Richard J. Smith & Mark Gibbs



DELUXE EDITION LANGE STATE THE INTERNET

International Bestseller

Up To One Month Free Connect Time!



Disk includes everything you need to connect to and navigate the Internet

Chameleon Sampler®— Windows® software for a full Internet connection

Plus, Windows programs to send e-mail, download files with FTP, telnet to other computers, read and post to newsgroups, UUcode binary files for e-mail transfer, and navigate the world with Gopher

"Navigating the Internet is excellent and clearly written—the best computer book I've ever bought!"

-Bruce R. Martini

NAVIGATING THE INTERNET

Richard J. Smith
Mark Gibbs

DELUXE EDITION

SAMSPUBLISHING

A Division of Prentice Hall Computer Publishing, 201 W. 103rd Street, Indianapolis, Indiana 46290

For my wife Arianne and son Keihan —Mark Gibbs

To my wife Ann Roberts —Rich Smith

Copyright © 1994 by Sams Publishing

DELUXE EDITION

All rights reserved. No part of this book shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. No patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this book, the publisher and author assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. For information, address Sams Publishing, 201 W. 103rd Street, Indianapolis, Indiana 46290.

International Standard Book Number: 0-672-30485-6

Library of Congress Catalog Card Number: 94-65314

97 96 95 94

4 3

Interpretation of the printing code: the rightmost double-digit number is the year of the book's printing; the rightmost single-digit, the number of the book's printing. For example, a printing code of 94-1 shows that the first printing of the book occurred in 1994.

Composed in Palatino and MCPdigital by Prentice Hall Computer Publishing Printed in the United States of America

Trademarks

All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. Sams Publishing cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark.

What Can I Do on the Internet?

- Electronic Mail. Sending and receiving e-mail to and from other people (and software) through the Internet is easy. With e-mail, you can send mail to your friends, business colleagues, and even the President. You can also make requests for database searches through e- mail and have the results mailed back to you. You can even have the world and national news mailed to you (see Chapter 3).
- File Transfer. On the Internet, files are all over the place. Being able to haul a file down to your computer to get data or run a program (if the le is executable) is vital to all kinds of research at development work. In this category are resour such as weather and oceanographic data files a satellite pictures. You can also copy files from your computer to someone else's computer (see Chapter 4).
- Run Programs on Other Computers. Being able to reach out from your computer to another computer and run a program on it is a hugely useful tool. This means that you can fun software that your own computer can't run fue to processor type, memory limitations, and so on) and don't have to haul programs and data to your machine (see Chapter 5).
- Search for Files and Database. We'll discuss several systems on the Internet that you can use to search thousands of computers for files and databases (see Chapters 6, 7, 8, 9, 10, and 15).
- **Discussion Groups.** Because the Internet is used by millions of people, it's a natural place to make contact with people who share your interests and want to exchange views (see Chapters 13 and 14).

Portal

20863 Stevens Creek Blvd. Suite 200 Cupertino, CA 95014

Discount offered: Startup fee waived

Voice Number: (408) 973-9111

Call either of the numbers listed to set up a new account. To receive the discount, you need to give the title of this book when you sign up.

UUNet's AlterNet

3110 Fairview Park Drive Suite 570 Falls Church, VA 22042

Discount offered: Waiver of first month's Basic Service Fee for AlterDial Metered Service

Voice Number: (703) 204-8000

Call either of the numbers listed to get more information about how to set up a new account. You must include this original page from the book when you send your registration information to UUNet.

NAVIGATING THE INTERNET DISK

This disk contains a special collection of PC Windows software for connecting with and navigating the Internet.

- Chameleon Sampler, from NetManage—TCP/IP software for SLIP connections to the Internet, plus a suite of valuable Internet tools, including FTP, Telnet, and E-mail.
- *HGopher*—a Windows Gopher+ client for exploring the resources of the Internet.
- UUCode—for UUencoding and UUdecoding binary files.
- Online directories of Internet mailing lists, Newsgroups, and ListServe lists.
- A text search program for the directories.



