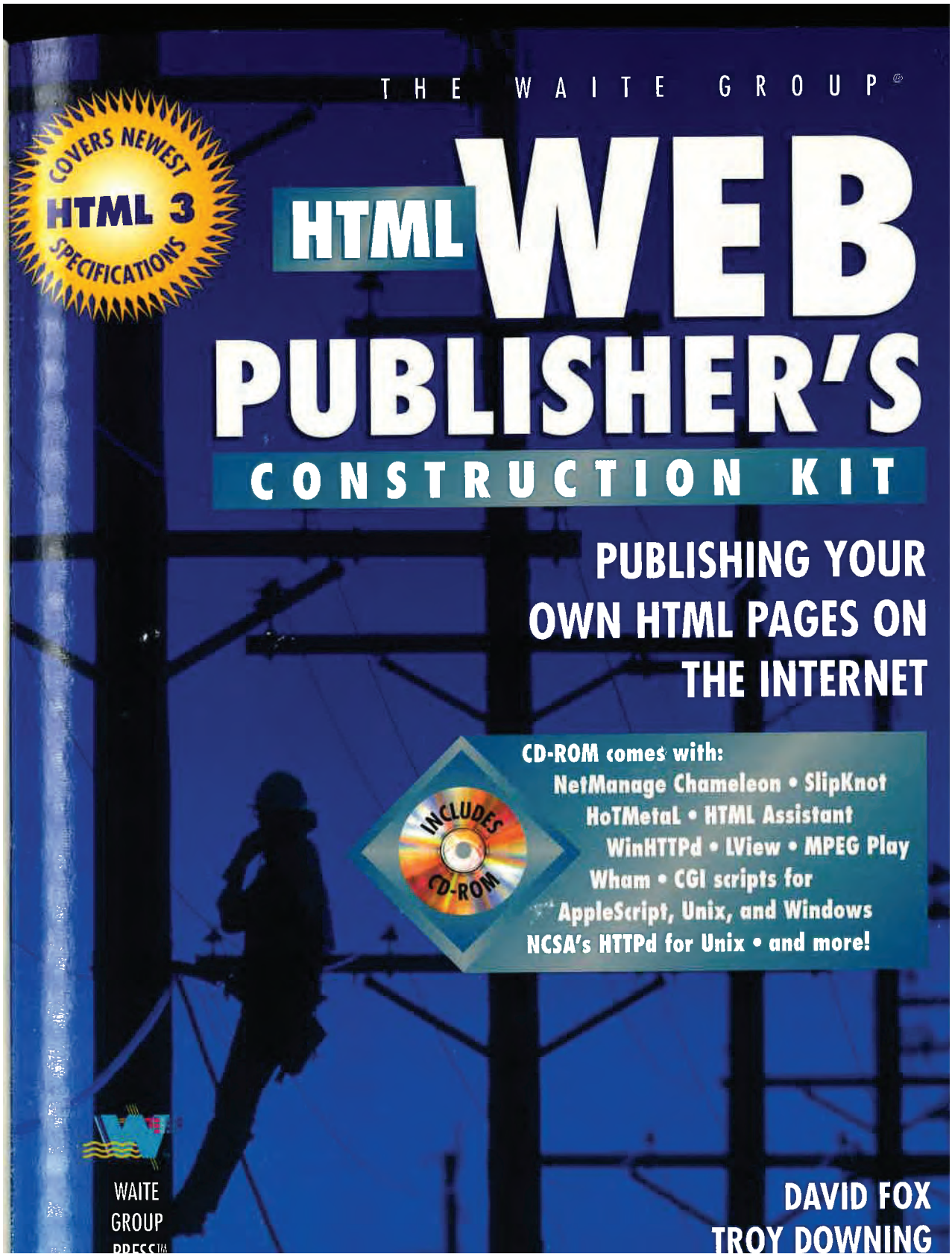


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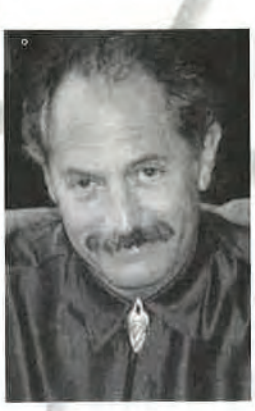
DEDICATION

To Amy. Yup, I said Amy.
— *David Fox*

I would like to dedicate this to my wife Laura for putting up with my late nights at work, and to my daughter Morgan—may this help pay your college tuition.
—*Troy Downing*

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Message from the **Publisher**



Welcome to Our Nervous System

Some people say that the World Wide Web is a graphical extension of the information superhighway, just a network of humans and machines sending each other long lists of the equivalent of digital junk mail.

I think it is much more than that. To me the Web is nothing less than the nervous system of the entire planet—not just a collection of computer brains connected together, but more like a billion silicon neurons entangled and recirculating electro-chemical signals of information and data, each contributing to the birth of another CPU and another Web site.

Think of each person's hard disk connected at once to every other hard disk on earth, driven by human navigators searching like Columbus for the New World. Seen this way the Web is more of a super entity, a growing, living thing, controlled by the universal human will to expand, to be more. Yet unlike a purposeful business plan with rigid rules, the Web expands in a nonlinear, unpredictable, creative way that echoes natural evolution.

We created our Web site not just to extend the reach of our computer book products but to be part of this synaptic neural network, to experience, like a nerve in the body, the flow of ideas and then to pass those ideas up the food chain of the mind. Your mind. Even more, we wanted to pump some of our own creative juices into this rich wine of technology.

Taste our Digital Wine

And so we ask you to taste our wine by visiting the body of our business. Begin by understanding the metaphor we have created for our Web site—a universal learning center, situated in outer space in the form of a space station. A place where you can journey to study any topic from the convenience of your own screen. Right now we are focusing on computer topics, but the stars are the limit on the Web.

If you are interested in discussing this Web site, or finding out more about the Waite Group, please send me email with your comments and I will be happy to respond. Being a programmer myself, I love to talk about technology and find out what our readers are looking for.

Sincerely,

Mitchell Waite

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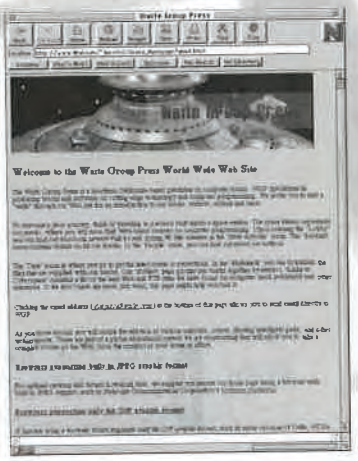
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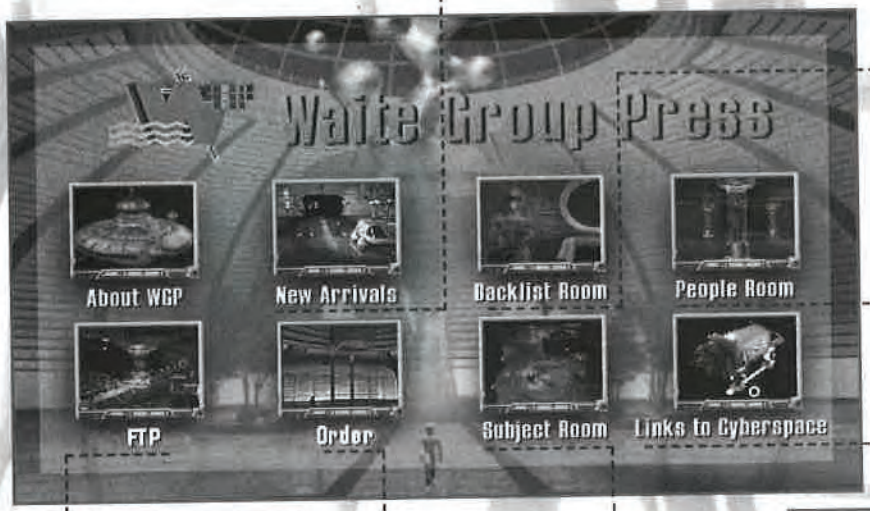
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Troy can be found at: http://found.cs.nyu.edu/downing.

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Now the personal stuff... Thanks to the friends whose nights about town I've forsaken while writing this. Thanks to Mom, Pop, and Jay (who loves to see his name in print). Thanks to Bob Dylan for the soundtrack. Thanks to Dan Scherf, who, as usual, saw this project through nearly hitchless and had a bit of fun besides (I hope!). Thanks to Jill Pisoni and Mitch Waite, who helped develop this book into the powerhouse it is. Heck—let's be fair—thanks to all the Waite Group Press for the tremendous job they did.

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INTRODUCTION

Ah, the beauty, the sheer beauty of this string of weird words:

```
http://found.cs.nyu.edu/graphics.b./student/dsf4185/html/
```

The address of my World Wide Web home page.

It took several months, from start to finish, to get the page looking the way I wanted. It started one way and ended completely different. But in the end, I loved the result. It had writing samples, artwork, descriptions of my current projects, lists of my specialties, and an easy way of letting folks visit my favorite sites around the Web. Getting my Web pages working was equal to the thrill of publishing my first book. Here was all the information I could hope to share—free, open, and offered to an audience of nearly 30 million people.

I wasn't publicizing my home page, so only a dozen or so users a day would actually stumble there. But still, that's a dozen people who know my name, who know what I'm about, who know where and how and why to reach me. And, more importantly, a dozen more people to whom I've given the gift of information or entertainment.

WHO THIS BOOK IS FOR

This is actually three books in one, as evidenced by the three sections:



A book for people who want to learn about what the Web is, how to access it, and how to navigate around using a number of popular tools. Maybe you've never heard of the Web before, or maybe you're a seasoned ol' net-dog hoping to learn some new tricks. Either way, the first section of this book, Connecting to the Web, has what you

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need. Popular software such as Winsock, The Internet Adapter, Lynx, SlipKnot, NCSA Mosaic, and Netscape are covered in full.

HTML A toolbox and guide for artists, advertisers, marketers, programmers, or professional "webspinners" who want to develop really cool stuff to put on the Web. Most likely, you think creating a Web page looks way too complicated. This book shows you that that's the furthest thing from the truth. Perhaps you've already fooled a bit with Web production and creation, but have no idea how to achieve that professional look you've seen elsewhere. Or perhaps you just want a handy reference bible in your tool belt. This section has it all, from the simplest detail to the latest hypertext specs.

HTML A tutorial on starting your own Web site, whether you're a home hobbyist or an international conglomerate. Maybe you want to start a commercial Web, renting your computer space to other Web developers. Or maybe you just want to learn about how the guts of the World Wide Web really work.

WHY THIS BOOK IS DIFFERENT

Although the Web has only recently become popular, there are many books clamoring for your attention. Some books discuss the theory and history of the Web. There are books showing you exactly how to use the NCSA Mosaic Web browser. Many act as travel-guides, indexing popular places on the Web. A few may talk about the language used to create Web pages: The Hypertext Markup Language.

This book does all of the above and more. The *Web Publisher's Construction Kit* takes you way beyond the basics. *Every* popular World Wide Web browser is covered fully, including Lynx, SlipKnot, Mosaic, and Netscape. You will learn the ins and outs of text, hypertext, artwork, fonts, images, movies, sounds, interactive forms, custom programs. This book doesn't stop at technical commands and how-tos, but it looks beneath the hood at creative issues. When you put down this book, your head should be overflowing with tons of cool ideas, along with the knowledge to implement them quickly and easily.

Further, this book delves into the mysteries of creating a Web site of your very own. This involves knowing more than what software to install and

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which commands to type. It also requires a lot of keen skill, savvy, and creativity.

Most importantly, all the Web browsers, Web servers, development tools, hypertext editors, scripts, clip art, sounds, movies, or other media you need to accomplish these goals are bundled with the book on one jam-packed CD-ROM.

All in all, this book doesn't just teach you to use the Web, put together a Web page, and create a Web site of your own; it teaches you how to do it professionally, slickly, and in complete detail. In the end, your efforts will clearly stand out in a Web which is already overpopulated with lots of boring or lackluster corners.

WHAT THIS BOOK ASSUMES YOU KNOW

This book assumes you're vaguely familiar with the online world, the Internet, and Microsoft Windows. If you've never messed with a modem, or you think Unix are the people who guard harems (sorry, a very old joke), then you should check out a good, basic Internet book, such as The Waite Group's *Internet How-To*.

Other than that, chapters in this book each have a number of lessons. Easy concepts are covered first, more difficult and obscure things come later. You can read enough to become proficient, or you can skip the easy parts and jump right into expert design, implementation, and production issues.

However you use this book, I look forward to seeing you around the Web...

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THE CHAMELEON SAMPLER

The NetManage Internet Chameleon is one of the most versatile and easy-to-use set of Internet tools in the world. Chameleon helps you sign up with an Internet provider, connect cleanly to the Internet, and access a variety of resources—including a pretty cool Web browser. The Chameleon package includes

- *Custom,* for connecting to the Internet
- *WebSurfer,* a full-featured World Wide Web browser
- *Gopher,* which lets you access any gopher menu worldwide
- *NEWTNews,* a Usenet newsreader
- *Mail,* a convenient way to send and receive e-mail
- *Archie,* which lets you search for a file over the Internet
- *Telnet,* for connecting to a remote computer
- *FTP,* for transferring files over the Internet
- *FTP Server,* which lets you allow others to download or upload files to your PC
- *Mail Utilities,* programs that help you compact or organize your mailbox files to save space
- *Ping,* to test if you're connected to a remote computer
- *Finger,* to check if a friend is connected to the Internet
- *Whois,* to get information about people registered in the NIC (Network Information Center) database

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You can sample the Chameleon tools for 30 days at no charge. If you like what you see, you can register everything for 50 bucks.

INSTALLING THE CHAMELEON



NOTE: In the installation directions here, we assume that your hard disk is the C: drive and your CD-ROM is the D: drive. If this doesn't match your computer, substitute C: or D: with the correct drive designation.

To copy the sampler software onto your hard disk, run the Setup program. While under Windows, select File, Run in the Program Manager. In the Run dialog box, type

```
d:\windows\browsers\ntmanage\disk_1\setup.exe
```

and then press the OK button.

The Setup program will ask you where to install the NetManage program. The default suggested is fine for most people. If you want it installed elsewhere, type in the drive and directory of your choosing and select Continue.

After a few moments, the Setup program will ask you to type in the path of the second batch of files. Select the *1* in *DISK_1* and change it to 2, and select Continue.

After another few moments, the Setup program will ask you to type in the path of the third batch of files. Select the *2* in *DISK_2* and change it to 3, and select Continue.

Click OK when Setup tells you that installation is complete. You are now ready to setup your Internet account!

SIGNING UP FOR AN INTERNET PROVIDER ACCOUNT

If you don't already have one, the Chameleon package makes it easy to sign up with one of several popular Internet providers. Read Chapter 1 for more information about what services are offered by Internet providers.

If you'd like to sign up using the Chameleon software, run the Automatic Internet-Click to Start icon.

To learn about a particular Internet provider, click one of the tabs (other than NetManage) in the Select Internet Provider window. Most providers give you several hours (or even a month) of free trial time. To read about the

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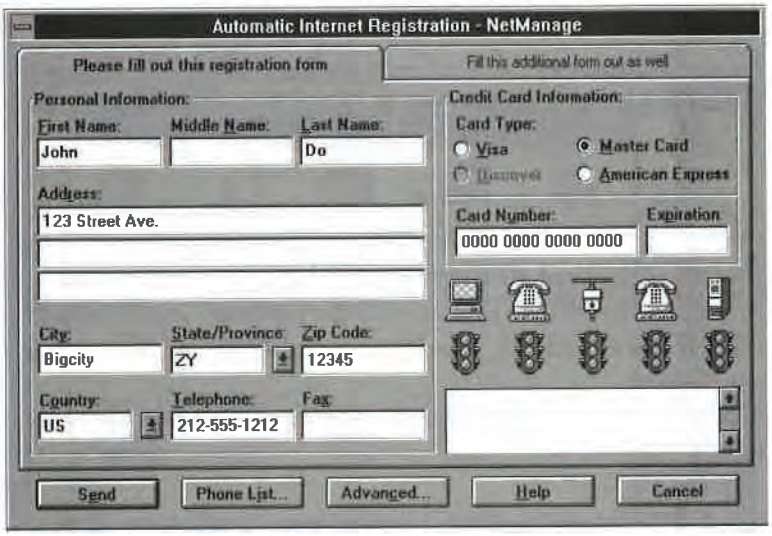


Figure I-1 The easiest way to sign up for an Internet provider

locations an Internet provider can cover, the monthly price, and other important information, click the More Info button at the bottom of the screen. If you have specific questions, contact the provider directly.

When you're ready to begin the sign-up procedure, click the Signup button. You'll see a registration screen similar to the one in Figure I-1. Fill in your name (as it appears on your credit card), address, phone number, and credit card information.

NOTE: You will not actually be charged any provider fees until you officially register with the service. You can cancel the registration transaction at any time during the sign-on process. If you do decide to register, your credit card number will be sent over a secure phone line.

As you work through the sign-up process, there may be other tabs asking for additional information. If so, click these tabs and fill in the forms.

Select the Phone List button at the bottom of the screen. The Phone List dialog appears, listing possible phone numbers you can use to register. If one of the numbers is in your area code, select it. Otherwise, select the toll-free 800 number.

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NOTE: If necessary, you can edit the registration phone number. Some systems, for example, require you to dial a 9 to reach an outside line. Just type in this 9.

When you've typed in all your vital stats, return to the first registration tab. Click Send to dial the toll-free number and begin the registration process. The icons to the right will light up as each stage of the dialing process is completed. The set of traffic lights tell you if each stage—initializing the modem, dialing, connecting, and communicating—has worked.



NOTE: You may need to click the Advanced button to specify special modem ports or commands.

Follow the instructions that appear as the registration proceeds. You will be given the option to select from various service and pricing plans. Your account information (username, e-mail address, password, dial-up number, and IP address) will automatically be configured into the Chameleon package. An interface will be created for the Custom program, which quickly and flawlessly connects you to the Internet.

That's it! You can now reboot your system to kick-start everything.

REGISTERING THE CHAMELEON SOFTWARE

If you already have an Internet account, you can set up the Internet Chameleon software (shown in Figure I-2) and start using it within minutes. Run the Automatic Internet-Click to Start program.

Make sure the NetManage tab is selected, and then click the Signup button. You can now activate the software for a free 30-day demonstration period. After this period, the Chameleon software will no longer work. If you decide to register the Chameleon package (for $50), your credit card will be charged and your software will be activated permanently.

Fill in all the information on both forms, as shown in Figure I-1, including your credit card number (it won't be charged unless you complete the registration). You may need to contact your Internet provider for the Internet information on the second form.

Select the Phone button, and choose a local or toll-free phone number. Then click the Send button to dial in to NetManage and get your software activated.

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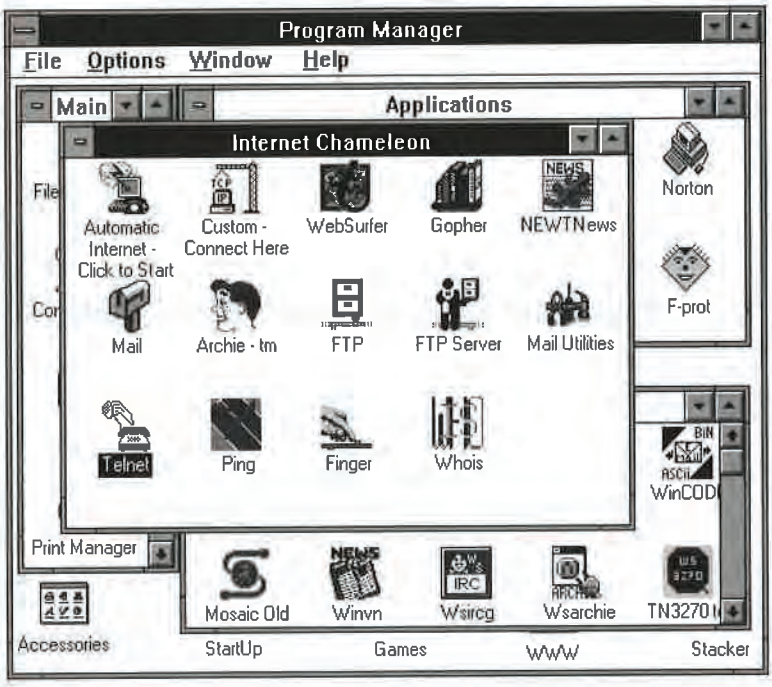


Figure I-2 The full Chameleon package in the Internet Chameleon program group

Once you connect, you are given the following choices:

- Activate your software for a free 30-day demonstration.
- Purchase your software to activate it permanently.
- Configure your connection (if your Chameleon software has already been activated).

CONNECTING TO THE INTERNET

Now that you have selected a provider and registered your software, you can actually get hooked in to the Internet. To do this, you need to run the Custom program (Figure I-3) from Windows File Manager.

If you used the Chameleon package to sign up with your Internet provider, an automatic configuration file should have already been written

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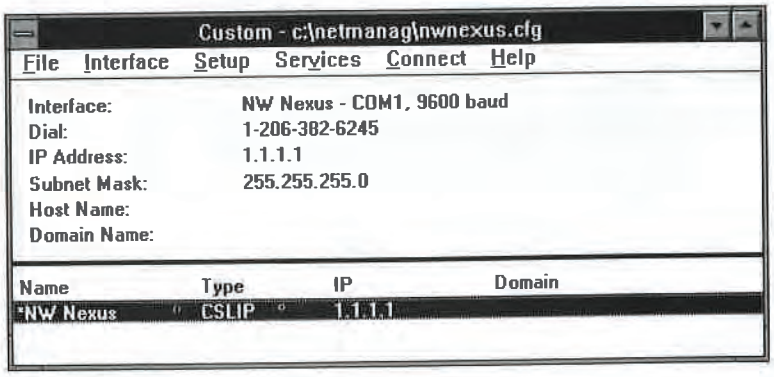


Figure I-3 Your customized on-ramp onto the Information Superhighway

for you. Otherwise, Chameleon comes with the configurations for most popular Internet providers. Select File, Open and look for the configuration file for your provider. If your provider is not listed, you'll need to contact them and ask what the proper settings are. They may even be able to send you a prewritten Chameleon configuration file.

If you do need to enter the connection settings yourself, use the appropriate values you have obtained from your Internet provider. You can verify or edit the following information under the Setup menu:

- IP Address
- Subnet Mask
- Host Name
- Domain Name
- Port
- Modem
- Dial
- Login
- Interface Name

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HTML BOOTP

You may also need to fill in the following under the Services menu:

HTML Default Gateway

HTML Domain Servers

Read Chapter 1 for more information about these terms.

Logging In

Once your configuration settings are in place, simply click the Connect menu to dial up your Internet provider and get connected. If all goes well, you should hear a small beep, and a program known as Newt will run. This program lets Windows communicate with the Internet. You can then minimize the Custom program and run the Internet application of your choice.

Logging Out

When you're done using the Internet, call up the Custom program and click the Disconnect menu.

WEB BROWSING WITH WEBSURFER

WebSurfer is a full-featured World Wide Web browser similar to Mosaic. You can read all about browsers in Chapter 2 and about Mosaic in Chapter 5. To start exploring the Web, first use the Chameleon Custom program to connect to the Internet. Then run the WebSurfer program.

Like Mosaic, WebSurfer has a toolbar (see the top of Figure I-4) that acts as a shortcut for most commands. The toolbar contains

HTML Show Connection Status: Shows you which links are currently being loaded.

HTML Go to URL: Opens a specific Web URL (defined in Chapter 1).

HTML Get URL: Reloads the current document.

HTML Hotlist: Shows the list of your favorite Web pages for you to choose from. To go to a page, just double-click on it. You can also delete pages from the list by selecting the page and clicking Remove.

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HTML Make Hot: Adds the current Web page to your hotlist.

HTML Back: Revisits the Web page you just came from.

HTML Forward: Goes to the next Web page in the series, if applicable.

HTML Home: Returns to the Web page you started from.

HTML Cancel All: Stops the loading of the current Web page.

Loading a Web Page From the Internet

Like Mosaic, WebSurfer combines text and graphics on the same page. Any text in blue or graphics with a blue border are hypertext links to other Web pages, multimedia files, or Internet areas. To load a link, just click on it.

You can also load up a document directly. Just select Retrieve, Go To URL and type in the document's exact URL. Alternatively, you can type a document's URL in the Dialog bar's URL box and press ENTER to load it.

If the document is a Web page, it will be displayed. If the document is a graphic, sound, or movie, the WebSurfer program will attempt to call up a viewer program to display/play it. If the document is any other type of multimedia file, WebSurfer allows you to save the document directly to your hard disk.

To find out more about the current Web document, select Retrieve, Properties.

Loading a Web Page From Your Hard Disk

If you have any Web pages on your hard disk (perhaps ones that you've created yourself), you can easily use WebSurfer to view them. Select Retrieve, Open Local File. Choose the file you want to view and click OK.

You can even edit the current Web document—a very handy capability for Web developers. Select Retrieve, Edit HTML. Then access the Retrieve, Refresh From Disk menu item to reload the page in a flash and see what your edits look like.

OTHER INTERNET TOOLS

The Chameleon package contains software for every Internet resource you could possibly want. To use FTP, e-mail, telnet, gopher, or any other Internet program, first connect to the Internet using the Custom application. Then

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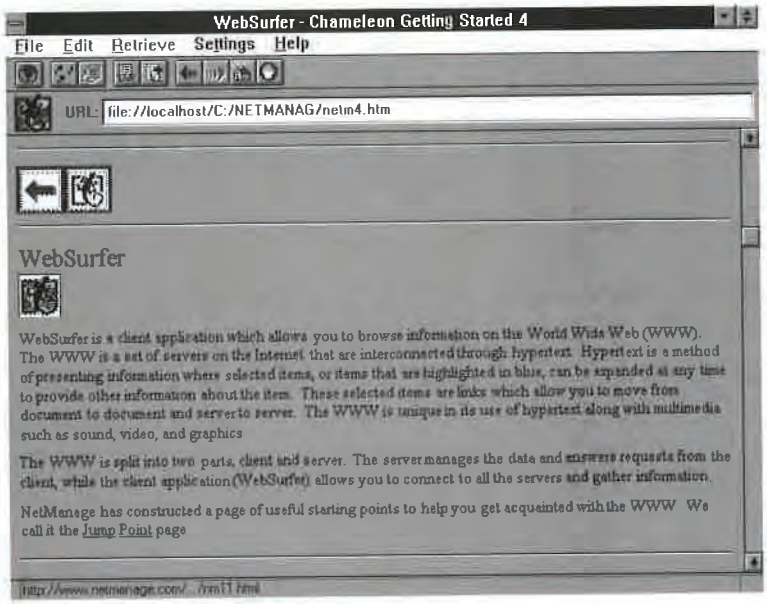
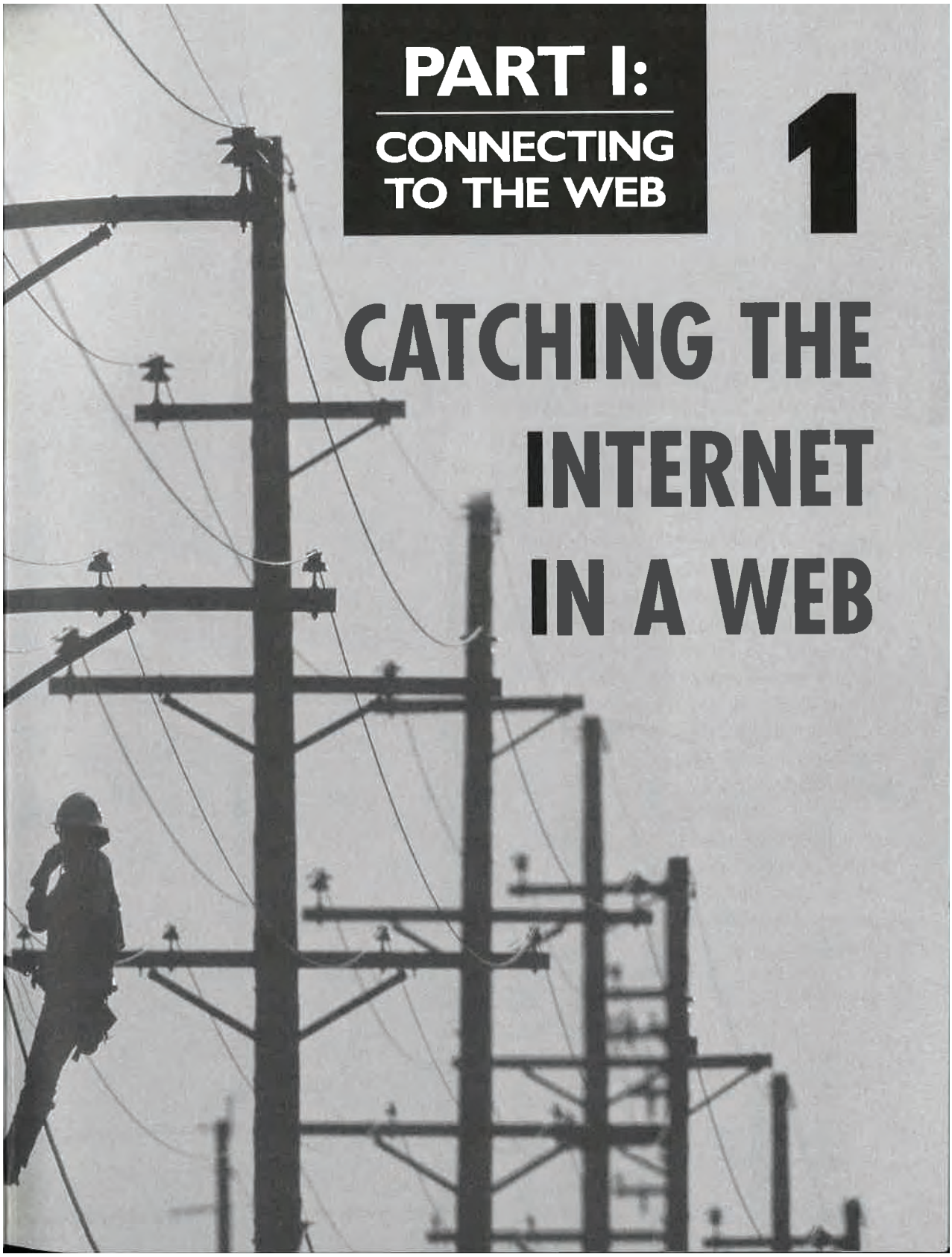


Figure I-4 The WebSurfer browser in all its glory

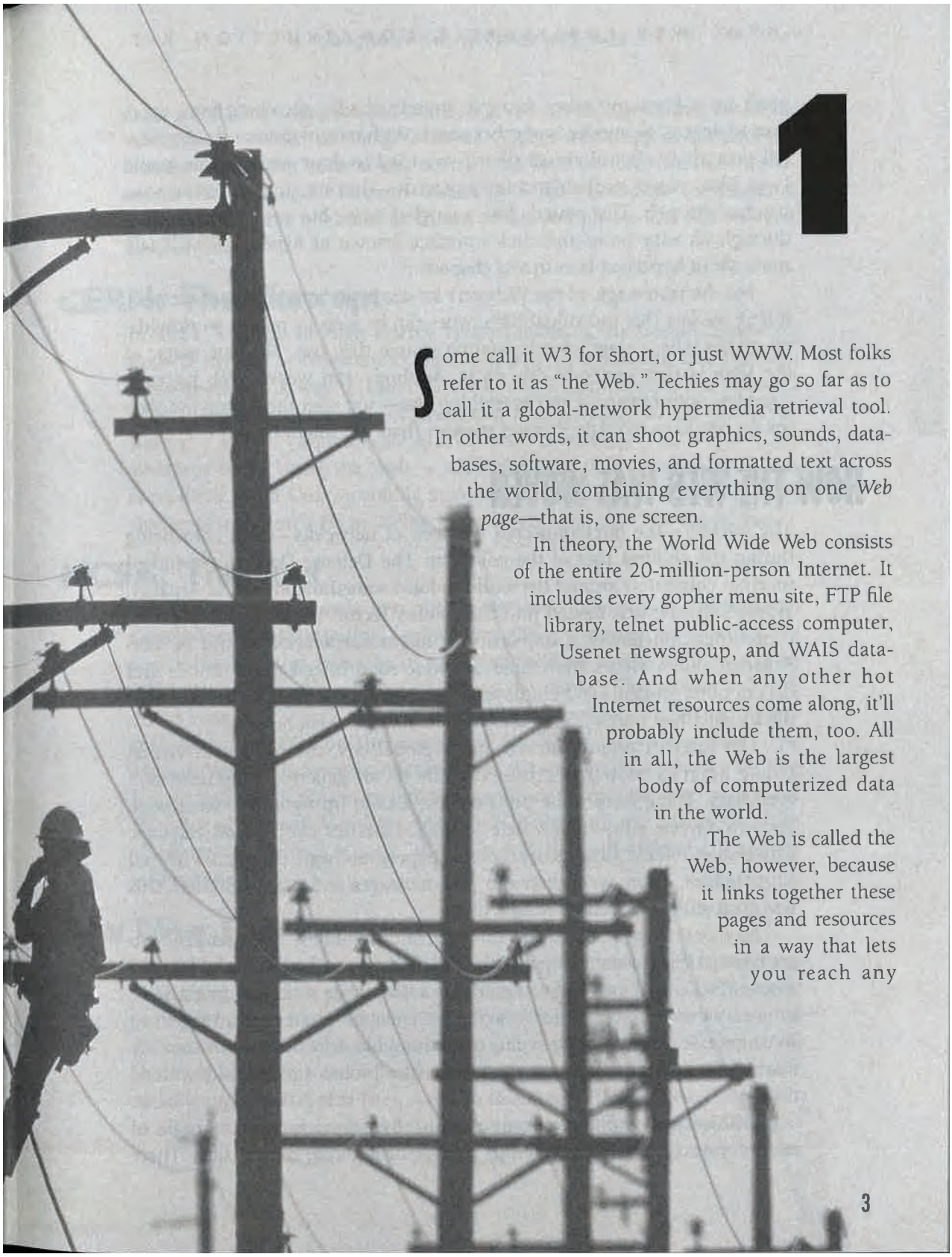
you can communicate with friends across the world using Mail, read or post messages to thousands of newsgroups using NEWTNews, browse menus of data using gopher, download tons of cool software using FTP, and much more.

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PART I: CONNECTING TO THE WEB

1 CATCHING THE INTERNET IN A WEB



1

Some call it W3 for short, or just WWW. Most folks refer to it as "the Web." Techies may go so far as to call it a global-network hypermedia retrieval tool. In other words, it can shoot graphics, sounds, databases, software, movies, and formatted text across the world, combining everything on one *Web page*—that is, one screen.

In theory, the World Wide Web consists of the entire 20-million-person Internet. It includes every gopher menu site, FTP file library, telnet public-access computer, Usenet newsgroup, and WAIS database. And when any other hot Internet resources come along, it'll probably include them, too. All in all, the Web is the largest body of computerized data in the world.

The Web is called the Web, however, because it links together these pages and resources in a way that lets you reach any

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point on it from any other. Imagine strands of silk, stretching from every spot to dozens or hundreds of other spots. With tens of thousands of potential sites, that's a lot of virtual silk. If you tried to draw what all this would look like, you'd probably come up with—that's right—an enormous psychedelic web. That sounds like a tangled mess, but you can navigate it through an easy point-and-click interface known as *hypertext*. We'll talk more about hypertext later in this chapter.

But the true magic of the Web isn't its size or its multimedia snazziness. It isn't the fact that individual Web pages can be seen by people worldwide, no matter what computer or operating system they use. The true magic of the Web is that anybody can do it. Anybody can weave Web pages—complete with hypertext and everything else—and spin them onto the Web for the world to see. And doing it is easier than you might think.

HOW THE WEB WAS WOVEN

The *Internet*—the interconnected network of networks—came into being during the chilliest part of the cold war. The Defense Department linked together computers around the world to form something known as Arpanet. Slowly this network melted into the civilian sector. Looking to expand its communication power, a university or major corporation would tie into Arpanet, and students and employees were soon linked to the minds and data of other students and employees. The Net spread like a virus. By 1993, the Internet had nearly 15 million users in almost 70 countries.

The Internet rapidly turned into a global city, complete with virtual public libraries, storefronts, business offices, art galleries, museums, and even bars. There were some private sites, locked up tight, but most were open to anyone who knew where to look. Libraries offered card catalogs. Universities offered all sorts of academic papers. Software companies offered support files. There were places to post messages and places to chat. This was great stuff. It added up to a *lot* of text.

All this text was hard to sort through, and, frankly, it had a tendency to get boring. If you wanted a particular article, first you had to find what and where it was, then you had to figure out a way to get at it. You might have to use a newsreader program to grab it. Or maybe you'd need to log in to someone else's computer by typing something like *telnet somewhere.com*. Or maybe you would have to use the file transfer protocol (FTP) to download the file.

Utilities like gopher came into being. By selecting from a jungle of menus, you could retrieve files and articles, or log in to remote sites. There

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were a few images and sounds online, but you needed specialized hardware and software to take advantage of them. Gopher was a step better than the barrage of Internet commands, but still far from perfect. Different documents were hard to sift through. It didn't feel like a newspaper or magazine or even a TV show, it felt like a blizzard of text and photos and files swirling around you.

CERN: The Concept

In 1989, a bunch of High Energy Physics dudes at the Conseil Europeen pour la Recherche Nucleaire (CERN)—led by an ambitious Tim Berners-Lee—developed a way to share all sorts of information over the Internet. CERN was an international organization, and members across the world wanted a way to communicate quickly and consistently. The World Wide Web was born. Using the Web, a team of scientists in Geneva using Sun computers and a Unix operating system could read about particle propulsion tests stored on a PC in Dallas, Texas. Everything could be hassle-free.

NCSA: The Tool

But it wasn't quite hassle-free until a few years later, when the National Center for Supercomputing Applications (NCSA) developed an attractive way to look at this universe of information. One lovely summer day in 1993, NCSA officially released *Mosaic* to the public. The Mosaic software could consistently and elegantly display Web graphics, text styles, hypertext, and other files on the same page like a sort of, yup, mosaic. The Mosaic Web browser was released as noncommercial software, for the benefit and use of the entire Internet community. Versions were created for all major platforms—Windows, Macintosh, Unix, Sun, and Silicon Graphics workstations. Before Mosaic, the Web was like a bunch of TV signals without the TV.

The New Fabric

Much like the Internet itself, the Web caught fire without really trying. New Web users put their own pages of information over the Web. This new variety of information attracted more Web readers, who in turn put more information on the Web, which in turn . . . you get the idea. Before 1993, the Web had about 100 official sites. After Mosaic came out, Web traffic steadily increased. A year later, the Web had nearly 10,000 sites.

As fast PCs and modems became less expensive, the everyday computer user could transfer large files such as graphics, movies, and sound. Soon

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these media found their way onto the Web. The old fascinating but frustrating Internet suddenly became streamlined, organized, and really, really neat to look at.

And this isn't ancient history. The most exciting aspect of all this is that it *just* happened. The Web is in its infancy right now, and it's growing fast. It seems likely that it will serve as the backbone for tomorrow's video teleconferencing, interactive television, and shared virtual reality. You can be a cyberspace pioneer by weaving your own little Web corner today.

THE WEB'S EVOLUTIONARY EDGE

The World Wide Web isn't the first tool for fishing data out of the Internet, but it's the best so far—and it will keep on evolving. Here are the features that make the Web the global superhighway hypermedia information retrieval system of choice:

- The Web is simple. Once you're online with a program like Mosaic, all you need to access a world of data is a pair of eyes, a mouse, and a healthy curiosity.
- Documents look great. Instead of plowing through endless text files, you'll find a mix of fonts, styles, and layouts. You'll even get graphics and text together on the same screen, presented seamlessly.
- The Web keeps growing. It can deal with gopher, FTP, telnet, and other Internet tools now, and built-in features will let it adapt as new standards, protocols, data types, and languages develop.
- The Web can be accessed anytime, anywhere, any which way. You can surf the Web from most any type of computer or operating system, and from any country and any part of the Internet.
- The Web lets you go anywhere even when you don't know where you're going! With hypermedia links, each Web page points to lots of others; you can skip around the Internet randomly, pursuing any topic that interests you from site to site.
- The Web has no owner. With the right equipment and software, anybody can read the Web or distribute data on it—even you.

All this sounds great, but how is it possible? Read on . . .

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WORLD WIDE WEB LAYOUT

Most any type of network consists of computers known as *clients* and *servers*. The server is a powerful computer that does all the grunt work, holding most of the files, memory, data, and resources. Individual PCs usually act as clients. Though weaker and dumber, clients exploit the mighty server.

The Web can be thought of as a vast network of data. As such, it has its own servers and clients, as illustrated in Figure 1–1. The servers hold all the Web data and dish it out, much like publishers or TV stations. The clients can access the Web data itself. Client programs like Mosaic are called *Web browsers*, since you use them to browse through the Web.

To access the Web, you need to install a browser on your computer, turning it into a Web client. Your browser then uses the Internet to connect to another computer running the Web server software. The server serves up whichever Web page your client asks for. Your client then slaps the Web document onto your screen. The Web is nothing more than a tangle of these client-server interactions, all happening thousands of times a second.

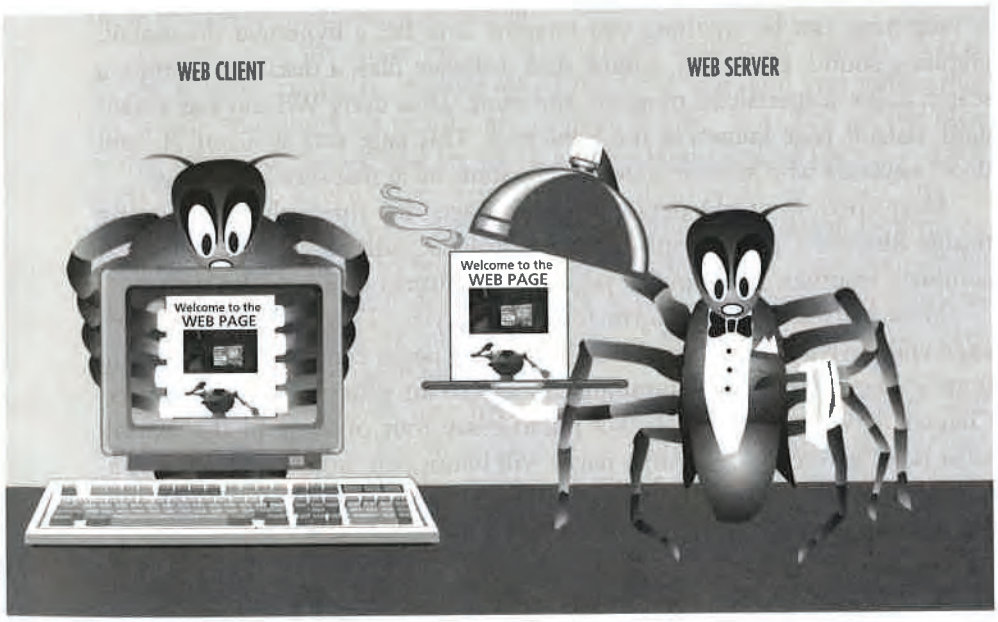


Figure 1–1 Web servers distribute Web pages; Web clients bring them to users' computer screens

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The Server

A Web server can be much smaller and simpler than you may expect. Most major Internet providers have their own Web servers. If you have a permanent Internet connection, you can even install a server on your own machine.

