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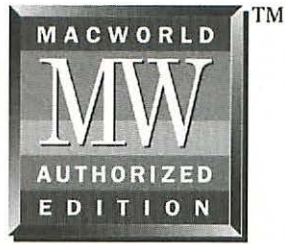
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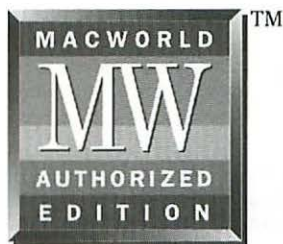
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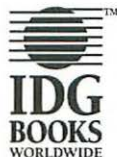


Macworld  
**Web Essentials**



# Macworld **Web Essentials**

**by Charles Seiter  
and  
Tom Negrino**



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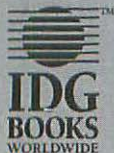
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# Dedication

This book is dedicated to Loretta Toth, herself a remarkable writer on remarkable topics, and Mary Toth, Webmaster for several major national organizations (really!) while still in her teens.

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# Foreword

If you walk into a bookstore these days, you can find yourself confronted with a whole wall of Internet books. You may wonder, “How do I pick my way through this giant agglomeration?”

It's simple, really. Look for a copy of my *New Complete Mac Handbook* in the general computer-book section. When you find it (may as well pick it up too, as long as you're there), you're in the right part of the store — Mac books are usually in their own section. Then look for Internet or Web books written by long-time *Macworld* contributing editors. That narrows the field considerably but guarantees that you will only consider books written by people who have your best interests at heart, night and day. Actually, if you're reading this, you've already followed my advice!

Macintosh users are a big, important part of the Web community, and in this book Tom and Charles have rounded up the latest and greatest information for beginning to intermediate Web surfers. Both authors now have rectangular eyeballs from staring at Web pages, a fact which proves their sincerity. Seriously, this is the most up-to-date Web reference for Mac users, and the friendliest. You'll be glad you have it.

— Jim Heid

Author of *New Complete Mac Handbook*, (4th Edition), and *Macworld* magazine's “Working Smart” columnist

December 8, 1995

# Introduction

Both authors of this book are regular contributing editors to *Macworld* magazine. We get to read all sorts of correspondence that the magazine receives. The big question that readers repeatedly asked in 1995 was: Isn't there a Web guide that's just for us Mac users?

Yes. And it's called *Macworld Web Essentials*. If you want to learn Internet basics first, you might want to look at Charles Seiter's *Internet for Macs for Dummies* (2nd Edition) from IDG Books Worldwide. If you know a bit of Internet stuff and want a guide to the Web, start here. By the way, if you are a regular and faithful reader of *MacUser* magazine, please do not be offended by the authors' affiliation. Officially, these magazines are competitors; behind the scenes, the staffs of both *Macworld* and *MacUser* are all actually good friends. We all go to lunch together at Macworld Expo.

## This Book Is For You \_\_\_\_\_

We have made a special effort to reach out to people who are new Mac users by way of a Performa that they recently purchased. If you have a Performa with a built-in modem and a bundled edition of eWorld, you're actually in great shape for launching yourself on the Web. You can turn to Chapter 7 right now if you like, and congratulate yourself that you're ready for Web surfing *today*.

## What This Book Is About \_\_\_\_\_

*Macworld Web Essentials* is meant as a starting point for Mac users who are just starting to explore the Web. Our aim is to present the Web as a Mac-friendly place, with the usual references to Unix or Windows removed (those people have their own special problems). That's why the sites, services, and tips discussed in the book reflect a pure-Mac emphasis. A longer book which contains a lot of tips for advanced users (by your same indefatigable authors) is going to appear later this year.

You don't have to read the chapters in the book in any particular order — you can start anywhere. The first five chapters are an introduction to the basics of using the Web and Web software. The idea is to present you with enough information so that you can get started and begin looking around for yourself. By Chapter 5, we figure you'll want to know how to do sound and movies, too!

Old-time Internet hands often sneer at the national online services as too limited and, for that matter, too convenient. But the limitations are disappearing fast, and the convenience and content keep improving. Chapter 6 and Chapter 7 discuss AOL Web and eWorld, respectively, the only two services that really have their acts together for Mac Web users.

Searching for material on the Web can be frustrating if you don't have a strategy. Chapters 8, 9, and 10 not only review searching methods and Web index sites, but also include a directory of good places to start browsing for fun and profit.

If you're tired of just observing and want to make something happen on the Web yourself, read Chapters 11, 12, and 13. Design your own fancy Web site and amaze your friends!

**Chapter 1: Internet Basics** explains the Web, TCP/IP, domains, URLs, and the original non-Web Internet services (ftp, gopher, and news).

**Chapter 2: Getting Connected** discusses the two kinds of connections that are available: your own PPP/SLIP account or an account with a national online service. Read here for the advantages and disadvantages of each approach.

**Chapter 3: Web Browsers** come in all styles and sizes, from the giant (7 MB!) NetShark to the tiny (400K) MacWeb. Here you will find the lowdown on Netscape Navigator 2.0, our own Q-Mosiac, TradeWave's MacWeb and InterCon's NetShark, and several others.

**Chapter 4: Doing It All from a Browser** discusses the latest browsers and their features: e-mail, ftp file transfers, newsgroup management, and even old services like telnet. Find out how to do everything on the Internet directly from the Web.

**Chapter 5: Helper Applications** explain how to get the most from the Web. You learn about Stuffit Expander (including DropStuff with Expander Enhancer), Sound Machine and Real Audio, QuickTime players, and the mysterious operations of uuUndo.

**Chapter 6: AOL Web** discusses the advantages of America Online's Web browser. The browser is simple but usable, and AOL at least has a huge network of local access numbers.

**Chapter 7: eWorld Web** introduces Apple's own innovative Web service, now distributing Web sites in its service mixed in with the eWorld proprietary material. This means you can get going on the Web without any training and find interesting sites within eWorld itself. Worth a look — especially if eWorld was bundled with your Mac anyway.

**Chapter 8: Finding It Fast** provides tips for using Yahoo, Infoseek, Lycos, WebCrawler, Inktomi, Harvest, and the latest Web directory services. With the Web exploding in size, you need all the help you can get.

**Chapter 9: Fun Web Sites** provides descriptions of the most entertaining sites on the Web.

**Chapter 10: Serious Sites Worth Visiting** takes you on a tour of Web sites with an emphasis on research, medical information, and business-related topics.

**Chapter 11: HTML for Pedestrians** offers a quick introduction to composing a home page, with links and all. You'll see that HTML is easier than you might have thought.

**Chapter 12: Web Site Essentials** explains how to post your home page. Look here for advice on "becoming a site."

**Chapter 13: The Mysteries of ISDN — and Other Fast Ways to Connect** answers these questions: What's ISDN? Why should I care? What do you need for ISDN, and how do you install it? What does it cost? Find the answers to these questions, along with the lowdown on frame relay, T1, and other leased services.

**Appendix A: Using the Macworld Web Essentials CD-ROM** includes a summary of shareware and demo programs that have been compiled by the Los Angeles Macintosh Group (LAMG).

**Appendix B: Using Quarterdeck Mosaic** explains how to install and use the Web browser software that's contained on the book's CD-ROM disc.

**Appendix C: Directory of Web Resources** provides a comprehensive listing of product vendors and Internet services.

**Appendix D: The Glossary** defines most of the Web-related terms that are used in this book.

## A Little Dialog

---

In writing this book, your co-authors only "saw" each other online — a very appropriate situation for a book about the World Wide Web. At the end of the project, we decided to compare notes. Thus, the introduction was the last part of the book that we wrote. True to our online form, the introduction is a little online interview in which we look over The State of the Web.

**TN:** So, what have you learned in doing this book?

**CS:** Well, one of the things I found is that you have to check sites carefully over a period of months to find ones that are valid for a long time — the Web changes quickly, but not all sites are unstable. Actually, we both saw a lot of this while working on *Yahoo Unplugged*.

**TN:** *Yahoo Unplugged* (another IDG book), by the way, seems to have popped up in the stores in huge quantities almost overnight.

## Pithy Advice

*[You can read these remarks just standing in the bookstore. Of course, we saved most of the good stuff for the interior.]*

**CS:** So to make this introduction worth reading, how about giving the readers three tips apiece?

**TN:** OK, three tips it is. Umm, you go first.

**CS:** My first bit of advice is just to start at [www.yahoo.com](http://www.yahoo.com). If you are looking for something specific, you can usually find something worthwhile in a few clicks. If you don't have something specific in mind, you can always check the Cool Sites item. It always has lots of entertainment value, and also the current best web site design tips.

**TN:** And my first piece of advice is to immediately go out and buy the fastest modem you can. Speed is THE limiting factor in your enjoyment of the Web. With a slow modem, you can find yourself wondering "why bother?" But with a fast modem, it's obvious why you should.

**CS:** True enough. However, there is the small problem that, right now, outside of big cities, the national services don't have enough 28.8 Kbps numbers. So it may be awhile before you get full value.

**TN:** That's one reason that some of the upcoming technologies, like cable modems, will be important. Cable TV is already nearly everywhere, and cable-modem speeds make the Web a dream.

**CS:** Any other high-speed modem-like products on the horizon?

**TN:** AT&T's GlobeSpan chipset is potentially a very important new technology, since it delivers megabit speeds over standard phone lines. It's faster than ISDN but doesn't have special line-installation problems. My second piece of advice is to read Chapter 13 where I discuss ISDN.

**CS:** Here's my second bit of advice: get into the habit of Bookmarking your browser early and often. It's very easy to find that you no longer CAN find that cool site you stumbled across in your first few days on the Web.

**TN:** Do you have any bookmark classification tips, or do you just keep one big list?

**CS:** I use Netscape 2.0's Bookmarks editor to make folders, like Internet Resources, Computers, Fun Stuff, etc. In Netscape, these folders end up being a hierarchical Bookmarks menu.

**TS:** I've been using the Hotlist feature in our very own Q-Mosaic to do the same thing. You just accumulate separate sets of lists. They appear along with the Main Hotlist in the Go To pop-up.

**CS:** Now, my third bit of advice would be this: In the Yahoo search choice "Options," which gives you other search facilities, it's worth looking every few weeks to see if there's a new service.

Inktomi, for example, popped up while we were working on this, and it was very impressive when it was just a few weeks old. The big news about Inktomi is that the whole index is generated from a computer program running on very fast hardware, so it could well be THE keyword search site soon. Or some service we haven't even heard of yet could come out of nowhere and eclipse the rest of them.

**TN:** Here's my third piece of advice: Get used to change. You'll see a dizzying amount of Web sites come and go in less than a month! In fact, one of the coolest things about the Web is that you can now publish stuff almost instantly. As many people as you tell about the site can use your info, then it can go away when the project's over.

## The Big Bucks

*[The authors take the plunge into commerce.]*

**CS:** Just curious, but have you ever ordered anything from a Web site? This question is a very-small-sample survey of the Web's commercial potential.

**TN:** No, not yet. But I signed up for Wells Fargo's online banking. I can now check my checking Mastercard balance, plus get a transaction history. That's pretty cool. Next month, I'll be able to hook up Quicken to my bank and transfer funds. But I haven't bought anything over the Web yet. Have you?

**CS:** I use [www.amazon.com](http://www.amazon.com) all the time for buying books. They have absolutely everything. Also, I order fountain pens from different Web office-supply sites from time to time. Don't know why — I use only a keyboard for writing.

**TN:** I haven't actually bought over the Web, but I've used it a zillion times to research before I buy. Actually, I find that I now get annoyed when I can't find a particular bit of info on the Web.

## Sites for Sore Eyes

*[After looking at many thousands of Web sites, you develop strong opinions.]*

**CS:** By the way, since we both use it all the time, here's a loaded question: what design tips would you have for [www.macworld.com](http://www.macworld.com)?

**TN:** Mainly, they (and everyone else) need to think about using smaller graphics. The people who set up these corporate sites need to remember that not everyone has T-1 access to the Web. The Macworld area here on America Online got a nice facelift.

**CS:** Do you have some sites you think are especially good examples of design? After all, you did the HTML chapter.

**TN:** There's an e-zine called Word. The new Salon is very nice. Time-Warner's Pathfinder is good. And I like CNN Interactive.

## The Final Frontier

*[Why not play the notorious fool's game of predicting where the Internet is going? Be honest, did you think Netscape stock would be the hottest item of 1995?]*

**CS:** Put on your Industry Pundit hat. What's going to happen a year from now? Three years?

**TN:** I think the cost of putting up a site will make it cost-effective to put catalogs online, whether they really do much business or not. If you can post a site for a few hundred dollars, and make it up from documents you have already developed on a word processor, it won't matter if the initial orders are slow.

**CS:** I think magazines will find that a section of their readership would rather get electrons than paper, and they'll start issuing you a password for an e-zine account when you take out a "paper" subscription. And I think online banking and Web stock brokerage will actually finally take off, after many false starts. Out here in the country, the investors (or speculators) who day-trade stocks *all* do it online.

Other businesses are getting interested, too. Antique dealers, for example, are busily working out standard descriptions so they can trade all sorts of one-of-a-kind items to each other at wholesale before they appear in showrooms.

**TN:** The key thing that makes online banking happen is that it's now become just cheaper to do an online payment than it is to mail the payment. In other words, the cost of a transaction is less than the cost of a stamp. That's the threshold for me, and I bet a lot of other people, too.

**CS:** What do you think will happen with Java? And will people buy these so-called Internet-only boxes for \$500?

**TN:** Personally, I think that "net boxes" are a pipedream. Java, on the other hand, will allow people to do lots of things that can't be done now. The best thing about Java, in my opinion, is that it's cross-platform. You write a short program once, and it runs on Mac, Unix, and Windows systems.

**CS:** I agree about the boxes. There already IS a \$500 Internet box — it's a used Color Classic with a modem. Java, in its easier incarnation JavaScript, looks like it will make it possible for ordinary users to write real programs again, the way they did with BASIC on the first personal computers fifteen years ago.

**TN:** What site do you find yourself returning to again and again?

**CS:** Umm . . . my picks are a little odd — the statistics-course home page at Dartmouth, for example. I couldn't have filled a whole page with fun sites. That's why you had to do the fun part.

**TN:** Did you find anything on the Web during this project that actually surprised you?

**CS:** Yes! After all this experience, the changes in the numbers from week to week in the Yahoo categories still knock me out. I think that, since there's no physical movement of stuff involved in setting up a site, they can be slapped together faster than anyone imagined. For that matter, the tools are getting better. Adobe's PageMill release in February 1996 will have Java built into it, for example.

**TN:** I hope that Adobe gets to work soon on some of the bugs in PageMill version 1.0 before loading up new features. I'm afraid it still is necessary to know a reasonable amount of HTML to design good Web pages.

**CS:** There doesn't seem to be enough time to fix bugs in the Web software business. The normal cycle of commercial software development was quite slow compared to development of Web software.

**TN:** That's a good point. That should get in here. Things are changing so fast that old-line established companies can't react fast enough. Even Microsoft seems pretty bewildered.

**CS:** Where does the Mac fit into the Web's future?

**TN:** The Mac is the primary box for creating Internet content, and I think that it will stay that way for at least another year. I suspect that Mac people also tend to stay on the Internet longer than Wintel users because, as much of a pain as MacTCP and PPP are, they're still easier than Winsock for Internet access.

**CS:** In the last numbers I heard, Mac users were 35% of Web clients. Quite frankly, I'm happy writing a Mac Web book, considering the numbers.

**TN:** The easy access is one reason that Mac people are present in disproportionately large numbers in the Web business.

**CS:** Any other brilliant insights?

**TN:** Not on these topics. To be a Web authority, you have to accept that your insights have a shelf life of a few months, tops. But this is sure going to be fun to watch.

## Text Conventions Used in This Book

---

Web addresses and directories appear in a special typeface like `http://www.idgbooks.com` or on separate lines like this:

```
http://www.idgbooks.com
```

HTML-formatted text appears in the same special typeface like this:

```
<HTML>
<HEAD>
<TITLE>Welcome To My First Web Page!</TITLE>
<!--Last revised January 22,1996.-->
</HEAD>
<BODY>
Body of the document
</BODY>
</HTML>
```

## Icons



This icon highlights short, to-the-point time-savers, or expert advice on tricks or quick techniques that will help you work smarter.



This icon highlights details about the topic under discussion — information you might not need if you're just skimming a chapter but might find valuable in the long term.



This icon alerts you that the action or operation being described can cause problems if you're not careful. Remember: Avoid trouble whenever possible.

## What's Next?

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Pick a chapter, start reading, and have a great time. If you haven't established a Web connection yet, check the appendix on getting started with the Quarterdeck Mosaic software that's included on the CD-ROM disc.



# Internet Basics

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## In This Chapter:

- Thinking about the Net
  - Then, now, and the future
  - Software and the Macintosh
  - How the Web ate the Net
- 

Because you are looking at a book about the World Wide Web, it's a safe bet that you already know something about the Internet. Remarkably, as each year passes, there's actually less to know — most of the old timers' histories and early Unix-based software are pretty irrelevant to the new Web-oriented, commercial Internet. This relatively compact book may be the only guide you need for beginning Web exploration.

It took about five years for the Internet to pass through three stages. In the first stage, it was mainly an e-mail system for universities and government organizations. It was the best e-mail system the world had ever seen, but it was still just e-mail. In the second stage, it became a file-transfer system, with organized collections of files and search software to find the files on a worldwide collection of computers. That stage lasted about three years, and was the point at which there was an explosion of television and newspaper publicity. Once only academics and a few thousand people in think tanks knew about the Internet, and then 18 months later cab drivers would harangue you about the Internet on your way to the airport. The third stage is the rise of the World Wide Web, in which the Internet is used to transfer not just text and files but *everything*, from audio to animation, across all common computer platforms. With the Web, information access, once you have the software installed, is about as easy as clicking a television remote control.

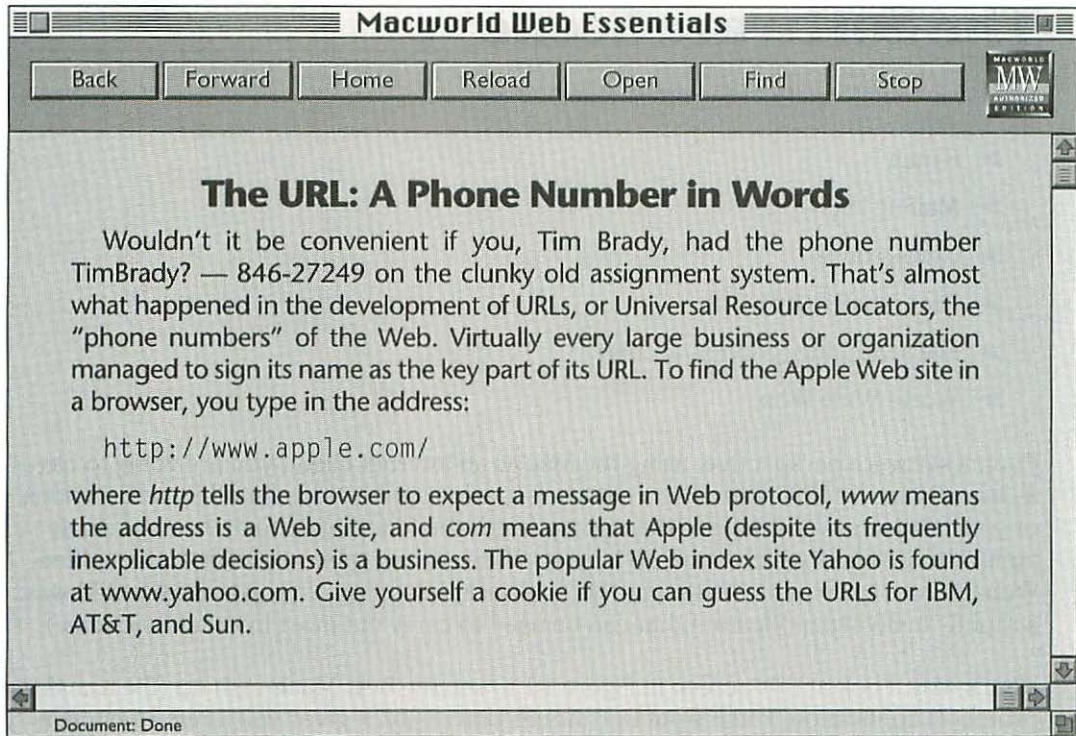
## The Internet: One Approach \_\_\_\_\_

Here's one way to picture the Internet. It's not a bad way to look at it, either, because it helps you guess where this whole enterprise is headed.

Think of a whole big country full of computers sitting on desks (or in the case of big computers, in their own rooms). The computers decide that they want to communicate with each other. One big computer takes the responsibility for assigning "computer phone numbers" to all the computers (these are the Internet address numbers, such as 143.16.29.254, that you will sometimes see). It also orders an elaborate wiring scheme that lets the other computers start sending messages; these messages are transmitted via the regular phone system and then carried around on the computers' internal phone system. Since the computer phone system is run by computers, most of the traffic on it consists of files instead of voice messages. Also, since all the subscribers to the computer phone system are, in fact, computers, it's possible to automate all sorts of communication activity with some simple programming or scripting.

Every time there's an improvement in the way desktop computers interact with humans, there's a corresponding improvement in what you can get from the Internet. At first, the only way you could interact with computers (computers of the post-1985 Internet Age, at least) was through a keyboard and through monochrome text on a screen. A few years later, most computers offered color monitors, and a few years after that, most offered reasonably good sound. That meant that Internet software designers by 1991 could expect computers to be able to handle sounds and pictures, at least at the speeds available on networks or with fast modems. As far as the computers know, they're just transferring files the way they always have, but at your end of the wire you could be watching a Daffy Duck movie or animation of an MRI of a flexing knee joint, instead of reading a plain-text message. The success of the first graphical Web browser, NCSA Mosaic, was based on its ability to handle the kind of graphics computer users expected to see by the 1990s.

The next step in this evolution is likely to come from programming the Internet communications sessions themselves. Right now, for example, the way you typically interact with the World Wide Web is by connecting to the Internet and activating a Web browser on your Mac. But as browsers become scriptable with AppleScript, or begin to incorporate more programmability themselves, it should be possible to generate "shows" automatically, in which the browser logs on by itself and collects Web materials on a particular theme. Commercial users of the Internet, for example, could provide you with an online mail order catalog that modifies itself to reflect your interests, updating your Web-based catalog as a background activity while you place an order. And course material in educational applications could be customized, providing you with more background and examples in a part of a course that's giving you trouble.



Note

What this little discussion is meant to suggest is that, although it seems like the Web is just roaring along, its potential hasn't been seriously explored yet. Most of the Web sites in early 1996 are still static text-plus-pictures with a few links to file collections, and there's no "intelligence" built into the sites or the browsers. One reason for being certain that the Web is the future of the Internet is that there's so much room for development left in Web software, whereas older Internet functions, ftp for example, are about as evolved as they are likely ever to be. Within the computers-with-their-own-phone-numbers model of the Internet, the room to expand functionality is almost infinite, and the expansion is all taking place on the Web.

## The Software Scene

---

The basic functionality of the Internet includes:

- E-mail
- Mailing lists
- Newsgroups
- File transfer (ftp)
- File searching (gopher, archie)
- World Wide Web

From a software perspective, using the Mac as an Internet client, you are going to have a clean choice by 1996. Either you can use separate applications for all those functions, or you can use a Web browser that incorporates the functions into menus in a single application. This is a Web book, so here you'll see a strong bias in favor of the unified-Web-Internet approach. (That's why this book includes a copy of Quarterdeck's Q-Mosaic, a rapidly evolving application that can be used to carry out most Internet functions.)

Here's why. Look at this screen in Figure 1-1 to see the best Macintosh ftp (file transfer protocol) application, Fetch from Dartmouth University. It gives you a real Macintosh menu bar, and several other interface conveniences, but it's really a sort of glass window into the Unix-based file system of remote computers, since Unix is the operating system running on the majority of Internet servers.

Now look at the sample of TurboGopher (see Figure 1-2), the leading gopher application, written at the University of Minnesota. Like Fetch, TurboGopher sees the world as a collection of file archives, but in gopher space the archives are indexed, so a gopher search can find all sorts of files relatively efficiently.

Web browsers, however, can now present the same information, and in roughly the same way, because browsers recognize the file protocols at ftp and gopher sites and adjust their formatting accordingly. Instead of the screens in Figures 1-1 and 1-2, if you're using a Web browser, you see the ftp display in Figure 1-3 and the gopher display in Figure 1-4. Even if you are a newcomer to the Internet, you can probably see that it's a small step for browser designers to add e-mail (which will handle mailing lists and newsgroups as well), thus making a Web browser, for all practical purposes, the only Internet software you need.

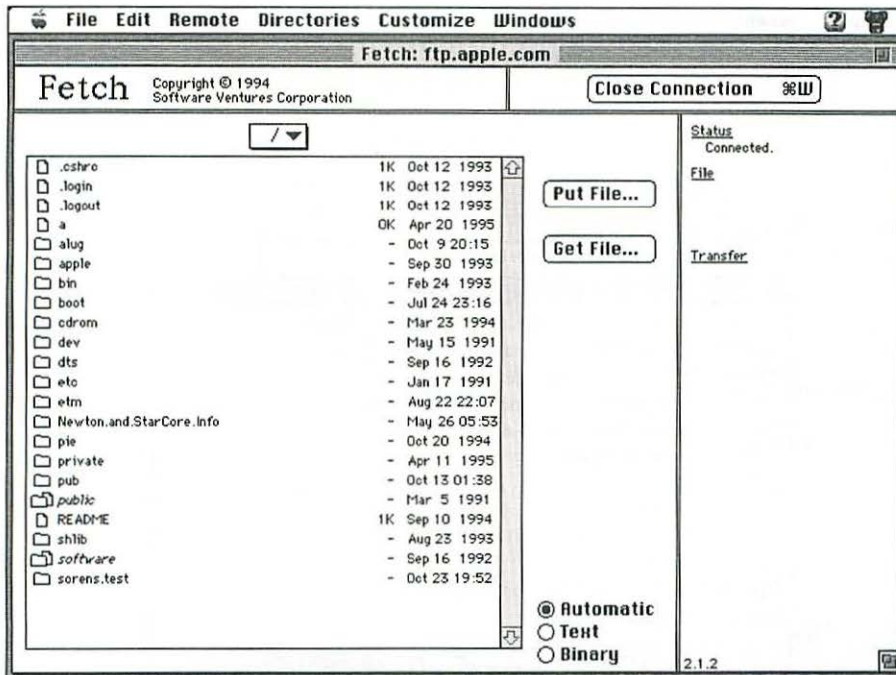


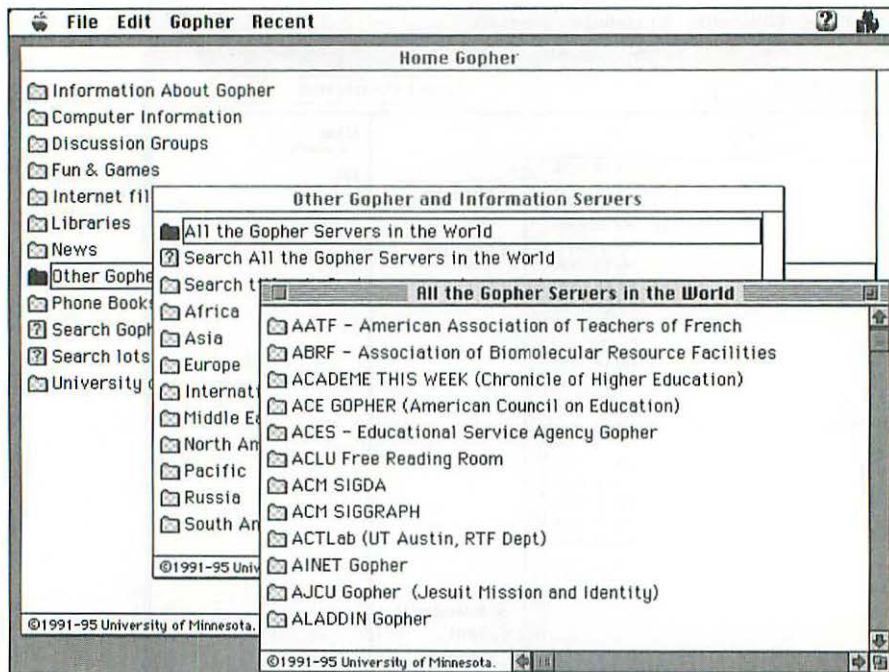
Figure 1-1: Fetch, the ftp standard



Tip

By the way, when you see one of these long lineups of folders, it may not be at all clear where you should start looking for interesting files, although sometimes they have clear enough labels like *dos* (which you probably don't want) or *mac* (which you probably do). Your best bet is to look for a little text file, usually called *readme.doc* or *readme.txt*, that tells you what's in the various folders. If you're really lucky, there may be a file called *index* (check the size, if you can) that gives more details. Armed with this information, you just click away, as if the folders were sitting on your own hard drive.

Basically, that's how the Web ate the Net — it simply incorporated all Net functions, to the point where content providers figured that posting all information at a Web site was the most efficient way to contact users. And for visual attractiveness, there's just no competition — look at the real Web page in Figure 1-5 compared with the plain-vanilla collection of file folders you've just been seeing.



**Figure 1-2:** TurboGopher, the previous state of the art

Index of /pub/

Name	Last modified	Size	Description
<b>Parent Directory</b>			
[DIR] DynoTech/	17-Oct-95 02:46	1K	
[DIR] Games/	19-Oct-95 02:02	1K	
[DIR] MSDOS_UPLOADS/	22-Oct-95 16:40	1K	
[DIR] sig/	19-Oct-95 02:20	1K	
[DIR] WINDOWS_UPLOADS/	19-Oct-95 12:06	2K	
[DIR] aminet/	22-Oct-95 22:03	1K	
[DIR] baseball/	17-Oct-95 02:29	1K	
[DIR] brilee/	17-Oct-95 02:43	1K	

**Figure 1-3:** ftp on the Web

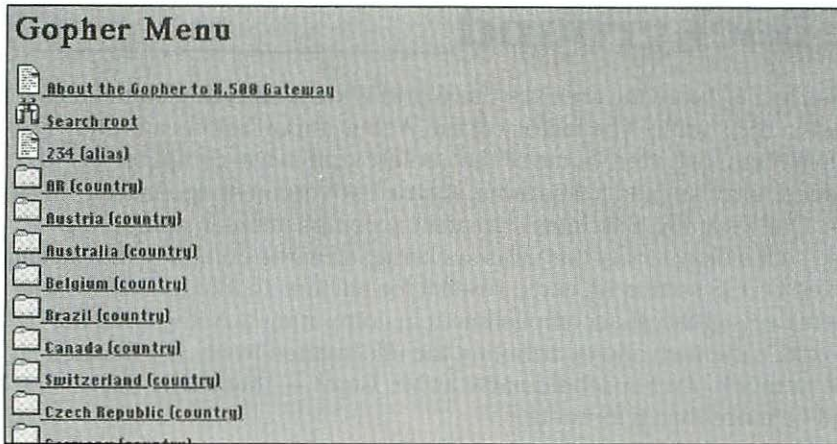


Figure 1-4: gopher on the Web

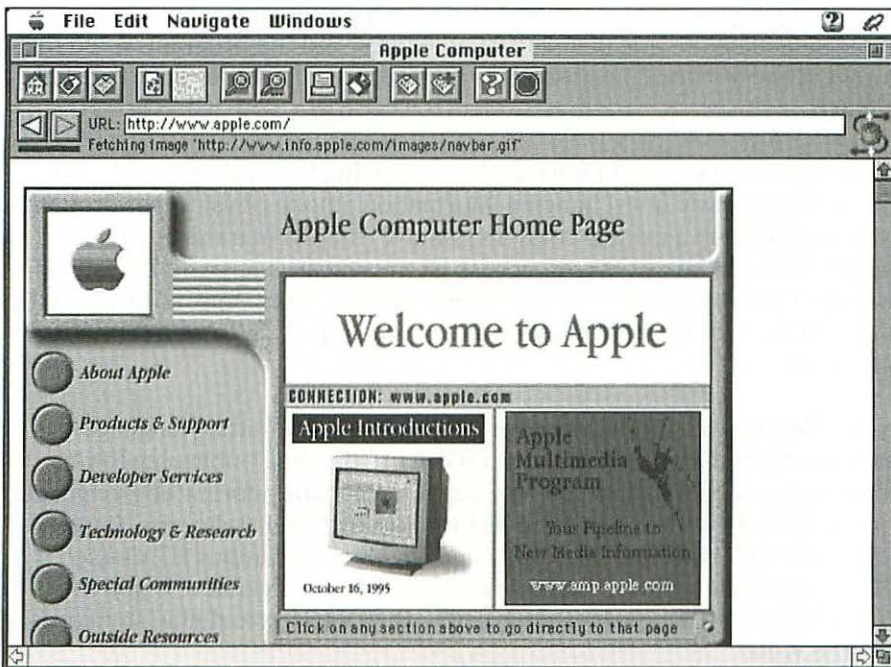


Figure 1-5: A real Web page, as opposed to a collection of files

## A Little Background

One of the problems in a fast-moving area like the World Wide Web is that sometimes the history gets lost in the shuffle. The history of the Web is important because it illustrates a principle often forgotten: Some of the coolest stuff in the computer world came about from sheer altruism and from rather abstract government-sponsored nonprofit research. Quite frankly, Bill Gates's greatest accomplishment in computing (this is a Mac book, so it's okay to say this) was suckering a Seattle company into selling him a program called Q-DOS so that he could resell it for millions to IBM as DOS for the IBM PC. Tim Berners-Lee's greatest accomplishment in computing was inventing the structure of the World Wide Web and distributing the information freely. Dr. Berners-Lee deserves to be as much of a household name as Mr. Gates — that's why this information should be more than a footnote.

Around 1989, Dr. Berners-Lee, an Englishman living in Switzerland and working at the European physics research facility called CERN, wrote a computer program for his own use. It was a sort of notepad program, with the interesting feature that individual pages of notes were linked by keywords. You could call up a page about a scientific conference, for example, and click the title of a particular lecture, and the program would then call up an abstract of the lecture. The abstract itself might contain other links to articles or reference tables.

Dr. Berners-Lee's supervisors thought it would be interesting to develop this idea to become a general-purpose way of exchanging information among physics labs around the globe. If you could dial up a central computer, and if you had one starting-point page with an index, it would be possible to access all the research anywhere, assuming that someone had set up the information and established the links. A group at CERN did just that, and in 1991 the first World Wide Web site was set up at CERN as a service to the world's physicists.

Along the way, Dr. Berners-Lee modified an earlier document-formatting language called Standard Generalized Markup Language (SGML), a longtime publishing format scheme for book-length documents. In the new version, he made a formatting language that would support both hypertext links and text formatting (bold, italic, size, fonts, and so forth) and called it Hypertext Markup Language, the now famous HTML (see Chapter 11). HTML, with a few newer extensions over its original version, is still the basis of the World Wide Web. Dr. Berners-Lee is now at MIT trying to define standards for the future of the Web.

The first version of the Web was just text-based, with hypertext links scattered throughout long passages of scientific literature. At the National Center for Supercomputing Applications, however, a student named Marc Andreessen produced NCSA Mosaic. It was available for three platforms (Unix, Mac, and Windows) and then given away. This one act, more than any other, put the Web at the center of Internet computing. Mosaic has an interface that's fun to use, it encourages the use of pictures, and it can be adapted to all styles of Internet access from phone-line dial-up to high-speed direct connection. In fact, when Mosaic was originally developed (some versions were in use in-house at NCSA as early as 1992) it was running on an incredibly fast network direct-connected to the world's biggest supercomputers.

That means that the subsequent programming efforts in developing the offspring of Mosaic (AIR Mosaic, Spry Mosaic, Spyglass Mosaic, and Andreessen's own Netscape) have focused on making a graphical Web browser work over the 14.4 Kbps modems that most home users still have. The Q-Mosaic included with this book, for example, contains dozens of small and large speed optimizations that make the Web practical over home phone lines. Compared with the original software, running on the fastest hardware in the world, the new browsers are much, much more efficient, since they simply *must* be. Dr. Andreessen is now one of the principals of Netscape Corporation and became a gazillionaire (actually, he got about \$50 million) when Netscape made a public stock offering in 1995, proving that good deeds are sometimes rewarded.

## Where Now?

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Most of the chapters in this book can be read independently of one another. If you're not yet on the Net, read Chapter 2 and you can get hooked up today (with this book's software package) or tomorrow (with some of the other recommendations). If you have a specific topic in mind, you might want to consult Chapter 8. If you've done all of the surfing you need and are now fired up about getting your own Web site, that topic's covered, too. Just so you know, a greatly expanded version of this book, so large that you won't even be able to carry it around conveniently (park it next to your Mac!) will be available in 1996. Check out IDG Books Worldwide's own Web site at [www.idgbooks.com](http://www.idgbooks.com) for more information.



# Getting Connected

# 2 CHAPTER

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## In This Chapter:

- A few connection issues
- AOL and eWorld, Macintosh Web pals
- PSINet, Q-Mosaic, and Internet Valet
- Using Netscape and other browsers

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The World Wide Web is not just the future of the Internet, it's actually the present. What you want is to get connected right now, so that you can watch some of the rapid evolution of the Web. Software developers are currently scrambling to keep up with all the features that users are now demanding and the new technologies sprouting up on the Web (Sun's Java language, for example).

## Different Kinds of Connections \_\_\_\_\_

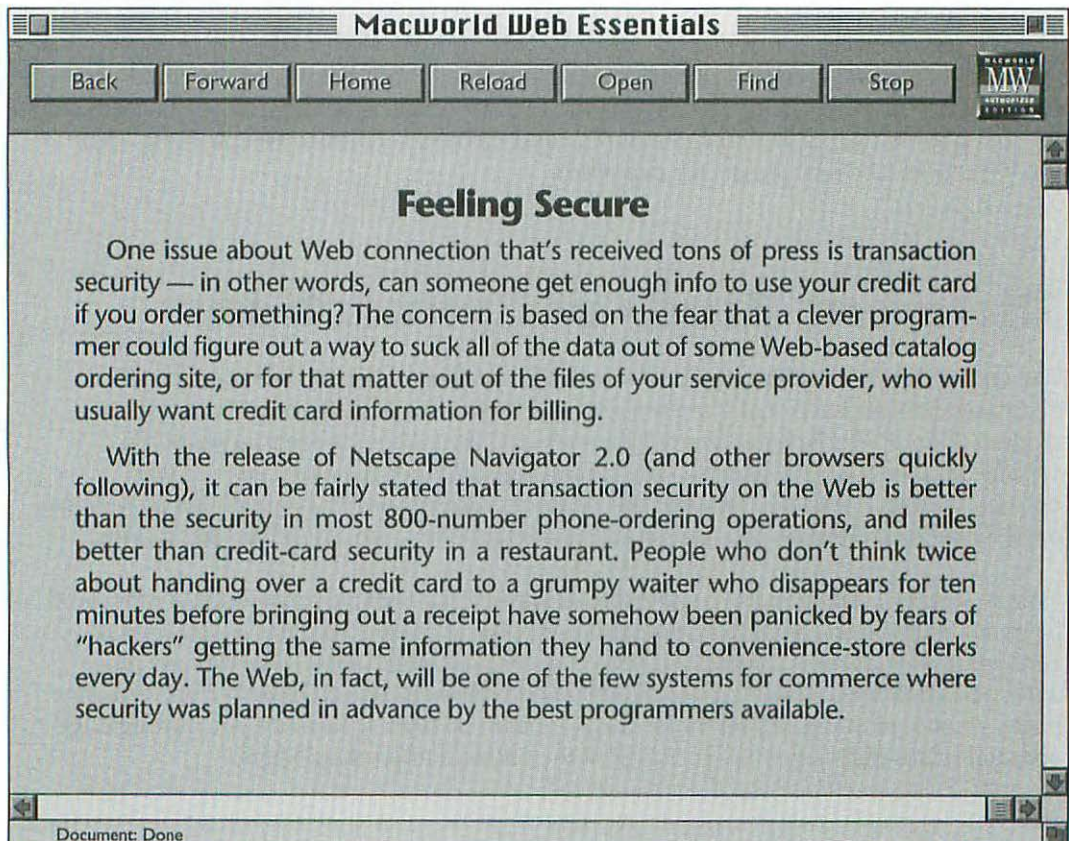
The coolest kind of Web connection would be a dedicated, 1-megabit-per-second dedicated line, and one that someone else is going to support. If you are a graduate student in computer science at the University of Illinois, you already have such a service, and it's free. It's also the case that more and more big cities have at least options such as ISDN lines (see the last chapter of this book) or connections at 56 Kbps or 64 Kbps for a considerable premium (more than one hundred dollars per month).

If, on the other hand, you have a Macintosh sitting on a desk in your home or office and have standard phone lines (also sometimes known as POTS, for plain old telephone service), this chapter is for you. Advanced users, meaning people who will pay more and chew their way through more technical difficulties in search of better performance, might want to skip to Chapter 14 for the low-down on high speed, but you cutting-edge characters are only a small percentage of the online market these days.

The assumptions made here are that:

1. You bought a Macintosh because you would like things to be easy.
2. Your time is worth at least the prevailing minimum wage per hour.
3. You would like everything to work right *the first time*.

There will no doubt be special circumstances in which you can find a cheaper Internet connection than the types described here, especially if you're willing to do some configuration work yourself. But long experience with different local and national Internet service providers suggests that only a few approaches are worth pursuing, especially if you want a foolproof, no-brainer setup that isn't particularly expensive. Besides, if you use the strategies listed here, you can always quit after a few months and switch to a more challenging type of Web connection. One reason for the emphasis on a connection that works right the first time is that customer support at nearly every type of online service may be characterized as across-the-board abysmal. The services are just growing too fast to hire enough people to do a decent job of support.



There are really two ways to get connected to the Web. First, you can sign onto the Web through a national online service, meaning the familiar folks who advertise on TV and provide all sorts of news and home shopping and games in addition to Internet connection. Although CompuServe and Prodigy will have Macintosh Web connections sometime in 1996, America Online and eWorld have a head start on them. Also, America Online is almost 40 percent Mac content, and eWorld is for all practical purposes 100 percent Mac.

The other kind of connection is through a service provider that offers SLIP (Serial Line Interface Protocol) or PPP (Point-to-Point Protocol) connections. There are several software-plus-connection packages from national service providers, but they are not all created equal, so this chapter will concentrate only on direct connection deals that have proved themselves trouble-free. For most Mac users, that means one of the options sponsored by PSINet.

## A Word about Modems

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If you are going to spend more than a few hours online (and that is very, very likely), here's all you need to know about modems. A 9600 Kbps modem is really too slow to make Web cruising fun. The price difference between a 14.4 and a 28.8 Kbps modem will be erased by the difference in connection time charges in the first few months. Also, your 28.8 Kbps modem is not going to be rendered obsolete for a few years yet, since this speed is getting close to the edge of the noise-problems versus modem-speed trade-off for ordinary phone lines. To get faster connections, you would need to switch to a different (and presumably more expensive) technology.

## America Online. Oh Well, Why Not?

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Sometimes you will hear America Online criticized because of glitches associated with its growing pains. Another criticism, from old-time Internet users, is that it's *too easy to use*. It would be wonderful if every kind of online connection had to survive that particular criticism.

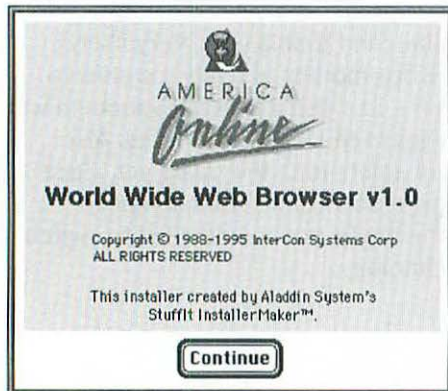
Here's the procedure for getting on the World Wide Web with America Online. Wander into a supermarket, go to the magazine rack, and find a Mac magazine with an AOL disk (Mac version 2.6 or higher). Take the disk home (hey, pay for the magazine, okay?) stick it in your floppy drive, and double-click the installer icon. If you can't find a disk in the store, call 1-800-827-3338 and ask for one — it will be there in a few days.

The installation is pretty harmless — more than a million Macintosh users have stepped through it at this point. Your installation requires that you double-click the installer icon (as with most Mac software), enter the registration number and password provided with the disk, and enter your name, address, and a credit card number. (They *all* want a credit card number. At least this keeps the kiddies out of the chat rooms.) You will see that the installer gives you two programs: standard AOL and the AOL Web browser. When you want to reach the Web, you select Switch to Web from the Windows menu (see Figure 2-1) in standard AOL.



Tip

The reason for this arrangement is that, although you can cruise the Web from AOL, you aren't really directly connected. A big computer at AOL is actually connected, and is processing your requests and funneling the information back to your screen through the browser software (see Figure 2-1). This way, AOL doesn't have to do anything to MacTCP, SLIP, or PPP settings at your Macintosh. And that means you can also have a direct Internet service provider in addition to your AOL account, without worrying about AOL tampering with your communications settings.

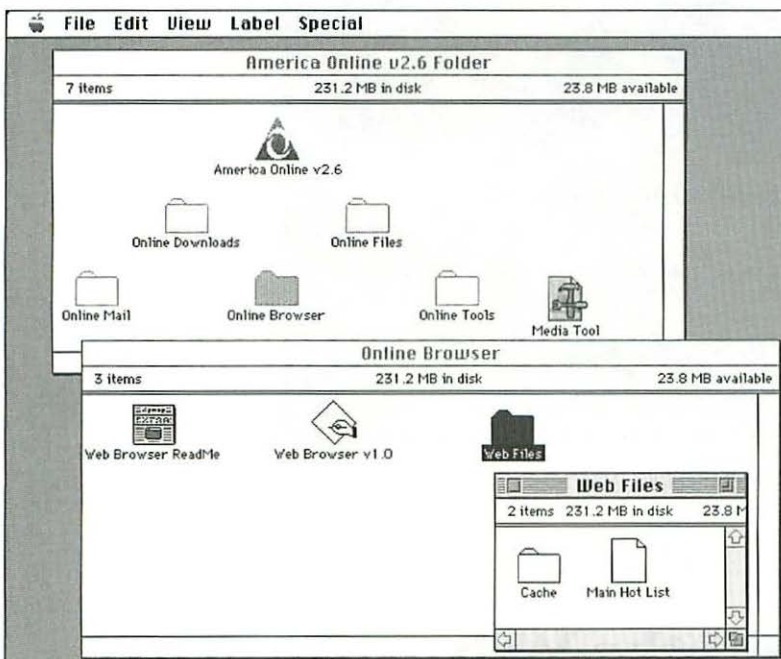


**Figure 2-1:** The AOL browser, plain but sturdy

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America Online has already retrieved, from the standard archives at Stanford and elsewhere, very nearly all the Mac-specific shareware you could want to download, in case you want to round up a free browser to use with a local SLIP or PPP provider. In standard AOL, the stock quotes are up to the minute and the news is updated every ten minutes or so. Brilliant and idiotic opinions of users who happen to be logged onto the service at the same time as you— both are readily available. In Web-AOL, you get everything from the Web maintained in a separate set of files inside the America Online folder (see Figure 2-2).

This separateness is carried through in other AOL practices as well. AOL's own servers have copies of the main Mac archives on the Web — it can appear that you're transferring to a remote site when actually you're downloading material from one of AOL's own servers (this is a *good* thing for them to do). AOL's own home page (see Figure 2-3) leads you to a Web search directory, something like the well-known Yahoo site ([www.yahoo.com](http://www.yahoo.com)), but which stays inside AOL for most searches and content.



**Figure 2-2:** AOL's Web file segregation

It's all okay. Since AOL users are such a big chunk of the Web, the service is doing everyone a favor by hosting so much material. In the main AOL chapter, you'll see how to use this situation to your advantage. In late 1995, AOL announced that it would also provide a form of direct Web connection, using third-party browsers, sometime in 1996, so you might want to check into AOL and just wait for them to build you a trouble-free direct access system.

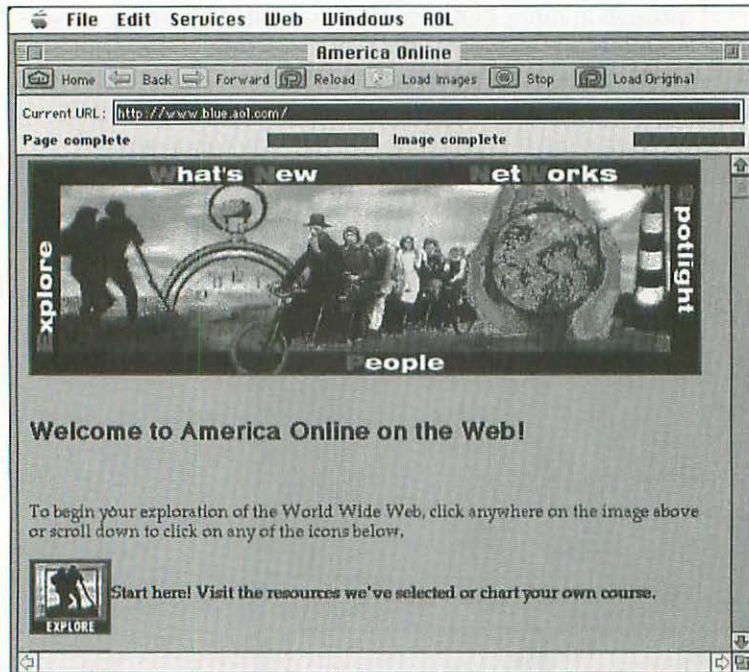


Figure 2-3: Home sweet home on AOL

## eWorld and the Web

After a scandalously long time of sitting on its hands while Mac users rigged up Internet connections using often-flaky shareware, Apple finally bought the same browser that AOL uses and tacked it onto the standard eWorld software. eWorld doesn't have as many subscribers as the big services, and some features are still missing, but since this service is sponsored by Apple it's a pretty friendly place for Macintosh users to be. Web connection is a good example of this friendliness.



Tip

Besides friendliness, there's another good reason to consider eWorld. By Apple's original marketing ambitions, eWorld is something of a flop. It has fewer users than they planned — unlike AOL, which is grossly overloaded. That means downtime on eWorld is negligible compared to AOL. Apple is a computer company, after all, and can assign platoons of high-end Macs as servers when things get tight. On Monday nights you can usually expect eWorld to work, and AOL to be down for six hours at a time, for example.

Every third month or so, an eWorld disk is packaged in the newsstand edition of *Macworld* or *MacUser*. If you can't find a disk this way, just call 1-800-775-4556 and you'll get one in a few days. At this writing, because Apple is still tinkering with the Web browser, the disk will contain the main eWorld software, and you will be required to download the browser (it will probably be packaged into the standard Installer disk set soon). The process leading you to the Web is as smooth as possible:

- As soon as you double-click on the eWorld application icon, a long round of hand-holding will ensue. Figure 2-4 shows the first step. One thing you will notice is that getting on the Web calls for having a credit card.



**Figure 2-4:** Step-by-step registration for eWorld

- Once you are registered with eWorld, try the keyword "internet." You will be offered a choice of the main types of Internet service on a colorful palette. Since you want to get on the Web, just click the World Wide Web icon. You'll get to the screen in Figure 2-5, at which point you can either download the Web software, or, if you already have it, start connecting to the Web right away.
- The standard way of getting on the Web from eWorld is to use the Switch To Browser command under eWorld's Windows menu (see Figure 2-6). What makes eWorld's service a bit different from AOL's is that eWorld has loaded its own home page with loads of Web advice that's *Mac-specific* (see Figure 2-7). The system operators at eWorld aren't going to ask you if you have your Windows

sockets configured properly, either. If you are going to graduate from eWorld to direct connection, you can download FAQ (frequently asked questions) files for MacTCP, InterSLIP, and MacPPP, the mainstays of Mac direct-connect setups.

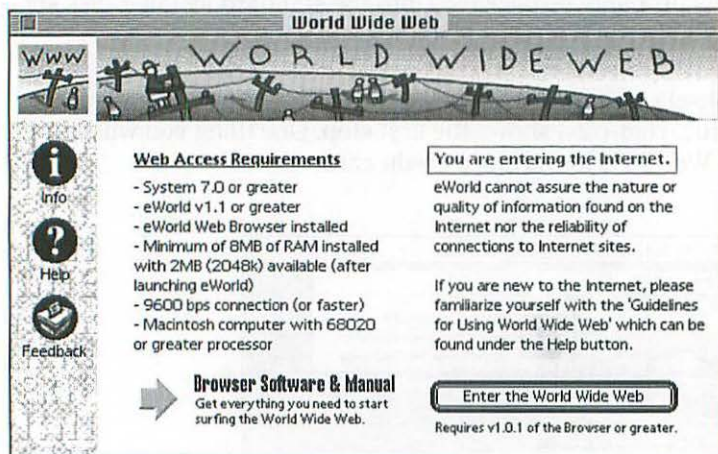


Figure 2-5: Starting on the Web from eWorld



Figure 2-6: From the eWorld toon-town to the browser

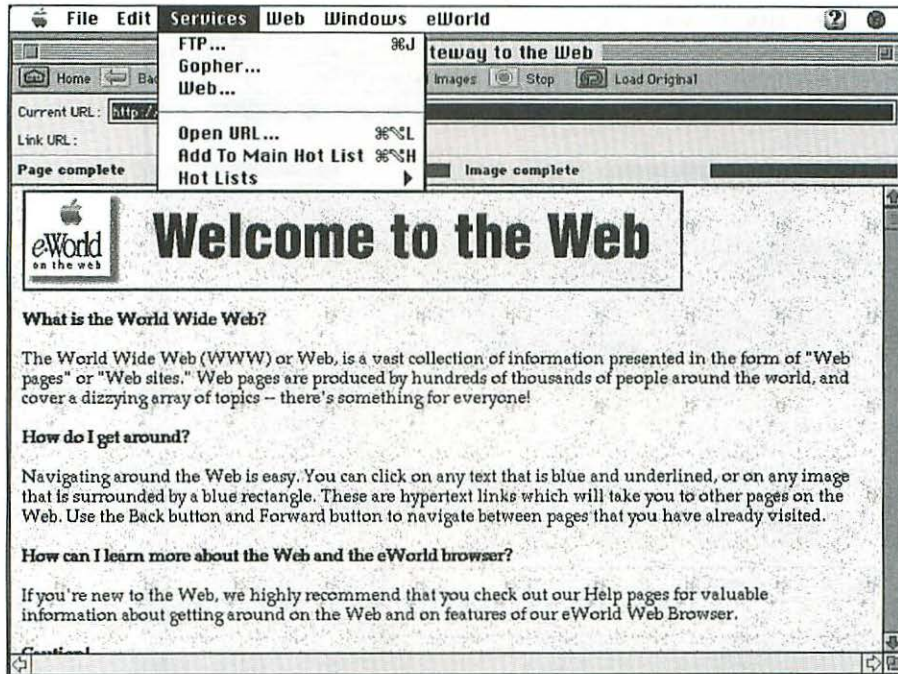
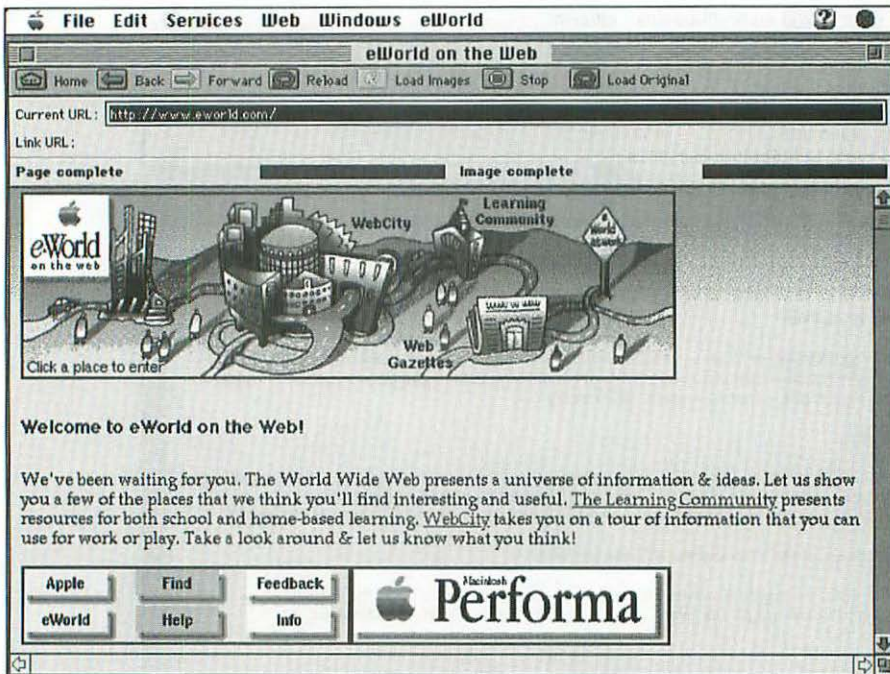


Figure 2-7: Great resources for beginners

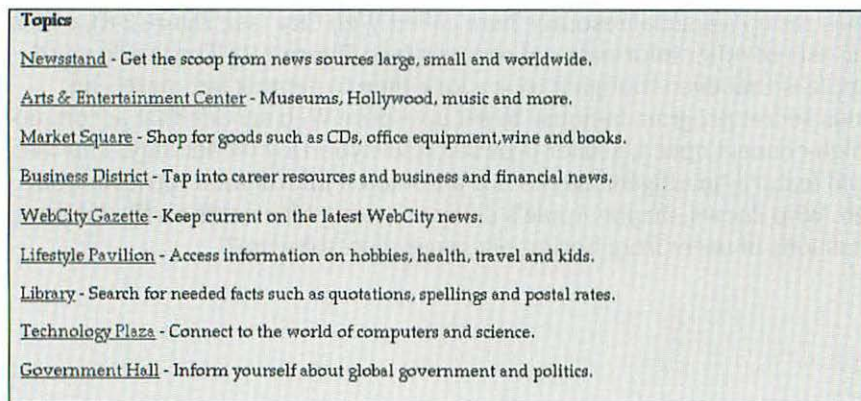


Tip

Apple has set up a special resource here called Web City (see Figure 2-8), which has long lists of other informational services (see Figure 2-9). The inside word from Apple is that even though it took a long time to get this far, there's an ambitious secret program in-house to set up a pure Web service that accommodates high connect speed, a killer browser, and CyberDog technology. This last bit would feature "intelligent agents" for automated information retrieval from the Web. Who knows, maybe Apple's delay in getting Mac users on the Internet saved millions of users from boring last-generation software?



**Figure 2-8:** Goin' to Web City, gonna have some fun.



**Figure 2-9:** In the end, everything's a list, even on eWorld.

## A Note on Connecting with AOL and eWorld Browsers

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Both AOL and eWorld offer an extremely simple and reliable Web connection. But sometimes even this bulletproof connection fails. What you should know is that:

**If anything goes wrong, it's almost certainly  
the service's problem,  
not yours.**

There are three or four different error messages you might see, all of them misleading. Somehow, they suggest that you have made a mistake in specifying a URL address. In fact, what's happening is that the computers maintained by AOL that manage its outside lines to the rest of the Internet are either down for maintenance (usually the case) or busy. AOL has been buying servers and routers and other hardware as fast as it can, at times running the vendors completely out of stock, but it's a tall order taking care of a million new customers a year. eWorld is better about this, but it uses the same error messages. Typical messages are "Can't access that URL" or "Unable to retrieve the URL you have requested," ironic when the URL is the service's own home page.

## EZ-Service: PSINet and Q-Mosaic

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IDG Books negotiated with Quarterdeck Software for a version of Q-Mosaic, an enhanced Web browser based on the original Mosaic from NCSA (National Center for Supercomputing Applications). When you install the software (see Appendix B) you will also have the option of an automated sign-on procedure for PSINet as a service provider.

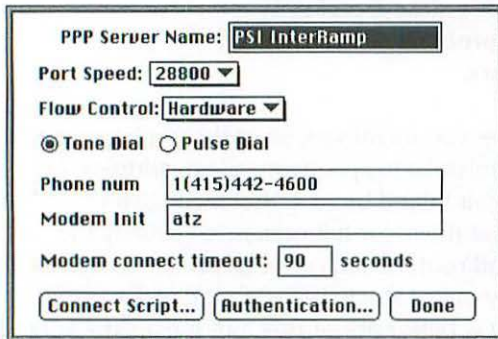


Tip

If you can stand to hear an editorial, please consider this. One of the authors of this book (TN) lives in Los Angeles. He can get any kind of connection service known to man — Pacific Bell is falling all over itself trying to impress the residents of the City of Angels. The other author (CS) lives in a small town in a rural area of Northern California. There will be cheap wireless ISDN connections for laptops before anyone runs high-speed lines out to his house. There is good commercial logic in this, since his house is, in fact, surrounded by vineyards, and grapes are unlikely telecomm customers. The CS chapters of this book were written almost exclusively on a PSINet connection *because it always works*.

AOL gets jammed, even eWorld takes the occasional break, and various local Internet service providers exhibit various degrees of flakiness. In several hundred connection attempts over six months, PSINet has not failed once. Not once. So signing up with PSINet as a provider and using the equally reliable Q-Mosaic as a browser is not at all a

bad way to start Web surfing. Establishing a PPP (see Figure 2-10) connection with PSI's InterRamp (at very high speed, if you like) calls for a minimum of fuss and a minimum of information (see Figure 2-11). One other argument for this kind of connection is that, unlike with AOL and Prodigy and CompuServe, no one at PSINet is selling your every mouse-click as marketing information to advertisers who would dearly like to target your credit cards.

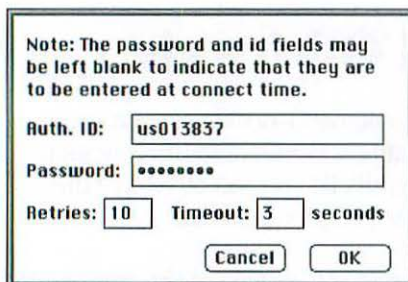


The screenshot shows a PPP configuration dialog box with the following fields and options:

- PPP Server Name:
- Port Speed:  (dropdown menu)
- Flow Control:  (dropdown menu)
- Tone Dial  Pulse Dial
- Phone num:
- Modem Init:
- Modem connect timeout:  seconds
- Buttons:

**Figure 2-10:** Ramping up with InterRamp

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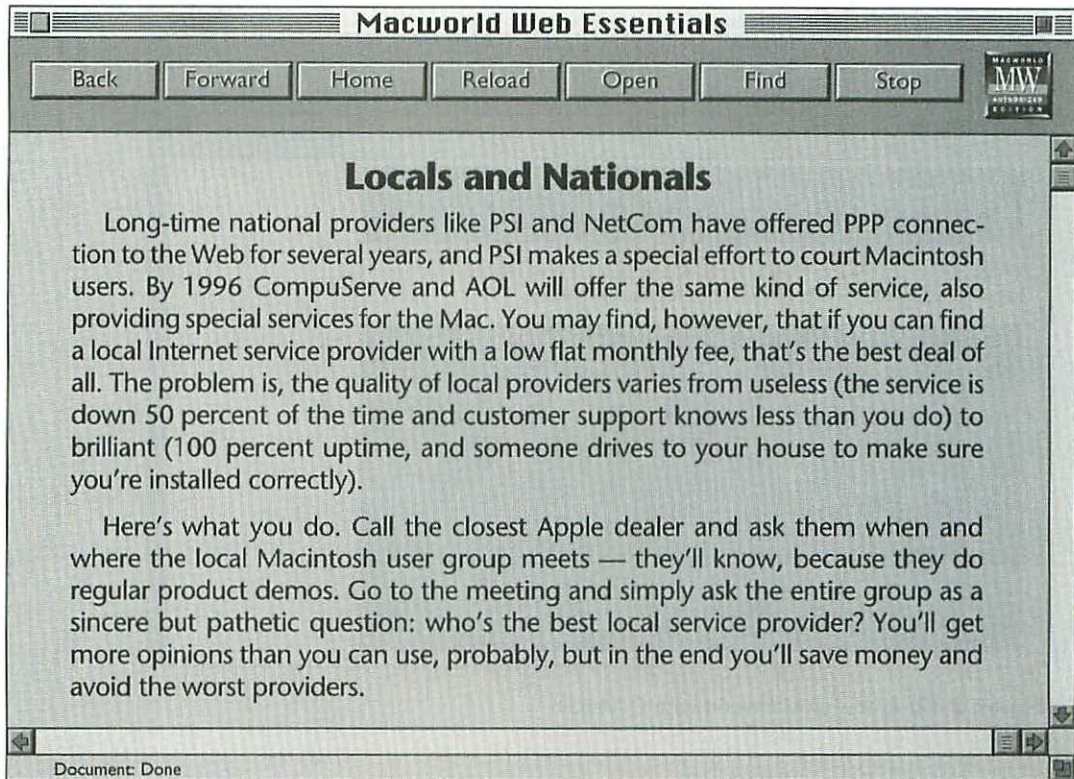
The screenshot shows a PPP authentication dialog box with the following fields and options:

- Note: The password and id fields may be left blank to indicate that they are to be entered at connect time.
- Auth. ID:
- Password:
- Retries:  Timeout:  seconds
- Buttons:

**Figure 2-11:** Simplicity in PPP connection

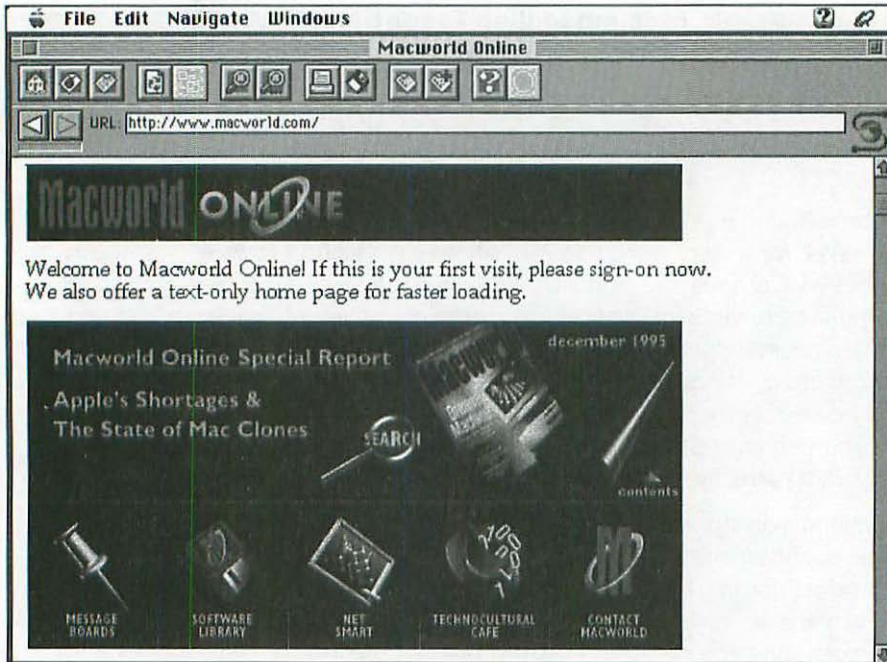
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The main attraction of Q-Mosaic, besides its immediate availability at the back of this book, is that it can handle most of the newer extensions to HTML, the document-creation language of the Web, and that it turns in a stellar performance on image handling using mere 14.4 Kbps modems (Figure 2-12). Q-Mosaic does not yet have some of the built-in features of the latest products from Netscape, but as a Web browser it gives you little cause for complaint.



## Internet Valet and Other Routes to the Web

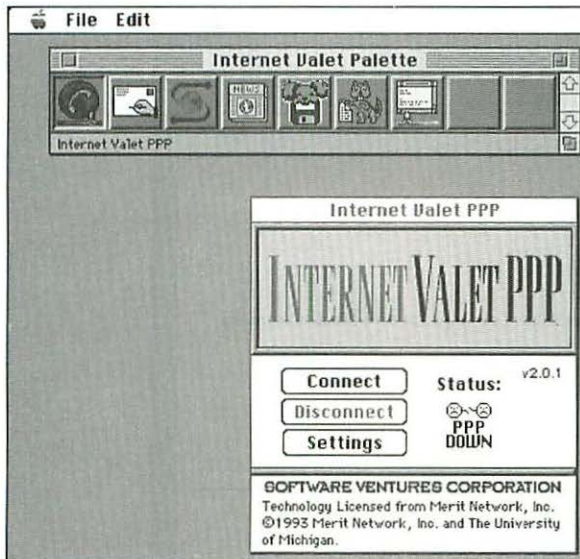
One of the advantages of a direct connection, instead of using the special browsers and in-house Web server setups at eWorld and AOL, is that you can use any Internet software you like. Once you're connected with a SLIP or PPP connection the software generally can't tell anything about your communications interface protocol — it just works. You double-click your Web browser in this type of connection and you go directly to the browser's home page, not to a service. A simple way to explore these other types of Internet software is to pay \$30 to \$40 for Internet Valet from Software Ventures (a division of the ubiquitous PSI).



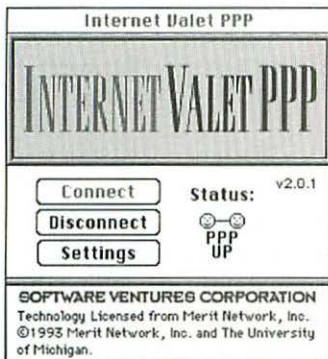
**Figure 2-12:** A view of Macworld with Q-Mosaic

## Connecting by Valet

The Internet Valet package resembles the software included in this book in that it has an easy-to-use registration package that signs you up with PSI. But Internet Valet (see Figure 2-13) also includes most of the old Macintosh Internet software standards (Eudora for e-mail, Fetch for ftp, TurboGopher for gopher services) on a little icon palette. And a little window (see Figure 2-14) in the Internet Valet package lets you monitor the state of your PPP connection (just look at those happy faces!). For Web browsing, the relatively sophisticated product E-Mosaic is part of the suite, and the palette also has a newsgroup reader and a telnet (remote connection to Internet-linked computers) product.