Navigator's Note: Macintosh users can get a disk of Mac Internet programs and tools—see the disk offer page near the back of the book.

Installing the Disk

Insert the disk in your floppy disk drive and follow these steps to install the software. You must have at least 3 megabytes of free space on your hard drive.

- 1. From Windows File Manager or Program Manager, choose File + Run from the menu.
- 2. Type <drive>INSTALL and press Enter. <drive> is the letter of the drive that contains the installation disk. For example, if the disk is in drive B:, type B:INSTALL and press Enter.
- 3. Choose Full Install to install all the software; choose Custom Install to install only some of the software.

Follow the on-screen instructions in the installation program. The files are installed to a directory named C:\NAVIGATE, unless you change this name at the beginning of the install program.

When the installation is complete, the file NAVIGATE.TXT will be displayed for you to read. This file contains information on the files and programs that were installed. A Program Manager group named *Navigating the Internet* will be created by the installation program.



Navigator's Note: The Chameleon Sampler software must still be installed after the main installation is complete. Go to the *Navigating the Internet* Program Manager group and double-click the Install Chameleon Sampler icon. See Appendix G for more information.



And the Readers Say...

I am really pleased with Navigating the Internet. It has helped me understand the Internet and its many uses. The book pretty much stays beside the computer when I'm on the Net (which is most of the time!).

-Kevin McAbee

I have found Navigating the Internet to be extremely easy to read with many lively examples of real-life applications. I have already recommended it to two of my friends.

—David Shufutinsky

I have only been using the Internet for a couple of months now and have found Navigating the Internet to be a great help.

-Mike Keith

I just simply could not put Navigating the Internet down. Thanks so much for bringing such an enjoyable level of understanding to a topic that I am really quite interested in learning more about.

—Thom Fecik

Until recently I've avoided the Internet because it appeared too "techie," but Navigating the Internet is providing a painless entry to the Information Superhighway.

-Robert Popper

I really enjoyed Navigating the Internet. It takes a witty approach to writing about a subject many people could find boring and confusing. I had a lot of fun with it.

-William R. Armour IV

I was recently at a large bookstore looking for a book on Internet. Needless to say, there were quite a few. After perusing through various ones, I purchased Navigating the Internet and have been very satisfied with it. The explanations are to the point, clear, and cover the desired materials. It is a quality book which I would recommend to someone else.

—David Kelly

Navigating the Internet is very readable and very informative. Information I was laboriously piecing together out of newsgroups, you have collected in a convenient, easy-to-use form.

-George R. Cannon, Jr.

I just got Navigating the Internet *and find it a wealth of information about the Internet.*—Glen Ketteringham

For my wife Arianne and son Keihan —Mark Gibbs

To my wife Ann Roberts —Rich Smith

Copyright © 1994 by Sams Publishing

DELUXE EDITION

All rights reserved. No part of this book shall be reproduced, stored in a retrieval system, or transmitted by any means, electronic, mechanical, photocopying, recording, or otherwise, without written permission from the publisher. No patent liability is assumed with respect to the use of the information contained herein. Although every precaution has been taken in the preparation of this book, the publisher and author assume no responsibility for errors or omissions. Neither is any liability assumed for damages resulting from the use of the information contained herein. For information, address Sams Publishing, 201 W. 103rd Street, Indianapolis, Indiana 46290.

International Standard Book Number: 0-672-30485-6

Library of Congress Catalog Card Number: 94-65314

97 96 95 94

4 3

Interpretation of the printing code: the rightmost double-digit number is the year of the book's printing; the rightmost single-digit, the number of the book's printing. For example, a printing code of 94-1 shows that the first printing of the book occurred in 1994.

Composed in Palatino and MCPdigital by Prentice Hall Computer Publishing Printed in the United States of America

Trademarks

All terms mentioned in this book that are known to be trademarks or service marks have been appropriately capitalized. Sams Publishing cannot attest to the accuracy of this information. Use of a term in this book should not be regarded as affecting the validity of any trademark or service mark.