You can learn how to install and configure a Web server in Chapter 21, Starting Your Own Web Site. Chapter 20, Where To Place Your HTML Documents, discusses existing Web servers who can publish your Web pages for you.

The Client Browser

Since the advent of Mosaic, dozens of browsers have hit the market. Some are commercial, others are perfectly free. Each browser has its own perks, bells, and whistles. The next chapter discusses browsers in general. Chapter 5, NCSA Mosaic, is a hands-on tutorial of the Mosaic software. Other chapters discuss the popular Netscape browser, the Lynx text-only browser, and the revolutionary SlipKnot browser.

NAVIGATING WEB PAGES

A Web page can be anything you imagine it to be: a hypertext document, graphics, sound, animation, tabular data, software files, a discussion group, a search index, a specialized program, and more. Most every Web site has a standard, default page known as the *home page*. This page acts as a sort of front door. Anybody who accesses a site usually starts off at that site's home page.

Many people create personal home pages for themselves, including things like their photograph, current projects, addresses, hobbies, even complete resumes. These *author pages* stick a human face onto the Web.

Most browsers use uniform fonts and styles. This means every Web page will have a similar layout and look. Web pages can contain everything from academic articles to shopping catalogs to art galleries to travel guides. Chapter 8, What Can I Do?, is a photo-essay tour of some of the world's most popular Web pages. Some pages will haunt you, others will teach you, most will entertain you. In general, though, there are only two ways you can interact with a Web page:

- HTML Click on a *hypermedia link* to access another page, program, or Internet service
- HTML Search for a keyword within a *search index* or fill in input fields in a form

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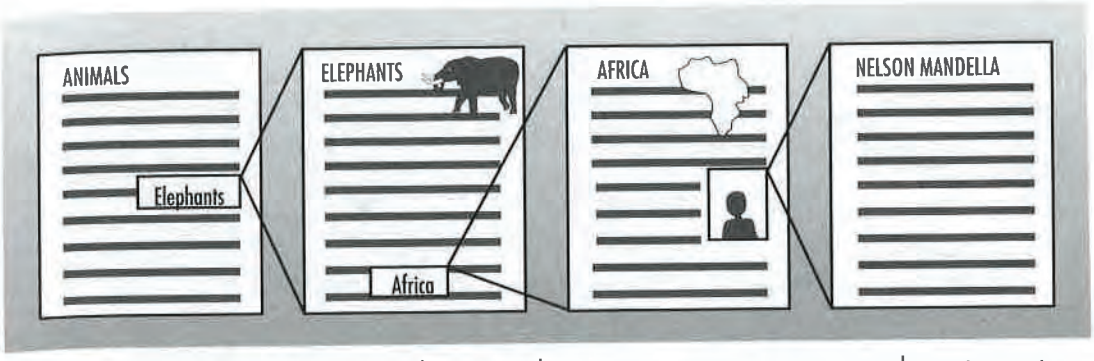


Figure 1–2 Hyper about hypermedia: a word or image on one page acts as the gateway to a different topic's page

Hypermedia Links

You're cozy in your favorite armchair reading a really good book about the Civil War when you come across a footnote that has something to do with the death of General Lee. You turn to the back of the book and find out that there's another complete book about General Lee's last days. You rush out to the bookstore and buy that book. It cites still other books. References like these let you keep on learning forever.

Hypertext is the same idea, computerized and made instant. You're sitting at your computer, reading about the Civil War, and you notice that the words "General Lee's death," are printed in blue. You click on the blue words with your mouse and an entire article about General Lee's last stand pops onto your screen. Hypertext combines documents by topics, not by sequence. That means you can jump from Tickling to Feathers to Birds to Penguins to The Arctic to Snow to Frosty-the-Snowman. Hypertext works the same way your mind does—by association. Using hypertext you can access an infinite range of data, make sense of it faster than you ever have before, and have a lot more fun doing it.

The World Wide Web uses hypertext to link all its pages together. And since a page can be a movie, a graphic, a song, a database, an Internet resource, or a computer file, hypertext melds with multimedia to form *hypermedia*. See Figure 1–2 for an illustration of hypermedia.

A Web page may have no *hyperlinks* or hundreds of them. Sometimes a Web page is nothing more than a huge list of links, all geared toward one subject. There are two types of hyperlinks:

HTML Text links

HTML Graphic links

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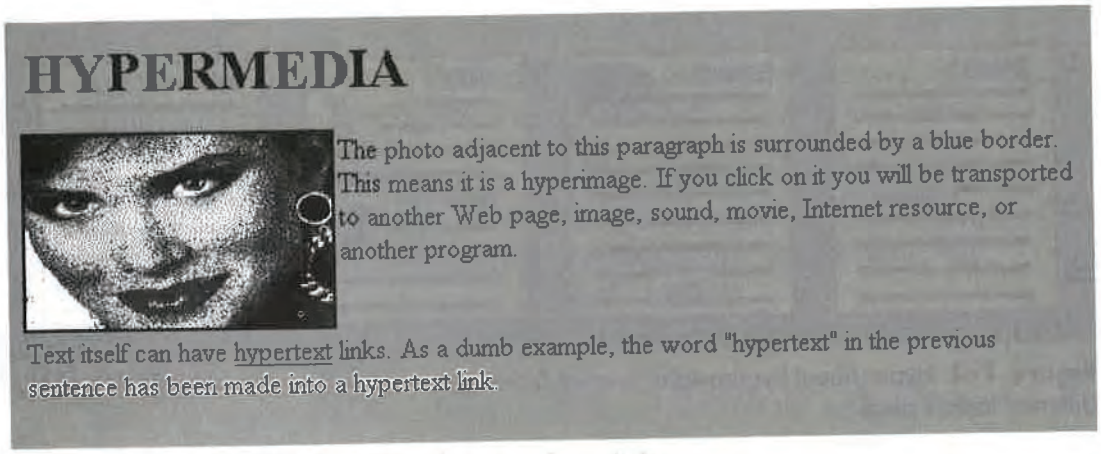


Figure 1–3 A typical Web page with various hyperlinks

A Web browser generally highlights any text link. For example, links in Mosaic and Netscape are generally underlined and colored blue, as shown in Figure 1–3. Cello surrounds the text with a perforated box. Lynx displays all links in bold print.

Graphic links may be small icons, buttons, logos, or any other photo, illustration, or design. A graphic link is usually surrounded by a blue border, also shown in Figure 1–3. To follow a graphic link, just click anywhere on the image. Some graphic links are *imagemaps*—clicking on different parts of the image transports you to different places. See the section on imagemaps in Chapter 12, Graphics, for more details.

You never know exactly where a hyperlink will take you, or exactly what will happen. Be brave, be whimsical, follow your gut. Most every browser has a Previous Page button or Back command. If you jump somewhere you don't really want to be, you can return to the previous page with the press of a key. Most browsers also have a *history list* that shows you all the pages you've visited and lets you return to any of them with ease.

Search Indexes

Hypertext makes it easy to get lost. That's part of the appeal. You can start out reading about Sperm Whales and end up reading about the Prince of Wales. But what if you want to find pages dealing with a specific topic?

Luckily, the Web is full of indexes. An index is a special Web page that allows you to type in a search term or keyword. The index then spits out a list of Web pages matching your search. You can then click on any page that

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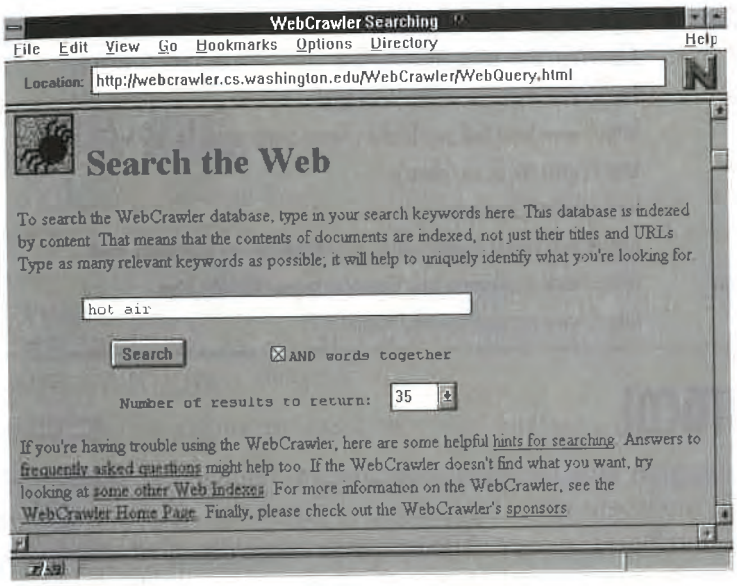


Figure 1–4 Searching for a Web starting point

catches your interest and transfer there automatically. Some indexes are manual: A person keeps track of all the Web pages he or she comes across. Others are created using *search robots*—small programs that crawl through the Web, following every hyperlink, keeping a list of every new place or topic they come across. Figure 1–4 shows a typical index search screen.

Many indexes allow you to search the full contents of thousands of Web pages. Other indexes let you search for titles, keywords, or geographical locations. Some indexes have a series of forms or menu items you can customize, allowing you to find exactly what you want. In most cases, you fill in a search term or phrase in a box and then click the Submit or Search button.

Some of the most popular indexes, and their URLs, are listed in Table 1–1. If you don't know what a URL is, check out URLs, URLs, URLs section, later in this chapter.

Table 1–1 Places to go Web hunting for that topic, file, or resource of interest

Search Index	URL
ALIWeb Archie Search	http://web.nexor.co.uk/aliweb/doc/aliweb.html
ArchiePlex Form File Search	http://www.lerc.nasa.gov/Doc/archieplex-httpd.html
CUI Index of Search Engines	http://cui_www.unige.ch/meta-index.html

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Continued from previous page

Search Index	URL
CUI Web Catalog	http://cui_www.unige.ch/w3catalog
CUSI Index of Search Engines	http://Web.nexor.co.uk/susi/cusi.html
Home Pages Broker	http://www.town.hall.org/brokers/www-home-pages/query.html
JumpStation Search Page	http://www.stir.ac.uk/jsbin/js
Lycos Search Engine	http://lycos.cs.cmu.edu
WebCrawler	http://webcrawler.cs.washington.edu/WebCrawler/WebQuery.html
WWWW: World Wide Web Worm	http://www.cs.colorado.edu/home/mcbryan/WWWW.html
Zorbamatic Title Search	http://www.rns.com/cgi-bin/nomad

THE HTTP PROTOCOL

When communication fails it's usually because of intelligence. Maybe the speaker is more intelligent than the listener, or vice versa. Or, more likely, two people are intelligent in very different ways—say, one is an expert in Swahili and the other speaks only Latin. Intelligence is a similar problem over the Internet. You can design a great way to ship data—fast, accurate, with lots of options. But unless other net surfers conform to your standard, they won't see your data.

The Web works so well because, at its heart, it's so stupid and trusting. The Web doesn't care what type of data you pump out, or what program you use to view the data. It treats everything the same. This means everybody can use their own browsers and their own data formats, and it'll all be friendly. You don't need to use different programs to access different types of data—the Web handles it all without complaining. All Web clients should be able to communicate with all Web servers.

The secret behind this is a simple, no-frills data protocol known as the *Hypertext Transfer Protocol* or *HTTP*. HTTP has the capacity to deal with most any Internet tool, file format, or resource. A Web browser client and the HTTP server communicate, coordinating things, before a Web page gets sent. If you could hear them talk, they'd sound something like this:

BROWSER: Hey, here's the page I want, here's how I want it.

HTTP SERVER: Uhh... sure. Can you handle JPEG graphics?

BROWSER: Yup. I sure can.

HTTP SERVER: Ah, good. Here you go, then. Here's your page, hot off the press.

NOTE: Web servers are usually called *httpd*, which stands for HTTP Daemon. A daemon is a program that hides in the computer's memory and is

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always active. To learn all about servers, including how to set one up, flip to Chapter 21, Starting Your Own Web Site.

URLS, URLS, URLS

A *URL* (or *Universal Resource Locator*) is the address of a document, file, or other Internet resource. If you're familiar with the Internet, you know that each person has his or her own e-mail address. Each resource also has its own address. The World Wide Web gives every article, newsgroup, database, computer, file, or other Internet fragment its very own URL. A URL can consist of these elements:

- The scheme, protocol, or type of Internet *service* the resource is using
- The name of the *host* computer on which the resource is stored
- The *port* number of the service
- The directory where the resource is stored
- The name of the resource itself
- A term to search for in an index

Some of these attributes are optional, depending upon the type of resource. The port attribute, for example, is almost never used.

A URL will typically look like the phrase shown in Figure 1–5. In general, you don't need to be an expert at crafting or even decoding URLs. A browser always shows you the current document's URL, usually at the top of the page. Whenever you use your Web browser to move anywhere or retrieve any file, its URL is shown. It's a good idea, then, to brief yourself about the basic types of URLs so when you come across them, you'll know what to expect.

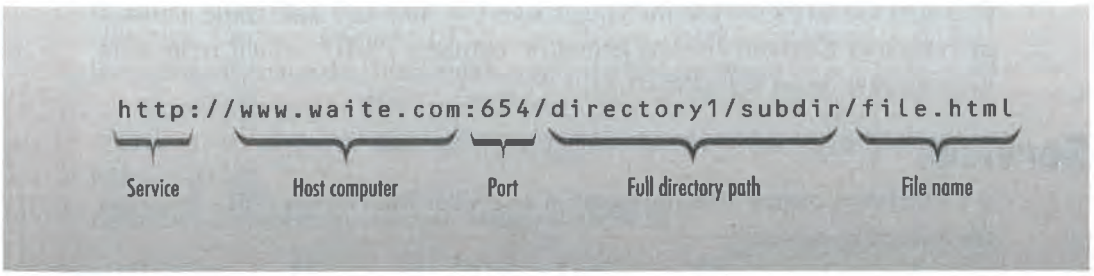


Figure 1–5 The breakdown of a typical URL

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If you're reading a magazine, newspaper, or book and come across a URL that sounds pretty groovy, you can usually just type it into your Web browser. Your browser will then retrieve, display, or save the appropriate information on your hard disk.

NOTE: Since a URL usually accesses a Unix file system, upper and lower case are important. Be careful. Most URLs are expressed in lower case. Also, unlike DOS, Unix file and directory names can be any length. Don't be surprised when you come across a 20 letter filename. Another difference is directories: Unix doesn't use backslashes and drive-letter colons. The DOS file **C:\DIR1\DIR2\DIR3\FILE.HTM**, for example, is expressed in a URL as file:**///C|/dir1/dir2/dir3/file.htm**.

The Composition of a URL

The first part of the URL is always the name of a given service (see the next section for a list of services) followed by a colon. The second part of most URLs is the full Internet address of the machine where the resource is located. A host address always begins with a double slash: //. Most addresses are located at default ports, but in some cases you need to specify a specific port by following the address with a colon and then typing the port number. To specify the default port, simply leave out the colon.

After the host computer address, you need to specify the exact directory where the given resource is located. Type a slash between each level in the directory. Finally you can end the URL with the filename of the resource. This filename can be a hypertext document, a database, an index, a text file, a sound file, a graphic, or pretty much any other computerized resource in the world.

In some cases, the filename is followed by the hash mark (#) to specify a particular section within the file. A filename may also include a question mark (?) if it is an index or fill-in form, designating a term to be searched for. Search terms following a question mark are usually separated by the plus sign (+) and may use the equals sign (=). You may also come across a percent sign followed by two letters or numbers (%d1), which represents various extended ASCII characters.

Services

A URL always begins with the name of a service. You can use URLs to access the following services:

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HTML http

HTML ftp

HTML file

HTML gopher

HTML mailto

HTML news

HTML telnet

HTML tn3270

HTML rlogin

HTML wais

New services are always being implemented as new Internet tools, protocols, and resources are created. If you come across a URL not listed here, try it out and see what happens.

Most of the time, you use URLs to call another hypertext Web page using the http service. You can also link documents to ftp file libraries, gopher menus, telnet machines, e-mail addresses, WAIS databases, or any other Internet resources. Chapter 16 discusses these resources in more detail.

Whenever you click on a hyperlink, you're actually requesting a specific URL. The Web server searches far and wide until it finds the URL, which it then delivers to your screen.

HTTP

The http service quickly and consistently calls up any Web page, text, graphic, or other supported item. Most Web pages are written using the *Hypertext Markup Language* (*HTML*), which is covered in Chapter 10. HTML files generally have the .html extension, such as *index.html*.

To reference the file *index.html* in the */web/smith/* directory of a computer at address *www.smartpants.edu*, for example, you'd use the following URL:

```
http://www.smartpants.edu/web/smith/index.html
```


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Most Web servers automatically search for a default file named *index.html* or *home.html*, depending on the brand of server and its current settings. If this is the case, you don't need to specify a filename to get an index. Just enter

```
http://www.smartpants.edu/web/smith/
```

Here are some sample valid—but fictional—URLs, ranging from the most basic to the most complicated:

HTML http://www.moolah.com/

HTML http://www.moolah.com/money/moremoney/

HTML http://www.moolah.com/money/moremoney/money.html

HTML http://www.testlabs.edu/Experiments-In-Science/Monkeys.html

HTML http://www.testlabs.edu/Experiments%2FIn%2FScience/Crocodiles

HTML http://strange.org:1234/strangness/hmm.html

HTML http://strange.org/strangness/hmm.html#novelty

HTML http://bigindex.edu.ca/reference/dictionary?cumquat

HTML http://abc.123.com:1234/abcdefg/hijk/lm/n/o/p/q/r/s/t/u/v/search?h*%20this%20now

FTP, File

A URL using the ftp or file service retrieves a file. To log into the FTP archive at Netcom, for example, you would use the URL:

```
ftp://ftp.netcom.com/
```

Most browsers then show you an index of files. Each file type may even be preceded by a special icon, letting you know whether it's a directory, a text file, an image, or whatnot. You can then click on various directories until you come across a file you're interested in. Just click on that file to download it onto your hard disk or display it on your screen.

NOTE: The Web server automatically logs you in as an anonymous user. Most public FTP sites happily accept anonymous visitors. You can, however, specify a specific username and password if you've got them; this may get you wider access to the site. See the FTP section in Chapter 16, Other Web Resources, for more information.

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You can also use a URL to access a particular directory directly. For example, the URL

```
ftp://ftp.netcom.com/pub/pc/win3/games/
```

would automatically place you in the */pub/pc/win3/games/* directory, as long as such a directory exists.

You can even use a URL to immediately download a specific file. For example, if you wanted the file *pacboy.zip* in the */pub/pc/win3/games/* directory, you would use the following URL:

```
ftp://ftp.netcom.com/pub/pc/win3/games/pacboy.zip
```

The file service is almost identical to the ftp service, but is a quicker way of retrieving local files. You can use file URLs to load and display sound, image, or text files, as follows:

```
file://www.smartpants.edu/soundoff.au
```

Gopher

To connect to a gopher menu, simply use the gopher URL followed by the appropriate gopher code:

```
gopher://gopher.uchicago.edu/
```

Most browsers print the gopher menu on your screen, complete with different icons for different types of services.

You can use the gopher service to access everything available through ordinary gopher menus: phone books, search indexes like Veronica, images, sounds, or files. For example, to retrieve a specific phone-book index, your URL would look something like

```
gopher://mainman.herenorthere.edu:1234/phones.txt
```

Mailto

This is a relatively new URL that lets you send e-mail to a specific user. For example:

```
mailto:dsf4185@graphics.cs.nyu
```

Browsers which support the mailto URL automatically enter a text editor, allowing you to fill in a subject line, return address, and message. Your browser can then send your letter across the Web, quickly and easily.

News, NNTP

Some browsers use the news service to access your news server, retrieving an entire newsgroup, a specific message, or accessing anything using

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Usenet's NNTP (*Network News Transfer Protocol*). To access a particular newsgroup, you'd use a URL similar to

```
news:alt.cream.cheese
```

You can even access a specific list of groups by using search marks like the wildcard asterisk or the question mark. For example, to see every group that starts with *alt.p*, you could use the URL:

```
news:alt.p*
```

Telnet, rlogin, tn3270

You can use the telnet, rlogin, or tn3270 services to log into a remote computer. Once you access one of these URLs your browser automatically dials up the remote system. You can use this to enter Internet-based bulletin boards, mainframes, MUD games, or other distant resources.

The telnet, rlogin, and tn3270 services are essentially the same. In general, you use telnet for most connections and tn3270 to telnet to 3270-type mainframes. A typical telnet URL would look like:

```
telnet://bbs.neato.com:1234
```

WAIS

The wais service links the Web to a *Wide Area Information Service* (*WAIS*) database or document. You can include specific search terms, databases, or other WAIS items.

ACCESSING THE WEB

You now know more about the history and theory of the Web than you really need, but you probably can't picture how everything fits together. The only way to grasp this unique medium is to experience it. Depending on where you live, the type of computer you have, and your technical expertise, connecting to the Web can range from a few minutes' work to a day or two of detailed software installation and setups. Don't sweat it too much, though. This book guides you through the steps. In fact, you may already be connected to the Web without knowing it.

What Computer Do I Need?

Most any computer worth its weight in salt can access the Web. That's part of the Web's appeal. However, this book focuses on PCs running Windows. If you have a choice, get a 386 or better PC with at least 4 MB of memory, a

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hard disk with lots of free room, and Windows 3.1 or Windows for Workgroups. To take full advantage of this book, you need a CD-ROM drive as well.

You also want a Super VGA monitor, so Web graphics look their best. It's also a great plus if your PC has a sound card and speakers, allowing you to hear speech, music, or sound effects, all at CD quality.

What About the Modem?

If your computer is already connected to the Internet through a Local Area Network (LAN) or some other direct connection, then you won't need a modem. However, in most cases you need to call up a commercial Internet provider. A modem lets your computer communicate over the phone lines.

If you want graphics, sounds, and other huge files delivered to you in less than an eternity, you need a high-speed modem. Get one of these:

HTML V.32 9600 baud

HTML V.32bis 14,400 baud

HTML V.34 28,800 baud

The V.32, V.32bis and V.34 specifications are very important. These are standard protocols used by most Internet providers, so you want your modem to use them too. Modems using other protocols will usually transfer data just fine, but not at their advertised best speeds.

If you're just buying a modem, the V.32bis 14,400 is probably the most cost-effective choice, providing a good mix of speed and economy. You should also stick to a brand name; they don't cost much more than no-name brands, and they're less likely to have bugs or other errors to slow them down.

NOTE: If you want to use a 2400-baud or slower modem to access the Web, you should use a text-only browser like Lynx. This browser doesn't require a direct SLIP Internet connection: any Internet account will do.

What Type of Internet Account Do I Need?

You have several choices. The most convenient way of accessing the Web is to become part of a network. If you belong to a large corporation, organization, military group, or university, your institution probably already has Internet access. If your machine is connected to a Local Area Network (LAN), then all you may need is some software allowing your PC to

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communicate via the Internet. Ask your system administrator if your personal PC has Internet connectivity. The system administrator can also help you set everything up.

If you're using a home computer, however, you need to use your modem to connect to the Internet. In most cases, the easiest way to do this is to call up a commercial Internet provider and use its computing power.

You may already be connected to the Internet through a standard *Unix shell* account. This means you dial up a service using a terminal emulator and can type commands like *telnet, ftp, gopher,* and *mail.* In most cases, this standard shell account is not powerful enough to connect efficiently to the Web. Instead, you need to make your home computer an actual part of the vast network. This requires network-level access, which is known as SLIP or PPP. However, there are several options available to the standard Internet user.

The next few sections cover these methods of hooking up to the Web:

- SLIP and PPP accounts
- Standard Internet Unix shell accounts running a text-only browser
- Standard Internet accounts running the SlipKnot browser, a full graphical browser that runs hand-in-hand with Lynx
- Standard Internet accounts running The Internet Adapter, a complete SLIP emulator for the Unix shell

SLIP ACCOUNTS

SLIP has nothing to do with banana peels. Rather, it stands for *Serial Line Internet Protocol. CSLIP* is compressed SLIP, a variation typically used over the telephone. *PPP* is the *Point to Point Protocol.* All three protocols do the same thing for you: they let your computer connect directly to the Internet through phone lines instead of through network wires.

If you have a regular old Unix shell, your computer acts only as a window for another large computer, somewhere up in some office building, which is attached to the Internet. A SLIP account skips the middleman—your personal machine actually becomes another corner of the Internet (see Figure 1–6). This means you can easily and conveniently use any PC Internet client, including Mosaic, Netscape, or any other Web browser that comes along. You can also use a SLIP account with cool graphical Windows Internet programs like WinGopher, the Trumpet Winsock newsreader, or

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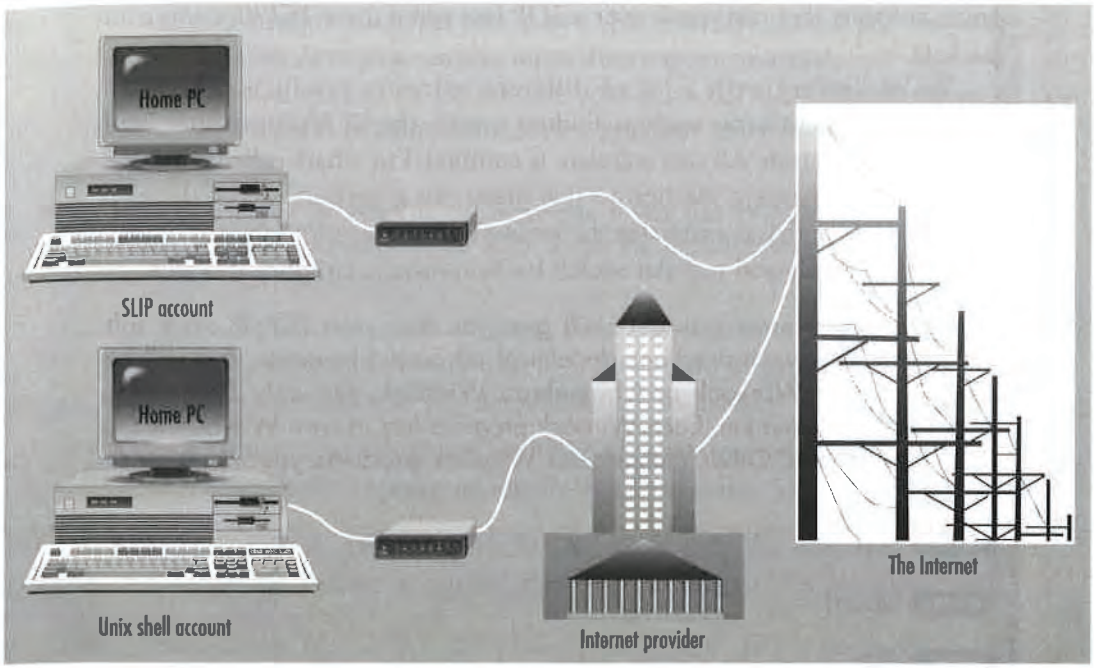


Figure 1–6 A SLIP account compared to a standard Unix shell account

Eudora e-mail. These shareware products are discussed in Appendix B. SLIP access is also generally faster than a Unix shell.

Most every major Internet provider is beginning to offer SLIP or PPP accounts. Some of the most popular are listed in Appendix A, Internet Providers. SLIP often costs a few dollars more than a standard Unix shell account, though prices are steadily decreasing. You should be able to find an unlimited SLIP account for about $10 to $20 per month.

TCP/IP

SLIP itself just connects your machine to the rest of the Internet. But just as a telephone line is worthless without a telephone, a SLIP account is worthless if it can't carry data back and forth. To do anything useful with SLIP, you need to speak the same language as the rest of the Internet: the *TCP/IP, Transmission Control Protocol/Internet Protocol.*

The Internet is comprised of millions of machines worldwide. TCP/IP is the standard they all use to talk to each other. Every Internet client or Web browser speaks using TCP/IP *packets*—small bundles of computerese. Before you can do anything with your account, you'll need some pretty

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smart software that can speak over a SLIP line using these TCP/IP command packets.

We're dealing with a lot of different software products: The Web browser, Internet clients such as Eudora e-mail, the TCP/IP translator, and the SLIP connection. All this software is combined in what's called a TCP/IP *stack*. Luckily, there's a solution to this mess: put a sock in it. Yes, there's a type of software that coordinates the whole TCP/IP stack for you: the *Socket*. The most versatile and popular socket for Windows is Trumpet Winsock.

NOTE: Many Internet providers will give you their own TCP/IP stack software, with its own instructions. In almost all cases, however, this will be either Trumpet Winsock or Chameleon Winsock, the only Shareware Winsocks on the market. Each Winsock program has its own *WINSOCK.DLL* Windows library. Other commercial Winsock products you might come across include:

- Spry
- Novell
- FTP
- NetManage
- PC/NFS

Installing and Configuring Trumpet Winsock

Trumpet Winsock can be found at the site listed in Appendix D. To install everything, just unzip and copy the entire directory to your hard disk. You may want to create a directory similar to

```
C:\WINSOCK
```

You now have a choice. If you're familiar with DOS, you can add this directory to your path by changing your AUTOEXEC.BAT file. For example, if your current path is

```
PATH C:\WINDOWS;C:\DOS;C:\UTIL
```

then you add your Winsock directory to the end of the line, after a semicolon:

```
PATH C:\WINDOWS;C:\DOS;C:\UTIL;C:\WINSOCK
```

You should now reboot your computer to make the new path take effect.

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If you prefer, you can just move the *WINSOCK.DLL* file to your C:\WINDOWS directory—or any other directory in your path.

You should also set up an icon for WinSock's *TCPMAN.EXE* file in your Windows Program Manager, since it's a program you'll be accessing quite often.

NOTE: Trumpet Winsock is not freeware. If you use Winsock regularly, you should register your version for $20. Read the registration information in the included INSTALL document.

You now need to set up Winsock so it knows how to communicate. At this point, you should already have a SLIP account at an Internet provider. Your provider should give you the following information:

- Phone. The telephone number of your Internet provider's SLIP computers. This should ideally be a local call.
- Username. The name you'll use to log in to the system; it may be your last name, a combination of your initials, or a meaningless ID number.
- Password. The code you'll use to assure the system that you're the one using your account. It can be any series of letters or numbers. Keep track of upper and lower-case letters—if your password is Froggie, "froggie" may not get you into the system.
- IP Address. Your provider's Internet Protocol address, in the IP number form 1.2.3.4. The value for this may be the word *bootp* (in lower case) or the value 0.0.0.0.
- Name Server. The IP number of the machine you'll be calling to look up Internet domain names.
- Gateway. The address of the Internet gateway or router being used.
- Time Server. The IP number of the Time server machine. Usually unused or the same as the Name server.
- Domain Suffix. The address of your Internet provider, in the form *name.com*. You may need several of these.

The first time you run Winsock, the Network Configuration window appears, as in Figure 1–7. To return to this window in the future, select File, Setup.

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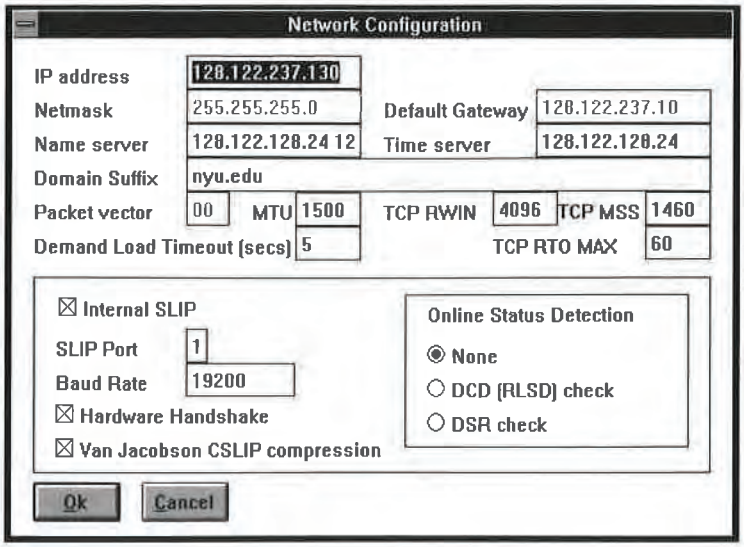


Figure 1–7 Configuring Trumpet Winsock

Check the Internal SLIP check box. Type the COM port your modem is connected to in the SLIP Port box. This should be a number from 1 to 4. For example, if your modem is wired to COM2, type 2. Fill in your modem's maximum baud rate. Do not use commas as part of the number. If you're running 14,400 baud you should fill in the maximum data rate:

```
19200
```

Select the Hardware Handshake checkbox unless your Internet provider tells you not to. Typically, you need to check the Van Jacobson CSLIP Compression box too. This means you'll be using CSLIP instead of SLIP, which is a common way of sending SLIP over telephone lines. If you know your modem can handle DCD (RLSD) or DSR Online Status Detection, you can click one of these values. Otherwise, click None.

You can now fill in the IP Address, Name Server, and other values. If you're supposed to use several Domain Suffixes, separate each by a space. You now need to fill in some specific data speed values. The values for these depend on whether you're using SLIP or CSLIP compression. If your Internet provider doesn't give you exact values, try the defaults:

HTML MTU. This is the Maximum Transmission Unit, which depends on the Maximum Segment Size (MSS). Winsock recommends you use the MSS value plus 40.

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HTML TCP RWIN. The TCP Receive Window. Winsock recommends you use your MSS number times 3 or 4.

HTML TCP MSS. The TCP Maximum Segment Size. This number should be around 512 for SLIP or around 255 or less for CSLIP.

You should leave all other values at their defaults, unless your Internet provider tells you otherwise. When everything is filled in, click OK. A message appears, letting you know that you must restart Trumpet Winsock before any of your settings will take effect. Exit Winsock by selecting File, Exit and then reload it.

NOTE: If your machine is connected directly to the Internet through a Local Area Network, you need to install a TCP/IP packet driver such as WINPKT. You can then use SlipKnot to handle the stack. Internal SLIP should be unchecked. Ask your system administrator for the value of your institution's IP Address, NetMask, Default Gateway, and all other values.

Manual Login

You now need to call your Internet service provider to be sure everything works. At first, make the call manually. Eventually, you want to create a script file that can automatically dial the Internet provider, log in using all appropriate names and passwords, and start up your SLIP connection using the proper commands.

To use the manual login, select Dialler, Manual Login. The following message should appear:

```
Manually dialing.
AFTER LOGGING IN, PRESS THE <ESC> KEY TO RETURN TO NORMAL SLIP
PROCESSING
SLIP DISABLED
```

You now need to use your modem's built-in dialing commands to call up your Internet provider. The dial command is ATDT followed by a valid phone number. For example, if your Internet provider is located at 555-1234, you would type

```
ATDT 555-1234
```

The Winsock program then becomes a generic terminal-type communications program. What you type next depends on your Internet provider. The provider should give you full instructions. In some cases, you may need to type the word *SLIP*, or just press ENTER. In any case, you should eventually see a login prompt similar to

```
login:
```


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Type your username and press ENTER. You should now be asked for your

```
Password:
```

Type in the password. In most cases, you need to start the SLIP protocol by typing the word

```
slip
```

A message similar to the following should now appear:

```
Switching to SLIP.
Annex address is 123.456.789.10. Your address is 123.456.7.8.
```

What you do next depends on whether you have a *static* SLIP account or a *dynamic* one. If your Internet provider assigned you your own personal IP number then you have a static account and everything should be set up fine. You should now run the *bootp* protocol, to get specific addresses, ports, and other information from your network. In most cases, you need only type:

```
BOOTP
```

Press ESC to stop the manual login process. The following message should appear:

```
SLIP ENABLED
```

However, many Internet providers use dynamic accounts instead of static ones. These providers have several valid IP numbers, and assign them on a per-call basis. When you dial in on a dynamic account, you get one of the IP numbers no one else happens to be using at the moment. To finish the login process, you need to select File, Setup and type your assigned IP number in the IP Address box. Click OK. A message appears, telling you that you need to close Winsock before any change can take effect. Press the ESC key, exit Winsock (by selecting File, Exit), and then restart Winsock.

You can now run Mosaic, Netscape, Eudora, FTP, or any other whizbang Internet software. If things don't seem to be working, check out the Shooting Down Troubles section later in this chapter. Otherwise, you're ready to set up an automatic script.

Login Scripting

If your manual login seemed to work just fine, it should be easy to create an autopilot that dials you up, logs you in, and sets everything running. Many Internet providers can give you a customized Winsock script file if you ask. The file should be called *login.cmd*. Copy the file to your Winsock directory. To log in now, just select Dialler, Login.

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NOTE: You can have Winsock automatically call your Internet provider every time you run it. Select Dialler, Options. Click the Automatic Login On Startup Only radio button and select OK.

There are several useful script commands you need to know:

- *input <timeout> <message>*. Waits <timeout> seconds for the <message> to appear.
- *output <message>*. Sends the <message> over the modem.
- *password <prompt>*. Open a dialog box asking the user for the password.
- *username <prompt>*. Open a dialog box asking the user for a username.
- *BOOTP*. Run the bootp protocol.
- #. A comment.
- \13. Send a carriage return; the same as pressing the ENTER key.
- \i. Send the specified IP address.
- \p. Send the password that was obtained in the Password dialog box.
- \u. Send the username that was obtained in the Username dialog box.

The idea is to write a small program that mimics the exact steps you performed during the manual login. Every script begins with the ATDT dialing command. You should then wait for a specific prompt. For example, if the first thing your Internet provider requires you to do is type *login* at the *Welcome>>* prompt, the beginning of your script would look like:

```
#Call up your Internet provider
output atdt555-1234\13
#Wait for the CONNECT message
input 30 CONNECT
#Send <ENTER> to kick the system into action
output \13
#Wait for the Welcome>> prompt; you only need to specify the last
#few letters.
input 30 come>>
#Type the login command
output login\13
```


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The best way to begin writing a script is to edit Winsock's sample login script and fill in the proper phone number or connect values. Select Dialler, Edit Scripts. The File Open dialog box appears. Select the *login.cmd* program and choose OK. A sample script follows. You should replace the sections in boldface print with valid values.

```
# Dial-in script to a typical SLIP Internet provider
#
#                       Initialize modem:
output at\13
#              Wait for 'OK' from modem
input 10 OK\n
#              Dial the Internet provider's phone number
output atdt555-1234\13
#              Wait for the CONNECT message
input 30 CONNECT
#              Wait for Username: prompt
input 10 name:
#              Prompt user for username using a dialog box
username Username
#              Type out that username
output \u\13
#              Wait for Password: prompt
input 10 word:
#              Prompt user for password using a dialog box
password Password
#              Type out that password
output \p\13
#              Invoke the SLIP protocol by typing the word "slip"
#                      You may have to move this line prior to the
#                      logging-in step.
output slip\13
#              Wait for IP address string
input 30 Your address is
#              Parse address (for dynamic SLIP accounts)
#                      If you have a static slip account you can
#                      delete the next line
address 30
input 30 \n
display \n
display Connection Attempt Complete!
display \n
#              Get network information using BOOTP protocol
BOOTP
```

Logging Out

To hang up manually, select Dialler, Manual Login. Type three plusses:

```
+++
```

and then type the modem hang-up command:

```
ATH
```


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You can also log out using the standard logout script. Select Dialler, Bye.

UNIX SHELL WEB BROWSERS

A Unix shell is the traditional way of accessing the Internet from a home computer. You dial up an Internet provider's modem and, using a terminal program, you control the provider's computer and talk through it to the Internet.

This gives you command of the Internet, but it has many limitations. Since you're using somebody else's computer, you are limited to a simple form of communication. In most cases, you can only view or type text. Anything like graphics gets far too complicated.

A SLIP account actually makes your home computer a part of the Internet. But sometimes even SLIP isn't the answer. For instance:

- Your modem may be too slow; less than 9600 baud
- SLIP may be too expensive in your area
- There may be no local SLIP provider
- Your computer may not have the resources to run SLIP
- You're already connected to the Internet using a great Unix shell and don't want to give this up

Just because you're limited to a Unix shell account doesn't mean the situation is hopeless. Far from it. There are several surefire ways to access the Web from your Unix shell. The easiest way is to use a Unix-shell-compatible Web browser, such as the text-only Lynx or WWW or a graphical browser such as SlipKnot.

Text: Lynx or WWW

The simplest solution is to get a text-only browser like Lynx or WWW. These browsers run on your Internet provider's Unix machines, not on your home PC. Most Unix servers, however, should already have a working copy ready for you to use. Lynx and WWW allow you full access to the Web with one catch: You won't be able to see any graphics, hear any sounds, or be wowed by any other multimedia perks. The Lynx browser is covered fully in Chapter 3. If you can't run a local version of Lynx or WWW, you can telnet to it. See the Telneting To A Public Browser section in the next chapter.

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To access Lynx or WWW, you can usually just go to your Unix prompt and type

```
lynx
```

or

```
www
```

Graphics: SlipKnot

MicroMind's SlipKnot is a terribly clever graphical Windows Web browser that works using dial-up Unix shell accounts. You need no SLIP, PPP, or TCP/IP software of any kind. SlipKnot loads up Web pages much more sluggishly than a SLIP Web browser, but if your modem is fast enough it's a very viable option. SlipKnot also has a number of other nice features. For instance, once you load up a Web page, you can load it again instantaneously. You can also view several Web pages at once.

SlipKnot is covered fully in Chapter 4.

THE INTERNET ADAPTER

If you can't access a SLIP account, the best solution is to emulate SLIP over your Unix shell. For $25, The Internet Adapter (TIA) software by Cyberspace Development, Inc., does this task most excellently. If Winsock is the socket, TIA is the three-pronged adapter that plugs the Internet into your home computer. Once TIA is installed, you can use Mosaic, Netscape, or any other multimedia Internet tools, the exact same way you would over a true SLIP line. A Unix Internet account equipped with TIA usually runs just as fast as any other SLIP.

