

A NORTON POCKET GUIDE

Web Works

MARTIN IRVINE

*A quick-reference
guide to getting on
and navigating the
Internet and the
World Wide Web*

A NORTON BOOK

Web Works

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藏书章
Martin Irvine



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Web Works

Preface

This is not yet another book for “dummies.” In fact, *Web Works* is a book for smart people who want to learn the basics for using the World Wide Web and Internet, but who don’t want to plow through one of those huge encyclopedias about the Net and Web now available on every bookstore shelf. This is a book for people who want straight answers from the user’s point of view. It’s a book to keep beside your mouse pad and in a pocket of your laptop case.

Web Works is for students, teachers, businesspeople, people in government and information-intensive professions like law and journalism, and home computer users. My primary aim will be to make the Web understandable and accessible for people who work in schools and universities, businesses, and government. The goal of this book is to provide the right amount of information in an accessible format for beginning and intermediate users of the Net and Web.

Web Works takes the perspective that the Web is the whole of Internet resources. Why? Because the Web as a system embraces or includes earlier Internet technology and ways of moving bits around the Net, and because Web interface software like *Netscape Navigator* is now designed to be a complete front-end to the Net. Learning to use the Web means having access both to what is Web-specific (materials presented in hypertext and hypermedia format) and to all previous and existing Internet resources. Learning the Web means gaining access to the whole Internet.

Web Works and the Web User

It’s hard to pick up a magazine or watch the news and not find references to the Internet and the World Wide Web. Every major corporation and information service now commonly advertises addresses for Web pages (their URLs, in Webspeak). Many newspapers and magazines are available on the Web in multimedia versions that have no print equivalent. A Website URL has replaced fax numbers and even email addresses as priority information on business cards. Not knowing how to use the Web places you out of the info-loop. *Web Works* will be your

guide to gaining access to this new information resource and to understanding how it works.

Since the Web depends on user-interaction and not passive consumption like other media, we need to know something about how things work and about the key concepts that drive the technology. *Web Works* introduces the Web conceptually from the user's point of view. The great thing about learning the Web and Net conceptually is that we can take what we learn to new contexts: the basics needed by Web users can be readily applied to using any computer running any software for accessing the Web. Learning the key concepts that drive the technology is also important for adapting to the pace of change: specific information for one software package or computer type will quickly go out of date, but conceptual background can always be reapplied. With a few basics under your digital belt, you'll be able to use any Web software package and navigate the Web with confidence and ease.

Learning to use the Web well really means becoming a networked information resources manager. Web navigators soon learn how to make their own connections among kinds of information, synthesizing what's useful for some user-defined end, and ignoring the rest. Other books about the Net and Web have various emphases: *Web Works* assumes that you want to learn how to gain access to usable information and how to make the Web work for you.

Web Works will also be your guide to finding more information about the Web on the Web. *Web Works* is based on an active learning process—you learn the Web by using it. You'll also learn how to do research and make the best use of the searching tools on the Web for finding exactly what you need.

Whenever possible, I will cite sources of information on the Web, rather than print sources. Most of the information you'll need for understanding how the Web works is found on the Web. This makes the Web the world's first intentionally constructed metamedium; that is, since its beginnings, the people involved in the technical development of the Internet and World Wide Web have documented how it works and how to use it. Now there are whole Websites devoted to the Web itself—using it, finding information, and creating your own Web materials.

Using *Web Works*

Since the goal of this book is to introduce readers to how the Web works, I recommend that all readers become familiar with

the background in Chapters 1 and 2. These chapters provide an introduction to the key concepts and features of the Net and Web from the user's point of view. For an overview of key terms and concepts, refer to the Glossary on pages 131–44.

If you are using the Web from an office or university LAN, you can skip over Chapter 3, “Getting Connected.” If you want the necessary background on getting an Internet connection at home or via an individual phone line anywhere, Chapter 3 then becomes required reading.

Chapters 4 and 5 are the heart of the book for people wanting to use the Web for research or finding needed information efficiently. These chapters will guide you through the best strategies for managing and using information on the Web.

Chapter 6 will introduce other forms of interactive communications that are technically “off the Web” but accessible in an interface to the Internet that can work in concert with Web software.

Chapter 7 builds on the earlier chapters by introducing the expanding hypermedia capabilities of the Web and the kinds of software that users need to know about to use developing and emerging applications of Web media.

With the background of Chapters 1 through 7 and some experience using the Web, you may be interested to learn how to develop your own resources for the Web. Chapter 8 is thus an introduction, and only an introduction, to taking the next step and becoming a Web developer.

And since we're all still undergoing the social and cultural effects of this new networked, multimedia communications environment, Chapter 9 is an attempt to raise some questions and provoke thought about the Web and Net culture.

There is a complete glossary at the end of the book; all technical terms used in the book, and many others that you may encounter as a Web user, are covered there.