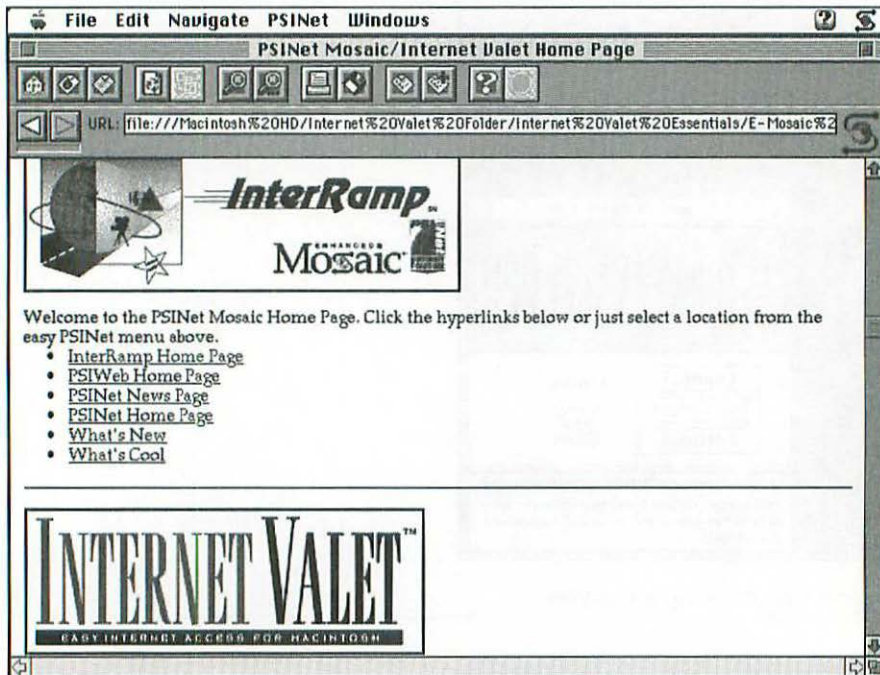
**Figure 2-13:** Internet Valet browsing alternatives



**Figure 2-14:** Monitoring a PPP connection

## Browsing Alternatives

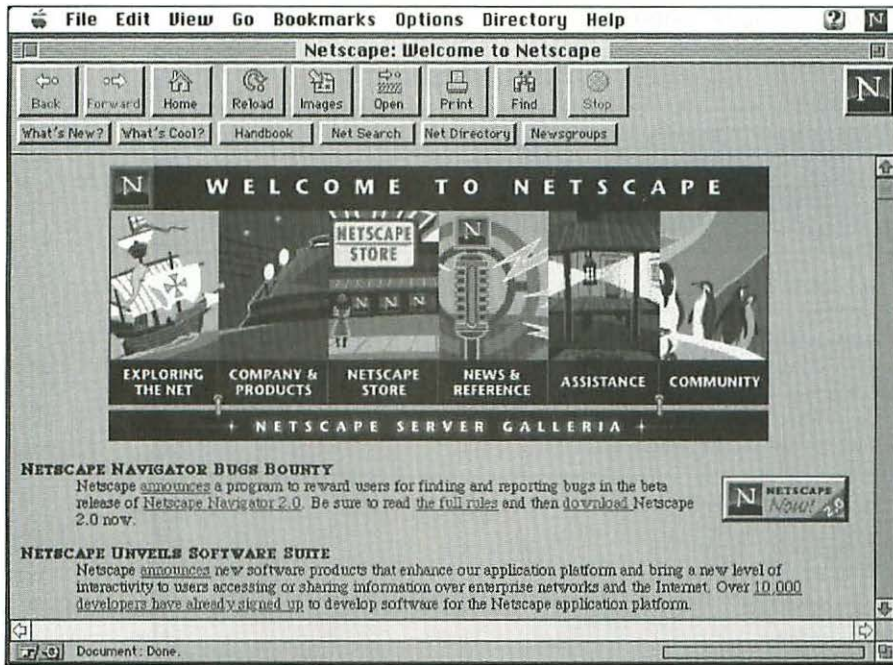
If you're not happy with E-Mosaic (see Figure 2-15), for example, the bundled Web browser from Spyglass that's part of the Internet Valet suite, you can use *any other* Web independent browser instead. Once the little faces start smiling, you can double-click any piece of Mac Internet software and use it. There are basically two ways to go at this juncture: you can opt for a simpler browser, or you can get a fancier browser. Starting with dessert instead of salad or soup, let's look at the fanciest browser first.



**Figure 2-15:** Internet Valet's E-Mosaic, at the PSI home page

## Netscape Navigator

Not only is Netscape Navigator the standard-setter in browsers, you can log onto [www.mcom.com](http://www.mcom.com) (the original name of the operation was Mosaic Communications) and download a free beta copy of the current version. Netscape is constantly expanding the range of HTML, often to the chagrin of both competing companies and the international standards committees. The practical consequence of this is that other browsers have to adapt to Netscape's wishes, or else pages downloaded to those browsers will look distinctly odd. Another unusual feature of Netscape's position is that, as a member in good standing of the South Bay Mafia, an informal designation of a dozen or so companies on the San Francisco Peninsula, it usually accommodates the latest developments from Sun (developers of the Web language Java) and Apple and, basically, everyone else that counts. As a result, it's always worth checking into the Netscape home page (see Figure 2-16) to see what's happening at this vital Web site.



**Figure 2-16:** The rapidly changing face of Netscape

## MacWeb

The former nonprofit site Galaxy, now known as Tradewave Galaxy ([galaxy.einet.net](http://galaxy.einet.net)), a commercial site, still offers the browser MacWeb (see Figure 2-17). MacWeb has the distinctive recommendation that it's the fastest, most stripped-down browser available. Against a software-development background in which all other companies are trying to load their Web browsers with every conceivable communications function, MacWeb is still oriented toward simplicity and speed. You can collect a copy of MacWeb, use it for fast Web browsing, and then use the other programs in Internet Valet for other functions, if you like.

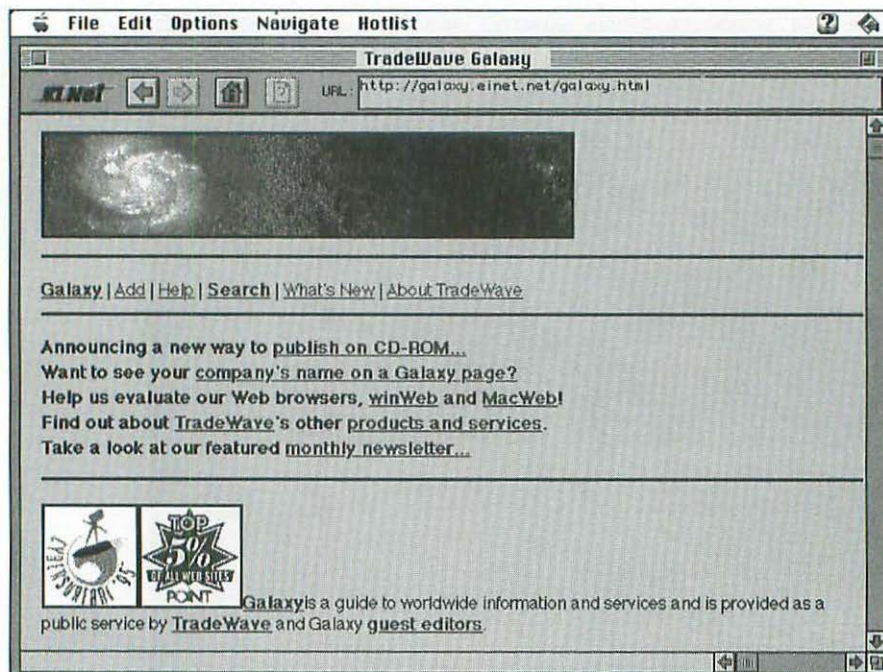


Figure 2-17: Galaxy, as seen with MacWeb

## Decision Making

If you are not an old hand at communication software, you should probably start your Web life with eWorld or AOL. You can collect lots of Web documents, do some browsing to see what's out there, and listen in on discussion groups discussing the Web services of different independent service providers. Then after a month or so, if you can't resist the lure of the Web, find a direct PPP or SLIP service provider and try out Q-Mosaic or Netscape Navigator. You may find that you want to keep your original eWorld or other account as an e-mail mailbox — it's really a pretty low-cost mail service, and you can keep the same address on your business cards for years, too.

# Web Browsers

# 3

C  
H  
A  
P  
T  
E  
R

---

## In This Chapter:

- Alternate points of view
  - The Spyglass family
  - Iconography
  - Netscape and Netshark
- 

The world of the Web would appear at first glance to offer a baffling amount of software for navigating the sea of URLs. In fact, however, nearly every Web browser is a close relative of a few pioneering pieces of software. This chapter is a sort of map of the Web browser zoo — in the next chapter you will see in detail the way Web browsers are succeeding in swallowing every function of the Internet, so that in a few years the need for several items of software for Internet access will have disappeared entirely.

## Looking at the Web

---

What do you really need for a Web connection? If you reflect on this question, you may come to the conclusion that the newest browsers (Netshark takes close to 5MB by itself) are perilously close to overkill.

The original NCSA Mosaic browser from the National Center for Supercomputing Applications, as written by Mark Andreessen, took about nine thousand lines of code, making it a fairly small application. And that was a perfectly reasonable approach, because it was correctly assumed a few years ago that any Internet user was likely to have a separate suite of equally small applications for other functions (gopher or e-mail, for example).

By 1996, a browser containing most of the functions considered the minimum necessary is about five times bigger than NCSA Mosaic. And the trend toward bloat is accelerating, as Web browsers begin to incorporate “helper applications” that used to be obtained and used separately (see Chapter 5 for the detailed rundown on helper apps). But what do you really need? The requirements are simple:

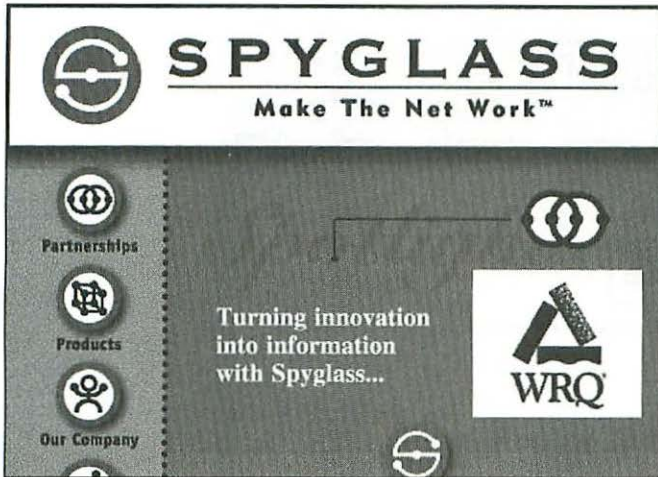
1. A browser has to be able to call up URL addresses — in other words, get to a Web site and decode its HTML contents onto a screen.
2. As a first convenience, browsers always have a starting Web site called a home page, so you will see a little icon of a house. Sometimes the home page information is provided as an HTML document, so that you see a nicely filled-in screen before you even make your online connection.
3. The next amenity is a set of buttons with arrows pointing left and right, for back and forward. Since you can do all your Web navigation just by clicking links, it helps to be able to step backward through your chain of links, and then step forward to your original position. The Web browser keeps information about the pages you visit in each session — some browsers keep the actual pages and some just keep the URLs.
4. As a last typical convenience, so that you don't have to enter URLs by hand every time, your browser always has provision for at least one *hotlist* for sites you will visit often. Most modern browsers let you set up multiple hotlists with separate names, and also import and export lists.

Since these features were in the original Mosaic, they're always present. Virtually every browser has the icons for home, a left arrow, a right arrow, and either a hotlist button or a hotlist button in a menu (hotlists and bookmarks are roughly equivalent in function).

## The Many Faces of Spyglass

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If you got on a bicycle at the National Center for Supercomputing Applications, on a nice day you could make it to Spyglass ([www.spyglass.com](http://www.spyglass.com)), as shown in Figure 3-1, in about ten minutes. Spyglass and Wolfram Research (the Mathematica people) are both located near the University of Illinois in Champaign-Urbana, and Spyglass (staffed almost exclusively with NCSA alumni) put in an early, successful bid for rights to commercial distribution. Mr. Andreessen left NCSA to cofound his own company, a little firm called Netscape that would live forever in the legends of Wall Street even if it disbanded tomorrow. Spyglass was the first to deliver a Power Macintosh version of a browser, although the first version was about as plain as suggested by the four-feature list you see in Figure 3-1.



**Figure 3-1:** Spyglass, Mosaic central

But Spyglass's business these days is customizing different versions of Mosaic, adding various features and modifying the program to run on different types of hardware platform (the original Mosaic worked with Unix, Windows, and Macintosh, so Spyglass was off to a good start). Look at the version called PSINet E-Mosaic, for example, provided as a browser with Internet Valet (see Chapter 2). The command for Home has been added to the Navigate hotlist, not a major programming chore and not particularly necessary, since there's a Home icon on the toolbar (Figure 3-2).

It might look as if a bit more work went into posting a PSINet menu on the toolbar, but in fact this was pretty light duty, too — the menu amounts to a hotlist of PSI's own Web pages describing different aspects of its online services.

A not shockingly dissimilar product is this book's own Q-Mosaic, from Quarterdeck Systems by way of Spyglass (Figure 3-3). It does not provide an extra menu item (which, if you think about it, is an odd thing to put in a Web browser, as opposed to just adding a few more links in the Home page), but under the question mark button you'll find a really complete and friendly Help system (Figure 3-4).

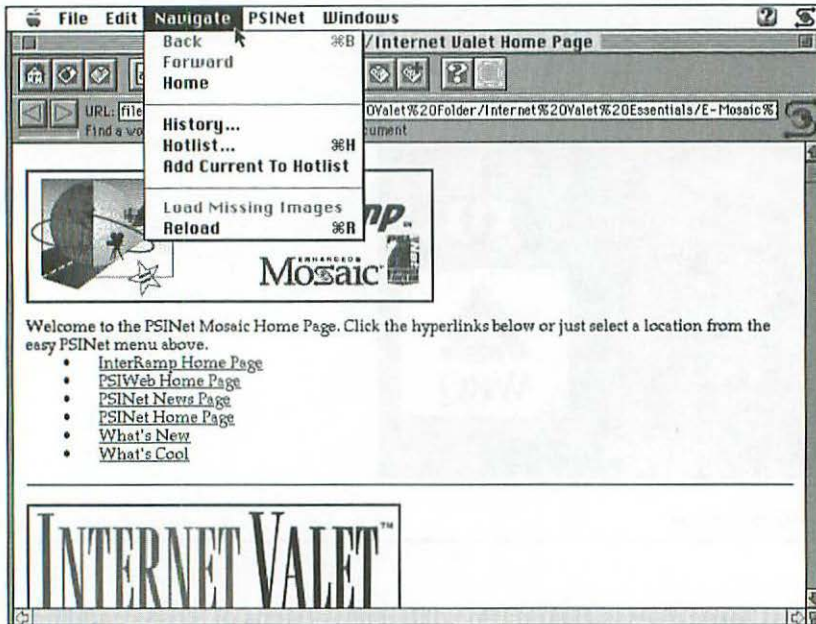


Figure 3-2: A slightly fancier Mosaic

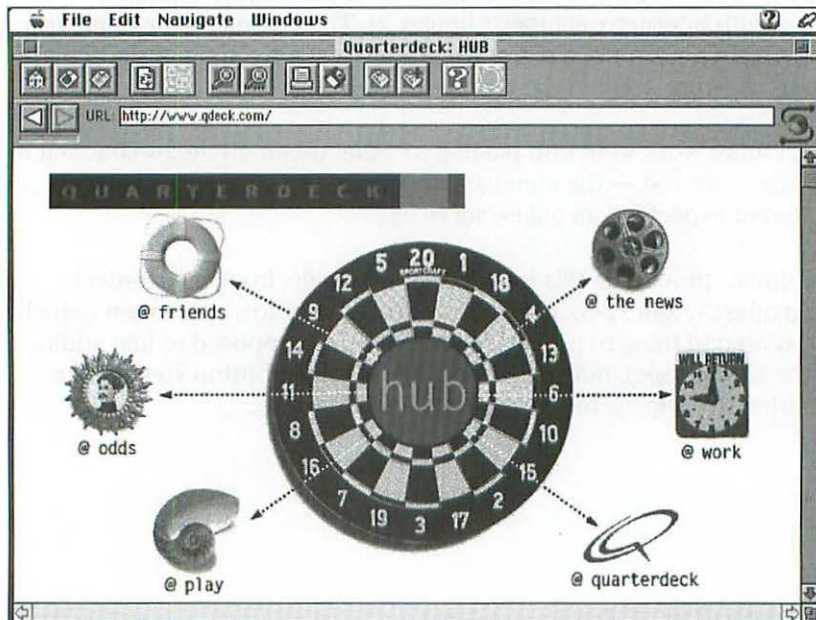
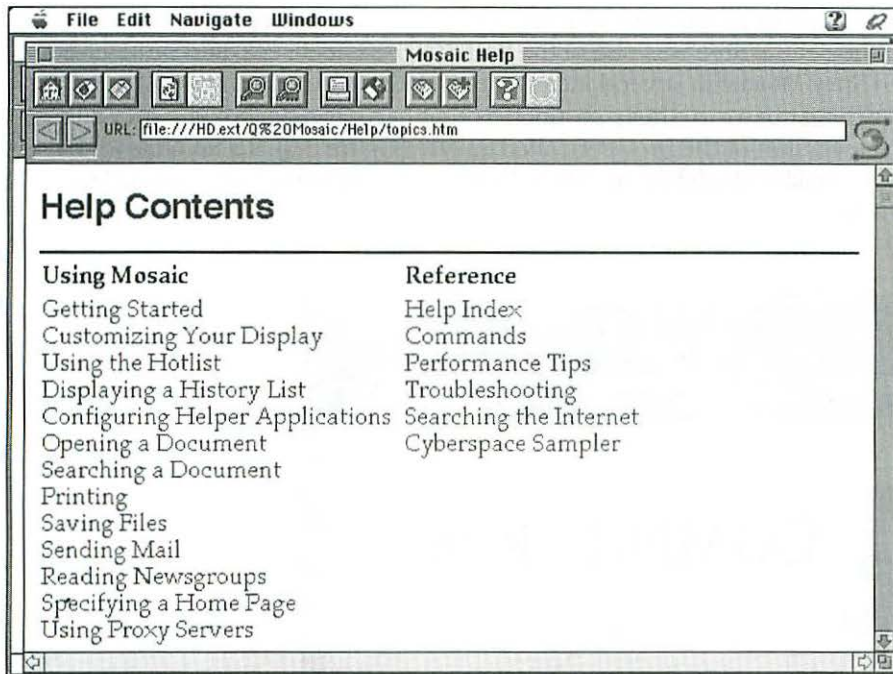


Figure 3-3: The plain but appealing face of Q-Mosaic



**Figure 3-4:** Q-Mosaic's actually useful Help

Some of the remarks in the Help system, by the way, reveal something of Spyglass's plan to dominate the universe (its stock has done almost as well as Netscape's). Under Sending Mail and Reading Newsgroups you will find that the browser knows enough that it can interpret:

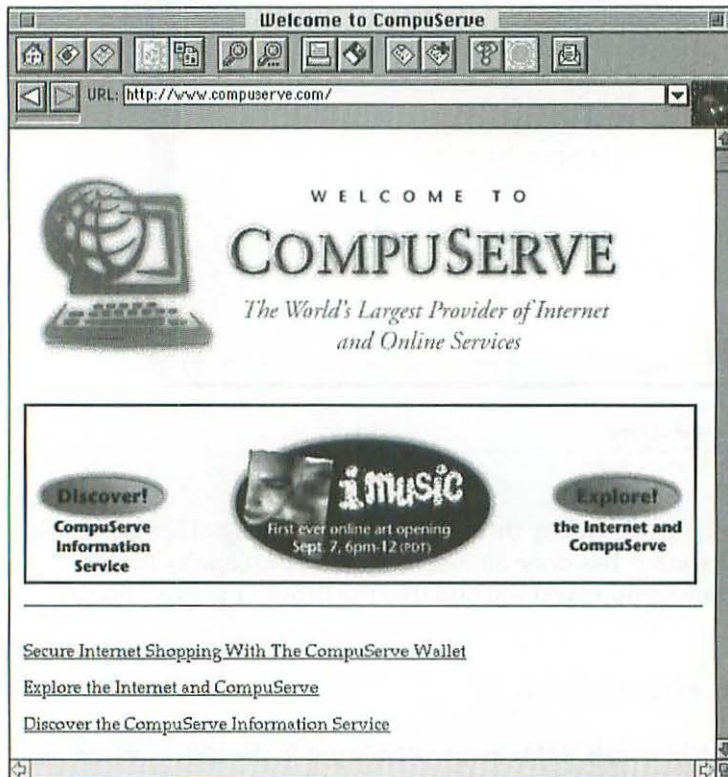
```
mailto: chseiter@aol.com
```

as an instruction to send out an e-mail, if this instruction is put in the URL box (that is, select Go To URL from the File menu and enter this instead of an http:// entry). Similarly, you can enter:

```
news: alt.binaries.cartoons.disney
```

and access that newsgroup. All of this assumes, if it's going to work, that your Internet service provider has given you enough information to configure mail functions and a news server.

Other browsers come from Spyglass by a notoriously convoluted route. A company called Spry in the Seattle area was one of the first Spyglass licensees, and brought out a product called Spry Mosaic in several incarnations (Mosaic in a Box, Internet in a Box, and so on). The latest news on these products is that CompuServe bought Spry and is now preparing a version of the browser called Spryte (Figure 3-5). It's an odds-on bet that the browser making its debut in Prodigy also shares a basis of Spyglass code (Figure 3-6).



**Figure 3-5:** Mosaic debuts as a CompuServe browser.

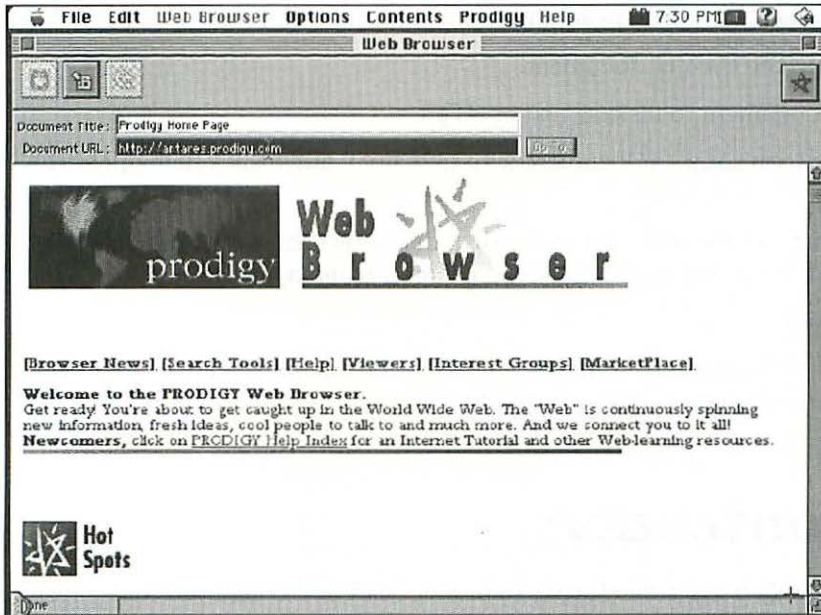


Figure 3-6: And Prodigy too?

## Collecting Buttons

Just for reference, here's a short directory of the buttons that appear, from left to right, in the toolbars of browsers of the Spyglass family.

- **Home:** The house is always leftmost on the bar, and a click here gets you back to the home page.
- **Open URL:** Usually this looks like a document with a picture of either a Web or a globe.
- **Open Page:** This shows a document icon, and you use it to open HTML documents that you've already collected on your hard drive.
- **Reload:** A little icon of arrows chasing one another's tails in a circle lets you reload a stalled or botched page download.
- **Images:** A crowded little icon showing a picture being taken into a document — you can cruise with Always Load Images turned off for greater cruising speed, and then click here to load them.
- **Magnifying Glass:** Click here to find a word or phrase in a document.

- **Magnifying Glass...:** This repeats the finding action for the same word.
- **Printer:** Print the current document.
- **Disk:** Save document to disk, as text or HTML.
- **Hotlist:** The icon shows a document with dots on it, and a click here opens the main hotlist.
- **Add to Hotlist:** Document with a plus sign; this adds the current URL to your main hotlist (or the hotlist currently open, if not the main hotlist).
- **Question Mark:** Help!
- **Stop Sign:** Use this icon to stop a download. Some downloads are indeed long and useless, so it's nice to have a bail-out switch.

## Other Contenders

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The former nonprofit Web index site Galaxy (a predecessor and competitor of Yahoo) is turning itself into a for-profit organization called TradeWave. Galaxy ([galaxy.einet.net](http://galaxy.einet.net)) produced one of the first Mac Web browsers. Its current browser lets you download a trial version, with a commercially licensed version available if you like what you get. The browser has some distinctive features, among them a well-designed provision for specifying helper apps and for decoding and recognizing file types (Figure 3-7). It's also compact (about 500K rather than the 2MB and 3MB browsers you typically encounter nowadays) and significantly faster than its competitors.

Another serious player in the browser game is InterCon Systems ([www.intercon.com](http://www.intercon.com)), a division of PSI. InterCon developed the elaborate application TCP Connect II, a sort of one-stop all-services Internet solution configured from a single, organized scrolling list of features (ftp, mail, and so forth). Recognizing the dominance of the Web, PSI's InterRamp service has glued together NetShark (Figure 3-8), a giant browser that includes most Web functions you are likely to need. Note that, since this browser comes from a different software origin, the buttons are a little different from those of the Mosaic browsers, although there's considerable match-up.

For connoisseurs of browserdom, there's an interesting wrinkle in NetShark's Web menu (Figure 3-9). Now where have you seen this menu before? It's the Web function menu from America Online and eWorld — both organizations got their browser software from parts of the PSI empire. As you can see by just glancing at it (there's a Mailbox menu, for example), NetShark will loom large in the next chapter.

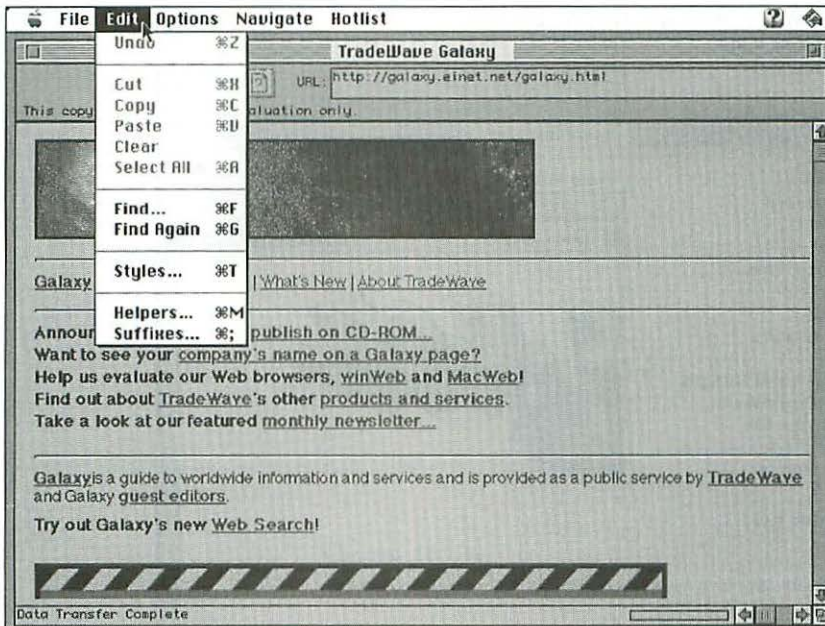
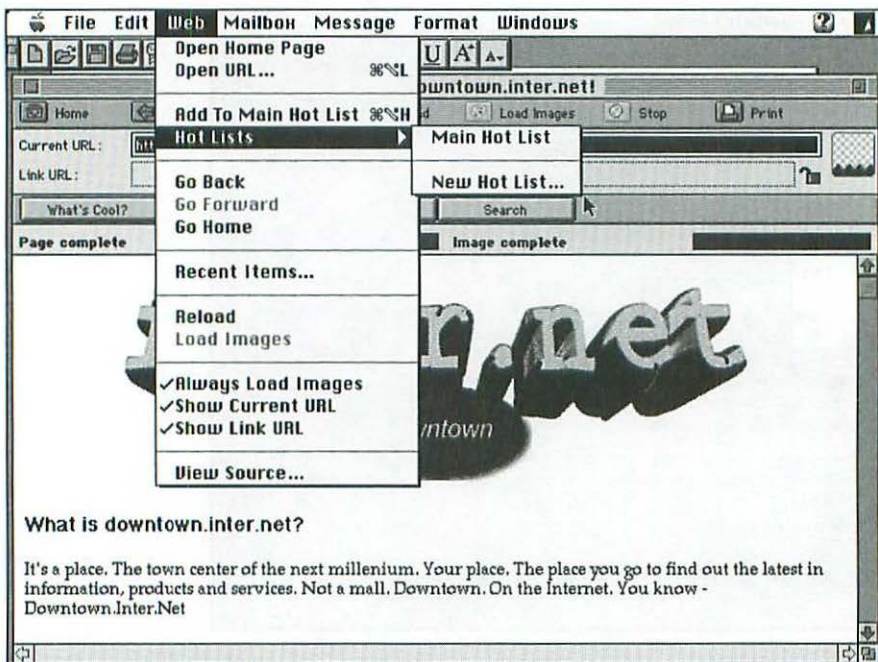


Figure 3-7: MacWeb — a sportscar among browsers



Figure 3-8: Netshark, with a button for everything



**Figure 3-9:** A family resemblance to AOL and eWorld

## Mr. Big: Netscape Navigator

Despite efforts by competitors to add Netscape-like features — support for Netscape's Tables and Forms extensions to HTML — Netscape is simply burning ahead with new features that will make it the browser to copy for the next few years. Here are three examples of browser empowerment that will be ready for the Macintosh version of Netscape Navigator 2.0 in January 1996.

## Java

Sun Microsystems Java language is a C-like language designed for writing *applets*, which are miniapplications (perhaps 20K to a few hundred K) that you'll download along with a Web page. The applets could be little animation programs, spreadsheet-like calculators for financial pages, simple TeachText-like word processors for HTML-based

groupware, or built-in helper apps that manage sound. The first uses for applets have been simple enhancements to standard HTML, like blinking text for links and beeps when a link is clicked. Netscape (and Apple, for that matter) is going to see to it that Java (Figure 3-10) is a big part of your Web future, whether you know it or not.

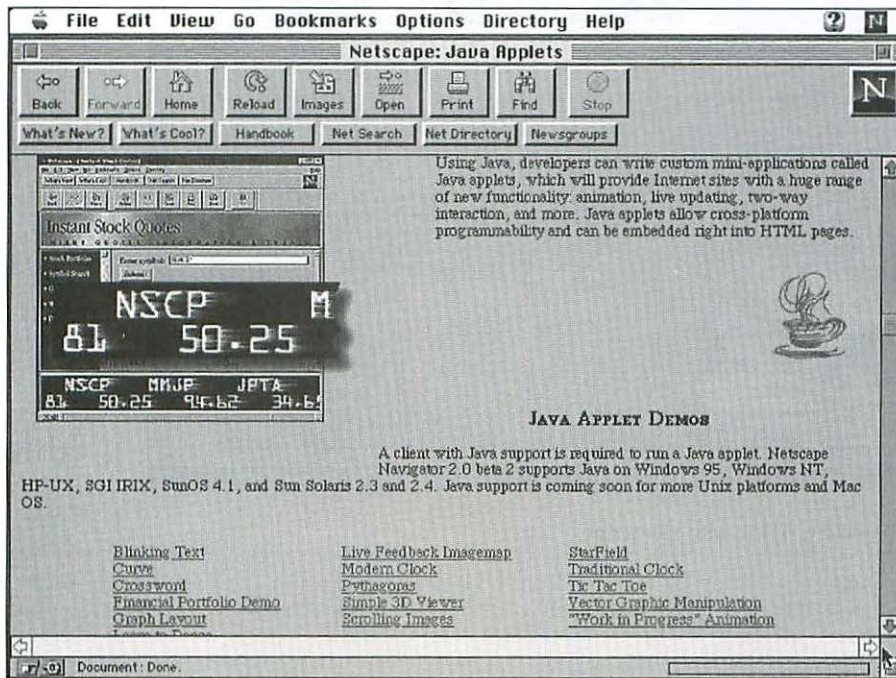


Figure 3-10: Java, the next big thing on the Web

## LiveScript

If Java isn't your cup of tea (worst joke either TN or CS has ever written, really), Netscape has a light-duty scripting language that can also be used to make Netscape Navigator jump through hoops. One simple illustration is using LiveScript (Figure 3-11) to swap different images into the same spot on a page in response to a series of mouse-clicks, or to perform a bit of if-then calculation. This doesn't necessarily sound like a capability that will set American business on fire, but with a little imagination you can see that schools will be able to produce absolutely killer courseware, if NetScape can find suitably motivated developers.

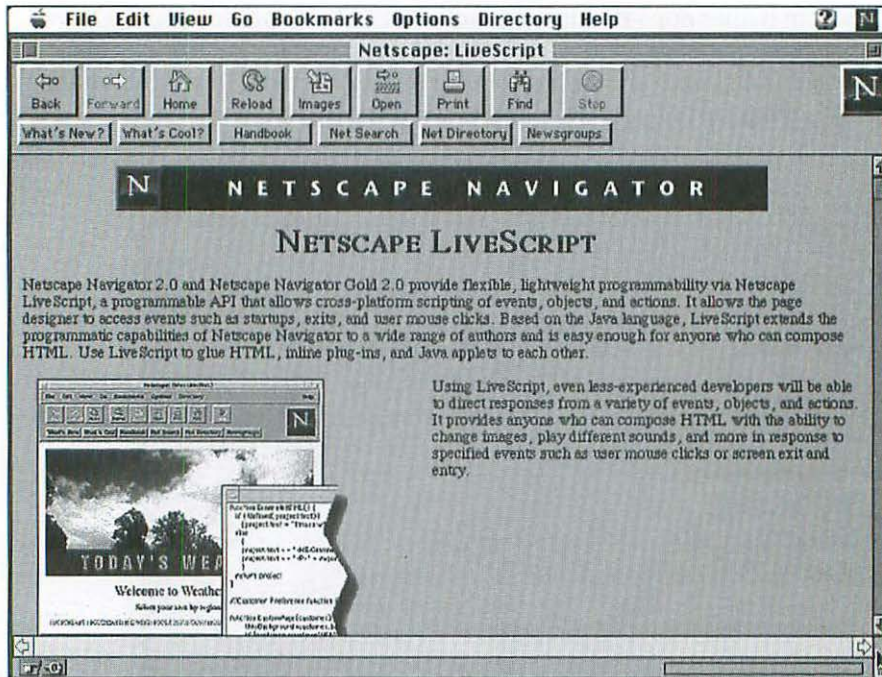


Figure 3-11: Tweaking HTML with LiveScript

## Plug-Ins

Many other types of information you might want to include on a Web page are limited by the original design of HTML. Rather than extend HTML itself to the point at which no standards among vendors are possible, Netscape has chosen to accommodate plug-ins for specific functions. The page-handling capabilities of Adobe Acrobat, for example, or MPEG viewing in Apple QuickTime, are just added into the Netscape Navigator (Figure 3-12) through the plug-in scheme. Among other things, this relieves the over-worked programming staff at Netscape from trying to incorporate every bright computing idea of the last ten years by feats of original coding. As of 1996, Netscape has moved farther and faster in the direction of expanding browser capabilities this way than anyone else.

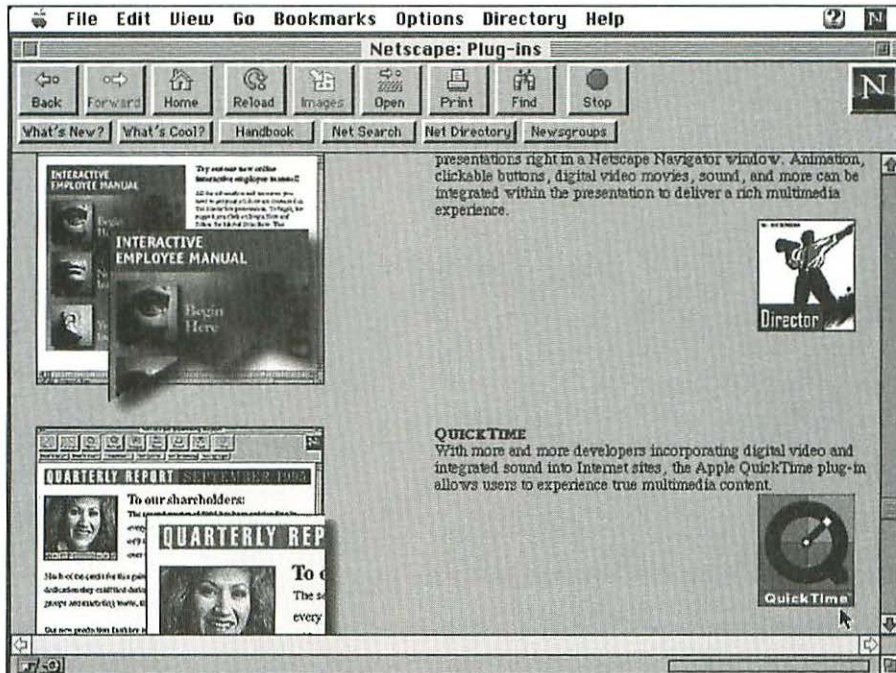
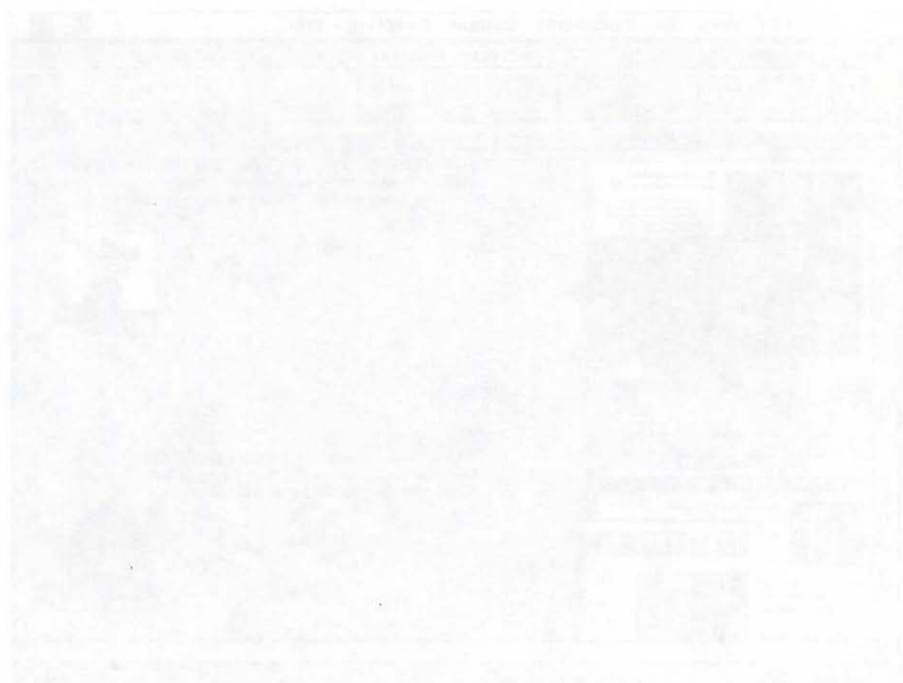


Figure 3-12: Netscape plug-ins for old Mac friends



SEARCH RESULTS FOR [illegible] - 10 results

# Doing It All from a Browser

# 4 CHAPTER

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## In This Chapter:

- The old Net dissolves
- E-mail in the Web
- Newsgroup browsing
- ftp and gopher
- Chat: The Final Frontier

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In an ideal world you would get a single disk of Internet software, enter your personal data to sign up with a Net account upon installation, and then use one program to access anything anyone ever put out in cyberspace. At one point in early Internet history, every individual function (newsgroups, e-mail, gopher, and so forth) had its own program. Then the first Web browsers appeared, and they could read the contents of ftp sites. There wasn't, at first, anything comparable to the Archie searches long established in ftp practice, but then Web keyword index sites appeared, followed shortly thereafter by directory sites like Galaxy and Yahoo. And Web browsers could also bring back information from gopher servers, and then Spyglass and other developers made provisions for sending e-mail to @ addresses from within Web pages. By 1996, to summarize, Web browsers had gobbled up just about every Internet function formerly handled by separate packages.

A *browser* in this context, by the way, means a stand-alone browser like Q-Mosaic or Netscape Navigator, not the extremely simple browsers built into the national online services (Prodigy, eWorld, America Online, and others). The online services had already established their own "post office" functions, and provided separate access to ftp and gopher services, as well as their own online chat. That doesn't give them much motivation to recode all those functions into their browsers, especially since that move would diminish much of their proprietary appeal.

## Sending a Message

At the outset, you should note a fairly important point. You can now “do e-mail” inside a Web browser, but sometimes this only means that you can send out an e-mail message when you see a link like this: `email: charles_seiter@macworld.com`. You don’t necessarily have a mailbox for receiving incoming mail in response to your message, and you don’t necessarily have a way to send along picture files or other MIME (multi-media Internet mail extensions) inclusions. At present, no browser offers anything like the cozy, well-developed messaging environment of the widely distributed Eudora Lite (see Figure 4-1), or even, for that matter, the facilities of the built-in mail at America Online. But never fear, all major developers of browsers (and Internet service providers) have pledged to upgrade mail capabilities during 1996, and bringing Web e-mail up to snuff is not a major technological challenge.

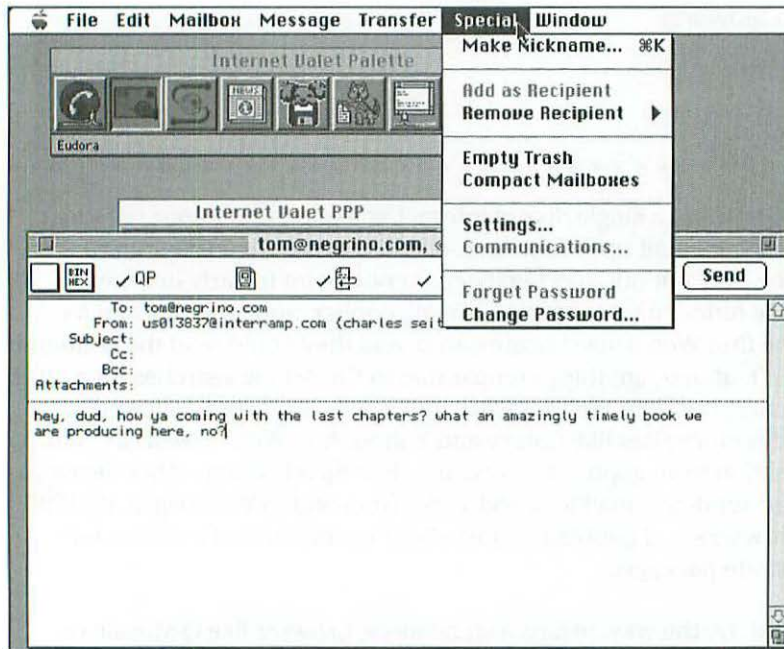


Figure 4-1: Full service Macintosh e-mail in Eudora

Here are some examples of e-mail interaction in popular browsers. You may expect that whatever you see here as the most elaborate mail system will be present in all browsers by mid-1996.

## Q-Mosaic

It's not obvious that Q-Mosaic has mail capabilities, but it does. Whether you can use them or not depends on your service provider — if you have an Internet account that includes a mail server, your service provider can tell you how to configure Mosaic (in any flavor) so that you can process outgoing mail. Then when you find an e-mail link in someone's Web page, you can simply click it and you'll get a form for an outgoing message (see Figure 4-2).

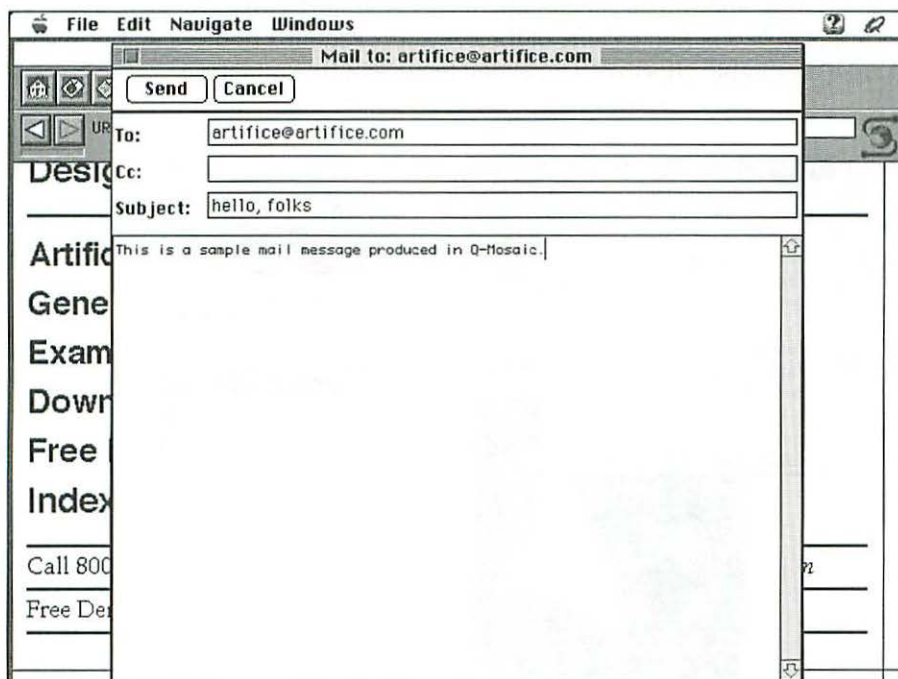


Figure 4-2: Lowest-level browser e-mail

This is pretty primitive compared to big-time e-mail, but at least you can express yourself to Webmasters when necessary. Also, if you have a mail server connection you will find that Q-Mosaic can interpret mail to `tom@negrino.com` as an instruction to send out an e-mail, if this instruction is put in the URL box (for example, select Go To URL from the File menu and enter this instead of an `http://` entry). Incoming mail? Not yet, at least not directly through this browser.

## NetShark

PSI InterRamp offers a pretty close approximation of full e-mail service, outgoing and incoming, in its NetShark browser (<http://www.interramp.com/>). The Mailbox item on the menu bar (see Figure 4-3) has an array of functions that are at least beginning to rival Eudora's. There's also the convenience of the Mailbox menu always being present (instead of being called up separately), both on the menu bar and the toolbar (as you would guess, the little mailbox icon). This mail function (see Figure 4-4) offers many of the amenities that characterize the better grade of Internet e-mail, including electronic signature, attached files, and return receipts. Whether NetShark can make significant headway into Netscape's position as king of the browsers remains to be seen, but PSI is certainly making a creditable effort with an e-mail feature of this quality.

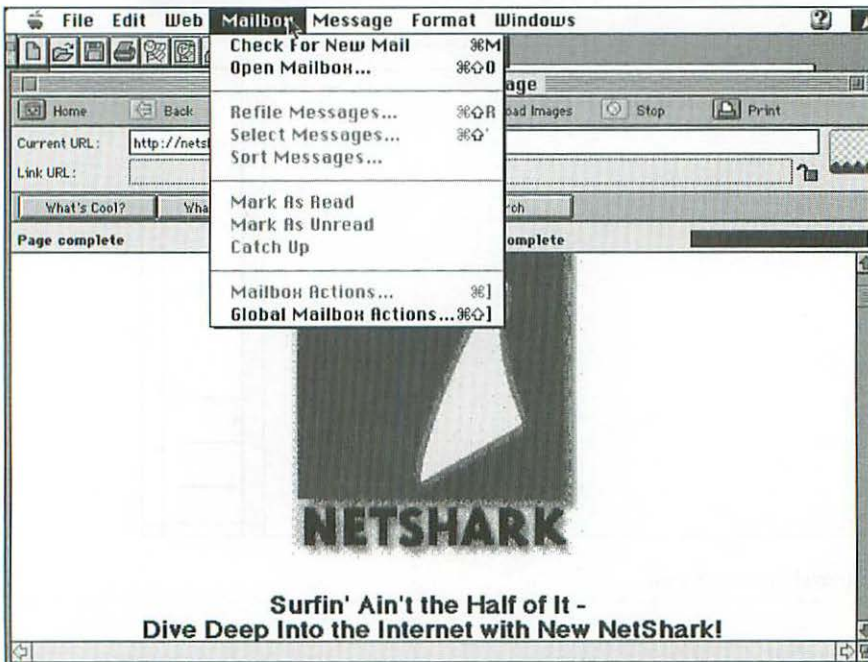


Figure 4-3: NetShark's classy e-mail menu

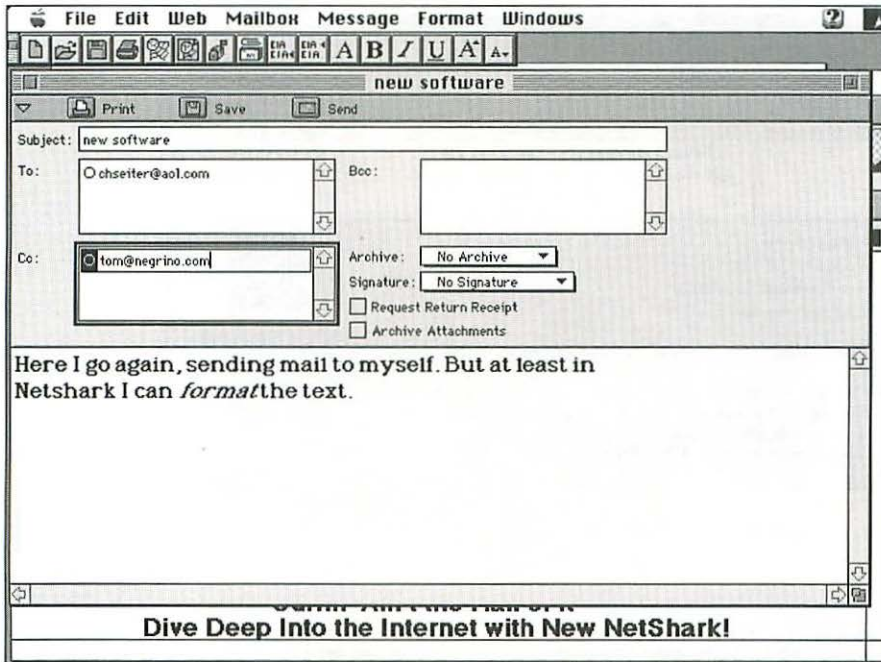


Figure 4-4: You can even format text for e-mail.

## Netscape Navigator 2.0

Since Netscape is typically the feature leader in browsers, you might expect a few extra touches from Navigator 2.0. You'd be right — e-mail inside Netscape Navigator contains all sorts of features that weren't anticipated in the first versions of e-mail at all. For example, in addition to the now-expected e-mail multimedia extravaganza features (probably more useful with in-house high-speed network e-mail than to modem dial-up folks), you can add URLs as enclosures. When your correspondent gets your message, presumably also opening the message in Navigator 2.0, this URL link is *live*.

The basic Navigator mail screen (you find the Mail Document command under the File menu) lets you design a company letterhead for mail — doing a good job at e-mail (see Figure 4-5) is in fact probably part of Netscape's strategy for making Navigator a competitor of Lotus Notes. This system provides a sortable In-Box and an address book (see Figure 4-6), as well as most of the features you'd find in an e-mail-centric system like America Online's or a commercial e-mail product (CE Software's QuickMail, for example).

You would probably expect that this kind of mail system can easily handle MPEG movies and Real Audio sounds, and it can. The really new wrinkle is the addition (see Figure 4-7 and Figure 4-8) of a URL attachment. It's not hard to think of commercial and

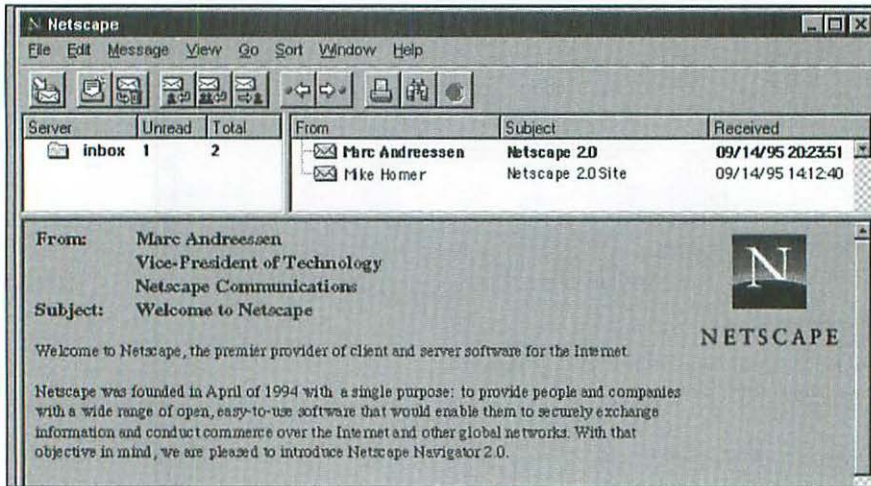


Figure 4-5: Mail in Navigator 2.0 — check the mailbox icons.

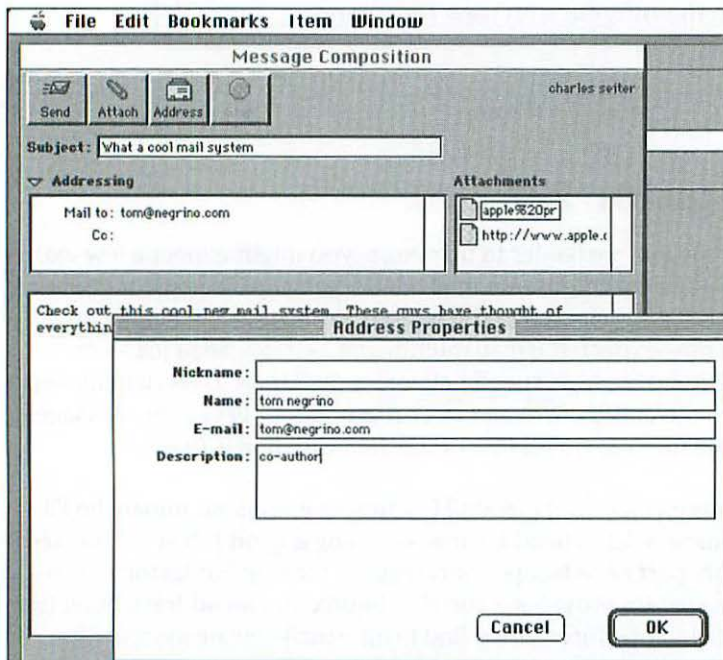


Figure 4-6: The Navigator 2.0 address book lets you characterize the addresses.

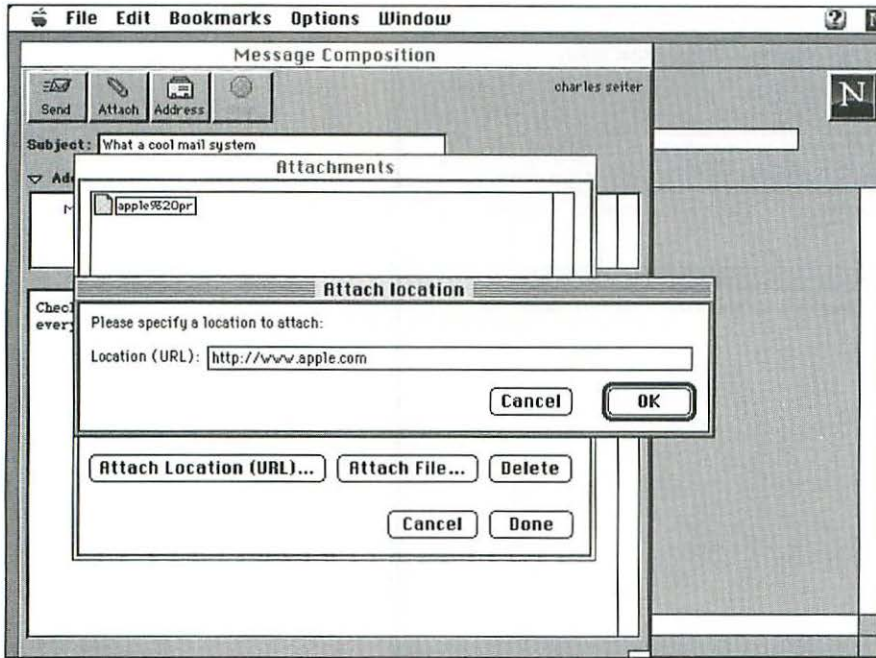


Figure 4-7: Attaching a URL link

educational uses for this capability. A business could send you an exploratory e-mail (let's all hope this doesn't get over-used!) that contained links to the business Web site; a teacher could return e-mail homework with Web links to supplemental material for your studies. It's hard to tell where the Web is going in general, but it's an easy prediction that Web browsers will have to follow Navigator 2.0's lead in e-mail features.

## Files: ftp and gopher

It seems like just a few years ago that surfing the Net meant looking for interesting ftp sites with the program Archie and finding gems in gopher archives using the search program Veronica. Actually, it *was* just a few years ago. There is still a valid place in the world for the Mac ftp program Fetch (from Dartmouth University) and for the gopher program TurboGopher (from the University of Minnesota) — if you are using a Mac with 4MB of RAM or less, it makes sense to switch in and out of these much smaller

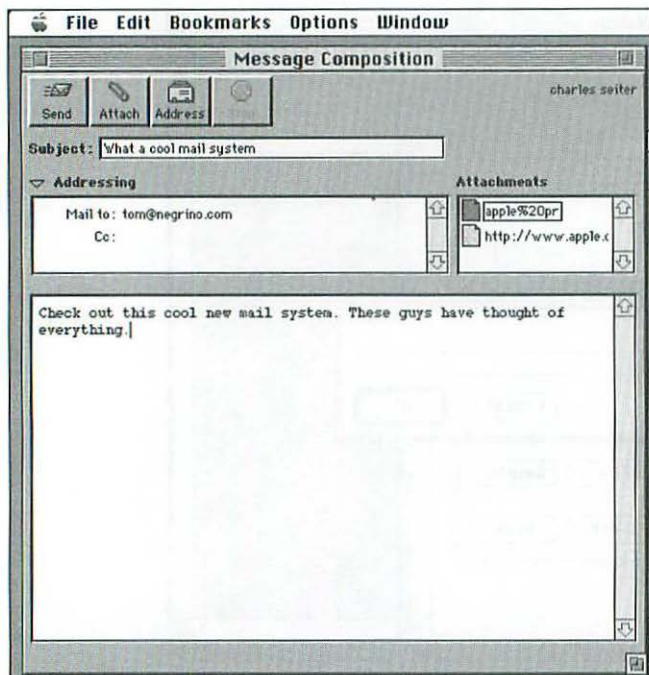


Figure 4-8: There's the link, in the little attachments window.

single-purpose tools instead of trying to use a super-browser that can do it all but that will occasion constant out-of-memory problems in your hardware configuration. By the way, if you are indeed memory-limited, you might want to collect MacWeb from <http://galaxy.einet.net/>, since it's much smaller than its competitors.

What has happened is that

- The Web evolved sophisticated and fast search features.
- Web browsers learned to read the notations `ftp://` and `gopher://` as locations for browsing (see Figure 4-9).
- All the Internet pioneers that set up the first ftp sites and gopher archives, being very clever people, adapted all the information they had collected so that it could be reached easily with a Web browser.

If you find a link, for example, in Yahoo that starts with “ftp,” you just click the link and you'll see something that looks like a Web page except that the bulk of it is taken up with a line of folders on the left-hand edge of the page (see Figure 4-10). That's the

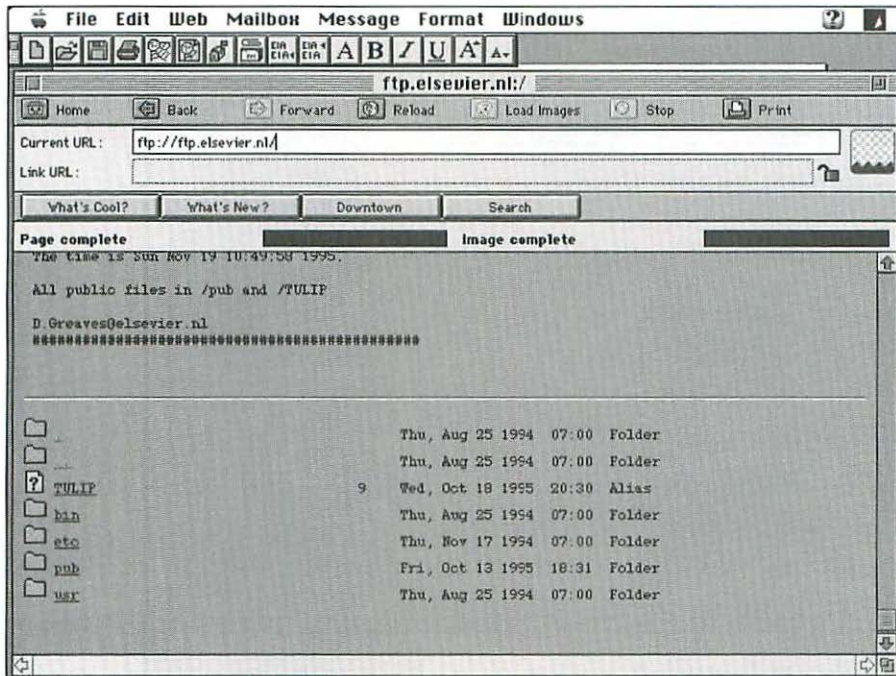


Figure 4-9: Look in the URL box!

standard presentation, assuming that no one has taken the bit of extra trouble to dress up the site a bit (see Figure 4-11). But whether you get a bare-bones ftp site or one that's a little fancier, sooner or later you get past the folders and down to individual files. When you click the link underlying an individual file, it will start downloading. Usually your browser gives you a little window to watch the progress of the download.



Tip

And here's a crucial tip, in these perilous times when no one thinks twice about posting files that take a half hour to download. Sometimes, at the end of the download, the little progress window is still sitting there (a well-behaved browser asks you if you want to save the file, but browsers are not all well-behaved). If the window still sits there without closing itself, check under the browser's File menu and see if Save is a viable command (black instead of grayed out). Select Save, right now. The reason is that some browsers do not automatically handle the last little detail of making sure your file is actually saved to your Mac's hard drive.

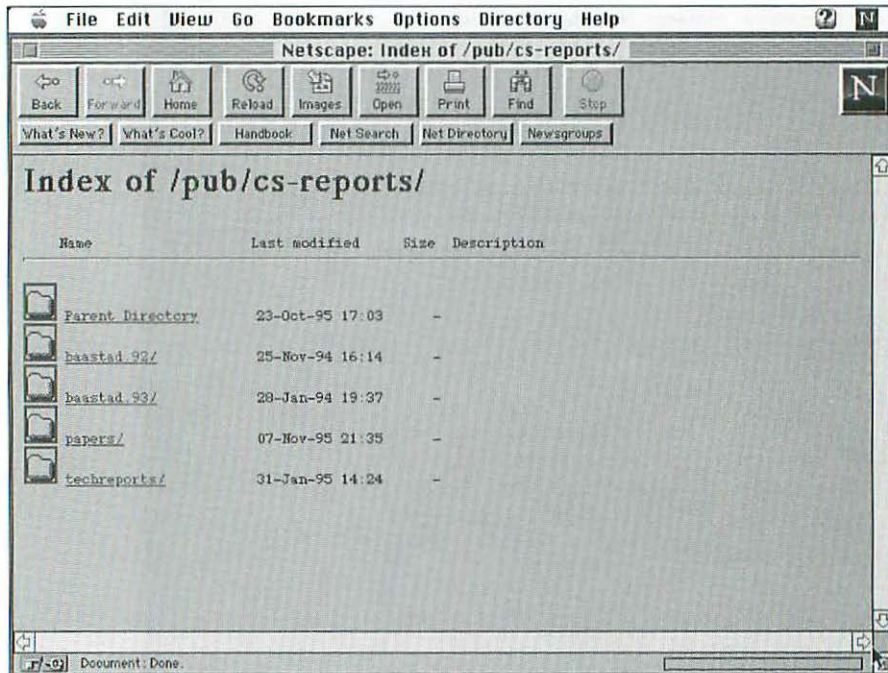


Figure 4-10: Nothin' but folders — plain Web ftp

gopher operation is likewise painless. Sometimes, if you perform a search in Yahoo or InfoSeek, you will find (often simply for historic reasons) that the link says "gopher." But your browser can handle it, and most browsers can represent the contents of a gopher site with appropriate icons (see Figure 4-12): a little document icon for a plain text file, fancier icons for other directories, and special arrow icons to link to Veronica search engines (sometimes these are arrows; sometimes they are little sets of binoculars!).

The reality is, newcomers to the Internet after 1996 are going to look on both ftp and Gopher as historical relics, something like the concept of doing e-mail with the old-time Unix text editor *vi*, a staple of computing life since the 1970s. One perspective on this rapid software evolution is that Web browsers have rapidly caught up with standards that you have associated with good Macintosh software since the mid '80s. Remember, on the Windows side of the fence, everyone finally just got file names longer than eight characters in late 1995. Those people were used to kludges and work-arounds as a way of life. It's really a miracle how good some of these multiplatform browsers are.

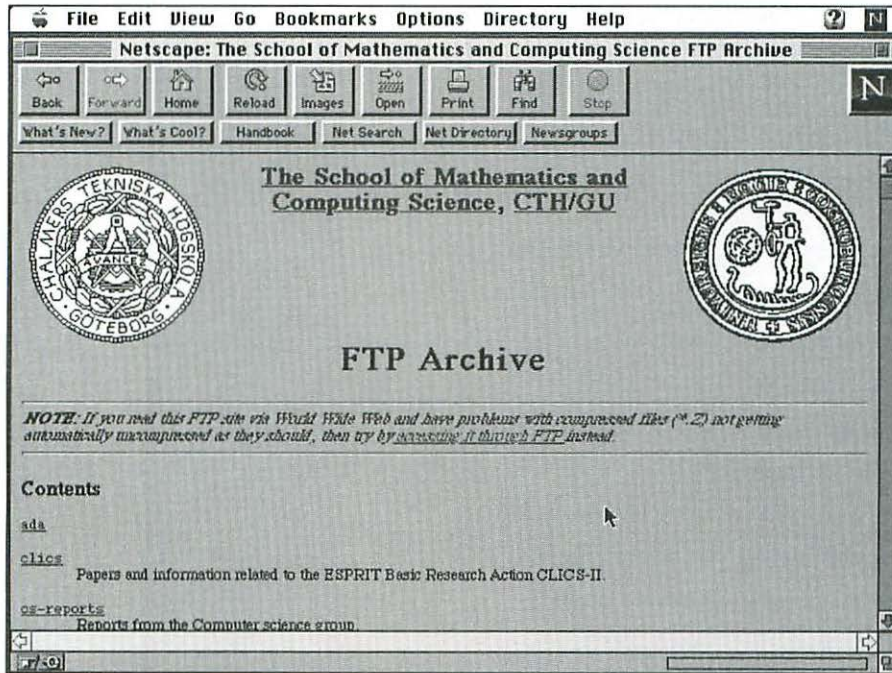


Figure 4-11: An “ftp home page” for you

## Newsgroups

From a programming perspective, if a browser can handle e-mail at all, it can handle newsgroups with no trouble. If a browser, for example, knows enough that it can interpret

```
mailto: chseiter@aol.com
```

as a URL instruction to send out an e-mail, then it’s going to know that

```
news: comp.mac.misc
```

is an instruction to access that newsgroup. You have to give your browser the address of the “news server” on your system (it will ask when you try a “news” URL, but your system support or help can tell you what to say on this point).

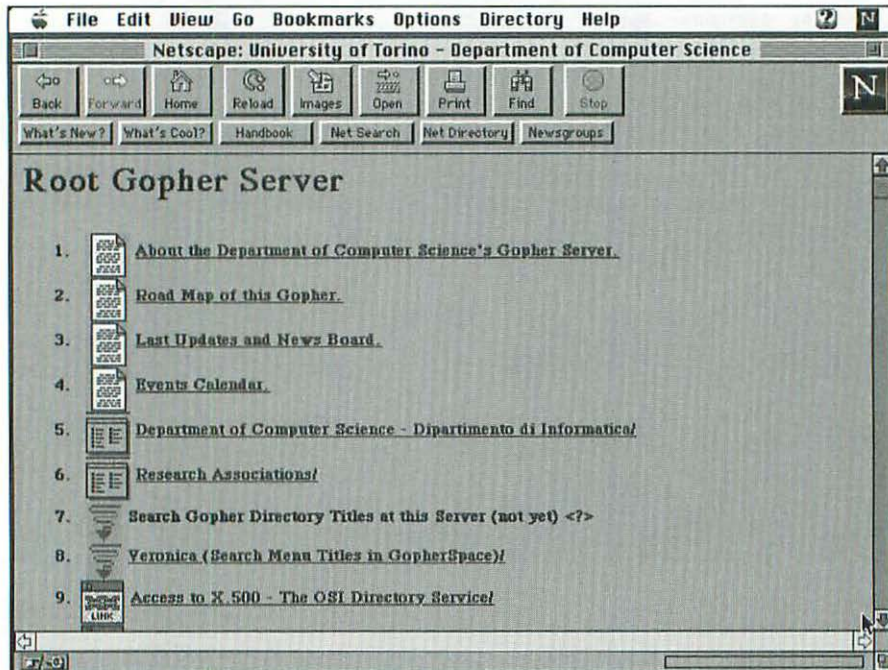


Figure 4-12: Navigator impersonates TurboGopher.

It must be admitted that Netscape Navigator 2.0 is setting the standard in features for newsgroup reading — its icon palette of commands (see Figure 4-13) is essentially as complete as the command set of Nuntius (Add, Delete, Browse available groups), a brilliant shareware program. Again, if you're working with limited memory, download this from AOL or another national online service as an efficient news program. Also, you can set the options for more complete message names than you see in these screen shots. The Netscape reader (the reader in NetShark is comparable, and the others aren't nearly as complete) gives a nice bit of information about each message in a group, as you can see at the bottom of Figure 4-14.