Since TIA rides atop your standard Unix shell, it's a good idea to be fairly familiar with basic Unix and Internet commands before you try installing it. You might want to check out a command-line Internet book such as the Waite Group's *Internet How-To*.

NOTE: If a SLIP account costs much more per month than a standard Unix shell account, The Internet Adapter often pays for itself quickly.

Determining Your Unix Platform

The Internet Adapter does not run on your home PC—it is Unix software and is stored and accessed on your Internet provider's hard disk. Before you install TIA, be sure you have enough space. If not, you may have to request

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or buy additional space from your Internet service provider. Also beware: Some Internet providers do not allow you to use TIA because it interferes with their regular SLIP service.

All Unixes are not built the same. There are many platforms, or flavors, of the Unix operating system. Likewise, there are many different versions of TIA depending on which Unix shell you are using. TIA supports the following hardware/operating system configurations:

- Sun Sparc: Solaris 2.x or SunOS 4.1.x
- 386/486: BSDI 1.x, SCO, or LINUX
- DEC Alpha: OSF/1 2.0
- DEC: ULTRIX 4.3
- IBM RS/6000: AIX 3.2
- SGI: IRIX 4.0
- HP 9000: HPUX 9.0

If you're not sure what system you're using, you can ask your Internet provider. Alternatively, you can run a special script program to help you guess your brand of Unix. This script is not PC software. You'll need to use your Unix shell account to download the script directly via FTP. To log in to the FTP archive, type

```
ftp marketplace.com
```

When asked for a login name, type

```
anonymous
```

When asked for your password, type your e-mail address. Now type the following sequence of commands at the *FTP>* prompt to grab the file:

```
cd tia
ascii
get config.guess
bye
```

To make the script executable (able to be run), type

```
chmod u+x config.guess
```

And then type the following to run the script:

```
./config.guess
```


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If worst comes to worst, you can download each version of TIA and try them out until you find one that seems to work.

Getting Your License Code

Since there are several different versions of TIA, you need to download TIA directly from its creators. Cyberspace Development issues free evaluation copies of TIA that you can try for 14 days. After that point, the software is automatically disabled.

To get a copy of the evaluation software, you need to order it, along with your own personal license code. To snag the order form, send a blank e-mail letter to: *tia-single@marketplace.com*. With most Unix accounts, you would type:

```
mail tia-single@marketplace.com
```

You could then press ENTER when asked for a subject and press CTRL-D to send the blank letter.

Cyberspace Development mails a user form to you immediately. When you get the form, load it up using any text editor and fill it in. You should fill in an answer to each question between the dotted lines and after the colon. For example, when it says:

```
-------------------------------------------|
# FIRST NAME:
-------------------------------------------|
```

you would put the cursor after the colon and type

```
-------------------------------------------|
# FIRST NAME: David
-------------------------------------------|
```

assuming, of course, your first name actually was David. Be sure to put an *X* next to the Evaluation order type when asked, unless you'd like to use your credit card and order a registered copy of the software right away.

```
-------------------------------------------|
# ORDER TYPE: Evaluation (X) Purchase ( )
-------------------------------------------|
```

When you're done, mail back the completed form to *tia-single@marketplace.com*. If you have any questions or problems with this process, you can send mail to:

```
tia-order-desk@marketplace.com
```

NOTE: After evaluating TIA for 14 days you may decide to buy a registered license code. You can resubmit the same form, this time including your credit

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card or other payment details. You can also order TIA by phone using a credit card by calling SoftAware at 310-314-1466.

Shortly, you get two messages back: your License Code and Installation Instructions.

Getting the Software

Once you receive your TIA Evaluation License Code, save the e-mail message in a file in your *home directory* called *.tia*. You can do this using the extract command of your Unix mail program. Read the e-mail message that contains your TIACODE and then type:

```
s .tia
```

Alternatively, you can create the .tia file in your current directory using your favorite Unix text editor. Print or write down your TIACODE, Login Name, and Domain Name. You can then create a *.tia* file that looks similar to the following:

```
TIACODE:abcd22ggdg2h3g4yutfgfj2h3j4h3jh3jh2j3h3
Login Name: <jsmith>
Domain Name: <smartpants.edu>
```

NOTE: If you purchase a registered TIACODE, the process is the same. Be sure to put the latest code in your *.tia* file. You should also keep a copy of the code in a separate file or on your home PC so that if your Unix provider's hard disk crashes, you can easily reinstall TIA.

You're now ready to download the TIA program itself. You'll need to know what Unix platform you're working on. To access the FTP archives, type the following command at your Unix prompt:

```
ftp marketplace.com
```

When asked for your login name, type

```
anonymous
```

When prompted for a password, type your complete e-mail address. You can now access the TIA file by changing to the proper directory. Change to the *tia* directory by typing

```
cd tia
```

NOTE: Some versions of the software may be available in the *tiabeta* directory.

To see the available versions, type

```
dir
```


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You can now retrieve the proper version of TIA by using the *get* command. For example, if you need the *sparc.solaris.tia* version, you would type the following series of commands:

```
binary
get sparc.solaris.tia
bye
```

Installing The Internet Adapter

You should now have a working copy of TIA in your Unix machine's home directory. You can rename the file you just retrieved to *tia* using the *mv* command. For example:

```
mv sparc.solaris.tia tia
```

You now need to make the TIA software executable by using the *chmod* command:

```
chmod u+x tia
```

You can verify that The Internet Adapter is working by typing:

```
./tia
```

The following message should appear:

```
The Internet Adapter (tm) 1.0 for BSDI Unix
Copyright (c) 1994 Cyberspace Development, Inc.
Single License
Ready to start your SLIP software.
```



WARNING: An evaluation copy of TIA only works for 14 days from date of issue, so it needs to get the current date from your Unix machine. The evaluation version will not run at all if it can't read the date. Unfortunately, some Internet providers do not allow public access to the time utilities. If you hit on this problem, you can still try TIA if you can persuade your Internet provider to allow time-server access, or if you go ahead and buy a registered copy of TIA.

Configuring Winsock for The Internet Adapter

Once The Internet Adapter is successfully installed on your Unix system, you can run the Trumpet Winsock program as usual. Instead of dialing a SLIP account, you dial up your Unix shell account and run The Internet Adapter. Before you make the call, however, you should fine-tune some of Winsock's settings so that it works in tandem with TIA.

The Setup

To set up Winsock, run it and select File, Setup. Be sure the Internal SLIP box is checked. You now need to fill in a number of values. Since TIA only

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emulates a SLIP account, there is no actual IP address. Instead, you should use the dummy IP address of 192.0.2.1. Your Netmask should be 255.255.255.0.

The TIA program itself can figure out what value you need to put in the Name Server box. Dial up your Unix account and type:

```
./tia -address
```

TIA tells you the IP address for the Gateway and the Name server. If your machine has several Name servers, separate each with a space. If this command doesn't work, you can try Unix's own Name server command:

```
whois -h internic.net domain.xxx
```

If neither of the above two commands seems to work, you'll need to ask your Internet provider for the IP number of the Name server.

You can leave the Time Server and Domain Suffix boxes blank. You now need to set the data flow values. Use the following values:

HTML MTU: 1500

HTML TCP RWIN: 4096

HTML TCP MSS: 1460

HTML TCP RTO MAX: 60

HTML Demand Load Timeout: 5

You should now fill in your Winsock communications settings, as described earlier in this chapter. Fill in the correct SLIP Port, Baud Rate, and Hardware Handshake values. Be sure the Van Jacobson CSLIP Compression attribute is *not* checked.

Trumpet Winsock should now be a perfect match with The Internet Adapter. Click OK, exit Trumpet, and restart it.

Dialing Manually

You can now use Trumpet Winsock to dial your Unix system manually, as described earlier in this chapter. Select Dialler, Manual Login. Dial up your system and log in the way your normally would. Instead of typing *slip*, however, you should type:

```
./tia
```

You should now see the message:

```
Ready to start your SLIP software
```


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Press the ESC key to end the manual login sequence. Hearty congratulations to you! You now have full SLIP access to the Internet.

NOTE: If your Unix Internet account uses a series of menus, you need to find some way of getting to the Unix command prompt. Ask your Internet provider if a standard shell account is available. If not, you'll need to create a Winsock script to navigate the proper menu choices.

Dialing with a Script

Alternatively, you can create a Winsock script that logs into your Unix shell account and runs the TIA program. This script should look like the one earlier in this chapter, with the additional line:

```
output ./tia\13
```

Exiting TIA

To quit TIA manually, select the Manual Login item from Winsock's Dialler menu. Slowly type CTRL-C five times to exit the TIA program. You'll return to the Unix prompt, where you can use Unix Internet commands as usual. You can rerun TIA at any time.

SHOOTING DOWN TROUBLES

Stacks can often tumble. The complex combinations of TCP/IP software, socket software, SLIP software, Internet client software, Web browsers, your Internet provider's Unix system, your machine, and Windows itself can cause lots of headaches.

Whenever you have a problem, be sure to check each component individually. If you're using The Internet Adapter, run it and be sure it doesn't give you any error messages. If it does, you may need a different version of the software. If you're running a Winsock script that doesn't seem to work, first try logging in manually to see if the problem is with your script or with Winsock itself. Make sure your modem is connected when you think it should be: just pick up the phone and listen; if you hear a low-pitched grumbling noise, you're online.

That said, here are a few common errors and easy ways to squash them:

Your Modem Won't Respond

If you try dialing using Winsock but nothing seems to be happening, this could indicate one of several problems:

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- Your modem isn't attached to your computer. Check to be sure the cables are inserted tightly.
- Your modem isn't attached to your phone line. Plug a phone into the line to be sure you're getting a dial tone.
- Your modem isn't turned on.
- Your modem hasn't been properly reset or initialized. Check your modem owner's manual for guidelines. If possible, contact your modem's manufacturer.
- Your port isn't configured properly in Windows. Run the Windows Control Panel and select the Port icon. Select the port your modem is connected to and click the Settings button. Be sure the settings correspond to your modem's baud rate. Note that a 14,400 baud modem's port should be set to 19,200. The port should also be set for 8 data bits, no parity, 1 stop bit, and the Flow Control type should be Hardware.

If your modem works fine one moment but then suddenly stops responding, the modem might just be a little tipsy. Turn off the modem and turn it back on or reboot your computer.

The "DNS Lookup Failed" Message

This is probably the most common error message you're likely to run across. It means your Web browser is having trouble accessing remote URLs.

Most likely, there's a wrong value in your Winsock setup window. Double-check the IP numbers of your Domain server and your Name server. Contact your Internet provider to be sure they gave you the right information in the first place. All these numbers can get confusing; you may have copied something down wrong. Using the wrong IP number is as useless as dialing the wrong phone number.

The "Unable to Resolve Host Name" Message

If everything seems to run, but your Internet tools have problems connecting to specific hosts, your Domain Name Server (DNS) information is probably wrong. Check SlipKnot's setup and double-check the Name server entry.

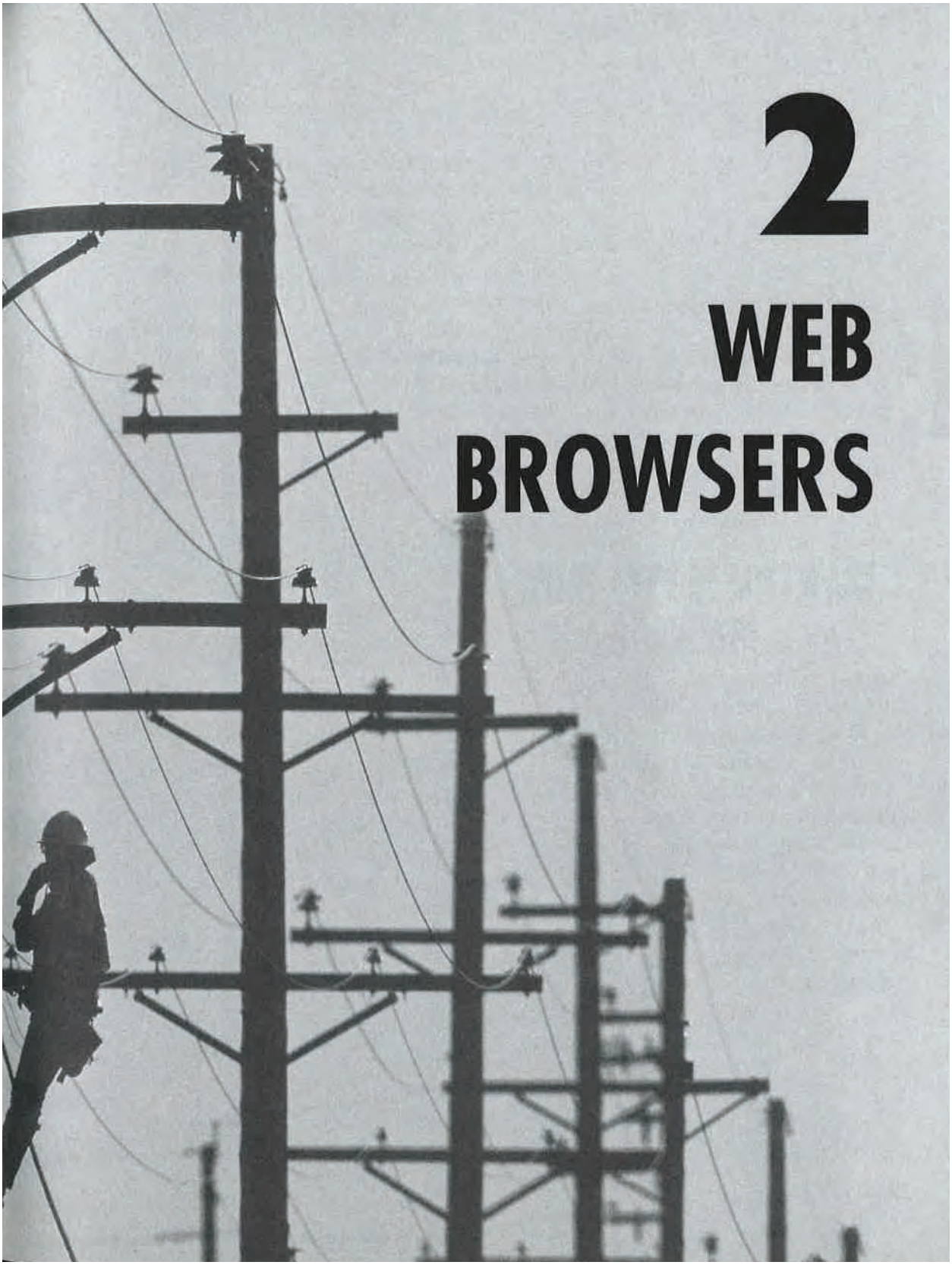
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WHAT NOW?

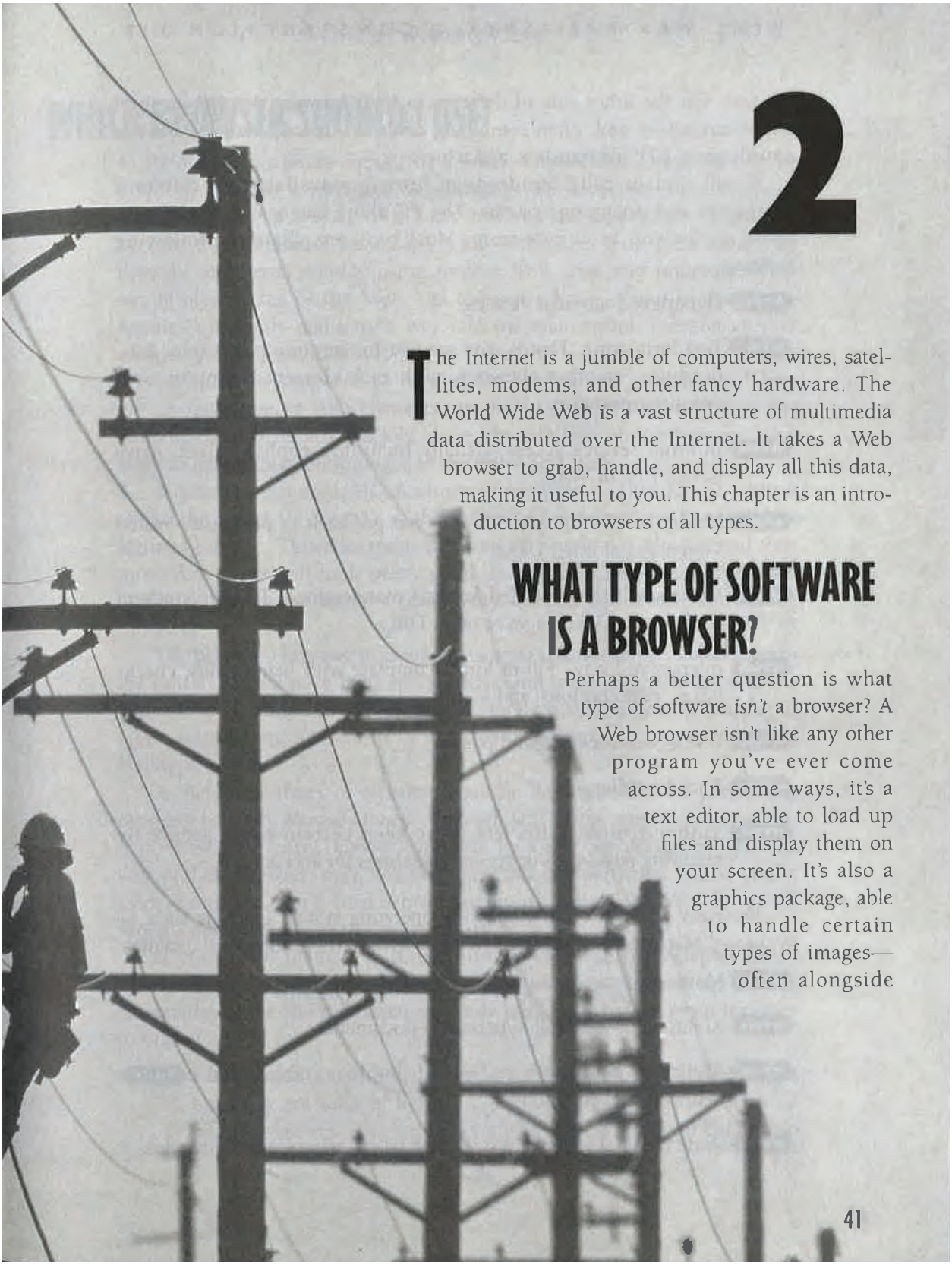
You're now connected to the Internet, either using SLIP or The Internet Adapter. Your next step is to install, configure, and learn to use a Web browser so you can start flipping through those tens of thousands of multimedia Web pages. Chapter 2 introduces you to the wild world of the Web browser. Later chapters deal with particular brands of browsers:

- Chapter 3 is a hands-on guide to using the text-only Lynx browser.
- Chapter 4 covers the SlipKnot graphical Unix shell browser.
- Chapter 5 shows you everything you need to know about the acclaimed NCSA Mosaic browser.
- Chapter 6 guides you through the sleek Netscape browser.
- Chapter 7 takes a brief look at other Web browsers available for the Windows PC.

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2 WEB BROWSERS



2

The Internet is a jumble of computers, wires, satellites, modems, and other fancy hardware. The World Wide Web is a vast structure of multimedia data distributed over the Internet. It takes a Web browser to grab, handle, and display all this data, making it useful to you. This chapter is an introduction to browsers of all types.

WHAT TYPE OF SOFTWARE IS A BROWSER?

Perhaps a better question is what type of software *isn't* a browser? A Web browser isn't like any other program you've ever come across. In some ways, it's a text editor, able to load up files and display them on your screen. It's also a graphics package, able to handle certain types of images—often alongside

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the text. On the other side of the coin, a Web browser is a full-featured online navigation tool, often combining common Internet artifacts such as e-mail, news, FTP file transfers, and telnet.

You'll find literally hundreds of browsers available for different computers and operating systems. The PC alone has nearly 40 different browsers for you to choose from. Most browsers share the following features:

- Hypertext document viewing.
- Text formatting. That is, you see text broken into paragraphs, lists, headings, or other elements; with each element having its own unique appearance.
- Internet service access. Usually including gopher, telnet, news NNTP, FTP, or WAIS.
- *History list* maintenance. So you can get back to previously-visited Web pages or other URLs.
- *Bookmark list* (also called *hot list*) maintenance. To keep track of your favorite Web pages or other URLs.
- Interactive forms. Fill-in forms complete with blank fields, check-boxes, radio buttons, and menus.
- Usenet news reading and posting.
- E-mail sending.
- Authentication. This lets users keep certain pages secure by requiring passwords or special signatures for access.

Browsers that run on a windowing operating system (such as Unix X-Windows, Macintosh, or Microsoft Windows) have these additional qualities:

- Mouse-driven commands.
- Ability to process full hypermedia documents.
- Ability to work with embedded graphics, tables, and complex mathematical equations.
- Wide range of fonts, font sizes, special characters, and font styles.

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WHICH BROWSER SHOULD I USE?

In theory, all browsers should be similar. Browsers are supposed to be uniform, handling a common Web language. However, the latest browsers each come out with their own fancy features and commands, hoping to become the standard. This means some Web pages look great using one browser, and pretty shoddy using another. This, in a way, undermines the whole global idea of the Web. On the other hand, many of these new features eventually make their way into the mainstream, creating an ever more useful and beautiful Web.

So what was supposed to be uniform has become competitive. There are currently tons of Web browsers out on the market, with new products announced each month. Luckily, there are only four or five browsers that seem to have withstood the rigor of the real-world Web.

If there is a standard, NCSA Mosaic is probably it. This doesn't mean it works the fastest (it doesn't), is the easiest to use (nope), or has the most features (uh-uh). This *does* mean that tons of people use Mosaic, and thus most Web pages will look pretty good on it. NCSA also provides Mosaic absolutely free to the Internet community. Chapter 5 discusses the Mosaic browser.

The best Web browser is clearly Netscape. The Netscape software works the fastest, has the most bells and whistles, and is the easiest to use and the least prone to errors. All told, it has a pretty darn slick look to it. Netscape's latest release, unfortunately, is not free to all users. Chapter 6 covers Netscape for you.

As far as the thirty or so other available Web browsers are concerned, most are basically Mosaic clones. Although you'll find some excellent products, these third-party browsers are used by a tiny percentage of Webbers. One of these browsers may, however, have that one particular feature you've been dying for. You'll find a brief survey of Cello, WinWeb, Spry AIR Mosaic, and other Windows browsers in Chapter 7.

If you're not using a SLIP account or The Internet Adapter (both discussed in the previous chapter), and if you don't have a networked connection to the Internet, then you only have two choices when it comes to browsing:

HTML You can use a text-based browser such as Lynx or WWW. These browsers are usually lightning-fast and come complete with all popular features. The big drawback is that there are, of course, no

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graphics, font sizes, styles, lines, or other special characters. This drastically lowers the aesthetic value of a Web page. Chapter 3 covers the Lynx browser.

HTML The SlipKnot browser is your second option. It can display all basic multimedia Web pages, complete with text styles, fonts, and graphics. SlipKnot is not free, however, and it takes quite a long time for each Web page to load. Chapter 4 gives you a hands-on guide to the SlipKnot browser.

HELPFUL HANDS

In many ways, a Web browser acts like its own operating system. It knows how to handle most every type of data or resource stored over the Internet. If it can't display or otherwise use the data, it is smart enough to pass the data on to a program that can. These secondary programs are known as *viewers* because they're typically used to view fancy graphics or photos.

A browser can also perform many actions. It can, of course, hop around the Web using hypertext links. It can also usually send or retrieve a file from an FTP archive, send e-mail, or even act as a full Usenet newsreader. However, there are some things even a Web browser can't do itself yet, like telnet to remote computers. If you ask a browser to perform an action it can't handle, it'll usually run a more suitable program for you. These programs are known as *external applications*.

Viewers

Most Web browsers can't actually play sounds or run movies. However, a browser can retrieve the sound or movie file and automatically hand this file over to a viewer. In this way, viewers piggyback on the browsers, greatly extending their powers.

For example, most Windows browsers display any movies or animations using the Windows MPEG viewer. If the browser can't recognize the file, it'll generally read it in as plain text. Most browsers allow you to configure your favorite brand of viewer for each type of file.

External Applications

If you're using a Unix browser, most external applications should be a basic part of your Internet provider's service. If you're using your home PC with a SLIP line, however, there are some resources you might eventually want:

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- A *telnet client* to log you in to remote computers.
- A *newsreader* to read or post Usenet news.
- An *FTP client* to send or receive files over the Internet.
- A *talk client* to let you hold a split-screen live chat with anybody else on the Internet.
- An *IRC client* to get you into Internet Relay Chat (IRC), where thousands of users chat about thousands of topics.
- A *finger client* to tell you about people who are currently logged onto the Internet.
- An *archie client* to search for particular files over the Internet.
- A *gopher client* to run the gopher menuing system.

Many Web browsers already have these programs built in. In some cases, however, you may want to use a separate client because it is faster, easier to use, or offers more commands. Most browsers allow you to designate any external applications you want for any given function.

More information about obtaining and using this Internet client software can be found in Appendix B, Other Software Sources.

The Talking MIME

The Web combines graphics, video, sound, text, hypertext, and more. Keeping track of what's what and how to use it can get confusing. After all, every file is stored in its own unique way—and there are a *lot* of possibilities.

Web servers use a coding scheme called the *Multipurpose Internet Mail Extension* (*MIME*) to differentiate different types of data. Whenever your browser asks for a particular file, the server lets the browser know what MIME type it'll be dealing with. Web browsers have the ability to recognize most popular types of files. Some files can be displayed on the fly. Others need to be sent to external viewers.

In most cases, the browser recognizes a file by its extension. Most every file on your computer has a specialized extension. For example, Microsoft Word files usually end in .DOC while plain text files end in .TXT. When you open a document using your favorite word processor, for example, your software often guesses what format the file is in based on its extension. Web browsers use filename extensions similarly.

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NOTE: Most Web documents are stored on Unix operating systems, not on DOS. Unix extensions are not limited in length. For example, *the.history.of.the.world* is the name of a valid Unix file. Also unlike DOS, Unix is case sensitive. This means that the file called *HELLO* is a different file from the one called *hello*. On Unix systems, Web hypermedia files generally end with the lowercase extension *.html*.

Since a Web document can have links not only to other Web documents but to graphics, sounds, text, Internet resources, and so on, it's important for both you and your Web browser to know what type of file is currently being dealt with. Table 2–1 lists some standard extensions and file formats.

Table 2–1 Standard extensions for file formats found on the Web

File Extension	File Format
Text	
.txt	Plain text file (extension is sometimes .text on non-DOS systems)
.rtf	Rich text format
Graphics	
.gif	CompuServe Graphics Interchange Format for any type of image
.tif	Targa Image File Format (extension is *.tiff* on non-DOS systems)
.jpg	Joint Photographic Experts Group (extension is *.jpeg* on non-DOS systems)
.bmp	Windows or OS/2 bitmap
.tga	Truevision Targa
.pcx	Windows Paint pixelmap
.rle	Run Length Encoded image
.xbm	A black and white bitmap from the X operating system
.xpm	A color pixelmap from the X operating system
.ps	PostScript printer-output file
Video / Animation	
.mpg	A Motion Picture Experts Group video or animated movie file (extension is *.mpeg* on non-DOS systems)
.mov	QuickTime movie (extension is *.moov* on non-DOS systems)
.avi	Audio/Video Interleave Windows multimedia movie
.fli	Autodesk Animator flick
.gl	Grasprt animation
Audio	
.au or .snd	Sun or NeXT audio
.aif	Audio Image File Format (extension is *.aiff* on non-DOS systems)

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File Extension	File Format
.iff	IFF
.voc	Soundblaster Creative Voice
.wav	Windows Waveform
.sf	IRCAM
.mod or .nst	Amiga Mod
.snd or .fssd	Miscellaneous Amiga, PC, or Mac
.ul	US telephony
Compression	
.Z	A file compressed using compress (Unix)
.zip	A file compressed using pkzip
.gz	A file compressed using gzip (Unix)
.uue	An uuencoded binary file (Unix)

TELNETING TO A PUBLIC BROWSER

Maybe you're not sold yet. I mean, maybe the Web sounds kinda interesting, kinda fun, but you just aren't sure what it is that makes the Web so talked-about, so hyped. Before you buy a SLIP account or The Internet Adapter, you want a test drive.

NOTE: Telneting to a public browser is also useful if you want to access a page's text very quickly.

If you already have an Internet account, you should run the Lynx or WWW browser, described in the next chapter. At your Unix prompt, try typing:

```
lynx
```

or

```
www
```

If nothing happens with either of these commands, you can grab a very basic tour of the Web by using telnet to jump to a public Web browser. Almost every Unix account in the world offers the *telnet* command. Public WWW sites are listed in Table 2–2. Type *telnet* followed by the name of the site. For example, to log into the Funet site, which contains a public Lynx browser, you would type:

```
telnet info.funet.fi
```


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When asked to

```
Login:
```

type

```
www
```

When you telnet to a remote site, you may be asked to

```
Select interface?
```

in which case you can try typing

```
lynx
```

to access the Lynx text-based browser.

A special beginner's page usually appears, as shown in Figure 2–1. There are no mouse or cursor controls. To access a hypertext link, type in the number or word that appears in brackets. You can also type the word *back* to go to a previous page, or *quit* to exit.

Be warned: The generic WWW browser is the most ill-mannered, simple-minded browser you could find, but it should give you some idea of how the Web works. Lynx is a little more functional, but is still limited to simple text only.

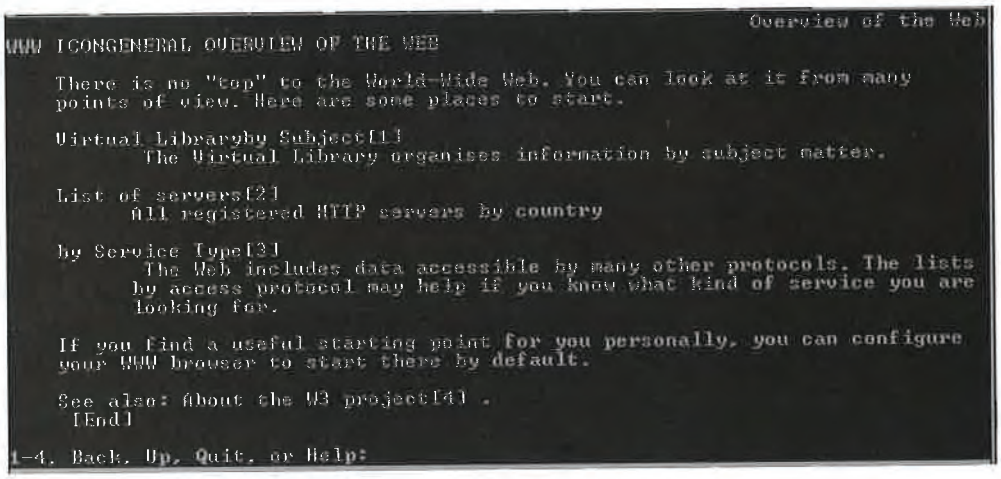


Figure 2–1 The simplest Web browser in the world

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Table 2-2 Publicly accessible Web browsers

Browser	Public Site
WWW	fatty.law.cornell.edu
WWW	www.edu.tw
WWW	fserv.kfki.hu
WWW	telnet.w3.org
WWW	www.njit.edu
Lynx	info.funet.fi
Lynx	www.cc.ukans.edu
Generic	www.huji.ac.il
Generic	sun.uakom.cs

You can now flip through this book, especially Chapter 8, What Can I Do? If you see a page that looks interesting, note its URL. Telnet to a public browser, press G, and then type in that exact URL. The page is loaded up for you. These simple browsers may require you to type *go URL*. For instance, to jump to http://www.smartpants.edu/ you could type:

```
go http://www.smartpants.edu/
```

WWW VIA E-MAIL

If you're *really* in a hurry, or if the telnet command doesn't work for you, you can have the contents of a Web page mailed to you. You'll need to know the exact URL of the document you want. There are two addresses you can try. To send mail, type the following at your Unix prompt:

```
mail server@mail.w3.org
```

or

```
mail listserv@info.cern.ch
```

You should leave the subject blank. As the body of your message, type

```
send [URL]
```

and replace [URL] with the actual URL of the page you want to see. The CERN site automatically processes the request, loads up the page, and sends the text directly to your mailbox.

Each hypertext link in the document will be followed by a bracketed number, such as [3]. At the bottom of the mail message, there'll be a listing of each number and its corresponding URL. If you want to follow one of the URLs, just send off another message.

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BROWSING WITHOUT THE INTERNET ALTOGETHER

Maybe you haven't subscribed to your SLIP Internet account yet and want to browse through some *.html* files on your hard disk. Or maybe you're designing HTML Web pages on your local PC and want to check them out. Since most browsers (Cello, Netscape, and so forth) communicate via TCP/IP stacks, you'll need to make them think that your machine is actually connected to a network.

Some companies are also investigating ways of creating small, private Webs. A *Local Area Web* is not distributed via the Internet, but over the company's own LAN. Such companies may want to use their own networking software. However, they could also set it up so employees could use Mosaic, Netscape, or any other browser to distribute confidential company information in a sleek hypermedia format.

Stand-Alone Browsers

The latest versions of Mosaic and SlipKnot are *stand-alone* browsers. When you run them, they load up just fine even if you're not using socket or TCP/IP software. You can then use the File, Open command to bring up any document or file stored on your hard disk. Giving browsers a stand-alone mode seems to be the trend, since many people use their browsers to look at local Web pages.

Minimizing Winsock

Many other browsers, however, give you a strange error message if you try to run them with no other Internet software installed:

```
Application Error
Call To Undefined Dynalink
```

However, you don't actually have to be connected to your Internet provider to use a browser. Just run the Winsock program in the background by selecting the control box in the upper left corner of the window and choosing the Minimize item. Most browsers should run just fine.

Nullsock

If you don't have a modem or network connection at all, you can still play with Web browser programs if you install a fake socket library. This fake library, known as *nullsock,* works in lieu of Winsock's true *WINSOCK.DLL.*

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The nullsock file is available at the site listed in Appendix D. Download and copy the WINSOCK.DLL file to your Windows system directory:

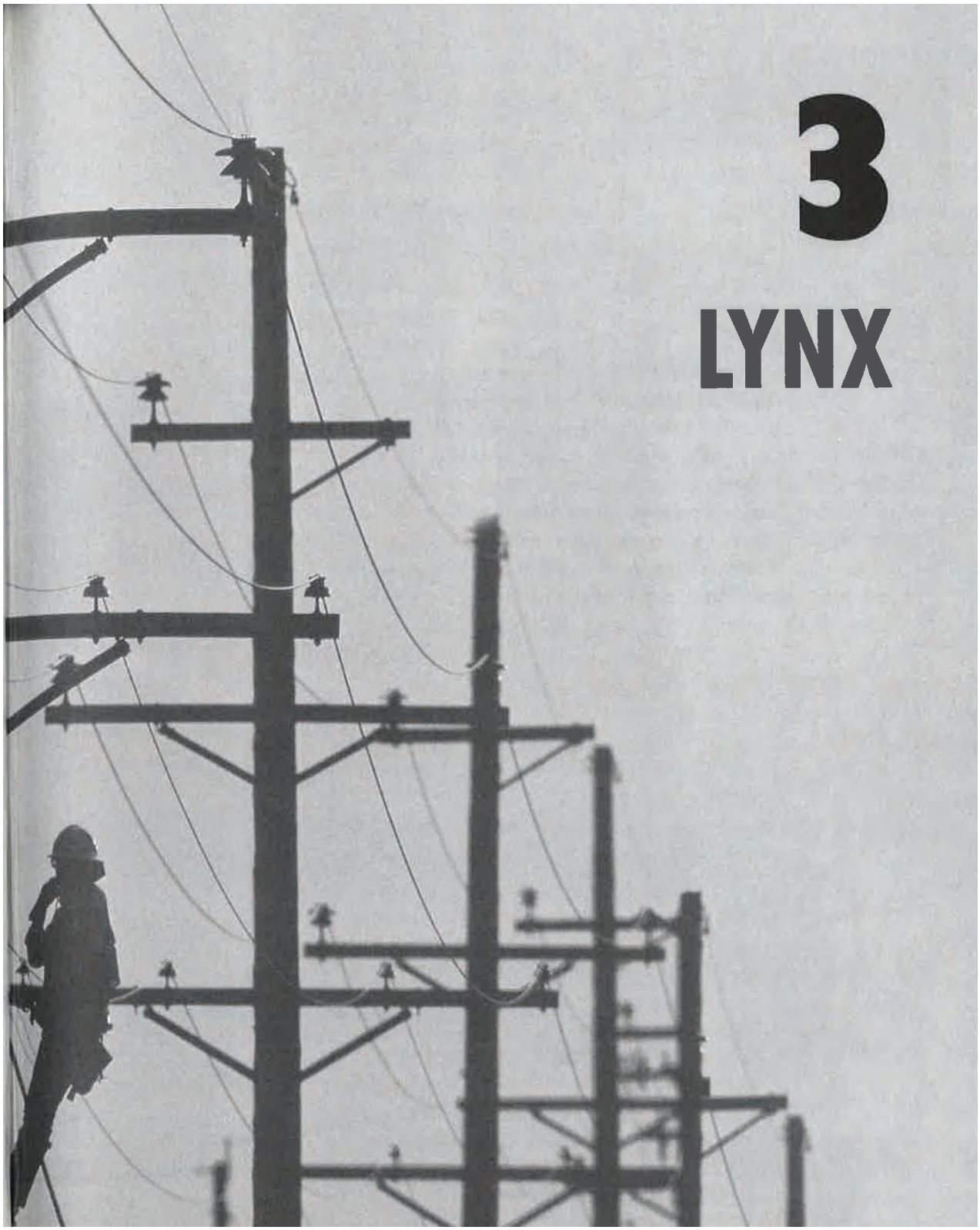
```
C:\WINDOWS\SYSTEM
```

Be sure to erase Winsock's real WINSOCK.DLL. You can now run Winsock along with your favorite browser or other Internet software. Winsock, of course, is crippled; it can't do much more than initialize.

WHAT NOW?

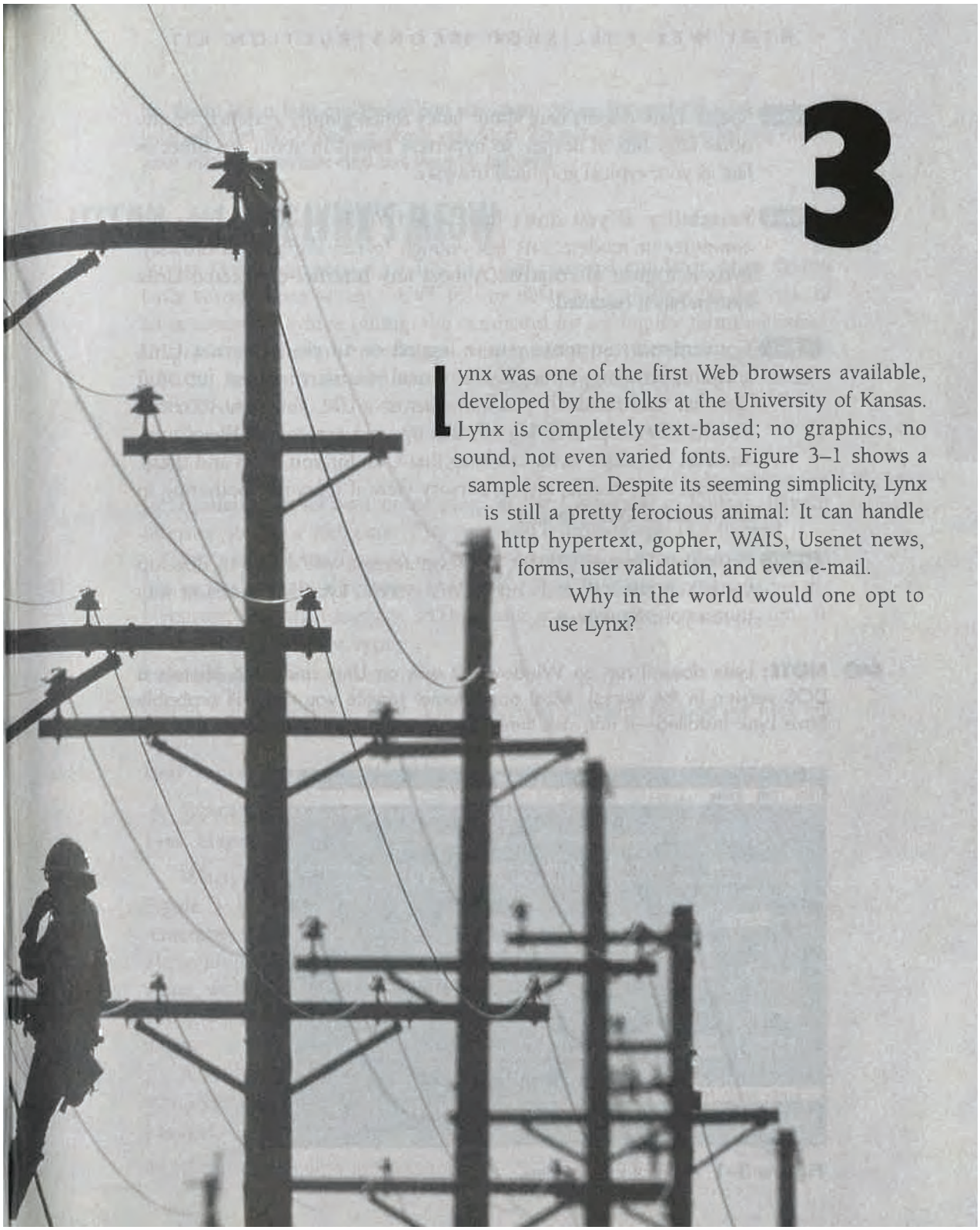
You're now ready to install and use a browser on your own machine. The next five chapters cover the most popular types of browser programs. Chapter 3 begins with an overview of Lynx, a Unix browser.

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3

LYNX



3

Lynx was one of the first Web browsers available, developed by the folks at the University of Kansas. Lynx is completely text-based; no graphics, no sound, not even varied fonts. Figure 3–1 shows a sample screen. Despite its seeming simplicity, Lynx is still a pretty ferocious animal: It can handle http hypertext, gopher, WAIS, Usenet news, forms, user validation, and even e-mail.