Publisher
Richard K. Swadley

Associate Publisher
Iordan Gold

Acquisitions Manager Stacy Hiquet

Acquisitions Editors
Gregg Bushyeager
Mark Taber

Development Editor *Mark Taber*

Managing Editor
Cindy Morrow

Production EditorsSandy Doell
Fran Hatton

Editors

Angie Trzepacz

David Bradford

Editorial Coordinator

Editorial Assistants
Sharon Cox
Lynette Quinn

Bill Whitmer

Software Technical Reviewers Steve Bang Wes Morgan Marketing Manager Greg Bushyeager

Cover Designers

Dan Armstrong

Kathy Hanley

Book Designer Michele Laseau

Director of Production and Manufacturing Jeff Valler

Production Manager Scott Cook

Imprint Manager Juli Cook

Production Analysts *Mary Beth Wakefield Dennis Clay Hager*

Proofreading Coordinator *Joelynn Gifford*

Indexing Coordinator
Johnna VanHoose

Graphics Image Specialists
Tim Montgomery
Dennis Sheehan
Sue VandeWalle

Production Katy Bodenmiller Ayrika Bryant Stephanie Davis Kimberly K. Hannel Angela P. Judy Greg Kemp Jamie Milazzo Wendy Ott Shelly Palma Beth Rago Ryan Rader Kim Scott Michelle Self Kris Simmons Tonya R. Simpson SA Springer Tina Trettin Suzanne Tully Elaine Webb Dennis Wesner

ACKNOWLEDGMENTS

I'd like to thank Rendell Bird and Patrick Landry of the University of Southwestern Louisiana, Blanche Woolls and Chris Tomer of the University of Pittsburgh, and the entire Internet community.

Thanks to the University of Pittsburgh's School of Library and Information Science computer staff especially Stuart McLean and the Graduate Student Assistants. The participants of my summer workshops, my graduate class, and "Let's Go Gopherin'" who helped with input on additional material. Finally, Ann Roberts for assistance with inputting material.

-Rich Smith

So many people have helped, advised, and encouraged this book that it's hard to know where to begin. My most grateful thanks to Steve Bang, our technical editor, for going beyond the call of duty, and to Rick Gates, the Internet Hunt Meister, for his support and contribution.

For their help and support, I'd like to thank Debra Young of CompuServe, Rusty Williams at Delphi, Timothy Tyndall and Marcie Montgomery of R.A.I.N., and Scott Yanoff and Bob Bales of the National Computer Security Association.

Thanks to the GoFer Team—Martha E. Rapp, Holly Lee Stowe, and Phil Kizer—who researched references and resources for us.

Finally, thanks to the staff at Sams Publishing. Gregg Bushyeager, you did a superb job—the project had its moments. Phil Paxton, juggler extraordinaire, for what must have been an edit from hell. A huge, nay, enormous thanks to Mark Taber, David Bradford, Sandy Doell, and Angie Trzepacz. Your attention to detail and careful work was superhuman!

-Mark Gibbs

ABOUT THE AUTHORS

Richard J. Smith

Richard Smith discovered the information resources of the Internet while doing work as a Ph.D. student at the University of Pittsburgh. He taught the use of the Internet in graduate courses and followed these by giving workshops called "Navigating the Internet" in 1991.

In the summer of 1992, Smith decided to offer a course on Internet training—over the Internet—hoping to get 30 or 40 people to participate. A total of 864 people from more than 20 countries registered for his "Navigating the Internet: An Interactive Workshop." A second workshop drew more than 15,000 participants from more than 50 countries.

The result of these ground-breaking international workshops is that Smith has trained literally thousands of people around the world in how to use Internet resources. This led to Smith being dubbed the "Internet mentor" in the January 1993 issue of *American Libraries*. He plans to do bigger and better international Internet workshops in the future because he enjoys offering a service that is much needed and appreciated.

Smith can be contacted at rjs@lis.pitt.edu.

Mark Gibbs

For more than a decade, Mark Gibbs has developed technical and service operations, consulted, lectured, and written articles and books about the network market.