The Website for *Web Works*:

<http://www.wwnorton.com/webworks/>

To help you on your way to becoming a skilled navigator and infomanager, I have set up a Website keyed to the chapters of this book. Web technologies are constantly developing and changing, and you will always be able to find up-to-date and reliable information about the Web and Web resources at the *Web Works* Website. All links to Web and Net materials cited in the book will be found there, as well as links to carefully selected examples of materials covered in each chapter. Look

for the Website icon, which indicates places where you can go to find further information, links to Websites mentioned in the book, and updates to material covered.

The Website will thus allow new users to try out the features of the Web described in the book and will provide more experienced users with a convenient jump station for quick access to research tools and guides to information. There is also a user comment form so that you can provide suggestions for additions or corrections. Users who provide tips will be acknowledged in additions to the Website and in future editions of *Web Works*.

Platforms and Software Reference Points

Web Works is written with the Microsoft Windows user in mind, although most descriptions of software features will also include references to Macintosh versions. Most software features are identical in the main graphical interface platforms—Windows, Mac, and X-Windows—although the menu system or commands for using the features may vary slightly.

I have chosen *Netscape Navigator* as the reference World Wide Web client program for several reasons. (*Netscape Navigator* 2.0 will be assumed throughout this book. The program features of Netscape 2.0 have been continued in version 3.0.) Netscape Communications Corporation has done more than any other company to advance the multimedia potential of the Web and continues to make the free educational use of their products a part of their corporate philosophy. I strongly endorse Netscape's model of synergy with educational and research institutions and hope it spreads. But since this book focuses on Web and networked computing concepts rather than on the features of any one piece of hardware or software, most of what you will find explained using Netscape as a reference point will be true for any other recent graphical Web client program (like NCSA *Mosaic* or Microsoft *Internet Explorer*).

Web References

References to Websites mentioned in this book are reliable as this book goes to press. Some URLs may change, and linkrot—the inevitable decay of Web links in a dynamic, constantly changing distributed system—will set in for some references. To stay current with the ongoing development of the Web, use the *Web Works* Website for updates on all the information cited in this book.

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Introduction

I have said on numerous occasions, and I still believe, that with the development of the Internet, and with the increasing pervasiveness of communication between networked computers, we are in the middle of the most transforming technological event since the capture of fire. I used to think that it was just the biggest thing since Gutenberg, but now I think you have to go back farther.

—John Perry Barlow, co-founder of the Electronic Freedom Foundation, former lyricist for the Grateful Dead

Over the past three decades, worldwide communications and information exchange have undergone a two-part quiet revolution: in 1969 the first “internet” was tested at UCLA, and in 1991 the World Wide Web was launched at the CERN particle physics lab in Geneva. The Internet has grown from 23 host computers in 1971 to over 9.5 million in 96 countries in 1996. But this revolution is unlike anything else our planet has seen since the invention of the technology for recording, storing, and transporting words, numbers, and images on clay tablets. The Web is global and interactive, and users or consumers of information can also become producers and publishers. Barlow is right—it’s a bigger transformation than Gutenberg’s press, and we are experiencing the broad social effects of the new communications environment in the course of a single generation. This book is for people who want to enter this new communications environment and understand how it works.

This is also a book that presents a distinctive approach to *usable* technology for people who are not technical. *Web Works* attempts to dispel some of the anxieties about technology that prevent smart people from taking advantage of access to information that will greatly assist them in their work and from enjoying the benefits of participating in a wider community of people with like interests. People learning to use the Net and Web in the 1990s bring a lot of contemporary social baggage to their computers, and learning the Web, like learning other socially-embedded things, may require unlearning a lot of what we think we know.

Our culture is based on incompatible ways of dealing with new technology, formed of equal parts hype, worship, fear, and distrust. The past decade has seen escalating cyberhype, promises of new techno-utopias, plans for information superhigh-

ways, dreams of new educational achievement through computers, and large investments in technology by businesses seeking greater productivity and profits. On another front, the popular media seems fixated by the fantasy that the Net is a big scary place full of mischievous hackers, cyberthieves, porn pushers, and computer security leaks as big as Niagara Falls.

Fantasies are extremely difficult to resist with something as weak as facts and experience. The simple truth that the Net fills ordinary human needs like the need for communication over distances and the need for access to reliable, usable information is too banal for headlines. There are many social concerns that the Net community and technology architects need to address, but the Web is still a new and developing technology with a long way to go. Our computers are only as smart as we are. But as you learn the Web from the inside, you'll soon find yourself unlearning some popular misconceptions about technology. The information and communication environment you'll discover will soon seem habitable, and you'll even want to live and build your own place there.