Why in the world would one opt to use Lynx?

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HTML Speed: Lynx doesn't care about fancy fonts, gloppy graphics, or any other large bits of design, so hypertext zooms in about ten times as fast as your typical graphical browser.

HTML Portability: If you don't have a SLIP/PPP account, or if your computer or modem isn't fast enough to run a graphical browser, Lynx is a great alternative. Almost any Internet-connected Unix system has it installed.

HTML Convenience: Suppose you're logged on to your Internet Unix account, browsing through your e-mail, transferring files, fun stuff like that, and suddenly you come across a URL you want to check out. It's often a pain to log off, dial up your separate SLIP account, and run Netscape. Lynx can snag that URL for you, then and there. You can then decide, after a cursory view, if it's worth bothering to use a fancier Web browser.

HTML Unix Development: If, for whatever reason, you'd like to develop your Web pages directly on a Unix system, Lynx is the easiest way to test your hypertext.

NOTE: Lynx doesn't run on Windows, it runs on Unix and VMS (there's a DOS version in the works). Most any Internet service you call will probably have Lynx installed—if not, ask them, beg them, get on your knees and cry

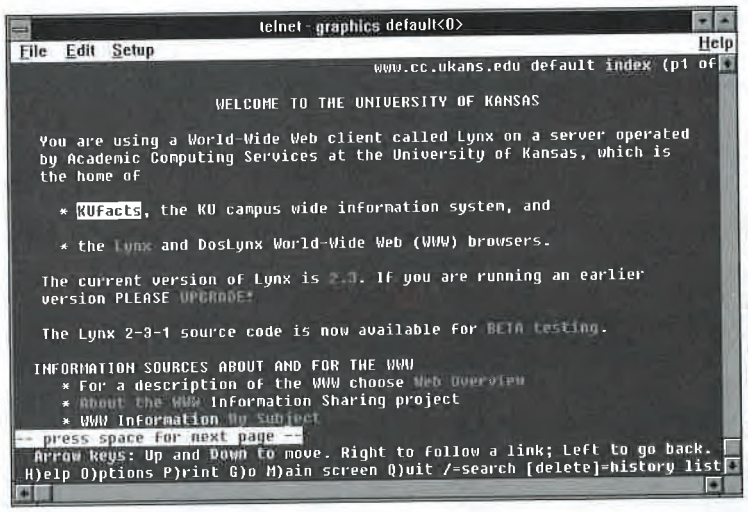


Figure 3-1 A quick look at Lynx

for them. It's a free program. You can even go so far as to download Lynx yourself from *ftp://ftp2.cc.ukans.edu/pub/lynx*. You can then give this file to your Internet provider and ask them to install it.

LESSON #1: THE LYNX'S MEOW

To use Lynx, you need a VT-100 or ANSI terminal emulator. Most dial-in Unix accounts are set up for VT-100 by default. Depending on the type of Unix computer you're calling, the command for setting the terminal varies. If Lynx doesn't seem to work, ask your Internet provider how to configure VT-100. Be sure your own communications program is set up to emulate VT-100, as well.

To run Lynx, just type

```
lynx
```

Lynx defaults to its own home page, at the University of Kansas. If your Internet site has a Web page of its own, you'll probably get that instead.

You can also use Lynx to open up a hypertext or even plain ASCII text file in the current directory: Most hypertext files are written using the Hypertext Markup Language (HTML) and end with the *.html* extension. To load a local HTML file, type:

```
lynx sample.html
```

To load a file that is located in a different directory, include the file's full pathname:

```
lynx /private/webstuff/sample.html
```

Typically, though, you want to use Lynx to load up a URL directly:

```
lynx http://www.ncsa.uiuc.edu/
```

When Lynx first runs, it loads up the file you specified, as shown in Figure 3–1. All commands are listed along the bottom, making it easy to remember what does what. Also notice that some text appears in bold print. These are hyperlinks. The first hyperlink is usually highlighted in reverse video, which indicates that it's currently selected. Depending on the display you're using, selected hyperlinks may also appear in a different color or in italics.

A multimedia browser would usually display graphics alongside the text. Lynx generally uses the word

```
[Image]
```

when confronted with inline graphics.

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Key	Function
CTRL-R	Reload the current Web page
CTRL-W	Refresh the screen
CTRL-U	Erase whatever you just typed on the input line
CTRL-G	Cancel an input or a transfer
?, H	Help

Following Lynx Links

Most pages have their own hyperlinks, printed in bold. One of these hyperlinks is always selected, usually printed in reverse video. To select the next hyperlink, just press ↓. The ↑ key, naturally, selects a previous hyperlink. Even if two links are on the same line, these arrow keys cycle between them. When you reach a page's last hyperlink, ↓ flips you to the next page. If a screen has no hyperlinks, press ↓ to keep flipping pages until you find one.

To follow a link that sounds interesting, just press → or ENTER. The new Web page or Internet resource appears.

Link Info

If you want to know where a link will take you before you follow it, press the equals key =. An information screen appears, as in Figure 3–2. This screen lets you know:

- HTML The current document's URL
- HTML The number of lines in the document
- HTML The document's title
- HTML The document's owner (the person who wrote the Web page)
- HTML The selected link's URL
- HTML The document type of the selected link

Loading a Specific URL

To jump to a specific URL—whether it be another hypertext Web page, an Internet resource, an e-mail letter you want to send, a newsgroup, or a file—just press G. Type in the full URL. Lynx loads it up, quick as it's able.

If the URL is not valid, you bounce back to the current Web page.

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LESSON #2: NAVIGATING

Lynx makes moving around the Web incredibly fast and easy. You can execute most navigation commands with the arrow keys. Once your fingers get fast enough, you can flip through a dozen Web pages in the same time it would take a graphical Web browser to load up just one page. Table 3–1 lists the Lynx navigation commands.

If the Web page is more than one screen long, you can flip to the next screen by pressing the plus key + or the space bar. If you try this when you get to the bottom of a page, Lynx displays the message:

```
You're already at the end of this document.
```

To scroll back to the previous screen, press the minus key - or B.

Table 3–1 Lynx navigation commands

Key	Function
+, SPACE	Scroll down to the next screen
-, B	Scroll up to the previous screen
↓	Select the next hyperlink
↑	Select the previous hyperlink
→, ENTER	Follow a hyperlink topic
←	Flip back to the previous Web page
=	View information about the current page and its hyperlinks
G	Go to a distant URL
Z	Cancel the current transfer
BACKSPACE	View the history list
D	Download the current link
M	Return to the main home screen
Q	Quit
SHIFT-Q, CTRL-D	Quick quit
\	View the Web page's HTML source
C	Comment (e-mail) to whoever wrote the current Web page
E	Edit the currently displayed text file
O	Configure your options
P	Print the page to disk, e-mail, or a printer
I	Show an index of documents
/	Search for a word or phrase in the current Web page
N	Find the next occurrence of the search term
S	Search for a word or phrase in a separate index
!	Run the Unix shell

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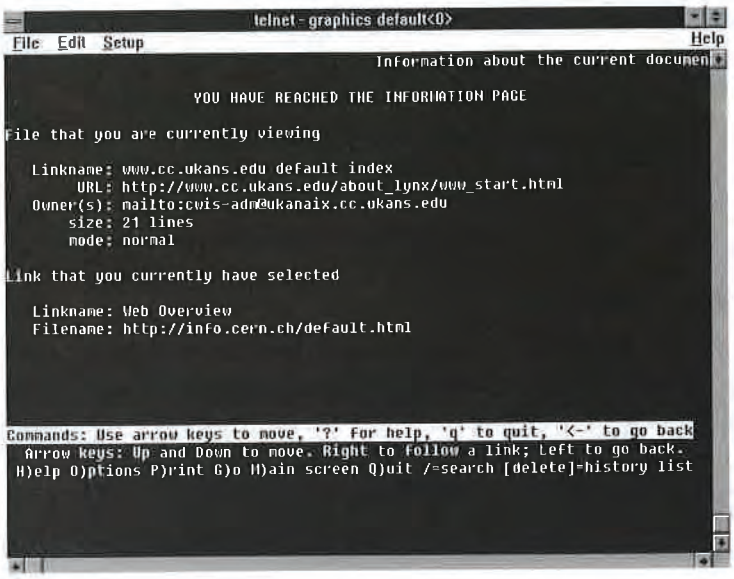


Figure 3–2 A screenful of information about the current Web page and the currently selected link

HALTING a Load

Often, you access a Web page at the same time as dozens of other people. Lynx may want several minutes while it tries to get through to a Web server. If you get fed up and want to cancel a page as it is being loaded, press Z.

If Lynx managed to grab any text or data prior to the moment you interrupted a load, it will display whatever it got.

Exiting Lynx

When you are done rolling around the Web, press Q. You are asked if you really want to quit. Press Y if you're sure, press N if you're not so sure (to which Lynx will reply, "Excellent!").

If you want to quit immediately, without any second-guessing, press SHIFT-Q or CTRL-D.

LESSON #3: THE HISTORY LIST

Every time you visit a Web page, Lynx keeps track of it. If, at any point, you want to experience some deja vu, press BACKSPACE to view your history list. A series of hyperlinks appears, as in Figure 3–3. The history list shows the

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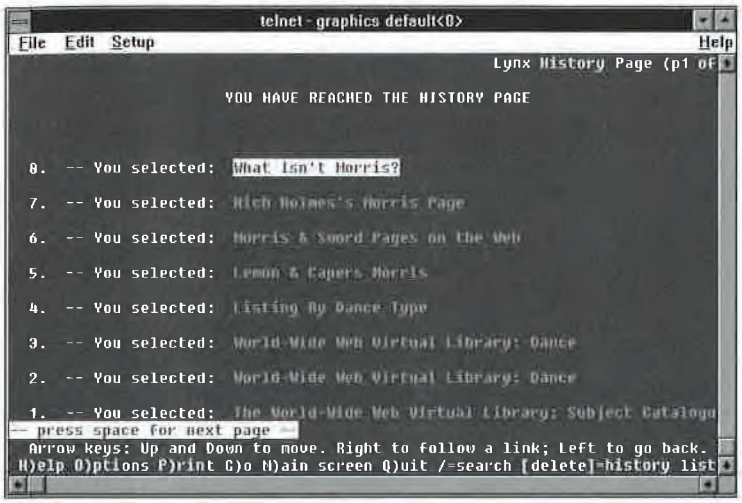


Figure 3–3 The Lynx history list lets you quickly revisit an old Web page

title of each page you've visited—in the order you visited it, from latest to oldest. Select the page you want and press ENTER.

If you want to return to the home page—the document you first loaded when you ran Lynx, press M. Just keep in mind that this clears out your history list, allowing you to begin a fresh session. This is very useful if that's what you wanted to do but a tad frustrating if it wasn't.

LESSON #4: SCREEN-WASHING

Sometimes data gets lost or added as it roams the millions of miles of Internet cables. If a page pops onto your screen but doesn't look the way it should, you can easily reload it by pressing CTRL-R.

Other times, your screen might fill up with things it shouldn't. Things like incoming e-mail, static-filled phone lines, or other Unix messages may appear in the middle of your Web page. To wipe the screen clean, press CTRL-W. The current page is redrawn, but not reloaded.

LESSON #5: PRINTING A PAGE

Once you read a Web page, you may be so impressed that you'd like to keep a copy of it. Lynx allows you to easily print out a page to the screen, save it to your disk, or mail it to yourself.

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To print out the current document, press P. A menu of Print Options appears, letting you know how long the document is:

```
There are 21 lines, or approximately 1 page, to print.
You have the following print choices.
Please select one:
Save to a local file
Mail the file to yourself
Print to the screen
```

NOTE: If you use telnet to reach Lynx then you will not be able to save the page to a local file. Other options, such as printing to a laser printer, may also be available.

Using the arrow keys, select one of the print options and press ENTER.

Saving

If you select the Save To A Local File option, the system asks for a filename. Type in any name you wish. Lynx then writes the entire text of the current web page to your Unix account's disk.

A saved document can then be mailed to someone, edited using any Unix text editor, uploaded to someone else's machine, or downloaded to your home PC.

Mailing

Many people find working with e-mail easier than working with files. If you're one of these folks, you can mail the current Web page to yourself. Lynx asks you for your e-mail address and then zooms the text off to you.

Once you receive the mail, you can forward it, extract it, or keep it saved in your mailbox for later reference.

Printing

If you print to the screen, a text version of the current document quickly scrolls by. This is useful if your communications program lets you backtrack using a screen buffer. You can move up to the part of the document you're interested in, copy or cut it, and then paste it in your favorite word processor or text editor.

You could not easily grab sections of an ordinary Lynx Web document because only one page at a time is shown. If the section you want appears on two separate pages, there would be a bunch of commands, status messages, and other garbage text stuck in the middle.

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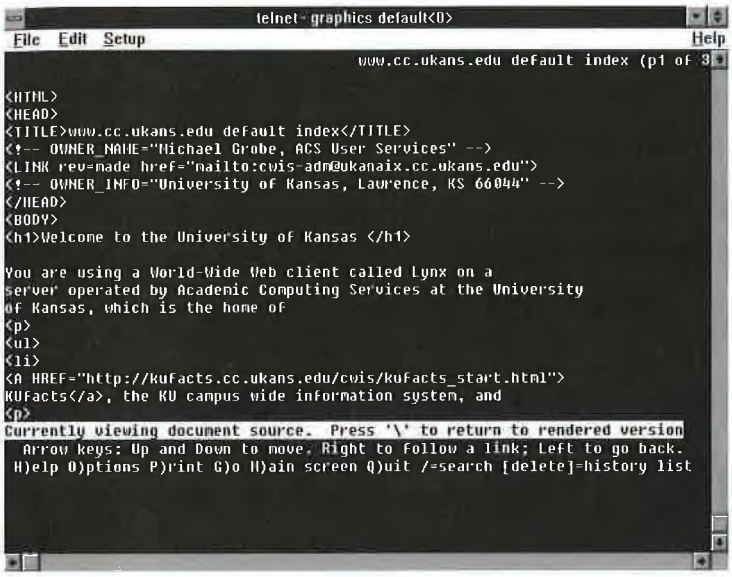


Figure 3–4 A Web page skeleton: the source markup

LESSON #6: GETTING TO THE SOURCE

As you begin to create your own Web pages, you'll find it very valuable to study how other pages you admire were made. Lynx allows you to view a document's full HTML source simply by pressing \ (the backslash key).

The actual Web page is replaced by the commands that tell Lynx what to do and how to do it, as shown in Figure 3–4. You can then print this source markup to your disk, screen, or mailbox, as discussed in the previous section. Once you retrieve a Web page's source file, you can base your own documents on its structure. Part II of this book goes into detail on how HTML works.

Saving the Source

If you save a copy of the source to your disk you can have Lynx automatically open the file at any time. Be sure you use a filename with the *.html* extension.

For example, suppose you come across a great index of rock music Web sites. You happen to know that this index is very popular, and thus difficult to access; you've tried accessing the index many times and been turned down. You can solve the problem by creating your own local copy. Press \

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to view the source and then press P to make a printout. Select the Save to a local file option. When asked for a filename, type something similar to:

```
rockindex.html
```

The next time you want to start rockin', just type:

```
lynx rockindex.html
```

Returning to the Regular View

When you're done working with a Web page's source, just press \ again to switch to the actual Web page. This quick-switching between a rendered page and its markup commands can come in handy any time you want to quickly take a peek at how a certain Web effect was achieved.

LESSON #7: EDITING A PAGE

Lynx has the ability to call up a text editor on-the-fly. This allows you to edit text documents, Web pages, or Web HTML source listings.

NOTE: To do any editing, you must have an editor defined in the Options Menu. See the Lynx Options section, later in this chapter.

To edit whatever is currently on the screen, press E to call the editor you specified in the Options Menu. You can add text, delete lines, or move paragraphs around. You can then save the current file to disk. When you're done playing around with the editor, exit. You automatically return to Lynx. The file you were editing is reloaded with all changes intact. This allows you to immediately see the results of your hard work.

Editing an HTML source file in this way is a great tool for Web page developers. You can make small changes, instantly see how they look, and then continue editing.

LESSON #8: BOOKMARKS

Since the Web is so huge and ungainly, it can often be impossible to find a page you accessed just a day earlier. It's like getting lost in a forest where all the trees look pretty much alike. Whenever you come across a Web page you really like, stick a bookmark in it. Lynx provides a special *bookmark file* to help you keep track of your favorite pages, so you can call them up at any time.

The bookmark file is usually stored in a file named:

```
lynx_bookmarks.html
```


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However, you can give the bookmark file any name you wish by setting the Lynx Option Menu, which is discussed later in this chapter.

Table 3–2 covers the various bookmark commands.

Table 3–2 Lynx bookmark commands

Key	Function
A	Add the current link or Web page to your bookmark file
V	View your bookmark file
R	Remove an entry from your bookmark file

Adding a Bookmark

If you want to stick a bookmark in the current document or the currently selected hyperlink, just press A. Lynx asks:

```
Save D)ocument or L)ink to bookmark file or C)ancel (d,l,c) ?
```

If you press D then the URL of the current Web page itself is added to your bookmark file. If you press L then the currently highlighted hyperlink's URL is added.

NOTE: You may want to follow a link before you add it to your bookmark file to be sure it contains what you want.

Viewing Bookmarks

If you want to flip back to a bookmarked page, you can start Lynx with the bookmark file as its home:

```
lynx lynx_bookmarks.html
```

If you're already running Lynx, just press V to view your bookmark list, as in Figure 3–5. A listing of each Web page's title appears. Use the cursor keys to select the title you want and then press ENTER.

To delete a bookmark from your list, just select it using the arrow keys and then press R to remove it. Lynx yanks the selected Web page from your bookmark list.

LESSON #9: THE INDEX

Lynx has a neat one-key command that loads up a vast search index. Press I and the default index page loads up, as shown in Figure 3–6. In most cases, this is the CERN meta-index with links to subjects, geographical locations, and other indexes. Your system administrator can configure Lynx to

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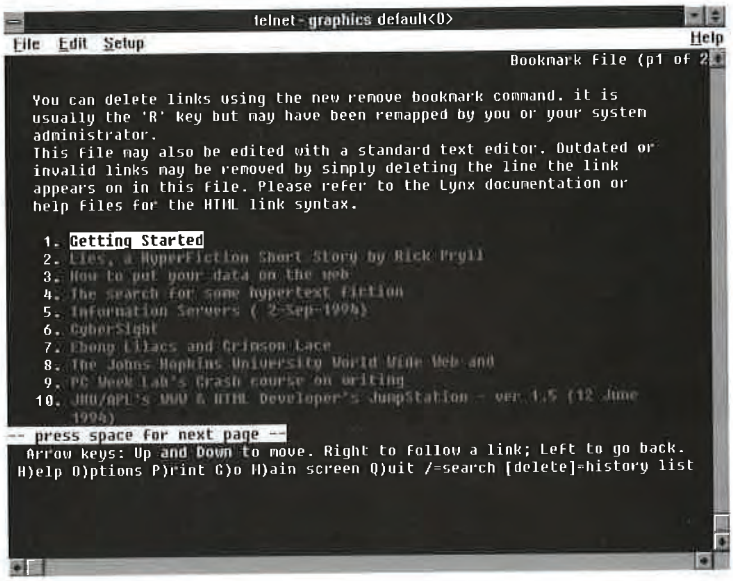


Figure 3–5 The bookmark file is a handy list of all your favorite Web pages

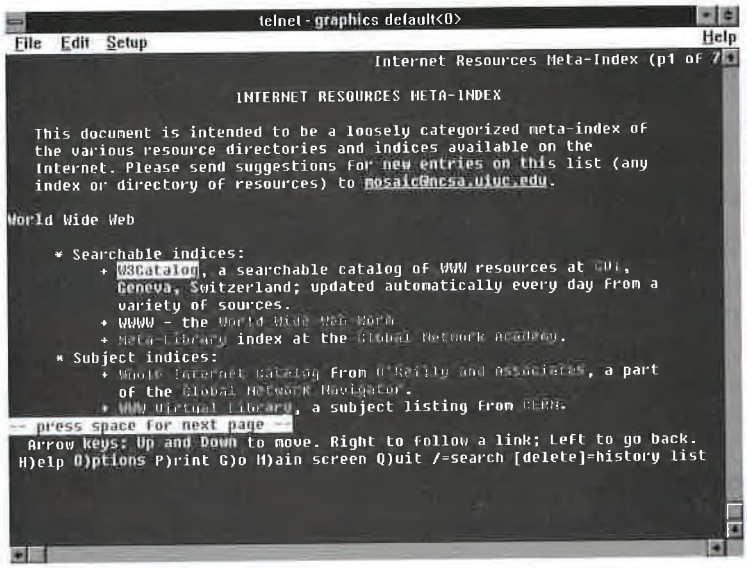


Figure 3–6 It's easy to find a given document with Lynx using the quick index command

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call up any given Web index. If your prefer a different index, just add your favorite index to your bookmark list.

LESSON #10: SEARCHING

Often, a Web page is way too long to flip through. Instead, you'd rather search for a particular phrase or key topic. You may even be using a specialized search index, one that keeps most of its data behind the scenes and expects you to ask for what you want. Lynx makes searching of all sorts as easy as a keypress.

Page Searching

While viewing a Web page, just press the slash key /. Lynx asks you to type in a word or phrase. Depending on how your Options Menu is set (see the Options section, later in this chapter), the search can be case sensitive or case insensitive. You are warped to the first occurrence of your search term.

To search for the same word again, press N. Lynx finds the next occurrence of your search term and highlights it for you.

Index Documents

Many Web search utilities, encyclopedias, and dictionaries are a special type of Web page known as a search index. When you load up an index, Lynx tells you so at the bottom of your screen:

```
This is an index document.
```

To search an index document, press S. You can then type in a search term, phrase, or keyword. Lynx searches the index document and displays the results on your screen.

LESSON #11: SAVING A MULTIMEDIA FILE

Not every hyperlink leads to another Web page. Some may lead to an image, a movie, a sound, or a piece of software. A multimedia browser may be able to display the images, roll the movies, play the sounds, or access the software; Lynx cannot do any of these things. However, you don't have to miss out: you can download a multimedia file and use it later.

Whenever Lynx comes across a *binary* (nontext) file, you are asked if you want to download it. If you want to grab a copy, press D. Lynx retrieves a temporary copy of the file. If the file is long, the status of the download is

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displayed at the bottom of the screen. A list of options now appears. Most versions of Lynx only have one option:

```
Save the file to disk
```

There may also be alternate download methods such as Xmodem, Ymodem, Kermit, FTP, or Zmodem, which you can use to download the file directly to your home PC's hard disk.

Select the option you want. If you choose Save The File To Disk, then the file appears in your current directory. You can now exit Lynx and copy the file, edit it, or download it to your home PC.

NOTE: To download a file you can typically use Unix's *sz* (send Zmodem) command. For example, to send the file named *image.gif* you would type:

```
sz image.gif
```

You can now start your communications program's download command using the Zmodem protocol.

For example, an online art gallery probably won't look too interesting with Lynx. But if you come across the name of a painting you really, really want to see, you can select its hyperlink anyway. Press D to download the file and then save the image to your disk. Exit Unix and download the image using Zmodem. Voila! The image is now on your home PC's hard disk, and you can use your favorite image viewing software to check it out.

LESSON #12: FILLING OUT FORMS

Though Lynx is a simple text-only browser, it offers a very useful and recent feature: forms. A Web page with fill-out forms allows you to interact with the page, selecting options, filling in fields, checking check boxes, tapping radio buttons, or browsing pop-up menus.

The Form of a Form

If a form appears, you should be able to tell immediately, as in Figure 3–7. Fields you can fill in are followed by a blank row of underline characters:

```
What is your E-mail address?_____
```

To fill in a field, just use the cursor keys to select it. The message

```
(Text entry field) Enter text.
```

appears at the bottom of your screen. Type in any text you desire. When done, you can exit the field by using the up and down cursor keys or by pressing TAB.

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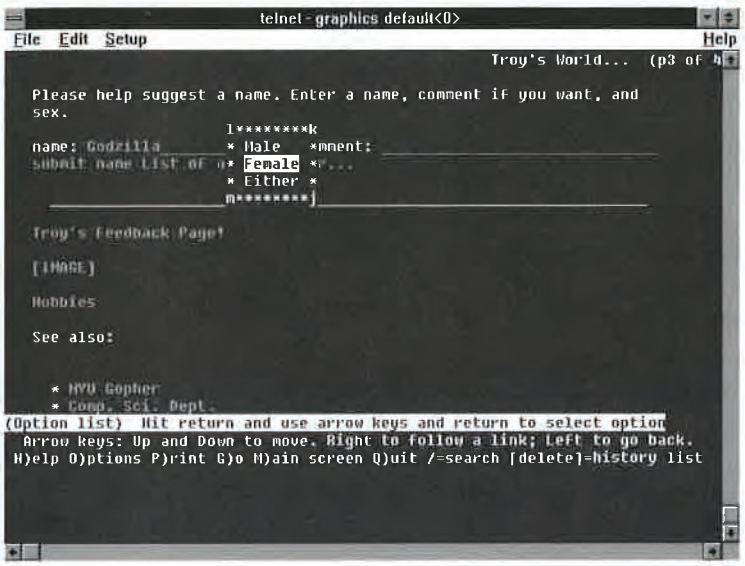


Figure 3–7 Full-featured fill-in forms in Lynx

Checkboxes and radio buttons look like empty parentheses:

```
( ) Check here if you want us to mail you more information.
```

When you select a check box, this message appears at the bottom of your Lynx screen:

```
(Checkbox field)
```

To check or uncheck the box, press → or ENTER. To exit the checkbox, press ←.

Pop-up menus look like boxes:

```
What type of computer do you have?      +=============+
                                        |   IBM 486   |
                                        +=============+
```

When you select a pop-up menu, Lynx displays the following message at the bottom of the screen:

```
(Option List)
```

Press ENTER to open up the menu. A list of items appears. Select the item you want using the up and down arrows and then press ENTER again.

When you're done filling in a form, there's usually a

```
[Submit]
```

button. Select this to send the form away.

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User Validation

Lynx also supports the recent user validation feature. A Web page may have user validation if it is a commercial service, a private company's classified information, or an online service with subscribers like Hotwired.

If you follow a hyperlink that leads to a Web server requiring access authorization, a message appears at the bottom of the Lynx screen asking you for your username. Type it and press ENTER. Lynx then asks you for your password. Type it and press ENTER. If you provide valid information, the Web page loads up for you to see.

If you access another Web page on the same server that also needs a username and password, Lynx is smart enough to fill in these values for you automatically.

LESSON #13: USENET NEWS POSTING

Lynx also has a built-in newsreader. It's incredibly easy to browse newsgroups, read articles, and post messages of your own using Lynx. To kick off the newsreading features, you may select a *news* URL hyperlink that leads to a newsgroup. You can also open a *news* URL of your own. For example, if you want to check out the *alt.abortion* newsgroup, just press G to open a URL and then type:

```
news:alt.abortion
```

Selecting a Group

If you use a URL asking for all newsgroups—that is, you type in

```
news:*
```

you get a list of all applicable newsgroups, along with a short description of each. You can browse through the list with ↑ and ↓ or search with /. When you find the newsgroup you want, just select it and press ENTER.

Browsing Articles

Once you enter a particular newsgroup, a list of recent articles appears as in Figure 3–8. To view earlier articles, select the first hyperlink:

```
Earlier Articles
```

The title of each article is shown alongside the author's name. Select the article you want and press ENTER. If you want to post a message, scroll down to the very bottom of the Web page. The last hyperlink should be:

```
Post an article to this newsgroup.
```


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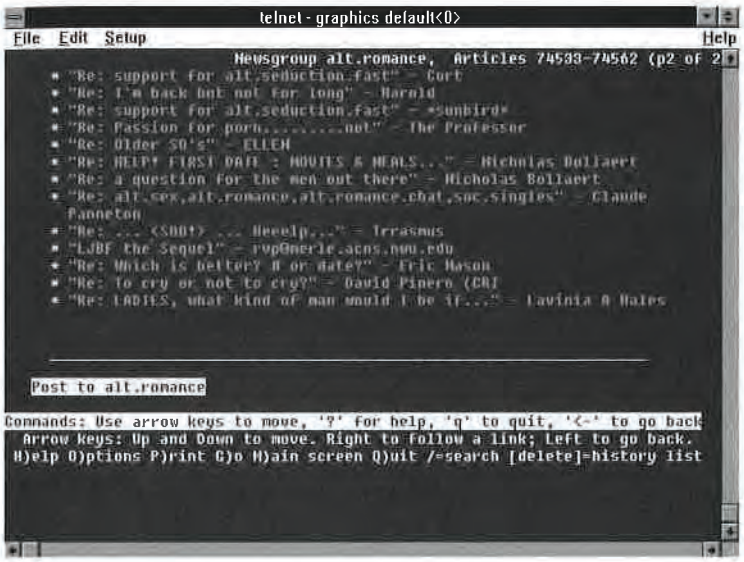


Figure 3–8 Lynx can act as a simple newsreader

Reading an Article

Any article you select is shown on your screen, like any other Web page. Scroll through it using ↑ and ↓. To go back to the list of articles, press ←.

NOTE: Lynx has a neat feature that highlights any e-mail address or URL within an article. To send a comment to the e-mail address or to access the URL, just select it as usual and press ENTER.

At the top of each article there are two response hyperlinks:

```
Reply to name
Reply to newsgroup(s)
```

To send a private message to the author of the current article, select the Reply To *Name* link, where *name* is replaced by the author's actual name. You can then send e-mail to the author's given address, as detailed in the next section. You are also usually asked if you'd like to include the current article as part of your reply. If you opt to do this, the current article appears in full, quoted before the rest of your e-mail message.

If you want to reply publicly, select Reply To Newsgroup(s). You can now post an article to the current newsgroup, as well as any other newsgroups the current article appeared in. You are also asked if you'd like to include the original message in your reply.

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Posting an Article

If you decide to post a message, a special post screen appears. Type in your e-mail address when the system asks for it, and, if your posting is new, a subject. If you set up a specific Unix text editor in the Options Menu, then this comes up so you can create your article.

Otherwise, Lynx has a simple built-in editor. Type your message, pressing ENTER at the end of each line. When you finish your message, type period . on its own line and press ENTER. You are then asked:

```
Send this post? (y/n)
```

Press Y to post your message to the newsgroup. Otherwise, cancel the posting by pressing N.

LESSON #14: SENDING E-MAIL

The new *mailto* URL allows people to create hyperlinks that send off e-mail. If you access one of these hyperlinks, Lynx can act as its own e-mailer. You can also send mail to anyone by opening your own *mailto* URL. For example, to send mail to george@smartpants.edu, type G to open a URL and then type:

```
mailto:george@smartpants.edu
```

A special mailing screen appears, as shown in Figure 3–9. The address of the person to receive your comment appears at the top of the screen. Fill in a subject, your real name, and your e-mail address when the system asks for them.

NOTE: You can tell Lynx your e-mail address in the Options Menu, which is described later in this chapter. If Lynx knows your address, it fills it in automatically.

As before, if you set up a specific Unix text editor in the Options Menu, it comes up so you can type in your e-mail. If not, Lynx uses its built-in editor. Type your comments, being sure to press ENTER at the end of each line. You can cancel a comment as you write it by pressing CTRL-C. When you're done typing, type a period . by itself and then press ENTER. If you're using a separate text editor, exit it. Lynx then asks you:

```
Send this comment? (y/n)
```

Press Y to mail the comment away. If you change your mind, press N, and your comment goes into the trash.

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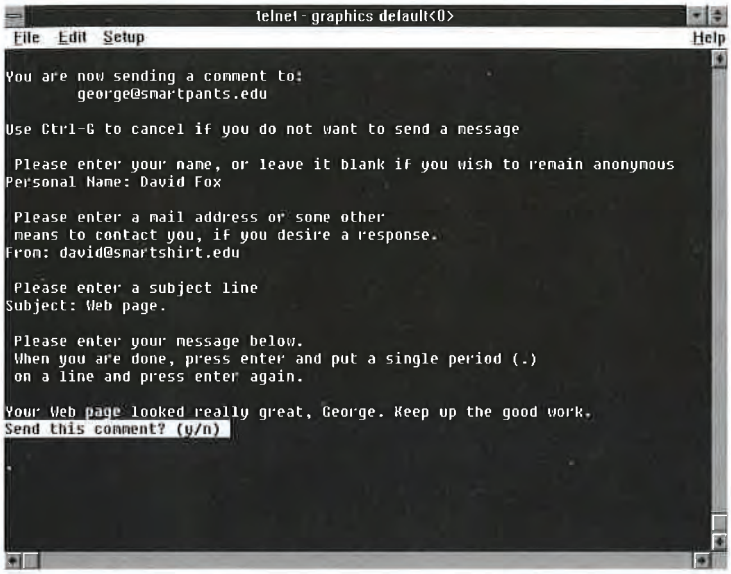


Figure 3–9 Using Lynx to send off a quick e-mail comment

If you're reading a Web page and want to make an urgent comment about it, you can also press C to send e-mail to whoever is in charge of the current page. However, if the creator or owner of the current page hasn't been specified you will get the message:

```
No owner is supplied for this page
```

And no mail is sent.

LESSON #15: THE LYNX OPTIONS MENU

You can customize a bunch of options by accessing Lynx's Options Menu. Simply press the O key, and the menu appears as in Figure 3–10.

The Options Menu has the following options:

- E)ditor
- D)isplay variable
- B)ookmark file
- P)ersonal mail address
- S)earching type

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HTML C)haracter set

HTML V)I keys

HTML e(M)acs keys

HTML K)eypad as arrows or Numbered links

HTML U)ser mode

HTML L)ocal execution links

The following subsections discuss each option, but here are some general procedures, first. To select an option, type in the letter that's flagged with a parenthesis. For example, to change the Emacs keys, press M. This highlights the space next to the option, and you can now type any valid value in the highlighted field. To erase the current value, press CTRL-U. When you're done typing, press ENTER.

Some options allow you to choose from a list of values. To toggle between the values, press any key at all except ENTER. When you've selected the value you want, then press ENTER.

When you're done setting options, press → to save everything so it can be used in the future. To return to Lynx, press R.

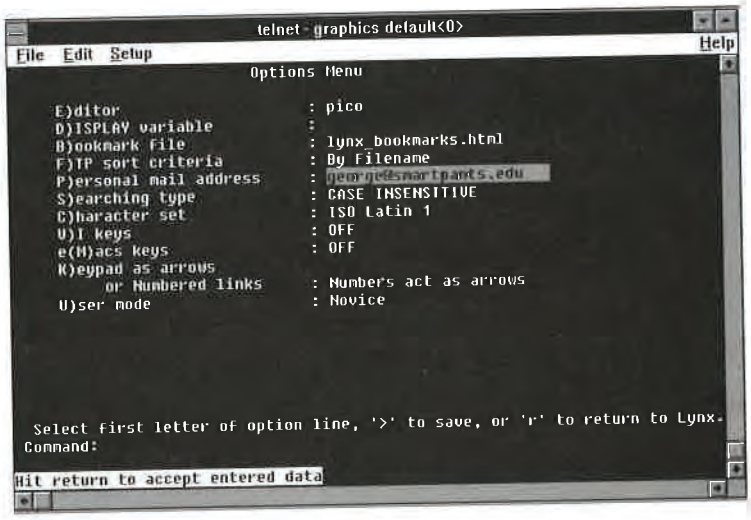


Figure 3-10 The Lynx Options Menu

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Editor

Unix has many flavors of text editors, such as *vi, emacs,* or *pico.* You probably have your own favorite. Lynx calls up an editor to change HTML code, to send e-mail messages, or to post news articles. To make Lynx use your favorite editor, type its name in the slot. If you know the full pathname of your editor, type it in:

```
/local/usr/bin/pico
```

Bookmark File

You can give your Lynx bookmark file any name you wish—just type in a valid Unix filename. The file automatically ends with the *.html* extension. If you want to save your bookmark file in a different directory, type that directory's full path prior to the filename.

Personal Mail Address

Whenever you send e-mail or post a Usenet article, Lynx asks you to type in your e-mail address. To save this step, you can enter your personal e-mail address here. Type your full Internet address, the way someone from a remote system would if they wanted to send mail to you.

Searching Type

The Searching Type option only has two values:

HTML Case Insensitive (default)

HTML Case Sensitive

Whenever you use the slash key [/] to search a Web page, this option comes into play. If you select Case Insensitive, then the word you're searching for is displayed whether it appears in upper or lower case. If you choose case sensitive, then your search term must find an exact match. For example, the word "Cat" would not find "Concatenate."

VI Keys

This option only has two values: ON or OFF. If you set this to ON, the lowercase [H], [J], [K], and [L] keys emulate the cursor arrows, becoming [←], [↓], [↑], and [→], respectively. This is useful for devotees of the *vi* text editor who are used to using these keys to navigate.

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Emacs Keys

Likewise, if you're a big fan of the Emacs editor, you can set this option to ON. You can now use the CTRL-P, CTRL-N, CTRL-F, and CTRL-B keys to move up, down, right, and left, respectively.

Keypad As Arrows or Numbered Links

If you don't like using the arrow keys to select hyperlinks, you can change this setting to Numbered Links. A number appears next to each hyperlink. For example, the first link on a page is followed by [1] and the second link is followed by [2]. To follow a link, you need to type its number and press ENTER. The WWW Web browser uses a similar process.

User Mode

Lynx normally displays two lines of help at the bottom of each screen, showing you which keys correspond to most popular commands. If you're just starting out, this is really helpful. If you're already used to Lynx, however, these lines can get annoying. You can use this option to tell Lynx how much help you need. You have three choices:

HTML Novice (default)

HTML Intermediate

HTML Advanced

The Novice mode shows you the help lines. Intermediate mode simply turns off the two lines of help and keeps the bottom of your page blank. The Advanced mode makes Lynx act much like Mosaic or Netscape: The URL of any link you select is shown at the bottom of the screen. This can help you predict where a hyperlink will take you before you make the jump.

Local Execution Scripts or Links

This advanced setting allows you to affect how local programs are accessed via Lynx. If you ask Lynx to run a separate script program, these options determine whether Lynx will actually run it. Some hyperlinks are also used to run a local script file.

NOTE: Your system administrator may have disabled this option altogether.

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If the Local Execution Scripts option appears, you have three choices:

HTML Always Off: Lynx cannot run local scripts. This is good if you're worried about security.

HTML For Local Files Only: Lynx can only run script files that are located on the current machine.

HTML Always On: All local scripts can be run.

You can read more about scripts in Chapter 15. If a script cannot be run, Lynx tells you so when the time comes.

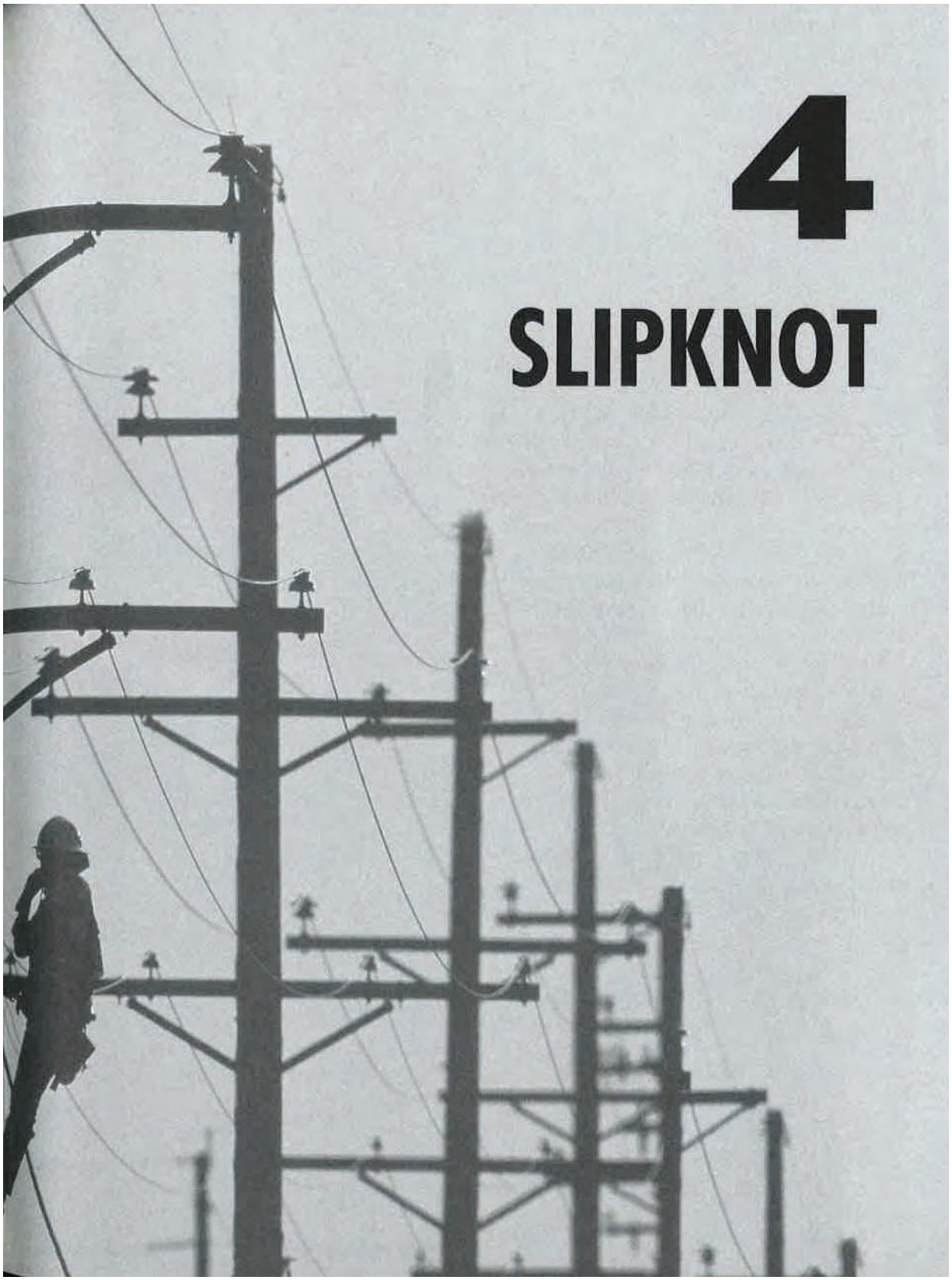
WHAT NOW?