Gibbs was co-founder of Novell's U.K. operation, where he was responsible for the management of all technical services. He was with Novell for five years and since leaving has pursued a successful career as an independent consultant and analyst.

Gibbs has written books on networking—Do-It-Yourself Networking with LANtastic and The Absolute Beginner's Guide to Networking, both from Sams Publishing, and Networking Personal Computers from Que Corporation—and has contributed articles about PCs and networking technology to various journals and periodicals. He is a contributing editor to the Patricia Seybold Group and technology analyst to the National Computer Security Association.

Gibbs can be contacted on the Internet as mgibbs@rain.org (please put "NAV:" in the subject line).

Introduction

[The Bellman] had bought a large map representing the sea, Without the least vestige of land:

And the crew were much pleased when they found it to be A map they could all understand.

"What good are Mercator's North Poles and Equators, Tropics, Zones, and Meridian Lines?" So the Bellman would cry: and the crew would reply "They are merely conventional signs!"

"Other maps are such shapes, with their islands and capes! But we've got our brave Captain to thank" (So the crew would protest) "that he's bought us the best— A perfect and absolute blank!"

"The Hunting of the Snark"
—Lewis Carroll (1832-1898)

Imagine yourself as a navigator out in the ocean. You are surrounded by islands, and you can see hundreds of lighthouses marking ports and towns. What's worth sailing over to? What's going to be interesting and what's going to be useful? You need to have charts, guidebooks, and the right equipment, or getting there will be hard—and when you arrive, there may be nothing there worth having landed for.

In the space of the Internet, you are in the same predicament. Without charts and equipment, you can search for a long time and not find much of use. If you go into the Internet unaided or with too few tools, it will seem to be a lot like the Bellman's map—"A perfect and absolute blank!"



Sure, you'll be able to see things, but you'll have no idea what they are without traveling over to them and then digging for gold. And if you don't have the right tools or don't know how to use them properly, you might miss the gold by inches or miles and never know! You'll be able to do some basic things like send messages, but the really useful stuff—data files, documents, programs, and discussions with other people—will elude you.

This book is the navigator's companion. Here you'll find everything you need to know about the history, shape, services, resources, and technologies of the Internet. You'll find out how you can launch yourself into the Internet. You'll find out where the best landfalls and the richest treasures are hidden. You'll discover how to search and dig for treasure. And you'll discover how to expertly navigate the Internet.

In short, this is the first book that actually explains what the Internet is and how to use it for a purpose—the purpose of finding useful stuff. Rather than just talk about the Internet from the viewpoint of a UNIX user, we'll discuss the way that the Internet can be used by anyone on any system.

This book was inspired by two courses that one of the authors, Rich Smith, conducted across the Internet in 1992. This book was named after those courses. The first course, in August 1992, attracted 864 participants. For the second course, in November 1992, the number of participants reached 15,000 before the list had to be closed. Any more than that and the University of Louisiana computer would have had serious problems just handling the vast amount of traffic involved!

The reason cited by many people for joining the course was that they wanted to learn how to use the Internet. They didn't want to know about techie stuff like protocols and bits and bytes—they wanted practical advice on navigation. How do I find what I want? How do I get to where what I want is? When I get there, how do I get the stuff back? Rather than let them blunder around and read reams of manuals, Rich's course answered those fundamental questions.

In this book, we've covered much the same ground as Rich's course and explained some of the tools in more depth. We also have a comprehensive directory of Internet services that will help you find useful resources. We put a research team on the task—the GoFers—with the instruction "find useful stuff." And they did!

When you combine our detailed information on Internet tools with our resource directory—Appendix G, "The Internet Navigator's Gazetteer"—you've got the very best map possible with which to start sailing around the Internet. Whether you're a scientist, a librarian, a business person, a doctor, a lawyer, or an industry chief, this book will steer your Internet travels.

Who Should Read This Book?

Everyone. At least, everyone who wants to be able to take advantage of the world of information technology. As we move into the 21st century, the Internet is going to become the world's information backbone—the primary means of communication that will soon carry more mail than the entire postal services of all the countries in the world combined.