Learning the Web with the *Web Works* Approach

This book takes the approach that all Web users will get the most out of the Web if they know some of the basics about how it works. You might ask, why bother learning how things work as long as the computer does pretty much what I want it to do? Here's why. The World Wide Web is unlike any other electronic medium in its user orientation. Unlike TV or radio, the Web user is in charge of the information requested and received. Broadcast media simply bombards us with simultaneous multiple channels. We have no control over the delivery of content on a TV channel; there's nothing on TV to help us evaluate or interpret the content of one channel or another. You can't ask a TV program to back up or compare one segment of content to something earlier or later. Our only choices are changing the channel or turning off the TV.

The Web is actually the inverse of broadcast media: the Web user initiates the search for interesting or useful content, and the information is delivered on request to a user's computer. Since information is requested and not broadcast, Web users make direct decisions about quality, content, reliability, relevance, and connectedness. Unlike the TV viewer, the Web user can evaluate, analyze, and interpret the information brought

to the computer screen and compare it, almost instantly, with other information. With the ability to compare information from multiple media sources quickly and by request, the Web user can efficiently convert the information into usable knowledge.

And there's more: Web users can become producers of information. No other medium allows consumer access to the means of production like the Web. As you learn the Web, you will quickly find that you can become a developer and producer of information, and not simply a receiver or consumer. Placing the user as close to the means of production as possible has always been a key feature of Internet technology and Net culture.

Is the Web Worth Learning? Some Examples

OK, all this may seem intriguing so far, but how can you tell if learning to use the Web will be worth it for you? How could having access to information on the Net help with practical, daily needs and concerns? Let's look at a few examples.

1. Travel

You've always wanted to visit Prague, but you don't have any idea where to find the information you need to prepare for a trip. You could go to a bookstore or call a travel agent, but you could also do a quick search for "Prague" on the Web. Here's what you'd find in about a minute or two. First, there's an encyclopedia of information hosted by the city of Prague itself, including a history of the city and information for visitors. There's a virtual tour of the city provided by a Prague university, information on Prague hotels, and even information about Prague radio broadcasts in English. You can find a history of the Czech Republic, and all kinds of cultural and business information. Maybe you need to do some research while in Prague. Information about Prague's library and access to library catalogs are available on the Net. What airlines fly to Prague and what are their flight schedules? Check the travel and airline Websites; many are being added weekly. All up to date, all freely accessible on the Web. Now call the travel agent (many of them are on the Web, too).*

***Hint:** Use the search engines and World Wide Web Virtual Library site discussed in Chapter 4.

2. Research

You have a research topic and need solid information and a working bibliography for a paper, report, or article. You've also got a deadline. How to begin? You could spend hours with print indices, bibliographies, library card catalogs, or reference books. Instead, you could use some of the Web indices and search engines described in Chapter 4. It's likely that someone, or a whole organization, has put information on your topic on the Web. Next, use an online library catalog (see 4.5, page 66). There are over 3,000 publicly accessible library catalogs on the Net, including all the major university research libraries and many large city libraries. (The Net and Web are not antibook; but we no longer need to use print sources to study or research books.) The online catalogs allow you to search by author, title, or subject, and you can compile a working bibliography in a very short amount of time. Need journal references? The Net also has a searchable online database of thousands of journals and tables of contents. An hour of research using Web and Net materials can result in (1) a list of Websites with the most up-to-date information on your topic, (2) a bibliography of titles that you need to investigate, and (3) some key journal articles that you can look up. Having prepared your research, you can now visit your library to investigate the print materials and not waste any time when you get there. It's no exaggeration to say that with Web access you can do in an hour what it used to take a week or more to do with print indices, card catalogs, and other physically limited research aids.

3. News

OK, say you've now got your new notebook computer with a zippy internal modem and a new account with a national Internet provider. You travel frequently, and you want to keep up on news and information in your field and stay connected with friends and colleagues via email. (Make sure you book hotels that allow you to jack in your modem to the phone line in your room!) Forget trying to get the news you need from local newspapers. It's all on the Web. The *CNN Interactive Website* is great (updated continuously throughout the day), and the *New York Times* and *Wall Street Journal* have Web editions that contain not only the current day's news but a searchable archive of recent stories. Many Web editions of newspapers and magazines have complete archives covering several years. Some Web edi-

tions require a (usually free) registration, others a small subscription fee. You can also get free stock and mutual funds quotes 24 hours a day on the Web from wherever you are. The news is always available, even late at night when you've just returned to the hotel. Leave the TV off; there's more on the Web.

These are only a few typical examples of how learning the Web can change the way you use and access information. Internet content and accessibility have now achieved critical mass: nontechnical people in all fields and careers now have easy and reliable access to information when they need it. Internet technology will continue to evolve with better user software and new delivery of media, but any investment of time you make in learning the Web with *Web Works* now will enable you to learn further on your own and prepare you for new advances in Net and Web technology.

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