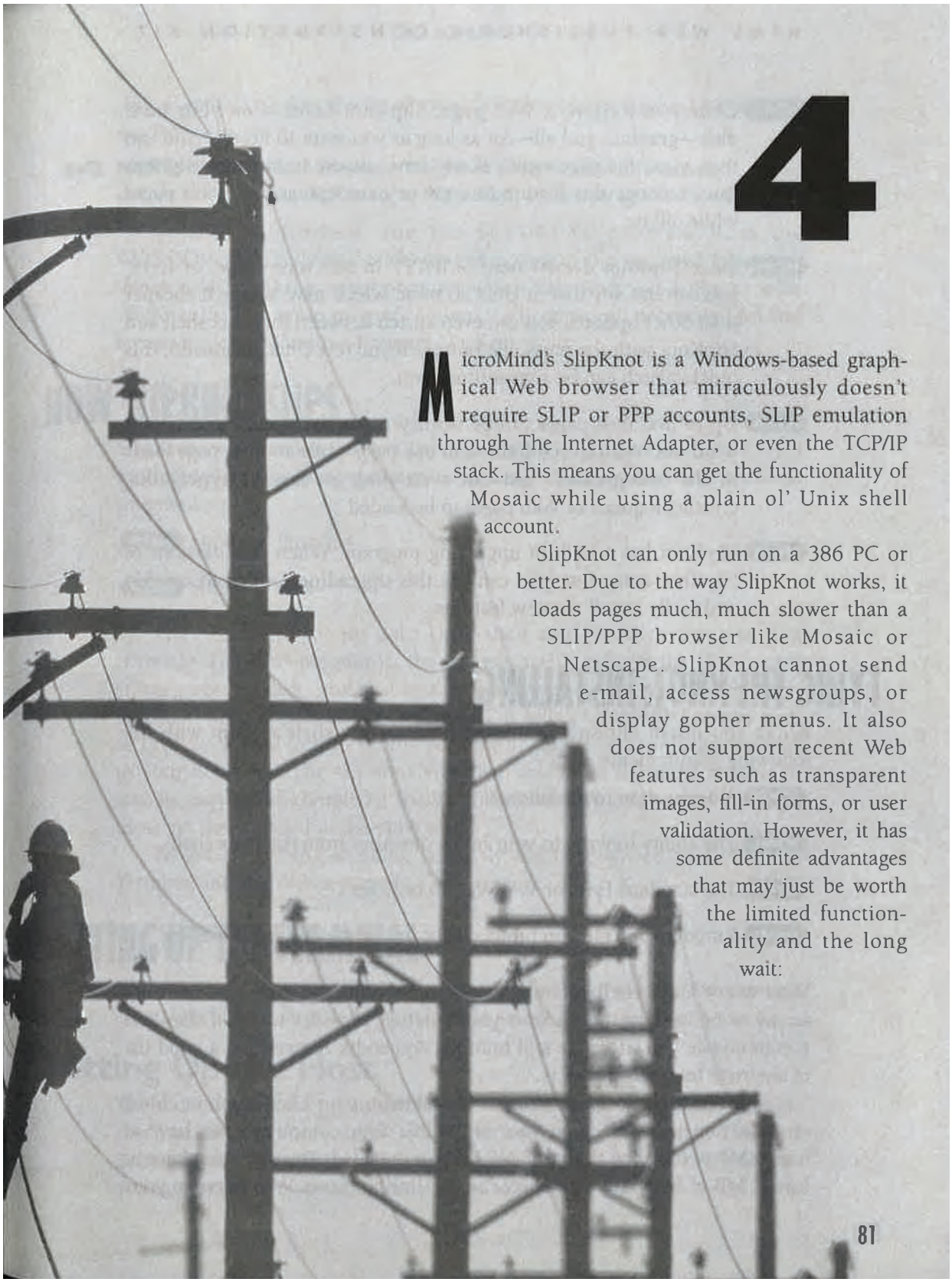
After using Lynx for a while, you may yearn for a multimedia Web browser. Try out SlipKnot to get a feel for the power of included graphics. The SlipKnot graphical browser can run on your Unix shell, as is, as long as you have Lynx installed. Read up about SlipKnot in Chapter 4.

Maybe you want to try to the real thing: A full-speed, full-powered multimedia browser. If you don't have a SLIP/PPP account or The Internet Adapter yet, you can read about these in Chapter 1. You can then install a graphical browser such as Mosaic or Netscape, covered in Chapters 5 and 6.

If you'd like to begin developing your own Web pages, jump to Part II, Creating Web Pages, which starts with Chapter 8.

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4
SLIPKNOT



4

MicroMind's SlipKnot is a Windows-based graphical Web browser that miraculously doesn't require SLIP or PPP accounts, SLIP emulation through The Internet Adapter, or even the TCP/IP stack. This means you can get the functionality of Mosaic while using a plain ol' Unix shell account.

SlipKnot can only run on a 386 PC or better. Due to the way SlipKnot works, it loads pages much, much slower than a SLIP/PPP browser like Mosaic or Netscape. SlipKnot cannot send e-mail, access newsgroups, or display gopher menus. It also does not support recent Web features such as transparent images, fill-in forms, or user validation. However, it has some definite advantages that may just be worth the limited functionality and the long wait:

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- Once you retrieve a Web page, SlipKnot saves it on your hard disk—graphics and all—for as long as you want to keep it. You can then view this page again, at any time, almost instantaneously. You can even use this feature to view or demonstrate real Web pages while offline.

- Since SlipKnot doesn't need SLIP/PPP in any way, shape, or form, you can use any dial-in Unix account, which may be much cheaper than other options. You can even switch between the Unix shell and SlipKnot with the press of a button. If you're a Unix aficionado, this quick-switch can be a great time saver.

- Up to five Web pages can be displayed simultaneously in different windows. You can scroll through one page while another page loads in the background. You can even click on several hyperlinks, creating a queue of Web pages to be loaded.

- SlipKnot has a built-in upgrading program. When new versions of SlipKnot come out, you can use this upgrading routine to quickly and easily install the new features.

TYING THE KNOT: INSTALLING

Before you install SlipKnot you must have a Unix shell account with the following requirements:

- A connection to the Internet
- The ability to write to your home directory from the Unix shell
- The standard Lynx or WWW Web browser
- Xmodem or Ymodem protocols for uploading and downloading

Most every Unix shell account meets these requirements. If something seems to be missing, check with your Internet provider to see if they can accommodate you. If you're still hunting, Appendix A gives you a good list of alternate Internet providers.

SlipKnot itself does not write to or reside on your Unix machine. Most of the action takes place on your home PC. Your computer must have at least 4 MB of memory, though 8 MB is recommended. You must also have at least 2 MB of free hard disk space. Since SlipKnot saves Web pages to your

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disk, it can often take up a lot of room. You should also have a 14,400 baud modem or better.

NOTE: SlipKnot is shareware. You have three months to evaluate it. If you decide to keep using SlipKnot after this period, you must register it for $29.95.

To install SlipKnot, run the SETUP.EXE program from the \WINDOWS\BROWSERS\SLIPKNOT\ directory of the enclosed CD-ROM. When asked, tell the setup program which directory you'd like to store SlipKnot in. The Setup program automatically copies all necessary files and creates a special Windows Program Manager group.

HOW SLIPKNOT SLIPS

SlipKnot was designed from the ground up for home PC users with modems. The SlipKnot package is actually comprised of two separate programs:

HTML SlipKnot Terminal

HTML SlipKnot Web

The Terminal calls up your Unix shell and gets everything started correctly. The Web program is the browser itself; it loads the Web pages, stores pages to disk, and displays pages. When you access a Web page, SlipKnot Web accesses SlipKnot Terminal. It calls a Unix Web browser such as Lynx or WWW to load up the page for it, and then downloads the page to your home PC. The SlipKnot Web then assembles the page, renders it, and shows you the completed results. If there are any graphics on the page, these get downloaded in the same way.

To get everything working correctly, then, you need to set up the Terminal and the Web separately.

SETTING UP THE TERMINAL

The first time you run SlipKnot, the setup routine guides you through several menus. In most cases, you need to set up the Terminal only once.

Setting Up the Host

The most important options are for the *host*. The host is the Unix machine you'll be using to access Lynx, WWW, the Web, and the Internet. The Host Settings window in Figure 4–1 may appear automatically. If not, you can access it by selecting Setup, Host.

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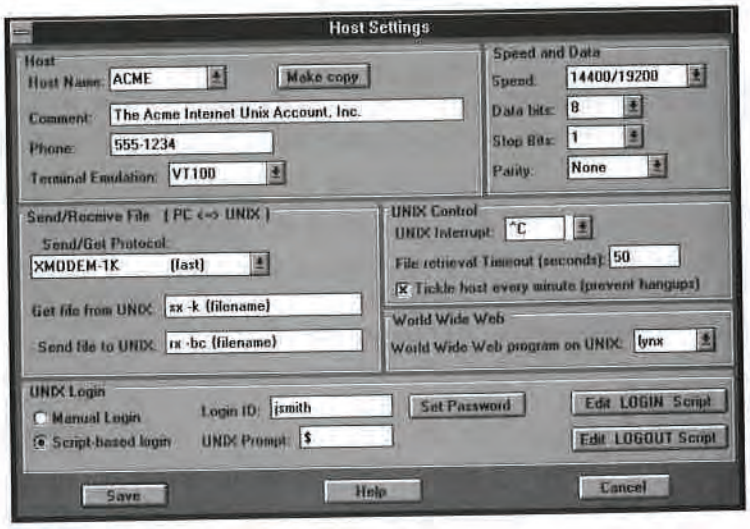


Figure 4–1 Everything SlipKnot needs to know about your host machine and isn't afraid to ask

SlipKnot shows you a sample host setup. Make a copy of this sample setup by pressing the Make Copy button. SlipKnot asks you for the name of your setup. Type in up to eight characters; you may want to use the name of your Internet provider, such as Netcom or Cyber. You can now begin filling in boxes or changing values. You can generally keep most values the way they are.

Host Options

Type in the full name of your Internet provider host or any other important info in the Comment slot. Type the host's full phone number in the phone slot. If you need to add a 9 to reach an outside line or a 1 to call a different area code, be sure to put that in. Select a Terminal Emulation type from the pull-down menu. Most providers expect VT-100 or ANSI.

Speed and Data Options

The Speed and Data options correspond to the type of modem you have. Select your modem's baud rate for the Speed entry. Unless your Internet provider tells you otherwise, you should generally use 8 Data bits, 1 Stop bit, and None for Parity.

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Send/Receive File Options

You now need to select the type of protocol your Unix account will use to speak with your home PC. If you're not sure what protocols your host supports, try one of the two fastest protocols:

HTML Xmodem-1K

HTML Ymodem-Batch

If this doesn't seem to work, try the much slower protocols Xmodem Checksum or Xmodem CRC. The Get File From Unix and Send File To Unix commands should be updated automatically depending on the protocol you choose. Do not change these unless your Internet provider tells you to. If you still have problems retrieving files, contact your Internet provider and ask for the uploading and downloading command sequence.

NOTE: If you fill in your own Get File From Unix command, be sure to follow the command with the word *{filename}* in curly brackets. SlipKnot fills in the actual filename automatically.

Unix Control Options

You can generally keep the Unix control commands set to their default values. The Unix Interrupt is the keystroke that is pressed to stop a current command. In some rare cases, this may be DEL but it is almost always CTRL-C. File Timeout is the number of seconds SlipKnot will wait for a file to start transferring. This number should not be less than 50 seconds. Keep the Tickle Host Every Minute box checked if you want to make sure your Internet provider doesn't hang up on you while you're waiting for a file or a Web page.

World Wide Web Options

The most important host option is the World Wide Web program on Unix. You must have either Lynx or the WWW program installed. If you have both, select Lynx—it's faster. You can learn more about Lynx in Chapter 3. To check if these programs are available, call up your Internet host, get to the Unix prompt, and type

```
Lynx
```

If you don't get a Lynx home page in response, check for the WWW browser by typing

```
WWW
```


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If that command doesn't work either, consult your Internet provider. You will need one of these programs up and running before you can use SlipKnot.

Unix Login Option

You can now tell SlipKnot exactly how to log in to your Internet provider. Select Manual Login if you prefer to type things like your username and password yourself. You should select this the first time you try to run SlipKnot to be sure everything is working. When you log in manually, be sure to notice the exact process. Write down everything the computer tells you and everything you type. You can then easily duplicate this process using a script. If you decide to log in manually, your Host setup is done. Click the Save button.

If you want SlipKnot to log in automatically for you, select Script-Based Login. SlipKnot comes with a sample script that works for most every Internet provider. You can now fill in some common variables for the script to use when it tries to log in. Type your username in the Login ID box. Click the Set Password button and enter your password, twice. Fill in the type of Unix Prompt you like to work with. The prompt is usually a piece of punctuation that appears before you type any commands. Some possible Unix prompts are:

```
$
(graphics)%
WELCOME>
```

To figure out your Unix prompt, just log in to your Internet provider as usual. Notice what's written on each line before you type a command. The single letter or symbol that immediately precedes your typed command is the prompt.

You can now edit the login script using SlipKnot's built-in script language. Click the Edit LOGIN Script button. In many cases, you won't need to make any changes. Anything preceded by the pound sign (#) is a comment. Other commands you may need to use are:

HTML send "*string*": Types out the given *string*. If you want to type a carriage-return after the string use the ^M symbol. For example: *send "shark^M"* is the same is typing the word shark and pressing ENTER.

HTML waitfor "*string*" *seconds*: Waits a given number of *seconds* for your computer to write the word *string*.

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HTML wait for prompt *seconds*: Waits a given number of seconds for your Unix prompt to appear.

Here's a copy of the sample script included with SlipKnot:

```
# ================================
# Sample login script follows
# ================================
#       Call up the Internet provider
dial
#       Wait 30 seconds for a connection
waitfor connect 30
#       Wait three seconds for the host to start working
delay 3
#       Wait for the word "ogin" as part of a Login prompt
send "^M" waitfor "ogin" 3 retry 5
#Send the specified user's login ID followed by a carriage-return
send loginid
send "^M"
#       Wait for the word "ssword" as part of a Password prompt
waitfor "ssword" 20
#       Send the specified password followed by a carriage-return
send password
send "^M"
```

If you wish, you can also change the logout script by clicking the Edit LOGOUT Script button. The default logout script works with 99 percent of Unix systems, so you generally do not need to worry too much about this.

When you're done configuring the login script to work with your Internet provider and all your other options look OK, click the Save button.

Setting Up Communications

The communications options let SlipKnot know exactly what type of modem you're using. The Communication window may appear automatically. If not, you can access it by selecting Setup, Communication.

The only commands you generally need to worry about are the Port and the Dialing Type. Set the Port to the communications port your modem is connected to (COM1 through COM4). The Dialing Type is set to Tone by default. If your phone lines don't support touch tones, select Pulse.

Setting Up the Terminal

Although you won't be using the SlipKnot Terminal to actually browse the Web, your screen might as well look as good as it possibly can while the Terminal dials your Internet provider and takes care of other loose ends. To

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change the current font, select Setup, Terminal Font. You can now pick the Font, Font Style, and Size of your choice.

If you select too large a font size, words may scroll off your screen. Too small a font size may be hard to read. You should use a monospaced font such as Courier, FixedSys, or Terminal to ensure that everything looks the way it should.

LESSON #1: CONNECTING

You're now ready to connect to your Unix account and give SlipKnot a spin. The SlipKnot Terminal is a full-featured communications program in itself. If you've used communications software before, this step should be easy.

Logging In

To log in, select File, Connect To Host or click the Connect button at the bottom of the screen. If you opted to log in manually, you must now type your username, password, and whatever else you usually type. If you're using a script to log in, SlipKnot runs through each command, one at a time. The current command is shown at the bottom of the screen. If something goes awry, it's easy to tell which command caused the problem.

NOTE: You can not make Setup changes while you are connected. If you need to alter a host option or change your login script, you must first disconnect.

If all goes well, your Unix shell prompt should appear. You can now type any Unix or Internet commands the way you normally would. To fire up the SlipKnot Web browser, select File, To World Wide Web, or press the World Wide Web button.

The first time you run the browser, SlipKnot sends several short script files to your Unix account. This takes a few seconds. If there's a problem, press the Help button. The SlipKnot program is pretty smart, and in most cases can tell you what options you need to change.

Logging Out

To quit your Unix connection, select File, Disconnect or click the Disconnect! button at the bottom of the screen.

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LESSON #2: NAVIGATING

The SlipKnot Web browser itself now appears, as shown in Figure 4–2. It asks if you want to keep Web pages that were retrieved during previous sessions. If you have plenty of room on your hard disk, or if you think you'll want to access old pages again, select Yes. Otherwise select No to erase everything and clear up some disk space.

NOTE: You can pick and choose which Web pages you want to keep by fiddling with the history list, which is described later in this chapter.

The SlipKnot home page is now automatically loaded. The home page is stored on your hard disk, so it makes no difference whether you're currently connected to the Internet or not.

NOTE: If you don't want to waste time loading the SlipKnot page each time you start a session, select Configure, Paint Home Page On Startup? and uncheck it.

Along the top of the screen, you should notice five colorful shortcut buttons:

HTML Home: This house-shaped button displays SlipKnot's home page. This page provides general information about the SlipKnot program, the Web itself, and the Internet. You can jump from here to the What's New Page to find out about SlipKnot's latest features or upgrades.

HTML History List: The circular arrow button shows you a listing of every Web page you've ever retrieved. These documents are stored on your hard disk and can thus be loaded almost immediately. Select the title of the page you're interested in and it appears within a window on the SlipKnot surface.

HTML Bookmark: The folder button lets you retrieve a previously saved Web page.

HTML Next: The arrow button takes you to the next document window. You can show up to five Web pages at once, each in a different window. The arrow switches between them.

HTML Retrieve: The arrow pointing into the Web button lets you open and retrieve any URL.

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Figure 4–2 The desktop for the SlipKnot Web program can hold up to five open pages at once

Up to five different Web pages can appear on your SlipKnot desktop. When you try opening a sixth, SlipKnot beeps at you, asking you to close one of the existing pages. When you're done browsing through a Web page, you can close it by double-clicking its control box in the upper left corner.

You can also minimize a Web page by clicking the minimize arrow at the top right of the window; the page then appears as a numbered icon at the top of the screen. To open up the page again, just click on its number. To browse a Web page, click anywhere in its window. You can now scroll through it with the scroll bar.

Following a Link

SlipKnot colors all hyperlinks blue. Hyperimages have blue borders. To follow a link, just click on it with the mouse. The Retrieve window appears, as in Figure 4–4, complete with the full URL of the destination Web page. Click the Retrieve From The Internet button to load up the new page.

When a page loads, you'll see a brightly colored status bar across your screen, as shown in Figure 4–3. This bar is the beginning of an *evolving window*—a window that will eventually become the Web page itself. At first, the bar says "Downloading" as it grabs the Web page itself. It then says "Analyzing" as it figures out how many images the page needs. The "Embedded Images" message lets you know that SlipKnot is retrieving the page's graphics. Finally, the word "Plotting" tells you that SlipKnot is creating the Web page itself.



Figure 4–3 This special evolving window tracks the status of a loading Web page

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Figure 4–4 The Retrieve window lets you load up any URL on the Internet

This loading routine can take quite a while, especially if the Web page has lots of graphics. In the meantime, however, you can browse through other open pages. You can even click on other hyperlinks. SlipKnot keeps a queue of requested Web pages, and loads one page at a time. To see this list of jobs, select the See Jobs! menu. You can even select a waiting job from this list and click the Delete One Job button to get rid of it.

Snagging a Particular URL

If you want to load up a particular URL, simply click the Retrieve shortcut button or select Navigate, Get Document From The Internet. The Retrieve window appears, as in Figure 4–4. You can either type in a full URL or click the arrow to the right, in which case a full list of recently visited URLs appears.

Stopping a Load

At times, you may start loading an image but then decide you don't want it after all. Rather than waste time and energy, you can tell SlipKnot to cancel the current load. Just click on SlipKnot's icon (the large rainbow-like Web at the top of the screen). This halts the load. If any data was already retrieved, SlipKnot will try to analyze and display it.

You can also close a window as it evolves by double-clicking the control box in its upper left corner.

Loading a Local File

One of the nicest features about SlipKnot Web is that it works just fine without being connected to the Internet at all. This makes it a useful tool for Web developers. You can run the SlipKnot Web and test your own HTML Web pages. You can also easily load up any other Web page HTML source that you might have saved.

To load a local page, select Navigate, Display Local HTML File. Specify the Drive, Directory, and File and then click OK.

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Retrieve Again!

The Retrieve Again! option at the top of each Web page's window comes in useful for a number of reasons:

- Reloading the same page with graphics retrieval turned on, if it previously was off.
- Loading up a page that, for whatever reason, arrived garbled.
- Reviewing a Web page you are designing. You can edit your Web page using an HTML editor, save it, and then switch over to SlipKnot. Load up your Web page by selecting Navigate, Display Local HTML File. You can now switch back to your HTML editor, change some things around, and then switch back to SlipKnot. All you need to do is click Retrieve Again! and the fruits of your efforts automatically appear.

LESSON #3: TURNING OFF IMAGES

To drastically speed up SlipKnot, you can request that images not be loaded. Uncheck the Retrieve Embedded Graphics item under the Configure pull-down menu. Whenever you load a new Web page, its images are replaced by the message:

```
Picture not retrieved.
```

If you want to see a page's images, just select the Configure, Retrieve Embedded Graphics item again. Click the Retrieve Again! menu at the top of the Web page's window. The same page is reloaded, this time complete with graphics.

LESSON #4: RETRIEVING MULTIMEDIA FILES

SlipKnot lets you retrieve not only Web pages but sounds, graphics, movies, or any other file or piece of software. If you click on a hyperlink that is meant to retrieve anything other than a Web page, SlipKnot displays the Viewer box as in Figure 4–5.

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Figure 4–5 SlipKnot gives the option of "Viewing" or saving any multimedia file

Viewing

If you've previously configured a viewer that can handle the type of multimedia file being loaded (see the Configuring Viewers section, later in this chapter), then click the "View" button on the Viewer dialog box. SlipKnot loads your viewer, which promptly displays your image, plays your sound, or runs your movie.

Saving

If SlipKnot doesn't recognize the file type, or if you want to keep a copy of the file, you can select File, Save As from the Viewer dialog box. The file is now stored on your hard disk. You are now able to view, edit, or otherwise use the file at your leisure, at any time.

FTP Files

You can also use SlipKnot to retrieve anonymous FTP files. Whenever you ask for a specific file—directly or through a hyperlink—SlipKnot loads it up in the background. Once the file comes in, SlipKnot asks you what Drive, Directory and Filename to use when it stores the file.

LESSON #5: YOU'RE HISTORY

Whenever you retrieve a Web page, SlipKnot automatically saves it on your hard disk. You can quickly and easily "reload" the page at any time by using the history list. To sneak a peek at your history list, click the History List shortcut icon, or select Document, History. The This Session's Documents window appears, as in Figure 4–6.

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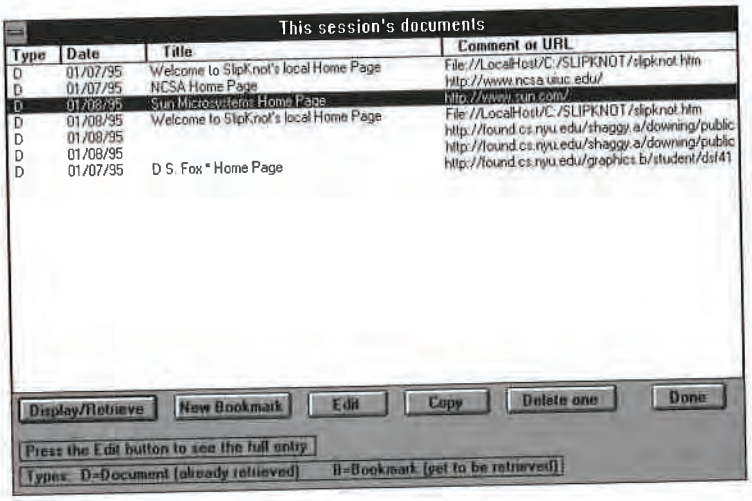


Figure 4–6 The history list can contain all the documents you've recently viewed, as well as Web pages from previous sessions

The history list shows you the Type (D for document, B for bookmark), Date, Title, and URL of all recently viewed Web Pages. To take another look at any Web page, select it and click the Display/Retrieve button. The page appears almost instantaneously.

Cleaning Up

Often, the same Web page appears numerous times on your history list. To delete duplicate pages or pages you're no longer interested in, select the page and click the Delete One button. SlipKnot asks you if you're sure. If so, click Yes. Your history list is now one item shorter.

Cleaning Up for Good

Every time you start a new SlipKnot session, you're asked if you want to erase your history list and start from scratch. Since history lists can tend to get long, tangled, and confusing, it's a good idea to do this every so often. Each Web page on a history list also takes up lots of disk space. It's silly to waste space with Web pages you'll never look at again in your life.

Instead, you should move pages you really like to their own folders. The next section discusses how to save cool documents.

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LESSON #6: THE PERMANENT SAVE

As one becomes a seasoned Webber, one tends to gather a collection of favorite pages, pages returned to time and time again. Most Web browsers, including SlipKnot, allow you to keep a list of bookmarks to these favorite pages. SlipKnot, however, goes one step further, allowing you to save the actual pages themselves. This lets you retrieve your hippest pages at the snap of your fingers (or, at least, the click of your mouse).

Local Keepers: Saving a Complete Web Page

When SlipKnot saves a Web page, it collects all the relevant text and graphics files and stores this packet of information on your disk. It then creates a master file that coordinates this information and knows how to quickly load it up again. The history list is a temporary collection of these master files.

To permanently save a Web page, however, you need to create a special *save folder* for it. Folders act like directories, except they can have long names. To create or access a folder, select Documents, Folders or click the Folders shortcut icon. The folders dialog in Figure 4–7 appears.

NOTE: The (This Session's Documents) folder is the same thing as the history list.

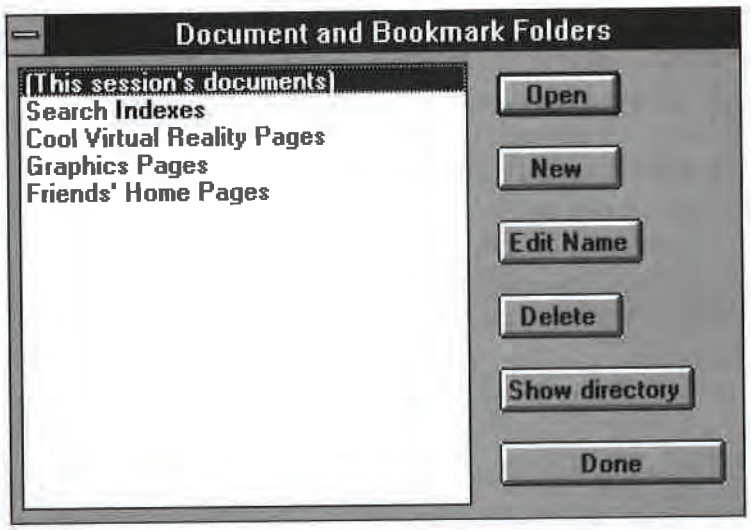


Figure 4–7 Organizing your favorite Web pages in folders for easy retrieval

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To create a new folder, simply press New and type in a descriptive name. You can also use the Edit Name or Delete buttons to rename or erase any of your folders. To access one of your existing folders, just double-click on it or select the folder and then click on Open. A list of Web pages appears, identical to the history list in Figure 4–6.

Just as with the history list, you can Display/Retrieve a Web page or Delete one by selecting the page and clicking the appropriate button.

Saving a Page

To save a Web page in one of your folders, you have two choices:

HTML While browsing the Web page, select File, Save Document In Folder from the menu at the top of the window. A list of folders appears. Select the folder you want and click the Copy To button. You can now type in a Comment to help you remember what the page contains. Click Done and your page is now stored for easy access at any time in the future.

HTML Browse through your history list, as described in the previous section. If you want to save one of the Web pages to a more permanent folder, select that page and click Copy. Choose the folder you want and click the Copy To button.

Remote Keepers: Bookmarks

Maybe you want to save a Web page's information, but don't care about saving the page itself. Or perhaps you're running out of disk space and simply don't have room to save all your favorite Web pages. Luckily, SlipKnot allows you to create easy bookmarks in lieu of actual Web pages.

Bookmarks are stored in folders, just like other Web pages. When you view a folder's contents, a bookmark is preceded by a B in the Type column, whereas an actual document is preceded by a D. You can retrieve, edit, delete, or copy bookmarks the way you would other items in your folders. The only difference is, when you retrieve a bookmark, SlipKnot goes out to the Internet instead of to your hard disk—so you'll have to wait the normal amount of time while the Web page loads up.

Placing a Bookmark

While browsing a page, you can easily add it to your bookmark list. Simply select File, Save As Bookmark from the menu at the top of the Web page's

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window. A list of your folders appears. Select an applicable folder and click the Copy To button. You can now type in a descriptive Comment. Then click Done.

LESSON #7: CHECKING OUT THE SOURCE

Viewing how a Web document is put together can give you some great ideas when it comes to developing your own Web pages. SlipKnot makes it easy to save a Web page's HTML source.

While viewing a page, select File, Save As HTML File from the menu at the top of the Web page's window. You can now specify the Drive, Directory, and Filename where the source should be stored.

NOTE: Most HTML source files end with the *.HTM* extension when stored on a DOS PC.

When you save the HTML markup of a file, that's all you get—no images or other peripheral files. To view or edit the source markup, open up the .HTM file using your favorite text editor or HTML editor. You can then play around with the source markup, study it, or copy sections of it.

LESSON #8: CONFIGURING VIEWERS

If SlipKnot comes across a graphics, sound, or movie file it doesn't know how to display, it sends this file to an outside viewer program. To set up viewers, select Configure, "Viewers". The Viewers dialog box appears, listing any previously installed viewers, the type of files they can handle, and a short comment.

You can get rid of a viewer you no longer need by selecting it and clicking the Delete button.

Editing LView or WPLANY

SlipKnot comes configured to work with the LView graphic viewer and the WPLANY sound viewer. You should install these two viewers (see Chapters 12 and 13 for instructions). To set up the specifics, select one of the viewers and click Edit.

The Edit Viewer dialog box appears, as in Figure 4–8. You now need to tell SlipKnot exactly where your WPLANY or LVIEW31 program is stored. Click the Browse For Program Name button. You can now specify the Drive, Directory, and Filename of the relevant viewer. When you find the program you want, click OK. To finalize the viewer setup, click the Save button.

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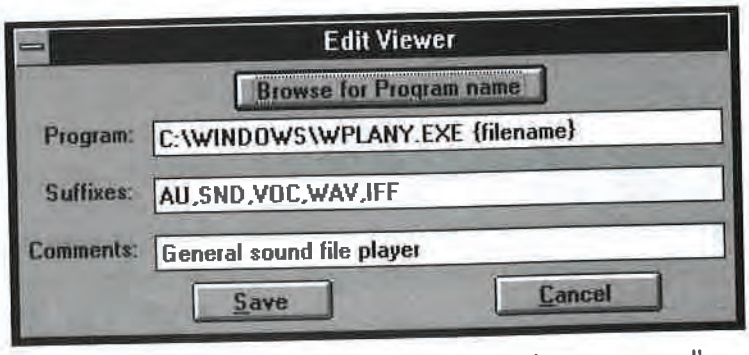


Figure 4–8 Setting your viewers up so that they can actually view

Adding a New Viewer

To configure a new viewer, such as MPEGplay, select the New button while in the Viewers dialog box. The New Viewer dialog appears, similarly to the Edit Viewer dialog in Figure 4–8.

First, you need to specify the exact filename of your viewer in the Program box. Click the Browse For Program Name button, select the appropriate Drive, Directory, and Filename, and then click OK. The full pathname of the file should appear, followed by the word *{filename}*. Be sure that *{filename}* always follows the name of your viewer, since this indicates that SlipKnot should tell the viewer what file to view.

NOTE: If the Viewer program is in your path (for example, stored in the C:\WINDOWS directory), then you need only enter the name of the viewer by itself, followed by the *{filename}* tag.

You can now fill in the Suffixes. These are the typical extensions of the files your viewer is able to access. For example, if you installed MPEGplay, the suffix would be MPG. Separate each suffix with a comma. A good list of valid suffixes can be found in Table 2–1.

Finally, you can type in any Comments you wish. This can help you remember what the viewer's full name is, what limitations it has, etc. When done, click Save. The next time SlipKnot comes across a file with the suffix you indicated, it will call up the viewer you just configured.

LESSON #9: MAKING IT LOOK PRETTY

Now that you're an expert at navigating SlipKnot, you can play around with some of the cosmetic features. This way, each Web page can have the look you want to give it.

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Setting Colors

Select Configure, Colors to turn your Web pages the hue you think they should be. You now have two choices:

HTML Background Color: To set the background of your Web pages. The default is gray. Be sure to pick a color that makes overlaid text easy to read.

HTML Link Color: To set hyperlinks and borders around hyperimages. The default is blue. Pick something that stands out.

In either case, a Color dialog pops up. You can choose from 48 basic colors or you can define 16 of your own custom colors. Click on the color you want and then choose OK.

Customizing Fonts

Most Web browsers decide what each heading, text style, or other emphasized text within your Web pages should look like. SlipKnot allows you to customize these fonts to appear however you desire.

When a Web page is loaded, SlipKnot reads through the HTML code creating different elements such as headings, lists, or block quotes. You can use the custom fonts feature to decide how SlipKnot renders each separate element.

NOTE: You cannot change fonts with a Web page on the screen. Close all Web pages before you begin.

To define your own fonts, select Configure, Screen Fonts. You now have the following choices:

HTML Title: The Web page's title

HTML Header1: The first, main heading

HTML Header2: The second subheading

HTML Header3: The third subheading

HTML Header4: The fourth subheading

HTML Header5: The fifth subheading

HTML Header6: The sixth subheading

HTML Monospaced: An item meant to be drawn in typewriter-like print

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HTML Address: A person's address

HTML List Item: An item in a numbered or bulleted list

HTML Block Quote: A separate chunk of quoted text

Once you select one of the above elements, the Font dialog box appears. Select the Font (from the fonts you have installed on your system), Font Style (Regular, Italic, Bold, or Bold Italic), Size (generally ranging from 8 to 72), Effects (Strikeout or Underline), and Color (select from 16 basic colors). You can see how the font will look by checking out the Sample box.

Printer Fonts

SlipKnot can print out any Web page's text if you select File, Print. Using the exact same procedure as with screen fonts, you can customize these printer fonts. Select Configure, Printer Fonts to define each separate element.

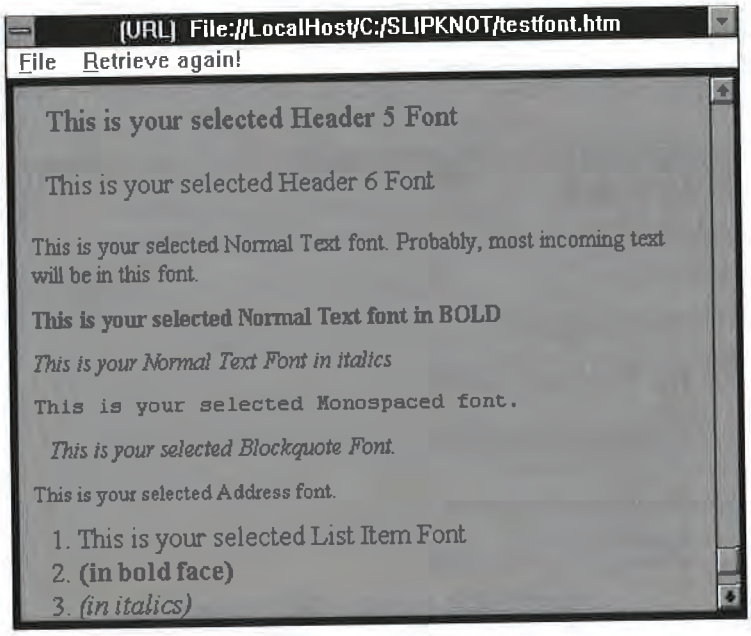


Figure 4–9 A Web page that shows you the appearance of all relevant screen fonts

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Viewing the Results

SlipKnot has a special font-test Web page, as shown in Figure 4–9. To load this up, access the SlipKnot home page and click the To Test Your Screen Fonts *(Click Here)* hyperlink.

If you don't like the way something looks, you can now close this font-test page and reconfigure your screen fonts. To quickly reload the font-test page, select it from the history list.

Background

SlipKnot puts each Web page in its own window, so the main navigation controls are limited to the top of the screen. Since you're in a window, you can choose to run SlipKnot with an invisible background. This makes it easy to access other Windows programs, such as your word processor, HTML editor, or communication programs.

Select Options, Black Background? to turn off the default background and make the screen look something like Figure 4–10. If your screen appears too cluttered, you can turn the background back on by reselecting the Black Background? item.

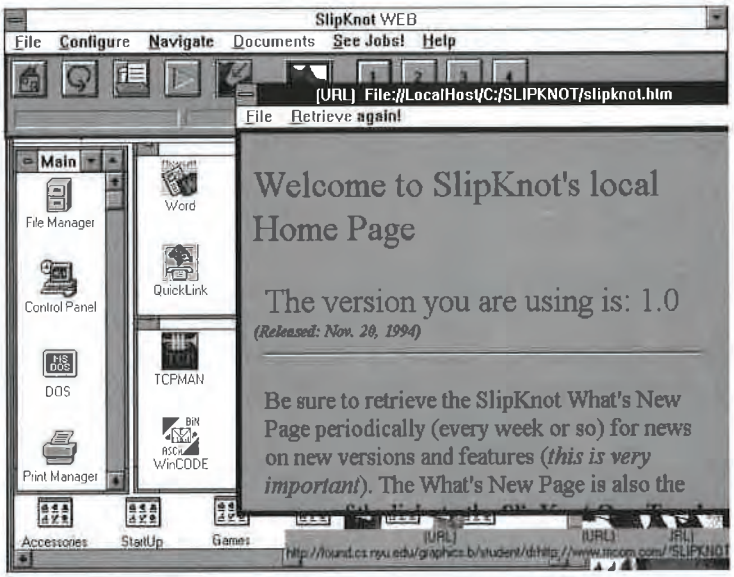


Figure 4–10 Using SlipKnot with a transparent background

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LESSON #10: SWITCHING TO THE TERMINAL

SlipKnot makes it easy to switch back to the SlipKnot Terminal program and regain control of your Unix account. To close out the SlipKnot Web program, select File, Temporarily Return To SlipKnot Terminal.

You can now use your Unix account to manipulate files, run gopher, check a WAIS database, finger somebody, talk to a friend, or whatever. To go back to the Web, simply click on the World Wide Web button. You can now access your history list and reload any pages you lost.

LESSON #11: UPGRADING

SlipKnot comes with a unique one-touch upgrade feature. Whenever a new version of SlipKnot comes out, you can easily download the necessarily files and reconfigure SlipKnot to use the latest set of features.

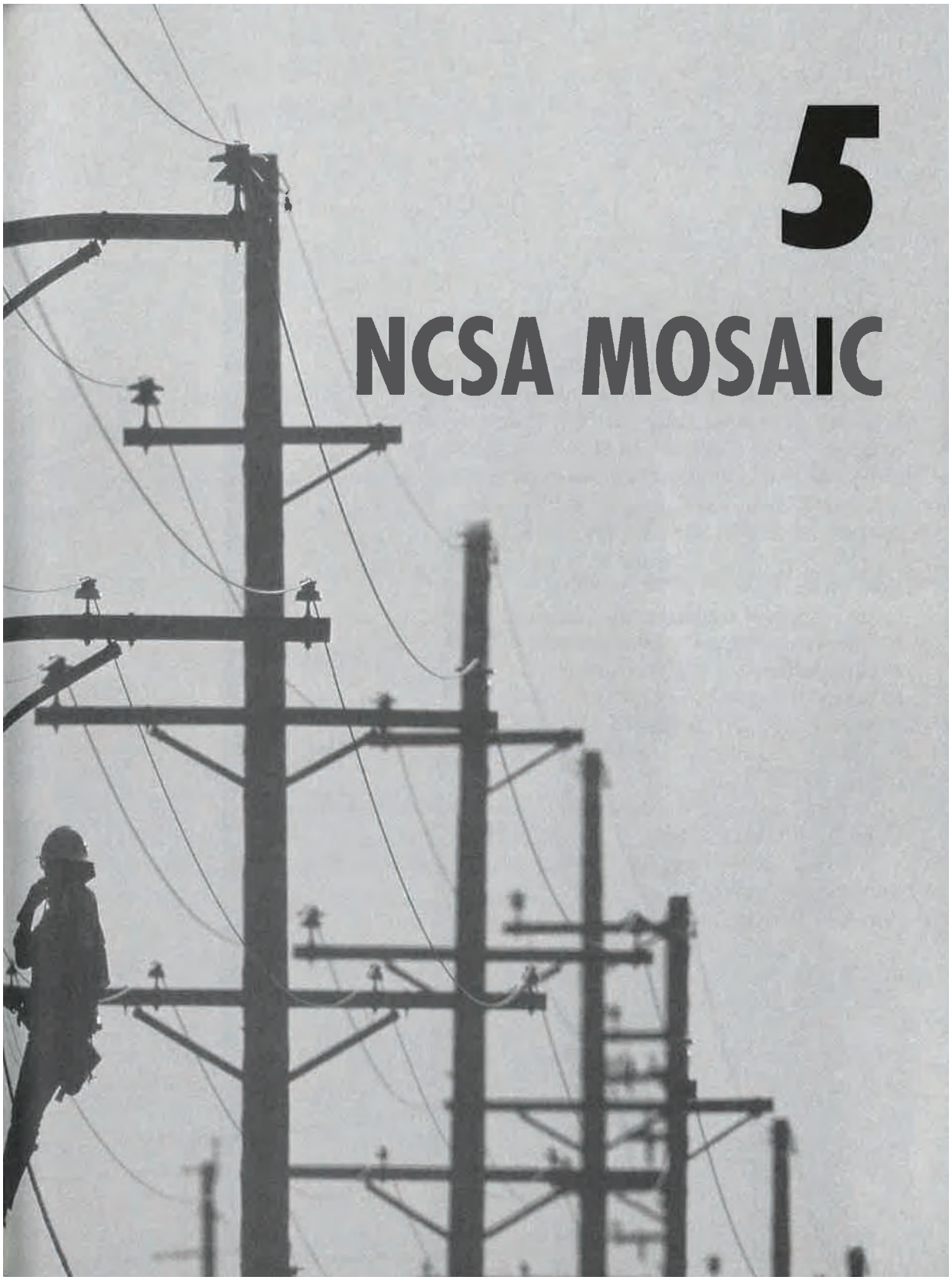
To get the latest version of SlipKnot, view the SlipKnot Local Home Page. This page usually loads automatically. If not, you can access it by hitting the Home shortcut icon. Click on any hyperlink to the SlipKnot What's New Page. If there's a new version announced, you can usually click on a hyperlink that automatically retrieves the Upgrade file for you.