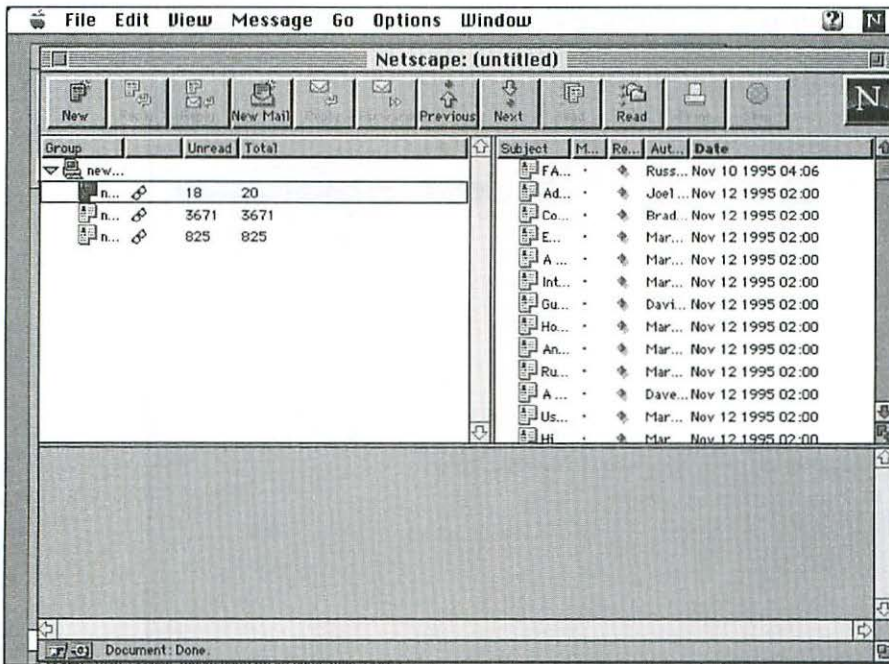


Figure 4-13: Netscape: a convenient way to navigate newsgroups

## Internet Relay Chat and Web Chat

This is probably the fastest-changing, and, strangely, the least commercially significant area of Web development. What does this mean? It means two things:

- Some chat on IRC is the most mindless, pointless, irredeemable, endlessly repetitive vulgarity ever produced by someone typing at a computer. It's sometimes actually fairly difficult to find a clean enough channel to make an IRC screen shot for an Internet book. Some chat, in contrast, is positively inspired philosophical and artistic discussion. But all of it has this in common — it ain't where the money is. There are commercial chat services, but they appear at present to be drowning in the number of free (no advertising) channels.

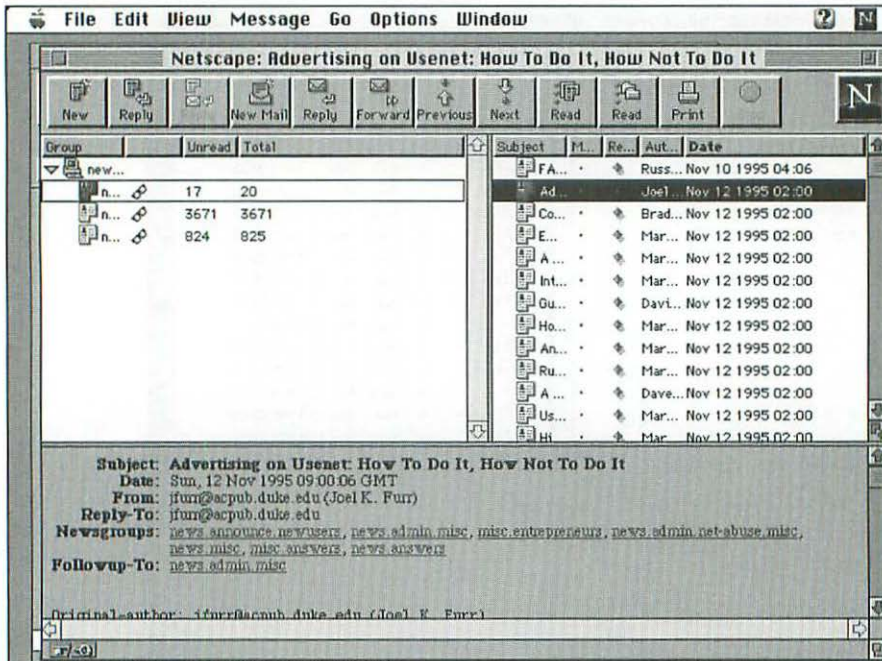


Figure 4-14: Very nice info on individual messages in newsgroups

- Web browser and server add-ons to support chat protocols are all over the place. Netscape Chat (just for Windows at present) is just such a product. During the rather brisk course of writing this book, three new IRC chat helpers for Mac Web browsers appeared. But you don't need any special software other than your browser to get into a Web chat site, and the number of Web chat sites is absolutely exploding.

When the sound and the fury die down in this corner of software and site development, sometime in mid-1996, nearly all the action of the former IRC channels will have migrated to Web chat, where the old Mac IRC client software will be a dim memory among Net pioneers.

At present, chat takes a number of forms. One software variant allows streams typed in real time to appear on standard Web pages (see Figure 4-15). Some variant of this has good prospects of taking over chat functions on the Web, since it puts the burden of development on browser programmers and the people who maintain Web sites, rather than on clients who are just browsing. Netscape offers a helper application (on the Windows side only) that adds a chat function to Netscape, but it will probably turn out that this wasn't necessary. As an example of direct chat access from the Web, consider the Web chat site Virtual Blarney on PaddyNet, a sort of online meeting place for expatriate Irish persons around the globe (see Figure 4-16). To the eternal credit of the Hibernian race in its strange contemporary economic diaspora, this chat site can usually produce several pages that one can reproduce in a book without applying the equivalent of a bucket of electronic white-out.

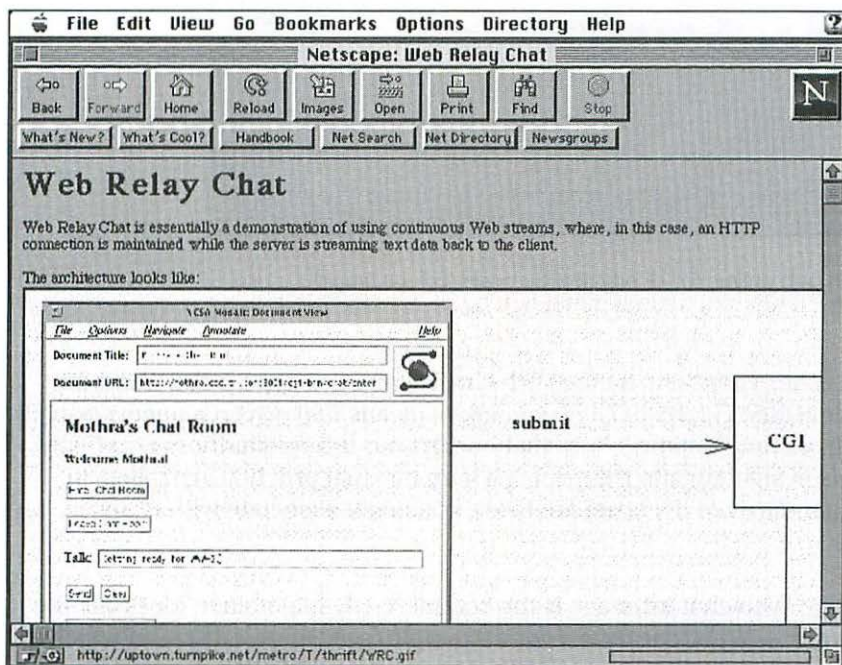


Figure 4-15: Mothra, of course, gets in battles with Godzilla and Gamera (you know, the space turtle).

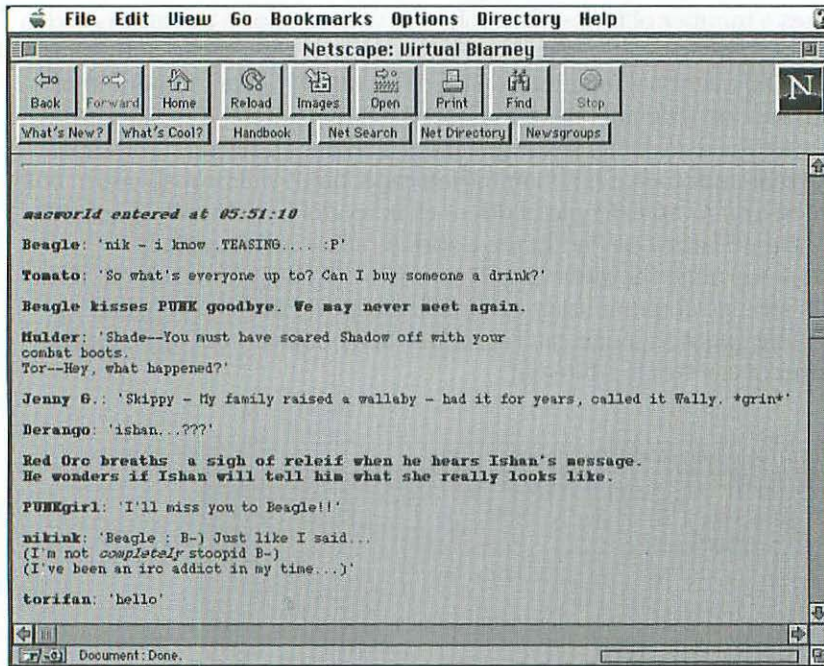


Figure 4-16: A Dublin pub online, for all practical purposes. *Erin go bragh!*

There are several other variations on the Web chat theme. One type is the Web-based commercial chat line (see Figure 4-17). (Commercial means that advertisements pop up on the chat page from time to time.) Note that one of your intrepid authors is actually using *his real name* in signing onto this group, a very unusual practice in a milieu in which the social standards of decorum are those you might associate with drunken Halloween parties.

Another variation on Web-chat interface is the commercially maintained for-profit site with its own software — WebGenesis is a good example (see Figure 4-18) — in which a commercial host distributes chat software (used in parallel with a Web browser) and maintains the chat sites with advertising. There's no doubt that an amazingly large number of people love this activity (the chat sections of AOL and other online nationals are always humming) and that by mid-1996 all browsers will have to support some form of chat access. To keep pace with this wildly unstable area on the Web, just go into the Yahoo site [www.yahoo.com](http://www.yahoo.com) from time to time and try the entry “Web chat” as a keyword search term.

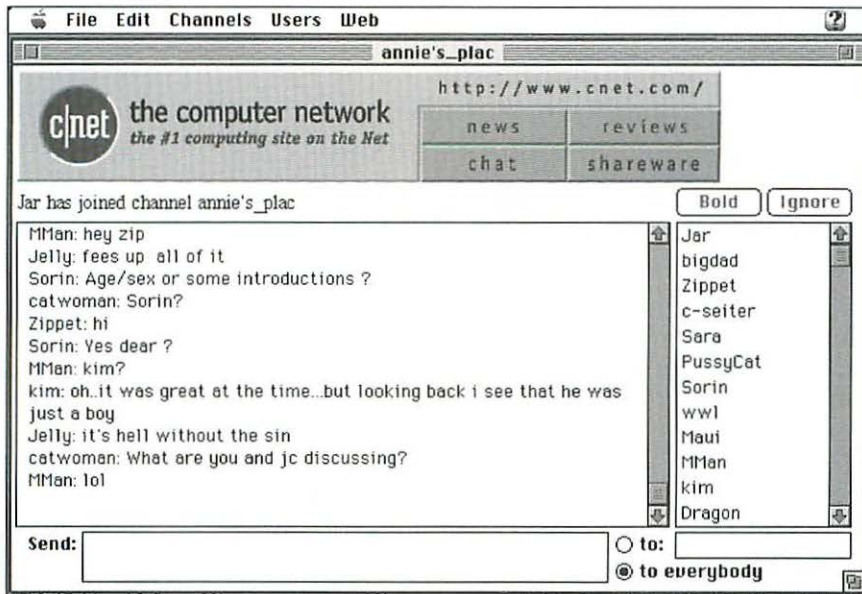
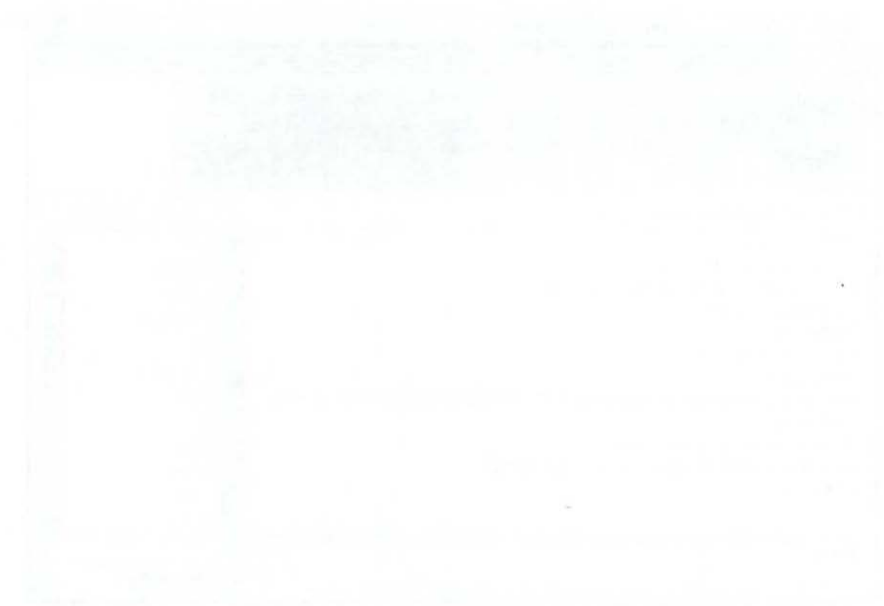


Figure 4-17: A Web-based commercial chat line



Figure 4-18: A commercial chat line like WebGenesis distributes its own software.



# Helper Applications

# 5 CHAPTER

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## In This Chapter:

- What are helper applications?
  - How are they used?
  - Where can you get them?
  - Configuring helper applications to work with your Web browser
- 

Helper applications are programs that assist your Web browser to accomplish some task, usually dealing with a particular file type that the browser itself does not know how to handle. When your browser encounters a kind of data that it doesn't understand, it calls upon a helper application to open and use the file. The idea is to keep browsers from becoming bloated with decoding and display features that are beyond the browsing function. This doesn't stop browser makers from bloating their programs with other features, of course; most browsers already take up several megabytes of disk space and RAM. As the number of data types encountered on the Web multiply, many helper applications have appeared, usually one for each type. In this chapter, you'll learn how to use the helper applications along with your browser to access all of the new multimedia content on the Web.

## Types of Helper Applications \_\_\_\_\_

Most helper applications fall into one of just a few categories. Some helper applications decode files or data that you receive via a Web page. Other kinds display multimedia files, such as sound and video files. Finally, there's a miscellaneous type that enhances your Internet operations.



Note

All of the helper applications mentioned in this chapter are available for downloading via anonymous ftp from the Internet. We've put many of them up on the IDG Books Web server, at <http://www.idgbooks.com>. Another source that explains Internet file formats and gives you links to places all over the Net from which you can download helper applications is Internet Literacy Consultants, which maintains a Web page devoted to helper apps. You can find that page at <http://www.matisse.net/files/formats.html>. If you prefer a straight ftp site, the America Online mirror of the Info-Mac software archive is available at <ftp://mirrors.aol.com>.

## Decoders

By far the most important type of helper applications, decoders take data (usually files) that you download from the Internet and convert it into a form that your Mac can use. The reason that this is necessary has something to do with the Internet, and something to do with the Mac. First, the Internet is pretty much a plain-text environment; it sends streams of text around the network. But application programs, pictures, sounds, and Macintosh files aren't plain-text files; they're a kind of file called a *binary file*. In order for binary files to be sent over the Internet, they must be converted into text files, and there's a standard for doing this, called the BinHex standard. BinHexing a file, therefore, is the process of converting a binary file into a plain-text file so that it can be sent over the Internet (see Figure 5-1). When you receive a BinHexed file, you must decode it back into a binary file before you can use it. The decoding process reads the BinHex file, converts it, and writes out a decoded version of the file. You'll end up with two files, and you'll probably want to throw away the encoded version when you're done with it.

The other kinds of files needing decoding that you'll run into are files that have been compressed. This is a scheme where a binary file is run through a compression program before it is BinHexed. The resulting compressed binary file is considerably smaller than the decompressed file, and as a result it takes less time to upload and download. On the Mac, the most common compression program is Aladdin Systems' Stuffit Deluxe, though you'll often see files compressed with other programs, such as Bill Goodman's shareware Compact Pro, and sometimes Symantec's DiskDoubler Pro. You can usually tell what sort of file you're downloading by the file's extension, a series of letters tacked on to the end of the file's name, separated from the name by a period. Files on the Internet usually come with odd extensions at the end of the file's name. Table 5-1 shows the encoded-file extensions you're likely to encounter whilst cruising the Internet.



**Figure 5-1:** This is what a BinHex file looks like when you open it up in a text editor. Obviously, it will need to be decoded before it can be used.

**Table 5-1**  
File Extensions Used on the Internet

File extension	What it means
.bin	Mac binary file
.cpt	Compressed with Compact Pro
.gz	Compressed with Unix <i>GNU Zip</i> program
.hqx	BinHexed file
.sea	Self Extracting Archive — no separate extracting utility needed
.sit	Compressed with StuffIt
.tar	Archived with Unix <i>tar</i> program
.uue	UUEncode file
.z or .Z	Compressed with Unix <i>compress</i> program
.zip	Compressed with DOS/Windows PKZip

Decoding helper applications have the benefit of working transparently when used with a Web browser. When the browser needs to decode or decompress a file, the browser calls the helper, which launches (usually into the background), does its decoding job, and quits. Often, you won't even be aware that the process has taken place.



Though this book is focused mainly on the Web, browsers aren't the only Internet programs that benefit from helper applications. E-Mail, Archie and ftp clients, as well as Usenet news readers, can benefit from helper applications that decode files.

## StuffIt Expander

There's a must-have pair of helper applications that will handle virtually all of your decoding needs. The first member of this matched pair is called StuffIt Expander, and it's freeware from Aladdin Systems, the people who make StuffIt Deluxe. By itself, StuffIt Expander can decompress StuffIt (.sit) and Compact Pro (.cpt) archives, as well as files encoded in BinHex (.hqx or .hex) and MacBinary (.bin) formats. StuffIt Expander is incredibly easy to use; you either configure it to be automatically launched by your Web browser, or you simply drag and drop files onto the StuffIt Expander icon.

A \$30 shareware package called DropStuff with Expander Enhancer, also from Aladdin, completes the decoding duo. Expander Enhancer enables StuffIt Expander to expand files compressed with virtually every compression format found on the Macintosh, Unix systems, and IBM PCs and compatibles. These include: ZIP (.zip), ARC (.arc), gzip (.gz), Unix Compress (.Z), UUencode (.uu), and StuffIt SpaceSaver (.sit) files. It will also join files that were segmented with another StuffIt product. The programs are accelerated on Power Macintoshes, though they'll work fine (albeit a bit slower) on older Macs.



The terms *freeware* and *shareware* are important for you to understand. Freeware is software that people have written and made available for others to download and use, with no financial compensation expected for the author. Shareware, on the other hand, is provided on a try-before-you-buy basis. After you download and install the software, you can use it free of charge for a specified period of time, usually 30 days. At that time, if you like the software, you're honor-bound to send the author a payment. There's a lot of terrific shareware available on the Internet, and it's a good idea to pay your shareware fees, to encourage authors to continue writing these low-cost alternatives to commercial software.

The really great thing about the StuffIt Expander package (from now on, my references to StuffIt Expander will include DropStuff with Expander Enhancer) is that it operates completely transparently. When you click an ftp link in your Web browser, the browser downloads the file from the ftp server, then hands the file off to StuffIt Expander, which

launches, de-BinHexes the file (converting it back into a binary file), decompresses the file further (if necessary), then automatically quits. Stuffit Expander can also handle batches of files to be decoded and decompressed at the same time, and (if you prefer) it's smart enough to automatically delete the BinHexed files once it finishes decoding them.

## BinHex 5.0

This program is still in use by some people, but it's not nearly as capable as Stuffit Expander. All this program can do is encode and decode BinHex files. Still, considering that it was written in 1985, it's amazing that it still works at all on modern Macintoshes.



You may have seen in Figure 5-1 that the first line of a BinHex file says "This file must be converted with BinHex 4.0." While this may seem that it's asking for the actual BinHex program, these days it refers to the BinHex standard.

## uuUndo

What BinHex is to Macintosh users, UUEncode/UUDecode is to the rest of the people on the Internet. It's the Unix standard way of converting a binary file into text for transmission (Figure 5-2).

```

begin 644 test.jpg
M_JC_X 02D9)10 ! 0 0 ! # VP!# @S!@<G!0@!P<)"0@*#10-# L+
H#IDZ$P\4'1H?AT:'!P@)XG('L(QP<*#<I+# Q-#OT'R<Y/3@R/"XS-#
MVP!# 0D)"0P+#!@-#10R(1PA.C(R.C(R.C(R.C(R.C(R.C(R.C(R.C(R.C(R
M.C(R.C(R.C(R.C(R.C(R.C(R.C(R.C+P 1")8 R # 2( A$! Q$!_0
M' 04! 0$ ! ! @.R!@<(\ 0 11 0.* @0$ P8$!@#$
M! $% 0 "$0.$(3M!!1)181,B<8$E.D:$4.K'!T? '(T+AN2054F+Q<B5#@A8T
M4!(F8Y(UHO+Q ; 0 " P$! 0 0(#! 4E!_ $ #<1 ('
M 00! @.E! < P$ ! A$#!!(A,4$X$R)1808R<8E.1H12QT? 5(S-"4L'A
MWC1B\?: P# 0 "$0.1 #\ ]YGOO*4SN2E[I=IGVO IQJGG0]4VWLEZ?1 #
MSW2GNFREE #\W=-S8U^J24XUO N:NJ:D^5IZ.PK\]U1<SX6V""@^88$! /5(
M?<.:VO I(GZ)Y(GZ)LP(T2D_LH >>_X)3.A39_NEGN@!3H*4XU^H2TQH$LD(
M >3U/LFF!JFG7NE,690 \]S"7-W/T3$Z;IB2D.D3@Y55J98X#0$J9/E]E5:D
M<?^CN@1:#IE+F.Y39!32@8\]TTGJE.4D *>Z6Z8F$W..HO(>>Z>5^TE+\4
M.3":KDINO[):I@*>ZHL3_KY_K/NKIZ95ND<W_YE( CFSJF)(|NJ4|\>JC/:
M2<( D29(D^JA.&)0QE*3E.RC.(A $B?- 5$DYPF)R=N!SHIZ_- "3G1))S&B@
M72?<#*0QVP-?56N).J0Q<V\Z(6^?#E<D/AD_1$9UU0G$71PVZG_ /6=
MNR'T"/ /Z-0->6.2"2028 >BU*50AU(\QSH/8+#HJHMP6'Q'21\UOHJ46HI
4 MB&S[BN=V.6:]TV[23F).E6T3M^F???LJ+6LW!*V*:0(B.B(H5W&D &L _W
M96*B 76/W7;<_PJS:C2YN E-TZ=EI5*0D!+6D\VD3^B#JUE#U0&DP@#EJ4
M":_EL(G#3^XYTK. ')S]J^EID10AD>6?03E."J*1N6P7AWHOEO0R3R.
M.P#_@BJA[W'-'IE*AK^P?S= ]0&JZB*?C.:GYR.XRFA.L0:SIH!^BZ
MZ=4NF,"@X?.5TO <XN#VP0=70(7P^FE$L)+(.1W2DF-.M#6^H/AAD_R2N?
M#L^VTJL6H$81X./57U:#5/G/E#<XTEXPJ^M#4#>V\DVH$9E1I[AVJ]N<1<FF3
MVBQR#KR:8@3(<2?22C:IEL;@N:S' *1/JAZHH7Y^H#D'7U)0T139CDHVP8:
M5/=0_P1JKH7$W#@/Z;?0U*0.;5A;EH;U^I.FLK:LQ]1SE.'EB(]4J8[ (CO"=
MNY)Z9E64*Q#4*63RPT?Z#4&8&8-.@*8$>JA<->QU &.'Z#("5J^T^6.4&P>6
  
```

Figure 5-2: Here's what a uuencoded file looks like in a text editor. Note the difference in the top line, which in uuencoding contains the file's title. It's one way to tell what sort of a file you've downloaded, if you aren't sure.

The technique known as uuencoding is a bit more efficient than BinHex, and it's more widely used, because most of the computers hooked up to the Internet (or anywhere, for that matter) aren't Macs. In order to decode a uuencoded file, you can use Stuffit Expander, but I've found that it has problems with some files and doesn't always decode them properly. For example, in decoding some JPEG files, the bottom 20 percent of the picture turned out garbled. Switching to uuUndo — a freeware utility from Aaron Giles — as the uudecoding helper application cured most of the problems. The program is shipped as a *fat binary*, which means that it's accelerated for Power Macintosh and decodes files very quickly.



Tip

Most of the picture files found in the alt.binaries newsgroups are uuencoded. Most of the better news reading programs can be configured to use either uuUndo or Stuffit Expander to decode these picture files. You should be aware that most uuencoded picture files on newsgroups are split up into small (32K) chunks, usually labelled 1/4, 2/4, 3/4, and so on. You'll have to download all the chunks, in order, before you can extract a picture from them. The most widely used Mac newsreading program, NewsWatcher, won't let you download a file if all the pieces aren't available.

## uuLite

In the event that you have to create a uuencoded file for upload to the Internet, you can use a program called uuLite, which is available from the same ftp sites that provide most of the other helper applications.

## Multimedia Display

What's made the Web new and different — and successful — is that it mixes text, pictures, and other forms of media into a dynamic, changeable whole. It also doesn't hurt that hypertext links can jump you all around the Web with just a click of the mouse. But the ability to add pictures to the dull text of the Internet was the key that made the Web. And those pictures come mainly in two formats — GIF and JPEG.

Virtually all Web browsers have the built-in ability to read GIF and JPEG pictures. These two graphic formats are popular for different reasons. GIF (Graphic Interchange Format) files are limited to 8-bit color (256 colors), and are used for most of the inline graphics on a Web page. They're also relatively small, so they download quickly. JPEG (Joint Photographic Experts Group) files can be 8-bit, 16-bit (65,536 colors), or 24-bit (16 million colors), and are usually used for high-resolution images, such as photographs.



Tip

You probably know that GIF and JPEG are the two formats of the graphics that appear in Web pages. But you should also know about two variants of each format: standard and interlaced. Standard GIF files load onto your screen from the top down, drawing line-by-line down your screen until the entire image is revealed. Interlaced GIF files pop blurrily onto the screen at their full size, gaining in sharpness and resolution as the file loads.

Standard JPEG files act much like standard GIFs, drawing at maximum resolution from the top down. The new progressive JPEG (P-JPEG) format rearranges the stored data into a series of scans of increasing quality. Browsers that understand progressive JPEGs generate a low-quality image very quickly from the first scan, then gradually improve the displayed quality as more scans are received. It's likely that P-JPEG files will become widespread, but for now, only a few Web browsers, including Netscape Navigator 2.0, can display them. Other browsers will fail to load P-JPEG images.

Besides images, a variety of sound and video formats are available via the Web, and most of them require a helper application for the browser to display them. Unlike the decoding helper apps, multimedia helpers come to the foreground and play the sound or video clip in a separate window from the browser. Table 5-2 shows the most common multimedia file types, and what helper apps you'll need to display them.

**Table 5-2**  
Multimedia File Types and Helper Applications

<i>Multimedia file extension</i>	<i>File kind</i>	<i>Helper application</i>
.aiff	Sound file	SoundMachine
.au	Sound file	SoundMachine
.gif	GIF format image	Web browser, GraphicConverter
.jpg or .jpeg or .jif	JPEG format image	Web browser or JPEG View
.mov or .moov or .movie or .qt	QuickTime video file	MoviePlayer or QTVR Player
.mpeg or .mpg	MPEG video file	Sparkle
.pdf	Acrobat file	Acrobat Reader
.ra	RealAudio sound file	RealAudio Player
.tiff or .tif	TIFF format image	JPEG View or GraphicConverter
.wav	Windows WAVE format sound file	SoundApp



Note

The race is on, led by the Netscape and Microsoft browsers, to add the capability for multimedia content to be embedded directly into the browser window. Netscape 2.0 will accept plug-ins, helper applications that can work within Netscape to seamlessly display content. As of this writing, companies have announced (but not shipped) plug-ins to play QuickTime movies, display Adobe Acrobat files, and play Macromedia Director animations.

## Audio Helpers

These helper applications let you play some or all of the many sound formats available on the Web. The helpers are listed in order of their importance and usefulness. We've also listed all the formats that each program can handle. It's not really important that you get a detailed explanation of each type of format (though if you're interested, a search on Yahoo will get you all the technical info you'll ever want); it's enough to know which helper app is the right tool for a given format.

### SoundMachine

SoundMachine is the main player for sounds on the Internet (Figure 5-3). This program can handle at least 80 percent of the sound files that you're likely to encounter, including all the popular Unix formats, plus the main Macintosh formats. There are numerous buttons during play to change speed, play backward, loop sounds, switch formats, and so on. No restriction on file size; playing can take place in background. Freeware.



Figure 5-3: SoundMachine's control panel. You can even play sounds backward.

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SoundMachine supports the following formats:

- SND/AU (U-law, Mu-law, &-law, A-law)
- AIFF
- AIFC
- FSSD

### **SoundApp**

This handles most of the other formats you might find, including some awfully obscure types of sounds. Not as nice an interface as SoundMachine, but it gets the job done. It also does a good job of converting any file it can read into System 7 sound files (so you can use them as beep sounds), and it can read and convert QuickTime soundtracks and audio CD files into a variety of sound formats. Freeware.

SoundApp supports these formats:

- SoundCap (FSSD)
- SoundEdit
- AIFF
- AIFF-C
- System 7 sounds
- Sun Audio AU (U-law, Mu-law, &-law, A-law)
- NeXT .snd
- Windows WAVE
- SoundBlaster VOC
- Amiga MOD
- Amiga IFF
- SoundDesigner II
- Studio Session
- Any Macintosh 'snd' resource file

### **RealAudio Player**

The RealAudio format is from a company called Progressive Networks, and it delivers streams of AM-radio quality audio over the Internet at modem speeds such as 14.4 Kbps and 28.8 Kbps. RealAudio has been used for live events, such as the broadcast of baseball games, and it's also being used by C-SPAN and National Public Radio. Soon to come is RealAudio 2.0, which promises stereo, FM-quality sound, along with a channel that will be able to send URLs to your Web browser along with the sound stream. You can download the free RealAudio Player from Progressive Network's Web page at <http://www.realaudio.com>.

### **MPEG Audio for Macintosh**

MPEG audio is an extremely high-quality stereo sound format for which, unfortunately, there is no really decent Mac player available. This program from the author of SoundApp enables you to convert the downloaded MPEG audio file into a NeXT .snd file, which can then be played by SoundApp. If you have a Power Macintosh, MPEG Audio for Macintosh can play the MPEG file directly. MPEG supports MPEG Audio. Freeware.

## **Video Helpers**

Three types of video files are in common use on Web sites: QuickTime, MPEG, and AVI. QuickTime was developed by Apple, and there are freeware players for the Mac and Windows platforms. QuickTime movies tend to be jerky, because the higher the frame rate, the larger the file size. Since most people don't want to download a 10MB video file, you tend to see files between 750K and 2MB, which use frame rates of 12 to 15 frames per second (fps) for 30 seconds or so. MPEG is a highly compressed video standard; it's good for full-motion video (30 fps). Files tend to be big. Finally, AVI is Microsoft's video format. It's a poor imitation of QuickTime, which is superior in almost every aspect. There are about a zillion freeware and shareware QuickTime movie players out on the Internet. I've only included a few of them here, the ones that have proven to be the most stable.

### **MoviePlayer 2.1**

MoviePlayer is a QuickTime movie player from Apple (Figure 5-4). It's not the fanciest player you can find, but it plays all kinds of QuickTime movies, with the exception of QuickTime VR files. The 2.1 version deals correctly with new additions to QuickTime, such as sprites, expanded text tracks, and so on. Freeware.

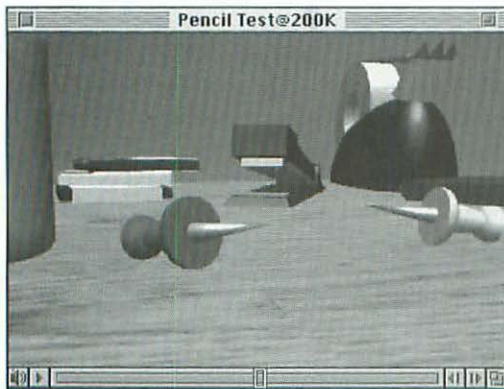


Figure 5-4: Apple's MoviePlayer

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### **Sparkle 2.4.5**

This is *the* player for MPEG movies. It also plays QuickTime movie files and will convert QuickTime and a series of PICT files to MPEG. It's Power Macintosh native (shipped as a fat binary, so it will work on any Mac with at least a 68020 processor). Freeware.

### **QuickTime VR Player**

Another QuickTime player from Apple. This one plays the QuickTime VR (virtual reality) files, and also standard QuickTime movies. Freeware.

## **Multimedia Helper**

Here's another multimedia helper application you should definitely check out.

### **Acrobat Reader 2.1**

Adobe Systems' Acrobat portable document format (PDF) is, as the name implies, a cross-platform way to send formatted documents between computers. Acrobat documents have the same high resolution as PostScript documents, and they have the additional benefit of having small file sizes relative to their quality (Figure 5-5). The Acrobat format is still relatively new to the Web, but it's poised to take off in a big way, because Adobe will soon release a plug-in for Netscape that will allow PDF files to be displayed within a Web page in the same way that a GIF is displayed now.

## **Miscellaneous Helpers**

Strictly speaking, the programs listed below aren't helper applications because they're not usually launched by a Web browser. But they do make your life easier on the Internet, and this is as good a place as any in this book to list them.

### **JPEGView 3.3**

This program can display JPEG, PICT, GIF, TIFF, BMP (a Windows format), MacPaint, and StartupScreen images. It's very fast at displaying images, and it has an excellent user-configurable slide show feature. It's Power Macintosh native, fully scriptable via AppleScript or Frontier, and it automatically scales images so that they fit on your monitor. It's postcardware (send the author a postcard if you like it).

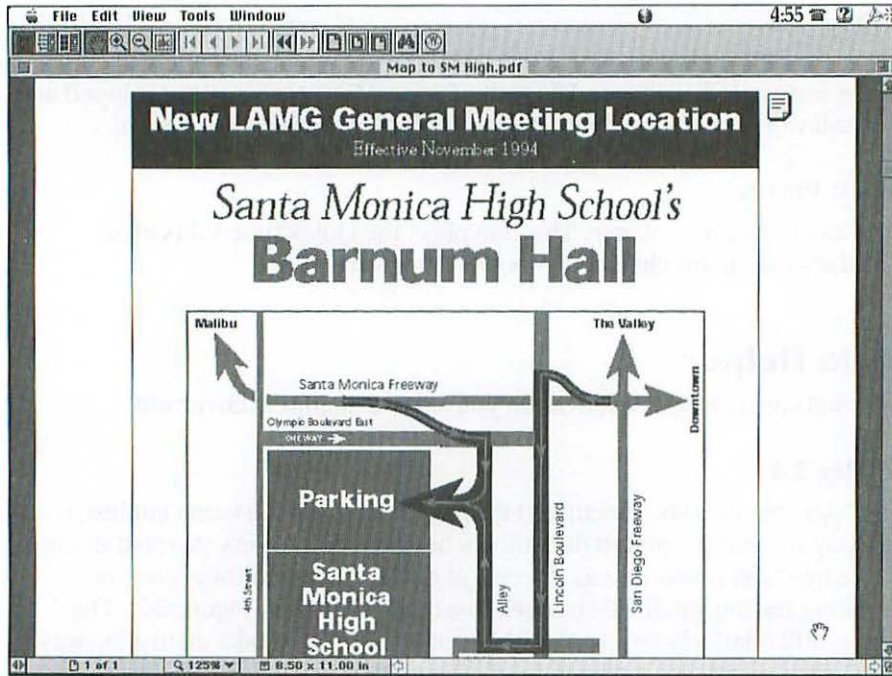


Figure 5-5: Adobe's Acrobat Reader makes it easy to transmit high-quality documents.

### **GraphicConverter**

This program can open, edit, and convert to 20 different graphic file formats (except, oddly enough, encapsulated PostScript files). These formats include most of the popular formats for the PC, the Amiga, and Atari computers (Figure 5-6). There are enough graphic editing tools in this program so that people with light image-editing needs may not need any other program. Shareware, \$35.

### **Transparency**

This very simple program enables you to take one color in a GIF file and mark it as transparent, so that color will not display in a Web browser. This is useful, for example, if you have an icon or another small graphic element on a color (or white) background. You simply select the background color and set it as transparent. Then when you see the image in a browser, all you see is the icon, without an ugly white background. Indispensable for people creating Web pages. Freeware.

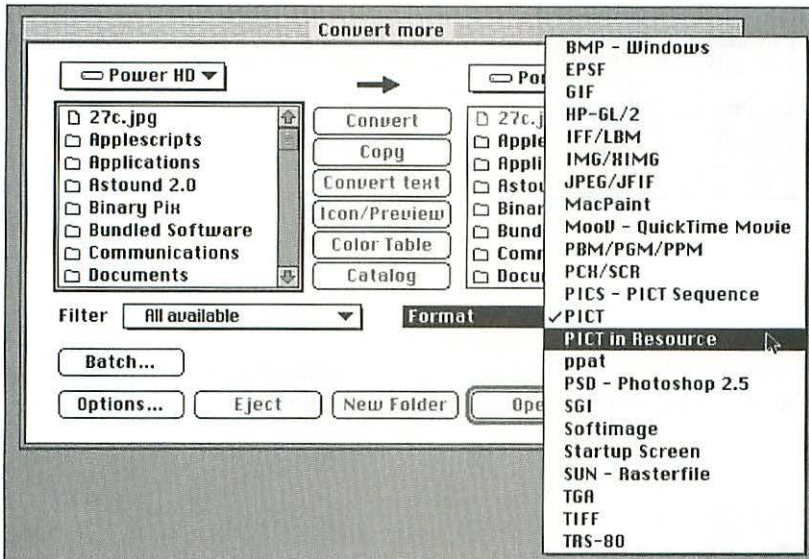


Figure 5-6: A sampling of the file formats that Graphic Converter can handle

### Internet Config 1.1

The Internet Configuration System, also known as Internet Config, is designed to make your life easier by reducing the number of times that you need to enter your Internet preferences into the various preferences dialog boxes of all your Internet applications (Figure 5-7). For example, currently you need to enter your e-mail address into many common Mac Internet applications, such as Eudora, NewsWatcher, and Anarchie. The goal of Internet Config is to get each of these applications to obtain this information from one common place and to give you a tool to edit these common preferences — and it works amazingly well. Another terrific feature of Internet Config is that if you ⌘-click a URL in any application (remember the ⌘ symbol is the command key), Internet Config launches the appropriate Internet client program and gets the resource automatically. For example, if you ⌘-click on a Web URL, your browser will launch and go to the page specified by the URL. If it's an ftp URL, Anarchie will start up and download the file. Best of all, it's freeware.

### MacPPP Timer

If you're with an Internet Service Provider (ISP) that charges you by the hour, this program is for you. It keeps a running total of the length of your current session and the cumulative time you've spent on the Internet this month. Believe me, sometimes you're embarrassed by that information. When you open MacPPP Timer, it launches MacPPP and connects you to your ISP; closing the program disconnects you. Shareware; \$10.

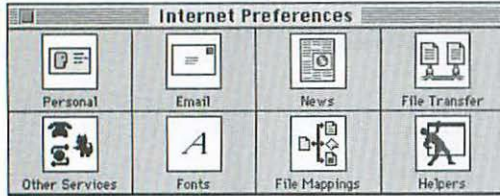


Figure 5-7: Internet Config

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### Network Time 2.0.1

Okay, so this is for the terminally tweaky amongst us. This control panel (Figure 5-8) will set your Macintosh clock to a super-accurate atomic clock that you can access via the Internet.

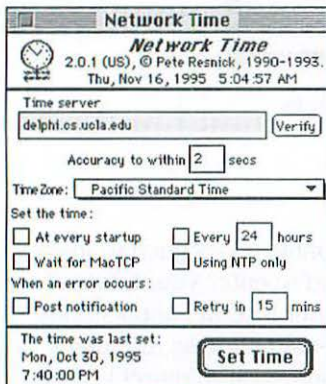


Figure 5-8: Get atomically up to date with Network Time.

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## Making Your Web Browser Work with Helper Applications

For your browser to be able to launch the helper applications that you download and install, you have to configure your browser. This lets the browser know which helper app to call upon when it encounters a particular file type.

### Configuring Quarterdeck Mosaic

Configuring Quarterdeck Mosaic for helper applications isn't difficult. Let's step through the process by configuring Mosaic to use Sparkle for MPEG files. From the Edit menu, choose the Helpers command. The Helpers window opens, as you can see in Figure 5-9. Scroll down until you see MPEG Movies.

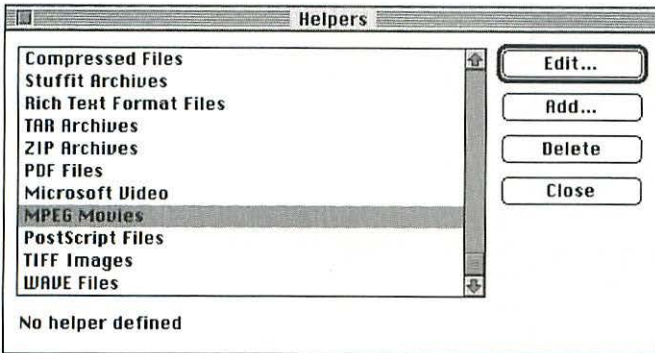


Figure 5-9: The Helpers window

Click the Edit button. The Configure File Type window appears (Figure 5-10).

As you can see, the program has already filled in most of the information we need. All we have to do is to find the Sparkle application. Click the Browse button in the Configure File Type window. A standard Macintosh Get File dialog box appears. Navigate to the folder in which you keep Sparkle, select the Sparkle application (Figure 5-11), and click OK.

After you click the OK button, you're returned to the Configure File Type window. Click OK, and you'll go back to the Helpers window. Close the Helpers window. That's it!

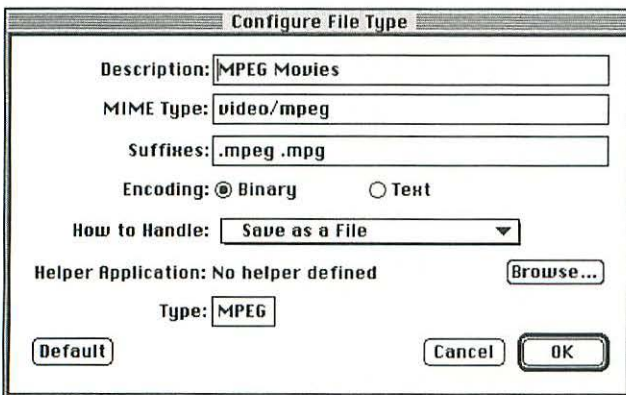


Figure 5-10: Configuring the file type

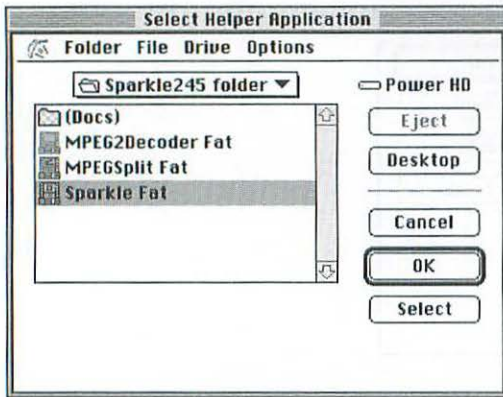


Figure 5-11: Picking the Sparkle application

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# AOL Web

# 6 CHAPTER

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## In This Chapter:

- Getting connected
- Web resources on AOL
- Starting from Home
- Working with hotlists

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You will find that, among old-time hard-core Internet people who had to forge their own SLIP connections and write their own dialing scripts, America Online doesn't get much respect. The reason for this is a virtual summary of its strengths and weaknesses. One reason the old-timers don't like it is actually a strength — you can probably hand a disk and a credit card number to a twelve-year-old and the kid can get connected to AOL. Then again, the fact that it's so easy means that the service has grown like kudzu in a rainy summer in Georgia, so downtimes, blackouts, and glitches are frequent.

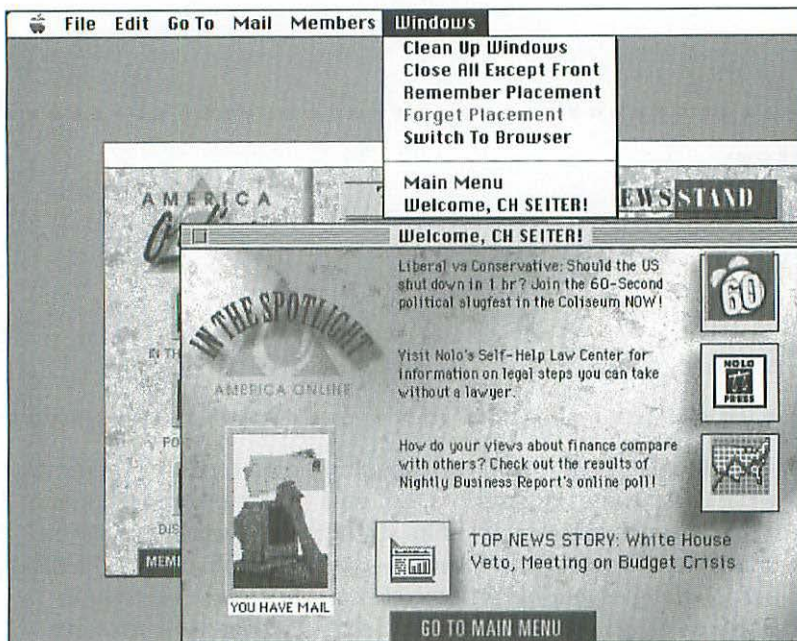
Here's a strength: the Web browser is foolproof. Here's a weakness: the Web browser is simple, simple to the point of being hopelessly feature-deficient compared to, say, Netscape Navigator. On the other hand, you can't really appreciate a full bells-and-whistles browser until you have at least a few weeks of Web experience.

## Getting on the Web Through AOL



First, you need to make sure you have version 2.6 or later of America Online's software. You wouldn't think this warning would be necessary, but there are still millions of copies of version 2.5 (*not* Web-ready) floating around, sometimes bagged in current computer magazines or included in books. When you install the Web browser (it's installed separately from the main chunk of software) you

should be able to pull down the Windows menu and see the options shown in Figure 6-1. If you don't see the Switch to Web choice, you should remove the Web folder from your AOL folder, check your System folder under Preferences for AOL Web-related files and remove them too, and reinstall.



**Figure 6-1:** The AOL browser switch

That's the easiest way to connect — you just pick Switch, and wait awhile as the rather large browser hooks up to one of AOL's proxy servers. What's happening is that you are being connected to an America Online computer that has a direct high-speed connection to the Internet, but you are connected to *that* computer rather than connected to the Internet itself. In practice, it's the same thing, only a bit slower because of the intermediate connection.

Or, you can take the long way home to the AOL home page. From the Main Menu, which is always available (see Figure 6-2), you pick Internet Connection, which in turn leads you to the full selection of Internet options. Notice that besides the things you might expect, such as an ftp and a gopher button on this screen, there's a scrolling list with lots of options that are mostly Web-connected (see Figure 6-3). The list at the right contains folders, which feature other information mostly resident on AOL's own computers, and several little connection icons, which lead out to the Net through AOL's gateway computers.

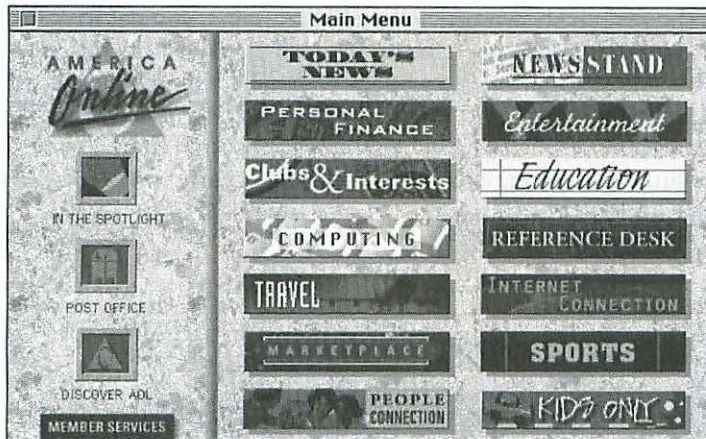


Figure 6-2: Internet from the main AOL menu

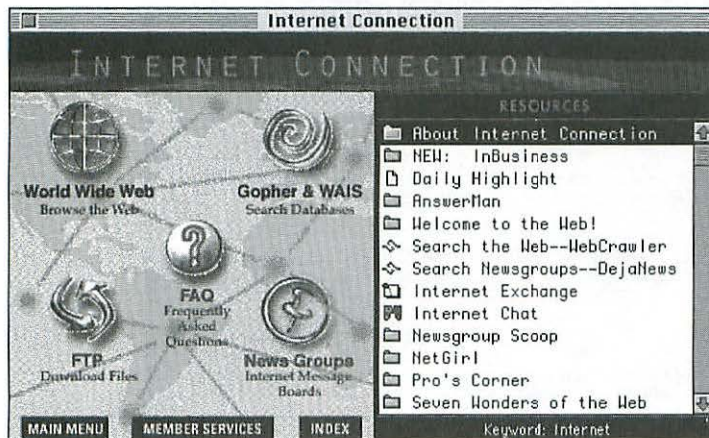


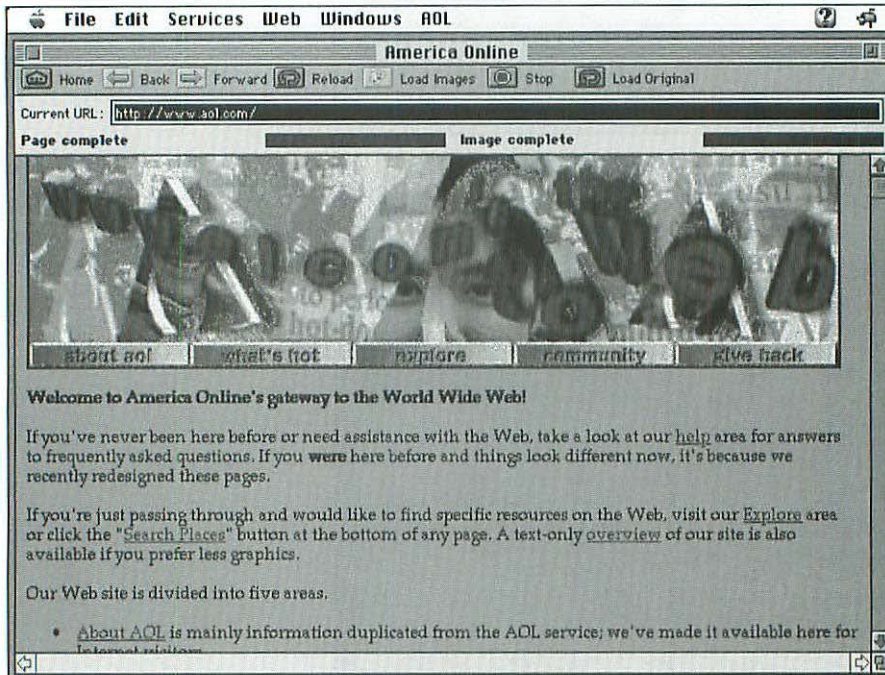
Figure 6-3: Internet Central



Tip

Note that the list has some pretty hot options even at this level. For example, WebCrawler, one of the best keyword searching facilities on the Web (see Chapter 8), just calls for a click of its connect icon in this list. If you like, you can find WebCrawler by going to the America Online home page, clicking Explore, and then scrolling down a long list until you find WebCrawler as an option. But if you want to get a search going in a hurry, this is your best bet.

If you click the Web button in the screen shown previously in Figure 6-3, you get to AOL's colorful and constantly changing home page. Although this page has lots of resources for beginners, and it's an excellent place to begin your own Web education, after you become more experienced you may find that using the Switch to Browser path to the Web is better. Why? Because when you get to the Web through the button on the Internet Connection menu, you automatically get the whole colorful page (see Figure 6-4), with a big banner graphic. At 28.8 Kbps, it's something of a nuisance to download this; at 9600 Kbps it's infuriating.



**Figure 6-4:** The AOL home page

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## Web Resources on AOL

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For beginners, though, the slower approach makes lots of sense. In fact, it will keep you from the dreaded "Best Restaurant in Boston" syndrome. This is an affliction that strikes some Apple employees who go to Boston every August for Macworld Expo. On

their first trip to Boston, they find a charming little restaurant in the North End that they decide is the best in Boston (actually, most Italian restaurants in a real Italian neighborhood are better than the restaurants of the strip malls of Cupertino). They then proceed to go to the same place for a few days every August forever after, not realizing that the dream restaurant is actually a bit below average for the neighborhood. Similarly, unless you spend a little time getting the biggest possible overview of the Web, you're likely to collect a handful of favorite sites and miss the whole glorious rest of the show.

## Web Guide

From the Internet Connection screen you can pick Welcome to the Web, and get yourself with one more click to Web Guide (see Figure 6-5). Just look at this thing! There's an easy-to-follow guide for beginners, a list of fun sites, a top ten list, and the Whole Internet Catalog. And you can access most of this even when AOL's Web gateway is down, since it's carried on AOL's own computers. This is not a trivial consideration, since manufacturing delays in switching and routing equipment often put AOL out of action late at night. The resources here are worth a good several hours.

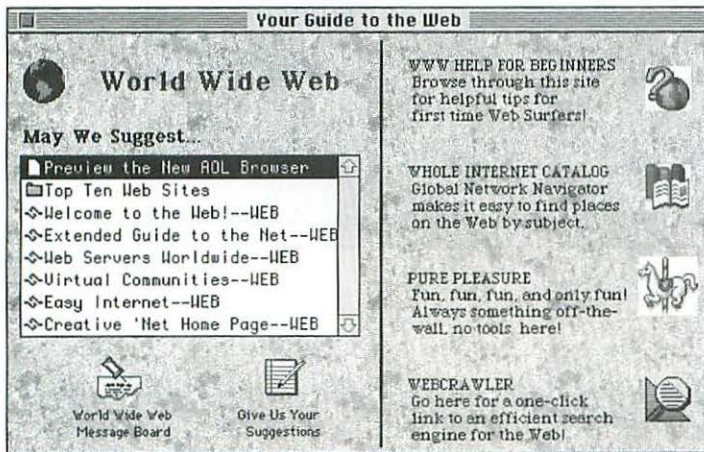
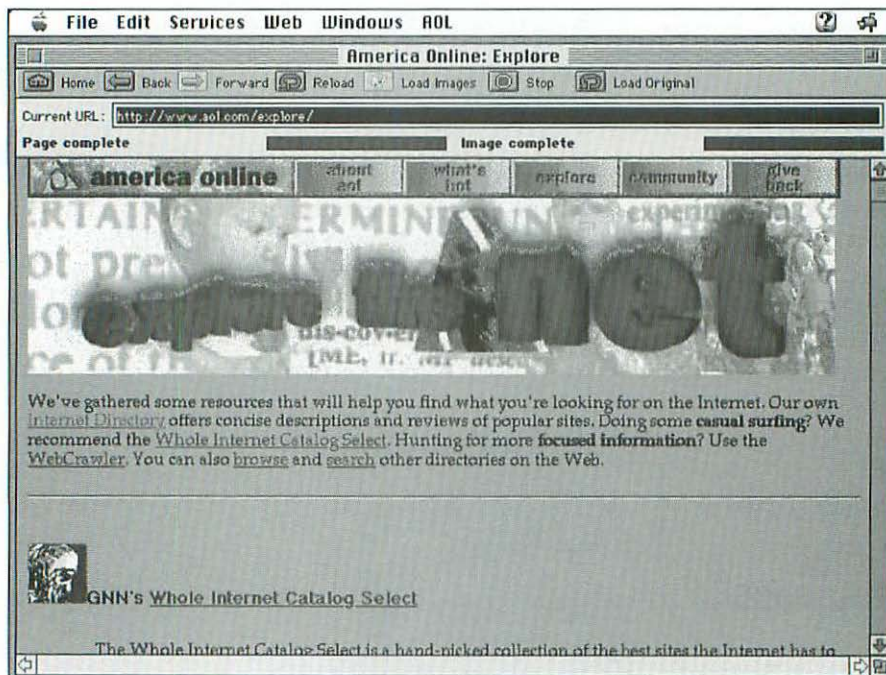


Figure 6-5: AOL's very own Web guide

## Explore

AOL's Explore link (see Figure 6-6), which is one of the first options listed on the home page (where it's also a button on the main home page bar), takes you again to WebCrawler and to the Whole Internet Catalog. It also connects you to the many other indexing and reference services of the Web.



**Figure 6-6:** The Explore page on AOL

For example, if you scroll down this page ([www.aol.com/explore](http://www.aol.com/explore)) you will find links to Yahoo and other quick-searching services. If you want to become a lean, clean Web-searchin' machine, here's how to do it:

1. Go to the Web menu and turn the Always Load Images command off.
2. Go to the [www.aol.com/explore](http://www.aol.com/explore) page and select Add To Main Hot List from the Services menu.
3. Pick this URL from your main hotlist when you sign on. In all-text mode you can scroll down quickly to every popular search service.

## Top Ten

These guys aren't kidding. The Top Ten (see Figure 6-7) can be accessed from the scrolling list in the Internet Connection screen. They change often, and are usually the ten most interesting or useful sites in that week's snapshot of Web activities. It's more useful to point you to this resource than to try to predict in a paper book (six weeks to print and deliver to stores, revised every three months or so) which sites will be exactly the coolest by the time you buy this book and get around to reading it. The serious sites and the fun sites in subsequent chapters will still be there, but every week new sites are added, some of almost embarrassingly colossal coolness. So check here — it will only take a minute.

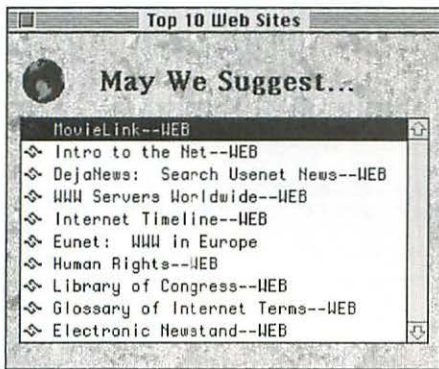


Figure 6-7: A better Top Ten than Letterman's

## Easy Internet

It's easy to get the impression that the Internet is an American phenomenon. But lots of other countries have jumped on the Internet bandwagon with a vengeance. You may think of England, for example, as the Houses of Parliament, tea shops in the Cotswolds, police who don't carry Rambo-style automatic weapons, and other charming anachronisms. England, it happens, is nearly as Web-aware as the United States (Holland, Finland, and Singapore are *more* Web-aware). Easy Internet (see Figure 6-8) is another option from the AOL Web home page, and, as it's produced in England (posted by a leading UK Internet magazine), it's done in a language that bears remarkable similarities to *real* English as spoken in the U.S. Really, it's very good.



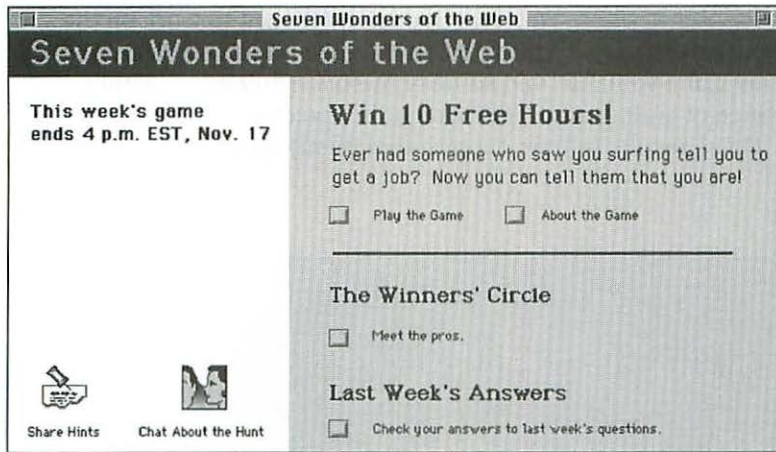
Figure 6-8: Easy Internet — hands across the Atlantic

## Seven Wonders

This is actually a game sponsored by AOL that encourages you to learn how to navigate effectively on the Web (and, perhaps coincidentally, burn up endless billable hours on AOL if you're not particularly good at it). The Seven Wonders of the Web site (see Figure 6-9) has a weekly contest, based on finding specific little bits of information from Web sites — it's a sort of Web treasure hunt. If you just run through it a few times, it's probably a good introduction to searching. I doubt that this is what Dr. Tim Berners-Lee had in mind when he invented HTML, but then porno newsgroups weren't what John Von Neumann had in mind when he programmed the first vacuum-tube computers.

## Dejá News

Also available from AOL's Web home page is the fascinating service Dejá News (see Figure 6-10). It's another brilliant example of the principle "the Web swallows the Net." Just as the Web sites of the world are indexed by a dazzling variety of directory and



**Figure 6-9:** The Seven Wonders search-game site

keyword services, newsgroups — which are in many ways more interesting than individual Web sites — are now indexed by this amazing service. You can specify a topic, and Dejà News will find references among recent Internet USENET newsgroup postings. Then, presumably, you can go into AOL's nicely organized Newsgroup area (shown previously in Figure 6-3) and find out what people have to say on your chosen topics.