By the year 2000, if you're not on the Internet at least for electronic mail, you'll be isolated. This book is about preparing yourself to be capable of not only sending and receiving e-mail, but also being able to get out onto the Internet and access resources.

This book is for anyone with a basic knowledge of PCs or computers who has or can arrange to have access to the Internet. It's designed for people, not computer scientists. If you're a

- NI Student
- * Teacher
- **Ü** Business person
- ATA Parent
- Computer user of any kind (I think that covers just about everyone)

...this book was written for you!

The Path to the Internet

Your path to the Internet starts here. Your mission: to boldly sail where others flounder and founder, to seek out new resources and services, to navigate the Internet.

Happy sailing.

By opening this package, you are agreeing to be bound by the following agreement:

This software product is copyrighted, and all rights are reserved by the publisher and author. You are licensed to use this software on a single computer. You may copy and/or modify the software as needed to facilitate your use of it on a single computer. Making copies of the software for any other purpose is a violation of United States copyright laws.

This software is sold *as is* without warranty of any kind, either expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Neither the publisher nor its dealers or distributors assumes any liability for any alleged or actual damages arising from the use of this program. (Some states do not allow for the exclusion of implied warranties, so the exclusion may not apply to you.)

Global Enterprise Services (JVNCnet)

3 Independence Way Princeton, NJ 08540

Discount offered: 5 free hours of Internet access for PC Users

Voice number: (800) 358-4437 or (609) 897-7300 Service area: Nationwide U.S. and International

Call one of the numbers listed or send e-mail to market@jvnc.net. After the trial period, your service will not be interrupted if you decide to continue.

CRL

PO Box 326

Larkspur, CA 94977

Discount offered: Call for information on CRL's current promotion

Voice number: (415) 837-5300

Service area: U.S. Area codes 210, 212, 213, 214, 310, 314, 404, 408, 415, 510,

512, 602, 617, 707, 713, 714, 818, 916

Call the number listed for information on CRL's current promotion, or send e-mail to info@crl.com.

CyberGate

662 South Military Trail Deerfield Beach, FL 33442

Discount offered: Half-off your first month's service fee

Voice number: (305) 428-GATE (428-4283)

Service area: Florida

Call the number listed or send e-mail to sales@gate.net for more information.

The Internet Access Company

7 Railroad Ave., Suite G Bedford, MA 01430

Discount offered: \$20 credit towards purchase of Internet services

Voice number: (617) 276-7200 Service area: Massachusetts

Call or send e-mail to info@tiac.net for more information. You must send in this page from the book when you register to receive the credit.

WLN Internet Services

4224 6th Ave. SE, Bldg. 3 Lacey, WA 98503-1024

Discount offered: Free two week trial account Voice number: (800) DIAL-WLN (342-5956)

Service area: Nationwide U.S. and Washington state

WLN is a national non-profit organization serving the information needs of libraries and educational institutions. Call the 800 number listed to setup your trial account.

HookUp Communications

1075 North Service Road West

Oakville, ON

Canada L6M 2G2

Discount offered: \$20 Cdn. Discount for new users Voice number: (800) 363-0400 or (905) 847-8000

Service area: Canada

Mention this book when you call to receive the discount on your new account. This offer is not valid in conjunction with any other promotion.

UUNet's AlterNet

3110 Fairview Park Drive

Suite 570

Falls Church, VA 22042

Discount offered: Waiver of first month's Basic Service Fee for AlterDial

Metered Service

Voice number: (703) 204-8000 Service area: Nationwide U.S.

Call either of the numbers listed to get more information about how to set up a new account. You must include this original page from the book when you send your registration information to UUNet.

On-Ramp Technologies

1950 Stemmons Freeway Dallas Infomart, Suite 5001

Dallas, TX 75207

Discount offered: Startup fee waived

Voice number: (800) 340-RAMP (340-7267)

Service area: Southwest and Dallas

On-Ramp offers flat-rate PPP connections; their special offer is good until 7/95.