When you've finished retrieving the Upgrade file, quit SlipKnot by selecting File, Exit. There should be a SlipKnot group in your Windows Program Manager. Open this group and select the New Upgrade icon. SlipKnot automatically does everything it needs to do. The next time you run SlipKnot, you'll be using the latest version.

WHAT NOW?

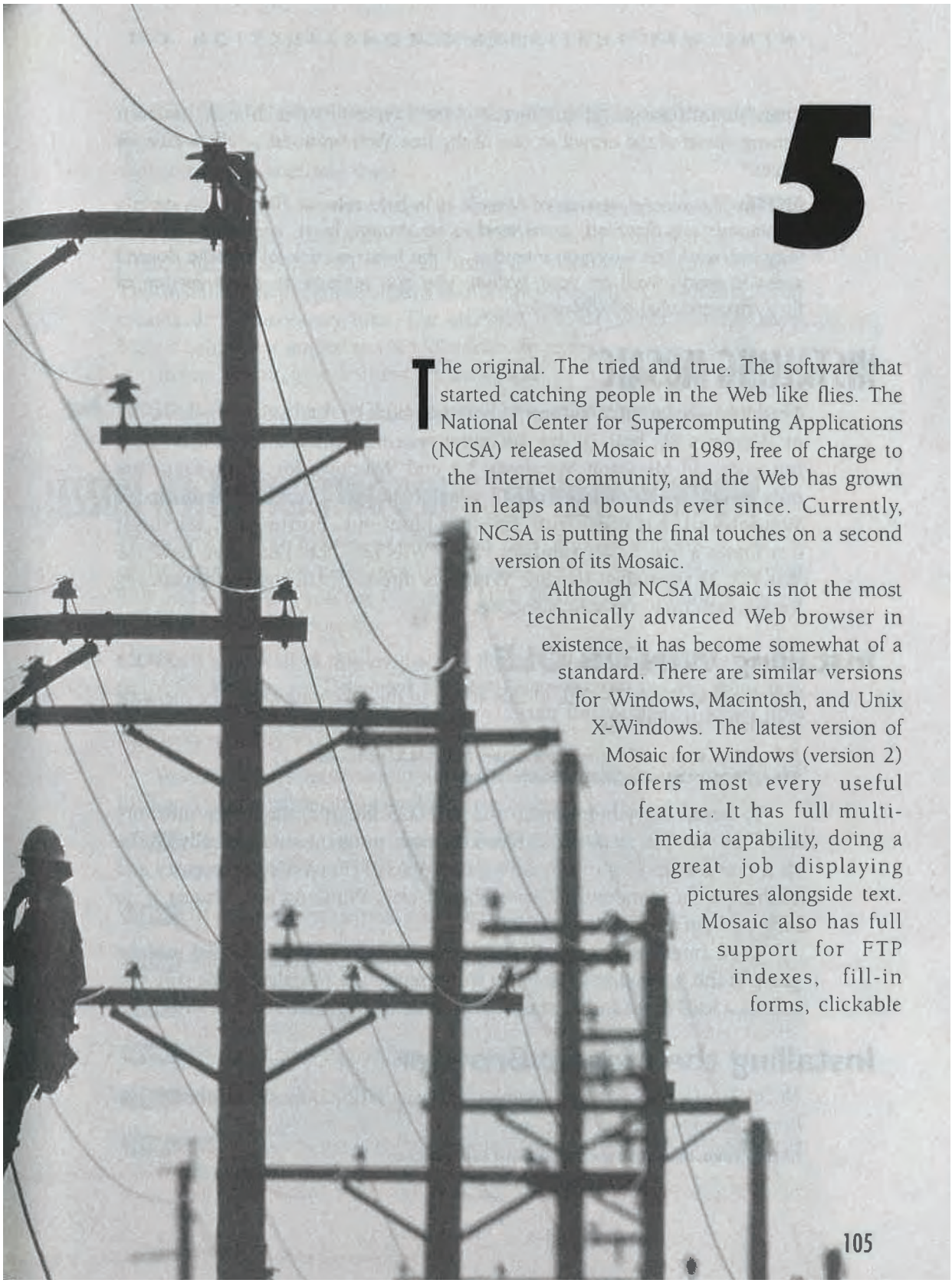
In Chapter 5 you'll look closely at NC SA Mosaic, a classic Web browser. If you prefer, you can begin developing your own Web pages by flipping forward to Part II: Creating Web Pages, which begins with Chapter 8.

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5

NCSA MOSAIC



5

The original. The tried and true. The software that started catching people in the Web like flies. The National Center for Supercomputing Applications (NCSA) released Mosaic in 1989, free of charge to the Internet community, and the Web has grown in leaps and bounds ever since. Currently, NCSA is putting the final touches on a second version of its Mosaic.

Although NCSA Mosaic is not the most technically advanced Web browser in existence, it has become somewhat of a standard. There are similar versions for Windows, Macintosh, and Unix X-Windows. The latest version of Mosaic for Windows (version 2) offers most every useful feature. It has full multimedia capability, doing a great job displaying pictures alongside text. Mosaic also has full support for FTP indexes, fill-in forms, clickable

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image maps, transparent graphics, and most types of styles. Mosaic has even sprung ahead of the crowd as one of the first Web browsers to allow custom tables.

NOTE: The second version of Mosaic is in beta release. This means certain commands are disabled, there tend to be strange bugs, and other features may not work the way you intended. If the latest version of Mosaic doesn't seem to work at all on your system, you can retrieve an older version at ftp://ftp.ncsa.uiuc.edu/Mosaic/.

INSTALLING MOSAIC

The latest version of Windows Mosaic was built to run under Windows NT or Windows 95, both 32-bit operating systems. This is all well and good, but poor old Microsoft Windows 3.1 and Windows for Workgroups are only 16-bit operating systems. To run Mosaic, you'll need to turbocharge Windows so that it can run 32-bit applications. Fortunately, Microsoft distributes a free 32-bit emulator called WIN32S-OLE. Once you have the Win32S files installed in your Windows directory, they are automatically loaded each time you start Windows.

Installing WIN32S-OLE

You can find WIN32S-OLE (1.20) at one of the following sites (the filename is usually WIN32S.ZIP):

```
ftp://ftp.microsoft.com/developer/DEVTOOLS/WIN32DK
ftp://ftp.ncsa.uiuc.edu/Mosaic/Windows
```

To install everything, unzip the WIN32S file in a temporary directory and then run the SETUP.EXE file. The setup program automatically copies all the necessary files to the C:\WINDOWS\SYSTEM\WIN32 directory and configures the Windows drivers. Then it exits Windows and restarts it, to kick the Win32S software into effect.

To be sure Win32S installed properly, try running the enclosed solitaire game. If this game doesn't seem to work, repeat the installation. Be sure you specify a legal drive and directory, and be sure to agree to restart Windows.

Installing the Mosaic Browser

NCSA Mosaic itself can be downloaded from NCSA. Check out the Mosaic homepage at:

```
http://www.ncsa.uiuc.edu/SDG/Software/Mosaic
```


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You can FTP any version of Mosaic by switching to the Unix, Mac, or PC directory under:

```
ftp://ftp.ncsa.uiuc.edu/Mosaic
```

Mosaic usually comes as an executable file named something like WMOS20A9.EXE. Unzip or execute this file into a temporary directory. Again, run the SETUP.EXE program using the Windows Program Manager. The installation program creates a directory (usually C:\MOSAIC) and creates all the necessary files. The MOSAIC.INI file, which handles most Mosaic settings, is copied to your Windows directory.

To run Mosaic, just double-click on its icon.

NOTE: Be sure to check NCSA's Mosaic home page every so often for latest release information.

LESSON #1: NAVIGATING USING THE VIEW WINDOW

When you first run Mosaic, its distinctive View Window appears. At the top of the screen are two fields, one holding the current Web page's Document Title and one telling you the Document URL. Below these indicators you get a *toolbar* with useful buttons.

NOTE: If you want to display more of the current Web page, you can get rid of the toolbar, the Document Title, the Document URL, or the status bar. Just deselect Show Current URL/Title, Show Status Bar, or Show Toolbar from the Options pull-down menu.

You can access most useful Mosaic commands with one click of the toolbar. The toolbar includes the following buttons:

- Open: Allows you to enter a new URL or select a Web page from your hotlist.
- Save: Saves the current Web page to disk.
- Back: Loads up the last Web page you visited.
- Forward: Loads up the next Web page in your history list.
- Reload: Loads the current Web page again.
- Home: Returns you to your default Web page.
- Copy: Copies the currently selected text from your Web page to the clipboard.

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HTML Paste: Pastes copied text.

HTML Find: Searches the current Web page for a given search term.

HTML Print: Prints out the current Web page.

HTML About: Learn about NCSA Mosaic.

Following Hyperlinks

When you first run NCSA Mosaic, it loads up the Mosaic Home Page by default. You can tell Mosaic to start at a more suitable home page. See the Configuring Mosaic section, later in this chapter.

Figure 5–1 shows a sample Web page. You can scroll through the page by using the scroll bar or by pressing PGUP or PGDOWN. Underlined blue text generally indicates a hyperlink, as does a blue border on an image. When you move your cursor over a hyperlink, the arrow changes into a pointing finger. The URL that the hyperlink will load is then displayed at the bottom of the screen, in the status bar.

To follow a hypertext or hyperimage link, just click on it. The link will load up a new Web page, a graphic, a movie, an audio file, or it will send you around the Internet to a telnet, FTP, or gopher site.

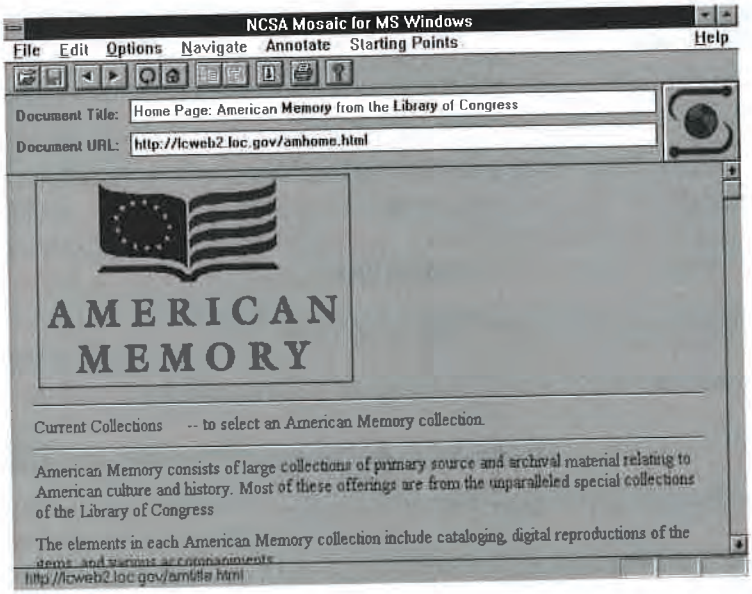


Figure 5–1 A sample multimedia Web page in NCSA Mosaic

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Figure 5–2 The full-featured Open URL dialog box

If you follow a link and don't really like what you see, you can return to the previous page by clicking the Previous button in the toolbar.

Moving to a Specific URL

To load a specific Web page, just type a valid URL in the Document URL field at the top of the screen and press ENTER. You can also select File, Open URL and then type in the desired URL. The Open URL dialog box, shown in Figure 5–2, also includes a built-in menu of hotlists that allows you to easily jump to your favorite pages. See the section called The Hotlist, later in this chapter.

The Right Mouse Button

The latest version of Mosaic allows you to perform lots of complicated commands simply by clicking the right mouse button. Many of these commands are useful for the Web publisher, letting you know things about a given entity such as its URL, size, or type.

If your cursor is pointing to some ordinary text (not an image, hyperlink, or hyperimage), then the following choices appear in a pop-up menu:

- Save to Disk: Allows you to save the current Web page to disk.
- Create an Internet Shortcut: Saves the current page's URL to a file on your hard disk.
- Spawn Mosaic From Anchor: A new window opens up containing the current Web page. This allows you to view several Web pages at once.

Clicking on an Image

If you click on an image, a slightly different menu appears:

- Save Image: Allows you to save the current image to your disk, as either a Windows BMP bitmap or the Remote Site Format, usually a GIF.

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HTML Image Information: A box appears with fields describing the image—URL, Size, Last Modified (date), MIME Type, Server Type, and MIME version number.

Clicking on a Hyperimage

If the image you right-click is a hyperimage, a menu appears with Save Image and Image Information options. You also have several more choices:

HTML Load Anchor to disk: The resource the current link leads to will be saved to your disk, whether it's a Web page, another image, or some other sort of multimedia file.

HTML Anchor Information: A box appears with fields describing the link's destination anchor—URL, Size, Last Modified (date), MIME Type, Server Type, and MIME version number.

HTML Create Internet Shortcut: The anchor's URL is saved to your disk in a URL file.

HTML Spawn Mosaic From Anchor: The anchor is opened into a new window, letting you view the current page and the destination Web page side by side.

Clicking on Hypertext

The right mouse button is perhaps most useful when you click it while pointing to a hypertext link. Along with Anchor Information, Create Internet Shortcut, and Spawn Mosaic From Anchor, you also have the option to Load Anchor To Disk, which saves the destination URL to your hard disk.

Halting: the Secret button

When a Web page loads, you'll probably notice the neat NCSA logo in the top right corner: The globe spins and the "S" seems to transmit yellow sparks. At the bottom of the screen, you're told whether Mosaic has connected to the remote URL, what percentage of the HTML document has loaded, and how many GIF images or other resources have arrived.

This logo is actually a useful button. If a Web page is taking way too long to load, you can abort the load by clicking on the logo. If any text or graphics were already loaded into memory, these will be displayed.

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LESSON #2: IGNORING IMAGES

The most lengthy part of Webbing is the loading of graphics. Text can zoom, and hyperlinks are never a problem, but inlined images can make your Web pages load sluggishly. Slow modems, slow computers, or busy Internet connections all magnify this problem.

Mosaic allows you to switch off graphics, vastly increasing your system's performance. Simply select Options, Display Inline Images to remove the check mark next to it.

The next time you load a Web page, all images are replaced by a tiny Mosaic logo and the word *Image,* as shown in Figure 5–3. You still get the blue borders surrounding any hyperimages; just click on the logo to follow the link. If you come across a page that seems to contain images to die for, select Option, Display Inline Images again and then click the Reload toolbar button, or select Navigate, Reload.

NOTE: Reloading is also useful if the current Web page happens to appear skewed or with garbage instead of text. This can sometimes happen if Mosaic comes across a bad connection.

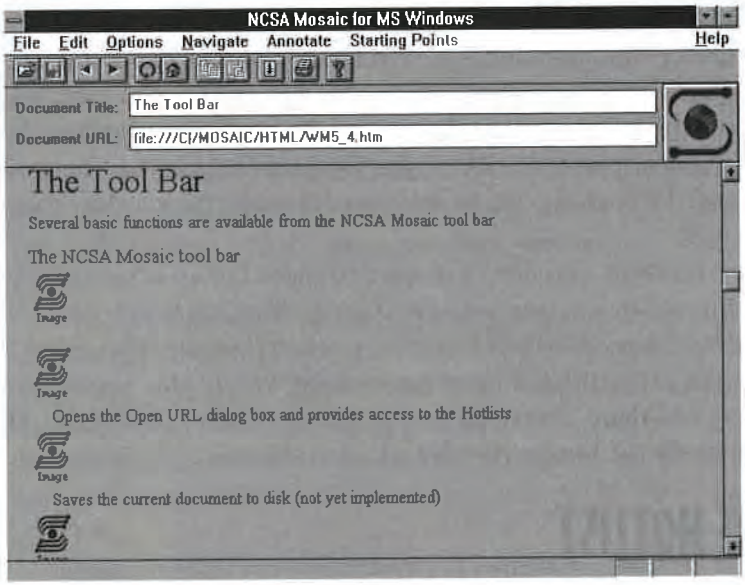


Figure 5–3 When graphics aren't included, loading a Web page can happen dozens of times more quickly

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An even nicer feature allows you to load just the images you want to see. Move your mouse arrow to the image icon and click the *right* mouse button. The selected inline image loads up, but all the other icons stay put.

LESSON #3: MULTIMEDIA FILES

NCSA Mosaic can handle any hypertext HTML document or GIF graphics. Most other formats, however, must be passed on to a viewer. See the Configuring Viewers section, later in this chapter, for information on setting up these external applications.

If you try to load a document and Mosaic doesn't know what to do with it, it asks if you want to save the resource to disk. Select Yes. The Save As box appears. Specify a Drive, Directory, and Filename and then click OK.

NOTE: Many Web pages or other documents may have long or complicated Unix filenames. Any file you download is automatically converted to fit within the DOS filename standard (eight-letter filename, three-letter extension). If a Unix filename has more than one segment separated by a period, the last segment becomes the file extension. As an example, the file *History.Of.The.World.txt* becomes *HISTORY.TXT*.

LESSON #4: HISTORY LIST

Any time you load a Web page during a Web session, Mosaic stores it in the history list. To move to the previous item in your history list, you can click the Back button (the left arrow) on the toolbar. To go to the next item in your list, if applicable, you can click on the Forward (right arrow) button. You can also move through the list by selecting Navigate, Back or Navigate, Forward.

Many times, however, you don't just want to check out an adjacent Web page; you want to review a screen you saw 10 or 15 Web pages ago. To view your entire history list, as shown in Figure 5–4, select Navigate, History.

The screen lists the URLs of every page you've visited this session, in the order you visited them. To reload a page, select it and click on Load. If you decide not to use the history list after all, click Dismiss.

LESSON #5: THE HOTLIST

History lists are great, but once you finish your Mosaic session, all that information disappears. A *hotlist* allows you to keep track of your favorite Web pages, files, or other Internet resources. You can organize these lists

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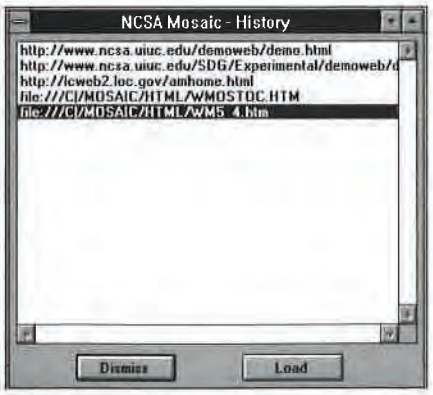


Figure 5–4 The history list reminds you where you've been, and lets you quickly reexperience a blast from the past

and make them available as an item in your Mosaic pull-down menu. In other words, once you add a Web page to your hotlist, getting to it just takes a few clicks. This is similar to placing a bookmark at an important page in a very thick book.

NCSA comes with several built-in hotlists. Select the Starting Points menu to check some of these out. There are Internet starting points, demo documents, NCSA information, other Web resources, famous home pages, famous gopher sites, and even useful search tools such as Finger, Whois, and Archie. Some items in the menu are followed by a small black arrow. This means that the current item is the heading of yet another menu of items. When you find the page you want, just select it. The page is loaded up ASAP.

You can also access an item from your hotlist by selecting File, Open URL, or pressing CTRL-O, or selecting the Open button from the toolbar. The Open URL dialog box appears. Select the Hotlist pop-up menu and select the category of hotlist you're interested in. You can now select one of the two upper pop-up menus: the list of URLs on the left or the corresponding list of Web page titles on the right. Once you decide on a page, select it and click OK.

Mosaic includes two basic types of hotlists:

HTML The Quicklist: The hottest of your hot pages. Pages in your quicklist are ones you're likely to access all the time.

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HTML User-configurable menus: Organized categories for different hotlists.

Getting Hot: Quickly Creating a Hot Item

Whenever you come across a page you think you'll want to visit again, add it to the hotlist by selecting Navigate, Add Current To Hotlist. The Web page is tacked onto the end of the currently selected hotlist. To change the current hotlist, open the Open URL dialog box (select File, Open) and choose a hotlist from the pop-up menu.

NCSA comes configured with many categories of hotlists. If you want, however, you can create your own categories. This way you can keep lists of your favorite music pages, or your favorite educational pages, or the most useful search indexes.

Customizing Your Mosaic Menu

To add, edit, or delete an item from your menu of hotlists, select Navigate, Menu Editor. The Personal Menus window appears, as in Figure 5–5.

All your current user-configurable menus (including the Quicklist) appear in the Menus box. The main menu is Starting Points. Typical submenus–which are indented in the list–include World Wide Web Info, Home Pages, Gopher Services, and Other Documents. To work with one of these menus, select it. A list of all that menu's items appears to the right, in

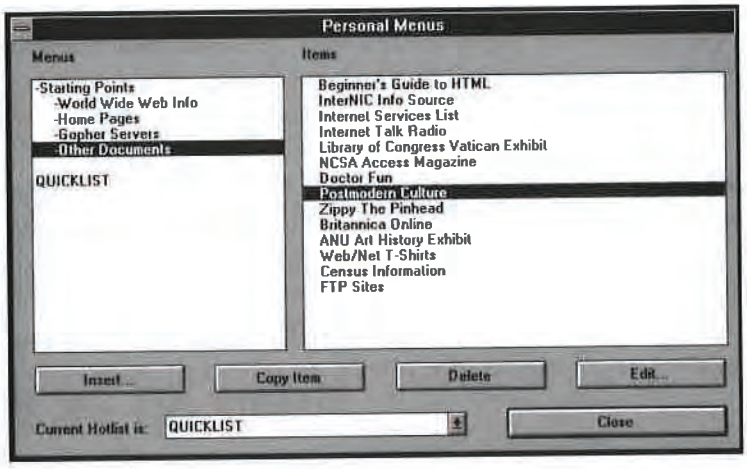


Figure 5–5 Customizing your menus puts your favorite Web pages at your fingertip, literally

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the Items box. Some items are preceded by an arrow (>). This indicates that the menu item is actually another menu.

Working with Items

To work with an item, just select it and click Edit. The Title and URL of the item appear in the Edit Item dialog box. If you wish, you can change the item's title or URL address. To delete an item from your hotlist, select it and click Delete. You are asked if you're sure. If you are, click OK.

You can also add an item to the currently selected menu—just click Insert. The Add Item dialog box appears. If you have a Web page currently loaded, then that page's Title and URL appear in the dialog box. You can also type in a Title and URL of your own. When everything is filled in properly, click OK.



NOTE: Each menu can have up to 40 entries.

When you add an item, it appears at the end of the currently selected menu. If you wish to insert it someplace else, select the location you want from the Items list before you click Insert. Your new hot item will appear directly before the currently selected item.

If you want to copy a current hotlist item and move it to a different menu, select it and click the Copy Item button. You can now delete the item from the old list by clicking Delete. Move to the menu where you want to place your new item and select Insert. When the Add Item dialog box appears, the URL and Title boxes will automatically include the hotlist item you just copied. Simply click OK.

Creating Menus

One of Mosaic's premiere features is the ability to create customized menus and submenus. To create a top-level menu, select the blank space in the Menus list between the list of user-configurable menus and the QUICKLIST line. To create a menu within an existing menu, just select that menu's name from the Menus list.

Now click the Insert button. The Add Item dialog box appears. Click the Menu radio button and then type in a descriptive Title for your menu. When you're done, click OK. Your new menu now appears, indented where it belongs, in the Menus list. You can now begin adding or copying items to your new menu.

You can easily delete a menu by selecting it and clicking the Delete button. A dialog box appears, double-checking. If you're sure you want to

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delete the menu, click OK. The menu, all its items, and all its submenus are then erased. You cannot delete the quicklist.

The Separator

With all these menus within menus, your hotlists can get hard to manage. Separator lines help you divvy up a menu into subcategories of its own. Click on an item in the Items list and then select Insert. Select the Separator radio button and then click OK. A separator line appears directly over the currently selected item.

When you open up your Mosaic menu, each of your separator lines runs entirely across the menu, giving it the appearance of being two or more separate boxes.

The Quicklist

The quicklist does not appear as a menu. You can only load a quicklist item by selecting File, Open URL, or clicking the Open toolbar button and selecting QUICKLIST as the Current Hotlist. The quicklist can contain an unlimited number of items.

Sharing Hotlists

If you're researching anything, you can probably find lots of relevant information on the Web. You'll probably want to keep a separate hotlist with all the research-related resources you find. Exporting hotlists allows you to share this list of sources with a colleague, friend, or student.

NOTE: Mosaic can hold up to 20 hotlists (not including the quicklist).

Mosaic has no specific import or export commands. However, all hotlist menus are stored in your MOSAIC.INI file, which is usually located in your Windows directory. To share a hotlist, use a text editor to load up your MOSAIC.INI file. Find the titles and URLs of the pages you want to share. You can then give this text file to your friend. She can then copy and paste any items she's interested in to her own hotlist.

LESSON #6: KEEPING THE PAGE

If you come across a really good Web page, you may want to snag it so you can use it for reference at any time. Mosaic includes two easy commands that allow you to either save a Web page to disk or print it out.

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Save It

To save a Web page to your hard disk, just select File, Save As. A dialog box pops up asking you to specify a Drive, Directory, and Filename. You can save the Web page in one of three formats:

HTML ASCII: Saves the document as plain text. This is useful if you want to load the information up using a word processor or text editor.

HTML HTML: Saves the document in hypertext format. This is useful if the Web page has lots of hyperlinks. You can then open up this file with Mosaic (select File, Open Local) and view it at any time, offline. This is also useful if you want to edit or borrow parts of the current Web page's source markup to create your own HTML Web pages.

HTML Binary: Saves the current file as a piece of software. This feature is not yet implemented on the current version of Windows Mosaic.

If you save your file as text or HTML, you do not get copies of the inlined graphics.

Load It to Disk

What if you want to keep a great Web page on your home computer, artwork, fonts, images and all? Mosaic has a great feature allowing you to save a complete Web page to disk. Open the Options pull-down menu and be sure a checkmark appears next to the Load To Disk item. The next time you click on a hyperlink, the entire document goes onto your hard disk instead of appearing on your screen. The Save As menu appears allowing you to specify a Drive, Directory, and Filename.

Alternatively, you can load a page to disk by holding down the SHIFT key *before* clicking on the hyperlink.

Loading to disk is a great way to retrieve images, sounds, or other software files that you know you don't want to display or listen to right away. Mosaic will not load up a viewer when the Load to Disk option is selected.

Print It

If you have a printer attached to your PC, you can easily create a hard copy of any Web page. Simply select File, Print. A dialog box appears. If you need to, adjust the options. Click OK when you're ready to print.

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If you want to try before you buy, you can see what your printout will look like by selecting File, Print Preview. To change your printer or alter other print options, select File, Print Setup.

LESSON #7: SEARCHING

If the current Web page is long, unwieldy, or confusing, you can easily search for a particular word or phrase. Select Edit, Find. The Find dialog box appears. You can now type a word, a part of a word, or an entire phrase in the blank box. Click Find Next. The first occurrence of your search term is brought up and highlighted.

If you're searching for a proper noun, a heading in all capital letters, or any other case-sensitive search term, be sure to select the Match Case checkbox. If you search for the word "Fig," then words like "configuration" and "figure" will be skipped.

If you want to find the next occurrence of the search term, click the Find Next button again. When Mosaic reaches the end of the Web page, the "Failed to find string!" box appears.

LESSON #8: THE SOURCE OF IT ALL

Once you start creating your own Web pages, you'll find out that the best way to learn the intricacies of HTML is to study other people's pages. NCSA Mosaic allows you to view the current page's HTML source markup by selecting File, Document Source.

NOTE: If the current Web page is a plain text document, "Document Source" gives you the ASCII text.

A Source window appears, as in Figure 5–6. This window has its own menus: File and Edit. You can now scroll through the markup until you find the section or element you're interested in. To copy a piece of the markup to your Windows clipboard, select the text using your mouse and then select Edit, Copy. If you want to save the entire HTML file to your hard disk, select File, Save.

LESSON #9: FORMS

Mosaic fully supports forms, so a Web page can request information as well as offer it. You can use forms to order things, to send in specific comments or feedback, to request specific items from a database, to complete a survey

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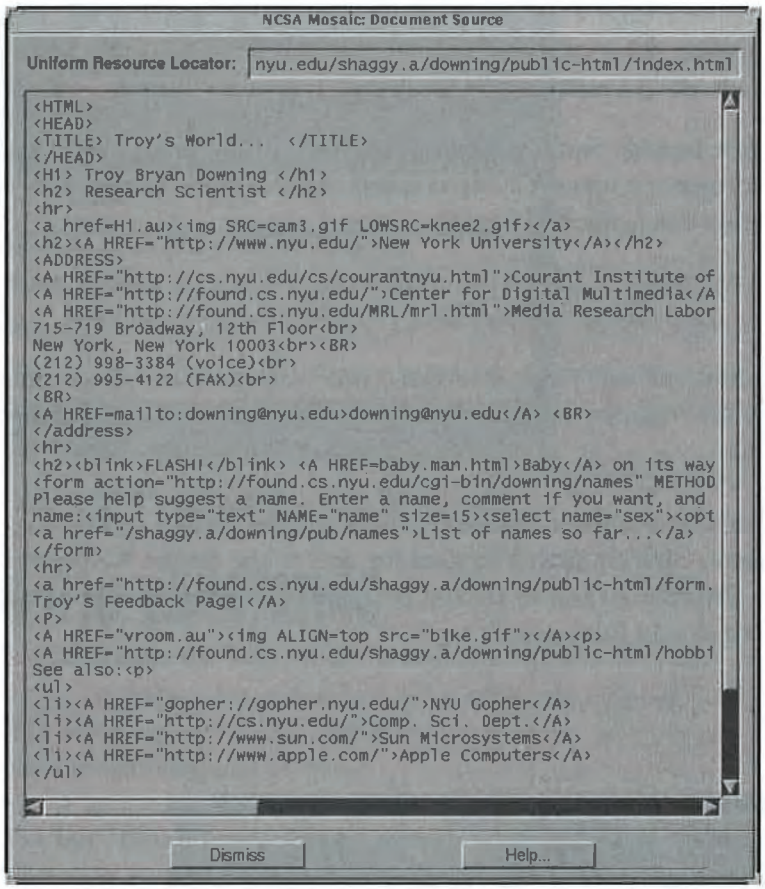


Figure 5–6 Peeking behind the scenes to see the source HTML markup of the current Web page

or poll, or even to exchange comments with others as a sort of slow-motion chat. Figure 5–7 illustrates a sample form.

You are likely to come across five types of form items:

HTML Blank fields: A blank box allowing you to enter as much text as you wish. Just click on the field and begin editing or typing. Some boxes may be one line long; others may be as large as the entire screen. A field may have a default value already written in. Some fields only accept numbers, passwords, or dates. You can also move from field to field by pressing TAB, if you wish.

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HTML Radio buttons: Circular buttons preceding a list of several competing items. You can click on one, and only one, radio button in each list. If a radio button is selected, it appears filled in.

HTML Check boxes: Square boxes preceding a list of one or more noncompeting items. Check as many of these boxes as you like. A selected box is filled with an *X*.

HTML Pop-up menus: Click on the small arrow to open up a larger menu of choices. The menu closes after you select the item you want.

HTML Selection menus: A list of several items. You can often select more than one item by holding down CTRL and clicking the items you want.

Most forms also have a Send or Submit button. When you're done filling in a form, click on Submit to send the data to the distant Web server. A form may also have a Clear or Default button that allows you to erase any filled-in data and start from scratch.

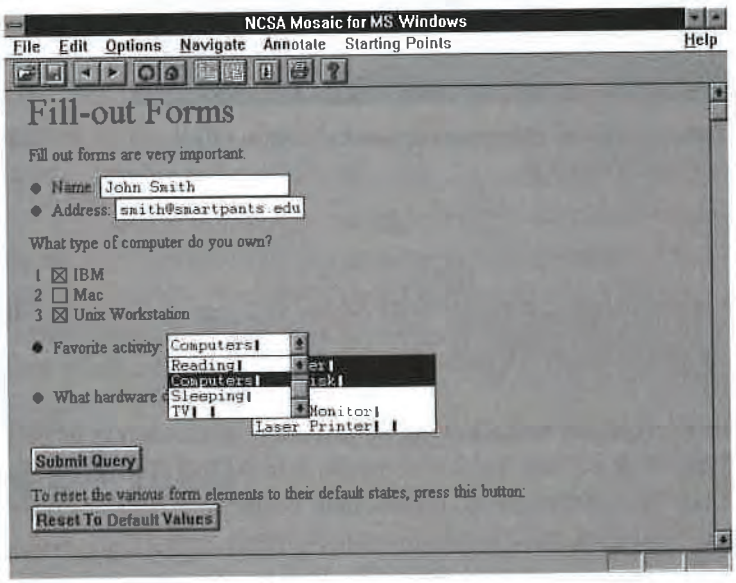


Figure 5–7 Filling in forms with Mosaic

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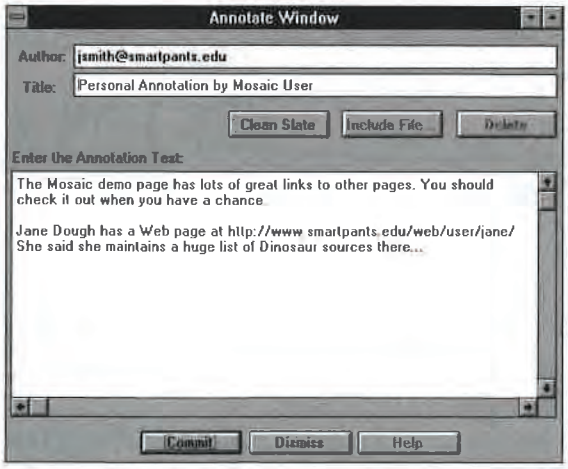


Figure 5–8 Annotating a Web page

LESSON #10: ANNOTATING

As you browse the Web, you'll probably come across tons of great quotes, ideas, or important e-mail or URL addresses. Mosaic has a unique Annotations feature that allows you to quickly jot down notes, the way you might in the margin of a book.

To create an annotation, select Annotate, Annotate. The Annotate Window appears, as in Figure 5–8. Type your comments in the box. Whenever you access this Web page in the future, a note appears at the bottom of the page letting you know that there's an attached annotation.

NOTE: If you don't want annotations to be shown, deselect the Options, Show Group Annotations item.

You can edit an annotation attached to the page you're looking at by selecting Annotate, Edit This Annotation. The Annotate Window appears. You can now edit, delete, or add on to the existing annotation.

To get rid of an attached annotation, select Annotate, Delete This Annotation. Anytime you come to this page in the future, the annotation will be gone.

LESSON #11: GOOD NEWS AND BAD NEWS

The latest version of Mosaic allows you to easily read articles from Usenet newsgroups. Before you can do this, however, you need to specify a news

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server. This is a machine that handles all your newsgroups. If you're not sure of your NNTP server's address, ask your Internet provider. Select Option, Preferences. Select the Services tab and type in the name of your NNTP Server in the box.

You can now browse, read, or post Usenet articles. See Chapter 16 for more information about accessing news URLs.

LESSON #12: FTP

When you retrieve a piece of software over the Internet, you generally use the FTP protocol. Mosaic makes it easy to download software from any anonymous FTP site across the world.

But what if you want to browse an FTP archive? Sometimes you're not sure of the name or directory of the file you want to retrieve. Mosaic allows you to view any FTP index, as shown in Figure 5–9. The small icons help you get oriented: Directories have a yellow directory folder, files have a blank sheet of paper, and HTML pages have a scrawled-on piece of paper. You can click on any directory to access it. Clicking on a file allows you to retrieve or view it.

NOTE: An FTP Web page usually includes an icon before each filename, file sizes, and other extended information. If you want to display only the names

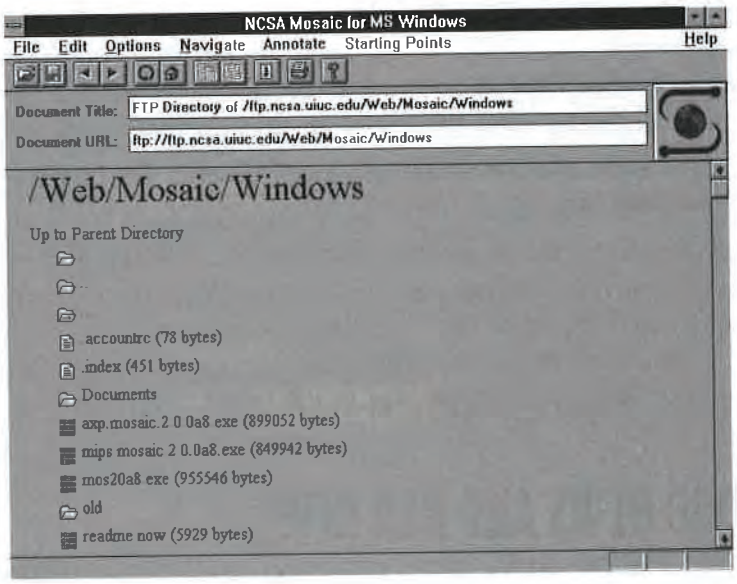


Figure 5–9 Shuffling through an FTP archive

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of FTP files or directories, deselect the Options, Extended FTP Directory Parsing item.

LESSON #13: E-MAIL

Mosaic allows you to send simple e-mail. Before you can do this, however, you need to specify a mail server. Select Option, Preferences and click the Services tab. Type in the name of your SMTP Server in the box. This is usually your e-mail address, minus your name. For example, if your address is jsmith@smartpants.edu, then your mail server is usually smartpants.edu. If you're not sure, contact your system administrator or Internet provider.

Sending Mail

From now on, whenever you access a *mailto* URL, a simple mail dialog box appears. You can now type in a subject and your message.

You could send mail to jsmith@smartpants.edu, for example, by opening the following URL:

```
mailto:jsmith@smartpants.edu
```

Mail to Developers

Mosaic is still in development, so they're happy to receive any ideas, tips, bugs, or compliments. To send some basic e-mail to the Mosaic crew, select Help, Mail To Developers.... Perhaps your contribution will help make the next version of Mosaic even more powerful.

LESSON #14: PRESENTATION MODE

The latest version of Mosaic has a nifty presentation mode that lets you view Web page's full screen–that is, with all toolbars, menu commands, and status bars stripped away. This mode is great for demos, tours of the Web, showing off your pages to friends, etc.

To access presentation mode, press ALT-P. You can switch off just the Status bar by pressing ALT-S; press ALT-S again to turn the bar back on. Turn the toolbar off or on by hitting ALT-T. Finally, you can toggle the URL bar by pressing ALT-U.

To return to the normal viewing mode, just press ALT-P again, or the ESC key.

NOTE: Whenever you call a viewer such as LView to display a graphic or MPEGPlay to play a movie, the viewer appears atop your Web page.

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LESSON #15: VIEWERS AND OTHER HELPERS

Since Mosaic version 2 is still not officially released, some important options are a little difficult to describe. One of any browser's most important tasks is to send multimedia files to external viewer programs. This way, sound can be heard, video can be seen, and images can be viewed as you browse through the Web.

With the latest version of Mosaic, you can specify and configure all your viewers by selecting Options, Viewers. The Viewers dialog box appears, comprised of two subsections. The first section tells Mosaic what types of files it should send to which viewers. The second section tells Mosaic exactly where to find these viewers.

Older versions of Mosaic require you to edit the MOSAIC.INI file, which is usually located in the Windows directory. In any case, each type of viewable file appears in a list. One item might look like:

```
image/jpeg=.jpeg,.jpe,.jpg
```

The first item of each line is the MIME file type. The remaining items are the standard extensions for that type of file. You can specify as many extensions as you wish for each MIME type, just separate each with a comma. The last extension on a line is the most important one: This is the suffix Mosaic will use if it writes the file to your hard disk or sends the file to a viewer.

For example, the line

```
image/jpeg=.jpeg,.jpe,.jpg
```

will tell Mosaic that any file ending with .jpeg, .jpe, or .jpg is a JPEG graphic. When Mosaic sends such a file to a viewer, it uses the .jpg extension.

You can then fill in the viewer application for each type of file in the Application box. Use the Browse button to specify a Drive, Directory, and Filename. For example, for your image/jpeg files, you would probably use the LView viewer. If your LView was in the C:\LVIEW directory, you would type something similar to:

```
C:\LVIEW\LVIEWP1A.EXE
```

Besides viewers, Mosaic may sometimes need to call other special programs to access various parts of the Web. For example, if you want to telnet to another site, you'll need to tell Mosaic which telnet program it can use.

Specify the full pathname for helper applications at the end of the [Viewers] section in the MOSAIC.INI file. For example:

```
TELNET="C:\TRUMPET\TELW.EXE"
```


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LESSON #16: OTHER MOSAIC OPTIONS

The way your screen looks is almost as important as the data that's on it. You might as well tweak Mosaic so that fonts and colors look pretty as can be.

The Fonts You Want

You've probably noticed that every Web page you load has a similar look to it. Headings, emphasized text, and other styles are uniform. Mosaic allows you to customize common screen fonts so Web pages look the way you want them to.

Select Options, Choose Font. A list of the following paragraph types appears:

- HTML Normal: The standard text on a Web page.
- HTML Header 1 through Header 7: Header 1 is the main heading, header 2 is the first subheading, and so on.
- HTML Menu: A list of menued items.
- HTML Directory: A thin column-like list of many items.
- HTML Address: An indented style for postal or e-mail addresses.
- HTML Block Quote: An indented paragraph quoted from another source.
- HTML Example: Short examples of text to be typed.
- HTML Preformatted: A fixed-width typewriter style font where all text is spaced evenly.
- HTML Listing: Longer examples of program listings.

Select one of these types. The Font dialog box appears. Specify a new Font, Style, and Size. From now on, any time a Web page contains this style of text, it appears in the exact font you specified.

Colors

Colors can be configured by editing the [Settings] section of the MOSAIC.INI file. This file should be in your Windows directory. If not, use File Manager and select File, Search to search for it. Once you find MOSAIC.INI, open it up

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using the Windows notepad–you can do this automatically by double-clicking on it while in the Windows File Manager.

Scroll down through your MOSAIC.INI file until you find a section titled:

```
[Settings]
```

Search for the following line and change the color to be whatever you wish:

```
Anchor Color=0,0,255
```

This color is expressed in the RGB triplet: Red, Green, Blue. Each value can range from 0 to 255. Experiment with different numbers until you find one you like.