**Figure 6-10:** An X-ray for newsgroups

This example (see also Chapter 8, where Web search engines are put to work on the same topic) shows current newsgroup discussions on the topic of asthma (Figure 6-11). Some of the references are quite valuable, and some of them are fluff, but in either case you wouldn't have a chance of finding any of this except in a week-long prowl of the newsgroups of the Net. These results (all two thousand of them) took about four seconds to download.

```

Results of query: asthma

Hits 1 - 30 of 2014:

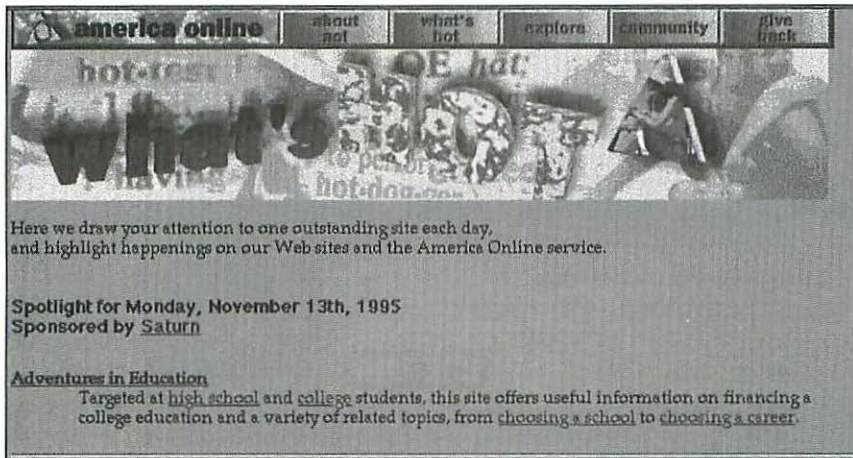
 1. 11/09 026 Re: Yes! I Love Cats And rec.pets.cats jbevingt@etholyoko.e
 2. 11/11 025 Asthma and scuba diving rec.scuba Thunder@internet-eir
 3. 11/11 025 Re: Is asthma a COPD? sci.med Howard McCollier <
 4. 11/10 025 Re: Is asthma a COPD? sci.med kwrc000@mail.cphx.nc
 5. 11/10 025 Re: Beptropine bit.listserv.down-sy LLechin@AOL.COM
 6. 11/10 025 Re: Sorahj2, Kaikhosru ( rec.music.classical haupp@tiab.wad.org (
 7. 11/08 025 Re: Is asthma a COPD? sci.med Richard G. Potts, DG
 8. 11/11 024 Re: Efedrin (Ephedrine H alt.drugs.psychedel1 thack@interport.net
 9. 11/10 024 Re: Hello from Russia ! finet.freenet.kidlin Eastview Community S
10. 11/10 024 geschachtelte Quotes (wa de.rec.sf.perry-rhod haupp@tiab.wad.org (
11. 11/10 024 Re: FR-Lexikon auf CD (R de.rec.sf.perry-rhod haupp@tiab.wad.org (
12. 11/10 024 Re: Aussprache von "Guc de.rec.sf.perry-rhod haupp@tiab.wad.org (
13. 11/10 024 Re: Info about allergies misc.kids.health Anna (Anna@ratbag.de
14. 11/10 024 Re: Top much soap rec.arts.tv.uk.easte the.hunter@ciix.comp
15. 11/10 024 new piper rec.music.makers.bag "Scott W." (PULH037R
16. 11/10 024 Re: Is asthma a COPD? sci.med Toby Lipman (toby@to
17. 11/10 024 Re: Law and cyclists uk.rec.cycling rwards@ciix.compulink
18. 11/09 024 Hurricane Linda blows in bit.listserv.christi Harti.Scheerling@wa
19. 11/08 024 ANHOURCIBB new services sci.med kinnagan@imms.com
20. 11/08 024 Re: Ferrets and Wood Sha rec.pets ZFSJ47@prodigy.com

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Figure 6-11: Messages, messages

## Hot? Cold?

On the Web, the definition of a hot site is one that gets lots of hits per day (that's several *hundred thousand* hits per day in current practice). A cool site is one that *should* get that many hits. AOL has picked sites that are deserving of attention, and it billboards one such site per day (see Figure 6-12). In many cases they are too recently posted to qualify as hot (it takes some time for a site to be widely recognized), but they are in every case worthy of serious attention. AOL's Web What's Hot site — accessible from the home page — is always worth at least a quick look.



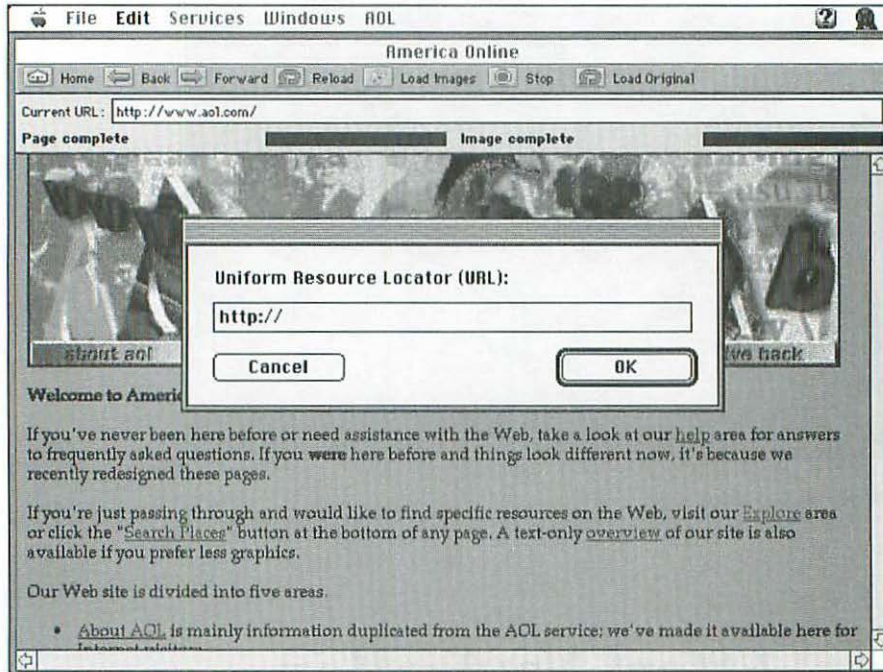
**Figure 6-12:** What's Hot. Usually, it is.

## Minimal-Effort Navigation

The Web, as you know, is a big place. That means, by the definition of informational entropy, that a lot of it is stuff you neither need nor want to see. So you need a way to keep track of the good sites you find. When just cruising at random, you probably don't want to revisit the dud sites.

The simplest instruction for navigating the Web is the humble Go To URL under the Services menu in the AOL browser. When this little bit of action was programmed (by InterCon, under contract to AOL), it certainly would have been a great convenience if the little `http://` part had been built into this dialog box (as in Figure 6-13). Instead, you get to type it in, every wonderful time. If you don't, you get a snotty little dialog box that says that AOL can't access that particular URL. Oh well.

One way to keep track of Web addresses would be to keep a stenographer's notebook near your Mac and list the sites you want to remember, along with a few comments (there's a line right down the middle of the page in this kind of notebook, so it's actually pretty convenient in a pathetically old-fashioned way). But of course there has to be a better way than this, and there is one — one that's marginally better.



**Figure 6-13:** The lowest-level navigational command

It's the *hotlist* (see Figure 6-14), pioneered in the ancestor of all browsers, Mosaic. In the old days (before mid-1995, roughly) a single hotlist would have been good enough. There were perhaps 200 Web sites, so you could pick your favorite 15 and then have easy, immediate access to sites from the hotlist (you pick a hotlist item and it's automatically entered in the Go To URL function, with a command to Go).

As you know, there are many, many more than a few hundred Web sites these days. What you need to do is plan effective use of AOL's New Hot List option under Hot Lists. In fact, it's a sort of be-your-own-mini-Yahoo service (see Figure 6-15). List twelve kinds of Web sites that may be interesting to you — more than twelve starts to get awkward, fewer than twelve usually isn't enough. Use the New Hot List command to get them listed in the Hot Lists menu. Now when you find a site you like, think about where you would like it to go in your own classification scheme and, with the site open, open the appropriate hotlist. The New command in the List window will now let you put the site in the special list rather than the Main Hot List (see Figure 6-16).

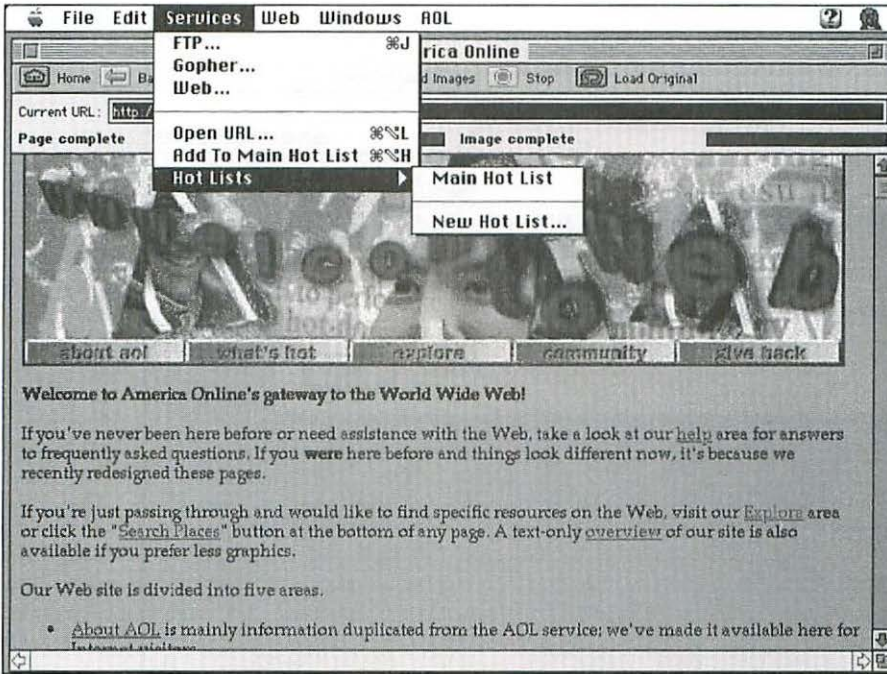
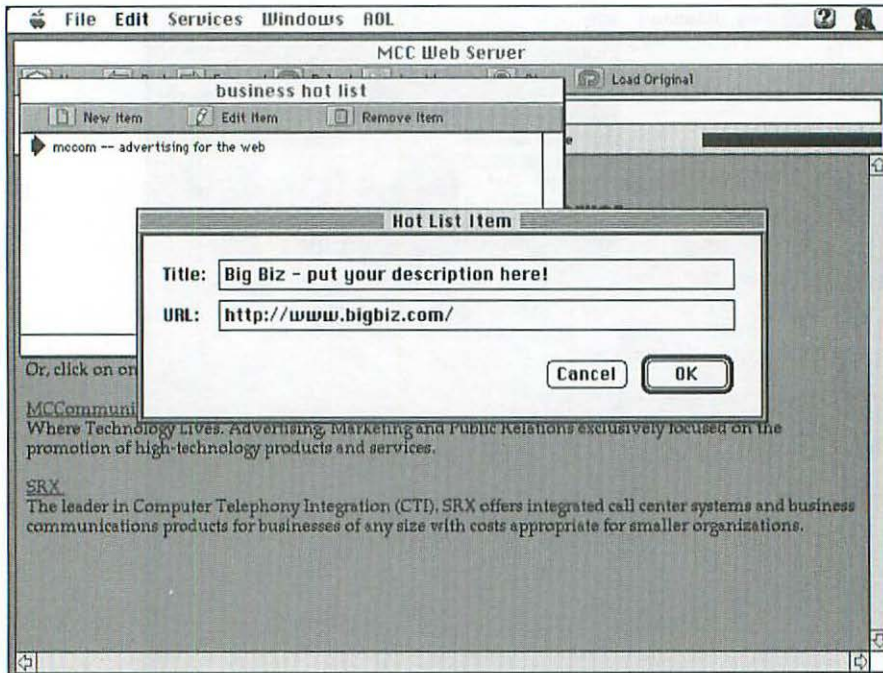


Figure 6-14: Hot Lists on the menu



Figure 6-15: Making more hotlists



**Figure 6-16:** Adding to your own AOL hotlists



When you give the site a title, it can be anything that fits. You might want to consider a very short name followed by whatever brief description will help you remember why you wanted the site. What shows up in the List window is just your own mnemonic title for the site, rather than the URL itself.

There are helper applications in Chapter 5 to help you with list tracking, but you can accomplish a lot with this simple AOL scheme.

A zero-cost, alternative way to do lists is to keep TeachText open when you cruise the Web. You can use the Copy URL command in the Edit menu, and paste relevant URLs into a TeachText list. This lets you use TeachText to create comments as long as you like, and you can then copy URLs from the TeachText document and paste them back into the space in the Go To URL dialog box. This may be necessary if you have lots of favorite sites with confusing names or titles. Again, a complaint: it would have taken someone about one afternoon to build a better list-building function into the AOL browser, and one can only hope AOL will upgrade itself soon.

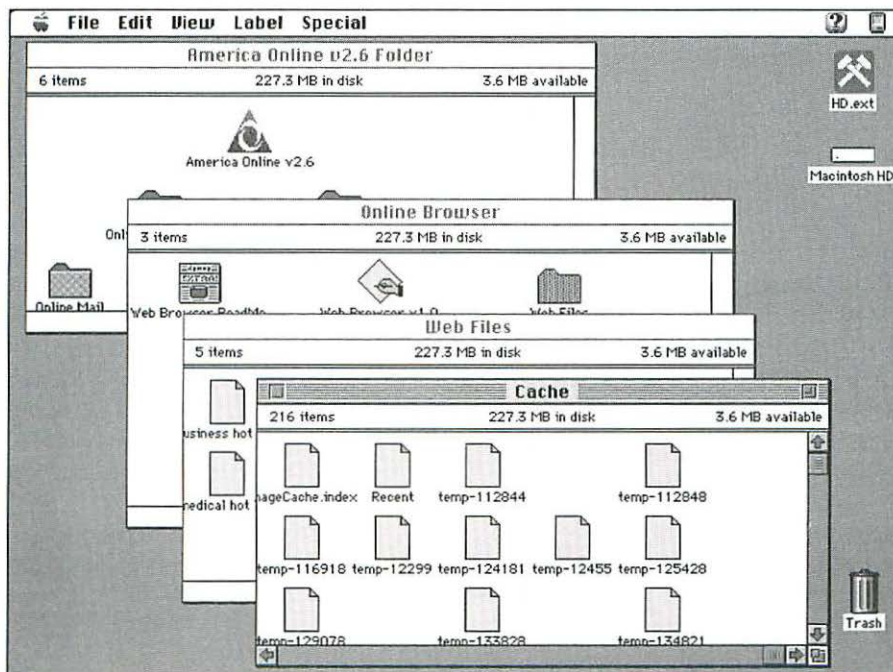
## A Note about the Cache

Suppose you are connected to the Web through Netscape Navigator. You decide you've had enough for one session, and you pick Quit from the File menu. Before it shuts down, Netscape will flash a little screen saying, "Netscape will just take a minute to clean up your cache," or words to that effect. What Netscape is doing is erasing all the temporary files it accumulated during your session, the files that let the program navigate forward and backward through the URLs you have contacted without having to keep reconnecting to those sites. Since you have one file on disk for every URL you contacted, this can amount to hundreds of files for a single one-hour session, if you're a quicker clicker.



Caution

Now, you *don't* see that message when you quit from the AOL browser. That means the temp files are still there. Check out the situation in Figure 6-17. There isn't room enough on the screen to show all the files (about 200) piled up in a few fairly short sessions of browsing around on the Web. Just to be safe, you may want to save the two files at the top (when they're listed by name), called ImageCache.index and Recent. Then dump all the temp files in the Trash. It's not unusual to find thousands and thousands of files in the cache after a few weeks of action on the Web, and you can actually see a slowdown both in Mac startup and in the startup of the Web browser itself. So clean house regularly.



**Figure 6-17:** Cluttering up the AOL Web cache

## A Note about Viruses

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Speaking of cleaning house, it's time to discuss a rather spooky matter. As an experiment, one of us (CS) checked out his system with the antivirus program *Disinfectant*. Then he spent several days online using only America Online; in fact, he used no other applications during that time. At the end of the time, the AOL main program, the Web browser, and six other files had somehow all picked up the same virus.



It's not clear how this is happening, and it's not clear that any of this is AOL's fault. The files in AOL's file collections have all been checked for viruses, and it's not obvious how viruses could be hitching a ride on Web pages, although files downloaded through links on Web pages are generally not checked for viruses and are beyond AOL's control anyway. The only conclusion to draw from this experience is simple: download *Disinfectant* from AOL's wonderful software libraries (it's considered a utility) and run it every few days. Sometime in the future there will undoubtedly be shareware or freeware on-the-fly virus checkers, but until then *Disinfectant* is your best bet.

# eWorld Web

# 7 CHAPTER

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## In This Chapter:

- A friendly place to start
- Help!
- The Web and Apple
- Hotlists revisited

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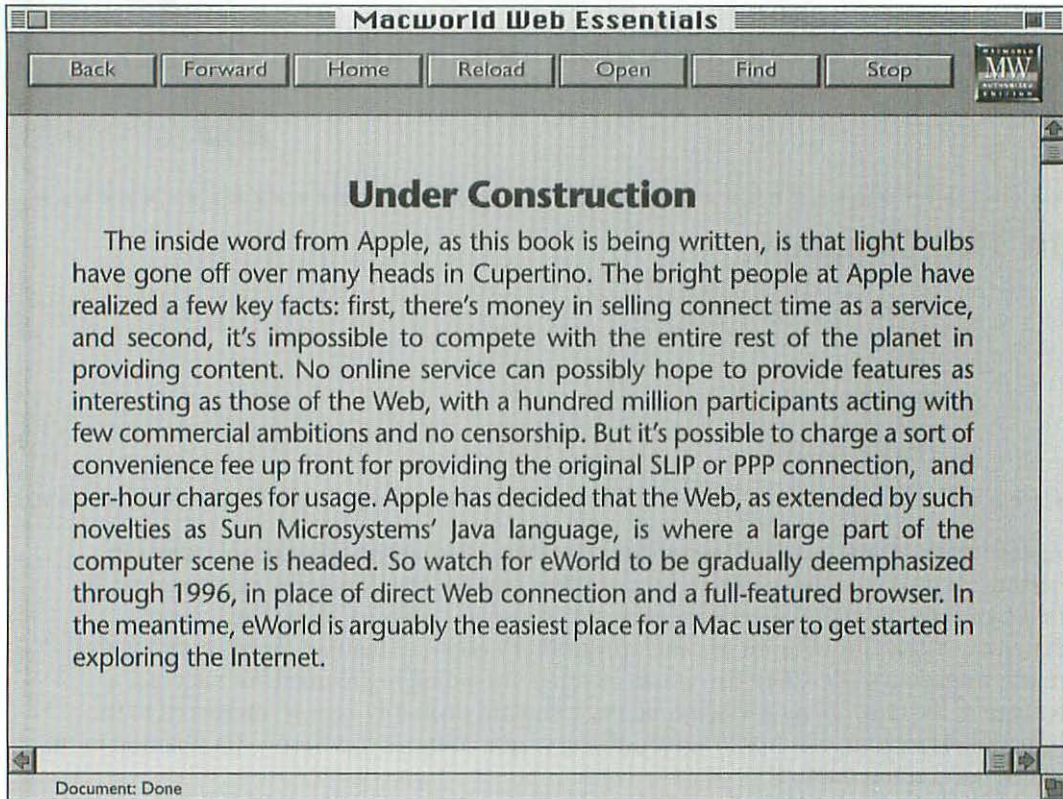
Apple had an unprecedented opportunity to benefit from the mistakes of others in setting up its own online service. More or less true to form for Apple management, it failed to do so. It set up a very friendly online service, eWorld, along the lines of America Online but without as much proprietary content. Instead, Apple could have made single-click access to the whole Internet, including high-speed Web access, a feature of System 7.5. As a Macintosh user, you are probably keenly interested in the question, How long can Apple keep missing major chances to improve its position in the world computing market?

Well, they got the software pretty close to right in the current Web-ready version of eWorld. Although it's nowhere near the commercial smash hit that AOL has become (after all, eWorld doesn't advertise on television), eWorld has better Internet access capabilities, more hand-holding for newcomers, and a better uptime record (Apple *makes* computers, so they have enough servers, at least) than other online services.

## Getting on the Web Through eWorld

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You get eWorld disks from *MacUser* or *Macworld* magazine (about every other month you find the disks poly-bagged with the publication itself) or else call 800-775-4556, eWorld Customer Assistance, for a set of disks. Run the standard Install routine (double-click the Installer icon) you've seen in every other piece of Macintosh software, and you're all set. Also, eWorld provides a written manual that's produced from a purely Macintosh point of view. That's a refreshing perspective, given the use-the-kitchen-entrance treatment Macintosh users get on most online services.

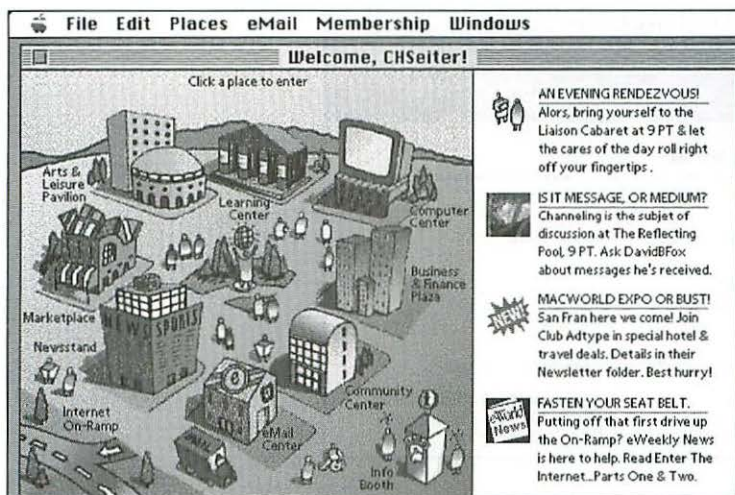


Double-click the eWorld icon, fill in your data in the registration form, and you are delivered forthwith to the screen in Figure 7-1. If you look at the lower left-hand corner, you will see a clearly labeled Internet On-Ramp. Click anywhere in the vicinity of this whimsical bit of freeway, and you are taken to the simplified set of eWorld Internet options (see Figure 7-2). Although this may not look like much, the Web option means you can have anything on the Internet worth having (as well as much that isn't).

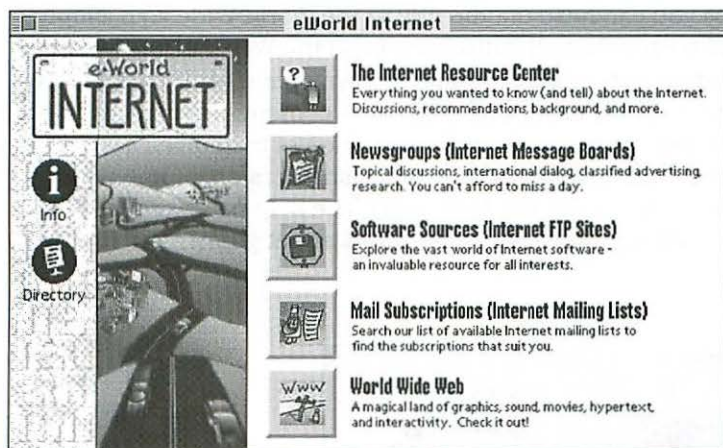
## Help Is On the Way

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When Apple first produced the Macintosh, its designers took a good look at the way people interact with computers and took great pains to make the Mac as easy as possible to use. The assumption was that, even if you are very clever, you were born into the world as a little tiny baby who at one time didn't know what  $\text{⌘-F}$  or Control-Alt-Delete was supposed to mean. That means the computer is not supposed to confront you, in the ideal world Apple envisioned, with the need for keeping a manual open in your lap at all times.



**Figure 7-1:** A friendly little online town



**Figure 7-2:** All the buttons you need

eWorld is organized so that you really never need to consult its excellent documentation at all — you can do your exploring online. (Perhaps this is one of the reasons it took a while for Apple to put together its own online service.) From the eWorld Internet screen, click the Internet Resource Center button (see Figure 7-3) to enter a cozy world of message boards, helpful fellow Internauts, online guides, and an Internet Introduction you can read in just a few minutes.

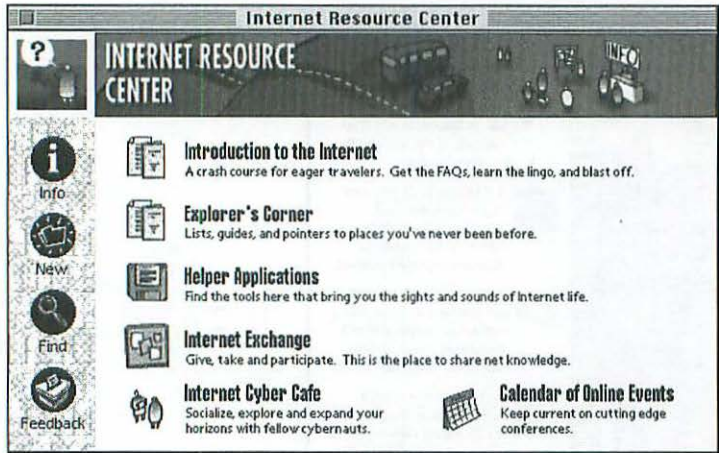


Figure 7-3: Internet Resource Center, the beginner's friend

But the Resource Center is just a detour on your way to the Web. From the eWorld Internet page (see Figure 7-4) you can head out directly to the World Wide Web simply by double-clicking the WWW button. Note the disclaimers on the Web starting-button page — Apple has taken great pains to make sure that its own online content is a pretty cleaned-up act, and the same certainly cannot be said of the content providers of the Web, generally. Also note that this page carries on the tradition of helpfulness, with some quite valid remarks about minimum hardware, and also pages of before-you-set-out-exploring help (that's the question-mark help button). The help pages are quite extensive, assume you know nothing, and answer questions about gopher and ftp services as well (see Figure 7-5).

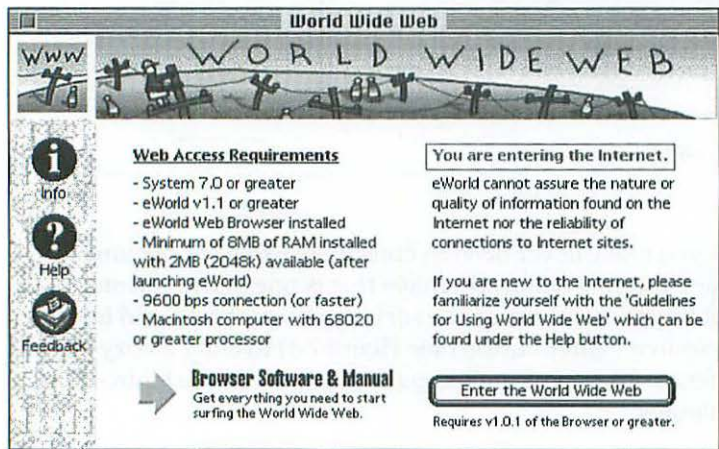
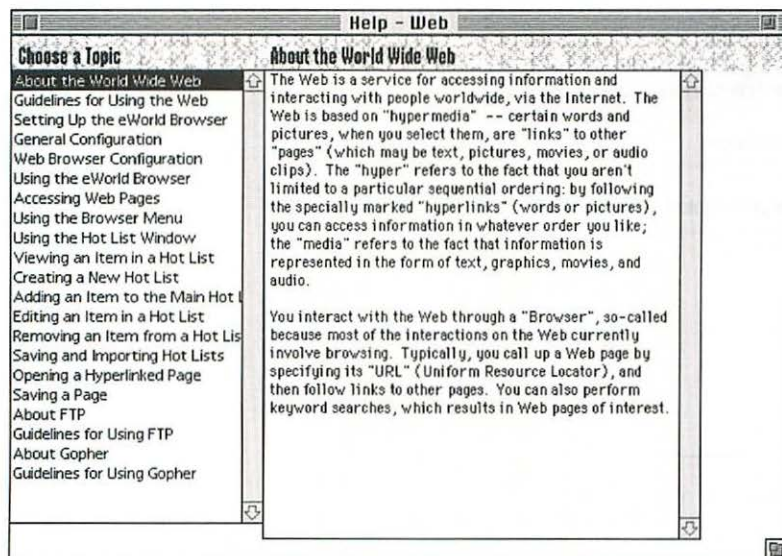


Figure 7-4: eWorld's Web starting point



**Figure 7-5:** High-quality help from Apple

The other point you should check, as long as you are looking at the World Wide Web start page shown previously in Figure 7-4, is the Browser Software & Manual button. Apple put out a whole series of browsers, from a beta version to 1.0.1 to 1.0.2, in a series of a few months in 1995, and expects to post bug fixes, speed improvements, and extensions to accommodate the forms and so forth offered in Netscape Navigator, the browsing standard for new features. If you don't try this button every few months or so (allowing you the rather tedious but at least automatic process of a 15-minute download), you likely won't have the latest and greatest browser (Figure 7-6).

## On the Web

Enough shilly-shallying, it's time to go Webbing. Double-click the Enter the World Wide Web button and you arrive at the glorious eWorld home page, accessible from anywhere else by the URL [www.eworld.com](http://www.eworld.com) (see Figure 7-7). Once again, Apple's determination to see to it that you are never left alone and in tears manifests itself in more helpful stuff. The Web Gazettes, short introductions to Web navigation and sites, are useful reading for beginners (see Figure 7-8). The Web City icon leads you, on the other hand, to a

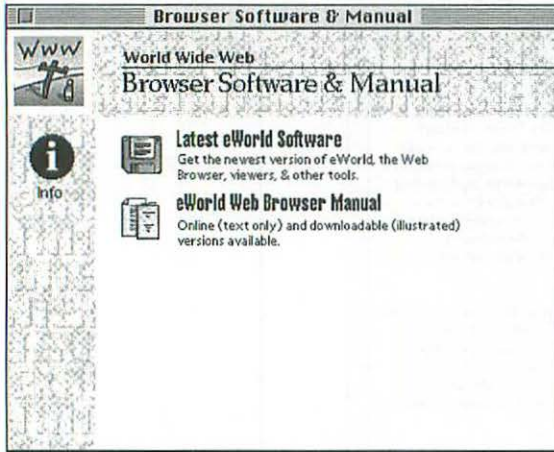


Figure 7-6: Get the latest Browser. You'll need it.

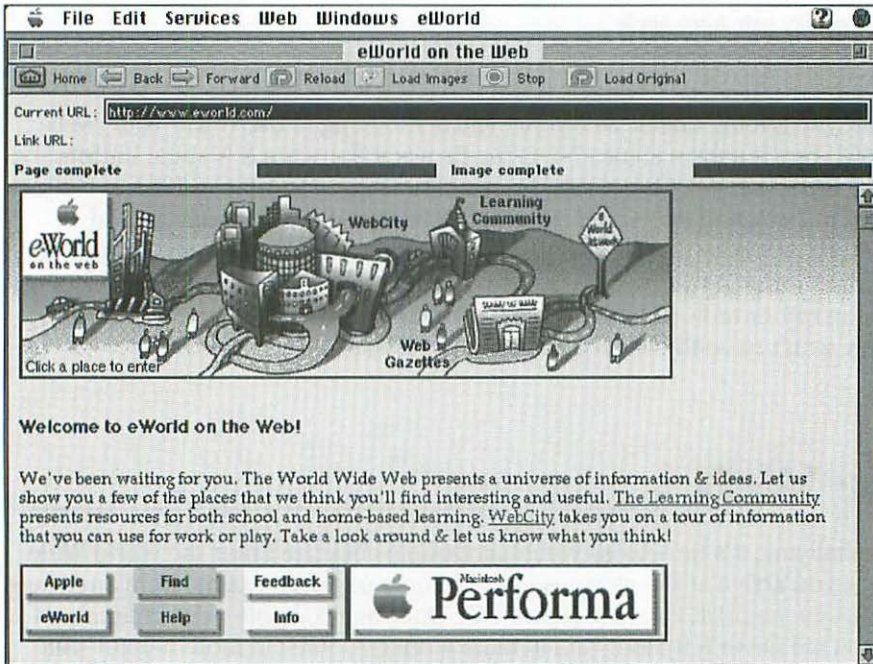


Figure 7-7: www.eworld.com, your home on the Web

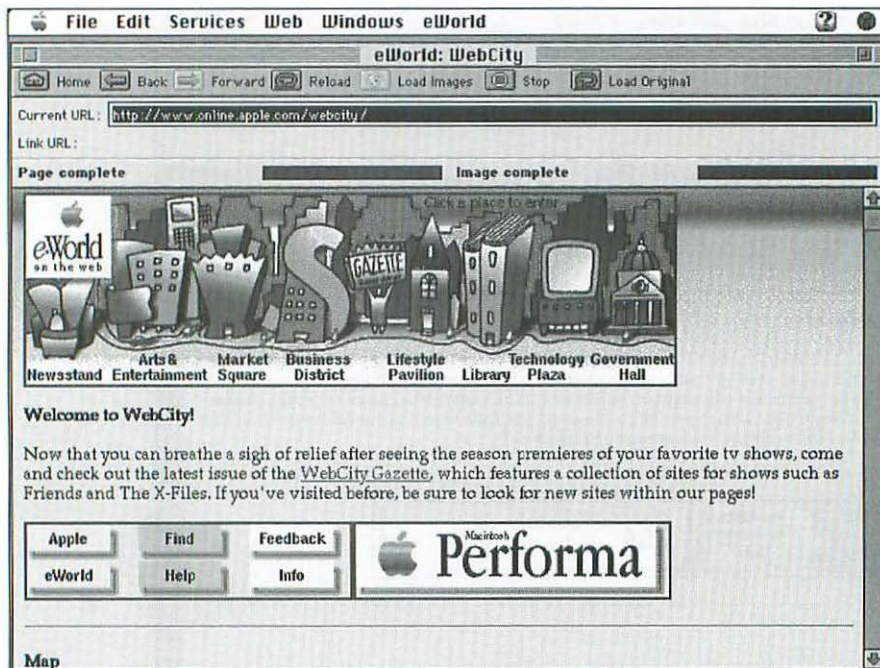


**Figure 7-8:** The Gazettes — read ‘em or weep.

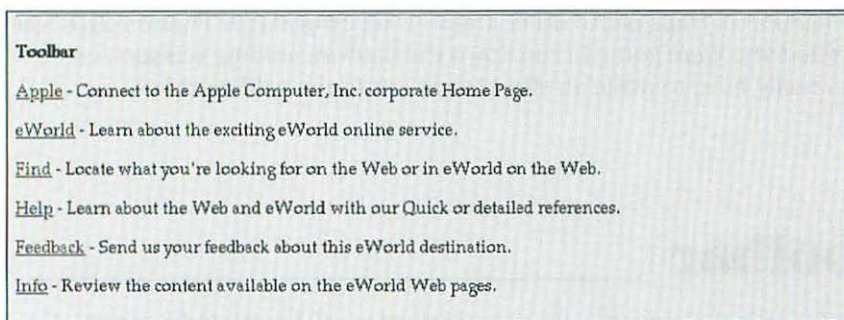
nearly useless collection of trails out to other areas *inside* eWorld (see Figure 7-9). It's as if Apple were worried you were going to run down the hallway holding scissors, or something — you really have to make an effort to get out to the wild world of the Web.

## Web Toolbar

Considering that Apple is the company that popularized menus and windows and toolbars and the rest, it's fairly amazing to see this plain-text list (scroll down a bit on the eWorld home page) referred to as a toolbar (see Figure 7-10). Nonetheless, this collection of links is actually useful.



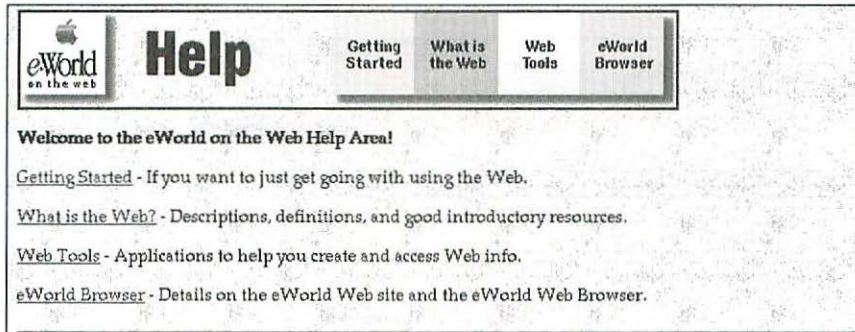
**Figure 7-9:** Web City — a poor substitute for Champaign, Illinois



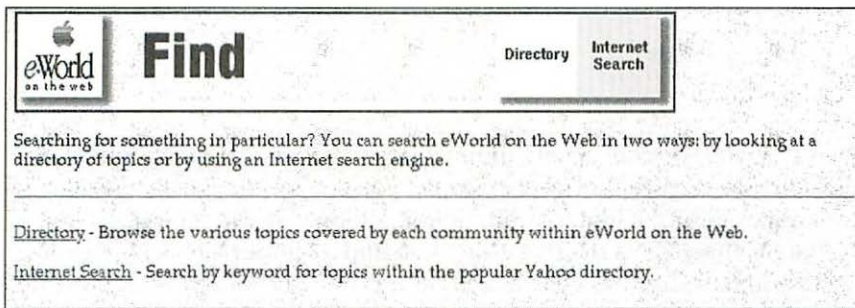
**Figure 7-10:** This is a toolbar?

The Help link is an excellent collection of tips and hints on getting the most out of Apple's somewhat underpowered browser (see Figure 7-11). The Find link, which you might expect would take you to another in-house eWorld Web index, takes you into Yahoo's keyword index. Keyword searching on Yahoo is in fact nowhere near as powerful as Lycos, InfoSeek, or WebCrawler (all of these are [www.\[name of search index\].com](http://www.[name of search index].com) as URLs) — using the Yahoo directory

structure is usually more enlightening. But at least you're out of Apple-land and onto the real Web. When a search here turns up any interesting links, you just click them and you're out surfing on your own, with Apple receding from view on a beach far away. The Find page from eWorld does have, to its credit, better advice on formulating a Yahoo keyword search than you'll find on Yahoo itself (see Figure 7-12).



**Figure 7-11:** Help, at least, really does.

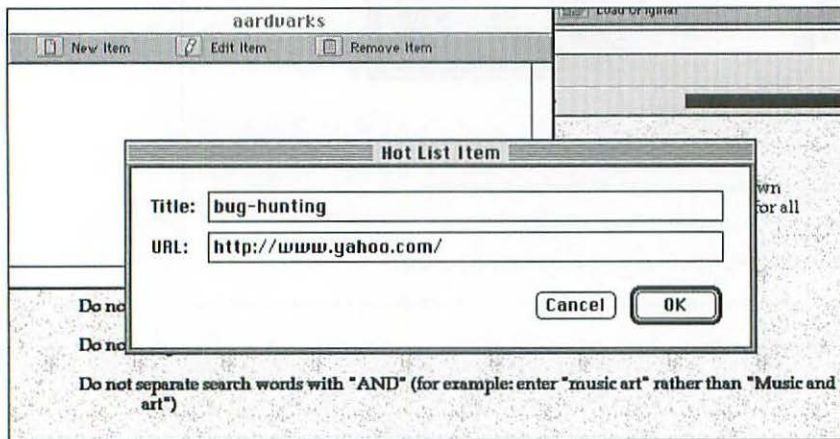


**Figure 7-12:** Find takes you to Yahoo. Not a bad idea.

## Services with a Smile

At ground level, most of the work you do in the eWorld Web browser takes place in the Services menu. The Open URL command, the basic navigation tool, turns up here. Provisions for hotlist management are also here (everything is the same as it is in the America Online browser, for the excellent reason that both services bought their basic software from the same place). You can add your own lists, but they are not treated on

an equal basis with the Main Hot List, in that you have to open the list window and add New Items (see Figure 7-13), and remove them using the little buttons in the list window. The best advice for quick navigation is to make up a bunch of special interest hotlists: antiques, Welsh Corgis, badminton, whatever you like. (Remember, Yahoo itself started as a special hotlist for Sumo wrestling.) Then put the important search sites in your main hotlist, so you can find everything else.



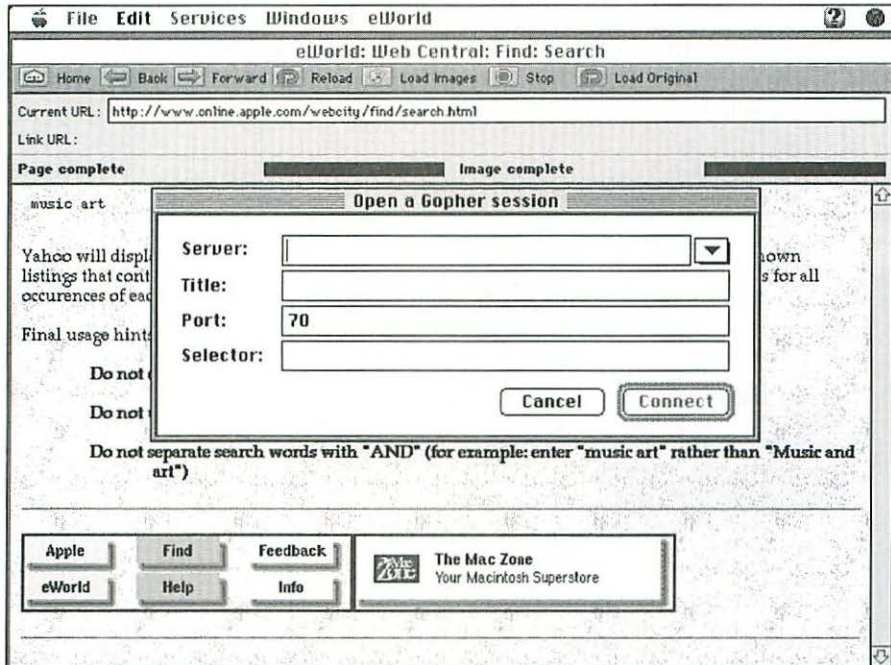
**Figure 7-13:** Making your own hotlists

Some of the “services” in the Services menu, unfortunately, are resolutely unhelpful. If you try the gopher item (see Figure 7-14), for example, you see a classic clueless dialog box in which there are no prompts, hints, or other indications of how you would use such a thing. Fortunately, these days the usual way you find a gopher site is by locating it in a Web link, so all you have to do is click a link, rather than have a server name, title, and selector at your fingertips.

## Back to the Future

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There are several good reasons for considering eWorld, compared with other services. First, everyone connected with eWorld assumes you’ve got a Mac. In fact, they all work for Apple. So you are likely to get better customer support than you get elsewhere. Second, unlike America Online, eWorld has the in-house hardware resources to keep the service running more than 95 percent of the time. And finally, eWorld is the central



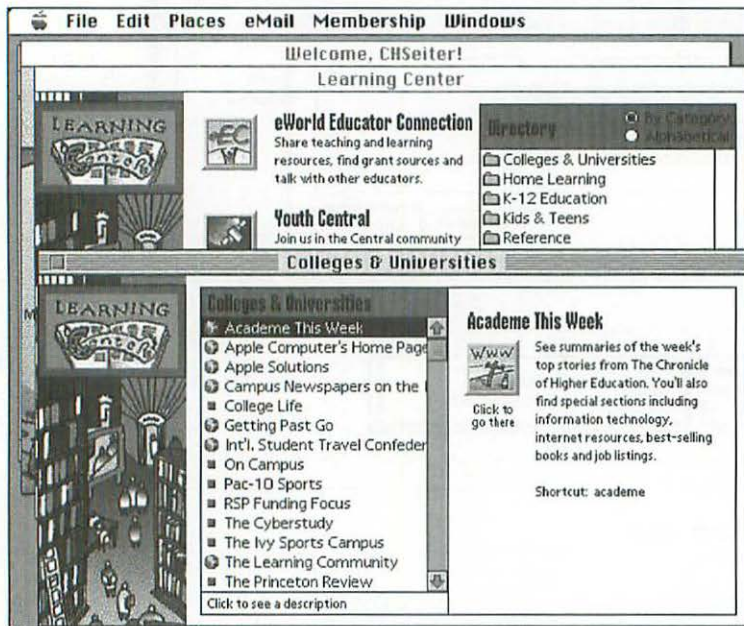
**Figure 7-14:** gopher from eWorld. Huh?

bulletin board about Apple's plans for cyberspace — you get weekly update bulletins about operating system modifications to accommodate TCP/IP protocols, about Apple's connection with Sun for installing the revolutionary programming language Java in its products, about changes in Apple's whole approach to the Internet.

That's why this chapter is relatively short. It's clear that eWorld will be changing all over the place through 1996, and that Web connections will improve beyond the simple browser included in the standard eWorld package. But no one knows *exactly* what will be happening on eWorld, except that it's going to be an interesting ride. All you can do is sign up and hang on.

The first inkling, however, of Apple's ultimate plans can be seen in the features overhaul of late 1995. Now when you click your way into any of the eWorld "buildings" you find an assortment of possible choices, some of which are marked with a square dot and some with a globe (see Figure 7-15). The globe button means it's a World Wide Web site, and when you click it you are automatically connected to the site (well, you have to wait a bit while the software grinds away). Compared to other methods of navigation,

even such simple forms as Yahoo directory browsing, this is slick indeed. You don't need to know anything about the Web at all. The main limitation is that you only get to see the sites that Apple thinks are fit for human consumption, but their judgments in the early days of this service are remarkably good.



**Figure 7-15:** Web sites integrated into eWorld

# Finding It Fast

# 8

CHAPTER

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## In This Chapter:

- Easy searching on Yahoo
- Search by mouse-clicks or keywords?
- Plenty of indexes
- Making Yahoo work faster

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You can find lots of information on the Web just by clicking hypertext links in the index sites Yahoo ([www.yahoo.com](http://www.yahoo.com)) or Galaxy ([galaxy.einet.net](http://galaxy.einet.net)), and there's nothing wrong with surfing around to get yourself oriented.

If you want to find a lot of information in a hurry, however, you'll need to pick the appropriate service. That's what this chapter is about — getting to the available information on the Web about a specific topic as easily as possible. There are dozens of different places to search, and you can save yourself online effort by checking them out here in print before starting an online search.

## Information Overload

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If you stop for a minute and think about what businesses and individuals have to communicate on the Web, you will see that the overall information content of the World Wide Web is going to be quite different from the content in traditional information providers such as libraries. In the reference part of a library, you see the results of centuries of fact-checking, aimed at providing standard reference material that's been organized and screened by experts. On the Web, you see anything that someone wanted to post. There are no guarantees that the Web material is correct, or even useful. Some of it is just advertising, personal or corporate, and you probably have your own set of stories about the expected accuracy of advertising.

But there is plenty of valid reference information on the Web, and in most cases the Yahoo service represents the quickest path to it. In fact, there's so much information that the sheer scope of everything presents a problem in itself. If you do a search over the whole Web on a single vague keyword, you're going to get pointed to zillions of documents (well, actually, the search software will probably only report the first 100 documents at first pass). Under most circumstances, a search that returns hundreds of results — also called *hits* — is almost as useless as a search that turns up nothing at all. And the growth of the Web is only going to aggravate the zillion-hit problem. So designing searches that return a *usable* amount of information is a big priority in Web searching.

## Yahoo Step by Step

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Yahoo is probably the fastest way to get an overview of a topic on the Web, so it's worth taking a close look at its filtering mechanism. In a hierarchical set of choices like Yahoo's (hierarchical just means that the choices are arranged in layers rather than presented all at once), the first layer might contain 15 choices. Then when you pick one of these the next layer might offer 20 choices, and then the third layer might give you a list of 50 choices. This example is in fact very close to the way Yahoo is arranged. By the time you have clicked down three levels in a Yahoo search, you have worked your way past:

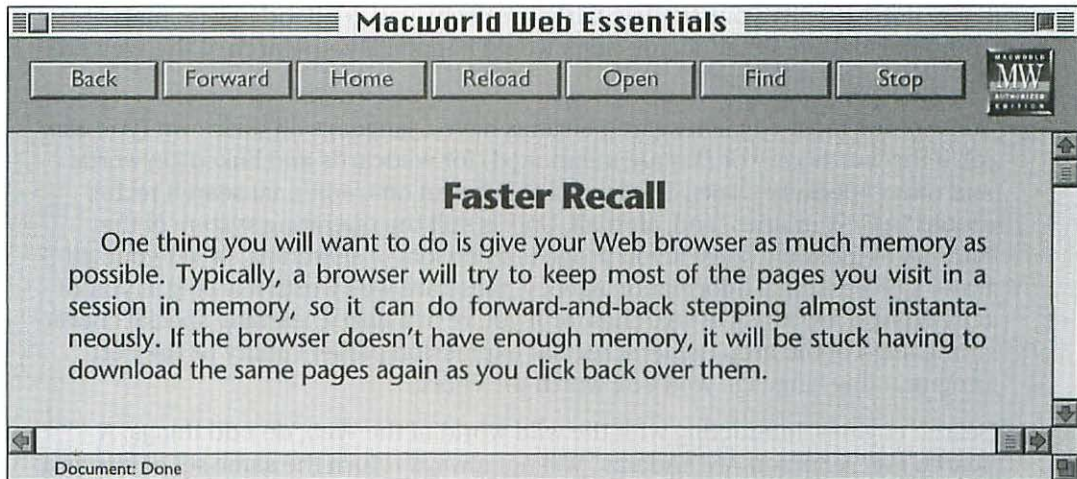
$$\text{choices} = 15 \times 20 \times 50 = 15,000$$

possibilities. If there's an option for a fourth layer of 50 choices after you pick something from layer three, then you have negotiated your way at level four through about a half-million options.



Tip

What happens if you take a wrong turn at one of the forks in the search path? It means you probably won't find the information you wanted. That's exactly why all Web browsers since the earliest days have included icons for both backward and forward navigation. You may have to back up a step, or two steps or three steps, but backing up is not particularly time-consuming. Usually your Web browser will have stored most of the pages on the backward path temporarily on your system, so you can back out of a page a lot faster than you got there in the first place.



Another key point to keep in mind is this:

**You don't know what you really want until you see it.**

Very often, stuff that you turn up in the course of a search turns out to be more interesting than the topic you were investigating when you started. That's one of the great advantages of poking around a page at a time — the rate at which you see information is a rate at which you can actually evaluate it for yourself. You'll see that keyword searches sometimes make it more difficult than manual searches to manage and evaluate information — a search can turn up all sorts of irrelevant pages, and too many of them besides.

## “Machine” Searching

One of the reasons Yahoo has been such a roaring success is that it's a friendly place to look around, leafing through Web pages at your own pace. Nonetheless, Yahoo provides keyword searches with its own search form, and leads you to every other search engine available on the Net.

Some of these other search engines seem very impressive. A search facility called Savvy Search, for example, activates a search across all popular search engines at the same time. One enterprising fellow has put together a Web page that contains links to all other search facilities. But there are some precautions to be taken with any of these:

- If you don't specify your request fairly precisely, you get flooded with junk. Use your imagination. What do you think would happen if you searched the Web on the keyword "computer"?
- Some of the most efficient search engines have a language all their own (you can tell if the words *grep* or *Perl* are mentioned) for wildcards and linked keywords and other specialty tricks. The language is based on traditional search techniques in Unix utilities, and, after all, Unix is still the operating system of the Internet at most big sites. If you propose to do lots of searching, or set yourself up as a professional information agency, these are well worth learning. If you're only doing a few kinds of searches, or if you're in a hurry, learning special codes or the lingo of the *grep* (general regular expression parser) utility or the Perl programming language won't be worth the effort.
- Search engines, interacting with the wild world of the Web, do odd things. A search for "Jefferson AND Adams" will not always return the same set of hits as a search for "Adams AND Jefferson" — some search engines treat the first word in a set as more important than the other words. Nobody tells you that they're doing this, but it explains why engines that give you a score for search relevance are typically the engines with this symmetry problem.

If you're going to use your search results for anything other than mere curiosity, it's a good idea to formulate your query more than one way. Most of the things you may have read in recent years about the glorious advances in artificial intelligence in computer software don't seem to have drifted down to actual application in any current Web search engines.

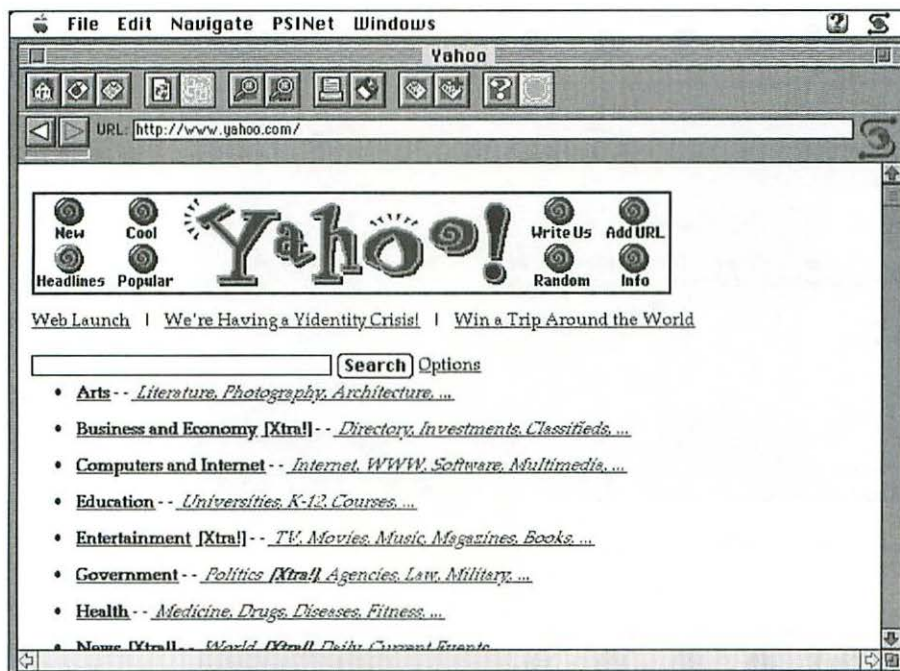
## An Online Search

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To pick one search example that you would imagine to be childishly simple, try the case of finding a map of Washington, D.C.

### One Click at a Time

When you connect to Yahoo, the first thing you see is a screen like that in Figure 8-1. Yahoo does some minor tinkering from time to time, and the numbers in the categories will change, but this screen is the starting point for a topic search. In this example you are looking for that map of Washington, D.C., so it's appropriate to scroll down the list and think a bit about where such a document might be found.



**Figure 8-1:** At home on Yahoo

One of the items on the opening list, near the bottom, is called Regions. This sounds promising — after all, you're probably not going to find maps under Health. Click Regions and you see the screen in Figure 8-2, offering an assortment of geographical choices.

Well, D.C.'s not really a state, exactly, but you might guess that Washington, D.C., will be filed under U.S. States. They have to put it somewhere, and although it may seem like a foreign country when you're lost there, it's more like a U.S. State than anything else. Keep in mind that the people making all the decisions for classification at Yahoo are just like you, except, perhaps, that they get less sleep because they're always at work. But your guesses about the way Yahoo has organized things will be right more often than not.

Click U.S. States and see what happens. There it is, a page of state site listings and also one for Washington, D.C. The obvious choice is to click the D.C. site and see what happens. You guessed it — you get a whole raft of D.C. possibilities. The gang's all there, from the White House to the Smithsonian to dozens of places you may not know. But there's also a site called Area Map (see Figure 8-3). Bingo!

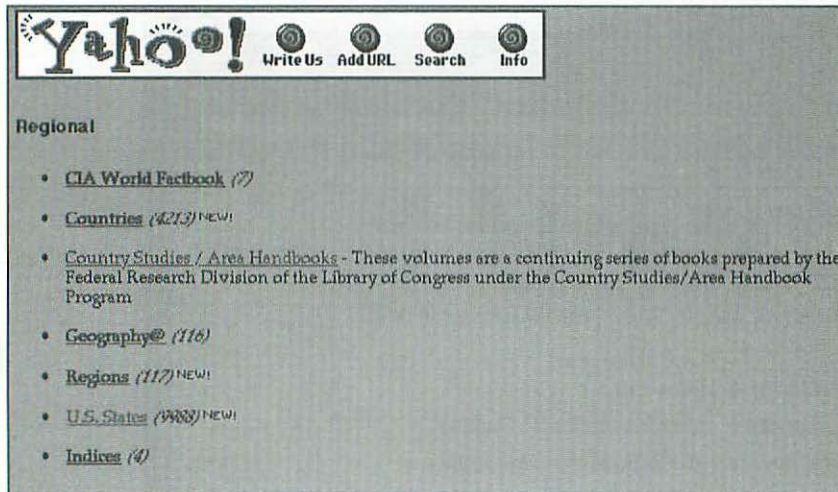


Figure 8-2: Regions of the world

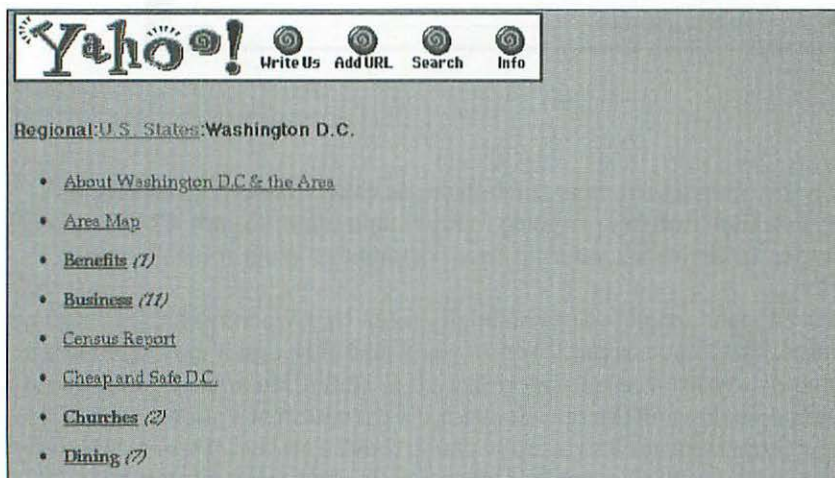
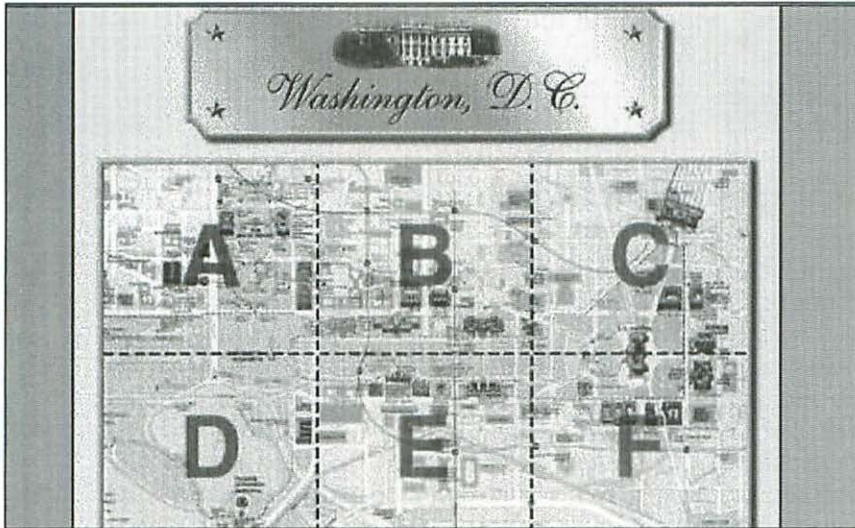


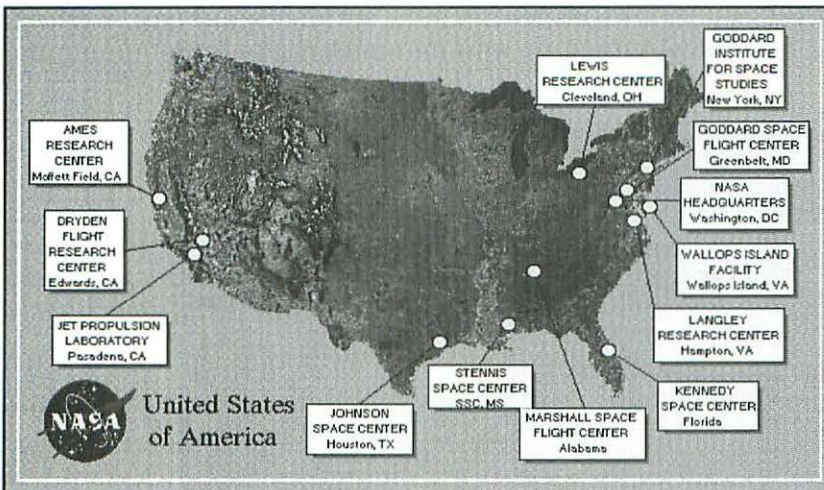
Figure 8-3: Some choices for D.C.

This particular map, as it happens, is fairly low resolution (see Figure 8-4). You can tell that it's Washington, D.C., but you couldn't actually use it if you were trying to negotiate Pennsylvania Avenue in a rent-a-car. The sheer dots-per-inch resolution and size of a \$2.49 map from a gas station will put to shame the picture on your Mac's monitor. Also, a map of D.C. that would let you pick out 501 K Street easily would take an hour to download with a fast modem. This map, at any rate, lets you pick out individual big buildings.

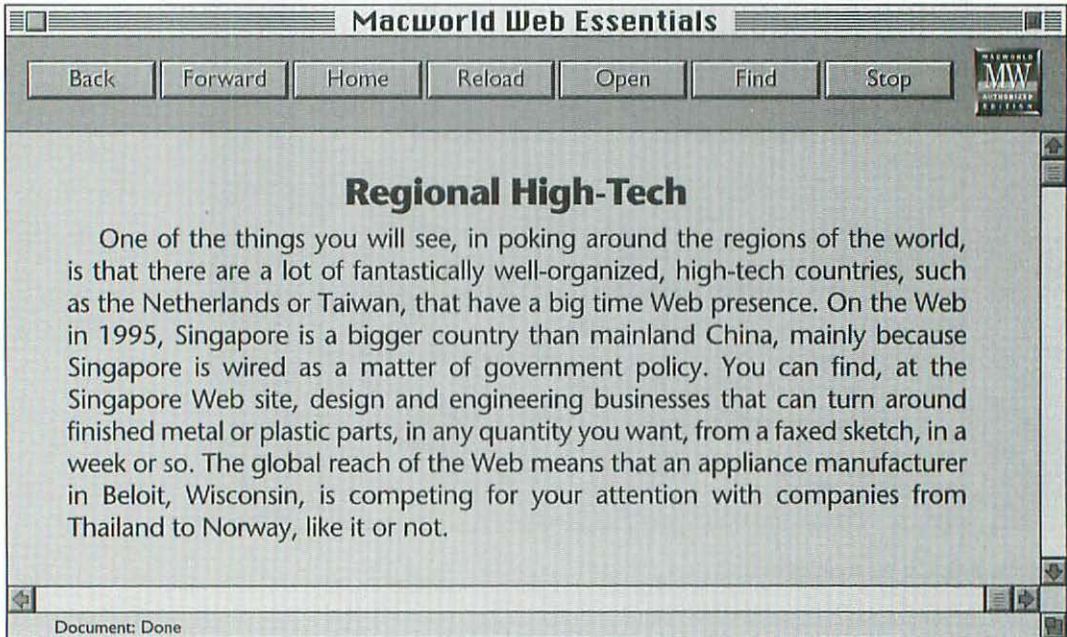


**Figure 8-4:** Capital highlights

Clicking the NASA headquarters building gets you to another map (see Figure 8-5), one more appropriate for the resolution available on today's Web. And all these sites on the map are clickable, leading you into the many mysteries of NASA and its current mission.



**Figure 8-5:** A NASA-eye view of NASA



## Keywords, in Comparison

Finding the map of D.C. took a little bit of intelligent decision-making on your part, and a few clicks. But perhaps it's faster to find things with the standard Yahoo search form (see Figure 8-6). Several options are built into this form, but for now just type "Washington D.C. map" in the space provided and see what the search engine finds.

**Yahoo Search**

Find all matches containing the *keys* (separated by space)

Find matches in  Title  URL  Comments

Case sensitive matching

Find matches that contain

At least one of the *keys* (boolean or)

All *keys* (boolean and)

All *keys* as a single string

Consider *keys* to be

Substrings

Complete words

Limit the number of matches to

[ Lycos | WebCrawler | EInet.Galaxy | AllWeb | CUSI Search Engines | More... ]

**Figure 8-6:** Keyword D.C.

Type **Washington D.C. map**, click the Search button, and then wait a few seconds for results. What happens?

In early 1996, almost *nothing* happens, although this may change. The search reports that it found no matches. How could it miss the Washington, D.C., map that you found just by clicking through a few lists? The answer is that the contents of all Web index sites are registered in a database that may or may not have the exact keyword you expect.



Tip

In the original version of Yahoo (and Galaxy, for that matter), a keyword search looks at the URL, the title, and the comments on a Web page. If your keywords are buried somewhere in the text contents of the page, it won't find them. Right now there's a plan to index all the text in the Web pages covered by Yahoo, just as some other services (Lycos, for example) use a program that indexes everything on a page. There are times when you may want as much data as you get from an indexed-everything search (for example, you are just fishing around and don't know exactly what you need), and there are times when you'd rather have less (you already have a narrow focus).

## Researching a Topic \_\_\_\_\_

To see Web research in action, it helps to have a fancier search goal than just a map. Using asthma as a search topic should turn up a goodly amount of information; medical data is a huge area of the Web, as both companies and nonprofit organizations are keenly interested in providing high-quality information.

### A Few Clicks Away

The Yahoo home page at [www.yahoo.com](http://www.yahoo.com) gives you a nice, manageable set of choices, one of which is Health. Right near the top of the selections on the Health page you will find a choice called Diseases and Conditions (see Figure 8-7). Sounds like a reasonable place to look, doesn't it?

So, you click Diseases and Conditions, and you get to the Diseases and Conditions page (see Figure 8-8). Look down the list, and you find Asthma almost immediately. Notice that (at least in early 1996) there are only a few pages indexed by Yahoo for asthma. You might guess that there must be hundreds of Web documents that mention asthma in some way. And you would be right.

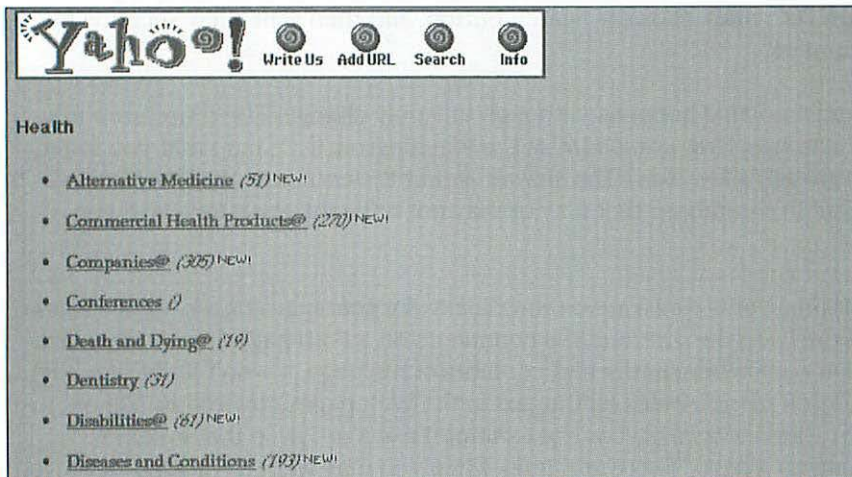


Figure 8-7: The Yahoo health world

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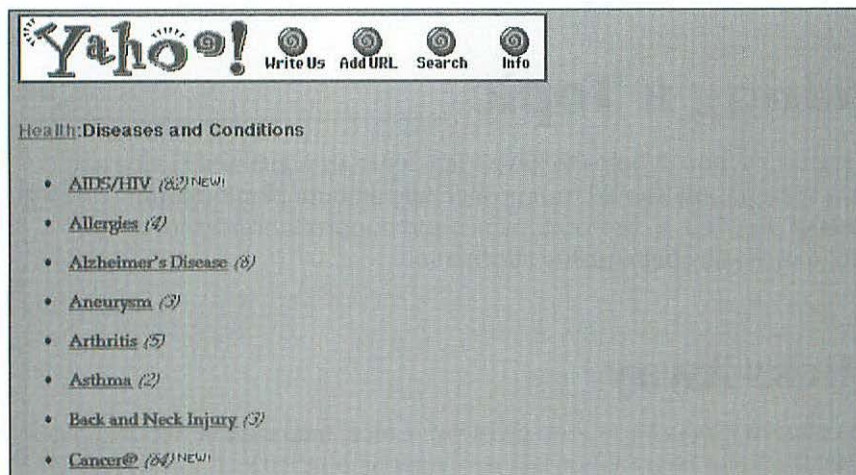
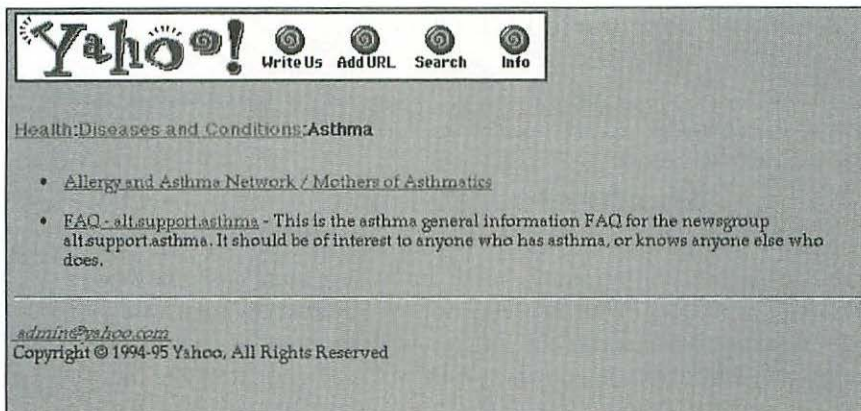


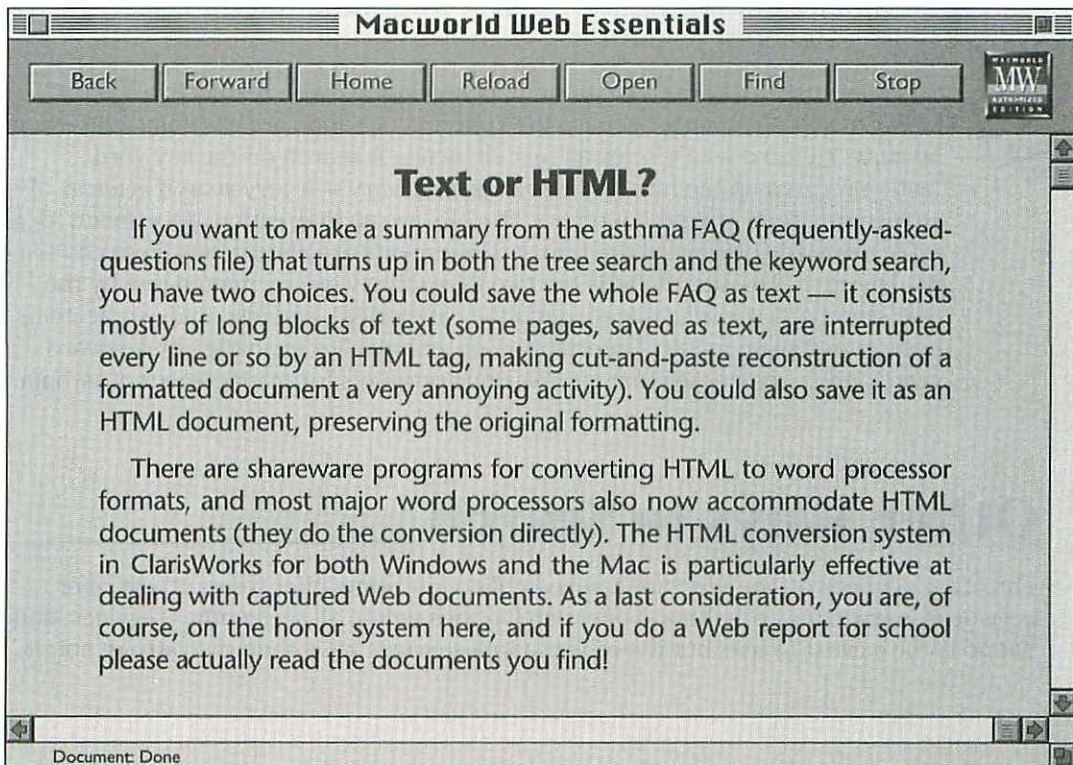
Figure 8-8: The Diseases and Conditions page

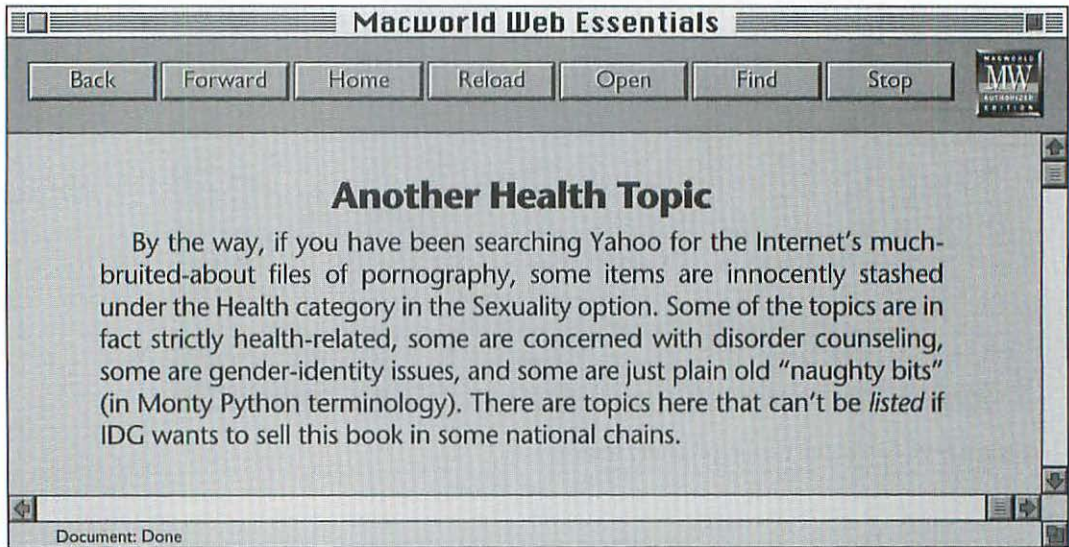
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But it happens that the Yahoo staff does a lot of information filtering, and the two sites presented here are essentially the most useful references on asthma currently available (see Figure 8-9).



**Figure 8-9:** Two of the best asthma-info sources





You don't usually have to be afraid of being flooded with results in a Yahoo keyword search, mainly because the contents of Yahoo are carefully edited and because Yahoo doesn't index all text elements. A search on the keyword "asthma" turns up ten hits (your mileage may vary — every search is a sort of snapshot-in-time of Web contents). The hits are an interesting assortment; for a topic this straightforward the title and comments are almost certain to contain the keyword. The search finds the two items that were recovered just by the tree search (that is, clicking through the categories), and also finds some items besides just plain medical information on asthma. For example, the keyword search finds businesses that offer various products for management of asthma.

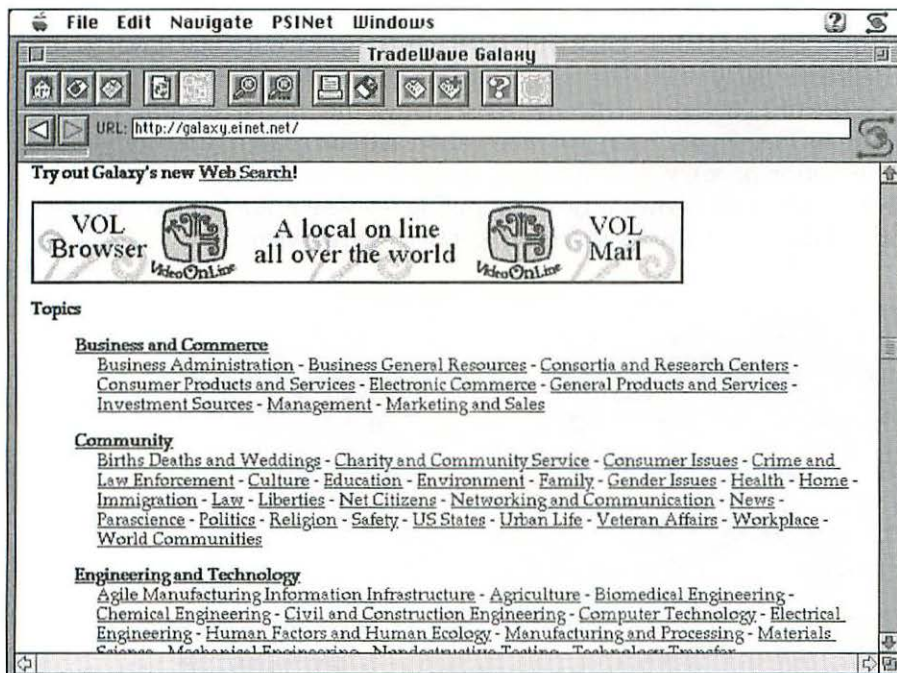
## Other Ways to Search

The other services on the Web are a mixed collection: some offer trees, others offer keywords, a few offer both. Yahoo offers an Options link to all these other services, and Yahoo is the easiest to use, but the other search services have their own strong points.

## Galaxy

Galaxy, located at [www.einet.net](http://www.einet.net), was one of the first index services to offer a tree-directory search through the Web. This service is also the home of the software products WinWeb and MacWeb, which are both fast, compact Web browsers available free at this site. The Galaxy style is quite a bit different from the Yahoo style, in that it usually presents you with more choices per page (see Figure 8-10). Taking the case of asthma as a search topic again, you face the question, Which one of these looks like a likely place for the next step of the search? Human Biology? Medical Specialties? It isn't actually quite as clear here as in Yahoo, where at least you can guess that asthma is likely to be classified as a Disease or Condition. Looking at this page, you can see that it's a terrifically efficient way to find information on scuba diving or military law, but on some topics things are a bit less clear.

You can poke around in these categories, or try a keyword search on Galaxy's entries. The search option (see Figure 8-11) lets you choose titles (Galaxy pages) or content (Galaxy entries) as a search basis.



**Figure 8-10:** Trying to find asthma

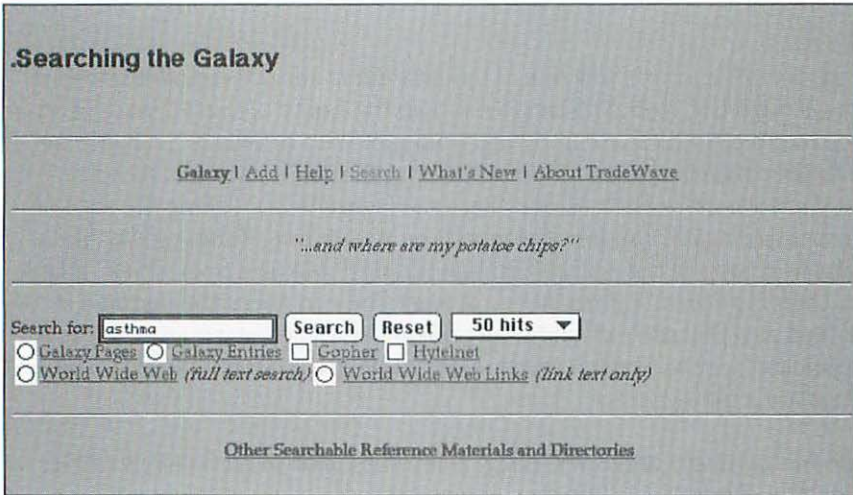


Figure 8-11: A Galaxy keyword search for asthma

This search returns a list of Galaxy links with relevancy scores from 1,000 down to zero that indicate degree of likely relevance (see Figure 8-12). If you click the link Community Health, with a score of 1,000, and scroll down past many other unrelated topics, you'll find one of the items (see Figure 8-13) from the Yahoo asthma search (the Mothers of Asthmatics information page). With a little more effort, you can find the Asthma FAQ page, too. Every service has its own way of computing relevance, and you will find that very often you will disagree with the score you get from the service.

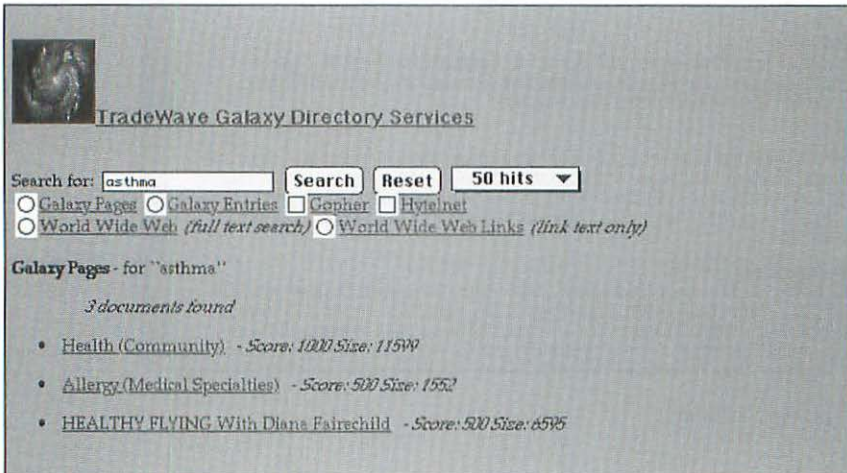
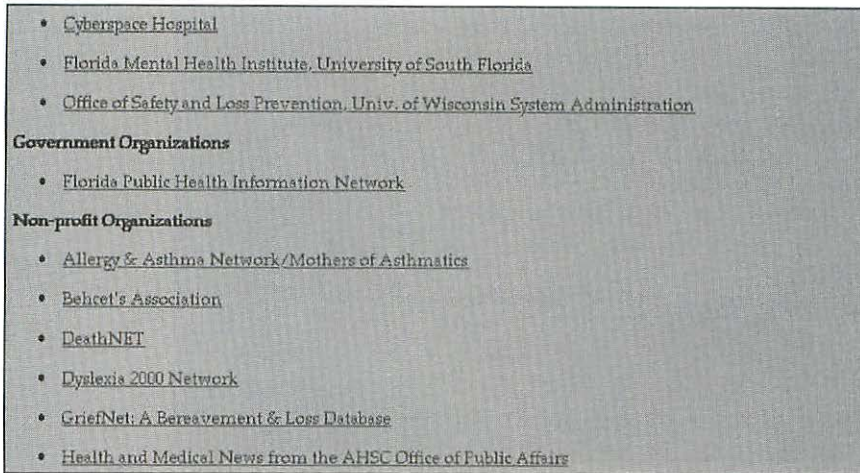


Figure 8-12: Galaxy rates asthma sites.



**Figure 8-13:** Community health means many things.



Tip

The problem here is not that Galaxy doesn't have lots of interesting material (it certainly does), but that it's better for surfing or random exploration than for quick, pointed searches. Somehow, plowing through titles for mental health institutes and DeathNET to look for asthma information almost seems to defeat the purpose of indexing.

## Lycos

Lycos claims to be the biggest search engine on the Web. No matter how many sites any other service has indexed, Lycos claims more, and its indexing proceeds automatically (computers at Lycos churn away using an indexing program). No matter how many hits you find in a keyword search elsewhere, Lycos says it can top them. Lycos is maintained by the computer science department at Carnegie Mellon University (see Figure 8-14), and like WebCrawler is an automated operation.

If you're interested in the archaic maritime culture of the shores of Labrador and Maine, or want to look up references to maximum-entropy signal processing in nuclear magnetic resonance spectroscopy, or wonder if texts in Etruscan are available somewhere on the Web, you'll often find Lycos your most valuable resource. It indexes every scrap of every Web site, and by the time you read this it will have more than one million URLs on tap.

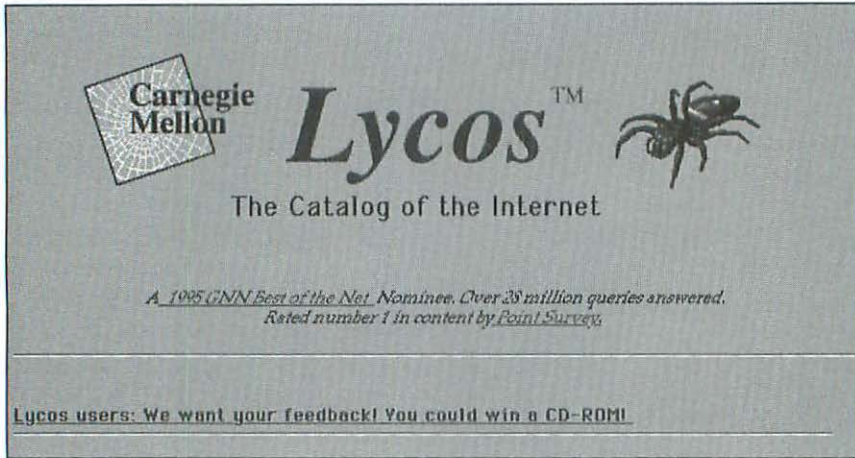


Figure 8-14: Lycos at CMU ([www.lycos.com](http://www.lycos.com))

On popular topics you will often find more material than you can use, but as a resource for specialty topics, Lycos is fantastic. As an illustration of this, in the now-familiar asthma search you will find (see Figure 8-15) a total of 394 hits. Lycos returns the 85 hits with scores of 0.010 or better (here 1.000 is a perfect score, rather than 1,000) and also gives you a set of scored-for-relevance links to a variety of sites that represent variations on the original keyword.

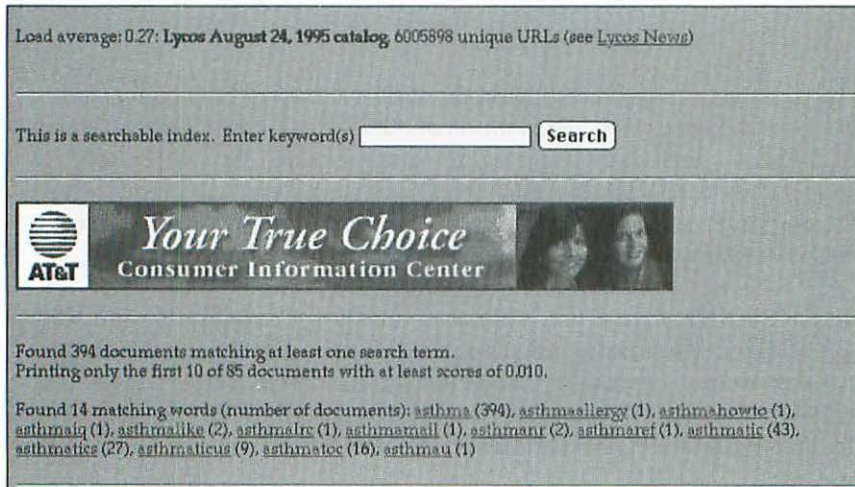


Figure 8-15: Almost 400 asthma sites

## WebCrawler

WebCrawler (<http://www.webcrawler.com>) is a formidable keyword search engine, and it can access giant amounts of indexed data on the Web. The indexing is done by a program (like the program at the Lycos site) that searches out URLs and their contents, and because of the scope of WebCrawler's activities the starting WebCrawler page gives you a pop-up box for limiting the number of hits it returns. If this feature weren't built in, you could pick an injudicious set of keywords and find yourself in the middle of an all-night download at 14.4 Kbps.

A WebCrawler search will find almost 200 asthma hits, of which 25 are presented (the default for a small search was left at 25 hits). Curiously, none of the hits at the top of this first batch finds the meticulously maintained FAQ site at CalTech that Yahoo finds. Typically, the relevance scores start dropping like a stone after the first few — and it's something of a puzzle how some right-on-the-money asthma information sites rank lower than 200 in the scores returned. The 1,000-score site, for example, is a valuable reference but not an obvious 1,000 compared to some others. The computer algorithm that ranks the sites at least works away in the background, day and night, but often produces conclusions that may not match what a human looking at the same material would find. The Web is a place of many mysteries, and is likely to continue as such for a while.

Despite these apparent inconsistencies, WebCrawler is an excellent place to see if there's anything you missed in a Yahoo search. And you almost certainly will miss a few things, partly because Yahoo has screened some of the material that has been automatically indexed elsewhere.

## Inktomi

Inktomi is the latest automated-indexing keyword searcher (<http://inktom.berkeley.edu>), and it uses a unique parallel-processing computing scheme that its developers say is the fastest system on the Web. They also claim that, in an honest count that only includes directly indexed URLs, Inktomi is bigger than any of its competitors. It's a little early in the game to test these claims, but you should check out this site, if only to see where the developers found the unusual name.

## CUSI


This option (see Figure 8-16) is actually a big collection of index sites maintained by Nexor in the United Kingdom. It encompasses almost every Web index and, in fact, leads back to Yahoo. Some of the sites represented here are among the earliest Web pioneers at indexing, which *could* mean they have lots of great stuff, but in practice

tends to mean that they are old-fashioned, clunky, Unix-oriented sites with lackadaisical maintenance at a university somewhere. CUSI is mirrored all over the globe — the people at Nexor encourage you to find a site near you (see Figure 8-17), which minimizes traffic to a certain extent, but in fact you might have better results picking a site where it's 3 o'clock in the morning.

- The United States
  - [CUSI at Quarterdeck](#)
  - [CUSI at Northwestern University](#)
  - [CUSI at Tennessee CommerceNet](#)
  - [CUSI at Ulysses Telemedia](#)
  - [CUSI at FenTeleData, Inc](#)
  - [CUSI at the California Environmental Technology Center](#)
  - [SUSI at where.com](#)
  - [CUSI-like service at Information.Com](#)
  - [CUSI at Europa Communications](#)
  - [CUSI and the Internet Wizard at Spy](#)
  - [CUSI at SuperNet](#)
  - [CUSI at the Salk Institute for Biological Studies in California.](#)

**Figure 8-16:** Nexor in the UK, and CUSI

---

 W3 Catalog

Please enter a search word/pattern or provide a [Perl regular expression](#):

NB: Searches are case-insensitive.

Result of search for "asthma":

No matching entries found.

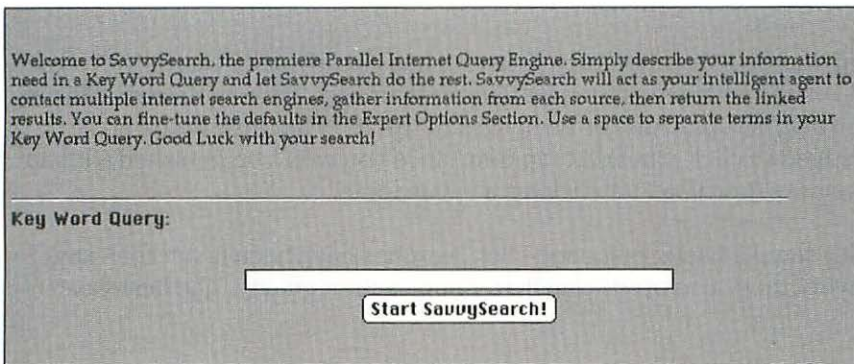
**Figure 8-17:** Pick a local CUSI.

---

You will probably find some resources with CUSI that you won't find elsewhere, but most of these have to do with academic research databases. Amazingly, a search on the simple keyword "asthma" for this book turned up exactly nothing, indicating that the indexing engines are getting a little behind in their labors. If you strike out elsewhere, you can always check here for the sake of completeness, but it probably won't be your first choice.

## SavvySearch

Savvy searches every popular keyword-searching engine on the Web, running in parallel (see Figure 8-18). If you haven't found anything after a good long look elsewhere, this might be your best bet. You should be warned in advance, however, that a vague search on this service (that is, a search on a single general keyword like "disease" or "network") will take a very long time and produce giant piles of useless or marginally useful information. This is the right service for really challenging topics (Thai names for tropical fish, for example), but it's the equivalent of a 200-mile-long drift net in ocean fishing — you'll take in lots of stuff, but most of it won't be edible.



Welcome to SavvySearch, the premiere Parallel Internet Query Engine. Simply describe your information need in a Key Word Query and let SavvySearch do the rest. SavvySearch will act as your intelligent agent to contact multiple internet search engines, gather information from each source, then return the linked results. You can fine-tune the defaults in the Expert Options Section. Use a space to separate terms in your Key Word Query. Good Luck with your search!

Key Word Query:

Start SavvySearch!

**Figure 8-18:** A Savvy search

## Harvest

Harvest is one of the few really new services on the Web, an integrated tool set for developing indexes of Web information. It's offered to developers by the computer science department at the University of Colorado at Boulder. CU has lots of relevant experience for this task, having maintained the "Internet white pages" service called Netfind for years. They plan to offer a consistent interface for commercial services, directories, and special-purpose information collections. Right now a number of useful services are organized with Harvest software; the AT&T 800-number directory is a standout.

Harvest is worth checking every few weeks or so during the next few years, since Harvest's role as a directory of directories will make it a resource for some specialist sites that might get overlooked by Yahoo. The main thrust of Harvest is helping developers of sites with their indexing, but the Harvest site itself shows off some excellent examples.

## Getting the Most from Yahoo

The original Internet searching tools required quite a bit of planning for effective use. They were designed in an Internet world where most users were connected at universities, were looking mostly for text-based information, and were familiar with the search protocols of Unix tools. The main search optimization techniques involved formulation of searches like:

```
Roosevelt AND President ANDNOT Theodore
```

so that you could extract only information about the President named Franklin Roosevelt.

Yahoo is different. Yahoo's tree directory structure has already been carefully designed to yield very fast results with almost no planning on your part. When you click a link in the directory, you get back only one or two pages of results. That means you are positively encouraged to click around at random, since you won't be punished with an unstoppable 20-minute download for clicking a vague topic.

In timed tests with sample users, point-and-click searches have been faster than keyword searches every time, also producing better information quality. The best-case advice is:

- Spend 10 or 15 minutes just clicking your way through a Yahoo tree.
- Then try one or two keyword searches on WebCrawler to see if anything was missed.
- Look back over the pages you found in Yahoo. Just for completeness, try a few more keyword pairs on Lycos using terms from the Yahoo pages.

As the Web grows, developers will likely develop hybrid search styles. For example, it would be very efficient to be able to click down several levels in a Yahoo directory and then do a keyword search only on pages below the current level. In other words, you would navigate to a point at which 99 percent of the Web has been excluded, and keyword-search the rest. In a 10-million-URL Web, such search styles may be absolutely necessary.

# Fun Web Sites

# 9 CHAPTER

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## In This Chapter:

- Informational sites
- Recreational sites
- Cool Macintosh sites
- Sites that are just plain fun

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In the next two chapters, we're going to try to give you an idea of the incredible variety of interesting places on the Web. Of course, because the Web is so huge (and growing every second) we can't do more than hint at the cool sites out there.

After you've been on the Web for a while, you'll build up your own list of favorite sites, mostly by adding them to your bookmarks (bookmarks is the name Netscape uses; other browsers refer to them as hotlists) as you come across a cool page. The picks here are intended to help you get your own bookmarks started.

Because of the hyperlinked nature of the Web, where you can bounce all over the planet with just a few clicks of your mouse, it's amazingly easy to find pages. You'll also find out how easy it is to be able to find a page just once, then never be able to find it again. That's the problem that bookmarks are meant to solve. Get into the habit early in your Web career of bookmarking early and often. You'll generate a huge list of bookmarks, which you'll someday get around to cleaning up, but you'll be able to get back to some of those interesting pages you saw in your first few days of Web surfing.



Tip

Incidentally, organizing your bookmarks can be a daunting task. Netscape and Mosaic add your bookmarks to a menu, and all too soon you'll find yourself with a Bookmarks menu that seems to scroll forever. What you'll want to do is organize your bookmarks by category. Netscape 2.0 introduced a much improved Bookmark editor, but there's also a program code-named Clay Basket, by Dave Winer, that does an even better job. Plus, Clay Basket will help you build and organize your own website. Check it out at <http://www.hotwired.com/userland/>.

## Informational Sites

Serious (and not-so-serious) readers, these Web pages are for you. You'll find an incredibly rich and diverse array of information just by browsing these few sites.

### Time-Warner Pathfinder

<http://www.pathfinder.com>

This is the Time-Warner megasite (Figure 9-1), with connections to that company's whole empire of magazines, from *Time*, to *People*, to *Money*, to *Sports Illustrated*. There are also many links to media sites from other companies and organizations. This site just keeps growing and adding new stuff, and it deserves a place on your Bookmarks menu. They've recently started posting up-to-date news in the *Time* area, and feature stories are starting to appear online that expand on the paper magazines' coverage. The only drawback is that it tends to be chock-full o' graphics, so people with slower modems may find it a tad sluggish.

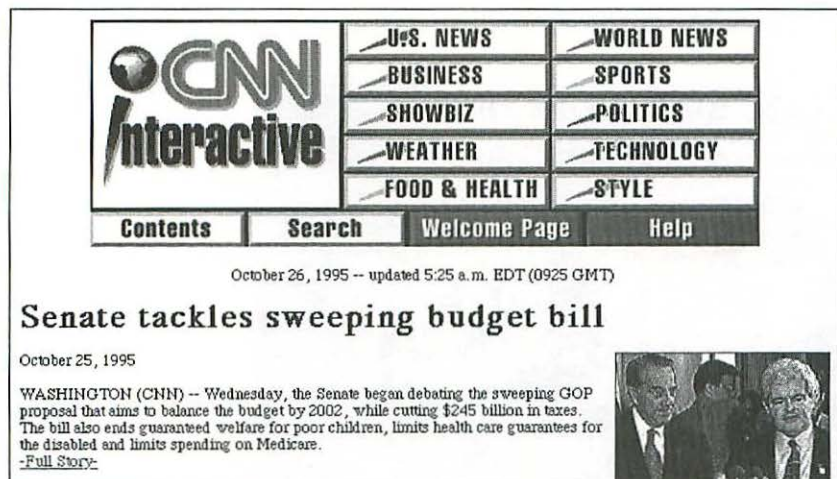
Figure 9-1: Time-Warner Pathfinder

### CNN Interactive

<http://www.cnn.com/>

The Cable News Network gets onto the Internet in a big way. This site (Figure 9-2) has only been around a few months, but it's already one of the better news sources available on the Web. Late-breaking news shows up here almost as quickly as it does on

television. They also have schedules for their regular shows, as well as analysis of news stories and politics, and there's even a virtual tour of the CNN studios. Make sure you bookmark this one.



**Figure 9-2:** CNN Interactive home page

## The Nando Times

<http://www2.nando.net/nt/nando.cgi>

Presented by the *North Carolina News and Observer*, this is one of the best sites run by a newspaper. It's updated several times per day, and it is nicely laid out into sections such as World, Nation, Politics, Infotech, Business, and more.

## Regarding Sex – Ask the Expert: Kim Martyn

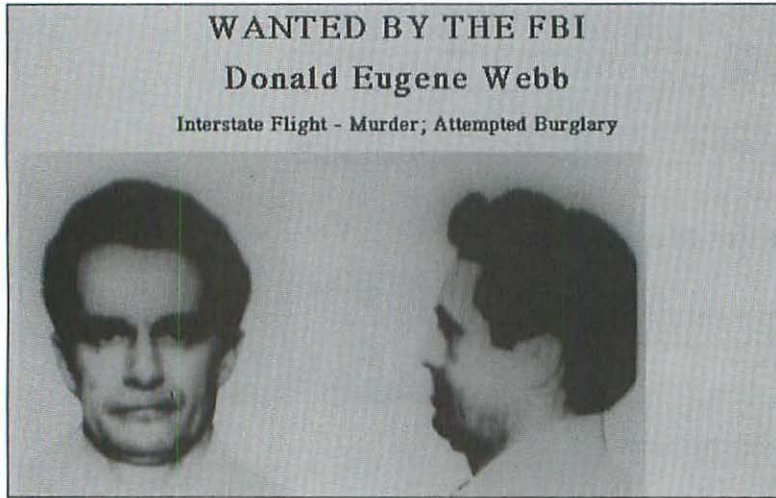
<http://www.interlog.com/~peer/ate.html>

Sexual health expert Kim Martyn candidly answers questions about human sexuality and relationships. Most questions are pretty much what you'd expect, but some odd ones get by; Ms. Martyn recently assured one reader that his sex fantasies about Amazon cannibal women were just fine. Mmm-mmm, good.

## The FBI's Current "Ten Most Wanted Fugitives"

<http://www.fbi.gov/toplist.htm>

Okay, so everyone wants their own home page on the Web (Figure 9-3). But don't you think these guys have gone a bit far to get theirs?



**Figure 9-3:** Don't try to catch this guy yourself; he's one of the Ten Most Wanted.

## INTELLiCast Home Page

<http://www.intellicast.com/>

This site (Figure 9-4) has weather, ski, and ocean conditions from around the world. It's great for those times when you just have to know the temperature in Nairobi or if it's raining in Beijing. Clearly, online weather is essential for those net.geeks who would rather find out the weather on their computer than stick their heads outside to look.

## AT&T 800 Directory

<http://att.net/dir800>

Reach out and touch those 800 numbers with this online directory. You can search by category of business, or by key text. The latter search matches the string of text you enter, and finds all possible matches, so if you search for "computer," you'll get Apple Computer, Compaq Computer, Joe's Computer Repair, and about a zillion other hits.



**Figure 9-4:** What's the weather? Find out via Intellicast.



Tip

Whenever you're using a search engine on the Web, you should always try to enter search terms that are as close to what you're looking for as possible, in order to limit the number of inappropriate responses. It's not very useful to get a bunch of information on dog grooming when you were really looking for stories about rescue dogs in the Yukon.

## United States Postal Service

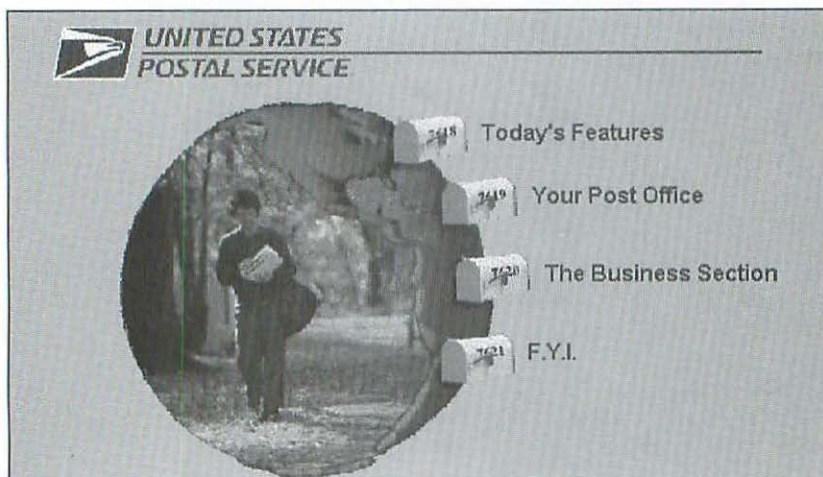
<http://www.usps.gov/>

No, you can't find out what happened to that letter to your Aunt Rosie, but you can find out the 9-digit Zip codes for anyplace in the country (Figure 9-5). And for stamp collectors, there are pages with listings of all the current commemorative stamp sets.



Tip

By the way, you can track your FedEx and UPS packages on the Web these days; use the URLs (<http://www.fedex.com/>) and (<http://www.ups.com/tracking/tracking.html>), respectively. These sites are hooked directly into the shipping companies' computerized tracking systems, so it's just as fast to check via the Web as it is to call their 800 number. Assuming that your computer is already turned on and you're hooked up to the Net, that is.



**Figure 9-5:** Mail call!

## **pobox.com**

<http://www.pobox.com/p3/>

The pobox people (they make a point of saying that it's pronounced "poe bocks dot com") provide a very cool service: they'll give you a stable Internet address for life. This solves a problem that a lot of people have, to wit: if they change their Internet service provider (ISP), they normally have to tell all of their friends that they've changed their email address, which can be a big hassle. If you sign up with pobox, they'll give you an address, such as joe@pobox.com. Here's the cool part: mail sent to that pobox address gets automatically forwarded to your real Internet address, no matter where it may be. If you change your ISP, just tell pobox, and they'll start forwarding your mail to the new address. But your friends keep using the pobox.com address with no interruption, and no hassle.



**Tip**

Some people just beginning to use the Internet will be dismayed to find out that just like the real world, the Net isn't an ideal egalitarian place. Sorry. Many longterm users of the Internet regard some of the latest arrivals with a mixture of disdain and horror, especially those they consider to be the brash, clueless newbies accessing the Net from big online services like America Online and Prodigy. Deserved or not, this prejudice can reach some silly heights; I've seen some Web sites that refuse access to all users from aol.com. Using pobox.com or a like service can replace your aol.com or compuserve.com e-mail address with a "cooler" Internet address.

## Project Gutenberg Home Page

<http://jg.cso.uiuc.edu/PG/welcome.html>

Project Gutenberg is perhaps the oldest, and certainly the largest, of the many efforts to put public domain books and literature on the Internet. Now publishing 16 new electronic texts every month, the project's goal is to have 10,000 titles available by the year 2001. You can download any of these titles from this site.

## The On-line Books Page

<http://www.cs.cmu.edu/Web/books.html>

Thousands of books are available in their full text on the Internet, and this page points you to them (Figure 9-6). Full searching capabilities and good pointers to other book resources make this site an indispensable resource.

### The On-line Books Page

Look here for an index of hundreds of on-line books, and for common repositories of on-line books and other documents. Please [write to spok+books@cs.cmu.edu](mailto:spok+books@cs.cmu.edu) to suggest new material, or better sources for the material below.

**Note: the maintainer of this page will be off the Net from October 23-November 13.**

For more book-related links, see the [Internet Book Information Center](#) at Sunsite. See also [reference works](#), [bibliographies](#), [journals](#), [on-line catalogs](#), and [electronic libraries](#).

**Special exhibit:** [Banned Books On-Line](#)

Exhibit in preparation: [A Celebration of Women Writers](#)

### Index of On-Line Books

Our local index includes more than 950 English works in various formats that meet [these criteria](#). All should be free for personal, noncommercial use. You can:

- Search by [author](#) or by [title](#).
- Browse by [author](#) or by [title](#).
- Browse [new book listings](#).
- Browse a mostly complete [subject listing](#).

See also [Books in progress or requested](#).

Another index is [Alex](#). It has shorter texts as well as full-length books, but hasn't been updated for a while. For

**Figure 9-6:** Find most of the English-text books on the Web here.

## The Great Books of Western Civilization

<http://roger.vet.uga.edu/~lnoles/grtbks.html>

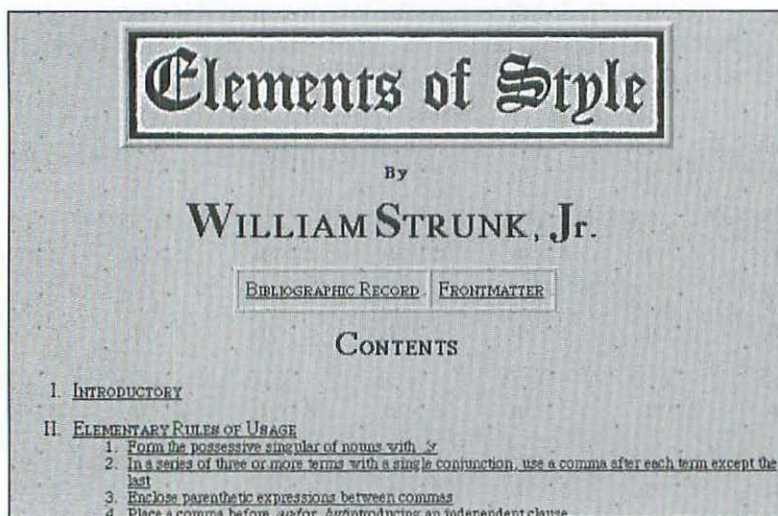
Often unfairly derided as the work of “a bunch of dead white guys,” you’ll find here a list of books (usually with links to the full text) by the seminal thinkers of Western Civilization. Works by Euripides, Descartes, Keats, Dickens, Shakespeare, Whitman, and many

others can be found. Where else will you find a massive collection of 2,500 years of deep thoughts? For the diversity-minded, there's lots of non-Western literature listed in Yahoo's Arts and Literature sections.

## Elements of Style

<http://www.cc.columbia.edu/acis/bartleby/strunk/>

The inimitable guide to written English style, in a well-done hypertext format (Figure 9-7). I've listed it here in the (perhaps forlorn) hope that more Usenet posters will read it one day.



**Figure 9-7:** Improve your writing with the Elements of Style.

## Sam Johnson's Electronic Revenge

<http://pobox.com/slt/sam.home.html>

After you've been looking at the Web for a bit, you'll notice that there's just an amazing amount of plain bad writing out there. Some of these sites seem to be done by people who have nothing to say, and need to say it at interminable length. Is there a haven from mediocrity? Yes, Virginia, there is lively, intelligent, literary writing on the World Wide Web. You'll find it here, along with other stuff from the folks at Silly Little Tombe Publications. Some really good prose resides here, and they're publishing new writers with abandon.

**Word**

<http://www.word.com/index.html>

Attractively done and intelligently written, Word is an electronic magazine that deals with all sorts of subjects (Figure 9-8). Piquant humor and slick design abound here. Beware, though; on occasion the writing becomes just a bit too precious for any normal human to stand. Lots of graphics, so people with slow modems will have a chance to hone their meditation skills.



**Figure 9-8:** Get the Word, and get some fine reading.

**Recreational**

There's lots of ways to have fun, but we're only going to talk about the ones you can do with a computer here. Enjoy.

**Epicurious**

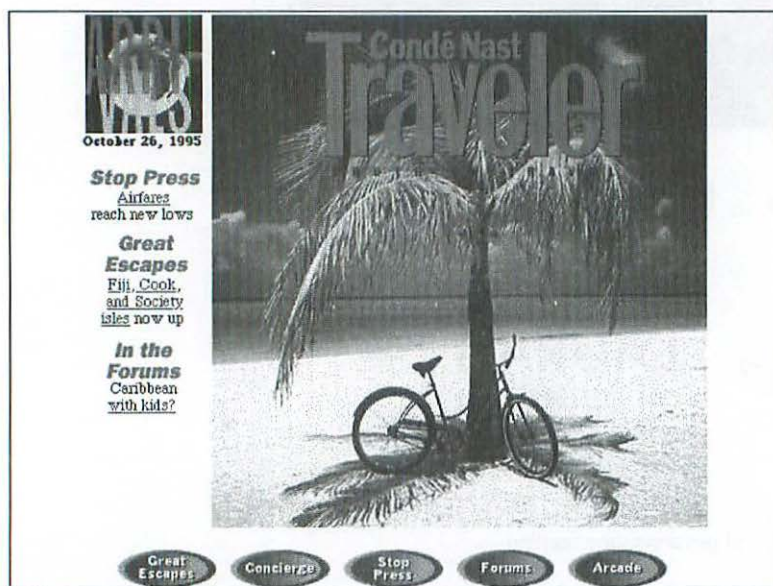
<http://www.epicurious.com/>

The motto of this online food guide is "For People Who Eat," and there's an eclectic mix of the culinary sacred and profane here. For example, they recently had an essay extolling the virtues of the shopping mall food court, cheek-by-jowl with an article on truffles. They also include a restaurant guide to ten of the largest US cities.

## Condé Nast Traveler

<http://www.cntraveler.com>

This has been widely rated as one of the best sites on the Web, and it deserves the kudos (Figure 9-9). For travelers, this is simply a terrific resource. The site includes a ton of information, beautifully and clearly presented. For example, there's a wonderful Beach and Island Finder that lets you enter your perfect criteria for a coastal vacation, then suggests appropriate choices. In 1996, the site will add European and American destinations.



**Figure 9-9:** Condé Nast Traveler

## Walt Disney World Home Page

<http://www.travelweb.com/thisco/wdw/wdwhome/wdw.html>

Hey! We're goin' to Disney World! The official WDW site gives you the lowdown on virtually every aspect of the jewel of Orlando, Florida. You'll find all you need to know about ticket prices (gulp), lodging, transportation, plus lots of information about the three park areas: the Magic Kingdom, EPCOT, and Disney/MGM Studios. There are also links to other official Disney sites, such as Disneyland, Tokyo Disneyland, and EuroDisneyland.

## Web Travel Review

<http://webtravel.org/webtravel>

Personal travel accounts are on these pages, including photojournalist Phillip Greenspun's "Travels with Samantha," picked as Best of the Web '94. It's a travel journal covering Greenspun's journey from Boston to Alaska and back by minivan, with his trusty PowerBook, Samantha. The text is illustrated by his terrific photos. Funny, moving, and insightful. Don't miss this one.

## Lucasfilms' THX Home Page

<http://www.thx.com/thx/thx.html>

Learn everything about how to create earth-shaking sound in your living room (and how to really annoy your neighbors) with Lucasfilms' home theater sound system. You'll find complete information about THX for the home, including where to get it and how to set it up. There's even a database listing all of the Home THX-certified equipment.

## Yahoo - Entertainment: Movies and Films: The Internet Movie Database

[http://www.yahoo.com/Entertainment/Movies\\_and\\_Films/  
The\\_Internet\\_Movie\\_Database](http://www.yahoo.com/Entertainment/Movies_and_Films/The_Internet_Movie_Database)

This is simply the best database on movie and TV information available on the Internet, with info on thousands of films and TV programs. It's maintained, in part, by the Internet community; users are encouraged to add information to the database regarding credits. They also solicit movie and TV reviews, rate the films and programs and then post the results. (The main database is located in the United Kingdom; I've chosen to list the Yahoo address because it shows the main worldwide mirror sites. You should use the one physically nearest to you.)

## Internet Underground Music Archive

[http://www.iuma.com/IUMA/index\\_graphic.html](http://www.iuma.com/IUMA/index_graphic.html)

An excellent guide to independent bands, record companies, and publications, covering almost every musical genre, IUMA provides MPEG audio excerpts of the artists' music, a picture and description, and contact information (Figure 9-10). It's a lot of fun to browse through a category and try the music of artists that look interesting. This site is chock-full o' graphics, so slow links should plan to be patient.



**Figure 9-10:** Internet Underground Music Archive

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## Cool Mac Sites

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Sooner or later, you'll need some good information about using your Macintosh. One of the best things about the Web is that it doesn't suffer from the months-long publishing lead times that afflict the monthly publications like *Macworld*. Pages on the Web are often modified daily or even hourly, and you can get the most up-to-the-minute information about bugs, problems, and their solutions — if you know where to go. Here are a few places to start.

### The Official Alt.Sys.Mac.NewUser Help Page

<http://www.halcyon.com/lefty/Welcome.html>

Dedicated to helping out Macintosh users that are new to the Internet, this site includes a series of FAQs (Frequently Asked Questions) as well as links to good sites for beginners.

### InfoMac Hyperarchive

<http://hyperarchive.lcs.mit.edu/HyperArchive.html>

If you're looking for virtually any Macintosh shareware or freeware software available on the planet, you'll probably find it here in the Info-Mac archive. This friendly Web-based front end lets you search for files based on keywords.

## **Macintosh Home Page**

<http://www.macintouch.com/~ricford/>

This page, maintained by *MacWEEK* contributing editor Ric Ford, is one of the most up-to-date sources of news and information about the Mac. I've often found links to new software patches, info about bug fixes, and pointers to hot discussions about problems, usually days before the same information gets posted to other sites. If you're a consultant, this one is essential reading. If you're a casual user, ditto.

## **User Group Connection**

<http://www.ugconnection.org/>

The User Group Connection is an organization (formerly part of Apple) that coordinates and promotes user groups around the world. There's a search engine on this site that will help you find your closest user group.

## **United Computer Exchange**

<http://www.uce.com/>

When it comes time to sell your old Macintosh or to buy a used one, the UCE has pricing info that helps you set your price to what the market will bear. They've also got a cool chart with the specs for every model of Macintosh ever made.

## **Human Interface Subtleties**

<http://redback.cs.uwa.edu.au/Quinn/WWW/HumanInterfaceSubtleties.html>

The next time someone tells you how Windows 95 is "just like a Mac," point them at this page, which tells you why Microsoft's latest effort still doesn't compare to the real thing.

## **Just Plain Fun**

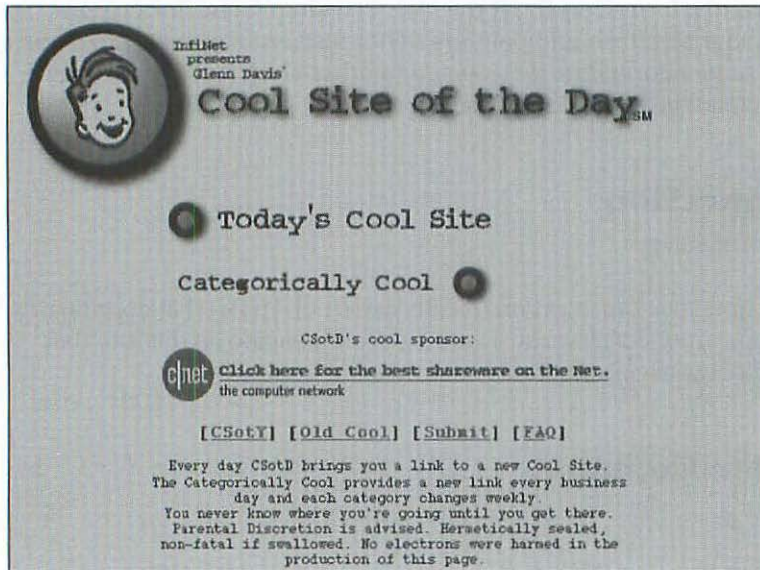
---

These sites are among the most entertaining on the Web.

### **Cool Site of the Day**

<http://cool.infi.net>

This page connects you to the cool site of the day (Figure 9-11). Cool sites are chosen by the Webmaster of infi.net. The page changes every evening at midnight EST and stays up for 24 hours; more than 20,000 people visit this page every day.



**Figure 9-11:** The cool site of the day

## The Web Voyeur

<http://www.eskimo.com/~irving/web-voyeur/>

This page has links to sites all over the world that provide live or near-live video feeds to the Internet. Some of these feeds are interesting, some are mediocre, and others are downright silly. I like the camera on top of a building in San Francisco, with views of the Golden Gate Bridge and downtown. There's a feed of a volcano erupting in New Zealand that's cool, and don't forget that exciting shot of a bus bench in Beverly Hills. And of course, you can get to the legendary FishCam from this site, which is a camera pointed at a fish tank, snapping pictures once per minute. Next up: GrassCam! Watch grass grow over the Internet!

## The Godzilla Page

<http://www.ama.caltech.edu/~mrm/godzilla.html>

Calling all monsters! You'll find a loving homage to the Terror of Tokyo here, with all sorts of Gozilla fun facts. The complete Godzilla filmography is listed here (including the

infamous *Son of Godzilla* — would you believe a baby Godzilla that blows smoke rings?). Download fuzzy screen captures of Godzilla and his favorite opponents, including Rodan, Mothra, MechaGodzilla, and SpaceGodzilla. I can't believe I was actually paid to look at this page!

### **Magic 8-ball**

<http://www.resort.com/~banshee/Misc/8ball/index.html>

Is a Web version of a childhood toy useful? Reply hazy, try again later.

### **The Capt. James T. Kirk Sing-a-Long Page**

<http://www.ama.caltech.edu/~mrm/kirk.html>

Some say that he can't act. This page is proof that he can't sing, either. We're talking about William Shatner, Star Trek's Captain Kirk. You can download sound snippets from his late sixties album, *The Transformed Man*, including his immortal rendition of "Mr. Tambourine Man." I downloaded it myself, and I found it to be more horrible than I had even imagined. Next to this, Nimoy's song about Bilbo Baggins is the apogee of musicality.

### **The Lurker's Guide to Babylon 5**

<http://www.hyperion.com/lurk/lurker.html>

Devoted to the science fiction TV series, this site has an obsessively complete collection of facts about the show (Figure 9-12). There are detailed episode guides, with analysis; complete background on the show's ongoing story arc; and info on the creators, actors, and crew who make "Babylon 5" happen. Perhaps the best of the sci-fi websites, although Paramount's site devoted to "Star Trek: Voyager" (<http://voyager.paramount.com>) is good, too.

### **Espana's Science Fiction Page**

<http://WWW.Catch22.COM/~espana/SFAuthors/index.html>

If you're a science fiction fan, check this page for extensive information on authors, plus links to many, many other sci-fi resources on the Web.

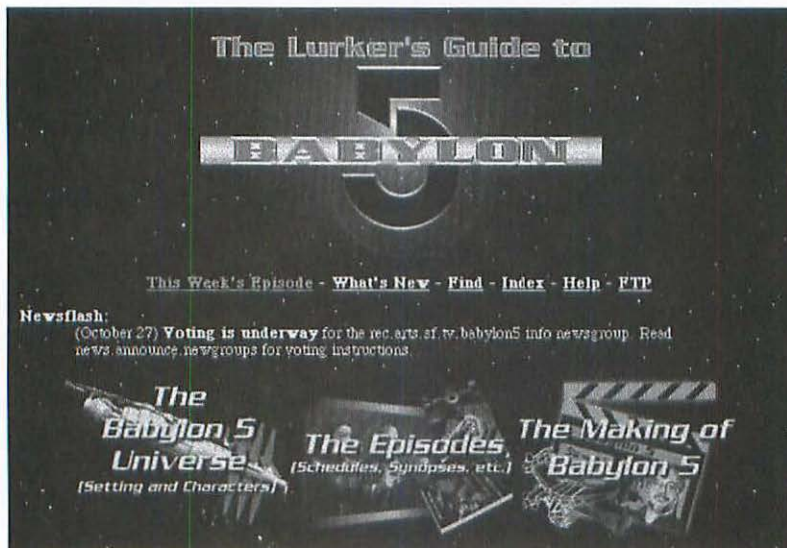


Figure 9-12: The Lurker's Guide to Babylon 5

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## The Spot

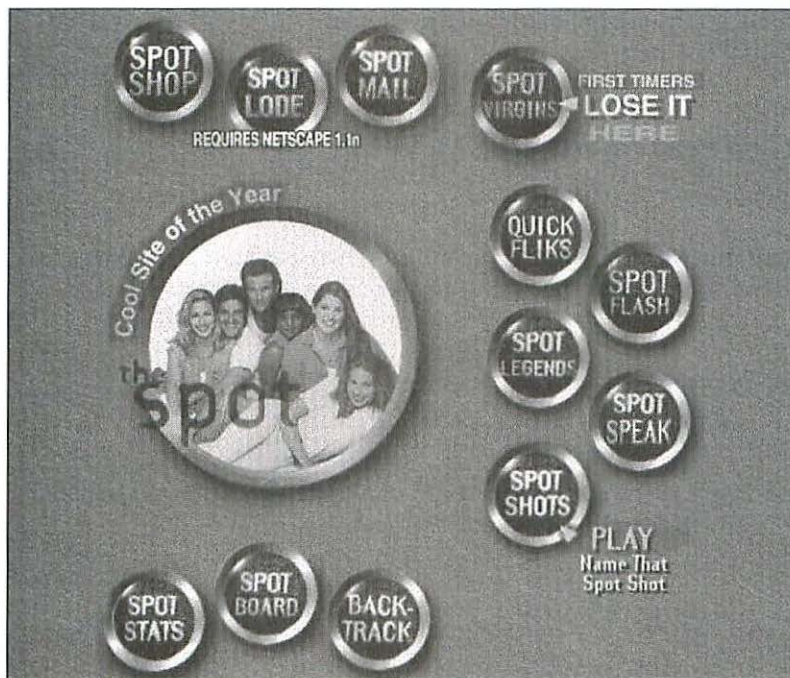
<http://www.thespot.com/>

The first episodic Web site, recently voted as the 1995 Coolest Site of the Year (Figure 9-13). Think of "Melrose Place" on the Net, and you won't be too far off. The Spot is a beach house in Santa Monica, California, with a 40-year history of revelry, mystery, and possibly murder. Join the five (sometimes more) oh-so-attractive, twentysomething Spotmates as they post their daily journal entries. Oh, and Spotnik, the Cyberian husky (and Spot mascot) that's been with The Spot since the beginning, occasionally weighs in with the canine perspective. The story is engrossing, plus this is one of the most attractive websites around. And I'm not just talking about the pictures of the Spotmates, either.

## Internet Bartender's Guide

<http://www.public.iastate.edu/~evers/adam/guide/contents.html>

Can't remember how to make that Afterburner or Fuzzy Navel? You'll find 'em here, along with virtually every other drink known to man or beast. Cheers.



**Figure 9-13:** Hit the Spot for some online drama and angst.

## Pit Cooking

<http://www.cco.caltech.edu/~salmon/pit.html>

Team Mumu Pit Cooking Page; or, how to tell dinner from a hole in the ground. This crack team of Caltech engineers share the results of their ongoing research into the proper methods of pit cooking, including the crucial secret tool for cleaning stray dirt off your roast pig after it's been dug up. Try this sample of American know-how: "We took three really hot rocks from the fire and stuck them in the pig, then wrapped it tightly with banana leaves. Putting the hot rocks inside the pig is really cool. Lots of smoke and sizzling sounds."

## Mind Reading Markup Language (MRML)

<http://www.oxy.edu/~ashes/mrml.html>

Ever wonder why you nod off when viewing some Web pages? This site suggests that there may be something sinister at work. Your mind might be under attack! The Mind Reading Markup Language (MRML) is a proprietary extension of the HyperText Markup Language. Current technology enables very primitive mind control using MRML tags.

The so-called Brain Washing tags are delimited by the special <!--HYPNOTIZE--><HYPNOTIZE--> pair.

## An Anagram Generator on the WWW

<http://www.ssynth.co.uk/~gay/anagram.html>

Generate your own anagrams with this page. The authors' two last names gave rise to "eerie torn sign," while our significant others' first names came out to "rotor detail."

## Shakespearean Insult

<http://www.nova.edu/Inter-Links/cgi-bin/bard.pl>

This page creates a new insult in the spirit of the Bard of Avon every time you reload the page. Here's one: "Thou villainous elf-skinned strumpet."

## I-Ching


<http://cad.ucla.edu/repository/useful/iching.html>

This page performs an I-Ching reading for you, with interpretations (Figure 9-14). The interpretations are inscrutable, but that's part of the fun.

### Your I-Ching Reading:

Below are the current and projected (changing lines changed) I-Ching results regarding your question with interpretations. Solid lines are YANG lines and broken lines are YIN lines. A black line represents a new or unchanging line while a grey line represents an old or changing line.

#### Current



- The Hexagram

#### 4. Mo'e'ng / Youthful Folly

##### The Judgement

Youthful Folly has success. It is not I who seek the young fool, The young fool seeks me. At the first oracle I inform him. If he asks two or three times, it is importunity. If he importunes, I give him no information. Perseverance furthers.

**Figure 9-14:** Cast the I-Ching and know your future.

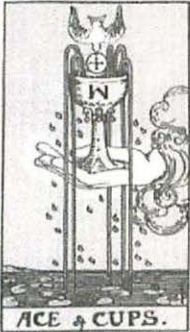
## Tarot

<http://cad.ucla.edu/repository/useful/tarot.html>


This page (Figure 9-15) comes to you courtesy of the same guy who developed the I-Ching page, but the interpretations here are much clearer. This page can cast the traditional short three-card reading, or the extra-keen Full Celtic Spread (sounds like a gambling play in Boston, doesn't it?).

**Your Tarot Reading:**


Strive to understand how the cards fall for you this day.



ACE of CUPS.



XI



IX

**The card representing aspects of the past:**  
*Ace of Cups* --Great abundance in all things, perfection, joy, fertility, nourishment from happiness.

**The card representing aspects of the present:**  
*Nine of Cups (reversed)* --Material loss, mistakes, opposition, materials lost or stolen, lack of freedom.

**The card representing aspects of the future:**  
*Six of Cups (reversed)* --Future opportunities, coming events, a possible gift from the past, new horizons.

**Figure 9-15:** A Web Tarot reading

## Today's Humorscope

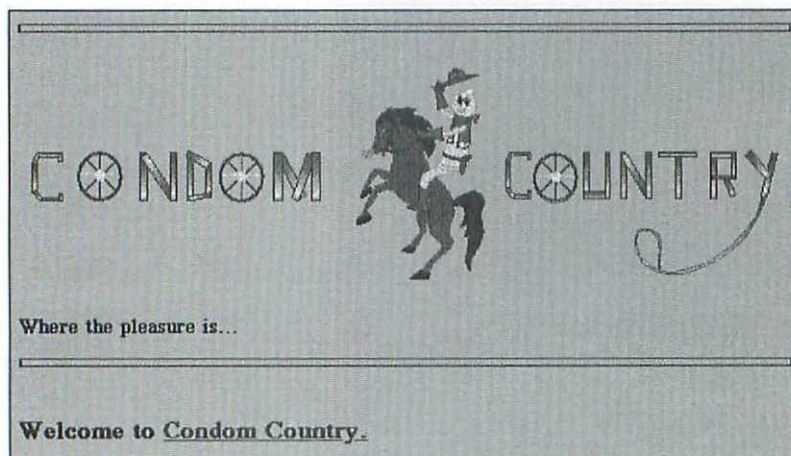
<http://www.teleport.com/~ron1/horo.html>

Sure to offend true astrology believers, daily humorscopes run along the lines of (for Libra): "Don't become too overwrought when you count your toes, today. One little piggy went to market. It'll be back in a while. Stop being such a worry wart."

## Condom Country

<http://www.condom.com/>

Yeeeeehaaaaaa! Ride 'em, uh... well, not "cowboy," exactly. Here at Condom Country, podners and podnerettes will find a selection of protection that's as big as all outdoors (Figure 9-16). From the privacy of your computer, you can get fully equipped for less technological pursuits.



**Figure 9-16:** You've ridden into Condom Country.

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## URouLette

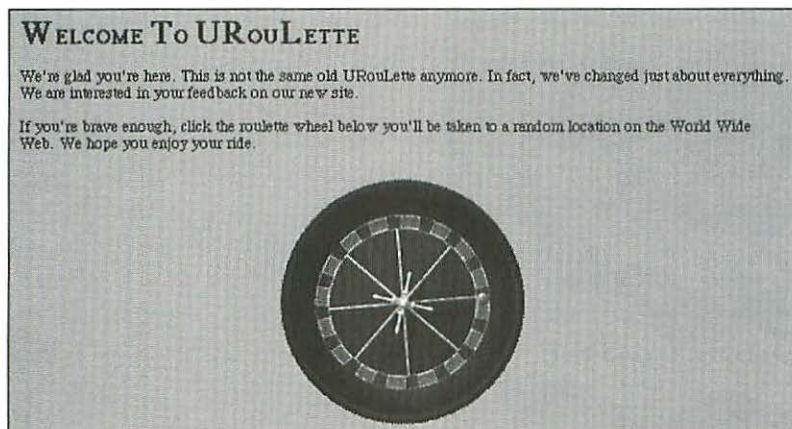
<http://www.roulette.com:8000/>

Finally, if you're still looking for some Web excitement, check out URouLette, the service that sends you spinning off to a completely random spot on the Web (Figure 9-17). Every click on the wheel takes you somewhere different, and often to an interesting place that you might never have found in your own wanderings. On the other hand, some places are pretty boring. But that's the nature of the Web; it's a rich mix of the mesmerizing and the mundane.

## Politics

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Politics has been called the art of the possible, and the following parties offer lots of possibilities for American government. If you're interested in politics, you should also be sure to check out the many links in the politics area on Yahoo.



**Figure 9-17:** Spin the URoulette wheel for a new random link.

## **Thomas: Legislative Information on the Internet**

<http://thomas.loc.gov/>

This is a great example of how the Internet gives citizens a measure of information not previously available. In the past, if you wanted a copy of a bill before Congress, you had to contact your local Congresscritter's office, who would put in a request, and you might get the bill via snail mail weeks later, by which time the bill might have passed or been defeated. Not so here; Thomas has the full text of all the bills pending before the United States Congress, with the complete daily text of the Congressional Record, plus analysis of the hot bills moving through the House and Senate.

## **Democratic National Committee**

<http://www.democrats.org/>

The Democratic Party's site (Figure 9-18) has all the latest from the left-to-middle side of the American political spectrum.

## **Republican National Committee**

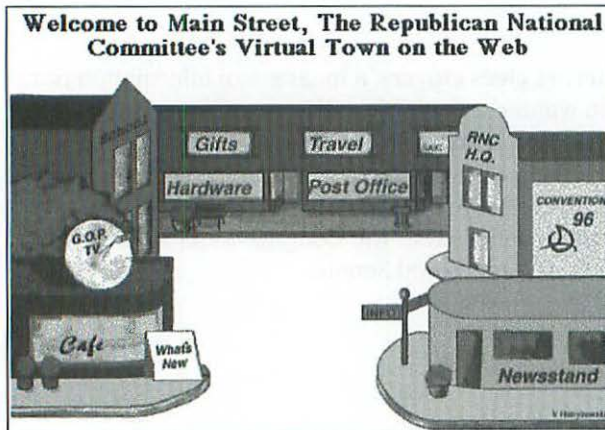
<http://www.rnc.org/>

This slick site is part of the well-oiled GOP political machine (Figure 9-19). Find out the party line of the Republicans on virtually any subject in national debate.



**Figure 9-18:** Find out what the Democrats believe in.

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**Figure 9-19:** Discover what the Republicans have in store for America.

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## The Libertarian Party

<http://www.lp.org/lp/>

A completely different approach to governing from one of the largest third parties. These people *really* want to get government off our backs.

# Serious Sites Worth Visiting

# 10

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## In This Chapter:

- Education matters
- Health and medicine
- Science: Where it all began
- Business sites you should know

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This is a subject that an author faces with considerable trepidation. In the early 1950s, many writers were so enthusiastic about the educational potential of the exciting new medium known as television that they predicted it could replace traditional schooling in most cases. People would just sit around at home and watch brilliantly designed educational programming until we were the most cultivated people on earth. Instead, we got *Roseanne* and *Funniest Home Videos*. A tiny amount of real educational programming is available on the shrinking, under-attack PBS network, and many critics would argue that television is a powerful force for promoting illiteracy.

Later, in the 1980s, attempts to teach online courses sprang up in many university extension programs. Most of these didn't really work out, partly from problems with courseware design and slow modem speeds; but even now, in a world of much faster modems and more powerful computers, online courses are making pretty slow headway against traditional courses and extension services. The World Wide Web, since it's not only graphics-oriented but more instantly interactive than earlier online schemes, looks like an ideal way to teach remote courses. But only the next decade will tell whether the Web becomes a key medium for transfer of serious information, or commercial pressures distort its content exclusively toward advertising-based information and goofy personal Web pages.



Right now, it's practically an axiom of American business that the Web is the place to be. Every major business has a Web site, and many smaller businesses, down to individual shoe-repair stores in St. Louis, have also been convinced that economic survival depends on having a Web presence.

There are reasons for wondering where all this is headed, in term of business reality. Catalogs have sprouted all over the Web, but so far few of these (except for computer hardware and software catalogs) are pulling in the orders their companies wanted.

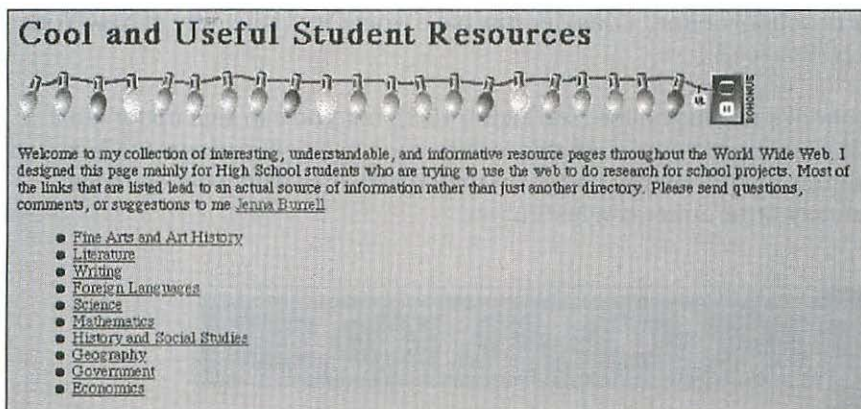
The lesson here is probably that someone will have to be clever to make this new medium really work in business — translating a paper catalog into HTML just produces a catalog that fewer people can use. Maybe the information needs to be more interactive, maybe it needs to be self-customizing to respond to individual preferences, or maybe users need to be compensated somehow for using their own equipment and money to download someone else's ads. If you're reading this book with a view toward turning the Web to your own economic advantage, ask yourself what you would have to see at a site to make *you* take some action. Keep a collection of URLs that got a response out of you, and try to analyze why they worked. That information is probably more important than memorizing the dozens of kinds of HTML tags.

## Education and the Web

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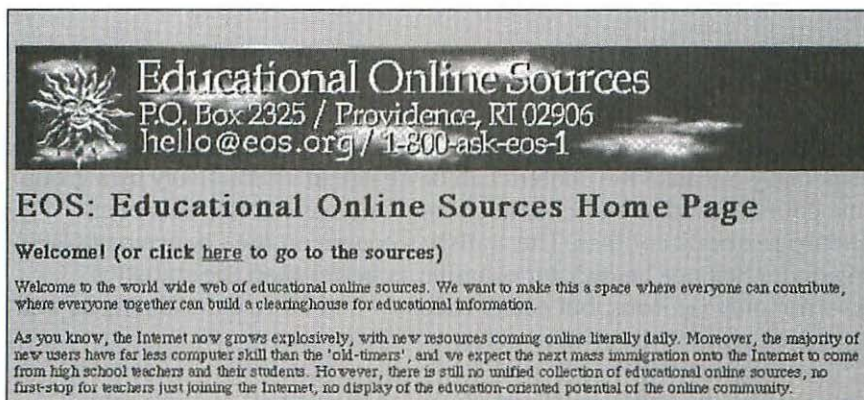
In high school, you take a geometry class that's recognizably the same subject you would have taken in Alexandria in 200 B.C. In chemistry, topics are similarly presented in order of discovery, with the late eighteenth century taking up the first few months. Education is a very conservative domain, and although lots of people have set up resources on the Web, it's not time yet for a comprehensive catalog. This survey will therefore look at a few outstanding examples.

The first educational function of the Web is to provide online resources for remote users. If you think about it for a minute, you will realize that every class handout, every textbook, and every presentation you ever saw in school can be duplicated on the Web. The audio-visual resources of the best high school in North America are pathetic in comparison to the resources of a good Web site. For example, the "Cool Resources" site at [www.teleport.com/~burrell](http://www.teleport.com/~burrell) has links outward to every useful resource for K-12 education (see Figure 10-1). The material at this site has also been screened for quality — all of it is first-rate.



**Figure 10-1:** A key site for K-12 education

Another general directory for online educational resources, again aimed more or less at the K-12 set (face it — that’s the part that has to be done right in the first place), is the index site at [netSPACE.students.brown.edu/eos/](http://netSPACE.students.brown.edu/eos/). This service is the educational equivalent of a high-powered resource like Yahoo (see Figure 10-2).

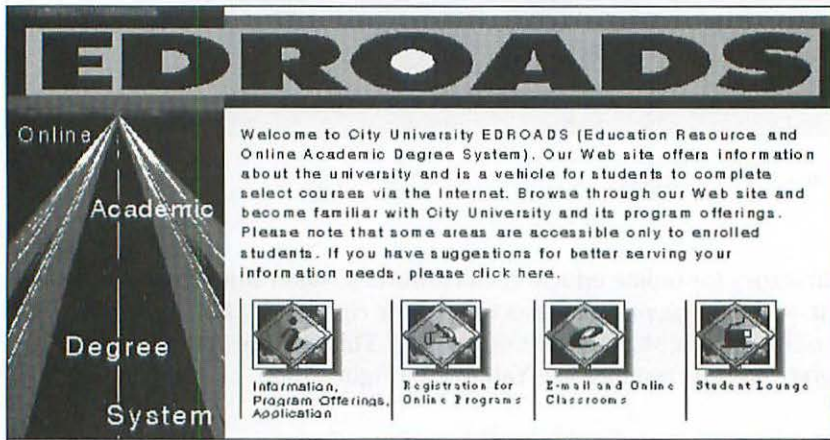


**Figure 10-2:** A one-stop online educational resource

Of course, the real promise of Web educational material is in “distance learning,” as it’s called in the trade. Whatever education you may have obtained, you can nearly always use a bit more. Maybe you need to finish a college degree, maybe your new job requires you to learn a bit of accounting (and you were an English major), or maybe, like most engineers, you need to have your skills retooled every few years (the information lifetime in electrical engineering is like the datestamp on a yogurt container these days).

Can you go back to school online? Consider this page from City University of New York, at [www.city.edu/edroads/](http://www.city.edu/edroads/).

Not only is the school's catalog online (see Figure 10-3), but you can sign up for most courses, especially technical courses, in this format, too. As an educational fun fact, you should know that this institution has had more undergraduates who went on to win Nobel prizes than any other American institution.



**Figure 10-3:** College online

Courses offered online, by the way, don't have to suffer at all in comparison to classroom courses. Especially because the content can be designed interactively by a group of teachers, online courses tend to be richer in content and have better sets of examples than standard textbook courses. The statistics course on the Chance page (see the Chance listing under Science below), for example, is better than the statistics course you took — not only rigorous, but easier to follow and more entertaining as well (see Figure 10-4).

If you don't believe that online courses will ever be more than a sort of night-school replacement, consider the institution in Figure 10-5. If Harvard is interested in online courses, you may confidently expect that everyone else will be interested, too. The big issue here is that expenses for college education have been growing much faster than the general inflation rate, which is itself something of a disaster. An 18-year-old, facing the prospect of paying off \$100,000 in college loans with a job that starts at \$28,000 per year, might justifiably be curious about finding ways to collect at least a few credits by some other means than standard, and expensive, classroom instruction.

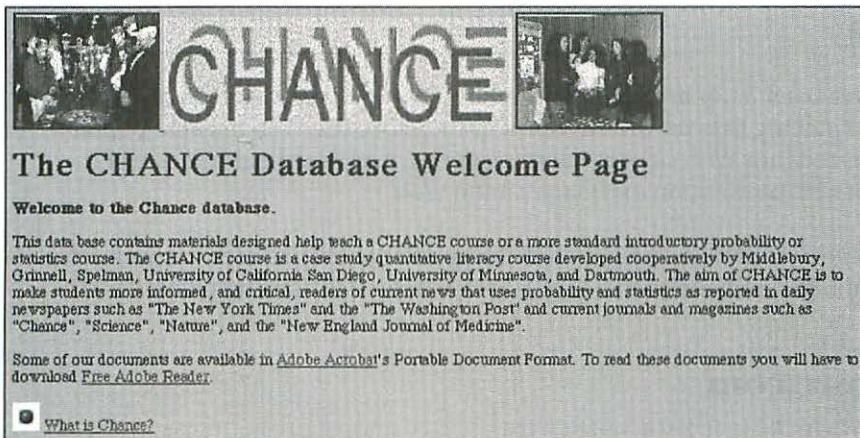


Figure 10-4: A better statistics world online

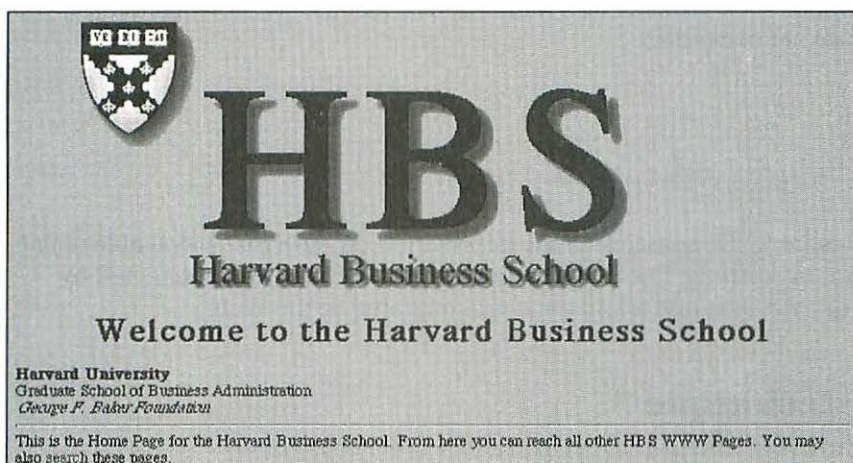


Figure 10-5: A little school back East gets its feet wet on the Web.

## Health

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Health has always been a hot area on the Internet. There were thousands of newsgroups and mailing lists on health topics even before the Web became popular. These got converted into Web sites at lightning speed, and thus health is one of the biggest categories of information exchange on the Web.

Health, as a category, includes straight medicine and lots of fringe areas as well. This modest listing of URLs and comments is at least a reasonable starting place.

### **Acupuncture.com**

<http://www.acupuncture.com/acupuncture/>

This is not only a very complete acupuncture resource, it's also rapidly developing links to all sorts of alternative-medical sites. You can download your own map of all the little places you are supposed to stick needles for particular results, and, for that matter, you can order your own set of needles.

### **AIDS**

<http://www.teleport.com/~celinec/aids.shtml>

The Index-Aids Resource list contains all the information on AIDS that's available online, which is just about everything. The HIV-positive community has been connected by bulletin boards for a decade, and all that material migrated to the Web.

### **Alexander Technique**

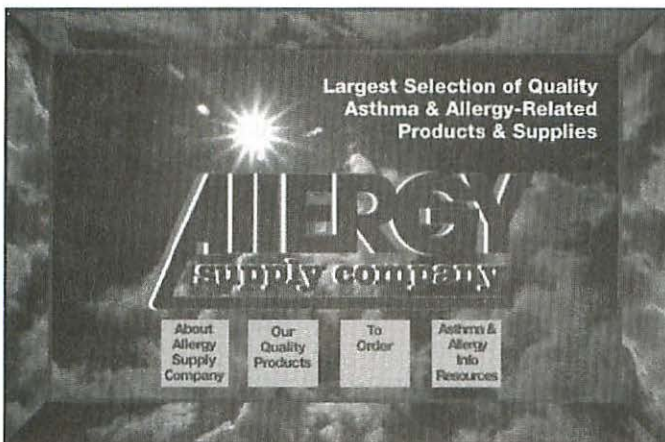
[http://none.coolware.com/health/alex\\_tech/FlyerBody.html](http://none.coolware.com/health/alex_tech/FlyerBody.html)

The Alexander technique is a form of bodywork that actually dates to early in this century, and has been much in favor with actors and other performers. It amounts to a reeducation of your habitual patterns of muscle tension.

### **Allergy Supply Company**

<http://aaabiz.com/AL/alhp.html>

This is perhaps the definitive collection of hard-to-find asthma medications and a collection of allergy-related remedies. It's an interesting example of an Internet-based store (see Figure 10-6). The Internet is probably the only place you could locate this collection of items and sell them at a profit, unless you found a big city with severe allergy problems.



**Figure 10-6:** All sorts of allergy medicines online

## **Anxiety**

<http://www.sover.net/~schwcof/>

You can order a video on anxiety problems here, and get FAQs (frequently asked questions, and their answers) on anxiety disorders.

## **Archimedes Project**

<http://kanpai.stanford.edu/arch/arch.html>

This site has a collection of design ideas and arguments for making the physical world more accessible to differently abled people.

## **Asthma**

<http://www.cco.caltech.edu/~wrean/asthma-gen.html>

Here's the main FAQ on asthma, with links to subtopic pages.

## **Autism Resources**

<http://web.syr.edu/~jmwobus/autism/>

Here you'll find long lists of information resources on this baffling disorder. If you want to convince yourself that cognitive psychology doesn't have all the answers yet, check out some of these FAQs.

## **BIO Online**

<http://cns.bio.com/bio.html>

This site is a serious research-data-exchange center in the biotechnology field. It includes an employment center with dozens of major sponsors, all kinds of industry investment and regulatory information, and online journals.

## **Biosupply Net**

<http://www.biosupplynet.com/bsn/>

If you ever had the impulse to become a mad scientist, this site deserves your attention. It has links to the online catalogs of 1400 suppliers of biotechnology supplies and equipment. With a good credit card and some quick online effort, you can start cloning yourself.

## **Cybercise**

<http://www.cybercise.com/>

If you've started to slump over permanently from working day and night at a keyboard, you might want to order yourself some exercise equipment from these people.

## **Cybershrink**

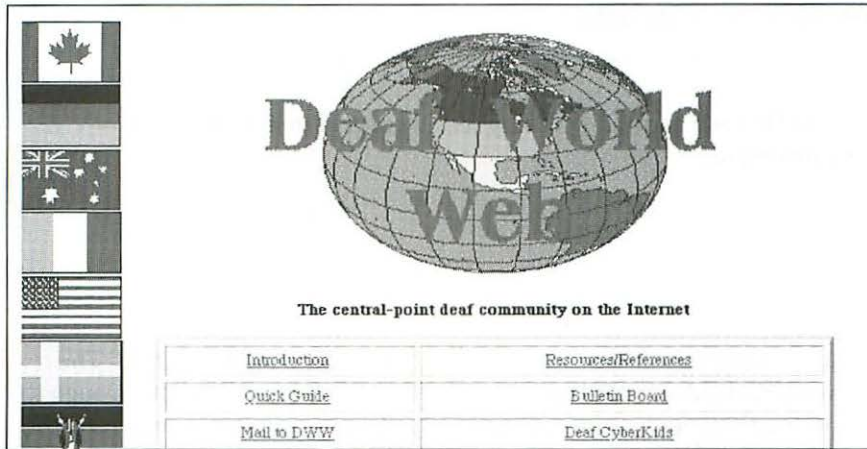
<http://www.gate.net/~cyshrink/>

Hey, why not? This is one of many e-mail psychological counseling services. The evidence of the efficacy of this system isn't necessarily in yet, but it's hard to believe that it will be much worse than the efficacy of standard office-based "talking cure" practice. Maybe people are more willing to go into more depth with someone they can't see.

## **Deaf World Web**

<http://deafworldweb.org/deafworld/>

This is a single unified, well-organized site that has everything for deaf people online (see Figure 10-7). It's also available in four languages.



**Figure 10-7:** Superior resources for deaf people

## Diabetes

<http://www.iquest.net/sugarbusters/sugarbusters.html>

Besides a catalog for ordering insulin, syringes, and testing equipment, this site has an information service. Here you may find some recent good news: testing for blood sugar may not require actual blood samples in a few years as alternatives to insulin injection are being developed.

## Diabetes Home Page

<http://www.nd.edu/~hhowisen/diabetes.html>

Lavish use of graphics and searching over other diabetes resources make this an award-winning site. It's better with a very fast connection, though.

## Diabetes Knowledgebase

<http://www.biostat.wisc.edu/diaknow/index.htm>

A searchable database on all diabetes topics.

## **Disabilities Access Online**

<http://www.pavilion.co.uk/CommonRoom/DisabilitiesAccess/>

Like Deaf World Web, this is a central directory for all sorts of disability issues — medical, physical, and legal.

## **DocTalk**

<http://www.indirect.com/user/cnewhall/>

This service provides online medical advice, and it's pretty good advice at that. The developer, Clark Newhall, is also an attorney, so it's a good bet he's thought through the legal implications of handing out this kind of advice to strangers online. One interesting feature of this service is called SkinFlix; it offers QuickTime movies and JPEG stills. Not, however, what you might think from the name — these are x-rays and MRI scans.

## **Feldenkrais Method**

<http://www.cbima.com/Gabriel/feldenkrais.html>

This is a bodywork method developed in Israel that bears some remarkable resemblances to the Alexander technique. Maybe it turns out there are actually just a few ways to get the same kinds of body results after all.

## **General Info**

<http://weber.u.washington.edu/~britell/>

This is a very complete index site, mostly concerned with physical rehabilitation issues, maintained by a professor at the University of Washington Medical School.

## **Good Health Web**

<http://www.social.com/health/>

Good Health Web is a sort of directory-within-a-directory. From this site, you can find almost all of the Web's health-related material.

## **Health and Healing from ConsciousNet**

[http://www.consciousnet.com/hlth\\$hl.html](http://www.consciousnet.com/hlth$hl.html)

This is a very big resource for all kinds of stuff, including directories of online stores and so forth. If you are looking for hypnotists or aromatherapy consultants, you can find them here.

## **Health Technologies Network**

<http://www.ieway.com/business/max/welcome.html>

Connoisseurs of late-20th-century American business practice will want to check out this site — it's more or less an Amway-type business. Will this work on the Web, or does the whole premise of so-called multilevel marketing depend on face-to-face contact with friends and relatives you can guilt-trip into buying things? Stay tuned as we all find out.

## **Index Mental Health Pages**

<http://www. Dover.net/~schwcof/links.html>

Everything indexed at the other mental health sites is recapitulated here. This site is exceptionally well maintained.

## **Medicine Online**

<http://www.meds.com/>

If you're going to get any kind of medical services, you should check this site. The information quality is higher than you usually get in the photocopied handouts from a hospital or doctor.

## **Modern Body Design**

<http://www.ipworld.com/market/fitness/modbody/homepage.htm>

This company sells an exercise “sling” in the price range of \$50 to \$100. Has to be seen to be believed— that's why I put the address here.

## Nature's Medicines

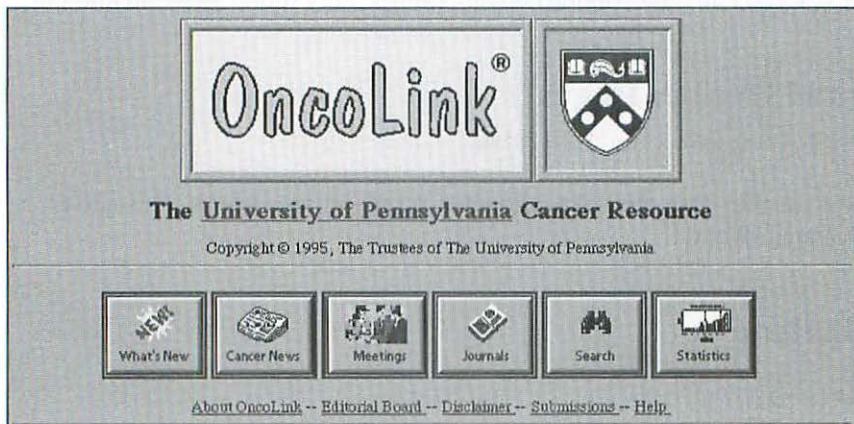
<http://www.halcyon.com/jerryga/welcome.html>

This site is a big catalog of all types of services and products, from fairly mundane nutritional items to stuff so weird I've never heard of it before — and I've been living in Northern California for 15 years.

## OncoLink

<http://www.oncolink.upenn.edu/>

This page is especially worthwhile to visit (see Figure 10-8). It contains lots of good explanations in layperson's language, rather than medical jargon.



**Figure 10-8:** Excellent advice on cancer

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## Physician Finder Online

<http://msa2.medsearch.com/pfo/>

This site offers a keyword search for finding a doctor by specialty, region, language, or six other criteria. So far, it still needs a larger assortment, but it's filling in fast.

## **Physician's GenRx**

<http://www.icsi.net/GenRx.html>

This site is good for finding any sort of drug equivalents — you will be amazed at the impenetrable welter of trade names that exist for even the simplest pharmaceuticals. The service used to be open to anyone. For security reasons mostly, you now have to sign up for the service.

## **Present Moment**

<http://www.presentmoment.com/>

This is a gigantic informational site. It is almost odd that the warp-speed world of the Internet is becoming a resource for meditation and philosophy, but maybe Webheads can use some help appreciating the “present moment.”

## **Quantum Medicine**

<http://www.usa.net/qmed/>

Quantum medicine is fairly difficult to describe, but its implementation seems to deal with electrophysiological reactivity and acupuncture-plus-electric-current. For the intellectually curious, this is a good place to explore a frontier area of alternative medicine.

## **Relax the Back**

<http://www.relaxtheback.com/>

According to recent research, back ailments are second only to colds and flu as a reason people miss work. Here's a big catalog of ergonomic products and a little online 60-second exercise drill.

## **Shrink-Link**

<http://www.westnet.com/shrink/shrink.html>

This is yet another e-mail psychologist thing. (See Figure 10-9.) This time, however, the advice costs \$20 per message.

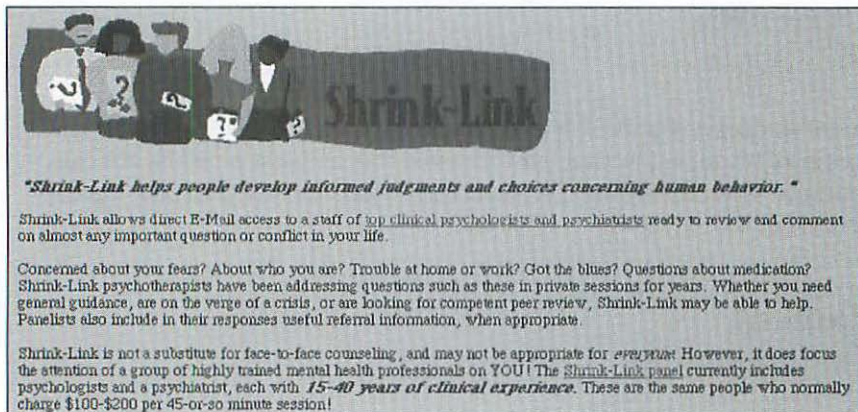


Figure 10-9: Can you type lying down?

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## Walker's Dynamic Herbs and Botanicals

<http://www.txdirect.net/kombucha/>

Kombucha is an Asian fungus/mushroom that will grow from a starter culture in a container of tea with sugar. You then drink what's left, and devotees of this stuff claim that it has numerous amazing medical properties. It has many adherents among people for whom standard medical practice has failed to produce results. Generally, people just pass around the starter cultures for free, but if you don't know anyone doing this, you can get some from the company at this site.

## Windy Hill Professional Labs

[http://perry.gulfnet.com/advertisers/drug\\_testing/drug1.htm](http://perry.gulfnet.com/advertisers/drug_testing/drug1.htm)

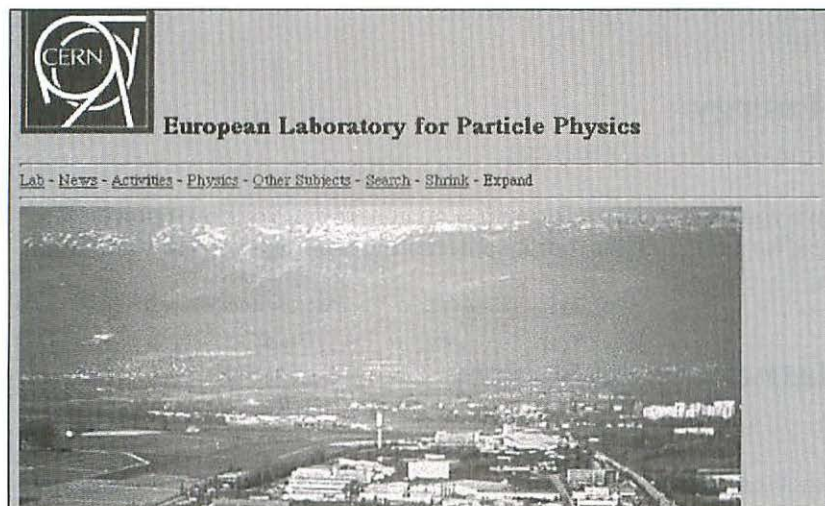
You are about to start a new job, and there's mandatory drug testing. You've cleaned up your act, but maybe you're worried that traces of strange substances might still be floating around in your system. You may be concerned about the possibility of a false positive, too. So you contact these people, they send you a kit, and you send it back and get an answer by e-mail for \$65.

## Science

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Science is an enterprise with a unique need for exchanging large chunks of information among sites all over the globe. The Web has changed the old meetings-once-a-year situation and made the world one big laboratory. Here's one way to gauge the importance of science on the Web: This category is bigger than entertainment!

Just for fun, check out the absolute original first-ever Web site in history, the physics research site CERN, at [www.cern.ch](http://www.cern.ch) (see Figure 10-10). There's even some interesting stuff for nonscientists here.



**Figure 10-10:** Site Number One on the Web

Anyway, the next few pages are a little catalog of interesting science sites.

## **Agriculture Online**

<http://www.agriculture.com/>

This is *the* source for commercial agriculture information. There's an old joke, "How do you make a small fortune in farming? Start with a large fortune and keep farming till it's nearly gone." Meanwhile, down on the farm, even Bessie the Cow is now wired. Even if the next house is a half-mile away, we're all neighbors on the Web.

## **AirPage**

<http://trex.smoky.ccsd.k12.co.us/~dlevin/air/air.html>

This site leads to a huge catalog of all airplanes, from the Wright brothers and World War I to experimental aircraft today. A great resource if you're at all interested in flying.

## **Alchemist's Den**

<http://gpu.srv.ualberta.ca/~psgarbi/psgarbi.html>

The American Chemical Society and other resources are indexed here for chemists. Much of this specifically concerns organic chemistry.

## **Alternative Energy**

<http://www.nando.net/prof/eco/aee.html>

This index site shows you how to find information on generating your own power. It's more useful, perhaps, for noncity folks, but it's interesting reading even for Manhattan apartment dwellers.

## **American Mathematical Society**

<http://e-math.ams.org/>

The Godzilla of math sites. It leads everywhere, but everything is already here anyway. Journals, jobs, papers — you name it. And most major university programs are cataloged here.

## **Artificial Life**

<http://www.fusebox.com/cb/alife.html>

If you need to show a friend what's cool about the Web, check out this page. It displays running simulations of the key artificial life programs, demonstrating why this subject is so fascinating. Boids, the bird flock simulation, is irresistible, as is its progeny Swarm.

## **Astronomy Cafe**

<http://www2.ari.net/home/odenwald/cafe.html>

"For the astronomically disadvantaged," this site has all sorts of friendly materials. An ideal place to point a young person for a science project.

## **AstroVR**

<http://brando.ipac.caltech.edu:8888/>

Although this is really for professionals, it gives you a glimpse of the way the Web is changing things in science. It's a collaborative, interactive, "virtual astronomy laboratory," with access to main research databases and sky catalogs.

## **Auditory Phenomena**

<http://www.music.mcgill.ca/~welch/auditory/Auditory.html>

This site gives you a multimedia guide to all sorts of interesting psychoacoustic phenomena. We still have a lot to learn about the way the brain processes sounds.

## **BioBox**

<http://www.csc.fi/cgi-bin/topbio>

Wow! Biologists post their favorite URLs here, and the duds are gradually weeded out by Darwinian selection. This site leads outward to every important resource in modern biology.

## **BioSci**

<http://www.bio.net/>

A professional resource that connects all the online literature in biology to databases. Formerly government sponsored, it now has commercial backers as well.

## **CHANCE**

<http://www.geom.umn.edu/docs/snell/chance/welcome.html>

The CHANCE project is a statistics course, freely distributed, that explains the stats behind the headlines in today's news. Your appreciation of the nonsense level of much TV news will be greatly enhanced thereby.

## **Complex Systems**

[http://life.anu.edu.au/complex\\_systems/complex.html](http://life.anu.edu.au/complex_systems/complex.html)

This truly great site not only has the best professional sources, it contains beginner's tutorials in the core areas of complexity (cellular automata, fractals, fuzzy logic, and so forth) as well. A real Web treasure for the intellectually curious.

## **Concurrent Supercomputing Consortium**

<http://www.ccsf.caltech.edu/csc.html>

Computers are being designed right now that will make today's hot system look like a left-handed abacus. If you want to see how fast computers can be and what we'll do with them, look here.

## **Creatures Born in Cyberspace**

[http://www.demon.co.uk/trash/Art/Liz\\_Dalton.html](http://www.demon.co.uk/trash/Art/Liz_Dalton.html)

Check out this site for interesting pictures and information on morphing. You will see some amazing things in the near future.

## **DNA to Dinosaurs**

[http://www.bvis.uic.edu/museum/Dna\\_To\\_Dinosaurs.html](http://www.bvis.uic.edu/museum/Dna_To_Dinosaurs.html)

This is an online museum organized by The Field Museum in Chicago, and it's an example of how this should be done. (If you get to Chicago, visit the real thing, too.) There are links to other collections as well.

## **Earth and Universe**

<http://www.eia.brad.ac.uk/bt1/>

A dazzling, spectacular, multimedia astro-extravaganza. Really, a very cool collection of astronomical topics, with amazing photos and animations.

## **EcoNews Africa**

<http://www.io.org/~ee/ena/>

If you're interested in ecology, you may as well be interested in an area that has the worst, fastest-developing problems. A good site for monitoring the proximal demise of the black rhino.

### **EE Circuits Archive**

<http://weber.u.washington.edu/~pfloyd/ee/index.html>

No point in reinventing the wheel, no point redesigning a circuit. This big library covers hundreds of circuits, all tested and practical.

### **Electronic Zoo**

<http://netvet.wustl.edu/e-zoo.htm>

Washington University has always been an Internet hotspot, and this zoo is a great, sophisticated attraction. Stop by some afternoon. In fact, drop in while you're at work! Just remember: Don't feed the animals.

### **Engineering Design**

<http://class1.ee.virginia.edu/~tmo9d/Fall194/home.html>

A very nice online review of things that work (Panama Canal) and don't work (Space Shuttle Challenger) and the reasons why. It's enough to make you wait a year or so before trying out new aircraft or bridges.

### **Fractal Movie Archive**

<http://www.cnam.fr/fractals/anim.html>

This is a premiere archive for cool fractal movies. You get access to mind-boggling displays whether you know any math or not.

### **Geo Exchange**

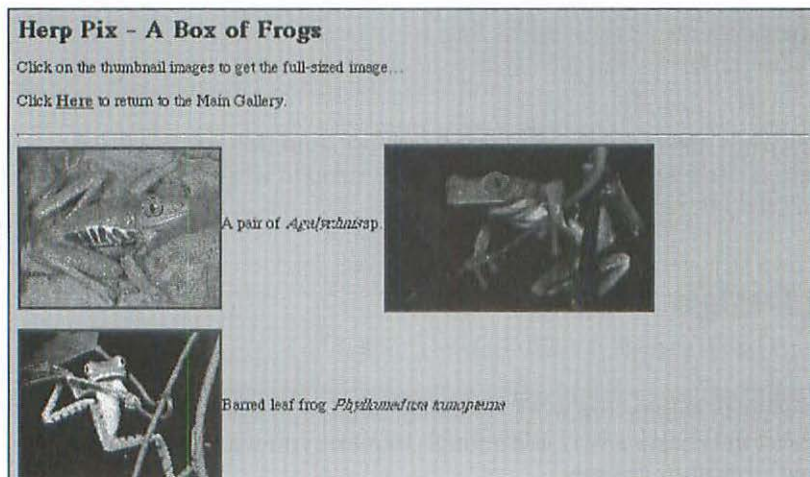
[http://giant.mindlink.net/geo\\_exchange/index.html](http://giant.mindlink.net/geo_exchange/index.html)

This is a good resource for people with an amateur interest (in gems or volcanoes, for example) and also for Web links to professional info. Besides, you can see the cartoon *Unreal Estate*, one of the best on the Web.

## Herpetology Gallery

<http://gto.ncsa.uiuc.edu/pingleto/lobby.html>

OK, it's a bunch of pictures of snakes and amphibians (see Figure 10-11). But they're very good pictures, and there seems to be vast interest in this topic.



**Figure 10-11:** It's not easy being green.

## Holography Page

<http://www.hmt.com/holography/index.html>

This is an index page for commercial and experimental holography. Order holograms, get them made from your photos, or learn to do it yourself.

## Hubble Space Telescope

<http://newproducts.jpl.nasa.gov/s19/hst.html>

Since we're not getting off this planet anytime soon, the next most exciting adventure is finally getting (after lots of trouble) a decent telescope that works outside of our own blurry atmosphere. Check here for the latest and greatest from HST.

## **Index of Biochemical Resources**

<http://biores.com/>

This page leads out to all the companies that produce chemicals, biochemicals, and equipment. Not much fun, but it's very useful.

## **Nanoworld**

<http://www.uq.oz.au/nanoworld/nanohome.html>

One quick way to learn something about molecules is to see what they look like. This site has tons of atomic-scale pictures of chemicals in action, surfaces, crystals, and so forth.

## **NASA Spacelink**

<http://spacelink.msfc.nasa.gov/>

The people who run NASA have quite correctly figured that the general public is bored with routine satellite-launching runs and repairing a bungled telescope. But they have high hopes that Webheads will be more sympathetic to their cause, so they have put together a Web site that's as good as or better than a movie. This one's a must-see, if only as an example of HTML design.

## **OCEANIC**

<http://diu.cms.udel.edu/>

A pretty good guide to all sorts of oceanographic data, most particularly the large-scale oceanic circulation experiment.

## **Physics for Poets**

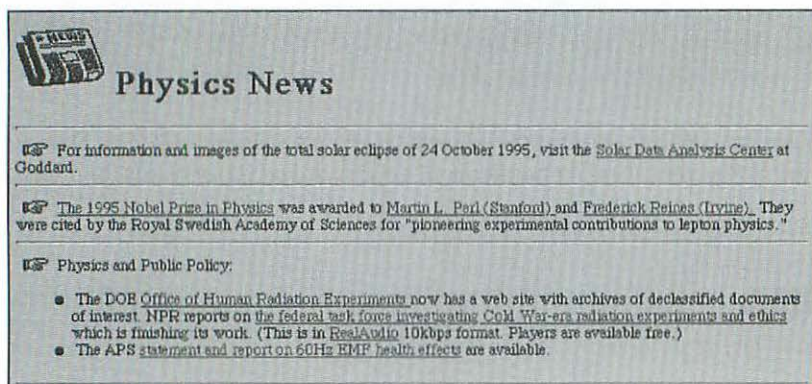
<http://seidel.ncsa.uiuc.edu/Phys150/>

A remarkable course taught at the University of Illinois — all of the material, including slide shows associated with the lectures, is available here. If you'd like to take a dry run at a good basic physics course before doing the real thing for a grade, this would be your best bet.

## Physics News

<http://www.het.brown.edu/news/index.html>

This is a bulletin board with links to all major physics research sites (see Figure 10-12). It's used mostly by researchers, but students might find the information useful as well.



**Figure 10-12:** The latest in physics

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## Rainforest Action Network

<http://www.io.org/~ee/ena/>

If anything, the rainforests are under more direct assault than the savannahs of East Africa. Check here for the latest on rainforest conservation, a difficult topic indeed.

## Relativity

<http://www.hia.com/hia/pcr/st1.html>

This is a self-paced multimedia course in relativity, advertised as being "for trekkies." You can't do much about relativity, but everyone nonetheless finds it fascinating compared to, say, agriculture.

## Santa Fe Institute

<http://www.santafe.edu/>

And if it turns out that complexity theory produces nothing more than a bunch of conferences, most of them were here. This site is the main U.S. resource in complexity theory.

## **SkyMap**

<http://www.execpc.com/~skymap/>

This is a great online planetarium, essentially the equivalent of the commercial product of the same name on CD-ROM. See what the sky looked like the day you were born.

## **Technical University of Delft**

<http://wwwak.tn.tudelft.nl/index.html>

Seismics plus acoustics plus sonic imaging. It's strange to think that the same basic phenomena underlie hearing and detection of oil deposits underground. How far away is that truck? Where's the shale oil layer? They're nearly the same question, physically.

## **Visualization for Science**

<http://www.cs.brown.edu/people/art035/Bin/science.html>

This is an online classroom of phenomenally good animation on topics in biology. A very nice place to spend an afternoon. It gives you hope that the Web will still be an educational resource after all the businesses sign on.

## **Web Advanced Research Project**

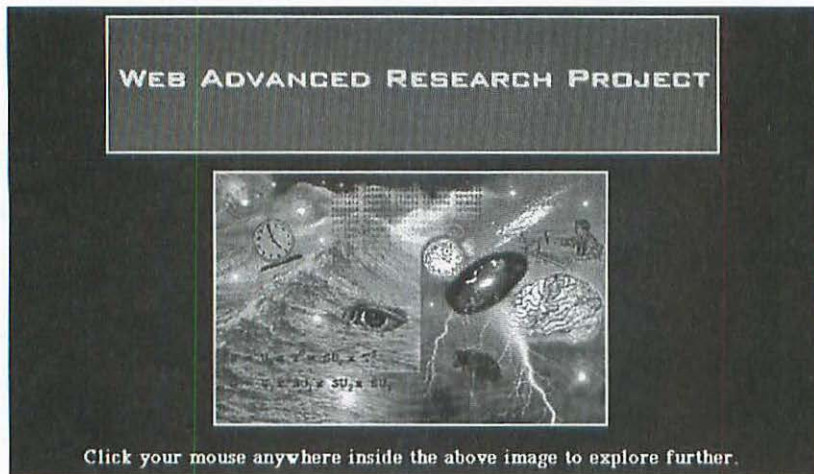
<http://www.hia.com/hia/pcr/>

Way cool site for all sorts of interesting topics in The New Physics and other amazing things (see Figure 10-13). It's almost impossible to describe — you must visit this page for yourself.

## **Weird Science**

<http://www.eskimo.com/~billb/weird.html>

Your one-stop shopping center and link-farm for everything, from unlikely Tesla coil experiments to UFOs to ESP and everything in between. When you're bored with "X-Files" reruns, stop here and make up your own show.



**Figure 10-13:** Explore physics through animations!

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## WWW VL

<http://golgi.harvard.edu/biopages/edures.html>

If you don't know tRNA from the NFL, port yourself to this site and look at the instructional material. This is a particularly worthwhile resource for teachers.

## Business

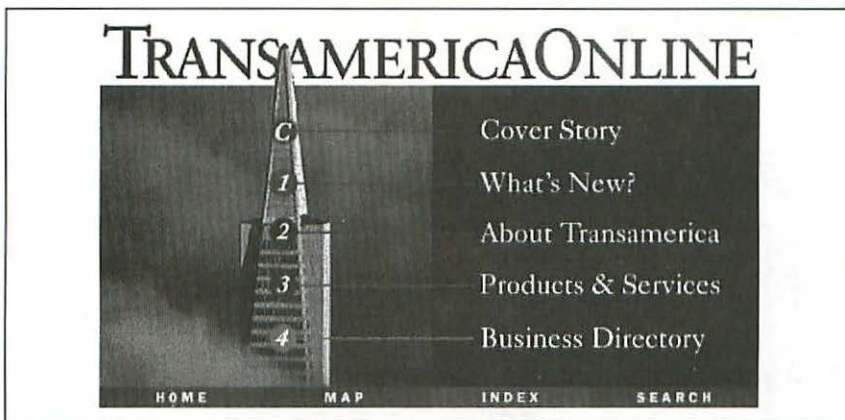
---

Right now, a snapshot of business activity on the Web is much like a prairie dog's view of a buffalo stampede. Business has discovered the Web in a big way, and since anyone (even you) can cobble together a home page in a few days, you can expect that any sizable business will have a Web presence. More often than not, you can guess the URL, too, since most firms have taken the precaution of registering their business name as a trademark. Frankly, your best bet for business is to check the business listings on the index site Yahoo ([www.yahoo.com](http://www.yahoo.com)) — the number of entries doubled during the production of this book!

Realistically, people are unlikely to purchase a car by credit card on the Web, or even order pizza. Three categories of business, however, are Web naturals. They are

- Financial services
- Computer companies
- Catalog shopping

Financial services, for example, are a prime candidate for Web success. If you click through the links in the Transamerica site at [www.transam.com](http://www.transam.com) you will find not only applications for insurance but credit applications. Pretty much anything you could do with Transamerica in a paper transaction can be done online (see Figure 10-14).



**Figure 10-14:** Welcome to the Pyramid

Similarly, as an investor, there isn't much you can't do at a Web site, a simple fact that will have profound implications for the old-style brokerage establishment. Check the links at Fidelity's [www.fidelity.com](http://www.fidelity.com) and you'll see that, basically, any sort of mutual fund transaction you can invent can easily be handled without a phone call to a gentleman wearing a nice suit (see Figure 10-15).

It will nonetheless take a while before all the details of transaction security are worked out on the Web, and even now the first online banking initiatives are being timidly attempted. Computer-oriented companies, however, have been on the Web for more than a year. After all, every company worth its share price had people already on staff who could set up a Web page overnight. Apple and IBM (guess the URLs!) both have made the Web the principal mode of distribution of information of all sorts, from sales and marketing to documentation (see Figure 10-16 and Figure 10-17).

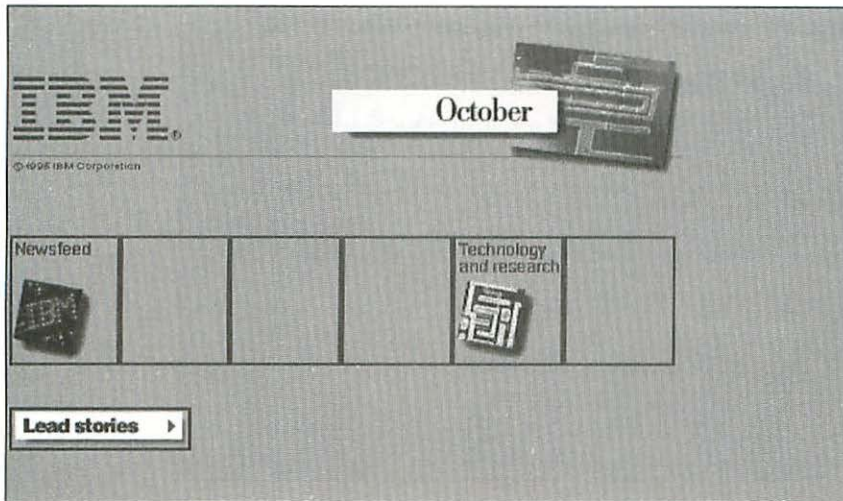


Figure 10-15: Fidelity wants to help you invest.



Figure 10-16: If Apple's on the Web...

The category of catalog ordering, especially of computer-related products, is similarly booming, since the companies involved understand the technology. You're very likely to buy a modem from a page on the Web, since you're probably familiar with the products from reading computer magazines. But although athletic shoe stores like Foot Locker now have Web catalogs, you might be inclined to try on real shoes, something virtual reality technology can't simulate yet.



**Figure 10-17:** ...can IBM be far behind?

There are three standout URLs already for this sort of catalog/reference activity: [www.cnet.com](http://www.cnet.com), [www.commerce.net](http://www.commerce.net), and [gnn.com](http://gnn.com). Because the indexes on these pages lead out to other indexes, you can find almost any sort of merchandise that's available just by starting with these three sites (see Figure 10-18, Figure 10-19, and Figure 10-20). That's another key feature of the rapid evolution of the Web — whereas in the early days it helped to keep meticulous hotlists of sites, now you can just use a few entry points and you have the whole show.



**Figure 10-18:** c|net — the latest and fastest growing



Figure 10-19: Commerce.net — a Silicon Valley original



Figure 10-20: GNN — almost the first commercial site, now owned by AOL

# HTML for Pedestrians

# 11

CHAPTER

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## In This Chapter:

- What is HTML?
- Creating Web pages with HTML
- Working with HTML tags
- Adding images to your Web pages
- Adding hyperlinks to your Web pages

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In order to create your own Web pages (thereby, of course, becoming a real net citizen), you need a working knowledge of hypertext markup language (HTML), which the Web uses to format text documents so that they can be displayed with a browser. For most Macintosh users, HTML is a little strange to deal with at first, mainly because it uses a system of codes and formatting tags that aren't especially intuitive. But by the time you're done with this chapter, you'll have no problem creating simple Web documents. This chapter is only intended to get you familiar enough with HTML to get you started writing Web pages, and I won't be covering the more esoteric commands.

## HTML Basics

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The idea behind HTML is to have a consistent document format that can be read by any Web browser running on any computer system, and to have that document be interpreted in a similar way on all those systems. That means that you need a file format that can be read by any computer, and good old plain ASCII text files fit the bill. On the Mac, ASCII files are usually referred to as text-only files; they lack styled text such as boldface or italics, and they also don't have paragraph formatting such as centered or justified text. In short, they're dull — but they can be universally read by any kind of computer.

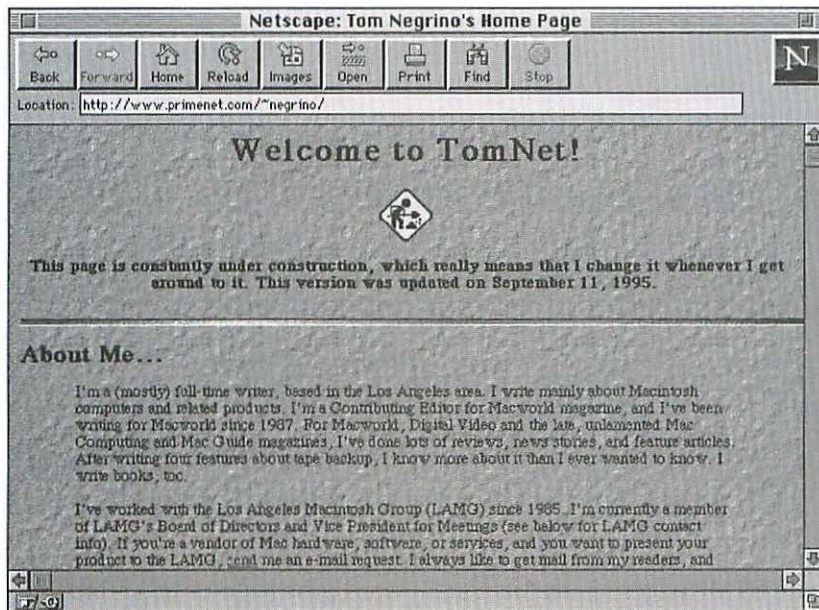
Trouble is, people don't like to read dull-looking pages; imagine how bored you'd be if every document you looked at was in 12-point Courier. So the creators of the Web invented HTML, which describes the structure of a document using special formatting commands called *tags*. These tags are used to define parts of the document such as the title, headings, body text, and the like. Tags are also used to define Web hyperlinks, pictures, and any other elements on the page. Web browsers read the tags in an HTML file and display the page according to the tags' instructions.

When the Web was born in the early 1990s, some sites, which were also creating Web browsers, began to define their own tags, making it difficult or impossible for people using other browsers to read the Web documents from that site. The Internet community soon decided to standardize HTML, a standard that has required revision as the Web has grown and Web page creators have yearned for more creativity and flexibility in the way their pages appear. The current standard version as this book is written in the fall of 1995 is HTML 2.0, with version 3.0 being finalized.

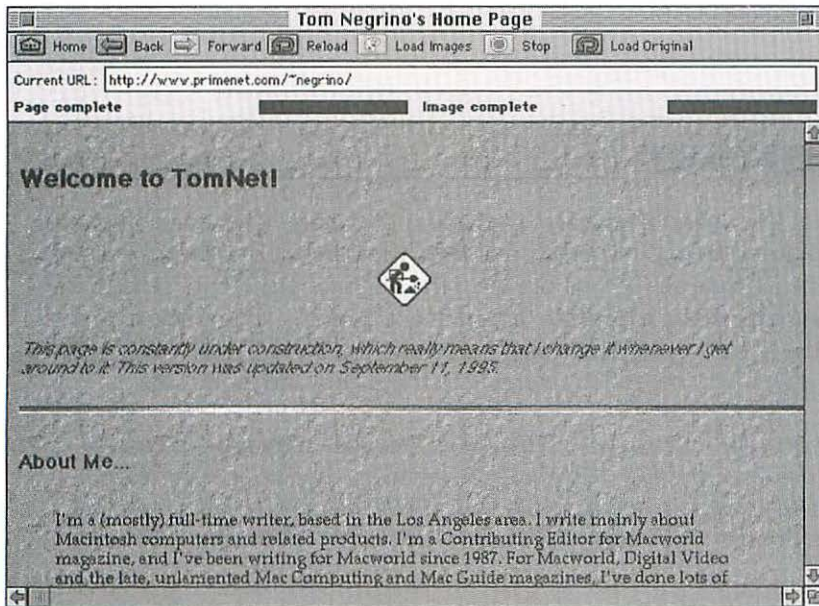
But wait, just because there's a standard, does that mean that all the browser makers adhere to that standard? Of course not. The most popular browser, Netscape Navigator, introduced new HTML tags, the Netscape Extensions, which allowed such things as tables, colored backgrounds, and better control of how text appears on screen. The Netscape folks cleverly gave away their browser, which runs on Macs, Windows machines, and Unix boxes, to all comers, with the result that about 70 percent of all the browsers in use today are from Netscape. Web authors began designing HTML pages using the Netscape extensions (that's why you'll see many Web pages with the notation "Netscape enhanced"), and these pages (like the one in Figure 11-1) don't display as well, if at all, in other browsers such as America Online's Web browser (Figure 11-2). Netscape has made its extensions public and is attempting to get them included in the HTML 3.0 specifications. It's clear that whether or not Netscape extensions are adopted as official, the company is determined to drive the browser market and make its extensions to HTML the de facto standard. The recently released Netscape Navigator 2.0 has a whole new batch of Netscape extensions. Like everything else about the Web, HTML is in a state of flux. Time (and market pressures) will tell if other browser manufacturers decide to support some or all of the Netscape extensions that don't end up in the HTML 3.0 specs.

**Tip**

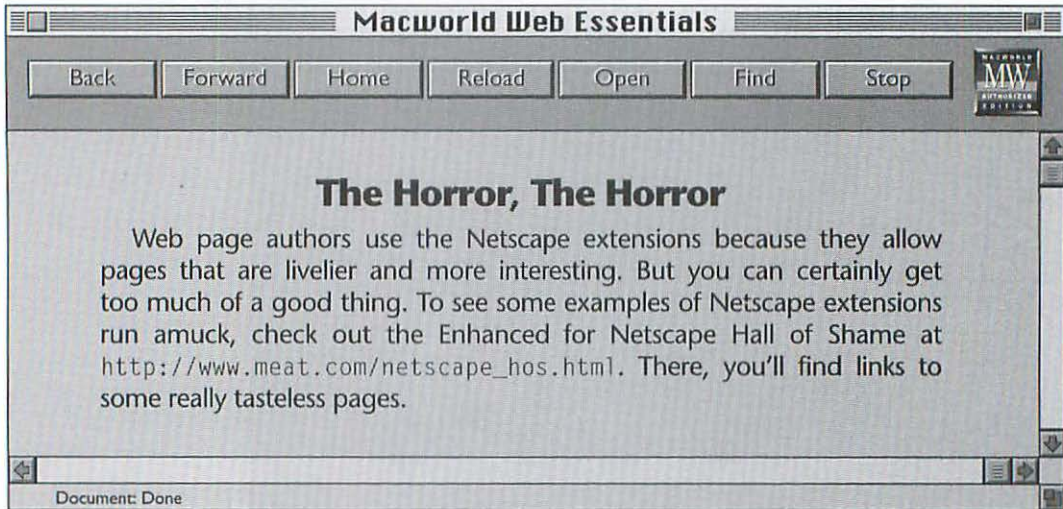
There's an interesting Web page that gives examples of how to use HTML 3.0 tags instead of the Netscape extensions, thereby ensuring that your documents will be more universally readable without sacrificing advanced layout capabilities. Surf to <http://ic.corpnet.com/~aking/webinfo/html3andns/>.



**Figure 11-1:** A home page displayed with Netscape Navigator



**Figure 11-2:** The same page displayed with America Online's Web browser. Note the differences in fonts and text alignment.



Tip

You can create HTML pages in any Macintosh word processor or text editor, saving the files as text-only documents, or you can use a specialized program that will insert the tags for you. A shareware program that can do this is HTML Web Weaver, written by Robert C. Best III; a commercial program from Adobe Systems, PageMill, enables you to create Web pages in a WYSIWYG (what you see is what you get) fashion.

## Tag Grammar

All HTML tags are enclosed within angle brackets (< and >). Some tags come in pairs that define the beginning and end of a section of text. You can think of these types of tags as containers, formatting all the text between the beginning and end parts of the tag. To open the container you start with a tag, such as <TITLE>. Then to close the container, you use the same tag, adding a slash before it, like so: </TITLE>. Other types of tags only require one instance, so I'm referring to them as stand-alone tags.

You don't have to worry about case with HTML tags, because they are not case-sensitive; to a Web browser, the tag <HEAD> is the same as <head> or even <HEAd>. For consistency's sake, however, and to make your HTML easier to read, you might want to do as I have done in this chapter, and make the HTML code all uppercase.



## Speaking the Language

The different kinds of tags that we'll be covering in this chapter can be split into five categories:

- Setting up the page
- Formatting the content
- Making lists
- Creating hyperlinks
- Linking to pictures, sounds, and movies

### Setting Up the Page

These tags define the basic structure of the document. While they don't affect the appearance of the Web page when it is displayed, they identify the parts of an HTML document to browsers. There are four container tags that should be used in all HTML pages: `<HTML>`, `<HEAD>`, `<TITLE>`, and `<BODY>`.

An HTML document should begin with the `<HTML>` tag and end with the closing `</HTML>` tag. Everything else in the document should be enclosed within these two tags.

Next, you should define the header of the page, a relatively short section that contains the title of the document and, optionally, any nondisplaying comments that you want to include in the HTML source code. You use the `<HEAD>` and `</HEAD>` tags to define the header.

Any text between the beginning `<TITLE>` tag and the closing `</TITLE>` tag will appear in the title bar of the Web browser viewing the page.



Tip

As a matter of style, it's a good idea to make sure that your page titles have a meaning that doesn't depend on the context of the other Web pages on your site. In other words, make sure that the title can stand alone if a reader jumps to your page from somewhere else on the Web. For example, if you're creating your home page, it's better to title the document "Jane Smith's Home Page" rather than "My Home Page," because the latter isn't as descriptive.

If you want to include a comment in the header, you use the special Comment tag, which opens with `<!--` and closes with `-->`. (In other words, `<!--`This is where the text of the comment goes.`-->`) Comments are useful both to you and to other people who are reading your HTML code; in either case, a comment can explain reasons for updating a document, inform the reader about that document's revision, or identify anything else you want to put in, such as a copyright notice. After the title and comments, remember to close the header with the `</HEAD>` tag.

Next you need to open the body of the document by issuing the <BODY> tag. All of the text, hyperlinks, pictures, and any other visible contents of your Web page will go in the Body section.

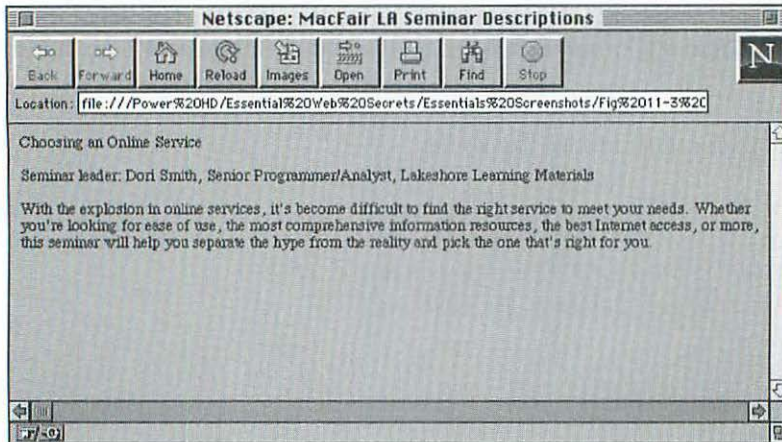
So here's what our HTML document looks like so far:

```
<HTML>
<HEAD>
<TITLE>Welcome To My First Web Page!</TITLE>
<!--Last revised January 22,1996.-->
</HEAD>
<BODY>
  Body of the document
</BODY>
</HTML>
```

## Formatting the Content

These types of tags affect the way that text will appear in your Web page. Remember that browsers ignore any carriage returns or white space in your document and that you must specify line breaks with an HTML tag. The simplest way to break a line is to use the <BR> tag. This tells most browsers to end the current line and go to the next line. The <P> tag marks the end of a paragraph, and browsers will put a line between paragraphs marked with the <P> tag. Both the <BR> and <P> tags are stand-alone tags. Here's an example of some HTML code, and Figure 11-4 shows the result displayed with Netscape.

```
<HTML>
<HEAD>
<TITLE>MacFair LA Seminar Descriptions</TITLE>
<!--Last revised November 22,1995.-->
</HEAD>
<BODY>
Choosing an Online Service<P>
Seminar leader: Dori Smith, Senior Programmer/Analyst,
Lakeshore Learning Materials <P>
With the explosion in online services, it's become difficult
to find the right service to meet your needs. Whether you're
looking for ease of use, the most comprehensive information
resources, the best Internet access, or more, this seminar
will help you separate the hype from the reality and pick
the one that's right for you. <P>
</BODY>
</HTML>
```



**Figure 11-4:** Here's the sample conference page displayed with Netscape Navigator.

As you can see here and in Figure 11-4, this isn't the world's most exciting document to look at. Let's spice it up a bit by formatting two of the paragraphs as headings.

## Headings

You use headings to divide up your document to indicate to the reader the important parts of the page. In an HTML document, you can have up to six levels of headings, specified in this fashion:

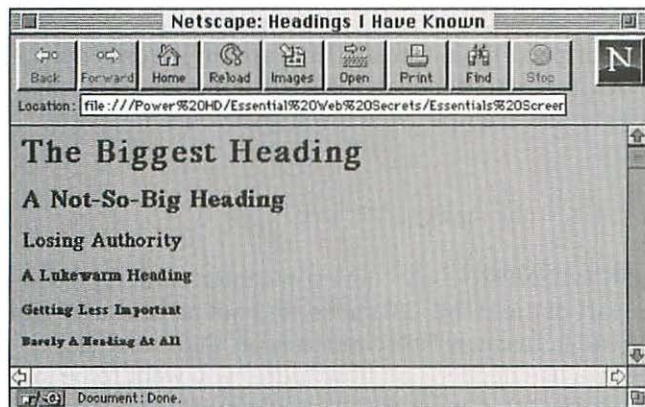
```
<H1> . . . </H1> (Biggest heading)
<H2> . . . </H2>
<H3> . . . </H3>
<H4> . . . </H4>
<H5> . . . </H5>
<H6> . . . </H6> (Smallest heading)
```

Figure 11-5 shows the six heading levels.

Here's the portion of the sample HTML code with headings added:

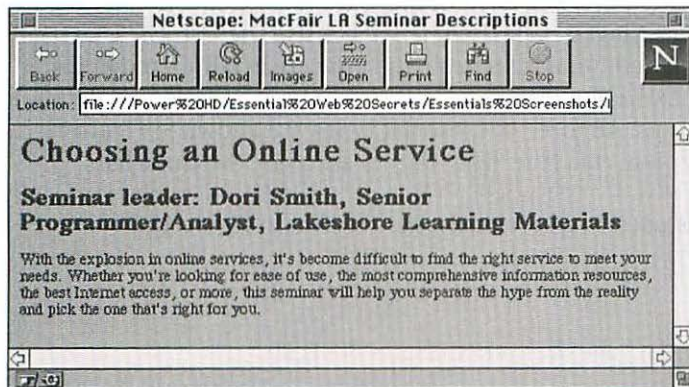
```
<BODY>
<H1>Choosing an Online Service</H1><P>
<H2>Seminar leader: Dori Smith, Senior Programmer/Analyst,
Lakeshore Learning Materials</H2><P>
```

With the explosion in online services, it's become difficult to find the right service to meet your needs. Whether you're looking for ease of use, the most comprehensive information resources, the best Internet access, or more, this seminar will help you separate the hype from the reality and pick the one that's right for you.<P>  
</BODY>



**Figure 11-5:** The six HTML heading levels

The result of adding headings changes the appearance of the page, as shown in Figure 11-6:



**Figure 11-6:** The visual result of adding a few heading tags can be quite dramatic.

## Horizontal Rules

Another good way to split up the divisions of a document is to use the stand-alone `<HR>` tag. This draws a horizontal line across the page. The Netscape extensions include several useful options for modifying the width, thickness, and alignment of a horizontal rule; for more information take a look at the Netscape specification at the URL

[http://home.mcom.com/assist/net\\_sites/html\\_extensions.html](http://home.mcom.com/assist/net_sites/html_extensions.html).

## Character Formatting

These tags let you emphasize particular parts of your text. There are three container tags: `<B>...</B>` for boldface, `<U>...</U>` for underlined, and `<I>...</I>` for italics. You can even use these tags together, such as in this example, which will give you some pretty tasteless bold underlined italic text:

```
<B><U><I>Doesn't this look tacky?</B></U></I>
```

Another useful container tag, `<P ALIGN=CENTER>...</P>`, lets you center paragraph text. The trouble with this tag is that it's part of the HTML 3.0 specs, and not all browsers can read it. Specifically, Netscape can't read it, because Netscape uses an alternative tag, `<CENTER>...</CENTER>`. Which one you use depends on how "pure" you want to be in writing your HTML and whether you expect that most of the people reading your pages will be using Netscape. If you warn your readers that your page is best viewed with Netscape's browser, then by all means, use the `<CENTER>...</CENTER>` tags.

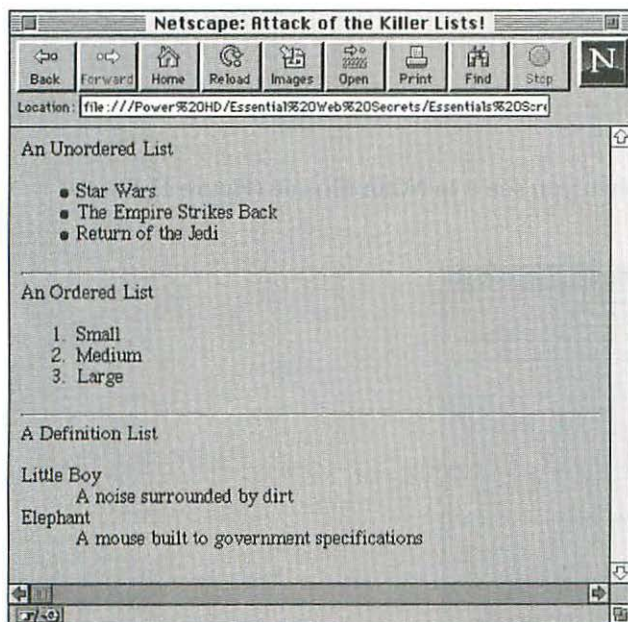
## Making Lists

Three types of lists can be created in HTML. Each of these three sets of container tags creates an indented list on the displayed page. *Unordered lists* use the `<UL>...</UL>` tags and are displayed as lists of bulleted items. *Ordered lists* show up as numbered items, and use the `<OL>...</OL>` tags. *Definition lists* show a term and then an indented definition by using the `<DL>...</DL>` tags. All three of these list types are shown in Figure 11-7. Note that I've also used a horizontal rule (the `<HR>` tag) to separate the three lists.

Here's the HTML code that was used to generate the lists shown in Figure 11-7:

```
<HTML>
<HEAD>
<TITLE>Attack of the Killer Lists!</TITLE>
</HEAD>
<BODY>
An Unordered List <P>
<UL>
<LI>Star Wars
```

```
<LI>The Empire Strikes Back
<LI>Return of the Jedi
</UL>
<HR>
An Ordered List <P>
<OL>
<LI>Small
<LI>Medium
<LI>Large
</OL>
<HR>
A Definition List<P>
<DL>
<DT>Little Boy
<DD>A noise surrounded by dirt
<DT>Elephant
<DD>A mouse built to government specifications
</DL>
</BODY>
</HTML>
```



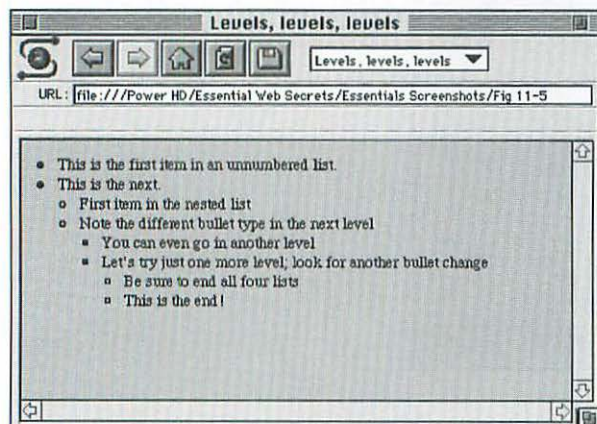
**Figure 11-7:** The three HTML list types

You probably noticed in this code that there were some new tags. The `<LI>` tag is used in both unordered and ordered lists to define a new list item. In unordered lists, every time you use the `<LI>` tag, you get a new bulleted item. In ordered lists, the browser takes note of the `<LI>` tag and numbers the list. Two other stand-alone tags are used in definition lists: the `<DT>` tag creates the definition title, and the `<DD>` tag denotes the definition's description.

You can create nested lists to display further indenting, like so:

```
<UL>
<LI>This is the first item in an unnumbered list.
<LI>This is the next.
<UL>
<LI>First item in the nested list
<LI>Note the different bullet type in the next level
<UL>
<LI>You can even go in another level
<LI>Let's try just one more level; look for another bullet
change
<UL>
<LI>Be sure to end all four lists
<LI>This is the end!
</UL>
</UL>
</UL>
</UL>
</UL>
```

Here's how the above code looks when you see it in NCSA Mosaic (Figure 11-8):



**Figure 11-8:** Getting down with indented levels

As you can see, every time you indent the text by nesting the list, the bullet character changes. Depending on your browser, the bullet characters used for each level may be different, but they will still change.

## Creating Hyperlinks

Hyperlinks (or “links,” for short) are the key to the Web. Links connect your documents with other pages out on the Web, to other spots in your own pages, and with documents of other types, such as graphic, movie, and sound files. The power of the Web, in fact, is largely due to links. It’s nothing short of incredible that you can bounce all over the planet with just a few clicks of your mouse. Links make possible the amazing journey of discovery that is the Web.

The main tag for creating links is the `<A>...</A>` container. The *A* stands for anchor, in this case. Anchors are the beginning and end points of the link, and you have to specify one of two attributes for the `<A>` tag. The `HREF` attribute makes the anchor link to another Web document. The `NAME` attribute defines a point within a document that an `HREF` can link to.

Using the `HREF` attribute turns a bit of text or a graphic into a hyperlink. The `HREF` syntax is:

```
<A HREF="URL">linked text</A>
```

The URL can be either a full Universal Resource Locator that specifies another document on the Web, or the directory path to another file on your Web server. The reader sees only the underlined text, in this case the words “linked text.” When the reader clicks the underlined text, the browser will jump to the specified URL.

Here’s an example of a link to a page I like:

```
<A HREF="http://www.cnn.com/">CNN Interactive Home Page</A>
```

Clicking the hyperlink “CNN Interactive Home Page” will take you to the Cable News Network’s Web site.

Using the `NAME` attribute defines a portion of your Web page as a destination for a hyperlink jump. These are great for tables of contents; you add the name to the URL portion of the `HREF`, and clicking the hyperlink takes you not only to the URL, but to its named section.

Here's how it works. You mark a section of your document with the NAME tag, like this:

```
<A NAME="anyname">anchor text</A>
```

For example, to have a reader locate the information about your January meeting, you'd set up a name tag first.

```
<H3><A NAME="January">January 1996</A></H3>
```

Then you reference that name in your HREF URL, adding #anyname (that's the pound sign [#] and the name) to the end of the URL. Here's an example from the document events.html:

```
<H1>Upcoming Events</H1>
<A HREF="/events.html#january">January Meeting</A>
...
```

When the reader clicks the text *January Meeting*, the browser searches the page for the name *january* and jumps to that spot. In this case the named text was found inside the heading; you can reference text anywhere in the body of a document.

## Linking to Pictures, Sounds, and Movies

Spicing up your Web pages with multimedia files is just as easy as adding any other link, except that instead of linking to another page, or other text, you're choosing to link to a sound, video, or graphic file. One thing to keep in mind with all of these is that they take up more space than text, so you have to plan for the possible effect on the readers of your pages. Most readers are using 14,400-bps or 28,800-bps modems, and it takes a significant amount of time for these modems to download big files. In other words, if you load up your pages with a ton of huge sounds, videos, and images, don't be surprised if most people surf away before they appreciate your masterpiece, because nobody likes to wait while big files load.

### Pictures

Graphics on your Web pages (also known as in-line graphics) should be in one of two formats, GIF or JPEG. It's a good idea to use GIF files for in-line graphics that accent your page, and to use the larger JPEG files for continuous-tone graphics, such as photographs. The idea is to minimize the amount of graphics that the reader has to download in order to view your page. There's nothing that annoys someone with a 14,400-bps modem more than having to wait for a 100K picture of your dog. So try to keep each of the graphics on your page to under 15K, and don't overload your page with in-line graphics.

You can integrate pictures with your Web pages by using another new tag, <IMG>. The syntax works like this:

```
<IMG SRC="name.ext">
```

or

```
<IMG SRC="name.gif">
```

Yes, we're looking at a file extension, just like on those Windows or Unix machines. But hold your righteous Mac disgust for a moment; it turns out that this extension tends to be useful. After you've uploaded your files to the Web server, the extension reminds you what format the file is in.

The URL of the image file is specified with the SRC attribute. As with the <A HREF> tag, you can use an entire pathname or just the name of a local file.

The default alignment for images is that they are aligned with the text's baseline. You can force-align the text to the top, middle, or bottom of the image by adding the TOP, MIDDLE, or BOTTOM attributes to the IMG tag, as in these examples:

```
<BODY>
<IMG SRC="news.jpg" ALIGN="TOP">All the news that fits
(Aligned to top)<P>
<IMG SRC="news.jpg" ALIGN="MIDDLE">All the news that fits
(Aligned to middle)<P>
<IMG SRC="news.jpg" ALIGN="BOTTOM">All the news that fits
(Aligned to bottom)<P>
</BODY>
```

Figure 11-9 shows the effect of using these alignment commands.

You can also embed a graphic inside a hypertext anchor with the following syntax:

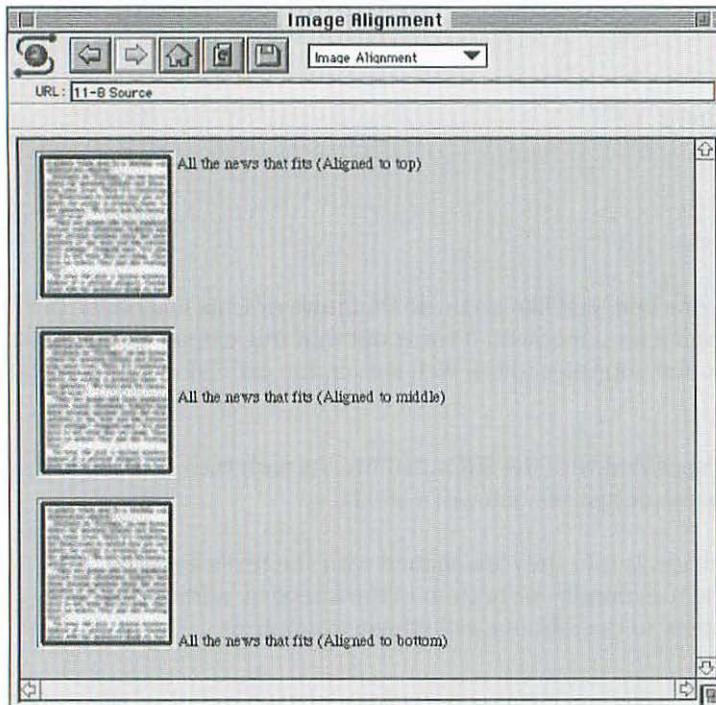
```
<A HREF="URL"><IMG SRC="name.ext"></A>
```

If the user clicks the image, his or her browser will jump to the specified URL.

## Sounds

To link to a sound file on the Web, you create a hyperlink that leads to a file, with the syntax:

```
<A HREF="name.ext">Here's a sound file</A>
```



**Figure 11-9:** Aligning text with in-line graphics

In this case the file extensions tip off your Web browser that it needs to deal with a sound file. Most browsers don't have the wherewithal to deal with sounds themselves; instead, they call on a separate helper application that plays the sound (see Chapter 5 for more about helper apps).

The most common types of sound files you'll run into on the Web are listed in Table 11-1.

Table 11-1 Common Sound Formats and Their File Extensions	
<i>File format and extension</i>	<i>Description</i>
AU	The most common Unix sound format
AIFF	The most common Mac sound format
SND	An ambiguous (but popular; go figure) format, mostly associated with Unix machines
WAV	MS Windows WAVE audio format

## Movies

There seems to be a close battle for the most common type of video file on the Web, with the combatants being the Windows AVI format and the Apple QuickTime movie format. Both of these formats are fine for limited video; at the resolutions usually found on the Web, you get jerky motion, with movie speed of around 15 frames per second. For full-motion, 30 frames-per-second video, MPEG is a popular choice. You're likely to find any of these on the Web, and using downloaded video files was explained in Chapter 5, "Helper Applications." To post movies on your Web pages, you use the same technique as you would for sound files, with the syntax:

```
<A HREF="name.ext">Here's my video file</A>
```

Remember that digital video files are almost always huge; it's a polite thing to let readers know how big the file is in your link so they can decide whether they want to spend the time to download the file. For example, you might use this format:

```
<A HREF="cruise.mov">Here's the home movies from my Carib-  
bean cruise (4786K)</A>
```

## Learning More About HTML

---

Can't get enough of this stuff? There are lots of places on the Web where you can find out everything you ever wanted to know (and probably *more* than you ever want to know) about creating Web pages. Here are a few of my favorite links for HTML information:

➤ A Beginner's Guide to HTML

<http://www.ncsa.uiuc.edu/General/Internet/WWW/HTMLPrimer.html>

This primer from NCSA (National Center for Supercomputing Applications) is terrific.

➤ The Bare Bones Guide to HTML

<http://www.access.digex.net/~werbach/barebone.html>

This is a nice quick-reference guide to the commonly used HTML tags. Not much instruction or explanation here, just the raw descriptions of the HTML tags, so that you can check your syntax. Another nice touch is that each tag is annotated as to whether it's an HTML 2.0, HTML 3.0, Netscape 1.0, or Netscape 2.0 tag.

➤ **Web Wonk: Net Tips for Writers and Designers**

[http://www.best.com/~dsiegel/tips/tips\\_home.html](http://www.best.com/~dsiegel/tips/tips_home.html)

David Siegel is a type designer, typographer, writer, and Web site designer. He really knows his stuff, and he shares it with the world on his Web site. Highly recommended if you want to learn how to make pages that really work. The best thing about this guy is that he has a real point of view, and he's opinionated as all get out. The rest of his pages are great, too.

➤ **Yahoo: HTML Guides and Tutorials**

[http://www.yahoo.com/Computers\\_and\\_Internet/Software/Data\\_Formats/HTML/Guides\\_and\\_Tutorials/](http://www.yahoo.com/Computers_and_Internet/Software/Data_Formats/HTML/Guides_and_Tutorials/)

The guide to guides, from the best index on the Web.

➤ **Top Ten Ways to Tell If You Have a Sucky Home Page**

<http://www.winternet.com/~jmg/topten.html>

# Web Site Essentials

# 12

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## In This Chapter:

- Web page design tricks and tips
- Tools for page makers
- Posting your pages with an ISP
- Creating your own Web server

---

Now that you know the basics of HTML, you're probably eager to get started creating your own Web pages. In this chapter we'll give you some tips on how to make more readable pages, and show you some pitfalls to avoid. You'll also learn about the available software tools for building your pages. Finally, we'll talk you through putting your pages up on the Web, either with someone else's server or your own.

## Web Design Tips

---

It's tempting to just get started cranking out your own HTML documents, but it's a better idea to spend a bit of time thinking about what you want to accomplish first. Here are some tips that will help you get started building your own Web pages.

### Planning, Planning, Planning

Even if you're only planning to put up a few pages, start thinking about what you're doing as a unified web site. Rather than putting up one long page, break it up into shorter, easier to digest pages. Think of your main home page as a table of contents for the rest of your site. The time that you spend planning your message will pay off many times over.

Before you start writing your own pages, use the View Source command in your Web browser to check out other people's pages, to see how it's done. Don't simply copy somebody else's cool page; it's bad form, and you'll learn more if you do it yourself.

When you create your pages, make sure that you also create a page with information about yourself. Then, at the bottom of your other pages, you can put a small link to your info page. It's like signing your work.

Unless you're writing deathless prose for the ages, it's a good idea to put the date that each page was last updated somewhere on your pages. It helps the readers know just how fresh — or stale — the information they're reading is.

Another way to help your readers get around your pages is to put a consistent icon at the bottom of each page that links back to your home page. That way, the reader always has a quick way to get back to the start of your site.

While you're creating your pages, make sure that you use more than one type of Web browser to preview your pages. You want to make sure that people can read your stuff no matter what browser they're using, and you'll be surprised to see how differently the same pages come across with different browsers. If you must use features supported by only a few browsers (or even by only one, like Netscape Navigator), make sure that you warn your readers that you've designed the page with a particular browser in mind.

If you create a large site with lots of pages, make sure that you also make a title page with links to the rest of the pages, so that readers can jump to where they want, when they want. As a corollary, don't make each individual page too long, because people don't like to scroll a lot on each page. You're better off making each Web page no longer than about three or four printed pages.

If you want to check your HTML code against the standards, you can validate any of your Web documents at the HTML Validation Service, by Hal Software Systems. You'll find this service at <http://www.halsoft.com/html-val-svc/>.

## Text Tips

It's awfully easy to get caught up in the coolness of the Web and forget that it's just another communications medium — the intent of which is to *communicate* with your readers. So remember: too much cute design and too many clever pictures and wacky backgrounds impede your message rather than enhance it.

Just because you *can* put in a lot of hypertext links, it doesn't mean that you *should*. Links every few words will quickly make your text difficult to read. On the same subject, unless you set out to create a site that is a hotlist of other sites, try to avoid including a

long list of links. Remember that what you're trying to do is create your own home page, and say something about yourself or your business. A list of links is an invitation for your reader to leave your site and forget your message. Besides, there are already a zillion "cool sites" pages out there; at this point, the world doesn't need another.

Again on the subject of links, it's better to avoid the tendency to use "Click here" for links. For example, it's more readable if you say "Here are some pictures of my vacation," instead of "For pictures of my vacation, click here."

Finally, try not to use the abominable Netscape <BLINK> HTML tag, which causes text to "blink" on and off for emphasis. It's tasteless (Figure 12-1).



**Figure 12-1:** No Blinking! You have been warned!

## Picture Perfect

It's nice that the Web is a graphical medium, but badly done pictures can be the nemesis of a well-done page. Probably the most common Web mistake is cluttering pages with huge graphics that take forever to download. You might think that it's cool to put that 24-bit, 150K picture of your kitty on your home page, but the reality is that people with slower modems are just going to hit the Stop button on their browser and move on to some other page that isn't such a pain to load. Even people with fast connections are intolerant of pages that are gratuitously stuffed with big images, especially if you don't warn the reader that big images are coming. One of us (TN) has a 56K ISDN connection at home, and even he regularly clicks the Stop button on badly done pages with huge, inappropriate graphics.

So try to abide by some simple guidelines. (And remember that with the Web, rules were made to be broken; if you do, have a good reason to break them.) Try to keep your major pictures down to around 20K or 30K in size; for icons, 10K is a good maximum. The vast majority of your readers will be using color monitors set at 256 colors, so images with thousands or millions of colors will be overkill, and take quite a bit longer to load.

The format for your graphics should usually be GIF, of the type known as 89a interlaced. Interlaced graphics appear to fade in on the screen, gaining resolution as they load. The nice thing about them is that the reader can get a decent idea of what the picture is as it

fades in. Noninterlaced GIFs and JPEGs load line-by-line from the top down, and you often have to see more than half of the picture to decide if you want to load the whole thing. The GIF format is limited to only 256 colors, but if you can reduce the number of colors in your graphic, do so — the fewer colors, the smaller (and faster-loading) the image will be.



There's a nice tutorial on the Web, written by graphic artist Mike Davey, that tells you how to reduce the number of colors in your GIF files; you'll find it at <http://www.atw.fullfeed.com:80/~davey/GIFhowto.html>.

Continuous-tone images, such as photographs, are best uploaded as JPEG files. JPEG format uses a *lossy* compression scheme that throws away some of the picture's information in exchange for a smaller file size. When creating your JPEG files, experiment with Photoshop or your other graphics programs to discover the best amount of compression for your needs.

## Tools for Page Makers

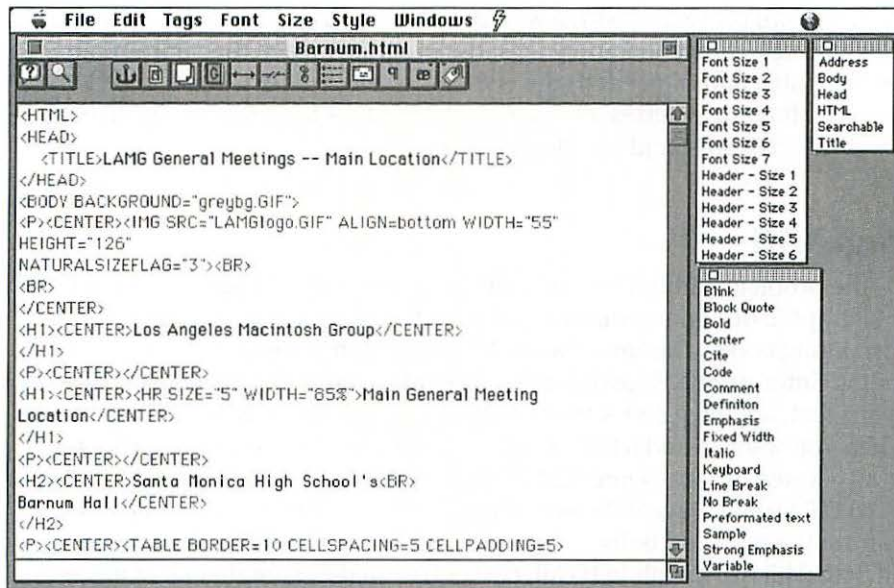
You'll need three kinds of software tools to build your Web site. The first type helps you write your HTML pages. The next kind edits your graphics. And the last type lets you place your site on the Web, either by uploading the files to your ISP's server, or by letting you set up your own server.

### HTML Creation

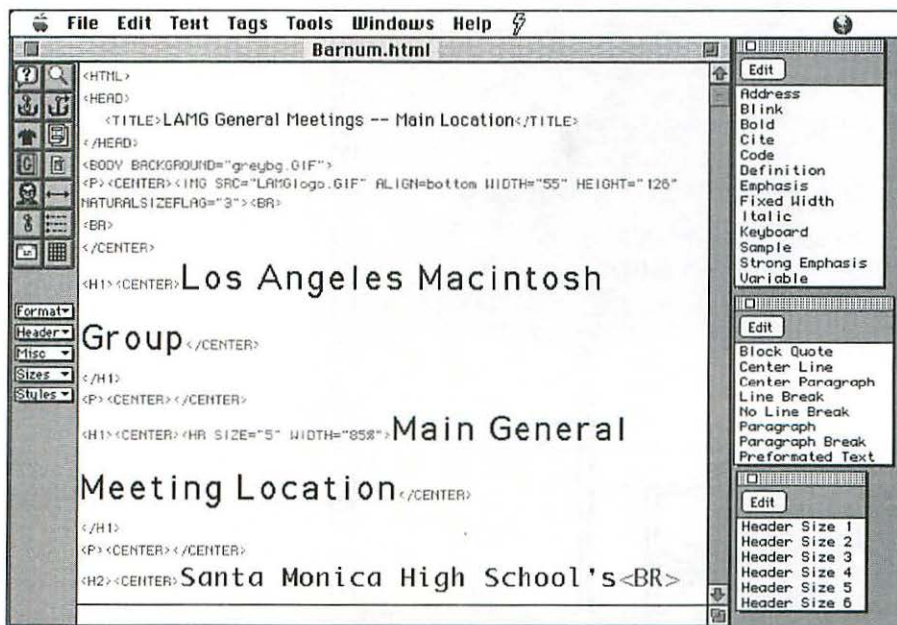
Until recently, there were very few options for creating HTML documents. In fact, the most popular HTML creation tool was the lowly Simple Text. But the last half of 1995 brought a new slew of HTML editors designed to make Web page creation a snap.

### HTML Web Weaver and WWW Weaver

These two programs were both written by the same person, Robert Best. He made the shareware HTML Web Weaver (\$25), which is shown in Figure 12-2, available in early 1995. He made significant improvements to it throughout the year. In late 1995, he released the commercial version of the product and called it World Wide Web Weaver (\$50), which appears in Figure 12-3. WWW Weaver is more capable than its shareware predecessor, with the ability to create tables, an improved interface and HTML parser, and the ability to understand more tags.



**Figure 12-2:** HTML Web Weaver has lots of tools to make HTML creation easy.



**Figure 12-3:** WWW Weaver is the slicker, commercial version of HTML Web Weaver.

In both versions you are presented with a window where you enter the text for your Web page. Then you select text and apply tags; the programs place the appropriate markup at the beginning and (if needed) the end of the selected text. You can pick the tags from the handy floating palettes, or you can choose tags from menus. In all, both of these are very good programs, and are highly recommended.

## Adobe PageMill

Let's face it — the problem with HTML coding is, well, the code. It's just not the sort of thing that most graphic designers want to deal with, harking back as it does to the bad old days of formatting codes. Designers want WYSIWYG (what you see is what you get), and HTML isn't it. Enter Adobe PageMill, which provides you with you a blank page. You simply type your text, applying styles to the text as you would in any Macintosh word processor. When you want to add a GIF or JPEG graphic, you just drag it onto the page, positioning it as you see fit (see Figure 12-4). If the graphic is a PICT, PageMill converts it automatically to GIF format. PageMill creates the HTML code in the background, shielding you from the nuts and bolts. In fact, you can't view the HTML from within PageMill at all. PageMill has a built-in HTML parser that makes sure that all of its code is correct, so there are no more silly mistakes like forgetting to close a tag.

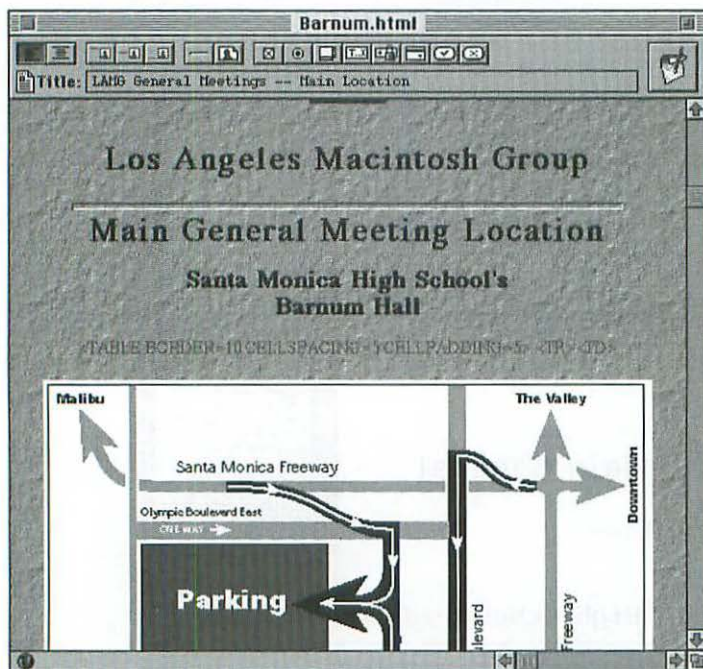


Figure 12-4: PageMill tries to make HTML creation a WYSIWYG experience.

PageMill also makes sure that links are correct. If you cut and paste links between pages, PageMill automatically fixes each link so that it points to the correct location. The program also supports image maps, as well as tools; to create interactive forms; you can specify a GIF to be interlaced, and portions of a GIF to be transparent.

All this may sound as though the millennium has arrived, but PageMill is still a product in progress. As of version 1.0 and the end of 1995, PageMill couldn't handle the creation of tables, and it only dealt with HTML 2.0 tags and a few other selected HTML 3.0 and Netscape tags. It also wasn't the world's most stable program; users reported unexplained crashes and other bugs. Adobe will undoubtedly be updating the program on a regular basis; for now you might do best to wait for version 2.0.

Even with these limitations, PageMill has still generated an enormous amount of interest among Web page creators. It's much faster to create pages initially in PageMill and then, if necessary, to tweak them in BBEdit or WWW Weaver.

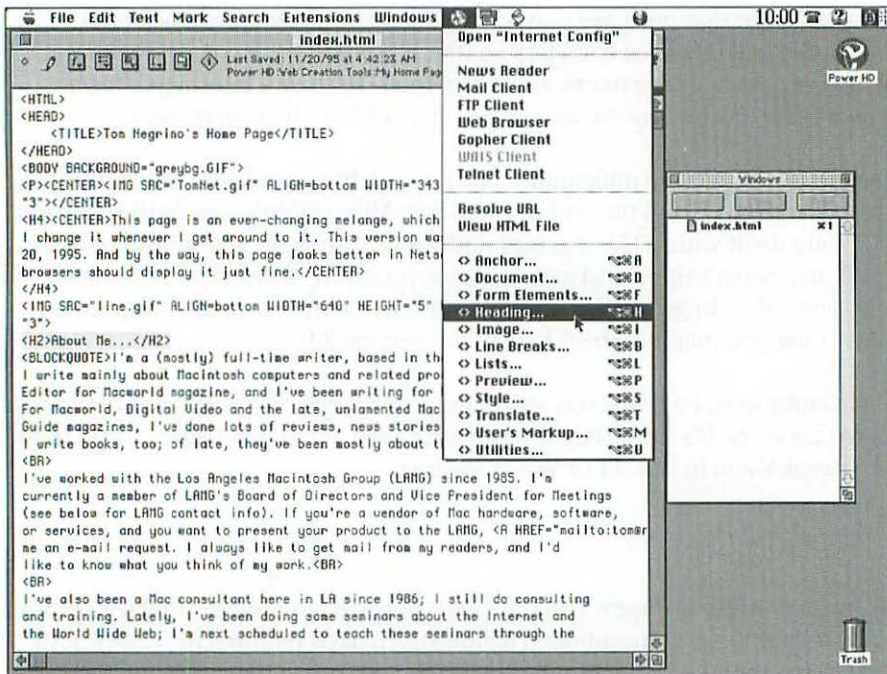
## **BBEdit**

Bare Bones Software's BBEdit (Figure 12-5) is a high-powered text editor that's a favorite of professional programmers. It has about a zillion specialized features for C, C++, and Pascal programmers, but it became popular for HTML creation when a BBEdit user wrote some plug-ins to the program that inserted HTML tags. The program is very fast and has excellent find and replace features. It also supports drag and drop, AppleScript, and other technologies to make your life easier. There's also a freeware, less-powerful version of the program, called BBEdit Lite, available at Bare Bones Software's Web page: <http://www.tiac.net/biz/bbsw/>.

## **Word Processors**

New versions of word processing programs are increasingly including an HTML creation facility. Some of these work better than others; you should try before you buy.

ClarisWorks 4.0 includes a translator that converts ClarisWorks word processing documents into HTML. The translator isn't very capable; it's really only appropriate for the simplest Web pages. WordPerfect 3.5 includes a converter that takes a WordPerfect file and saves it as an HTML document. This one works OK, but you're better off using PageMill, WWW Weaver, or BBEdit for industrial-strength pages. Nisus Software's NisusWriter includes a very good suite of macros that add the ability to include HTML markup in your documents; it's the best of the word processing bunch.



**Figure 12-5:** BBEdit is a popular text editor for people who like to crunch their own HTML.

## Picture Editing

You can always use Adobe Photoshop to edit the graphics on your Web pages, but if you don't have the financial wherewithal for such a powerful product, there are shareware programs ready to step into the breach.

## Graphic Converter

This shareware program is perfect for light-duty modification of graphics files, and indispensable for converting files from one graphics format to another. This program can read and write files in most of the Mac, PC, Amiga, and Atari formats. It is absolutely worth the download and the shareware fee (\$35). Available via ftp at <ftp://mirrors.aol.com/pub/info-mac/gst/grf/graphic-converter-222.hqx>.



Note

Graphic Converter is one of the faster-changing programs out there; it seems that the author is always improving it and changing the version number. Because the version number is likely to change before this book sees print, and the version number is part of the filename in the URL above, your ftp client

may tell you that the file isn't found. Don't worry. Just shorten the URL to `ftp://mirrors.aol.com/pub/info-mac/gst/grf/`, and then look for "graphic-converter-XXX.hqx" in the resulting window (there will be some version number in place of the XXX, of course).

## Transparency

This nifty little program only does one thing. It enables you to designate a particular color of a GIF image as transparent, so that a Web page's background will show through it. This is usually used so that the ugly bounding box around an inline graphic is suppressed, leaving just the graphic against the page background. For example, say you're using a small 3-D sphere icon as a bullet on your page. The sphere was created against a white background. You want just the sphere to show on the Web page, not a sphere with a white square around it, so you use Transparency to make the white transparent. Voilà! When you display the page in your browser, the sphere stands proudly alone. Transparency is free, and available at America Online's ftp site at `ftp://mirrors.aol.com/pub/info-mac/gst/grf/transparency-10.hqx`.

## Creating a Site on Somebody Else's Server

Most people make their personal Web pages available to the world by publishing them on the server of their ISP. Most ISPs, and even some of the online services like America Online and Prodigy, allow their users a relatively small (2MB to 10MB) amount of disk space, which they can fill with as many files (HTML and graphics) as will fit. That's more than you might think, because HTML text-only files don't take up much space, and the small inline graphic images on most pages don't, either. You'll only start chewing up disk space if you begin adding lots of JPEG-format photographs to your site. Otherwise, the amount of free disk space that you get with your Internet account is enough for a quite decent personal site. For example, one of the authors (TN) has six HTML pages with a total of 18 linked graphic files on one of his personal sites, including a couple of photographs. All together, these files take up only about 360K of disk space.

In order to get your site up and running on your ISP's server, you have to do two (or possibly three) things:

1. Create your pages.
2. Upload them to your ISP's server.
3. You may optionally have to set the Unix read permissions for your files (Calm down! All will be explained!).

We've already dealt with creating your pages, first in Chapter 11 and again earlier in this chapter. So assuming that you've got an incredibly cool and creative set of pages that are straining to burst onto the Web (or maybe just those pictures of your dog), you have to upload them to your ISP's Web server using an ftp client program. Luckily, there are two excellent ftp programs for the Mac: Anarchie and Fetch. The two programs are similar, but Anarchie is a little easier to use, so we'll discuss how to use Anarchie to upload your Web files.



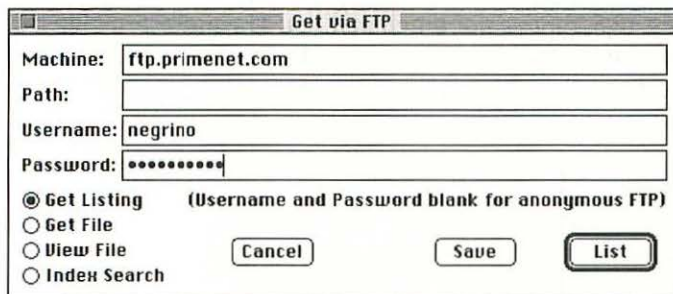
You can download Anarchie via anonymous ftp from the Arizona Macintosh User Group's ftp server, at <ftp://ftp.amug.org/pub/peterlewis/anarchie-160.sit.bin>.

## Using Anarchie

Peter Lewis's Anarchie is one of the shareware (\$10) wonders of the Internet. With it you can upload and download files from any ftp server on the Internet, and if you're using System 7.5, you can drag and drop files from remote servers right onto your desktop, and vice versa. Here's how to use Anarchie to upload the files for your Web site.

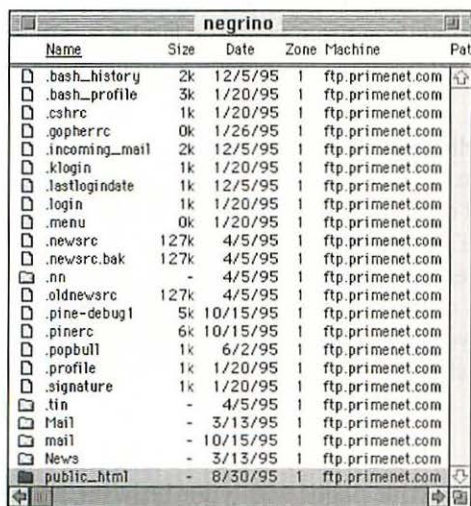
1. Ask your ISP for the location of your home page's directory on their server. As you remember from Annoying Operating Systems 101, *directory* is the term that Unix and DOS use to refer to a folder. Your ISP will probably give you a *pathname*, which is the list of the entire path to the desired directory. Here's an example: The pathname `ftp.bigcompany.com/users/jones/index.html` refers to the `index.html` file, which is inside the "jones" directory, which is inside the "users" directory, which is on the machine "ftp.bigcompany.com." The nice thing about Anarchie is that it makes the Unix directory structure appear as familiar Mac files and folders.
2. Connect to your ISP.
3. Launch Anarchie.
4. From Anarchie's ftp menu, choose the Get command. In the resulting dialog box, type the name of the machine that your directory is on (you got this from your ISP) in the Machine field. Press the Tab key to get to the next field.
5. Most systems will let you skip the Path field if you're a registered user of that system. Press Tab to get to the next field.
6. Enter your username in the Username field. Press the Tab key to get to the next field.

7. Enter your password in the Password field.
8. If necessary, click the Get Listing radio button. The result should look something like Figure 12-6.



**Figure 12-6:** Anarchie's ftp dialog

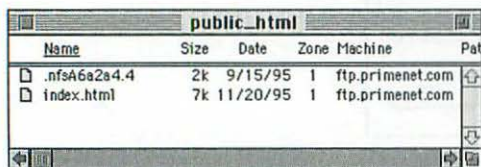
9. Click the List button. Anarchie will find the directory and display a window with its contents, as in Figure 12-7.



**Figure 12-7:** Anarchie shows you your home directory. Note the public\_html folder at the bottom of the window.

Our ISP requires that its users keep their Web files within a subdirectory called “public\_html.” Yours may do the same, or have a slightly different directory structure. If your ISP doesn’t do things exactly the same way as these examples, don’t despair; call the ISP’s support people, who will be able to help you over the hurdles.

- Using Figure 12-7 as an example, double-click the public\_html folder to open it. As you can see from Figure 12-8, there’s not much in it yet. The index.html file shown is a temporary, generic file that my ISP generated as a placeholder; it’ll be replaced by my own index.html file, which will be my real home page.

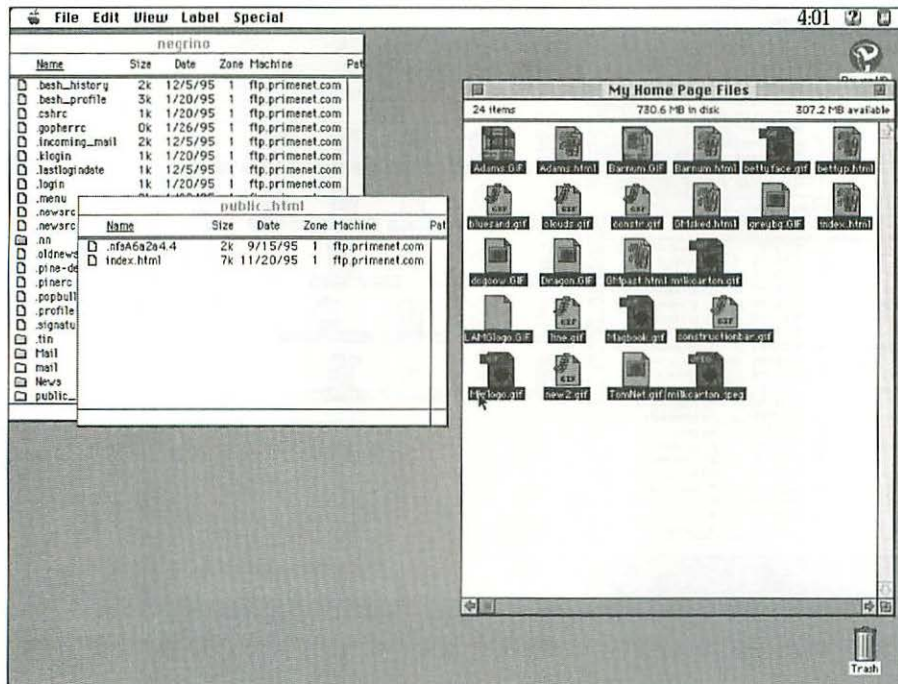


**Figure 12-8:** The public\_html directory, ready for your use, but sadly almost empty

- In the Finder, position the open public\_html directory window (from Anarchie) and the folder window with your previously prepared Web files so that you can see both windows. Figure 12-9 shows you how the windows should be set up. Then select the files in the Finder window and drag them from the Finder window to the Anarchie window. Anarchie will upload the files, displaying a small progress box as the files transfer.
- Once the progress box goes away, the public\_html directory window will not appear to change. That’s because Anarchie needs to update the directory listing. To do this, make sure that the public\_html directory window is the active window. Then choose Retry from Anarchie’s File menu. You’ll get the progress box again while Anarchie rereads the contents of the directory, and then the window will update with the new contents of the directory, as shown in Figure 12-10. That’s all there is to it. Next, fire up your Web browser, enter the URL of your home page, and check out your pages!

## Setting Unix Permissions

This section is, hopefully, optional. If you can’t view your pages with your browser, and you get an error message that says something like “Document returned no data,” it’s possible that you need to set the file permissions. Unix servers have a security system that permits or denies remote users access to files, and you might need to set the files so that the world can read and display your files. To do this, you’ll use a program called NCSA Telnet, which will enable you to log onto your Unix shell account (didn’t know you had one? Yes, you do, if you have a SLIP or PPP account).



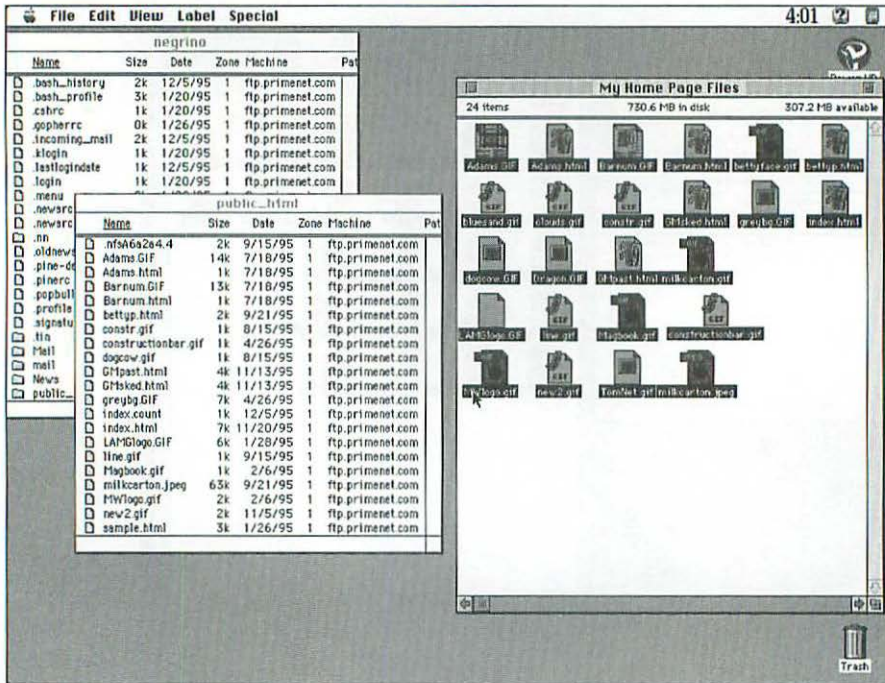
**Figure 12-9:** Dragging the files from the Finder to the public\_html window in Anarchie



You can download NCSA Telnet via anonymous ftp from America Online's ftp server, at <ftp://mirrors.aol.com/pub/info-mac/comm/tcp/ncsa-telnet-26.hqx>.

Here's what you'll need to do to set the file permissions on your account. Be aware, however, that Unix systems vary, and these instructions may not be exactly applicable to your ISP's system. If you have trouble, send e-mail to your ISP's support department and ask them for help.

1. Connect to your ISP in the usual way.
2. Launch NCSA Telnet.
3. From NCSA Telnet's file menu, choose Open Connection.
4. In the resulting dialog box, type the name of your ISP's domain into the Host/Session Name field. You can leave the Window Name field blank.
5. Click the Connect button.



**Figure 12-10:** The uploaded files on the remote server

- You'll get a terminal window, where you'll be asked to enter your username and password in order to log into the system.
- Your ISP has probably implemented a simple, text-only menu system with which you can start the programs on the system. Find and select the choice that refers to the Unix shell (a shell is the Unix command interpreter, or where you can actually enter Unix commands). See Figure 12-11 for one example.

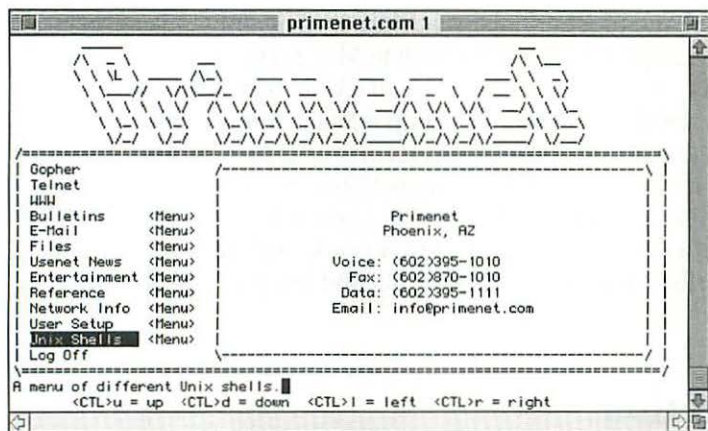


Tip

In Unix, uppercase and lowercase matter. For commands, you should always use all lowercase. You can find that a command doesn't work on a file just because you accidentally capitalized a file name.

- Once you enter the Unix shell, you'll be presented with the Unix command line. Change into your public\_html directory (or whatever directory your ISP has told you to use for your Web files) by typing the following:

```
cd public_html
```



**Figure 12-11:** This simple menu gets you to the Unix shell.

- Then, issue the following command:

```
chmod go+r filename
```

Where “filename” equals the name of the file for which the permission needs to be set. If you want to set the permissions for all the files in the directory at once, use the command:

```
chmod go+r *
```

Where the asterisk means “all files in this directory.” This command gives permission to everyone to read the files in your public\_html directory. Remember that on most systems, your initial home page file must be called index.html (all lowercase).



Tip

The Unix chmod command stands for change mode, and it’s the command that actually changes the file permissions. Above, the “go+r” part of the command tells Unix that you want to set read permission for the group and others.

## A Server of Your Own

When you need total control over your burgeoning Web site, you’ll want to have your own server hardware, on your own premises. Up until fairly recently, Web servers needed to be running on computers running Unix or Windows NT. No longer. Now the Macintosh is a completely able Web, e-mail, ftp, and gopher server. In fact, servers

running on the Mac are the second-most-popular platform, trailing only Unix servers. When you consider that you can put together a complete Mac server (both hardware and software) for under \$3,000, which won't even get you a Unix box, it's no surprise that the Mac is so popular in the server arena. To set up a Mac server, you'll need some specialized knowledge (though it's much easier than setting up a Unix server), almost any Macintosh, server software, and a dedicated connection to the Internet. Let's take a look at each of these. Explaining how to install and configure each of the parts you need for a complete Internet site is a subject for a whole other book, and we won't try to do that here. Instead, we'll describe each of the components and tell you where to get each one.

## **Making the Connection**

A Web server needs to be available to the rest of the Internet all the time; there's not much sense in providing your site only during business hours. So you'll need a dedicated, 24-hours-a-day, seven-days-a-week phone line to your Internet service provider (ISP). You can do this with an analog, 28.8 Kbps modem, or you can use a faster digital connection, like an ISDN or frame relay line (see Chapter 13 for more information on these high-speed options). Naturally, the busier your Web site, the faster you'll want your connection to be, because slow connections make your pages take longer to display, frustrate your readers, and cause them to surf away from your site.

If you have a small, "boutique" site, say one where you only have a few pages that you want to serve, and you're not expecting high volume, you can probably get by with a 28.8 Kbps modem link. Prices for these range from \$60 to \$150 per month from your ISP, plus the cost of the phone line from your telephone company.

At first glance, an ISDN connection seems ideal for a medium-size Web site. With bandwidth of up to 128 Kbps, ISDN is a more reliable digital connection that's up to four times the speed of the fastest analog modem. When you take a closer look, however, ISDN may not be financially appropriate for a Web server. Most telephone companies charge by the minute for an ISDN connection, and at an average of two cents per minute, you're running up more than \$850 in connect charges each month. This often makes ISDN impractical for a full-time connection to the Internet. Some ISPs can set up your ISDN link so that they call your location and establish a connection when there is a request for one of your Web pages, and drop the line when your site is inactive. This can significantly mitigate usage costs, but it has the problem that you can't really budget for a known cash outlay for your telecommunications costs, since it will change based on how much traffic your site generates.

For a fixed phone bill at high speeds, you'll want to look into a frame relay connection. This is another digital phone line that starts at 128 Kbps and can be expanded in jumps up to the speed of a T-1 digital line (1.5 megabits per second). Frame relay isn't cheap, but it is cost-effective if you've got a busy site. Most ISPs charge in the range of \$400 to

\$600 per month for a dedicated 128 Kbps connection, and the phone company will charge another \$200 to \$400 per month for the phone line. Startup, equipment, and installation costs will all add up to somewhere in the neighborhood of \$3,000. That's a significant amount of money, but you'll be able to put multiple computers on the Internet full time for that outlay. So you could have a Web server, an ftp server for file transfers, a mail server for private e-mail for your organization, and anything else you need.

## Master of Your Domain

To create your own Web site, you'll probably want your own domain name. This would be so that you can use the address `www.yourname.com`, where "yourname" is whatever you've decided to call yourself. You get a domain name by paying a \$100 registration fee to Internic, the organization that keeps track of all domain names. Then, to keep the domain, it'll cost you \$50 per year. Your ISP can help you register your domain with Internic. Once you've paid the fee, Internic will process the registration, sending you a notice of registration within a month. From then on, all e-mail and Web requests to your domain will be routed to you. How? Via the Domain Name Service (DNS) system.

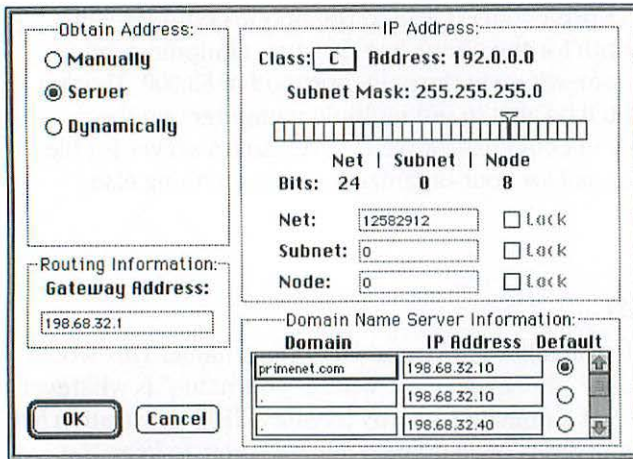
Your Web site will require DNS, provided either by your ISP or locally within your server or local network. DNS is the service that converts the dotted decimal Internet Protocol (IP) addresses into names, and vice versa. Every host computer connected to the Internet has an IP address, and every host name refers to a dotted decimal IP address. For example, Apple's main Web server, `http://www.apple.com`, has an IP address of 17.254.3.61, and you could reach it by typing either the address or the name into your Web browser. Naturally, it's easier to remember the name than the numbers. When you (or anyone) enter a host name into a browser, ftp client, or any other Internet client program, the program queries the domain name server (Figure 12-12) and resolves the name into an IP address behind the scenes, which it then uses to fetch the information you wanted.



Tip

You entered the Domain Name Server that you use into the MacTCP (or Open Transport) control panel before you first logged on to the Internet. To check it, open the MacTCP control panel again, then click the More button. You'll see the DNS settings in the lower right corner of the resulting window. You'll probably have more than one server listed; that's so DNS lookups will still succeed even if the first-listed name server, the primary, is out of commission; the Mac will try the other, secondary servers until the name can be resolved.

Typically, your Internet provider will also provide you with DNS as part of the package you get when you get a dedicated Internet connection. Your ISP will assign you a block of IP addresses for your site, which you can use for each of your servers, assuming that you have one machine for Web service, another for ftp, and still another for e-mail. Each of these servers needs a separate IP address.



**Figure 12-12:** Domain name service gets set in the MacTCP control panel.

Frankly, you're best off to let your ISP supply your DNS, if you can possibly do so. DNS is more tweeky and confusing than most other Internet services, and that's saying a lot. When your ISP deals with DNS, all you have to do is get the IP address numbers from them, plug them into your server, and away you go. Let people who actually want to mess with Unix deal with the ugly details. If you're in glutton-for-punishment mode and still want to provide your own DNS, you can do it on the Mac with either of two software packages. The first is called MIND, for Macintosh Internet Name Daemon. It's a low-cost package that's available over the Internet. The other is MacDNS (unreleased at press time), a package due from Apple. Pricing and availability were unknown.

## Server Hardware

Before we get into the software that you need to build an Internet server, let's talk a little about the hardware you'll have to get. The good news is that almost any Macintosh will do. There are Macintosh Web servers out on the Net running on everything from an original Mac II, to an SE/30, to a Power Macintosh 9500. The key is how much traffic you expect to handle. The busier your site, with the more simultaneous users, the harder the Mac has to work to keep up with the demand. Naturally, faster Macs keep up better under heavy load than slow Macs. If you're running a commercial site, it's best to use a Power Macintosh.

Apple sells three Power Macintoshes in special hardware configurations called the "Apple Internet Server Solution." They're the Apple Workgroup Server 6150/66, 8150/110, and 9150/120, and they come with a CD-ROM that has all the software needed to get a Web server up and running. The bundle includes StarNine Technologies WebStar server software; BareBones Software's BBEEdit, a text editor that's set up to

create HTML documents; Netscape Navigator; AppleSearch, Apple's information search and retrieval software that lets Webmasters index files on their server so WWW clients can search for information stored on it; and other software that enhance WebStar's utility. For more info on the Apple Internet Server Solution, check out the Web page at <http://www.solutions.apple.com/Products/Internet.solution/index.html>.

**Tip**

The biggest limiting factor in running a Web server is not the computer you're running it on, but the speed of your connection to the Internet. You can have the fastest Mac in the world as your server, but if it's on a 14.4 Kbps connection to the Internet, as far as the outside world can tell, you might as well be running on a Mac Plus.

No matter what Mac you're using, you'll want to have at least 8MB of RAM in the machine, plus a small-to-medium-size hard disk. HTML documents, being just text files, don't take up much space, and unless you're serving a lot of graphics on your pages, the average Web site won't take up more than a few megabytes on your hard disk — so you can have a perfectly robust site with even a 40MB or 80MB hard disk in your Mac.

You'll also need some sort of communications gear. If your Internet connection is via a dedicated modem link at 28.8 Kbps, all you need besides the Mac is a modem. If you're using ISDN, then you'll need an ISDN terminal adapter or an ISDN router. For a frame relay or T-1 connection, your Mac will connect via Ethernet to a router and to a device called a CSU/DSU, which then hooks up to the dedicated digital phone line. Your ISP will be able to recommend the appropriate equipment for a frame relay line.

## Spinning Your Web

Building a Web on your Mac is much easier than with any other kind of computer; in fact, there are some excellent examples available on the Net of grade school kids successfully getting WebStar servers up and running with a minimum of adult help.

### **WebStar and MacHTTP**

The Mac makes a terrific Web server mostly because of the efforts of Chuck Shotton, who wrote a shareware Web server in 1993 called MacHTTP. This product was bought by a publisher and substantially revised and supercharged. It's now available as the commercial product WebStar (Figure 12-13) from StarNine Technologies at <http://www.starnine.com>. WebStar and the still-available MacHTTP power most of the Macintosh Web servers on the Net.

WebStar comes as a fat binary, so it runs in native mode on both 680X0 and PowerPC-based Macintoshes. It's compatible with all Web clients, and it supports interactive forms, CGI (Common Gateway Interface) scripts via AppleScript or Userland's Frontier, and image maps. You can also integrate WebStar with FileMaker Pro, 4th Dimension, and



**Figure 12-13:** WebStar isn't much to look at, but you get this cool logo you can put up on your Web pages to tell the world that you're running on a Mac.

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SQL databases, like the Butler SQL server from Everyware Corporation. StarNine has also released a SSL (Secure Sockets Layer) version of WebStar that allows some browsers, including Netscape, to communicate with the Web server with authentication and encryption to ensure that Web connections are private. List price for the base version of WebStar is \$795, but street prices are under \$500.



Tip

One of the things that make the Mac a superior Web server, by the way, is that the Mac operating system is (from a network standpoint, anyway) very secure. Unix servers seem to have more security holes than you can shake a stick at, allowing unauthorized access to everyone and their dog. So it's not too hard for the mischievous to get in and muck about with the guts of the pages and other aspects of the server. Mac servers, on the other hand, just won't allow access to anything that's not in the designated server folder.

### **Netwings**

Netwings is another Mac-based Internet server product. It works as a Web, e-mail, mailing list, and database server. Netwings is built with the 4th Dimension database product, and it has built-in capabilities for database service that require separate add-on products for WebStar. For example, you can implement information lookups within Netwings; to do the same with WebStar, you have to use an AppleScript to access a FileMaker Pro or Butler database, then feed the result back to WebStar and back to the reader. List price for Netwings is \$1,495, and you can learn more about Netwings at <http://www.netwings.com>.

### **Other Server Programs**

The Macintosh isn't limited to being just a Web server; you can now host most other types of Internet services from your desktop. One exception seems to be Usenet news; we couldn't find any shipping products that let your Mac become a news server. But ftp, gopher, and e-mail are readily available. Here are a few examples of these other server programs.

## **E-mail and Mail Services**

Here are several e-mail and mail services you should check out.

### **AIMS (Apple Internet Mail Server)**

This program began life as a freeware application called MailShare, written by Glenn Anderson. Apple bought the program from Anderson (and hired him, too) and now makes the program available as unsupported freeware, at <ftp://ftp.freedonia.com/servers/AIMS-1.0.sit>. AIMS supports both of the common Internet e-mail standards: SMTP (Simple Mail Transport Protocol) and POP (Post Office Protocol). AIMS can coexist on the same machine as a WebStar server, and it's spawned a series of add-ons that extend its capabilities. One such add-on, the freeware AutoShare, extends AIMS to work as a listserver and mailbox, and implements a vacation service. AutoShare is available via anonymous ftp at <ftp://ftp.freedonia.com/servers/AutoShare-1.0fix.sit.bin>.

### **Macjordomo**

This is another program that implements a listserver that works with any SMTP/POP mailserver, including AIMS. It's easy to use, it has a nice Mac interface, and best of all, it's free. Macjordomo is available via anonymous ftp at <http://leuca.med.cornell.edu/Macjordomo>.

### **ListStar**

From the people who bring you WebStar, StarNine's ListStar is an automated e-mail processor for the Macintosh that enables you to create and maintain Internet-style mailing lists (listservers), automated e-mail response systems, and direct mailing lists on the Internet and Macintosh e-mail systems. It's a commercial product that comes in two versions. The more expensive version (\$795 list) works as a dedicated SMTP mailserver. The other, more affordable version (\$295 list) is a POP client that can work in conjunction with AIMS or other mailservers. You can get more information about ListStar at <http://www.starnine.com/ListSTAR.html>. Incidentally, you can get substantial discounts below list pricing by ordering the product directly from StarNine.

## **Multiservice Servers**

For multiservice servers, the following applications can't be beat.

### **ftpd**

Another shareware (\$10) winner from the author of Anarchie, ftpd is, as you would expect, an ftp server that's easy to set up and use. The program will also work as a gopher server and, as of version 3.0, a Web server. Web support is limited to simple

service of HTML pages and graphics; so far there's no support for CGI scripts or image maps. Those are promised for a future version. You can download ftp d from America Online's ftp site with the URL  
`ftp://mirrors.aol.com/pub/peterlewis/ftpd-300.sit.bin.`

### **InterServer Publisher**

InterCon Corporation's InterServer Publisher software supports Web, ftp, and gopher server functionality. The Web server includes support for forms and multiple connections. The ftp server supports different levels of access, from secure to anonymous. The gopher server is background-friendly and self-configuring to enable users to quickly make information available on the Internet. InterCon's Web page on the product is at <http://www.intercon.com/newpi/InterServerP.html>. Pricing for InterServer Publisher was unavailable at press time.

# The Mysteries of ISDN — and Other Fast Ways to Connect

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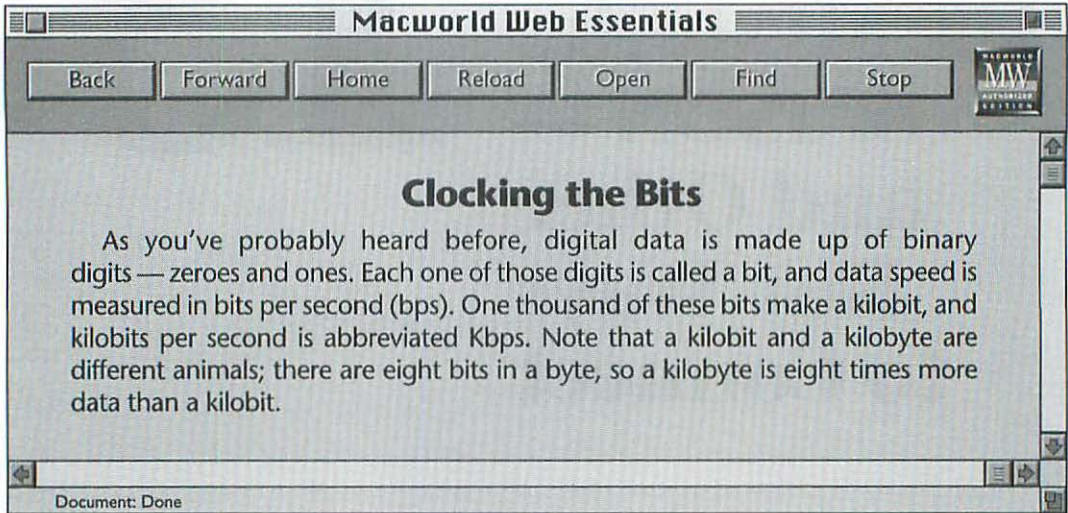
## In This Chapter:

- What's ISDN?
- What equipment do you need for ISDN, and how do you install it?
- What does ISDN cost?
- Beyond ISDN — Frame relay, T1, and more

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So you've been surfing the Web for a while now. You've seen the sites, especially some of the really cool ones that are stuffed with graphics, sounds, and QuickTime videos. And you've discovered an awful truth: your modem just isn't fast enough. Even though you have a 28.8 Kbps modem, it just runs out of steam when faced with some of the graphics-heavy Web pages out there. So what can you do? Unfortunately, you won't be able to switch to a faster modem; 28.8 Kbps is about the top speed for analog modem technology. The solution is to go digital. And in the near future, digital means ISDN.

You may have heard that ISDN is really complicated and awfully expensive. That's partly true. Getting ISDN isn't as simple as hooking up a new phone line, and there are certainly a few things you should know before you call up your phone company. As for cost, it depends a lot on which part of the country you live in. Here in California, ISDN is about the same price as regular phone service. In this chapter, you'll learn what you have to know to get ISDN up and running in your home or office — without getting taken to the cleaners.



## ISDN Basics

---

ISDN stands for Integrated Services Digital Network, and it's the first of the digital telecommunications technologies to reach the mainstream. With ISDN, you can transmit and receive data at up to 128 Kbps — more than four times the speed of the fastest common analog modems, the 28.8 Kbps units. An ISDN line can also carry regular voice and fax calls, as well as data. Best of all, ISDN uses the same wiring as standard analog telephones (often called by the acronym POTS, for Plain Old Telephone Service), so you can usually convert an existing phone line to ISDN.

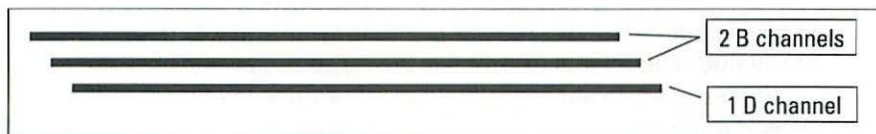
An ISDN line isn't just faster, it's more capable than an analog line. With a single ISDN line, you can be surfing the Internet while you talk on the telephone, or while you're sending a fax.

ISDN is available across most of the United States, though it hasn't come to most rural areas yet. By the end of 1996, the telephone companies plan to have more than 80 percent of the country covered by ISDN service. As for the cost, it's a bit more than a POTS line, but usually not by much. Later in this chapter, we'll take a closer look at how much going digital will affect your wallet.

## Digital Nuts and Bolts

The flavor of ISDN that you're going to be installing at your home or small office is referred to as BRI, for Basic Rate Interface (see Figure 13-1). A BRI line splits up the physical phone line into three logical channels, which the phone system can address

independently. Two of these channels handle data at 64 Kbps, and are called *bearer* channels, or B channels for short. The third channel is a 16 Kbps *data* channel, or the D channel. The two B channels carry the bulk of the information, and your ISDN equipment can either use each B channel separately or combine them with a process called *bonding* for a total data throughput of 128 Kbps. The D channel is used by your equipment for signaling purposes to let the phone company know what should be done with the stuff that's flowing over the B channels. With that D channel information, the phone company can route the data streams from the B channels.



**Figure 13-1:** An ISDN BRI (Basic Rate Interface) has two data (B) channels and one signaling (D) channel.



While the ISDN standard calls for a speed of 64 Kbps for each B channel, some of the digital switches in use at the phone companies' central offices can only handle 56 Kbps per B channel, for a total of 112 Kbps when the two channels are bonded together. When you set up your ISDN service, ask the service representative whether you'll be getting 56 Kbps or 64 Kbps service. If you're stuck with the lower speed, don't despair; phone companies upgrade their equipment all the time. Here in California, Pacific Bell upgraded their switches in the summer of 1995 to provide 64 Kbps service statewide. Sadly, one of us (TN) lives in an area served by GTE, which is still running at 56 Kbps. Still, he's not complaining too much; CS lives in a rural area that won't get ISDN this millennium.

When you get an ISDN line installed, you'll (depending on the equipment you buy) still be able to use your voice telephones (though there are special ISDN telephones that offer all sorts of additional features, like call waiting, multiple lines, caller ID, and the like). You'll also be able to hook your computer up to the ISDN line for high-speed data, with the proviso that the place you're connecting to must also be running ISDN. Many local Internet service providers (ISPs) are installing ISDN equipment, and when the telephone companies begin offering Internet access (probably sometime in 1996), of course they'll have ISDN, too.

## ISDN Equipment

There are a bunch of terms that you need to be familiar with before we get much further into ISDN. Mostly this has to do with the required equipment. In the inimitable jargon of the phone companies, any equipment that resides on your property is CPE (customer premises equipment). Like regular phones that you buy, you're responsible for your CPE, and the phone company handles the stuff outside your house.

Let's start with the box that connects between the outside phone wires and your home's inside wiring; this is called the NT-1 (Network Termination 1) unit. The NT-1 is the device that interfaces between the twisted-pair wires in your home and the eight-wire ISDN equipment outside. The NT-1 also supplies power to the phone line, since ISDN lines don't provide power, as do analog lines. In most of the ISDN equipment you're likely to buy, the NT-1 is built in, so you don't need to purchase a separate NT-1 box.



Note

If you're thinking of replacing your single analog line with an ISDN line, don't forget that the NT-1 unit is powered from your regular AC wall plugs. As a result, if you experience an electrical power failure, your ISDN line is going to die too, at least until the power is restored. In an emergency, such as a natural disaster like an earthquake or flood, this could get sticky, so keep it in mind when you're ordering equipment.

The connection between the outside wiring and the NT-1 is called the *U reference point* (or sometimes the *U-loop*). This is important only to the extent that you should know that most residential and small office ISDN uses equipment with a U reference point interface. The other type of interface, the S/T interface, is used in other applications and requires an external NT-1 device.

The terminal adaptor (TA) is the last bit of equipment we need to worry about. It's the ISDN device that acts in an analogous way to a modem; in the simplest terms, it's the box that you connect to your computer that lets it talk over the ISDN phone line. This gives rise to the technically inaccurate term for many of these devices, "digital modems." A typical digital modem, like the Motorola Bitsurfr, costs about \$300 to \$400 and includes a POTS jack — so you can use a fax machine, analog phone, or analog modem over the ISDN line — plus a built-in NT-1. These true digital modems plug into the modem port of your Mac, and they usually even support the Hayes AT command language, much like regular analog modems.



Tip

The digital modem-type ISDN devices feed data to your Mac via cable to the serial port, and the top speed of a bonded, two-B channel connection is faster than most Macs' serial ports can handle. Only the AV Macs (the Quadra 660AV and the Quadra 840AV) and most Power Macintoshes can keep up with the full data throughput at 128 Kbps. Older Macs will still work fine, just not quite as fast.

Other ISDN devices come as expansion cards that fit into the NuBus or PCI slots of your Mac. These cards require an external NT-1, and are a fairly expensive solution. Table 13-1 lists several types of ISDN devices.

**Table 13-1**  
**A Sampling of ISDN Devices**

<b>Company</b>	<b>Product</b>	<b>Connection</b>	<b>Street price</b>	<b>Comments</b>
Motorola	Bitsurfr	Serial	\$300	1 B channel; 1 POTS jack
Motorola	Bitsurfr Pro	Serial	\$400	2 B channels; 2 POTS jacks
3Com	Impact	Serial	\$450 – \$600	2 B channels; 1 POTS jack; optional analog modem
Ascend	Pipeline 25	Ethernet	\$900 – \$1,200	IP router; 2 B channels; 2 POTS jacks
Cisco Systems	CiscoPro CPA753	Ethernet	\$1,200	IP router; 2 B channels; 1 POTS jack
SAT-SAGEM	Planet ISDN	NuBus	\$1,000	2 B channels; requires external NT-1

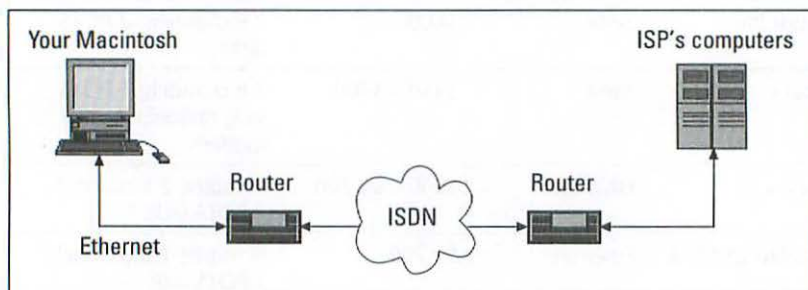


If you're wondering what the actual connection is for an ISDN line, it's an RJ-45 phone jack. That's the thicker, eight-conductor cable that's also used in 10 Base-T Ethernet (though you can't plug Ethernet into an ISDN line). Normally, when the phone company comes in to install your new ISDN line, they'll install an RJ-45 jack. But if you're converting an existing analog line (which uses an RJ-11 jack) to ISDN, you don't have to switch jacks. Strictly speaking, most ISDN setups don't actually require the RJ-45; although most TAs have RJ-45 jacks on their back panels, you can get away with an RJ-45-to-RJ-11 adapter cable. The RJ-45 end plugs into the TA, and the RJ-11 end plugs into the wall jack. It'll save you a few dollars not to change jacks, and some of the TAs on the market, like the 3Com Impact, come with the RJ-45-to-RJ-11 adapter cable. By the way, don't try to plug a regular analog phone into an ISDN wall jack; it won't work, and it can damage the phone, the line, or both.

## Routers

The final sort of ISDN device that you might use to connect to the Internet is an ISDN router. A router is a device that connects two networks together and sends data to a particular address on either network based on the packet address information contained in the data. In this case, the two networks are a local Ethernet network on your

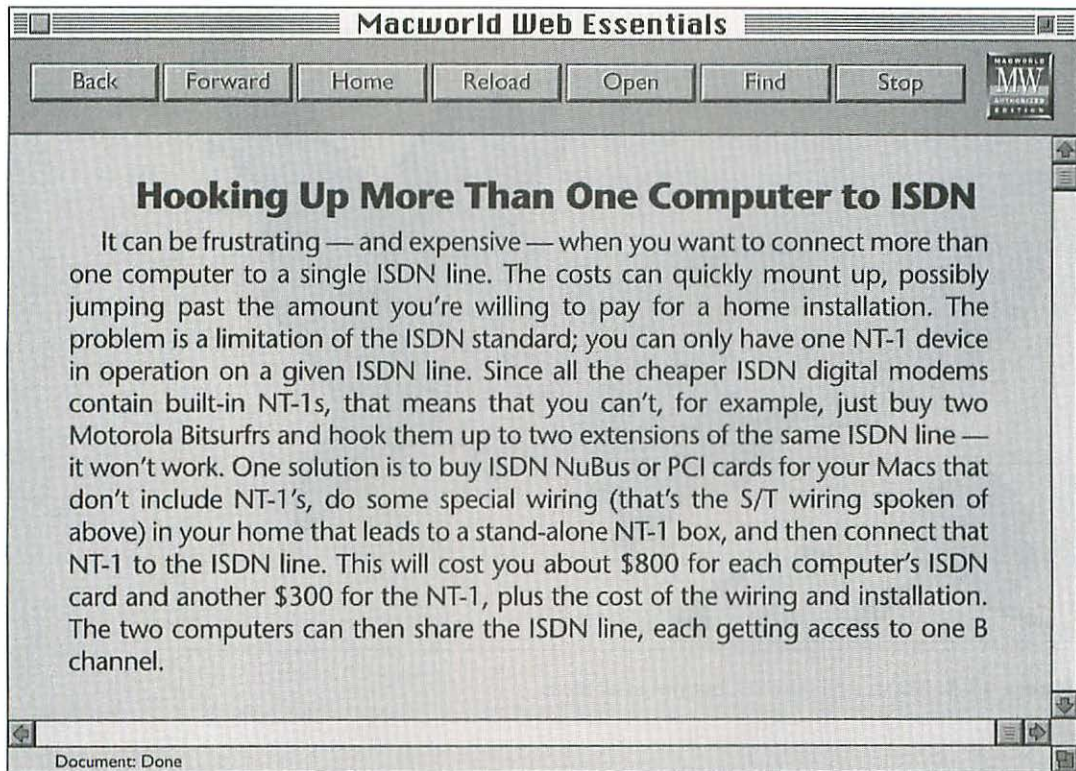
end, and the Ethernet network of your ISP on the other end of the connecting ISDN link. Both networks are running the Internet-standard TCP/IP networking protocol, and your router allows data intended for your ISP — and only that data — to flow over the ISDN line to another router at your ISP. Traffic not intended for the Internet — say file sharing or internal e-mail — doesn't get sent over the ISDN link. Some routers are even smart enough to initiate an ISDN call to the other network when there's a need to connect to the Internet, and to drop the line at other times. This sort of call-management feature is very useful, as it can save you a bunch of money in usage charges. Figure 13-2 gives you an idea of the data flow using a router.



**Figure 13-2:** Router connections between your local network and your Internet service provider

A slightly better choice is to buy an ISDN router, like the Ascend Pipeline 25 (about \$900 to \$1,200, depending on options). This hooks up to your computers via Ethernet, then connects to the ISDN line. The Pipeline 25 has a built-in NT-1 and also has two POTS jacks, to which you can connect a fax machine or analog telephone. It also includes Multipoint PPP (MPPP), which lets you bond together both B channels for a 128 Kbps data call. The unit is smart enough so that if both B channels are in use when an analog call comes in, it will automatically drop a channel to make room for the analog call, then rebuild the 2B connection when the analog call ends. You connect your computers and the Pipeline 25 to the Ethernet network wire, and the computers can share the Pipeline.

One drawback to this solution is that you must wire your house for Ethernet, not exactly standard equipment for most homes. In addition to the cost of the wiring and installation, you'll need to buy one 10 Base-T Ethernet hub; plus an Ethernet transceiver for each computer. The other drawback is that a router will require your ISP to assign you a block of fixed, permanent IP addresses, and many ISPs charge extra for that service. Check with your ISP before you install this sort of setup.



## ISDN Costs

To say that the costs for ISDN vary widely is to understate the truth, as illustrated in Figure 13-3. There's a state-by-state patchwork of rates, called in telco lingo *tariffs*. Tariffs are set by each state's Public Utility Commission (PUC), a government regulatory agency, and you can find drastically different rates just by crossing a state line. For example, in California, which is the Mecca of ISDN in the United States, you would only have to pay Pacific Bell \$35 to install an ISDN line, and about \$25 in monthly fees, plus usage of a penny a minute. Move next door to Nevada, and you get to pay \$227 for installation and \$80 a month for service, with no usage fees. Does it cost Nevada Bell almost seven times as much to put in a phone line as it costs Pacific Bell? Probably not. Is Pacific Bell so efficient that it can get away with charging a third of Nevada Bell's costs for monthly service? Again, probably not. It's simply that the PUC in each state has come to set the rates, based on its assessment of the prevailing telecommunications environment. Good old-fashioned politics and horse-trading comes into play, too. Over the past couple of years, competitive pressures have caused the telcos to lower the cost of ISDN, and that trend is likely to continue. Table 13-2 lists ISDN availability and current costs.

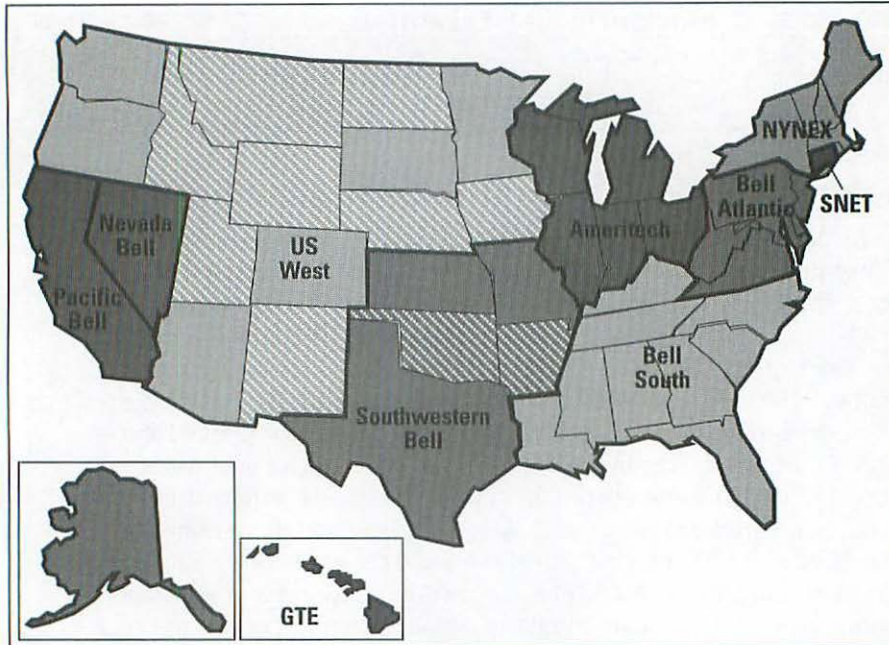


Figure 13-3: ISDN covers the US, but not in all areas.

Table 13-2  
ISDN Availability and Costs

<b>Company</b>	<b>Phone numbers</b>	<b>Service area</b>	<b>Installation</b>	<b>Charges</b>	<b>Coverage</b>
Pacific Bell	800-472-4736	CA	\$35	Monthly: \$25 Usage: .01/min	99%
Nevada Bell	702-333-4811	NV	\$227	Monthly: \$80 Usage: \$0	100%
US West	800-246-5226	AZ, CO, MN, OR,SD, WA	\$65 - \$110	Monthly: \$55-\$84 Usage: .01-.10/min	7%-93%
US West	Due in IA, ID, NM, UT by January 1996. Due in MT, ND, NE, WY by July 1996.				
Southwestern Bell	800-792-4736	MO, TX	\$452-\$578	Monthly: \$57 Usage: \$0	Unknown
Southwestern Bell	Due in AR, OK by 1997.				
Ameritech	800-832-6328	IL, IN, MI, OH, WI	\$133-\$147	Monthly: \$32-\$100 Usage: \$0-.02/min	80%
BellSouth	800-428-4736	AL, FL, GA, KY, LA, MS, NC, SC, TN	\$24-\$267	Monthly: \$33-\$80 Usage: \$0	80%

Bell Atlantic	800-570-4736	DC, DE, MD, NJ, PA, VA, WV	\$135	Monthly: \$39 Usage: .02/min	100%
NYNEX	800-438-4736	MA, NY, ME, RI, VT	\$33-\$225	Monthly: \$16-\$28 Usage: \$0-.16/min	8%–90%
SNET (Southern New England Telephone)	800-430-4736	CT	\$245	Monthly: \$33 Usage: .035/min	100%
GTE	808-643-4411	HI	\$76	Monthly: \$66 Usage: .01/min	24%
ISDN Not Available		AK, KS			

Source: Bellcore, as of November 1995. GTE also covers some areas in CA, FL.

## ISDN Installation Checklist

Getting ISDN installed can still be a frustrating experience, mainly because the staffs at many telephone companies haven't a clue when it comes to ISDN. Some, like Pacific Bell in California, are very aggressive and knowledgeable about ISDN. Other companies, like US West, are still in a fog, and you might have to talk with several people before you find somebody who can speak authoritatively about installation.



Finding the right people at your telco is very important when you go to install your ISDN line. When TN began dealing with GTE to install his digital line, over the period of one week he spoke to three different, puzzled people in the GTE business office. Finally, he was sent to an employee whom he eventually began to refer to as the GTE ISDN Goddess, who straightened things out and got the line ordered. Even then, the setup required three service calls to install correctly; it turned out that only one of GTE's installers was really skilled with ISDN installation, and that gentleman was called out twice, once for the initial installation and another time to solve an annoying line noise problem. Total time for the entire installation process was close to a month, at a cost of about \$200.

To install ISDN with a minimum of frustration, you'll need to follow a game plan. Don't think that you can just wing it; ISDN is significantly more involved than getting a regular phone line put in. But don't falter — we've come up with a checklist to help you get through the ordeal. And remember that because this is a thorny process, your watchword should be *Caveat Emptor* — Let the Buyer Beware.

## 1. Check ISDN Availability

Before anything else, you have to find out if your telephone company even offers ISDN in your area. Most of the phone companies have an automated service that can check availability based on the first three digits of your telephone number. But don't trust the automated service; always make sure that you talk to a service representative. When you do, it's a good idea to find out what the installation and monthly costs of ISDN are going to be.

## 2. Check ISP ISDN Availability

Once you're sure that the phone company can accommodate you with ISDN, you need to find an Internet service provider that does ISDN. A good place to start is by perusing The List (<http://thelist.com/>), a site on the Web that lists all the ISPs nationwide. Visit the Web pages of the ISPs that you find in The List; they often have listings of their rates. Once you've narrowed the field down to one or two likely candidates, talk to them and find out how much experience they have with ISDN, especially with ISDN and Macintoshes. Ask them for the telephone number of their ISDN line, then check in your telephone book to make sure that the access number is a local call for you. After all, it's bad enough that most phone companies charge by the minute for an ISDN call; you don't need to have toll charges piled on top of that.

## 3. Get ISDN Qualified

Now the way is clear for you to really get started. Call up your telephone business office and ask to speak with the ISDN ordering specialist. Tell them that you are interested in an ISDN line, and that you wish to have them check to make sure that you can have ISDN service installed. They'll have their engineers run some tests to make certain that ISDN will really work at your location. A key point in this process will be to see how far you are from the central office. If you're more than 18,000 feet from the office, they may have to install a repeater on your line, which boosts the signal to sufficient levels for ISDN to work. Don't be surprised if they want to charge you extra for the repeater; as an example, GTE charges an additional \$24 per month for a repeater.

During this same conversation with the phone company representative, ask what the model is of the digital switch in the central office. This is important, because you'll need to configure your ISDN equipment, and you'll have to set the switch type. There are four kinds of switches in wide use in the United States: the AT&T 5ESS National, the AT&T 5ESS Custom, the Northern Telecom DMS-100, and the Siemens EWSD.

A day or so after you request the line survey, the business office will call you back and confirm that your line is clear for ISDN.



Tip

It's often cheaper to convert an existing analog line to ISDN, rather than have a whole new line brought in. If you already have a fax or modem line, consider switching it to ISDN. Don't forget that you'll get the equivalent of two telephone lines that way, since you can use each B channel independently.

## 4. Decide On Hardware

Your switch type will help you pick which hardware you'll buy, as you'll need to get a terminal adaptor that is compatible with the switch. Luckily, most hardware is compatible with all the switch types. Next you'll need to decide how many computers at your location will need access to the ISDN line. If it's more than one, you'll need to make special arrangements; see the sidebar "Hooking Up More Than One Computer to ISDN" above.

If just one computer will be using the ISDN line, we recommend that you go with one of the digital modems, such as the Motorola Bitsurfr Pro or the 3Com Impact. They're easy to set up, and you can get respectable performance from them. The latest versions of both units provide Multilink PPP, which allows for 128 Kbps throughput.

No matter which equipment you choose, make sure that you shop around for the best deal. As ISDN equipment becomes more popular, prices have been dropping. Mail order outlets often have the best pricing, but make sure that you get 30-day return privileges — and always, always pay with a credit card.

## 5. Order Service

To help users past the myriad ISDN options, manufacturers and phone companies have gotten together and come up with a system called the simplified ISDN ordering code. Once you receive your TA, check the manual for this code, then call the phone company and tell them what the code for your equipment is. This code tells the phone company how to set the *provisioning*, or line options, so that your TA can use the line.

When you order service, the representative will probably tell you what your SPID (Service Profile Identifier) is. A SPID is the number assigned by your phone company to each ISDN device attached to your line. Depending on your switch type, you may have one or two SPIDs; if you have two, you'll have one for each B channel. It's also possible that the business office won't be able to tell you what your SPID is; if that's the case, your installer will leave behind a piece of paper with the SPID information.

## 6. Get ISDN Line Installed

The day of your installation could go smoothly or become a nightmare, depending on your wiring situation and the skill of your installer. It shouldn't be a big deal, however. The phone company will make some changes to the wiring outside your home, and they should only have to be inside for a short time. Then plug your equipment into the wall jack, and you're ready for takeoff.

## 7. Configure Your Equipment

Follow the manual's instructions about connecting and configuring your equipment. Typically, you'll need to tell the ISDN device a minimum of two pieces of information: the telco switch type, and the SPID(s) for your line. Some equipment will require more tweaking to set up than others; in our experience, the 3Com Impact was the easiest to get running, and the Ascend Pipeline 25 the most finicky.

## 8. Hook Up with Your ISP

Depending on your equipment, you may or may not need to set up a phone appointment with your ISP to get hooked up. Sometimes they just give you the information that you need to put into MacTCP, and you have to set up MacPPP and your TA yourself. Other ISPs will give you all the software already configured, and all you need to do is run an installer and dial the phone.

## 9. Surf's Up!

Once you're on, enjoy the ride. You'll quickly see that the reward was worth the journey.

## ISDN's Dirty Little Secret

It's possible that after spending all the time and money on an ISDN installation, you may not see a quantum leap in performance, especially while surfing the World Wide Web. The reason may not have anything to do with your setup, either. Remember that you're dependent on the throughput of strangers as you cruise the Web. Even though the link from you to your ISP is zippy, there may be a slowdown on any of the intermediate links between you and the Web site that you're browsing, or the server on the other end of the link may just be extremely busy and bogged down. As an example of this, both of us regularly saw data throughput of about 2.5 kilobytes/second with a 28.8 Kbps modem. After installing ISDN at home, data rates as reported by Netscape went to between 4 and 6 kilobytes/second with one B channel active, and only 8 kilobytes/second when both B channels are connected. (You'll get the higher end of these figures with ftp transfers, by the way; throughput on ftp downloads is almost always faster than throughput on Web downloads. In fact, when we see a link from a Web page with an ftp URL, instead of downloading the file with Netscape, we copy the URL and paste it into Anarchie. We almost always get faster downloads that way.) After trying a few different ISDN devices, it became clear that the bottleneck wasn't on our end, but pointed at either our phone company or our ISP. So you'll have to be vigilant, and make sure that the pipe is clear as far as you can. Unfortunately, once the trail reaches your ISP, there's nothing further you can do; with the way that traffic is building on the Internet, slow-downs are likely to be increasingly common over the next couple of years.

## The Need for (Even More) Speed

There are other, even faster alternatives to modems, ones that leave ISDN in the dust. The kicker, of course, is that they're likely to burn a quick hole in your wallet, and so they're best suited for a business running a Web server, or one that has another need for a dedicated line permanently connected to the Internet.

### Frame Relay

A frame relay line gives you a high-speed, dedicated, 24-hours-a-day connection to your Internet service provider. Frame relay comes in different speeds, and you can start at a lower speed and expand as you need more bandwidth. The lowest frame relay data rate is 56 Kbps, then it jumps to 128 Kbps. So far, we're still in ISDN territory as far as bandwidth; the difference between ISDN and frame relay is that ISDN is usually meant to be a temporary, dial-up service, and it's often billed by the minute. Frame relay, on the other hand, is designed as a dedicated service, where the phone line will be connected all the time. Clearly, that's what you want if you're putting a server on the Web. The rest of the possible frame relay speeds are 256 Kbps, 384 Kbps, and 1.544 Mbps.

The cheapest (and slowest) frame relay speed is 56 Kbps, which will do for a small Web site. However, most companies skip 56K frame relay, because it can't be upgraded to the faster frame relay speeds, which cost about the same to install. So the best way to get started with frame relay is to go for a 128 Kbps line, which costs (here in California, at least) about \$1,100 to install, plus another \$1,700 in other startup and equipment costs. Then the line will cost you somewhere in the neighborhood of \$700 per month in service charges. The faster speeds cost about the same for setup, but more in monthly charges.



Tip

Frame relay lines of 128, 256, or 384 Kbps are called fractional T-1 lines, because the phone line can handle the higher T-1 speed (1.544 Mbps). The nice thing about the fractional T-1 is that you can ratchet your bandwidth up and down as your needs increase and decrease (though they usually only increase).

### T-1

Like frame relay, a T-1 line is a dedicated, high-speed digital phone line. T-1 lines have a data speed of 1.544 Mbps, and they're typically used by Internet service providers, large Web sites, and other companies that need big data pipes to the rest of the Net. T-1 doesn't come cheap; you'll be charged on a monthly basis by both the phone company (for the line) and your ISP (for the service). You can expect to pay about \$2,000 to get a T-1 installed, and another \$1,800 or so per month in service charges. Add to that about another \$3,000 in required equipment, and it's obvious that this service is beyond the scope of all but the most data-hungry Web sites. Prices, naturally, are subject to change, usually in a downward direction.

## Future Tech

Like everything else about the Internet (and technology in general), there's always something just around the corner that looks really cool. Whether any of these will really make it to your doorstep is anybody's guess, but you should at least get a little familiar with these new techno-contenders.

### Cable Modems

Your local cable-television company wants to provide you with data services as part of its push to install interactive TV in your home. Unless you've been curled up with a good book for the past few years, you've probably heard of interactive television. In this world, you'll get movies on demand (no more late night runs to the video store), 500 channels (and probably still nothing to watch; or worse yet, 300 of those channels will be home shopping networks), and telephone and data services, too. The way that this will be delivered is a hybrid fiber-optics/coaxial (HFC) cable setup. Fiber optics is a cabling system that uses laser-driven light pulses to transmit data along a light pipe thinner than a human hair. Small as it is, fiber has an incredible bandwidth; big enough so that it is, for all practical purposes, unlimited. Because it's too expensive to bring fiber to each home, a hybrid system would string a fiber to each neighborhood, then convert the data stream to the standard coaxial cable that your home probably already has in place. It's a pretty impressive data stream, too. There are a bunch of competing solutions, but the speeds involved in all of them are between 1.5 and 10 megabits of data per second (Mbps). That last figure may be familiar; 10 Mbps is the speed of Ethernet, the most popular local area network wiring scheme. Now, Ethernet speeds to the Internet is a very attractive idea; by way of comparison, it's about 180 times faster than an ISDN B channel.

With a cable modem, you would get a box into which you could plug your computer, your television, and your telephone (the cable companies want to be your phone company, too). Cost for this brave new world is unknown, but you can bet it will cost more than what you're paying for cable now. And whether you're willing to entrust your Internet access and your phone service to your cable company may be a real question. Cable modems over HFC networks will begin arriving in real numbers sometime in 1996; Tele-Communications Inc. (TCI), one of the biggest cable TV companies, has announced that their first installation will be in Sunnyvale, California, beginning early this year.

The downside to cable modems is that for them to work, your local cable company has to invest millions of dollars in upgrading their existing coaxial-cable networks to switch them to HFC. That conversion is beginning to happen, but it's a slow process, and it will be taking place much earlier in more-affluent urban and suburban areas, with rural and inner-city customers waiting for years for the upgrades to reach them, if they ever do.

## ADSL

Another brand-new technology, ADSL (Advanced Digital Subscriber Line) is poised to take off in a big way. This is another service that would be provided by the phone companies. ADSL is fast; in some setups, you can get 6 Mbps of data throughput, fast enough for live transmission of video for teleconferencing and interactive television. ADSL is scalable, too; it can handle data speeds of T1 (1.5 Mbps) and E1 (2.048 Mbps). Depending on the way that it's implemented, ADSL can send and receive data either symmetrically (which means that it sends and receives at the same speed in both directions) or asymmetrically (sending data to you quickly, with the data you send back up the line moving more slowly). This asymmetrical format is perfectly acceptable for most Internet access these days, especially for Web surfers; if you think about it, you get much more data than you send. This sort of asymmetric setup would bring data down the pipe to you at T1 or better speeds, with your replies going back at 64 Kbps — still as fast as an ISDN B channel.

The best thing about ADSL is that it works just fine over the same POTS copper telephone wires that you already have in your home. And it has enough bandwidth that you could be talking on the phone, while your computer is hooked up at high speed to the Internet, and someone else in your house could be watching a movie being delivered over the phone line — all at the same time.

ADSL is still new enough that no company has deployed it, although Bell Atlantic has reportedly invested a large sum in ADSL equipment. But the technology has a bright future, since all it requires is for the phone companies to install ADSL equipment in their central offices and for you to buy an ADSL “modem” (it's not really a modem, but it doesn't hurt to call it one). There's no expensive stringing of new cable necessary, and no pricey conditioning of the phone line, as with ISDN. One obstacle to ADSL's acceptance, in fact, may be that it would supersede phone companies' investment in ISDN equipment, and these companies may be reluctant to dump all of that investment.

Again, the cost of this service is impossible to determine, as the first commercial offerings have yet to be announced. Some early estimates say that the price of ADSL modems should quickly drop to the \$300 range, as there are a number of dedicated chips available from several suppliers.

## Resources for More Information

You can find a lot more information about ISDN and related subjects on the Internet; here are a few of the best places for you to check.

## **Dan Kegel's ISDN Page**

<http://alumni.caltech.edu/~dank/isdn/>

This is, bar none, the best collection of information about ISDN. User guides, manufacturers' information, frequently asked questions — they're all here. An invaluable resource, not to be missed.

## **Frame Relay Resources**

<http://www.mot.com/MIMS/ISG/tech/frame-relay/resources.html>

What Dan Kegel's page is for ISDN, this page tries to be for frame relay. Not as comprehensive, but still quite good.

## **Usenet ISDN Newsgroup**

<news://comp.dcom.isdn>

The ISDN newsgroup is a great place to ask a question, or just a good place to lurk and read the answers to other people's questions.

# Using the Macworld Web Essentials CD-ROM



The CD-ROM disc that accompanies this book includes the Quarterdeck Mosaic installer program (see Appendix B for installation instructions) and the Los Angeles Macintosh Group (LAMG) Internet Companion, a special collection of Internet and Web shareware that's been compiled by the group. We make references to some of the programs on the CD-ROM throughout the book. However, the CD-ROM is entirely optional.

## Using the CD-ROM \_\_\_\_\_

The CD-ROM disc contains over 200 shareware and demo programs, and technical documents. Each program is located in a folder. To view the contents of the disc, follow these steps:

1. Insert the CD-ROM disc into your CD-ROM drive.
2. Double click the *Macworld Web Essentials* icon to see the contents of the disc.

The sections that follow summarize the programs on the CD. If you don't have the book handy while you're exploring the CD, you can double-click any of the document files that you find in the Internet Companion folder, and then review information on the screen or print it.

## About Shareware and Demos \_\_\_\_\_

Shareware generally is distributed via online networks such as America Online, the Internet, and independent bulletin boards. The idea behind shareware is to allow you to "try before you buy." If you use a shareware program for a while and like it, you must

register the program with its developer. That part costs money, of course. But in return, you get a complete version of the product and information on updates; in some cases, you also may get a printed manual. More important, however, you'll be supporting the entire shareware industry. Many talented people are producing excellent products but don't have the resources required to market the products, so they make their products shareware.

Every product on the CD-ROM — shareware, a demo, freeware, information, whatever — is offered as is, with no warranty of any kind. The best attitude to carry into the shareware industry is "we're all in this together." The developers have the talent to create these great products, but they need your feedback, tolerance, and support to grow their products into better and more reliable versions.

## Summary List of Programs on the CD

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The LAMG Internet Companion folder includes a collection of Web page editors, helper applications, e-mail filters, and utilities. Here's a quick summary of programs on the CD.

<i>Main Folder or File</i>	<i>Sub-Folder</i>	<i>Program</i>
Read Me		
Welcome to LAMG		
Claris Mailer Demo		Emailer 1.0v2 Trial Installer
Internet Applications	Email Applications	Autograph
		ClayBasket 1.0b5
		Email Buddy 1.0
		Eudora 1.5.3
		Eudora AppleScripts
		EudoraAnnouncer
		GetMyAddress 1.2b2
		Iride - MIME on Mac
		LeeMail 2.0.4
		LM Alias Utility
		MacBiff

<b>Main Folder or File</b>	<b>Sub-Folder</b>	<b>Program</b>
		Macgnuucp
		MailConverter 1.8.6
		MailShare1.0b
		MailStop
		NotifyMail 2.5
		POPmail II
	FTP Applications	Anarchie 1.6.0
		Archie 1.0
		EasyTransfer-Server
		EasyTransfer21
		Fetch 3.0b1
		FTP Server 1.5.1
		FTPd 3.0
		GopherApp++ 2.2b43
		TurboGopher 2.0.3
		TurboGopherVR
	IRC & MUD Applications	Chat 2.1Pre4 Release
		Homer v0.94
		ircle-1.5.1
		MUDDweller1.2
	Other Applications	BLUE SKIES™
		CU-SeeMe
		Daemon 1.0.0
		Finger 1.5.0
		hooked Internaut
		HyperWais
		Internet Business Pages
		Internet Site
		MacWAIS 1.29
		MacWeather 2.0.4
		NetPhone Demo 1.2.1

*(continued)*

<i>Main Folder or File</i>	<i>Sub-Folder</i>	<i>Program</i>
		Network Time 2.0.1
		NTP Client
		Ph 1.1.1
		Palace 1.02
		Pipeline for Mac 1.0.8
		Query it 1.1
		Talk 1.1.1
		Telnet 2.6
		Tiger Retriever
		tn3270 2.4a7
		uupc 3.1b29
		WAIS for Mac 1.2a
		WAISBrowser
	TCP/IP Applications	Arns
		Control PPP
		FreePPP 1.0.4
		InternetConfig 1.2
		InterSLIP
		InterSLIP Timer 1.2.1
		MacPPP 2.2.0a
		MacPPP Add-ons
		MacPPP QuicKeys
		MacPPP Timer 1.5.1
		MacTCP Folder
		PPPfloater
		PPPReport 1.0b3
		TCP2Serial-100
		TeleFinder TCP User 1.1
		TurboTCP 2.0.1
	UseNet Applications	FetchNews
		InterNews 1.0.6
		MacNews 1.1
		MacSlurp 1.5

<b>Main Folder or File</b>	<b>Sub-Folder</b>	<b>Program</b>
		NewsHopper Demo 1.0.1
		NewsHopper QuicKeys
		NewsWatcher
		Nuntius 2.0.3
		rnMac
		Subject Extractor
		ToadNews 1.0
		VANewswatcher 20b19
	Utilities	Add/Strip
		AutoBin 1.0
		Balthazar 1.5
		Binary Pump 2.01
		Compact Pro 1.5.1
		Disinfectant 3.6
		DropStuff™ 3.5.2
		Enigma 2.5
		Fat Free 1.1.1
		FileTyper 4.2
		GraphicConverter 2.3
		HQXer 1.1
		InternetLink 1.0b2
		MacGzip 0.3b2
		Mpack 1.4
		ROT13 BBEdit Extension
		SimpleText
		StuffIt Expander™ 3.5.2
		suntar 2.0.3
		UULite
		uuUndo 1.0
		VFWUtilities 1.1
		Ziplt 1.3.1
	Viewers/Players	All JPEG Fat

(continued)

<i>Main Folder or File</i>	<i>Sub-Folder</i>	<i>Program</i>
		ArtClipper
		Bare Bones Software
		BijouPlay 2.0
		CG MiniViewer 1.1.2
		Easy View 2.50
		EPS Fixer 1.52
		epsConverter™ 1.2.2
		Fast Player 1.1
		FastPlayer 1.3.1
		GIFConverter 2.3.7
		GraphicConverter 2.3
		Imagery192a
		JPEGView 3.3.1
		MacGS 2.5.2β3 Runtime
		MAV 1.0.5
		MoviePlayer
		MovieTrilogy
		MPEG Audio
		NIH Image 1.5.9
		Peter's Player 1.1
		PhotoCapture
		PICTcompare
		PICTify 1.5
		PICTshow
		Replica Viewer
		SoundApp 1.5.1
		SoundMachine 2.5.2
		Sparkle 2.4.5
		SuperSlide 1.0.1
		SuperViewer
		Transparency 1.0
		Ulaw & UlawPlay
		μZak 1.1

<b>Main Folder or File</b>	<b>Sub-Folder</b>	<b>Program</b>
	Web Applications	Arachnid 1.9
		BEdit HTML extensions
		Digester
		Get URL Folder
		HomeMaker
		HotList HTML
		HotList Sorter
		Hotlist2HTML
		Hotlists
		HTML Editor folder 1.0
		HTML Pro 1.07
		HTML Quick Reference
		HTML SuperText
		HTML Web Weaver 2.5.3
		World Wide Web Weaver 1.0
		HTML.edit
		httpd
		HyperMapEdit
		imagemap
		MacHTTP 2.2
		MacWeb 1.1.1e
		rtftohtml
		Simple Html Editor
		The Internet Adapter
LAMG BBS software		FirstClass Client 2.7 PPC
		FirstClass Client 2.7 Fat
		FirstClass Client 2.7 68K
		LAMG BBS Settings
		BulkRate 2.1b9
		FC Mac Client User Manual
Net.Help	Guides	About The Internet
		FAQ's

*(continued)*

<i>Main Folder or File</i>	<i>Sub-Folder</i>	<i>Program</i>
		For Your Information
		Internet Local Info
		Internet Tour 4.0.2
		InternetTutor
		Merit's Cruise
		Newbie Newz
		UseNet Etiquette
	Lists	BBS Lists
		FTP
		Gov't Resources on Net
		Mac Internet Sites
		Mailing Lists
		Providers
		RFC
		STD
	Plain Text	A Beginner's Guide to HTML
		Eric Behr's MacTCP Info
		Gopher Jewels
		GOPHER Servers
		GUIDE-TO-NET-TOOLS
		INTEREST-GROUPS
		INTERNET Text
		Internet Tour doc
		INTERNETFAQ.TXT
		Mac/SLIP/Netscape.WORD
		Mac/SLIP/NetscapeGuide.text
		MAC/SLIP/WWWguide1.0
		pdial-15.txt
		vr_sites.93.10
	Unix Info	Unix Tutorials
	Unix-shells	
	World Unix Command Sheet	

# Using Quarterdeck Mosaic

# B A P P E N D I X

All the files you need to install Quarterdeck Mosaic are included on the CD-ROM that's packaged with the book. The installation takes only a few minutes. Before you know it, you'll be surfing the Web like a pro.

## Installing Q-Mosaic 2.1

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To install Q-Mosaic, you simply open the Quarterdeck Mosaic folder and then click the Q-Mosaic Installer icon. Follow the on-screen instructions to transfer the appropriate files to your own hard drive, or follow these steps:

1. Click the Quarterdeck Mosaic Installer icon. The Quarterdeck Mosaic dialog box appears.
2. Click the Continue button. The Quarterdeck Mosaic Installation dialog box appears.
3. Choose the version of Quarterdeck Mosaic that's appropriate for your computer, and then click the Install button.

The default fat version of Quarterdeck Mosaic will run on a 68000-series Macintosh and run accelerated on a Power Mac. You can click the Custom button to select other options.

4. Type the name of the folder where you want to copy the files on your hard drive and then click the Install button. ("Quarterdeck Folder" is the default folder name.)

The installation proceeds. A message appears at the end of the procedure, notifying you that the installation was successful.

5. Click the Continue button. The PSINet Account Setup dialog box appears.

You will notice that the installation copies a special version of Microphone LT to your system. You are also provided with instructions for signing up with PSINet as your Internet Service Provider (ISP). Besides establishing your account, the Microphone script will automatically take care of the MacTCP and PPP configuration you need to establish your Internet connection.

## Setting Up Your PSINet Account

The following procedure sets up an account with PSINet as your Internet Service Provider (ISP). You don't have to sign up now with PSINet, however. You can simply click the Quit button and sign up later.

When you're ready to set up an account, click the PSINet Account Setup button that's located in your Quarterdeck folder. Follow these steps:

1. Click the Next button. The Choose Setup dialog box appears.
2. Select a Setup option from the pop-up menu.



Caution

If your Mac is already configured for a TCP/IP connection to the Internet, choose the "Configure Q-Mosaic Only" setup option from the pop-up menu that appears in the Choose Setup dialog box. This option will let you configure Q-Mosaic without changing your current MacTCP information. Otherwise, if you select the "Sign Me Up for Internet Service and Configure Everything" default option, Q-Mosaic will overwrite your current MacTCP information and install PSINet as your ISP — the TCP/IP connection to your previous ISP won't work. Be warned! To reach PSI's InterRamp Support, send e-mail to [support@interramp.com](mailto:support@interramp.com), or call (717) 770-1701 or (518) 286-1100.

3. Click the Next button.
4. Enter the requested information in the Personal Information dialog box.
5. Click the Modem button. The Modem Setup dialog box appears. Verify that the modem setup information for your computer is correct, and make any changes if necessary.
6. Click the OK button.
7. Click the Register button. The registration procedure begins. When the procedure is finished, the Hello dialog box appears.
8. Choose a payment plan.
9. Click the Continue button. A dialog box appears, welcoming you to the PSI InterRamp service.
10. Click the OK button. The Local Access Number dialog box appears.
11. Choose a local access number to dial the Internet and connect to the Web.



Tip


Because of the large number of people attempting to connect to the Web at any one time, you might not connect on your first attempt. In fact, you might have to redial several times before you connect. Don't be discouraged. PSI InterRamp is attempting to improve their service by adding new local access telephone numbers in your specific area all the time. In the Quarterdeck folder that

appears in the Finder on your computer, locate the SimpleText document called "My PSINet Account Info." This document includes your PSI InterRamp local access numbers. Print out the document and refer to it when you want to change your local access number. For a complete list of access numbers in the United States, send e-mail to [support@interramp.com](mailto:support@interramp.com). You can also visit the PSI InterRamp home page at [www.interramp.com](http://www.interramp.com) and download the list.

12. Click OK. The Configuring the Applications dialog box appears, notifying you of your progress.
13. When you see the "Configuration Successful" message, click the Restart button for the Internet settings to take effect.

## Changing the Local Access Number

You can always change the local access number if you continue to get a busy signal or can't connect successfully. (Sometimes after you connect to the Internet, the connection will fail unexpectedly and you'll need to redial.) If you didn't change the local access number during the PSINet account setup procedure, you can do so at any time by changing the settings in the Config PPP control panel. Simply follow these steps:

1. Pull down the Apple menu (  ) and select Control Panels->Config PPP. The Config PPP control panel appears. It shows the current PPP (Point-to-Point Protocol) Server, which is PSI InterRamp. (If you use a different Internet Service Provider, the name of that ISP will appear.)
2. Click the Config button. A dialog box appears, showing the current configuration settings.
3. Enter the new local access telephone number in the Phone num box. (Choose a telephone number from the PSI InterRamp local access number list.)
4. Click the Done button.
5. Click the Open button to dial the new telephone number, or close the control panel. (The new telephone number takes effect immediately. You don't need to restart your computer.)

That's all there is to it! PSINet has an excellent record as a service provider. It's competitively priced, and, as we mentioned earlier, there are local access numbers in most areas of the United States.

## Launching Q-Mosaic

You have two ways to launch the Q-Mosaic Web browser: You can open an Internet connection through the Config PPP control panel (as we describe earlier) and then click the Q-Mosaic icon in the Finder (or select the alias in the Apple menu), or you can launch Q-Mosaic directly from the Finder. This method is faster and more direct.

1. Click the Q-Mosaic 2.1 icon or its alias in the Apple menu.

After you've connected successfully to the PSI InterRamp service, the IDG Books Worldwide logo appears on the introductory Web page.

2. Click any of the links on this page (the cursor changes to a hand, which identifies a link) to go to the IDG Books Worldwide Home Page.

After you click a link, the IDG Books Worldwide home page appears. From this page, you can access information on books, products, and services that are available from IDG Books. Happy surfing!

The rest of this appendix is a compilation of edited and abbreviated versions of the HTML documents that you access from the Q-Mosaic Help page. We've included the information here because you may want to consult it *before* you install the Q-Mosaic software.

## Getting Started

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The Internet is a network that connects thousands of computers around the world. The Internet provides many services, including electronic mail, newsgroups, and the World Wide Web (or just Web, for short). Q-Mosaic is specifically designed to view documents on the World Wide Web. Most documents on the World Wide Web include hyperlinks to related documents. Q-Mosaic allows you to move from one document to another by simply clicking these links.

Every document on the Internet has its own address, called a Uniform Resource Locator (URL). The URL for this document, for example, appears in the URL field at the top of the Q-Mosaic window. If you know the address of the document that you want to view, choose Open URL from the File menu, type the address, and click OK.

If you are looking for information on a specific topic, try using an Internet search tool such as Yahoo. When you find something interesting, add it to your hotlist so that you can find it again later.

You can use the Back and Forward buttons to move between documents you have viewed. To see a list of the last several documents you have viewed, display the History list. To view one of the documents again, select it from the list. If you ever feel lost, simply choose Home from the Navigate menu to go back to your own home page.

## Commands in Q-Mosaic

---

Here's a handy summary of Q-Mosaic menu commands.

### The File Menu

- **New Window (⌘-N):** Opens a new window.
- **Open URL (⌘-U):** Displays a document from the Internet.
- **Open Local (⌘-O):** Displays a document from your computer or local network.
- **Close (⌘-W):** Closes the current window. If only one window is open, selecting this command quits Mosaic.
- **Close All:** Closes all open windows.
- **Save As (⌘-S):** Saves the current file to your computer.
- **Page Setup:** Sets the margins, header, and footer information for pages.
- **Print (⌘-P):** Prints the contents of the current window.
- **Quit (⌘-Q):** Quits Mosaic.

### The Edit Menu

- **Cut (⌘-X):** Cuts the selected text and saves it to the clipboard. The clipboard can be used to copy text to other files.
- **Copy (⌘-C):** Copies the selected text to the clipboard. The clipboard can be used to copy text to other files.
- **Paste (⌘-V):** Pastes the contents of the clipboard at the current cursor location.
- **Select All (⌘-A):** Selects all the text in the document.
- **Find (⌘-F):** Searches the current document for a word or phrase.
- **Find Again (⌘-G):** Locates the next occurrence of your search string in the current document.
- **View Source:** Displays the current document without formatting the HTML tags.
- **Security:** Lists installed security modules.
- **Preferences:** Changes user options.
- **Helpers:** Configures helper applications.

## The Navigate Menu

- **Back:** Displays the last document you viewed.
- **Forward:** Opposite of the Back command.
- **Home:** Displays the home page.
- **History (⌘-Y):** Displays the history list to return to a recently viewed document.
- **Hotlist (⌘-H):** Displays your hotlist.
- **Add Current to Hotlist:** Adds the current file to your hotlist.
- **Load Missing Images:** Loads any images that were not loaded (or completely loaded) with the current document.
- **Reload (⌘-R):** Reloads the current file from the original source, not the cache.

## The Windows Menu

- **Arrange Windows:** Arranges open windows side by side so that all of them are visible.
- **Name(s) of Open Window(s):** The titles of all open windows are listed in the Window menu. To make a window active, choose it from this list.

## The Help Menu

- **Quarterdeck Mosaic Help:** Displays Mosaic Help page.

## The Apple Menu

- **About Quarterdeck Mosaic:** Displays program and system information.

## Keyboard and Mouse Commands

Table B-1 summarizes the commands for working with windows. Note: When we instruct you to “click,” we mean click and hold down the mouse button. A pop-up menu appears.

**Table B-1**  
Commands for Working with Windows

<i>Action</i>	<i>Command</i>
To stop loading a file	Press Esc or click the Stop button in the toolbar.
To go to the start of a document	Press Home.
To go to the end of a document	Press End.
To select the URL field	Press Tab.
To cycle between open windows	Press ⌘-Tab.
To open a new window with the contents of the current window	Click and choose Clone Window from the pop-up menu.

Table B-2 summarizes the commands for working with links.

**Table B-2**  
Commands for Working with Links

<i>Action</i>	<i>Command</i>
To display the next document in a new window	Click the link and choose Open Link in New Window from the pop-up menu.
To save the next document	Click the link and choose Download Link to Disk from the pop-up menu. Then from the Unhandled File Type dialog, choose the Save As button.

Table B-3 summarizes the commands for working with images.

**Table B-3**  
Commands for Working with Images

<i>Action</i>	<i>Command</i>
To copy an inline image to the clipboard	Click the image and choose Copy Image from the pop-up menu. The size of the image in pixels is displayed.
To display an inline image in a new window	Click the image and choose Open Image in New Window from the pop-up menu.
To save an inline image	Click the image and choose Download Image to Disk from the pop-up menu.

## Managing Your Lists of Web Sites

Before your lists of Web sites get out of hand, it's a good idea to use these techniques for finding the sites quickly and easily.

### Displaying the History List

You can display the history list to return to a recently viewed document. To open a file in the History window, follow these steps:

1. From the Navigate menu, choose History.
2. Double-click the file you want to open (or select it and click Go To).

To save the history list as an HTML file, follow these steps:

1. From the Navigate menu, choose History.
2. Choose Export and type a file name.
3. Choose Save.

### Using the Hotlist

The hotlist is where you can save the titles and URLs of your favorite files. To add the current file to the hotlist, try this technique: From the Navigate menu, choose Add Current to Hotlist, or click the Add Current to Hotlist toolbar button.

To open a file in the hotlist, follow these steps:

1. From the Navigate menu, choose Hotlist.
2. Double-click the file you want to open (or select it and click the Go To button).

To remove a file from the hotlist, follow these steps:

1. From the Navigate menu, choose Hotlist.
2. Select the file you want to remove and click the Delete button.

To edit an entry in the hotlist, follow these steps:

1. From the Navigate menu, choose Hotlist.
2. Select the entry you want to edit and click the Edit button.
3. In the Edit Hotlist Entry dialog box, you can change the title and URL of the entry.
4. Choose the OK button.

To save the hotlist as an HTML file, follow these steps:

1. From the Navigate menu, choose Hotlist.
2. Choose Export.
3. Type a file name. Use an .htm or .html extension.
4. Choose Save.

## Special Browser Functions

Here are several browser functions you'll want to use to get the most from Q-Mosaic.

### Sending Mail

Mosaic lets you create and send e-mail messages. To *receive* e-mail, you will need a dedicated mail application such as Eudora or an account with a national online service such as America Online or eWorld.

To send e-mail, follow these steps:

1. Click a mailto link, or type mailto: *mail address* in the URL field and press Enter to open the Mail to: dialog box.
2. In the To field, type the e-mail address of the recipient, if necessary.  
You can enter multiple addresses if they are separated by commas. Optional text can be included if it is enclosed in parentheses or angular brackets.
3. In the Cc field, you may type the e-mail address of any secondary recipients.
4. In the Subject field, you may type a short description of the message.
5. Type the body of the message.
6. After completing the message, click the Send button.

To configure Mosaic to send mail, follow these steps:

1. From the Edit menu, choose Preferences. The Preferences dialog box appears.
2. Choose the Miscellaneous option from the pull-down list.
3. In the Email Address field, enter your e-mail address. This address will be used as the From address in messages.

4. In the Email Server field, specify the host name of your mail server. If you do not know the name of your mail server, ask your Internet Service Provider or system administrator. If you chose the PSINet sign-up, the host name has already been entered.
5. Choose the OK button.

## Configuring Helper Applications

Q-Mosaic can read HTML documents, GIF and JPEG graphics, and AU and AIFF audio file formats. Q-Mosaic can also handle other file types by associating new file types with helper applications. Many file formats are predefined. Simply associate a file format with the application that you want to use to read the file format.

To associate a file type with a helper application, follow these steps:

1. From the Edit menu, choose Helpers.
2. Select the file type that you want to associate with a helper application and choose the Edit button.
3. In the Helper Application field, specify the helper application that you want to use to read the selected file type. Click Browse to select the application.
4. Choose the OK button.

To add a new file type, follow these steps (for advanced users):

1. From the Edit menu, choose Helpers.
2. Choose the Add button.
3. In the Description field, type your own description of the file type.
4. In the MIME Type field, type the MIME type/subtype of the file type.

MIME (Multi-purpose Internet Mail Extensions) is a standard system for naming different file formats. When Q-Mosaic retrieves a file from a server, the server provides the MIME type of the file. Q-Mosaic uses the MIME type to determine if the file can be read by Q-Mosaic or if an appropriate helper application is available to read the file.

MIME types are available from the list of registered MIME types. Use the MIME type that best describes your file type.

5. In the Suffixes field, type the file name extension(s) commonly used for the file type. Begin each extension with a period. Separate multiple extensions by spaces.

For servers that do not provide MIME types, Q-Mosaic uses file name extensions to determine the file format.

6. Select Binary or Text to specify how the file type is encoded. Most file types are encoded as binary.
7. In the Helper Application field, specify the helper application that you want to use to read the selected file type. Click Browse to select the application.
8. If the helper application is compatible with the Mosaic Software Development Interface, enter the DDE service name of the application in the Type field. Otherwise, leave this field blank.
9. Choose New. The new file type appears in the list of Helper applications.

## Performance and Problems

These performance tips can help you optimize the performance of Q-Mosaic on your system and hopefully reduce (or eliminate) potential problems.

To load documents faster, follow these steps:

1. From the Edit menu, choose Preferences.
2. Choose the Display option from the pull-down list.
3. Deselect the Load Images Automatically option.

Documents are loaded without images. To load a missing image, place the mouse pointer over the missing image, click the mouse button, and choose Load Missing Image from the pop-up menu. To load all missing images, choose Load Missing Images from the Navigate menu.

4. Choose the OK button.

To load images faster, follow these steps:

1. From the Edit menu, choose Preferences.
2. Choose the Miscellaneous option from the pull-down list.
3. Select the Use Multiple Connections option. Up to five simultaneous network connections are used to load images.
4. Choose the OK button.

To display images faster, follow these steps:

1. From the Edit menu, choose Preferences.
2. Choose the Display option from the pull-down list.
3. Select the Display Images Progressively option.

Images in documents that specify the size of inline images will be displayed as they are loaded.

To display all inline images progressively, including those without specified sizes, select the Reformat After Each Image option.

4. Choose the OK button.

To load previously loaded files faster, follow these steps:

1. From the Edit menu, choose Preferences.
2. Choose the Cache option from the pull-down list.
3. In the Cache Size Limit field, specify the amount of disk space in kilobytes reserved for cached files. The default cache size is 2048K.
4. From the Verify Cache menu, select one of the following options to determine how often network documents are checked for revisions:
  - **Never:** Load cached documents without checking server for newer version.
  - **Once Per Session:** Before loading a cached file, check the server for a newer version only once during the time you start and quit Q-Mosaic. This is the default setting.
  - **Always:** Before loading a cached document, always check the server for a newer version.
5. If you want Q-Mosaic to delete cached files after each session, select the Flush Cache On Exit option.
6. Choose the OK button.

If exiting Q-Mosaic takes longer than you wish, follow these steps:

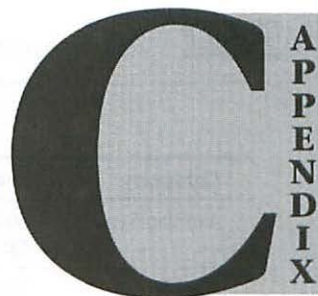
1. From the Edit menu, choose Preferences.
2. Choose the Cache option again.
3. Deselect the Flush Cache On Exit option.
4. Choose the OK button.

## Other Performance Tips

Here are a few more tips that might improve the performance of Q-Mosaic.

- Bypass proxy servers when accessing servers on your own net.
- Use a local document as your home page.
- If duplicate servers are available, use the one nearest you.

# Directory of World Wide Web Resources



To help you locate Macintosh companies which currently have a presence on the Web, we've compiled a brief directory of company names and their URLs.

## Macintosh-Related Companies

The directory is based on information from two vendor lists: one maintained by Apple (<http://www.apple.com/Documents/applereLATED.html>) and the other by the Ultimate Macintosh ([http://www.freepress.com/myee/ultimate\\_mac.html](http://www.freepress.com/myee/ultimate_mac.html)).

When you connect to these Macintosh Web sites, you'll typically find product and update information. Most of these sites also have FAQs about their products and often have forms or at least an e-mail address where you can send technical support questions. Response time varies, but you usually get an answer back within 24 hours. (If it's not urgent, it's a lot easier than waiting on hold forever.)

<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Absoft, Inc.	C/C++ and Fortran software development kits for Power Macintosh	<a href="http://www.absoft.com/">http://www.absoft.com/</a>
Adaptec	Design, manufacture, and marketing of I/O solutions, including the Remus disk array software	<a href="http://www.adaptec.com/">http://www.adaptec.com/</a>
Adobe Systems	Photoshop, Illustrator, Acrobat, Postscript	<a href="http://www.adobe.com">http://www.adobe.com</a>
AG Group, Inc.	Macintosh network management tools	<a href="http://www.aggroup.com/">http://www.aggroup.com/</a>
AGE Logic, Inc.	Desktop to Unix connectivity	<a href="http://www.age.com/">http://www.age.com/</a>

*(continued)*

<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Akimbo Systems	FullWrite word processor (an old Mac standard revived)	<a href="gopher://ftp.std.com:70/11/Vendor/akimbo/">gopher://ftp.std.com:70/11/Vendor/akimbo/</a>
Aladdin	Stuffit and Stuffit Expander	<a href="http://www.aladdinsys.com">http://www.aladdinsys.com</a>
Allegiant Technologies	SuperCard, a hypermedia developer application	<a href="http://www.allegiant.com/">http://www.allegiant.com/</a>
Andyne Computing	Vendor of Pablo client/server software for business	<a href="http://bbs.andyne.on.ca/">http://bbs.andyne.on.ca/</a>
Apple Computer Home Page	Hardware and software	<a href="http://www.apple.com">http://www.apple.com</a>
APS Technologies	Macintosh hard drives and tape drives	<a href="http://www.apstech.com">http://www.apstech.com</a>
Asante	Ethernet and Fast Ethernet networking solutions	<a href="http://www.asante.com/">http://www.asante.com/</a>
Astrobyte	A developer of leading edge publishing tools, including BeyondPress XTension for publishing on the World Wide Web	<a href="http://www.astrobyte.com/">http://www.astrobyte.com/</a>
Banyan Systems, Inc.	Multi-platform enterprise network services	<a href="http://www.banyan.com/">http://www.banyan.com/</a>
BBEdit Support	The Bare Bones Editor	<a href="ftp://ftp.std.com/pub/bbedit/">ftp://ftp.std.com/pub/bbedit/</a>
Berkeley Systems, Inc.	AfterDark and a whole lot more	<a href="http://www.berksys.com/">http://www.berksys.com/</a>
BIAP Systems, Inc.	MacHTTP World Wide Web server software	<a href="http://www.biap.com/">http://www.biap.com/</a>
Bittco Solutions	Co-motion groupware for the Internet and Macintosh	<a href="http://www.bittco.com/">http://www.bittco.com/</a>
Black Box Corporation	Communications and connectivity products from connectors to networking solutions	<a href="http://www.blackbox.com/">http://www.blackbox.com/</a>
Blueridge Technologies	Document Management Systems for Macintosh and Windows	<a href="http://www.blueridge.com/">http://www.blueridge.com/</a>
Bungie	Marathon and Marathon 2	<a href="http://www.bungie.com/main.html">http://www.bungie.com/main.html</a>
BusLogic	Advanced SCSI and RAID solutions	<a href="http://www.buslogic.com/">http://www.buslogic.com/</a>
Byte by Byte Corporation	Sculpt 3D and Sculptor — 3D modeling, ray tracing, rendering & animation software with support for Apple's QD3D metafile and interactive rendering	<a href="http://bytebybyte.com/sculpt.htm">http://bytebybyte.com/sculpt.htm</a>
Cambridge Scientific Computing	Chemical database and molecular modeling software	<a href="http://www.camsci.com/">http://www.camsci.com/</a>

<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Carnation Software	Macintosh to host connectivity	<a href="http://www.webcom.com/~carn/">http://www.webcom.com/~carn/</a>
Casady and Greene	Conflict Catcher, Crystal Crazy, GliderPRO and more	<a href="http://www.casadyg.com/">http://www.casadyg.com/</a>
Castech Software	Heat transfer and casting solidification simulation software	<a href="http://www.castech.fi">http://www.castech.fi</a>
Cayman Systems	Macintosh networking	<a href="http://www.cayman.com">http://www.cayman.com</a>
CE Software	QuicKeys, QuickMail	<a href="http://www.cesoft.com">http://www.cesoft.com</a>
Cisco Systems, Inc.	A major vendor in large network connectivity	<a href="http://www.cisco.com/">http://www.cisco.com/</a>
Claris Corporation	ClarisWorks, FileMaker Pro, and more	<a href="http://www.claris.com/">http://www.claris.com/</a>
Compatible Systems	Internetworking products for small to medium sized businesses and educational institutions	<a href="http://www.compatible.com/">http://www.compatible.com/</a>
Compu-Teach Educational Software	Children's software for Macintosh and Apple - Once Upon a Time, Stepping Stones	<a href="http://www.wolfe.net/~cmpteach/">http://www.wolfe.net/~cmpteach/</a>
Connectix	RAMDoubler, SpeedDoubler, and QuickCam	<a href="http://www.connectix.com">http://www.connectix.com</a>
Dayna Communications	Connectivity and communications products for wired and wireless local area networks and mobile computer users	<a href="http://www.dayna.com">http://www.dayna.com</a>
DayStar Digital, Inc.	Upgrade products for Macintosh computers and Genesis MP Mac OS compatible systems	<a href="http://www.daystar.com">http://www.daystar.com</a>
Delta Tao Software	Eric's Ultimate Solitaire, Spaceward Ho	<a href="http://www.outland.com/deltatao">http://www.outland.com/deltatao</a>
Design Science, Inc.	Makers of MathType, the mathematical equation editor	<a href="http://www.mathtype.com/mathtype/">http://www.mathtype.com/mathtype/</a>
Diamond Multimedia Systems, Inc.	Graphics and multimedia accelerators and other multimedia solutions	<a href="http://www.diamondmm.com/">http://www.diamondmm.com/</a>
Digital Equipment Corporation	Hardware and software	<a href="http://www.dec.com/">http://www.dec.com/</a>
Digital Graphics, Inc.	Color graphics imaging services, including poster-sized prints	<a href="http://world.std.com/~dgi/">http://world.std.com/~dgi/</a>
Dubl-Click Software	ClickChange, MenuFonts	<a href="http://www.dubclick.com">http://www.dubclick.com</a>

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<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Efficient Networks, Inc.	ATM network interface hardware and software	<a href="http://www.efficient.com/">http://www.efficient.com/</a>
EINet	Home of the WWW browser TradeWave MacWeb	<a href="http://galaxy.einet.net/EINet/MacWeb/MacWebHome.html">http://galaxy.einet.net/EINet/MacWeb/MacWebHome.html</a>
Electric Magic	NetPhone for the Mac	<a href="http://www.emagic.com">http://www.emagic.com</a>
Electric Image, Inc.	ElectricImage animation system — 3D animation and rendering software with support for the QD3D metafile and interactive rendering	<a href="http://stingray.cac.psu.edu/3d/EIAS/EIASwelcome.html">http://stingray.cac.psu.edu/3d/EIAS/EIASwelcome.html</a>
Extron Electronics	Manufacturer of computer-to-video interfaces and scan converters for converting computer output to NTSC and PAL for videotaping	<a href="http://WWW.extron.com/">http://WWW.extron.com/</a>
Farallon Computing, Inc.	Fast Ethernet, EtherWave, Ethernet, LocalTalk, and Timbuktu networking products	<a href="http://www.farallon.com">http://www.farallon.com</a>
Fractal Design Corporation	Graphics software: Fractal Painter, Dabbler, Sketcher, and more	<a href="http://www.fractal.com">http://www.fractal.com</a>
FWB	Macintosh SledgeHammer hard drives	<a href="http://www.fwb.com">http://www.fwb.com</a>
Global Village	TelePort, PowerPort fax modems	<a href="http://info.globalvillage.com">http://info.globalvillage.com</a>
Glyphic Technology	Creators of the Codeworks object-oriented development environment and its WWW implementation	<a href="http://www.glyphic.com/">http://www.glyphic.com/</a>
Graphical Business Interfaces	Database connectivity products	<a href="http://www.gbi.com/">http://www.gbi.com/</a>
Gryphon Software Corporation	Morph, BatchIt!, and the Colorforms Computer Fun Set series	<a href="http://www.gryphonsw.com">http://www.gryphonsw.com</a>
Hewlett-Packard	Printers and peripherals	<a href="http://www.hp.com/">http://www.hp.com/</a>
IBM	Hardware and software	<a href="http://www.ibm.com/">http://www.ibm.com/</a>
ICONIX	ICONIX PowerTools for computer-aided software engineering	<a href="http://www.biap.com/iconix/">http://www.biap.com/iconix/</a>
InnoSys	InnoSys communications software for the travel industry	<a href="http://www.ten-io.com/itta/innosys">http://www.ten-io.com/itta/innosys</a>
Insignia Solutions	SoftWindows	<a href="http://www.insignia.com/">http://www.insignia.com/</a>
InterCon	TCP/connect II, InterPPP, Planet X	<a href="http://www.intercon.com">http://www.intercon.com</a>
Interphase Corporation	High-speed networking adapters	<a href="http://www.iphase.com/">http://www.iphase.com/</a>

<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
INTERSOLV	A software products company specializing in client/server software development tools	<a href="http://www.intersolv.com/direct.html">http://www.intersolv.com/direct.html</a>
Iomega	Bernoulli and ZIP drives	<a href="http://www.iomega.com">http://www.iomega.com</a>
JABRA	Produces the JABRA EarPHONE, a speaker and microphone that fits in your ear	<a href="http://www.cts.com/browse/jabra/index.html">http://www.cts.com/browse/jabra/index.html</a>
Jump Development Group	OptiMem RAM Charger, The Software Memory Upgrade	<a href="http://www.wp.com/jump/">http://www.wp.com/jump/</a>
Kaidan, Inc.	CloseTake zoom attachment for QuickTake cameras	<a href="http://tpan.com/kaidan/">http://tpan.com/kaidan/</a>
Kaleida Labs	ScriptX programming language and the Kaleida Media Player	<a href="http://web.kaleida.com/">http://web.kaleida.com/</a>
LaCie Limited	Macintosh hard drives and scanners	<a href="http://www.lacie.com">http://www.lacie.com</a>
LandWare	Publishers of Macintosh and Newton software, including PhotoShow	<a href="http://www.planet.net/landware/">http://www.planet.net/landware/</a>
LGH Informatic Zurich	Swiss business applications	<a href="http://www.access.ch/whoswho/showwho/planghart">http://www.access.ch/whoswho/showwho/planghart</a>
Lotus	Notes groupware	<a href="http://www.lotus.com/">http://www.lotus.com/</a>
Lumina Decision Systems		<a href="http://www.lumina.com/lumina/">http://www.lumina.com/lumina/</a>
MacPlay	Quality education and entertainment software for the Macintosh: Alone in the Dark, Wolfenstein 3D, and Mario's Game Gallery	<a href="http://www.macplay.com">http://www.macplay.com</a>
MacroMedia	Multimedia and design tools including Macromedia Director, MacroModel, and FreeHand	<a href="http://www.macromedia.com">http://www.macromedia.com</a>
Mactivity, Inc.	Information, conferences, and seminars for Macintosh Networkers and WebMasters	<a href="http://www.mactivity.com/">http://www.mactivity.com/</a>
Magnum Software	TFLX voicemail for the Macintosh since 1988	<a href="http://www.primenet.com/~magnum">http://www.primenet.com/~magnum</a>
The MathWorks, Inc.	MATLAB and SIMULINK	<a href="http://www.mathworks.com/">http://www.mathworks.com/</a>
McQ Productions	Software tools for use in computer animation, video and multimedia production	<a href="http://www.McQPro.com/McQ/">http://www.McQPro.com/McQ/</a>
Metrowerks	CodeWarrior Programming Environment	<a href="http://www.metrowerks.com">http://www.metrowerks.com</a>
Microsoft	Microsoft Word, Microsoft Excel	<a href="http://www.microsoft.com">http://www.microsoft.com</a>

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<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Motorola PowerPC	PowerPC chip	<a href="http://www.mot.com/SPS/PowerPC">http://www.mot.com/SPS/PowerPC</a>
MR	Macintosh Software	<a href="http://www.ip.net/shops/MR_Mac_Software/">http://www.ip.net/shops/MR_Mac_Software/</a>
National Instruments	Macintosh instrumentation products for engineers and scientists	<a href="http://www.natinst.com/">http://www.natinst.com/</a>
NCSA Mosaic for Macintosh	Software Development Group of the National Center for Supercomputing	<a href="http://www.ncsa.uiuc.edu/">http://www.ncsa.uiuc.edu/</a>
Neon Software, Inc.	Macintosh network management tools	<a href="http://www.neon.com/">http://www.neon.com/</a>
Netscape Communications	Netscape Navigator and Netsite servers	<a href="http://www.netscape.com/">http://www.netscape.com/</a>
NetWings, Inc.	NetWings 1.0 Internet Server Software	<a href="http://www.netwings.com/">http://www.netwings.com/</a>
Newer Technology	Macintosh memory, accelerators, and Duo docks	<a href="http://www.newertech.com">http://www.newertech.com</a>
Nisus Software, Inc.	NisusWriter, Easy Alarms, and more	<a href="http://www.cts.com/~nisus/">http://www.cts.com/~nisus/</a>
Novell, Inc.	Networking, Word Perfect, AppWare	<a href="http://www.novell.com/">http://www.novell.com/</a>
Oracle Corporation	Oracle database for Mac	<a href="http://www.oracle.com/">http://www.oracle.com/</a>
Outland	Networked versions of Spaceward Ho!, Go	<a href="http://www.outland.com">http://www.outland.com</a>
Pacer Software	PacerForum, PacerPrint	<a href="http://www.pacersoft.com">http://www.pacersoft.com</a>
Peachtree Software	Low cost, off-the-shelf accounting systems for microcomputers	<a href="http://www.peach.com/">http://www.peach.com/</a>
Personal Training Systems	Self-paced interactive tutorials for users of Apple products	<a href="http://www.ptst.com/">http://www.ptst.com/</a>
Progressive Networks	RealAudio	<a href="http://www.realaudio.com">http://www.realaudio.com</a>
Power Computing	First makers of PowerMac clones	<a href="http://www.powercc.com">http://www.powercc.com</a>
Precision Digital Images	Image capture and image processing products	<a href="http://www.precisionimages.com/">http://www.precisionimages.com/</a>
Pro CD, Inc.	Phone books on CD-ROM	<a href="http://www.procd.com/">http://www.procd.com/</a>
Qualcomm	Eudora e-mail software	<a href="http://lorien.qualcomm.com/QualHome.html">http://lorien.qualcomm.com/QualHome.html</a>
QLogic Corporation	Fast!SCSIMAC PCI adapter cards for the Power Macintosh	<a href="http://www.qlc.com/">http://www.qlc.com/</a>
QMS, Inc.	Laser printers	<a href="http://www.qms.com/">http://www.qms.com/</a>

<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
Quantum Corporation	Hard drives and other storage products	<a href="http://www.quantum.com/">http://www.quantum.com/</a>
Quarterdeck	Q-Mosaic browser	<a href="http://www.quarterdeck.com/">http://www.quarterdeck.com/</a>
Quay2 Multimedia	Training CD-ROMs covering Photoshop, QuarkXPress, and Microsoft Office	<a href="http://www.quay2.com">http://www.quay2.com</a>
Radius	VideoSpigot, graphics accelerators	<a href="http://www.radius.com">http://www.radius.com</a>
Raven Systems		<a href="http://www.eskimo.com/~ravensys/">http://www.eskimo.com/~ravensys/</a>
Research Systems, Inc.	Scientific visualization software	<a href="http://sslabs.colorado.edu:2222/projects/IDL/idl_ssl_home.html">http://sslabs.colorado.edu:2222/projects/IDL/idl_ssl_home.html</a>
ResNova, Inc.	Developer of NovaServer Information server software	<a href="http://www.resnova.com/">http://www.resnova.com/</a>
Rockwell Network Systems	PCI network adapters for the Power Macintosh	<a href="http://www.rns.rockwell.com/">http://www.rns.rockwell.com/</a>
Rocky Mountain Digital Peeks	Calculated Beauty, Virtual Landscape I, and other CD-ROM products	<a href="http://www.csn.net/malls/rmdp">http://www.csn.net/malls/rmdp</a>
RTZ Software	Publisher of The Virtual Meeting multimedia teleconferencing software	<a href="http://www.rtz.com/">http://www.rtz.com/</a>
Scholastic, Inc.	Offers a catalog of educational software, including Kid's Studio and Scholastic Smart Books	<a href="http://scholastic.com:2005/public/Network-Home.html">http://scholastic.com:2005/public/Network-Home.html</a>
Silicon Valley Bus Co.	Creates products that enable Macintosh users to expand the capabilities of their systems	<a href="http://www.svbus.com/">http://www.svbus.com/</a>
SoftAware	Providing quality Internet access using Eudora by QUALCOMM, Netscape Navigator, Internet Starter Kit	<a href="http://www.softaware.com/">http://www.softaware.com/</a>
SoftShell Online	ChemIntosh, RxnDriller, and gNMR software for chemists	<a href="http://www.softshell.com/">http://www.softshell.com/</a>
Software Ventures		<a href="http://www.svcdudes.com/">http://www.svcdudes.com/</a>
Sonic Systems	Mac Networking	<a href="http://www.sonicsys.com/">http://www.sonicsys.com/</a>
Spectra Systems Corporation	FDDI and CDDI networking; Ditto for fast file transfer over Ethernet or FDDI	<a href="http://www.spectra.atlanta.com/">http://www.spectra.atlanta.com/</a>
Spyglass	WWW browser Enhanced Mosaic	<a href="http://www.spyglass.com/">http://www.spyglass.com/</a>
StarNine Technologies	WebSTAR (formerly MacHTTP), ListSTAR, and Mail*Link E-mail gateways	<a href="http://www.starnine.com/">http://www.starnine.com/</a>

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<b>Company</b>	<b>Product(s)</b>	<b>World Wide Web Address (URL)</b>
StepUP Software	Software developer specializing in developer tools	<a href="http://rampages.onramp.net/~stepup/">http://rampages.onramp.net/~stepup/</a>
Stevens Creek Software	The Athlete's Diary	<a href="http://alumni.caltech.edu/~slp/tad.html">http://alumni.caltech.edu/~slp/tad.html</a>
Strata, Inc.	Three-dimensional visualization and illustration packages, with support for QD3D metafile and interactive rendering	<a href="http://www.strata3d.com/">http://www.strata3d.com/</a>
Sun Remarketing, Inc	Sells used Apple products, as well as older parts, manuals, and software	<a href="http://www.sunrem.com/">http://www.sunrem.com/</a>
Symantec	Symantec C++, Norton disk and antivirus software	<a href="http://www.symantec.com/">http://www.symantec.com/</a>
Synergistic Research Systems	Biomedical research software developer	<a href="http://www.his.com/~synergy">http://www.his.com/~synergy</a>
Tektronix	Measurement products, color printing, video systems, and network displays	<a href="http://www.tek.com/">http://www.tek.com/</a>
Tenon Intersystems	MachTen Unix and X for Macintosh and Power Macintosh	<a href="http://www.tenon.com/">http://www.tenon.com/</a>
Tribe Computer Works	Mac Networking	<a href="http://www.tribe.com/">http://www.tribe.com/</a>
Truevision	Produces the TARGA 2000 digital video card for use in video editing applications, Trinity	<a href="http://www.truevision.com/">http://www.truevision.com/</a>
UserLand Software, Inc.	UserLand Frontier, scripting tools for the Macintosh; the "Aretha" release of Frontier is now available	<a href="http://www.hotwired.com/userland/">http://www.hotwired.com/userland/</a>
Videodiscovery	Laserdisc and CD-ROM multimedia for science and math education	<a href="http://www.videodiscovery.com/vdyweb/">http://www.videodiscovery.com/vdyweb/</a>
Videomedia, Inc.	Videotape editing systems using microcomputers	<a href="http://www.videomedia.com/">http://www.videomedia.com/</a>
Viewpoint DataLabs International, Inc.	3D data-set models	<a href="http://www.datalabs.com/">http://www.datalabs.com/</a>
Virtus Corporation	Virtus Walkthrough Pro and Virtus VR — 3D modeling, rendering and visualization software	<a href="http://www.virtus.com/">http://www.virtus.com/</a>
Vulcan's Forge	Multimedia	<a href="http://www.vulcansforge.com/">http://www.vulcansforge.com/</a>

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<b><i>Company</i></b>	<b><i>Product(s)</i></b>	<b><i>World Wide Web Address (URL)</i></b>
Waterloo Maple, Inc.	Theorist and Maple V, mathematical software used by scientists, engineers, and educators worldwide	<a href="http://www.maplesoft.com/">http://www.maplesoft.com/</a>
WAIS, Inc.	WAIS search software	<a href="http://wais.wais.com">http://wais.wais.com</a>
WaveMetrics	IGOR line of scientific graphing and data analysis programs for the Macintosh	<a href="http://www.wavemetrics.com/">http://www.wavemetrics.com/</a>
White Pine	Software	<a href="http://www.wpine.com/">http://www.wpine.com/</a>
Wolfram Research, Inc.	Mathematica	<a href="http://mathsource.wri.com/">http://mathsource.wri.com/</a>
Working Software, Inc.	Publisher of Macintosh software, including Toner Tuner, Working Watermarker, Last Resort and Spellswell 7 (Apple Events spelling checker)	<a href="http://www.webcom.com/~working/">http://www.webcom.com/~working/</a>
WriteWare	The Stealth Stylus and other pen and stylus products	<a href="http://www.sbusiness.com/writeware/">http://www.sbusiness.com/writeware/</a>

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# Glossary **D**

A  
P  
P  
E  
N  
D  
I  
X

These are terms you are likely to encounter while roaming the Net or planning your next cyberspace adventure.

## **a2i**

A major Internet service provider.

## **account**

There are two main kinds of Internet access for civilians: shell accounts and PPP/SLIP accounts. In a shell account, you usually dial up a computer with your modem and then navigate with Unix commands. With a SLIP or PPP account, you are a real Internet site yourself, so you can use special Mac software for graphical-interface access. You can also now access the Internet through national online services such as America Online and eWorld.

## **address**

A person's Internet address is the line with the @, as in `chseiter@aol.com`. From the Internet's point of view, an address is a set of four numbers, such as `132.34.115.31`. The numbers correspond to a name that you can remember, such as `zapp.com` or `simple.net`.

## **alt**

The newsgroups with the highest entertainment value are all in the unofficial alternative newsgroup hierarchy, and their names start with alt.

## **Anarchie**

Anarchie is a Macintosh shareware program that performs Archie searches. It's very good, and every national on-line service has it in Mac software libraries.

## **anonymous ftp**

Anonymous ftp is a procedure for logging into computers that maintain file archives that are accessible to anyone. You use *anonymous* as your user name and your e-mail address as your password.

## **AppleTalk**

Apple's own set of hardware and software for managing local-area networks. It's a slow protocol, best for smaller networks.

## **Archie**

Archie is a popular Internet system for finding files. An Archie server is a computer that has lists of available archived files all over the Internet.

## **archive**

An archive is a collection of files. At a site that maintains archives, someone is responsible for updating files and checking the archive for viruses.

## **ARPA**

The Advanced Research Projects Agency, the government agency that funded ARPANET, a precursor to the Internet.

## **ARPANET**

The ARPANET was the basis for networking research in the 1970s. The ARPANET has essentially disappeared into the Internet.

## **ASCII**

ASCII stands for American Standard Code for Information Interchange, a definition that associates each character with a number from 0 to 255. An ASCII file is a text file of characters.

## **backbone**

A high-speed set of network connections. On the Internet, this usually means the NSFNET, a formerly government-funded set of links between large computer sites.

**bandwidth**

The amount of data that can flow over a channel. The greater the bandwidth, the more data can flow at one time.

**BBS**

Shorthand for bulletin board system. A BBS can be an old Mac II in a garage or a gigantic system with 10,000 users.

**Big Sky Telegraph**

A public-access Internet service, located in Montana. One of the best of its kind.

**binary file**

A file of 0s and 1s, which can represent pictures and sound, as well as text.

**BinHex**

A file transmission fix-up. Most mail programs can only handle ASCII, so a binhex utility program converts binary programs to ASCII so that people can mail you a binary file. At the receiving end, you have to decode the file back to binary with the programs BinHex (4.0 or 5.0), HQXer, or uuencode.

**BITNET**

An early network that provided a special set of newsgroups at the dawn of Internet popularity.

**biz**

A newsgroup where you find discussions that have to do with (gasp!) money. Generally, you're not supposed to use other newsgroups for commercial purposes.

**bookmarks**

See *hotlist*.

**bounce**

When you send a piece of e-mail and it comes back as undeliverable, it is said to have "bounced," much like an uncashable check.

## **bps**

Bits per second. The measure of data transmission speed. More commonly used with the prefixes kilo (Kbps) for thousands of bits per second, or mega (Mbps) for millions of bits per second.

## **bridge**

A bridge is a set of hardware and software that lets two different networks appear to be a single larger network to people connecting from outside the system.

## **browser**

A piece of software that can read the HTML pages at Web sites is called a browser. Usually it also has a way to connect to the sites as well. The first important browser was Mosaic.

## **bug**

A software programming or design problem. Unfortunately, bugs are plentiful in communications software.

## **chat**

If you send messages to an electronic mailbox, that's e-mail. If you're sending messages back and forth to someone in real time, that's chat. See *IRC*.

## **ClariNet**

ClariNet is a special newsgroup system that provides first-rate, commercially important news and charges a fee. Some Internet service providers carry it; some don't.

## **ClarisWorks**

ClarisWorks is an integrated software package with a communications module. It now includes an HTML translator that can convert ClarisWorks word processing documents to HTML.

## **com**

This is the top-level domain name that identifies businesses. See *domain*.

**communications software**

The software that controls your modem and dials out to other networks. Mac examples are ZTerm, Microphone, White Knight, and the communications modules of Microsoft Works and ClarisWorks.

**comp**

The term comp at the start of a newsgroup name means that the discussions will be computer-oriented. I'm sorry to report that the majority of these groups are oriented toward Unix or PCs, not Macintoshes.

***Computer Currents***

A tabloid-format computer magazine that turns up on newspaper racks in big cities. A good source of local bulletin board numbers.

**country code**

A top-level domain name that identifies a site by country: `well.sf.ca.us`, for example, has the country code "us" because San Francisco is physically, if not emotionally, part of the United States.

**.cpt**

The file extension `.cpt` at the end of a filename means that the file was compressed with the shareware program called Compact Pro. You can expand it either with that program or with one of the Stuffit series from Aladdin Software.

**cyberspace**

This somewhat overworked term first appeared in the science fiction novel *Neuromancer*, by William Gibson. It refers to the digital world represented by all computers and their interaction.

**dial-up**

A dial-up connection is one that works only while you're connected by phone. The other type of connection is direct, where you are wired to a network and are connected all the time.

## **Dial 'n' cerf**

A national Internet access provider.

## **DIALOG**

A huge information service, managed by Lockheed, with lots of technical databases.

## **DNS**

The domain name system, used to convert Internet names to their corresponding Internet numbers.

## **domain**

An Internet site address has two parts, the domain and the top-level domain name. For America Online — aol.com — aol is the domain name and com is the top-level part. The domain roughly corresponds to the name of a particular network.

## **DOS**

The original operating system that Microsoft cooked up (actually, Microsoft bought it in a one-sided deal) for IBM PCs. Don't bother looking in DOS file collections.

## **dotted quad**

Every now and then you'll hear an old-time Internet hipster refer to the four numbers of an Internet address as a "dotted quad."

## **edu**

Usually this is the Internet address identifier (the top-level domain) for a university. The universities of the United States are the reason the Internet is the vast wonderland it is today.

## **Electronic Frontier Foundation (EFF)**

This organization is something like the conscience of the Internet, as opposed to its administration. Go look for the EFF area on your Internet service provider.

**elm**

This is considered a “good” Unix e-mail utility, meaning that as a Mac user you’ve probably never seen anything as cryptic or difficult.

**e-mail**

Electronic mail. It’s a message you compose on your computer to be received on someone else’s computer, although some services let your message be delivered as a fax or (this sounds weird, but it’s true) *an actual piece of paper!*

**Ethernet**

An Ethernet network is a very common, much faster alternative to Apple’s original built-in networking stuff. Newer Macs for business now have Ethernet capability as part of the system. Apple’s version of Ethernet is sometimes called EtherTalk. Ethernet transmits information at 10 Mbps or 100 Mbps.

**Eudora**

A Macintosh program for handling e-mail. The first versions were shareware, but now it’s a commercial program from Qualcomm software. There’s still a less-capable shareware version available, however.

**FAQ**

Frequently asked question. Trust me, your questions will be just like anyone else’s. When you sign up with an Internet service provider — and before you make any contributions to newsgroups— read the FAQ files that are prominently displayed in menus. This saves you embarrassment (and flames) and saves everyone else from your three-millionth-time newbie questions.

**Fetch**

A great Macintosh ftp program from Dartmouth, available from all Internet service providers.

**file transfer protocol**

See *ftp*.

**finger**

On Unix-based Internet systems, *finger* is a utility that lets you get a profile of a user (including the user's real name).

**firewall**

You may wonder how other computers you can reach by telnet keep you out of private areas. Networks have *firewalls* in different places to block access to unauthorized users.

**flame**

A flame is the sort of extreme opinion that the sender probably wouldn't have the nerve to deliver in person. Although some Internet old-timers seem to generate four flames a day, I think that as a matter of decorum you should never flame (it's a verb or a noun) anyone ever, no matter what.

**frame relay**

A really fast, expandable data transmission service, used for dedicated connections to the Internet. Allows for data transmission from 56 Kbps up to 1.5 Mbps. You won't be putting one of these lines in at home; they're quite expensive.

**freenet**

There are about 30 or 40 freenets around the United States. These are networks that don't charge you a monthly or per-hour fee. Cool, huh? Your local librarian is likely to have the phone numbers.

**freeware**

Freeware is software that is offered by its author for no charge. This is different from shareware (see *shareware*). There's some amazingly good freeware on the Net.

**ftp**

*ftp* stands for file transfer protocol. On the Internet, it usually refers to a Unix-system utility program that lets you collect files from archives at other sites (see Chapter 5).

**ftp-by-mail**

ftp-by-mail is a way to use e-mail to get files sent to you automatically from ftp sites, even if your own Internet service provider doesn't have ftp implemented.

**gateway**

A gateway is hardware that lets messages be sent between two different kinds of networks. You need a gateway, for example, to communicate at network speeds between a Macintosh AppleTalk-based network and a Unix-based network.

**gnu**

Every time you look in a big archive, you see gnu folders. The Free Software Foundation has developed gnu as a sort of Unix-clone operating system, complete with C-language compiler and lots of utilities, that it distributes for free, as a matter of principle.

**gopher**

A gopher is a file search-and-retrieval system that's a basic Internet tool for finding the file you want. For the Macintosh, there's TurboGopher.

**gopherspace**

Gopherspace is a cutesy name for the total of all the gophers in the world and the information in them.

**gov**

Gov is the top-level name, or zone, for any type of government organization.

**Graphic Interchange Format (GIF)**

GIF stands for graphics interchange format — you see it as a file extension on picture files such as **flower.gif**. GIF files are very common on the Internet, and most sites offer a shareware program called GIFwatcher or GIF Converter to read them. Adobe Photoshop and other large image-handling programs also can work with GIF files. GIF files are the most common graphics on Web pages.

**host**

Most kinds of Internet access using a modem will have you dialing a host computer, which is a big computer with its own Internet address.

**hotlist**

A hotlist is a collection of URLs (see *URL*). Sort of a private directory of the Web sites you have visited.

**.hqx**

When you see this as a file extension, it means that the file is in BinHex (see *BinHex*) format. You have to decode it to get the original file, and the easiest way to decode it is with HQXer.

**HQXer**

As you can guess from the name, this shareware utility processes files into and out of .hqx format. It's available in the libraries of every Internet service provider.

**HTML**

Hypertext Markup Language is the set of codes in text that produces formatted pages with pictures and links in Web pages. A year ago, learning HTML was a chore, but now most word-processing programs can translate basic pages for you. And there's a new generation of programs that create WYSIWYG (what you see is what you get) pages, shielding you from all the HTML codes.

**http://**

Hypertext transport protocol — these letters are the indication that an Internet location is a Web page, coded in the standard Web protocol. Well, really, “standard” is a bit strong, but there's at least pretty good agreement on most of the protocol.

**hypertext**

Hypertext is a set of text files in which individual words link one file to the next.

**HyTelnet**

This program can be used to manage telnet functions, but it can also be used off-line as a comprehensive directory of telnet sites.

**information superhighway**

No one knows what this means, including me, so I thought I'd put it in the glossary. Internet fans think it means the Internet, cable TV companies think it's what will happen when cable fibers carry data, and phone companies think it's what will happen when they can force you to buy computers from them. The Internet fans are closest.

**InfoSeek**

Infoseek is a low-cost but still commercial service for performing Web searches. At the Web's growth rate, anyone who helps you search is a friend, even if they have to charge for it.

**Internet protocol (IP)**

A set of definitions that govern transmission of individual packets of information on the Internet.

**Internet Society**

A bunch of good people who discuss policies and make recommendations about Internet management.

**InterNIC**

The name stands for Internet Network Information Center. The word *InterNIC* turns up on the menus of many Internet service providers, and it's a good place to look for the history and future of the Net. InterNIC are also the people who assign domain names.

**InterSLIP**

A freeware program from Intercon that works with MacTCP to give your Mac a SLIP connection.

**IRC**

IRC stands for Internet Relay Chat, an online forum of almost unimaginable liveliness that's offered by real Internet providers.

**ISDN**

Stands for Integrated Services Digital Network. It's a faster digital service run by the phone companies. Allows for data throughput up to 128 Kbps.

## **ISP**

Internet Service Provider. A company that sells access to the Internet via dial-up and dedicated phone lines.

## **Java**

A special computer language from Sun Microsystems that adds all sorts of programming functionality to Web sites. This is going to be a Real Big Deal in the next few years.

## **jpeg**

A compressed file format for images. This is the format often used on the Web for high-resolution images such as photographs.

## **Jughead**

Because there was a program called Archie and another called Veronica, someone decided that Jughead would be a good name for a gopher searching tool. For better or worse, the Web has more or less drowned all the earlier funny-name services.

## **Kermit**

A slow but reliable file transfer protocol named, in fact, after the frog on "The Muppet Show."

## **LISTSERV**

LISTSERV programs manage mailing lists by sending messages automatically to everyone on a given list.

## **log in**

*Log in* and *log on* are different terms for making contact with a remote computer. They're used interchangeably.

## **lurking**

In Internet jargon you are said to be lurking if you join a discussion group and just read other people's messages. Oh, well, better a lurker than a flamer.

**Lycos**

A very big keyword-search service for the Web (as you would expect, at [www.lycos.com](http://www.lycos.com)).

**Mac Binary**

A special format for storing Macintosh binary files on other computers.

**MacSLIP**

An alternative to InterSLIP.

**MacTCP**

Apple's program (a Control Panel, actually) that you need to use a SLIP or PPP account. MacTCP translates your files and messages into Internet-compatible chunks of information. More specifically, MacTCP allows your Mac to use the Internet-standard TCP/IP networking protocol.

**MacWAIS**

An excellent shareware program for WAIS, the wide area information server.

**mail server**

A mail server is a program on a host computer that saves your mail for you until you make a dial-up connection and have a chance to download your mail and read it.

**Matrix**

Lots of early Net visionaries use the term Matrix to denote the total of all connected computers in the world. It used to be used as a cool name for the Internet plus everything else.

**Metaverse**

A graphical version, more or less, of the Internet, but with a better plot. This electronic structure is the basis of Neal Stephenson's science fiction masterpiece *Snow Crash*.

***MicroTimes***

A tabloid-format computer magazine that turns up on newspaper racks in big cities. A good source of local bulletin board numbers.

**mil**

The top-level domain name of military sites on the Internet. Just about all U.S. military sites are Internet sites.

**MIME**

This acronym stands for Multi-purpose Internet Mail Extension, an Internet standard that lets you add sound and images to e-mail. It's not implemented everywhere yet, but it will be.

**mirror**

A mirror site is an archive that keeps a copy of the files in another site. For example, America Online runs a mirror site of Stanford's popular Sumex file archive. Mirror sites relieve traffic congestion to the main site.

**misc**

Newsgroups that don't fit under any other recognizable category get put into misc.

**modem**

The device that lets your computer make telephone calls to other computers.

**moderated**

A moderated newsgroup has someone who filters out the really pointless or offensive material, leaving only moderately pointless or offensive messages.

**Mosaic**

Mosaic was the original freeware program for access to the World Wide Web hypertext system. Commercial versions of Mosaic, customized by Spyglass, are now standard browsers on many services.

**MUD**

Multi-User Dungeons are online fantasy games that can have dozens of players.

**Multi-User Simulated Environment (MUSE)**

A Multi-User Simulated Environment is a sort of highbrow MUD. A multiplayer version of the Mac game SimCity would be a MUSE. These are all disappearing into the Web, but the old versions are still fun.

**NCSA**

National Center for Supercomputing Applications, managed by the University of Illinois, is the spiritual home of Mosaic, along with lots of big computers.

**NetCom**

A large national Internet service provider, and a big ftp server.

**Netscape**

The developers of Mosaic moved West, got funded, and started Netscape, the hottest firm of the 1990s. They developed Netscape Navigator, now the most popular browser.

**network**

Any set of computers that can communicate directly with each other constitutes a network.

**newbie**

A faintly derogatory term for users in their first months on the Internet, employed freely by people who have been on the system one week longer.

**newsgroup**

A collection of people and messages on a particular topic of interest.

**node**

The term *node* in Internet context means a central computer that's part of an Internet-connected network. Sometimes used interchangeably with site or host.

## **NovaLink**

A big-time Internet service provider.

## **NSFNET**

The National Science Foundation Net was for years the principal Internet traffic carrier, before turning over the chores to a commercial firm.

## **packet**

A block of information, complete with addresses for destination and source, traveling over the Internet.

## **page**

The basic unit of the World Wide Web information service is the page. Pages are linked by hypertext references to other pages.

## **password**

Okay, you know what a password is. Just try to think of a nonobvious password (usually, it shouldn't be a real word from a dictionary, much less your nickname) to save yourself potential grief. A good choice is to mix letters and numbers in the same password, such as "THX1138." Well, maybe not that one.

## **PDIAL**

The PDIAL list, available on every Internet service, is a regularly updated registry of public Internet access providers.

## **ping**

An Internet program that is used to determine if a site is still active.

## **point of presence**

A local phone number for high-speed access maintained by an Internet provider.

## **POP**

Post Office Protocol is an e-mail protocol used for downloading mail from a mail server.

**POTS**

Plain Old Telephone Service. The type of standard analog phone service everyone's familiar with.

**PPP**

Point to Point Protocol is an alternative to SLIP for dial-up full Internet access. You would use MacPPP instead of InterSLIP or MacSLIP for this kind of connection. Your Internet service provider's system administrator will tell you which to use. PPP is gradually edging out SLIP in popularity.

**protocol**

A protocol is a definition that controls communication on a network.

**PSINet**

A big, Mac-friendly national Internet Service Provider. One of the few providers to offer widespread ISDN Internet service.

**rec**

Newsgroups for recreational purposes are signaled with rec. There's plenty of overlap between rec and alt, in practice.

**RFC/RFD**

Requests For Comment and Requests For Discussion are study-group documents with an important role in settling general Internet questions about design and use.

**rlogin**

An alternative to telnet, rlogin is a Unix command for connecting to remote computers.

**router**

A router is a gateway (see *gateway*) between two networks that use Internet protocol.

**sci**

Serious research newsgroups in science and mathematics belong to this newsgroup hierarchy.

**.sea**

This file extension stands for self-extracting archive. If you double-click on a .sea file, it usually turns itself into a folder containing an application and some documentation files.

**server**

A computer that stores files as a central resource for other computers, called clients, that can connect to the server to get files for themselves.

**shareware**

Shareware is software you can download free to test. If you like it and use it, you are obliged as a matter of honor to send the requested payment to the author.

**.sit**

Files compressed with Stuffit from Aladdin Software show this file extension. You can expand them with UnStuffit or Stuffit Expander, available from all the national on-line services and most bulletin boards.

**SLIP**

Serial Line Internet Protocol lets you become a dial-up Internet site. You also need MacTCP to make a SLIP connection with a Macintosh (see Chapter 13). SLIP is an alternative to PPP.

**SMTP**

The Simple Mail Transport Protocol is the e-mail protocol standard for the Internet.

**soc**

The soc newsgroups on social issues overlap many of the alt social issue newsgroups.

**T-1**

A very fast dedicated digital phone line.

**TA**

Terminal adaptor. The ISDN device that lets non-ISDN devices work with ISDN.

**tag**

All the embedded codes in an HTML page (see *HTML*) are called tags. They are very much reminiscent of old-time typesetting codes, in the bad old days before the Mac.

**.tar**

This file extension indicates files compressed with a special Unix program. You can expand them with Stuffit Deluxe.

**TCP/IP**

The whole system, Transport Control Protocol and Internet Protocol, makes up a standard guideline for network hardware and software design.

**telnet**

The core of all Internet services is the Unix utility telnet, a program that lets users connected to one host dial up a different Internet host.

**terminal**

In the old days, a terminal could only receive and send characters to the real computer at the other end of the wires. A terminal program lets your sophisticated Macintosh mimic this primitive arrangement.

**thread**

A series of connected messages in a newsgroup.

**TurboGopher**

An excellent Macintosh gopher program for searching all the files of the Internet. As freeware, TurboGopher is available everywhere in the libraries of online services.

**Unix**

The operating system that runs the Internet. Developed over many years, it is capable of meeting any networking challenge and is very thrifty with computing resources. The downside consequence of these virtues is that Unix is hard for beginners to use, and near-incomprehensible to Mac users.

**URL**

Uniform Resource Locator, the basic address on the World Wide Web.

**Usenet**

The network, linked at different points to the Internet, that supports all the newsgroups.

**uuencode**

Uuencode is a program that turns binary files into ASCII files so that you can send them through e-mail. Uudecode takes the files back to binary. Mac shareware utilities for this function are available in most libraries.

**Veronica**

Veronica is a program that searches for files over all available gopher servers, making it the program to use whenever it's available. Higher-level searches are preferable to direct use of Archie.

**VT-100/102**

These are two very common terminals and, hence, two very common terminal-software options. As a first guess, pick VT100 as the terminal setting when you dial up almost any service using standard communications software.

**WAIS**

Wide area information servers are text databases with a search method that looks inside the text rather than just at document titles.

**WELL**

A very popular Bay Area bulletin board with full Internet access. About half the computer journalists on earth seem to hang out on this service.

**whois**

A command available on some Internet services to find the real name of a user based on the user's screen name.

**Windows**

An attempt to stick a Macintosh-like face on the ugly reality of DOS.

**WWW**

World Wide Web is an Internet service consisting of hypertext-linked documents, with text and graphics, and video and audio capabilities if your computer has the necessary software and hardware.

**X, Y, and ZMODEM**

XMODEM is a 15-year-old file transfer protocol; YMODEM is newer; and ZMODEM is the fastest and best.

**.z**

Another type of Unix-system compressed file extension, also expandable with UnStuffit.

**zip**

The most common compressed-file format for PCs. Unless it's a text file, you probably won't be able to do anything with a .zip file on a Mac, even if you expand it, so don't bother unless there's a compelling reason to put yourself through the trouble.

**ZTerm**

The favorite basic communications software for many Mac users. It's reliable and fast for downloading large files from bulletin boards. It's also shareware.



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Appendix A in this book briefly describes what programs you'll find on the *Macworld Web Essentials CD-ROM*. Appendix B describes how to install the Quarterdeck Mosaic Web browser. Most of the programs include their own setup procedures, so by exploring the CD, you can usually find out how to install each program. If you don't have the book handy while you're exploring the CD, you can get information on each program by following these steps:

1. Insert the CD-ROM disc into your CD-ROM drive. The *Macworld Web Essentials CD* icon appears on the desktop.
2. Double-click the icon to display the CD's contents.
3. Open either the LAMG Internet Companion folder or the Quarterdeck Mosaic folder.

The LAMG Internet Companion folder contains several folders and documents: Claris Emailer Demo, Internet Applications, Read Me, Welcome to LAMG, Net.Help, and LMAG BBS Software.

The Quarterdeck Mosaic folder contains the Quarterdeck Mosaic Installer.

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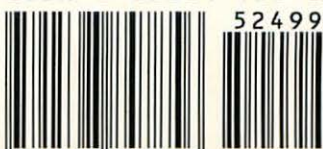
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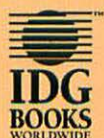


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