If you want, you can have Mosaic work with a default background, by disabling the Grey Background option. Search for the "Grey Background=" line in MOSAIC.INI and change it from "yes" to "no."

Home Sweet Home

Your MOSAIC.INI file includes other options you can change. For example, you can change your e-mail address, the location of the default home page, whether the home page should automatically be loaded, and so on. You can edit the following lines:

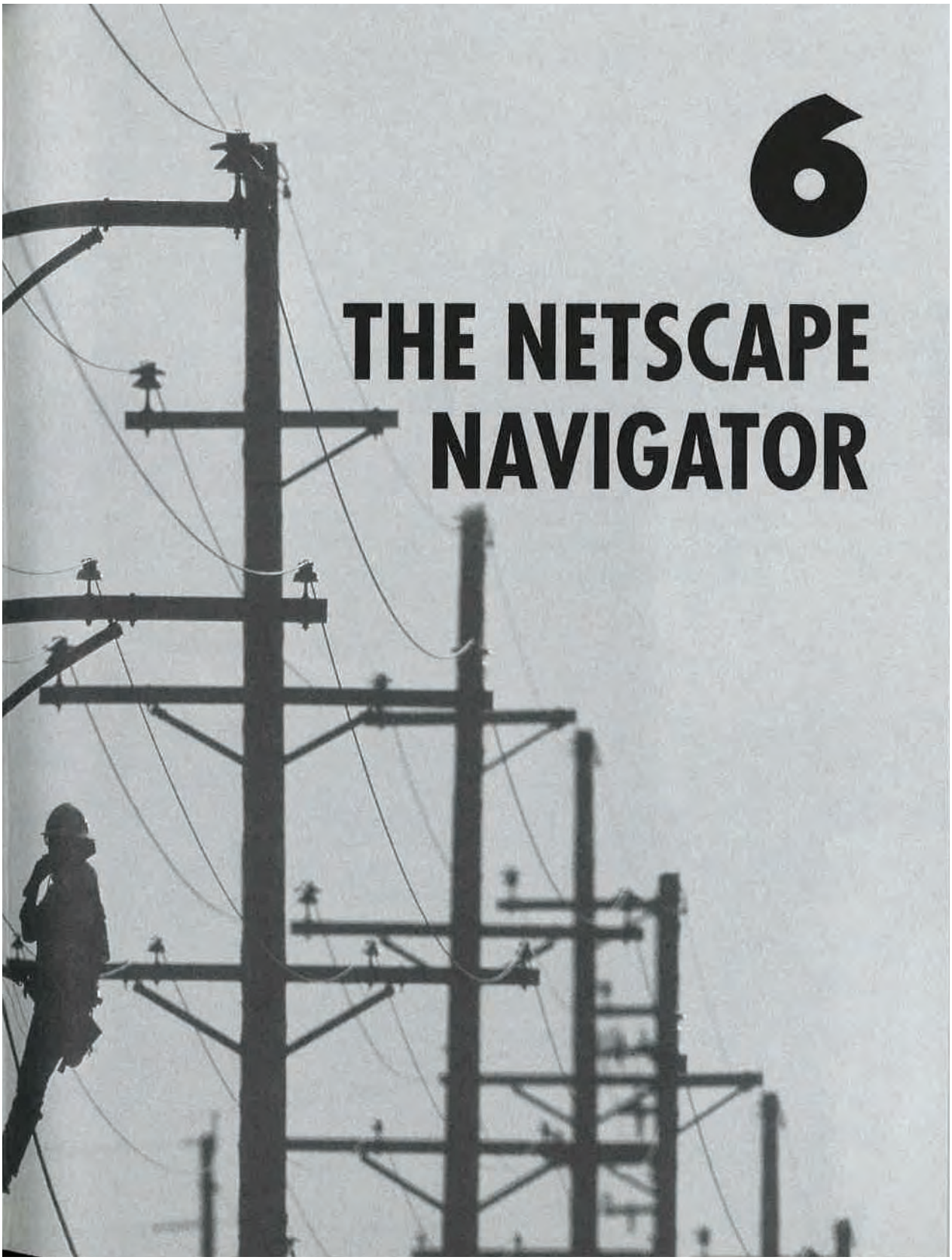
```
[Main]
E-mail="jsmith@smartpants.edu"
Autoload Home Page=yes
Home Page=http://www.ncsa.uiuc.edu/SDG/Software/Mosaic/
```

WHAT NOW?

Now that you're a pro at one of the world's premiere browsers, you can easily start exploring the Web. If you're not sure where to begin, check out some of Mosaic's built-in hotlists. Try to get the feel for different parts of the Web and the Internet. Play around with Web pages, download a few sounds or movies, flip through some newsgroups, share the wealth from a couple of FTP sites. You can also explore the sites that are reviewed in Chapter 8, What Can I Do?

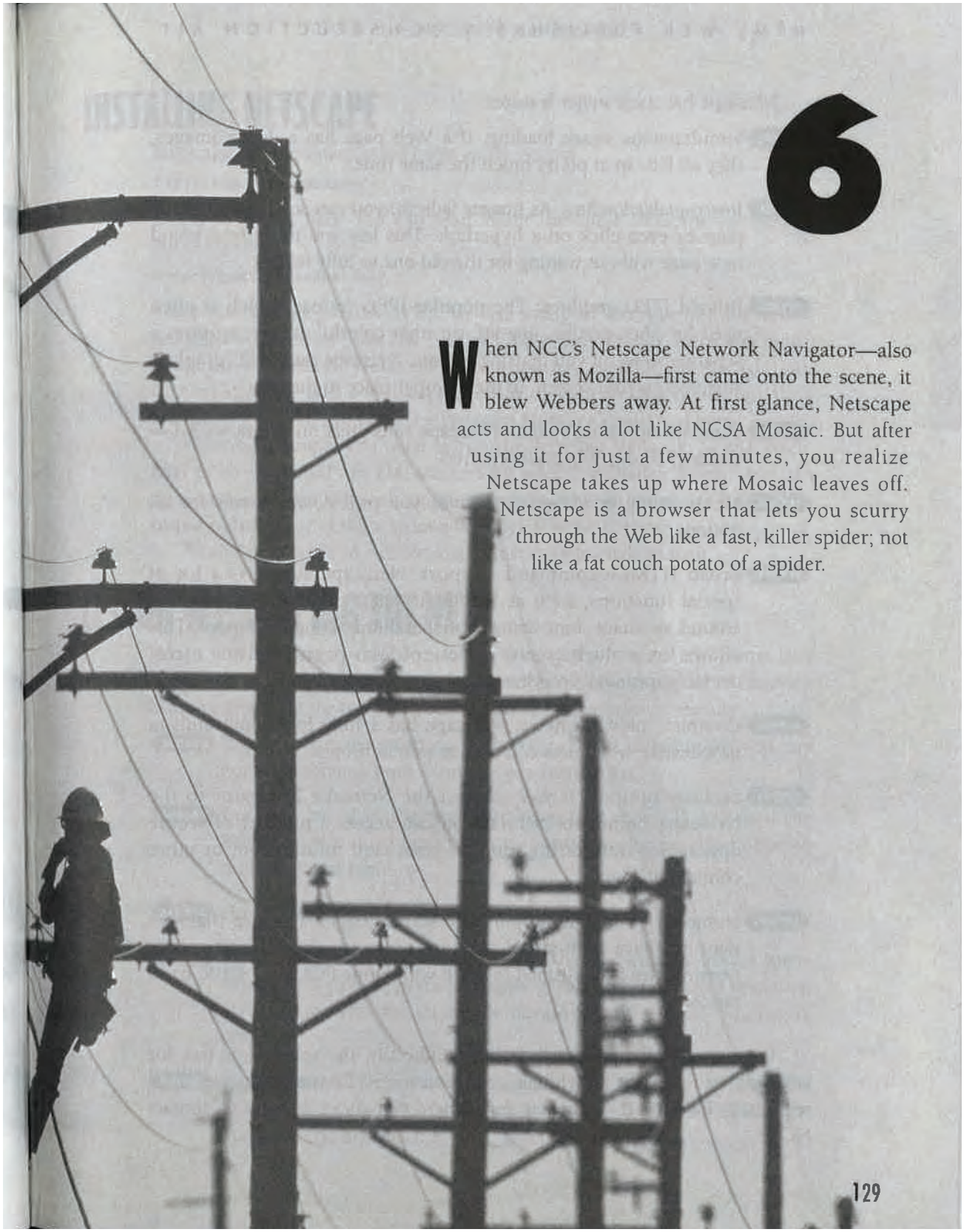
If you think you're ready to start creating your own Web pages, flip to Part II, Creating Web Pages, which begins with Chapter 8. In the next chapter, you'll learn about another browser, Netscape Network Navigator.

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6

THE NETSCAPE NAVIGATOR



6

When NCC's Netscape Network Navigator—also known as Mozilla—first came onto the scene, it blew Webbers away. At first glance, Netscape acts and looks a lot like NCSA Mosaic. But after using it for just a few minutes, you realize Netscape takes up where Mosaic leaves off. Netscape is a browser that lets you scurry through the Web like a fast, killer spider; not like a fat couch potato of a spider.

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Netscape has these major features:

- Simultaneous image loading: If a Web page has a dozen images, they all fade in at pretty much the same time.
- *Interruptable* loading: As images fade in, you can scroll through the page or even click on a hyperlink. This lets you move to a brand new page without waiting for the old one to fully load.
- Inlined JPEG graphics: The popular JPEG format, which is often used for photographs, fine art, or other colorful images, requires a separate viewer if you're using Mosaic. Netscape puts JPEG graphics smack onto your screen, in their proper place in the text.
- Standard operating system: Netscape runs great on Windows 3.1—no fancy 32-bit Windows required.
- Menu dialog box: Netscape gives you pull-down menus for all options.
- Broad HTML+ command support: Netscape supports a lot of special functions, such as automatic image sizing, text-wrapping around an image, font sizing, horizontal line sizing, and more. This allows for a much greater variety of Web pages, and the nicest overall appearance in cyberspace.
- Complete network news: Netscape has a fully functional built-in newsreader, which lets you post as well as browse.
- Security options: If you connect the Netscape Navigator to the Netscape Commerce Server, you can access a number of secure options for transferring money, credit card information, or other confidential data.
- Home-style modem support: Netscape designers realize that you may not have high-speed network access to the Internet, so its performance is fine-tuned to work with home PCs and 14,400 baud modems.

Pricewise, Netscape is a little hazy. Officially, the software is free for academic or nonprofit individuals or organizations. Commercial users must register it, for $39. If you're not sure where you stand, be sure to contact NCC.

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INSTALLING NETSCAPE

Netscape can be downloaded quite easily. Access

```
ftp://ftp.netscape.com/
```

to get the latest files. You can read about the latest Netscape releases by checking out:

```
http://home.netscape.com/
```

Once you get the NETSCAPE.EXE file, unzip or execute this file into a temporary directory. Run the SETUP.EXE program. The Netscape Setup program will install Netscape in a directory of your choice (default C:\NETSCAPE), add a Netscape section to your WIN.INI file, set up a NETSCAPE.INI file, and create a Program Manager group and item.

To run Netscape, you need to run the Trumpet Winsock TCP/IP stack. Dial in to your SLIP or TIA account by selecting Dialler, Login. You can then minimize the Winsock program by clicking the minimize box in the upper right corner of the window. Winsock is now working.

You're now ready to run Netscape. Just double-click its icon.

LESSON #1: SCAPING THE NET

When you first run Netscape, a screen with many buttons and status bars appears as in Figure 6–1. Netscape loads your *home page*. A toolbar of common buttons appears at the top of the screen. These *toolbar* buttons include:

HTML Back: Revisit the previous Web page. Using this button, you can continue moving back through your history list.

HTML Forward: Move to the next Web page in a series. If you used the Back button to load up a previous page, you can use this button to move forward again.

HTML Home: Load up the home page.

HTML Reload: Load the current page again. This is useful if a load is interrupted or a page appears somehow garbled. You can also reload an HTML page you are currently developing to see its continuing progress.

HTML Images: Load the current page again, this time showing all the images. (See Lesson #2 in this chapter to find out how to skip the images in the first place.)

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HTML Open: Jump directly to a specific URL.

HTML Find: Search for a word or phrase in the current Web page.

HTML Stop: Halt the loading of a Web page.

Directly beneath the toolbar lurks a set of directory buttons. These buttons make it quick and easy to access different parts of the Internet. You can also access any of these directory pages by selecting them from the Directory menu. The possible directory pages include:

HTML Welcome: Access NCC's Netscape Welcome page.

HTML What's New!: Read about Netscape's latest features.

HTML What's Cool!: A bunch of links to Web pages that NCC thinks are worth your while.

HTML Questions: Answers to frequently asked questions.

HTML Net Search: Search the Internet for a topic or item.

HTML Net Directory: See a list of Internet tools, resources, and other servers.

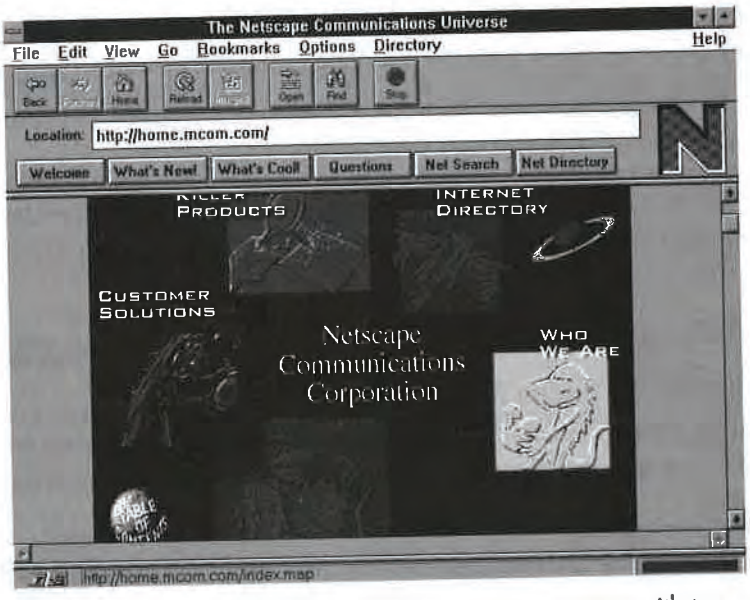


Figure 6–1 The default Netscape navigation screen, with tons of buttons, status indicators, and other gizmos

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Finally, below the directory buttons, Netscape shows you the Location of the current Web page. You can also edit this field, or type in your own URL to bring up a specific page or Internet service.

NOTE: Netscape allows you to customize the entire look of the screen. You can have the toolbar and directory buttons displayed as pictures, text, both, or neither. You can decide whether or not you want the current Location to be shown. You can even designate the home page to be any Web page you wish. You can control most of these settings from the Options menu. Select Options and click on Show Toolbar, Show Location, or Show Directory Buttons to select or deselect each option. Also see the Customizing Your Netscape Experience section, later in this chapter, for more details.

Following Hyperlinks

Hyperlinks are generally underlined and colored blue. Images, icons, or any other pieces of art with blue borders are usually also hyperlinks. To follow any link, just move the mouse cursor on it. The mouse arrow becomes a pointing hand. The URL of the selected hyperlink appears at the bottom of the screen. If you want to follow the link, just click on it.

NOTE: Netscape allows you to customize the look of these links. Underlining is optional and you can make a link any color you wish. See the Customizing Your Netscape Experience section, later in this chapter.

Once you've followed a hyperlink, Netscape changes that link's color—usually to purple. The subtlety of links can often make things confusing, so this handy *followed-link* feature helps you remember where you've been and prevents you from exploring the same path more than once.

NOTE: Netscape allows you to open several Web pages at once, each appearing in a different window. Select File, New Window. This allows you to keep several different connections open at the same time. Switch between simultaneous Web page windows the way you would with any other Windows program—by pressing SHIFT-TAB or by selecting the page from a Task List.

Moving to a Specific URL

There are two ways to move to a URL of your choice:

HTML Click the Location field at the top of the screen. The word *Location* changes to *Go To*. Type the new URL, in full, in the field and press ENTER.

HTML Click the Open button, select File, Open Location, or press CTRL-L. The Open Location window appears. Type in your URL and select Open.

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Loading Indicators

Whenever you access a Web page, the red *progress bar* at the bottom of the screen acts as a meter, showing you what percentage of the page has been loaded. The bottom line of the Netscape screen also acts a status bar. It lets you know what's happening as it searches for the Web page's host, contacts the host, and retrieves the data.

As a Web page loads, the status bars tell you how many kilobytes of text, images, or other files have been loaded. As Netscape is working, you may also notice how the Netscape "N" logo appears to pop out of and sink into the screen.

NOTE: Clicking on the logo loads up Netscape's home page.

Stop It!

If a page seems to take forever to load, you may decide to just give up on it. To halt a load in progress, click the Stop button in the toolbar, press the ESC key, or select Go, Stop Loading.

The Web Page Appears

Netscape doesn't necessarily load an entire page at once. At first, the page's text appears. Images appear as empty boxes. You can often scroll down through a Web page as it is being loaded.

Images then fade in, all at the same time. Depending on its type, an image may appear one row at a time, like the dropping of a curtain. Other images load in several spaced-out rows at a time, like venetian blinds. Some images appear blurred at first and then become sharper and sharper as more information comes in.

You can browse up and down through each Web page using the vertical scroll bar. Some pages use special extended fonts and may require the horizontal scroll bar as well. You can select text on the page with the mouse, copy it (Edit, Copy), and paste it to your favorite word processor or text editor.

Safe and Secure

If you're interested in sending secure or confidential information over the Internet, Netscape has come up with a way. Using special Netscape servers, you can have the Netscape Navigator send and receive credit card numbers, money, or company secrets.

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You can know how secure a given page is by looking at the bottom of your screen. If the Web page is secure, a gold key appears in the lower left corner. If the document is not secure, the key appears broken in two. Secure documents also display a blue bar of color along the top of the window.

If you're not dealing with secure information, you might as well hide the security colorbar. Select Option, Show Security Colorbar to unselect this option.

LESSON #2: GRAPHICLESS: NO AUTO LOADING

The most time-consuming part of Web crawling is the loading of large files such as graphics, sounds, and movies. In particular, most Web pages have tons of inlined images scattered through the text. Netscape Navigator supports three major graphic formats of inlined images: GIF, JPEG, and XBM. If you want to give Netscape a super boost, you can go graphicless by turning off the auto loading of these inlined graphics.

To toggle auto loading, select Options, Auto Load Images. A checkmark appears next to the menu item if auto loading is on. Netscape automatically

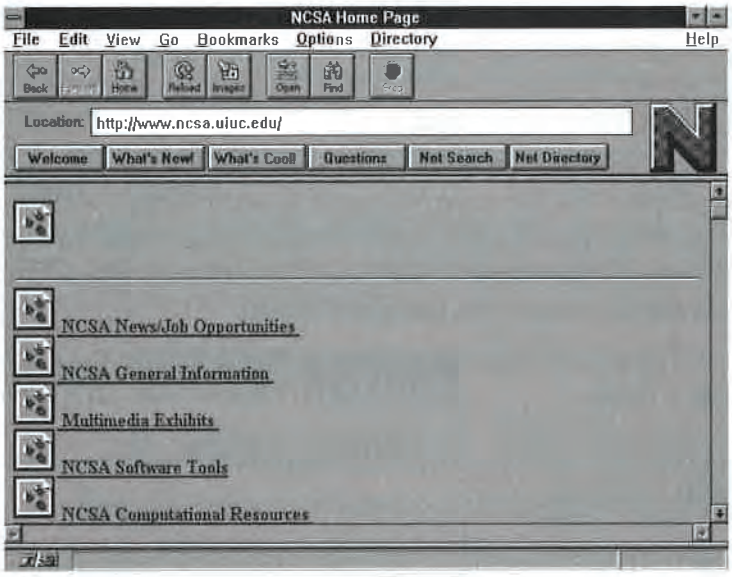


Figure 6–2 Turning off auto loading to ignore sluggish images

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remembers your auto load settings from your previous session. When auto loading is off, Netscape loads up each page in a fraction of the time, displaying a small cube-like icon wherever an image would usually be, as in Figure 6-2. If the image is a hyperlink, then this cube is surrounded by a blue border.

The only problem with turning off images is you tend to miss out on a lot. Many pages have beautiful or helpful supporting images. Some pages are *all* graphical—having no text at all to speak of. If a page looks really interesting, you can grab the graphics by clicking the Images toolbar button, pressing CTRL-I, or selecting View, Load Images.

Loading Later

If you're the type of person who doesn't like waiting, but who doesn't want to sacrifice the quality of a page, you can tell Netscape to show images only after they're entirely loaded. Select Options, Preferences. From the Preferences window, select the Network, Images, and Security preferences by clicking the pop-up menu at the very top. Finally, click the After Loading radio button in the Display Images area.

Netscape loads up each Web page, displaying the text as soon as it is available. Space is allocated for each image, but no images are actually shown. You can now read through the page or even follow hyperlinks. If you wait long enough, however, all the images will eventually appear.

Hither and Dither

Many images actually have more colors than your monitor, or Netscape itself, is able to display. The Netscape Navigator is smart enough to make some educated guesses when it comes it complicated images—it draws the available colors closest to the image's actual colors. This process is known as *dithering*. You can display image color using two options:

HTML Dither to Color Cube: Netscape dithers image to fit with the available system colors.

HTML Use Closest Color in Color Cube: Netscape picks the closest available color.

The decision to dither depends on the type of monitor and graphics card you use. Try both selections and see which one makes images seem sharper.

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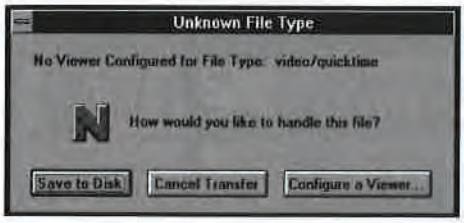


Figure 6–3 If Netscape can't show you a multimedia file, it's nice enough to let you save it

LESSON #3: RETRIEVING MULTIMEDIA FILES

When you load up an image file, Netscape displays what it can—anything in the GIF, JPEG, or XBM graphic formats. If it can't display an image, sound, movie, animation, or other file type, Netscape tries to send it to a viewer or *helper application.*

If Netscape doesn't know how to display the file you want to retrieve, it tells you so. The Unknown File Type dialog box in Figure 6–3 appears. To store the file on your hard disk, click the Save To Disk option and specify a Drive, Directory, and Filename. Click OK. Netscape then retrieves the file and saves it on your disk.

From the Unknown File Type window you can also click the Configure A Viewer button. You can now type in the filename of the software that can view the given file type. See the Configuring Viewers section, later in this chapter, for details.

If an image, text file, or even binary file appears on your Netscape screen, you can easily save it by selecting File, Save As. You can then specify a Drive, Directory, and Filename.

LESSON #4: ANCIENT HISTORY

Often, you're reading an important Web page but are then distracted by a cool hyperlink. You follow the link, read a bit, follow another link, and pretty soon you're lost in cyberspace. Luckily, it's easy to return from where you came by using Netscape's history list.

Netscape automatically keeps track of every page you visit. To see the last bunch of pages you've been to, simply open the Go menu at the top of

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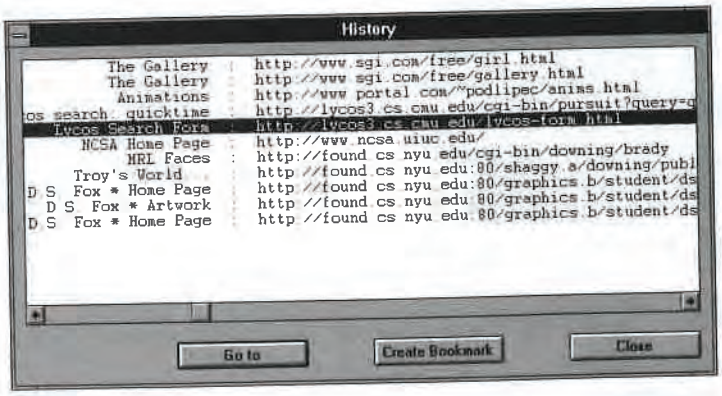


Figure 6–4 Time traveling through the Web using the history list

the screen. At the bottom of the menu is an impromptu history list with the title of each page. To revisit one of these pages, just click on its name.

If the page you want isn't in the Go menu, the menu probably just isn't long enough to display it. To see the actual history list, select Go, View History or press CTRL-H. The History window in Figure 6–4 appears. The full title and URL of each page is shown. The page you most recently visited is at the top of the list, your home page should be at the bottom. To open a page, double-click on it or select it and choose Go To.

NOTE: Whenever you retrieve a Web page, images are stored in memory. If you return to a page you've already seen, images load much faster due to this *memory cache*.

If you think you'll visit often, you may want to add it to your permanent bookmark list. Select the page and click the Create Bookmark item.

Netscape keeps track of the pages you visit and the order you visit them in. Whenever you backtrack through pages, nonconsecutive pages are removed from the history list. For example, if you move from page A to page B to page C and then move back to A, link B disappears.

LESSON #5: BOOKMARKS

In your journeys around the Web, you're bound to come across a page or two that you absolutely adore. Whenever you find a page you're likely to use again, Netscape makes it easy to place a bookmark. Simply select Bookmarks, Add Bookmark or press CTRL-A.

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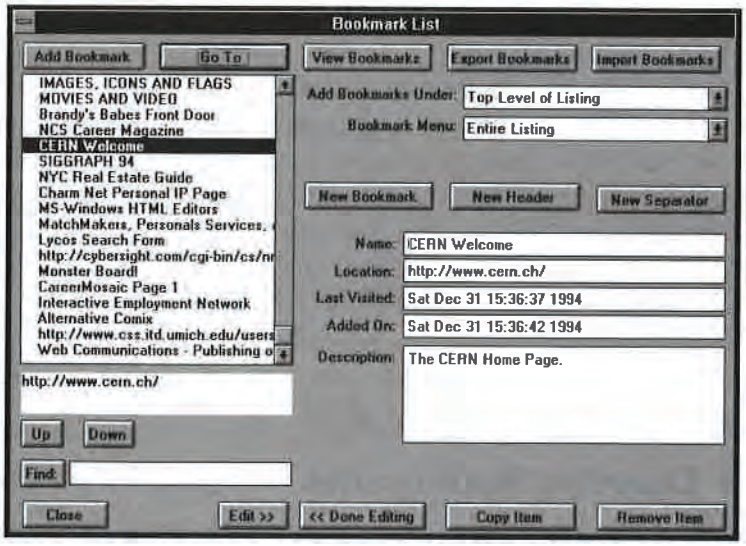


Figure 6–5 The full Bookmark List window lets you organize, search, import, export, or move to any bookmark of your choosing

Your first few dozen bookmarks are stored under the Bookmarks pull-down menu. Every time you bookmark a page, the title of that page becomes a permanent item in the Bookmark list. To move to a given page, just select its title. Once you create a bookmark, it is stored forever. This helps you personalize your copy of Netscape so you can use it to quickly get to your favorite corners of the Internet.

Dealing with Bookmarks

After a while, you may accumulate so many bookmarks that your Bookmark menu stretches way off the screen. You can use the full Bookmark List (Figure 6-5) to access, organize, or search your bookmarks. To access the full list, select Bookmarks, View Bookmarks or press CTRL-B.

NOTE: To see the entire Bookmark List window, you may need to press the Edit>> button in the bottom right corner.

You now have access to many advanced bookmark options:

HTML Go to the bookmarked page.

HTML Search for a particular bookmark.

HTML Edit your current bookmarks.

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HTML Organize your bookmarks into separate groups.

HTML Keep many different bookmark files and use one at a time.

When you're viewing bookmarks, you can scroll through the list of page titles using the scroll bar. Whenever you click on a page, the boxes on the right show its name and location, the date you last visited it, and the date you first added it to your Bookmark List, and any comments you've entered. You can edit any of these fields. For example, if you don't think a page's title is descriptive enough, just type a new one.

To access a bookmarked Web page, select the title you want and click the Go To button.

Adding or Deleting Bookmarks

If you have a URL you'd like to add as a new bookmark, select the New Bookmark button. This creates an item called "? New Item"—which you replace with the actual Name and Location. You can move the item to a different order within the bookmark list by clicking the Up and Down buttons.

After a while, a bookmarked Web page may no longer exist. If you no longer need a bookmark, select it and click the Remove Item button.

Searching Your Bookmarks

Soon you may have more bookmarks than you know how to deal with. Luckily, Netscape makes it easy to search your bookmark list for a particular word or phrase.

Type the search term in the Find box and then click the Find button. Any bookmark containing the search term is automatically selected. To find the next suitable bookmark, click Find again.

Describing a Bookmark

Some Web pages have lousy titles. Other Web pages have similar titles. Netscape allows you to enter comments for each bookmark. Simply select the title of the page from the Bookmark List and then click inside the Description box. You can now type helpful notes, annotations, or ideas.

For example, if you've created bookmarks for ten Web pages, all entitled "Dancing," you can add a note to one page saying, "This one has great pictures of famous dancers," and a note to another saying, "This page is a comprehensive site-list of dance competitions."

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The next time you get lost or confused, your own comments can help show you the way.

Organizing Bookmarks

Perhaps the best way of dealing with billions of bookmarks is to separate them into categories. For example, you can keep a group of search indexes in one category, you can stick entertainment-related Web pages in another group, and put your job search pages in a third group.

Groups

To place a bookmark in a new group, click anywhere in your bookmark list and then select the New Header button. A bookmark called "New Header" appears. Rename the bookmark by typing an appropriate name in the Name box. For example, you may want to call it "Search Indexes." Your new header appears in your bookmark list with a little dot next to it.

Now select the item beneath the header you just created and click the Up key. The item becomes indented. This means it is part of the group. To add any other bookmarks to the group, just move them directly below the header. If a bookmark is *above* the header, select it and continue pressing Down until it is indented below the header. If the bookmark you want is *below* the header, click Up until you've moved it into the group. A final organized list might look like Figure 6–6.

From now on, when you click on the Bookmarks menu, a list of your groups appears. Whenever you select a group, a side menu of other subgroups or bookmarks pops up. You can select a Web page's title to jump to it. If you select a subgroup, a third side menu pops up with yet more choices.

You can go on like this, creating subgroups within existing groups. For example, you can have one group called Music, with subgroups Rock and Roll, Jazz, and Classical. Remember—the easier your Bookmark List is to read, the faster you can access it to grab a useful page.

NOTE: If you move a header or subheader using the Up or Down buttons, the entire group moves with it.

Collapsing and Expanding

You can make your bookmark list even easier to sift through by *collapsing* a group. Simply double-click on the header name. A plus (+) appears next to the header, and all items and subgroups within the group seem to disappear.

To *expand* a group, just double-click on the header name again. All items immediately reappear.

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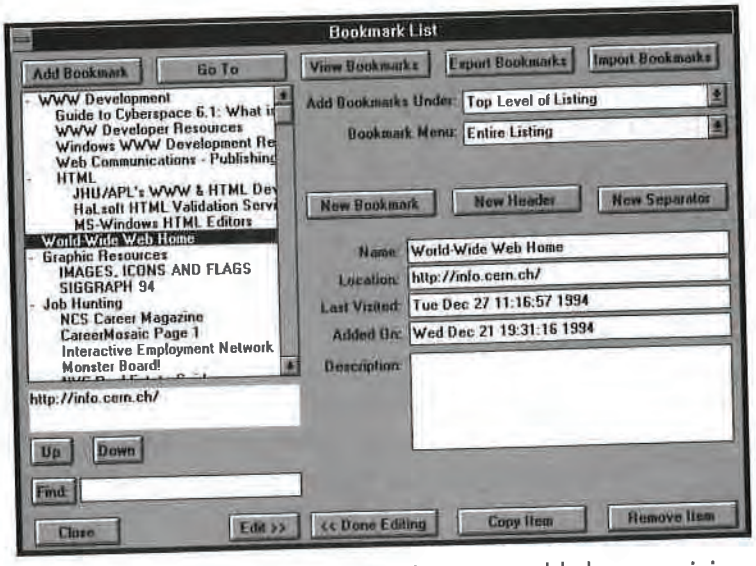


Figure 6–6 A bookmark list made manageable by organizing items into various groups

The Separator

A nice Netscape bookmark feature allows you to place separator bars between any bookmark items, groups, or subgroups. Simply click anywhere in your bookmark list and select the New Separator button. An item is created below the current selection that looks similar to:

The next time you use the Bookmarks menu, a line will be drawn between items above the separator and items below the separator. This can help you create eye-pleasing groupings of bookmarks.

Customizing the Menu

If you want all new bookmarks to be placed in a particular group by default, select the Add Bookmarks Under pull-down menu. You can now select the heading under which all new bookmarks should be stored.

You can also customize the look of your Netscape Bookmark pull-down menu. By default, all main groups and nongrouped items are shown. If you want to display only one particular group, select the Bookmark Menu pull-down list and select the group's header. To display all groups, select the Entire Listing item.

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For example, if you happen to be working on stock prices, you may want to have a listing of your favorite financial Web pages at your fingertips. If you had a group called "Finance," you could select this as the Bookmark Menu default. The next time you check out the bookmark menu, only pages having something to do with finance will appear.

The Bookmark Files

Bookmarks are so darn useful you may find yourself trading them or creating special groups of them. Bookmark files help you make your Bookmark List portable for easy access to large lists of data.

Creating a Web of Hyperlinks

If you like, you can use your Bookmark List to create a Web page containing links to all your favorite places. You can then give this page to other people, or even post it on the Web for the world to use.

To see what your bookmark list would look like as a Web page, select the View Bookmarks button. You can now close the Bookmark List and browse through the list using Netscape's usual browsing commands. If you like the way the page looks, you can save it as HTML source code by selecting File, Save As and typing in a Drive, Directory, and Filename. Click OK.

You can reload this Web page of bookmarks at any time by selecting File, Open File (or pressing CTRL-O) and specifying the name of your custom bookmark file.

Importing and Exporting

You can also save your bookmark list directly by clicking the Export Bookmarks button from your Bookmark List. Again, you need to Designate a Drive, Directory, and Filename and then click OK. Your bookmark file should have the .HTM extension. Your bookmarks are then saved in a special format that Netscape can easily read back in.

To open a previously saved bookmark file, select the Import Bookmarks button. Find the proper .HTM file and then click OK. All the new bookmarks are added on to your existing bookmark list. If the new bookmarks aren't already grouped, you'll probably want to create a subgroup to put them under.

For example, suppose you have a hundred bookmarks leading to animation-related Web pages. You can save this list in a file called ANIMATE.HTM. You can also give the ANIMATE.HTM file to a friend. All

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she would have to do to see your bookmarks is select the Import Bookmarks button. All your animation bookmarks would then be inserted into her existing bookmark file.

LESSON #6: KEEPING A WEB PAGE

Keeping bookmarks to pages is fine and dandy, but often you'll want to keep the text of a page itself. For example:

- You're an HTML developer and want to study how the current page was put together.
- You want to use parts of the document in a paper you're writing.
- You want to save or print out the document and read it at your own leisure.

Netscape has a number of commands that allow you to snag the information from a Web page and save it to your disk, print it out, or even e-mail it across the world.

Saving to Disk

Netscape makes it easy to save a given Web page to your hard disk for later retrieval. You can even save a page to disk in lieu of viewing it.

To save the currently displayed Web page, select File, Save As or press CTRL-S, then specify a Drive, Directory, and Filename. Most Web pages are stored as HTML source files, and should end with the .HTM extension. When done, click OK.

NOTE: When you save a Web page, only the text is stored on your drive. The inlined graphics are not included.

If you come across a hyperlink you know you want to save to disk, hold down the SHIFT key before clicking on the link. Again, you can save the incoming text directly to your hard disk. You can use this feature to pull in non-hypertext pages such as lists of numbers, text files, or other data very quickly.

Loading

To load any HTML Web page you've saved, simply select File, Open File or press CTRL-O. You can now specify the Drive, Directory, and Filename of the file you wish to open. Click OK. The Web page is then instantly drawn on

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your screen. As long as you're connected to the Internet, any hyperlinks should work just fine.

Printing

If you have a printer attached to your computer, you can easily generate a hard copy of the current Web page. In most cases, all text and graphics go to the printer, so your Web page looks the same on paper as it did on the screen.

Before you actually waste the ink, you may want to see exactly what your printed page will look like. Select File, Print Preview. Netscape formats the pages and shows you a graphical representation of what the final printout will be. Click on a part of the page to zoom in on it. To zoom out, just click again. You can view two facing pages at once with the Two Page button. To flip to the next page, if there is a next page, click the Next Page button.

A page is generally printed at the same width as the Web page on the screen. If text goes beyond the confines of the screen, horizontally or vertically, this text is printed on a separate page. If your print preview makes the pages seem too wide, you can narrow your Netscape window. You may also want to try printing your page as a landscape instead of as a portrait. You can set these options by clicking the Setup button in the Print dialog box.



NOTE: To zoom a Netscape window to its default size, select the Zoom box arrow in the upper right corner of the window.

To print, select File, Print or press CTRL-P. The Print dialog box appears. The default printer is shown at the top of the box. If you want to use a different printer, or if you want to fine-tune your page setup, select the Setup button.

If the Web "page" is longer than one printed page, you can specify the range of pages you want printed by clicking the Pages button and filling in the first page in the From box and the last page in the To box.

Mail Document

Netscape has a neat feature that allows you to mail part of the current Web page to yourself or to anyone else in the world with an Internet account.

Select File, Mail Document or press CTRL-M. The Mail Document window appears. Fill in the Internet address of the person you want to send mail to in the To box. To quote from the current Web page, click the Include Document Text button. The first 30,000 characters of the Web page appear in the editing window. Each line of the Web page starts with a greater-than sign (>), to indicate that the text is quoted from another source.

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You can now add your own message, erase sections, or cut and paste. When your message looks the way you want it to, click the Send Mail button. See the E-Mailing section, later in this chapter, for more details.

LESSON #7: SEARCHING A PAGE

Web pages can be really long. To search a page for a particular heading, phrase, or key word, you can use Netscape's find command. Simply click the Find button in the toolbar, select Edit, Find, or press CTRL-F. The Find dialog box appears as in Figure 6–7.

Type a search term or two in the Find What box. If you want Netscape to differentiate between uppercase and lowercase, check the Match Case checkbox. If you're at the top of the Web page, you generally want to search downward. Be sure the Down Direction is checked. If your downward search doesn't yield any results, try searching upward by selecting Up.

To begin the search, click the Find Next button. If your search term appears anywhere in the Web page, it is moved to and highlighted. For example, if you search for "man" then the words "manual" and "woman" will be found. If the Match Case checkbox isn't selected then words like "MANDATORY" and "Mandible" will also be found.

The Find dialog box stays on the screen once a word is found. If you want to search for the next occurrence of the word, click the Find Next button again. If you've found what you were looking for, click Cancel to close the Find box.

If Netscape reaches the beginning or end of the Web page without finding anything, a dialog box tells you so. You are then given the option to try the search in the opposite direction.

LESSON #8: GETTING TO THE SOURCE

The HTML source of Web pages is the Web developer's greatest tool. By studying the commands that make a Web page do its stuff, you can learn to emulate and surpass that page.



Figure 6–7 Finding text in a Web page

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To immediately view a Web page's HTML markup, select View, Source. A window appears showing you source code for the current page. You can scroll through the source using the scroll bars. When you're done peeking, click OK. Some View Source windows also have a Save button, allowing you to save the source code to disk.

NOTE: If you need a refresher on saving a Web page's HTML markup, turn back to the Keeping a Web Page section earlier in this chapter.

If you like, you can have Netscape use a more advanced text editor—such as Windows Notepad—to view a page's source. Select Options, Preferences and choose the Directory, Applications, and News options from the pop-up menu at the top of the window. Click the Browse button next to the empty View Source box. You can now specify the Drive, Directory, and Filename of your text editor. The NOTEPAD.EXE program, for example, is usually located in the C:\WINDOWS directory. Click OK. From now on, Netscape will call this application to help view your Web pages.

NOTE: Some versions of Netscape have a bug that doesn't allow you to use a helper application to view a document's source. In these cases, you should save the Web page to disk and then load up the HTML source markup using Notepad or your favorite text editor.

LESSON #9: FILLING IN FORMS

Reading Web pages can give you a lot of information. But some pages want *you* to provide some information in return. Netscape supports forms within Web pages, allowing Webbing to be a two-way conversation.

When a page contains a form, you'll know it right away; form elements have a distinct look to them. Figure 6–8 shows an example of a form page. If you've done any work with databases, or filled out your taxes recently, you should recognize the style of most Netscape forms. A form usually consists of the following elements:

HTML Fields: Blank boxes where you can type in a word, a sentence, or even an entire message. A field may already contain some default text. Some fields may only accept numbers, or valid dates.

HTML Check boxes: Square boxes that can be either checked or unchecked. You can check as many options as you like. For example, a list of hobbies may be preceded by check boxes. You can check all the hobbies that interest you.

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HTML Radio buttons: Round buttons preceding a set of options. You can choose one, and only one, of these options. For example, the words "Male" and "Female" are usually preceded by radio buttons. You can select one option or the other, not both.

HTML Selection List menus: A menu of available options. Just click on the applicable item. Some of these menus allow you to select more than one item by holding down the CTRL key.

HTML Pop-Up menus: Only one option is shown. When you click on the little arrow icon, however, a full menu of various options appears for your selection.

HTML Submit button: Click this button when you're done filling out your form.

HTML Clear button: If you want to erase all values in the form and fill out everything anew, click this button.

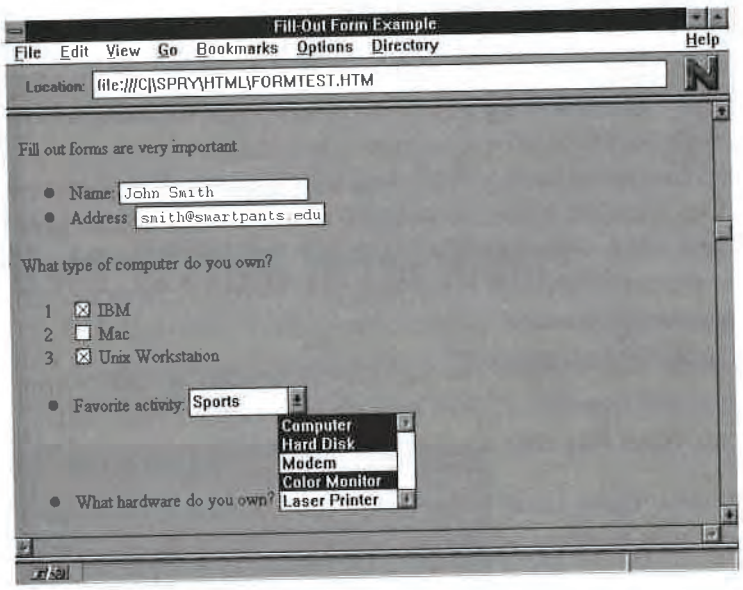


Figure 6-8 Sample Netscape form—a lot easier than taxes!

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Filling 'er Out

Forms allow you to request information, fill out surveys, search for specific things, or tell people where they can reach you. One page can contain any number of different forms. If you come across a form, just click on each field to fill it in. If a checkbox is empty, for example, click on it to *X* it; if a box is already checked when you click on it, the *X* disappears.

Most forms are clearly labeled with words such as "Name," "Address," etc. If you don't understand a list of selections or a field, just leave it blank. Experiment. Check different pull-down menus to see if there's an option you forgot to select. When you've finished a form, you can send the information to the Web page's creator by clicking the Send, Done or Submit button.

If you are dealing with a secure fill-in form, a Netscape dialog box pops up to inform you. You can then feel free to write things like your credit card number, bank account numbers, etc.

User Validation

A few Web pages won't let you in without a password. This is useful for companies who want to restrict their files to their own employees, online services who want to require membership for access to their pages, etc.

If you come across a Web page that requires user validation, the Username And Password dialog box appears. Type in your Username and a valid Password and click OK. If you are an official member, you are given access to the private Web.

NOTE: Most online services have an opening screen with an option to register. You can usually fill out and submit a quick form, and get a username and password on the spot. However, your privileges may be limited until the service makes sure its billing department can find you.

LESSON #10: THE NEWS

One of Netscape's best features is its ability to act as a fully functional Usenet newsreader. Usenet is a collection of messages and replies over the Internet; there are over 7,000 different topics of discussion. Netscape has commands that allow you to select newsgroups, browse through articles, read articles, and even post articles of your own.

Each newsgroup has its own name—usually a string of words separated by periods.

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Setting Up a News Server

Most every Internet provider has a special machine known as the *NNTP server* to store, handle, and otherwise take care of Usenet news. If you do not know the name of this machine, ask your Internet provider or system administrator.

To tell Netscape where to look for news, select Options, Preferences and select Directories, Applications, And News from the pop-up menu at the top of the window. In the New section, fill in the News (NNTP) Server box with the proper machine name.

You can also designate a News RC file if you want. This file contains the listings of all the newsgroups you are subscribed to. In most cases, you can just keep Netscape's default of C:\WINDOWS\NEWS.RC.

Getting the News

In some cases, a hyperlink may warp you directly into a particular newsgroup. If so, the Web page's URL should begin with the word *news:* For example: *news:alt.animals.foxes.*

If you want to access a particular newsgroup, you would access it the way you would any other URL. Select File, Open Location or press CTRL-L, and then type the word *news:* followed by the name of the newsgroup in the Location box at the top of the screen.

For example, to browse articles in the *alt.animals.foxes* newsgroup, type

```
news:alt.animals.foxes
```

in the Location box.

You can also use the wildcard asterisk (*) to view all newsgroups beginning with a certain topic. For example, to see all the different alternative sports newsgroups, you could open up the URL:

```
news:alt.sports*
```

A list of all newsgroups beginning with the phrase *alt.sports* appears. For example:

```
alt.sports.badminton
alt.sports.baseball.chicago-cubs
```

The actual list is much longer. Each newsgroup in this list is a hyperlink. To browse articles in a particular group, just click on its name.

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Subscribing to Newsgroups

Subscribing to a newsgroup is similar to putting a bookmark in it. Netscape keeps a special list of your subscribed groups. It is then easy to access these groups at any time in the future.

To check out which groups you're currently subscribed to, select Directory, Go To Newsgroups. A list of your subscribed newsgroups appears, along with numbers indicating how many unread messages there are in each group. To begin browsing a group's articles, just click on the groupname.

To subscribe to a newsgroup, just type its exact name in the Subscribe To This Newsgroup box and press ENTER. The group is automatically added to your subscription list. If you're not sure where to begin, you can view all the newsgroups by opening the URL:

```
news:*
```

If you want to remove a group from your list, just check the box preceding its name. You can check as many boxes as you wish. To get rid of these groups, click the Unsubscribe From Selected Newsgroups button.

Browsing Articles

When you select a specific newsgroup, the titles of all its articles are loaded and sorted. Netscape draws a special row of browsing buttons across the top and bottom of the Web page, as shown in Figure 6–9. These buttons include:

- HTML Post Article: Write an article with a new topic to this newsgroup.
- HTML Catchup All Articles: All articles are marked as having been read. When you browse a newsgroup, Netscape usually shows you only the articles it hasn't seen you read. The Catchup All Articles button clears the entire Web page. As soon as another article is posted, it will appear.
- HTML Show All Articles: If you want to view all the articles, whether you've read them or not, click this button. If you're already reading all the articles, then this button will read Show New Articles instead; click on it to show only fresh messages.
- HTML Unsubscribe: if you're subscribed to the current newsgroup, click this button to unsubscribe yourself. If you're not yet subscribed, this button will read Subscribe; click it to add the newsgroup to your list of favorites.
- HTML Go to Newsgroups: Return to your list of subscribed newsgroups.

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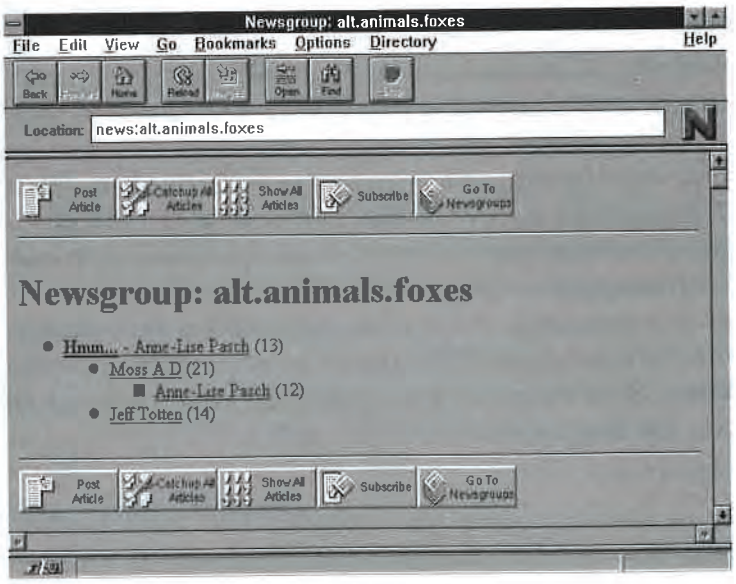


Figure 6–9 Articles in the current newsgroup are sorted so replies follow original messages

Messages themselves are sorted into *threads*. This means that each message is immediately followed by its replies. A reply, in turn, is followed by *its* replies. Each level of reply is indented as part of a bulleted list. This gives your Web pages the look of an outline. Some messages may have several layers of responses.

Each article's subject is a hyperlink. To read the article itself, just click on the subject.

Reading an Article

Figure 6–10 illustrates a sample article. Any article you read has the following information at the top:

- HTML Title of the article
- HTML Author
- HTML Date the article was posted
- HTML Organization the author posted from
- HTML Other newsgroups the article was posted to

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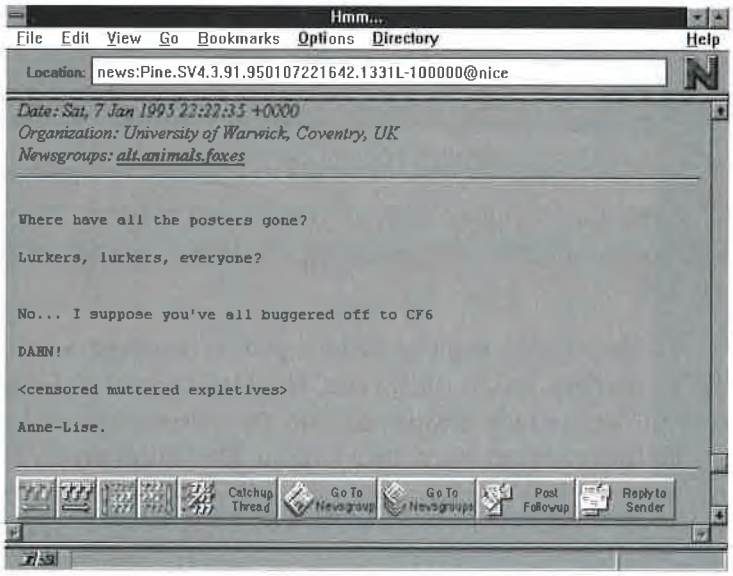


Figure 6–10 Reading a Usenet article

If you want to check out a cross-referenced newsgroup, just click on the group's name.

NOTE: If there are any e-mail addresses or URLs in a message, Netscape automatically makes these into hyperlinks.

Just like with the message-browsing screen, Netscape draws a row of buttons along the top and bottom of each message. You can use these buttons to perform any and all newsgroup-related tasks:

HTML Left arrow: If you are reading a particular thread, this shows you the previous article. For example, if a message has ten replies and you're reading the ninth one, this button takes you back to the eighth.

HTML Right arrow: Shows you the next article in the current thread, if applicable.

HTML Up arrow: Loads up the previous topic. The first article in that topic's thread is shown.

HTML Down arrow: Loads up the next topic's first article.

HTML Catchup Thread: The entire current thread is marked as having been read.

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HTML Go To Newsgroup: Return to the newsgroup page where you can continue to browse through the titles of each article.

HTML Go To Newsgroups: Return to the main Subscribe/Unsubscribe form that lists all the newsgroups you are currently subscribed to.

HTML Post Followup: Post a public reply to the current message. Your reply will become part of the current topic's thread. See the next section.

HTML Reply To Sender: If you want to send a private message to the author of the current article, click here. The Mail Document form appears. You can include selections from the current article by pressing the Include Document Text button. The entire article is loaded into the e-mail message window. Each line of the article starts with the greater-than sign (>) to indicate that it comes from another source. See Lesson #11, E-Mailing, for more details.

Posting an Article

Whether you're kicking off a brand new topic or replying to an interesting message, Netscape makes it easy to author your own articles on the Internet. Whenever you post, the USENET News Posting form appears, as in Figure 6–11.

If you're starting a new topic, type a descriptive subject in the Subject box. If you want to *cross-post* your message to numerous newsgroups, just type each group name (separated by a comma) in the Newsgroups box.

If you are replying to a previous article, the entire article is included as part of your message. Each line starts with the greater-than sign (>) to indicate that it has been quoted. You should delete any repetitious or superfluous lines. Just keep the part of the text you actually want to respond to.

You can now type your message in the Message box. When everything looks okay, click the Post Message button at the bottom of the form. If you chicken out and decide not to send the message after all, just press the Previous arrow in the toolbar or select Go, Back.

LESSON #11: E-MAILING

A very nice Netscape feature allows you to easily send e-mail to anyone with an Internet account. Before you can work with e-mail, however, you

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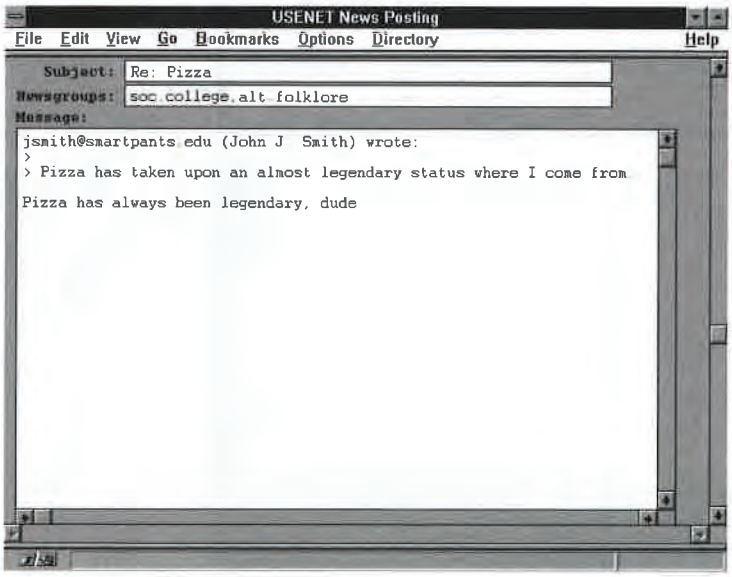


Figure 6–11 Writing an article of your own using a special Netscape form

need to set up an e-mail server. Select Options, Preferences. Choose the Mail And Proxies item from the pop-up menu at the top of the screen.

You should now fill in the following information:

HTML Mail Server: This is the machine on your Internet provider's network that handles e-mail. In most cases, this is the same as the *domain* of your e-mail address. For example, if your address is jsmith@chicken.smartpants.edu, then your e-mail server is usually *chicken.smartpants.edu*. If e-mailing doesn't seem to work, ask your system administrator for the name of this server.

HTML Your Name: Simply type in your full name, as you want it to appear on e-mail messages you send.

HTML Your E-mail: Type in your full e-mail address so people know where to reach you.

You can now send a letter by selecting File, Mail Document or pressing CTRL-M. The Mail Document screen in Figure 6–12 appears. This screen also appears whenever you send a private reply to a Usenet article's author.

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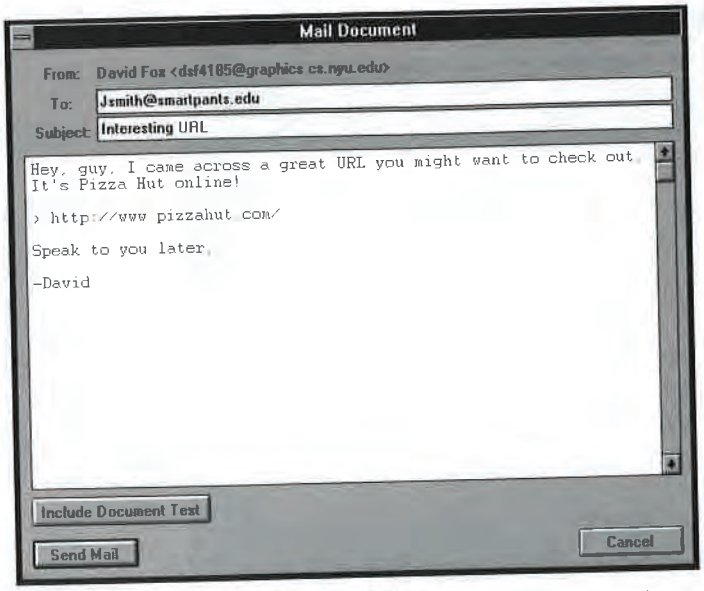


Figure 6-12 A simple e-mail form allows you to send Web pages, replies to newsgroup articles, or other comments to any address in the world

If necessary, type the full Internet e-mail address of your recipient in the To box. All Internet addresses take the form *name@location*. You can include several addresses if you separate each with a comma. If you like, you can edit the Subject of the message. In most cases, the subject line is automatically filled in with the URL of the current Web page.

If you want to include the current Web page's text, click the Include Document Text button. You probably want to go through this text and erase unnecessary lines. You can now type out your message in any blank area. When done, click the Send Mail button to ship your message away.

LESSON #12: GRABBING FTP FILES

If you'd like to retrieve a file over the Internet, Netscape can easily grab it as long as you know the file's full URL. For example, if you open the URL

```
file://ftp.smartpants.edu/pub/windows/games/bounce.zip
```

Netscape will retrieve the *bounce.zip* file (if it exists), and save it to your hard disk.

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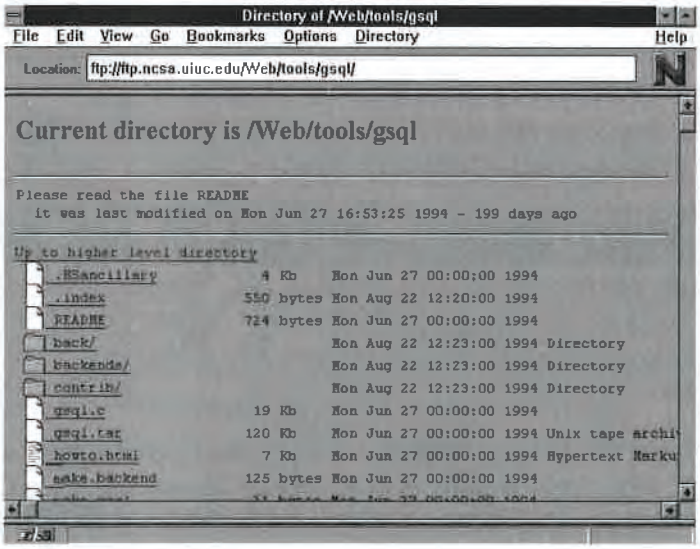


Figure 6–13 Pointing and clicking your way through an FTP archive

In some cases, however, you'd like to browse a popular FTP archive. For example, the archive at *ftp.netcom.com* has lots of great shareware, graphics, sounds, and text files. You could open the archive by using the URL

```
ftp://ftp.netcom.com/
```

Netscape allows you to browse the directories of any anonymous FTP site. Figure 6–13 shows a sample screen. Directories have yellow folder icons. Just click on any directory to view it. Text files or HTML hypertext files are tagged with an icon of a page with print on it. Again, just click on a text file to display it. Plain files have blank page icons. Netscape will either display these or save a copy to your hard disk. Binary files have icons showing a page with the word "bin" written on it. Click on one to download it.

NOTE: You can also browse private FTP sites as long as you have a valid account with a username and password. See Chapter 16 for more details.

LESSON #13: CONFIGURING VIEWERS

Netscape can handle a lot of different images, but it can't handle them all. If you come across a strange graphic format, a movie, or a sound, Netscape passes the file to a viewer. Before it can do this, however, Netscape needs to know which viewers are installed on your system.

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To set up these *helper applications,* select Options, Preferences and choose Help Applications from the top pop-up menu. You should see a list with three columns. This list has the following elements:

HTML Mime type: These are formats of files that Netscape cannot display. MIME is a standard Internet naming format for different types of files. Whenever Netscape receives a file, the Web server tells it what MIME type to deal with. In most cases, this MIME is standard HTML hypertext or a GIF inlined image. If not, Netscape looks at this chart to figure out what to do. MIME types include video, text, images, audio, and special application files such as Microsoft Word documents.

HTML Action: This is the program Netscape should run to view a particular MIME type. Most actions in this default Netscape chart are listed as ?????, meaning Netscape doesn't know what to do. If an action is unknown, Netscape prompts you whenever it comes across this type of file, asking you whether you want to save the file to disk or configure a viewer.

HTML Extensions: This lets Netscape know how it should recognize a MIME type. Each file format has a different extension to its filename. For example, MPEG movies usually end with the letters *.MPG.* JPEG files end with *.JPG.*

To set up a viewer, just follow these steps:

1. Select the MIME type you want to deal with from the chart.
2. If the MIME type uses extensions that aren't listed in the Extensions box, add them.
3. Select an Action at the bottom of the window. If you don't have a viewer that can deal with the MIME type, click the Save button. The file will automatically be saved to disk if Netscape comes across it. Otherwise, click the Launch Application button and use Browse to find a supporting viewing program.

For example, the LView Pro viewer can handle several types of graphics: TIFFs, JPEGs, GIFs, and more. In most cases, you can just use Netscape itself to view JPEGs and GIFs. But what about TIFFs? Select the image/tiff MIME

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type from the list. In the Action box at the bottom of the screen, click the Launch Application button. Now click Browse and designate the Directory and Filename of LVIEWP1A.EXE. Click OK. The full pathname of LView, including LView's icon, now appears in the Launch Application box. From now on, whenever Netscape encounters a TIFF file, LView takes care of it.

LESSON #14: CUSTOMIZING YOUR NETSCAPE EXPERIENCE

Netscape offers a bunch of bells and whistles, allowing you to decide exactly how you want your Web experience to look and act. To set Netscape options, select Options, Preferences. You can now click the pop-up menu at the top of the window to edit the following settings:

HTML Styles: How should each Web page look?

HTML Directories, Applications, And News: Where are various specialty files stored?

HTML Network, Images, And Security: How should the network act? How should images look? What sort of security alerts should a user get?

HTML Mail And Proxies: Which machines handle specific Internet tasks such as e-mail, FTP, gopher, news, or WAIS?

HTML Helper Applications: Which viewers should Netscape call when it comes across a file type it doesn't know how to display?

You've Got the Look

Most Web pages use two general types of fonts:

HTML Proportional: A font where each letter gets as much space as it needs—so that *m* is much bigger than *i*—like the type usually found in books, newspapers, or magazines. This is used for most text.

HTML Fixed: A typewriter-like font where each letter is the same width. This is useful for tables or pictures where the spacing matters.

You can specify each of these fonts by selecting the Styles box in the Netscape Preferences window. Select the Change Proportional Font or Change Fixed Font button. The Change Font dialog box appears. You can now change the Font and Font Size of basic Web page text.

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Another option allows you to specify the look of hyperlinks. Netscape colors and underlines most hyperlinks, to really emphasize them. If you don't want links to be underlined, unselect the Underline Links checkbox.

There's No Place Like Home

When you first start Netscape, the Netscape home page at

```
http://home.netscape.com/home/welcome.html
```

is loaded. But what if you don't ever really use this page? Why should you waste time waiting for a needless home page to appear? Instead, you can customize your own home page. This might be your personal home page, your company or university's home page, or a popular search index.



NOTE: You can even use a file on your own hard disk as the home page. To see the URL for this file, select Open, File and load up the file. The URL is printed in the Location box. You can then copy this URL to your preferences menu.

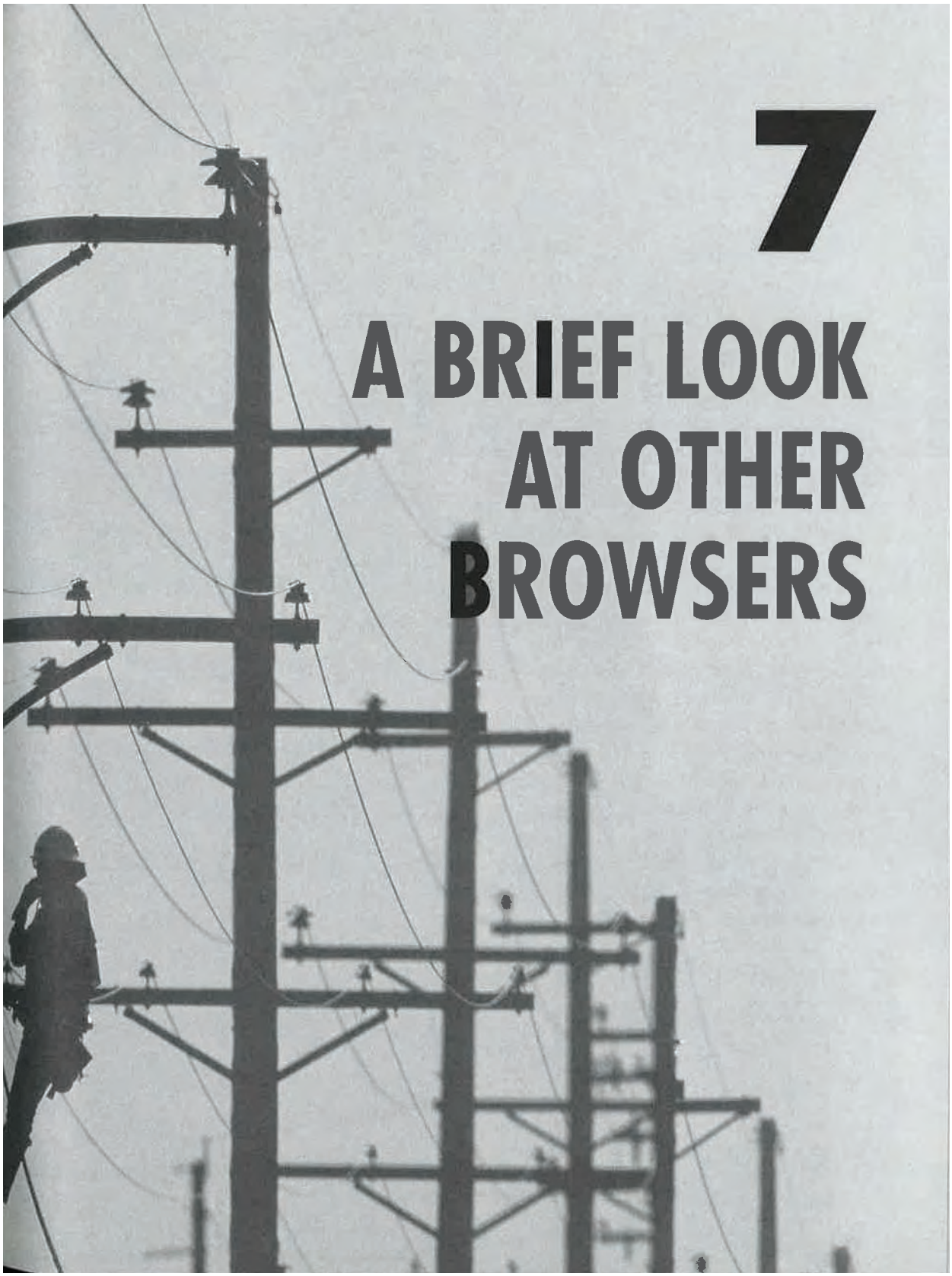
Select the Styles box in the Netscape Preferences window. Fill in the full URL of your desired home page in the Home Page Location box. If you don't want *any* home page at all, select the Blank Page button.

WHAT NOW?

Congratulations! You've just mastered one of the world's most advanced Web browsers. You can now take a short tour around the Web, using Chapter 8, What Can I Do?, as a guide.

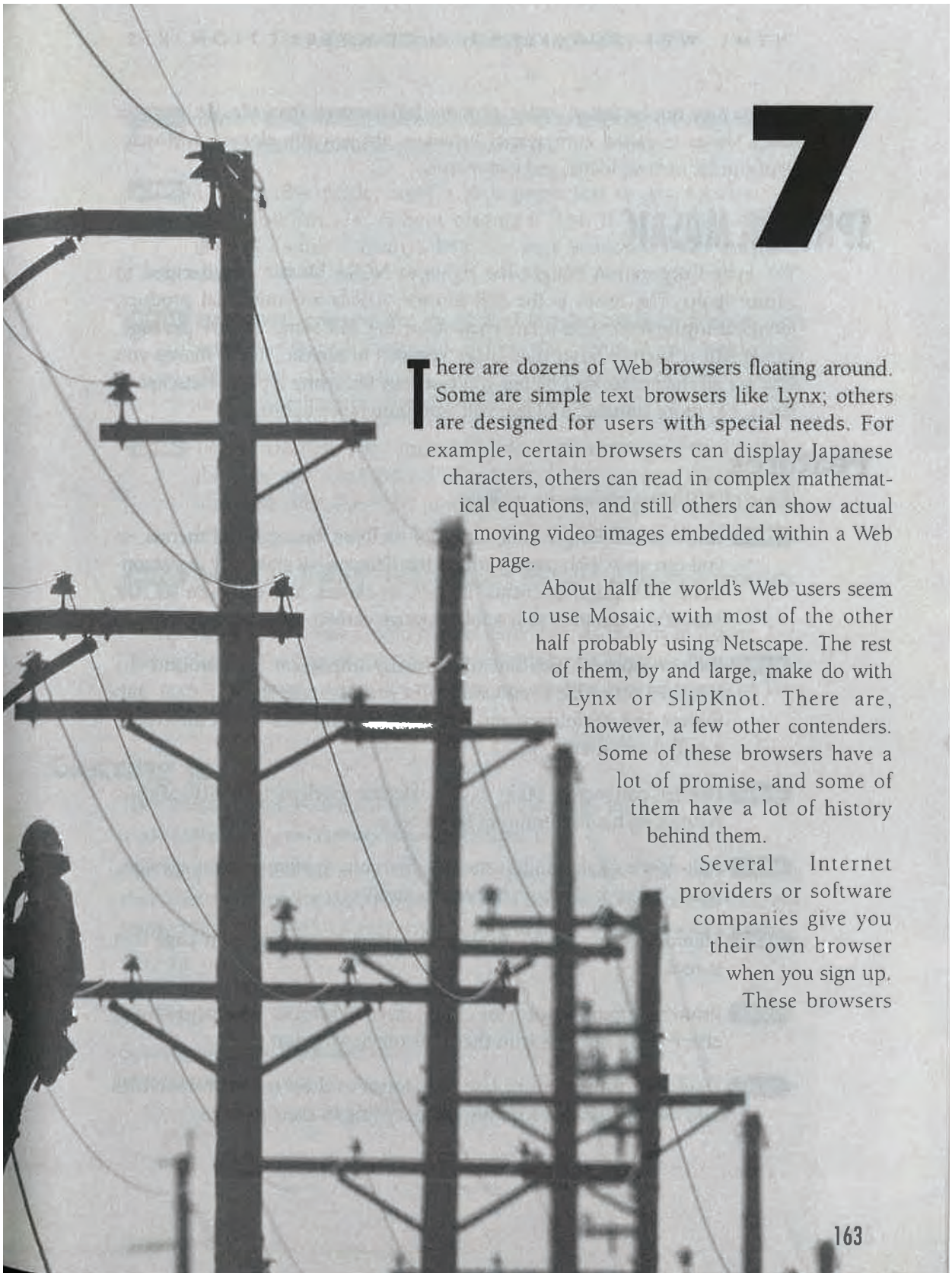
If you're ready to start creating your own Web pages, flip to Part II, Creating Web Pages, which begins with Chapter 8. The next chapter covers some other commonly used Web browsers.

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7

A BRIEF LOOK AT OTHER BROWSERS



7

There are dozens of Web browsers floating around. Some are simple text browsers like Lynx; others are designed for users with special needs. For example, certain browsers can display Japanese characters, others can read in complex mathematical equations, and still others can show actual moving video images embedded within a Web page.

About half the world's Web users seem to use Mosaic, with most of the other half probably using Netscape. The rest of them, by and large, make do with Lynx or SlipKnot. There are, however, a few other contenders. Some of these browsers have a lot of promise, and some of them have a lot of history behind them.

Several Internet providers or software companies give you their own browser when you sign up. These browsers

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may or may not be faster, easier, or more full-featured than Mosaic. In most cases, these so-called commercial browsers are actually clones of Mosaic, with similar menus, icons, and commands.

SPRY AIR MOSAIC

The Spry Corporation bought the rights to NCSA Mosaic and decided to spruce it up. The result is the AIR Mosaic. AIR is a commercial product, included in the *Internet in a Box* package or the AIR series TCP/IP package. While AIR is slightly faster than older versions of Mosaic, it still makes you wait for all images to load before you can start browsing a page. Netscape is faster, has more features, and lets you configure more options.

Features

Some of AIR Mosaic's features include:

- HTML Kiosk mode: Empty your screen of toolbars, buttons, and menus, so you can view Web pages without interference—a great way to demonstrate Web pages to clients, friends, or classes. You can even set AIR Mosaic on autopilot so it scrolls through certain pages automatically.
- HTML Built-in hotlists: Go directly to many important sites around the Web. To make life even easier, you can organize these hotlists into folders and subfolders, and add your favorite Web pages directly to a pull-down menu.
- HTML Hotlist converter: Make NCSA Mosaic hotlists into AIR Mosaic hotlists with a minimum of keystrokes.
- HTML Pull-down configuration menus: Set your preferences for viewers, fonts, color, and other preferences easily.
- HTML Memory cache: Speed up page reloading by storing each page that is read.
- HTML Printer support: Print hard copies of your favorite Web pages—and check them out first with the print preview option.
- HTML Drag and drop support: Use the Mouse to drop text or HTML files into the AIR Mosaic icon instead of typing in their names.

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- HTML Usenet newsreader: Read-only access to newsgroups. (Unfortunately, you cannot use AIR Mosaic to post news.)
- HTML Load-to-disk mode: Store a Web page's text or graphics on your hard disk directly, without reading it first. If you hold down the SHIFT key while clicking a link, the page is automatically loaded to disk.
- HTML Destination preview: See the type of Internet resource, the size, and other pertinent information before you jump. If you hold down CTRL while clicking a link, you get information that can help you decide whether you should bother following it.
- HTML Image selection: Save time by turning off all images, then loading the ones you want individually. If you point to an unloaded image icon and click the right mouse button, the image is automatically loaded.
- HTML Built-in AU and AIFF audio support: No external viewer is necessary.

Spry AIR Mosaic has a pretty sleek look to it, as shown in Figure 7–1. The toolbar at the top of the "console" is similar to Mosaic's. Whenever it retrieves a Web page, it shows a radar sweep rotating around the globe logo in the top right corner.

Getting It

Spry offers a demo version of AIR Mosaic at the following site:

`file://ftp.spry.com/AirMosaicDemo/AMOSDEMO.EXE`

The demo includes all of AIR Mosaic's regular features. The only catch is that after you view six Web pages, the demo becomes crippled. To view any more, you have to order a registered copy. For more details, contact Spry:

Spry Inc.
800-777-9638
info@spry.com

Spry's home page is located at:

`http://www.spry.com/`

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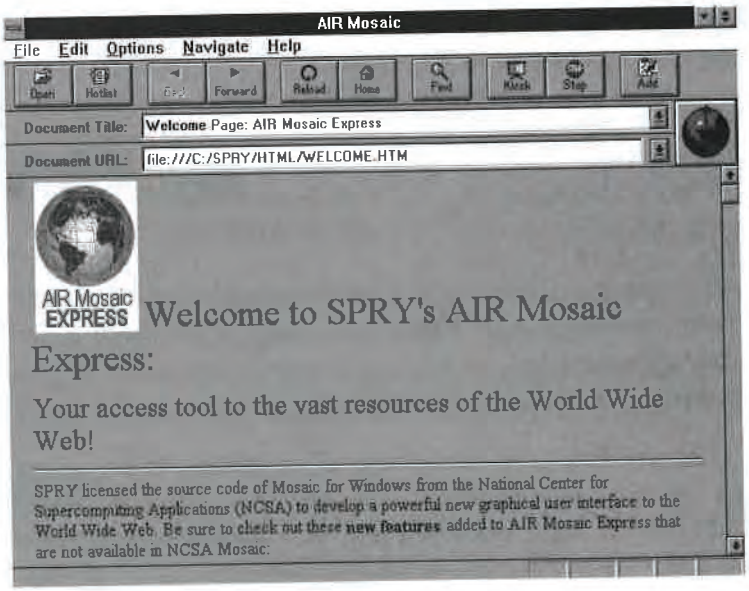


Figure 7–1 A breath of fresh AIR? The basic AIR Mosaic screen

WINWEB

EINet's WinWeb is the Windows sister program of the popular MacWeb for the Macintosh. WinWeb is probably the most rudimentary graphical browser you can get your hands on. It offers hyperlinks, hyperimages, clickable image maps, and all the other basics. However, it has problems reading in some Web pages. It also lacks advanced features such as forms or transparent images, and can't use Internet resources such as telnet, e-mail, or WAIS.

Consider WinWeb if your computer hasn't got enough memory or disk space to support more advanced browsers—it may run when no other graphical browser will work.

Features

WinWeb offers these basic features:

- HTML Easy printing: A print preview option lets you see what the hard copy will look like.
- HTML Load-to-disk mode: You can have a Web page loaded to disk instead of displayed.

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HTML Image option: You can decide whether or not you want images to be loaded.

HTML Customization: You can adjust the way your screen fonts and colors look.

HTML History lists and hotlists: They're pretty basic, but better than nothing.

The WinWeb screen has a simple, no-nonsense look to it, as shown in Figure 7–2. Much like any other browser, it includes buttons that allow you to access a home page, view a history list, or view a hotlist. To access a hyperlink, just click on it.

Getting It

To download WinWeb, use any Web browser or FTP software to access the site:

```
ftp://ftp.einet.net/einet/pc/winweb/winweb.zip
```

You can also find out more about WinWeb by accessing EINet's home page:

```
http://www.mcc.com/
```

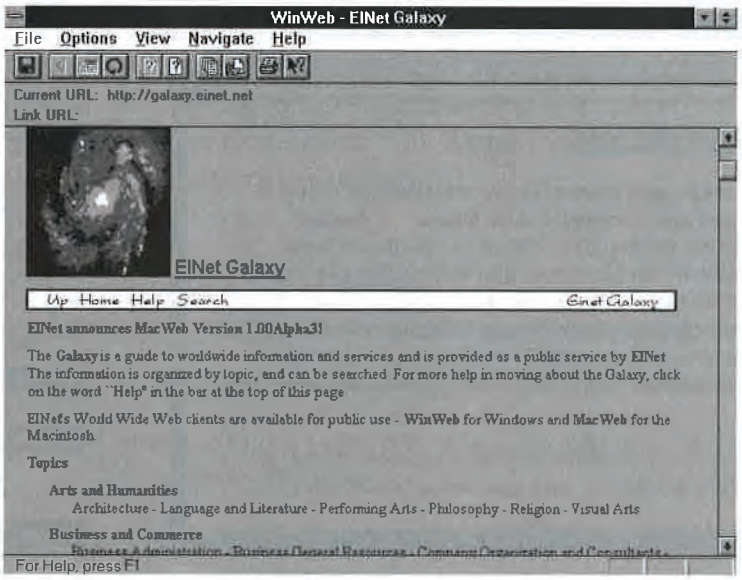


Figure 7–2 WinWeb is a good, no-frills Web browser

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For more information, contact EINet:

EINet Windows Software
MCC
3500 West Balcones Center Drive
Austin TX 78759-6509
USAwinweb@mcc.com

CELLO

When Cello first came out, it was a favorite for a lot of Webbers. The screen area was large. Hyperlinks were clearly marked, surrounded by perforated boxes. Images often appeared sharper on a Cello screen than they did on other browsers. Cello also had a nice style of colors, bullets, lines, and fonts—Web pages looked more like finished documents than like haphazard Internet data. It also had more features and options than the original version of Mosaic. See Figure 7–3 for a sample Cello screen.

The Cornell University's Legal Information Institute developed Cello, and offers it absolutely free to all Internet users. Currently, however, there is little need for Cello. Mosaic Version 2 is also free, and is far superior. Cello takes quite a while to load pages and often gets confused if it runs across a strange file. The Cello menu structure is also pretty confusing to figure out.

There are some die-hard Cello fans out there, however.

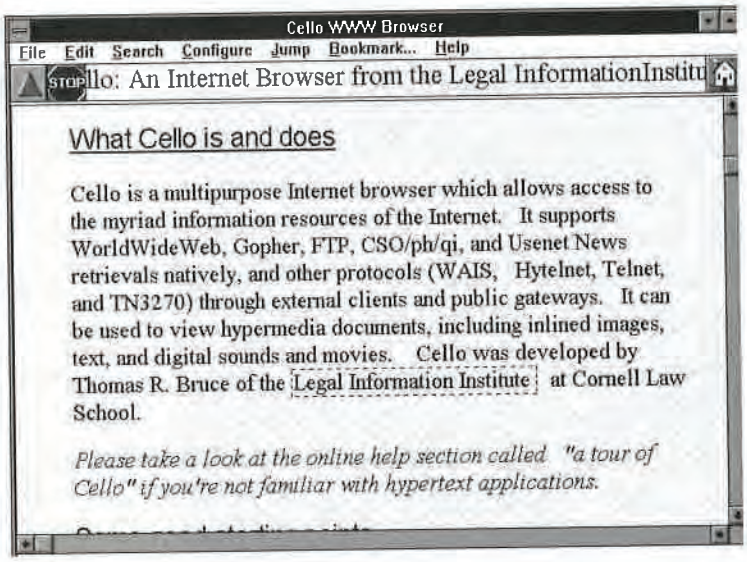


Figure 7–3 Orchestrating a Web session with Cello

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Features

Cello offers the following features:

- HTML Graphics: You can use graphical imagemaps, inline graphics, and all the usual Web multimedia tricks.
- HTML Hypertext: Text links are clearly marked inside a perforated box.
- HTML Special commands: Cello acts more like an Internet tool than a basic Web browser. Rather than type in full URLs, for example, you can choose FTP, telnet, WAIS, phonebook, hytelnet, rlogin, and gopher from menus—all you type is the variable information.
- HTML Customization: Lots of configuration options allow you to adjust the look of your screen.

Getting It

The Cello file is available from

`ftp://ftp.law.cornell.edu/pub/LII/Cello/cello.zip`

The Cello home page has more information about the latest releases:

`http://www.law.cornell.edu/cello/cellotop.html`

SPYGLASS ENHANCED MOSAIC

Spyglass is yet another commercial Mosaic product based on NCSA's version. Basically, Spyglass looks and acts just like NCSA Mosaic. The Spyglass software runs on par with Mosaic, but doesn't quite match AIR Mosaic or the Netscape Navigator.

Features

If you know how to use NCSA Mosaic, then you also are an expert at the Spyglass version. Enhanced Mosaic has the following enhancements:

- HTML Speed: It runs slightly faster than standard Mosaic.
- HTML Conservation: It takes one-third less memory than the standard NCSA Mosaic program.
- HTML Support: It's fully supported by Spyglass, Inc.

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Getting It

Several companies have bought licenses for Spyglass Mosaic:

- IBM
- DEC
- Firefox
- FTP Software
- O'Reilly & Associates

You will have to contact one of these publishers if you want a copy, or if you want more information about ordering the Spyglass Mosaic. Other questions can be directed to

`comments@spyglass.com`

Latest release notes and a product description can be found at the Spyglass home page:

`http://www.spyglass.com/`

NETCRUISER'S WEB BROWSER

The Netcom nationwide Internet provider has created its own Web browser known as NetCruiser.

Features

NetCruiser acts as a complete front end to all Internet services:

- Electronic mail: Reading and sending
- Usenet newsgroups: Reading and posting
- Telnet: Full support
- FTP: Full support

As far as the World Wide Web itself is concerned, NetCruiser looks and acts similar to NCSA Mosaic.

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Getting It

To use NetCruiser, you need to register for Netcom's NetCruiser SLIP account. Contact Netcom at:

```
3031 Tisch Way
San Jose, CA 95128
408-983-5950 or 800-353-6600
info@netcom.com
```

Check out the home page for more information:

```
http://www.netcom.com/
```

WHAT NOW?

If you started here, pick up the basics on Web browsers from the previous four chapters. Chapter 5 covers NCSA Mosaic, the basis for most modern Web browsers, while Chapters 3, 4, and 6 talk about Lynx, SlipKnot, and Netscape, respectively.

In Chapter 8, What Can I Do? you'll start using your browser to explore a few popular Web pages.

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