

# ON THE WAY TO THE WEB

THE SECRET HISTORY OF THE INTERNET  
AND ITS FOUNDERS

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*Michael A. Banks*

Apress®

## ***On the Way to the Web: The Secret History of the Internet and Its Founders***

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*For Pat, Larry, Harry, Jerry, James, Ralph, Resnick,  
Janet, Ricky, Van, James, Laurie, Chuq, Scott, Akira,  
Bill, Peabo, Uwe, Dan, JimSB, Chalker, Eva,  
and the rest of the cyberspace night shift*

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# Foreword

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The Web is everywhere, reaching into the homes of everybody with a computer and a phone line. More and more of us have our computers on all the time, continuously receiving and sending messages and email, frequently looking for information, for pictures, for music.

I do most of my Christmas and birthday shopping online; most of our gifts for weddings and graduations are purchased online and shipped—gift-wrapped—directly to the recipients.

Rumors spread like wildfire on the Web. Sentimental stories (we call them “web weepers”) are passed along, jerking tears whether they’re true or not. Financial scams, ads for body enhancements, and political fund-raisers pump through the system.

Real news comes from volunteer reporters (bloggers, they’re called, whether they’re actually writing blogs or not), forcing the traditional news media to deal with stories they would have preferred to ignore. And those political fund-raisers have changed the shape of American elections, allowing some candidates to bypass the traditional fat-cat and PAC fund-raising methods.

All of this is so pervasive that it feels perfectly natural. It’s easy to forget how short a time it has been this way.

Twenty-five years ago, in 1983, I moved to Greensboro, North Carolina, to take a job as book editor for *Compute!*, a magazine that covered all the major home computers: Commodore 64 and VIC, Atari 400 and 800, TRS-80, Apple, and a few others that popped up and faded away.

While I worked there—for only nine months—Apple launched their Lisa computer, which in many ways resembled the later Macintosh, and IBM announced the PC.

In other words, the two dominant personal computers did not yet exist.

Meanwhile, the Internet, while it existed, was restricted to academics and Defense Department wonks—civilians like me need not apply.

Yet all the elements of today's computer-centered culture were already in place. So let me tell you about the computers in my life during that crucial period from 1980 to 1983.



I wasn't a "computer hobbyist." I wouldn't have spent five seconds or 15 cents on assembling a computer from a kit. All I wanted, back in 1980, was a word processor.

I was a touch typist from eighth grade on. My mother was so fast a typist that if she made a typo at the bottom of a page of a dissertation (with six carbons behind it), it was faster for her to tear up the page and start over than to try to correct the error, even with Liquid Paper. She *blew* through paper at the rate of about 100 words per minute, which meant a page every two and a half minutes. Twelve pages an hour. That was the standard I aspired to meet.

But to reach those speeds, you had to have the right machine. I had learned on a heavy manual typewriter, but at home we had a nice electric. Still, if you typed too fast the keys jammed. So we were thrilled when the IBM Selectric debuted. We owned one as soon as we could afford it. No more jams!

Then it got better: the self-correcting Selectric. The computer actually remembered what it had typed, and if you backspaced it would pop up correction tape and eliminate the mistake—as long as you caught it before you had typed on too far.

Then there was the IBM electronic typewriter, which you could program to remember frequently typed phrases, and did so many tricks you almost wanted to invite it to the prom just to dance with it and look cool.

We knew that these tricks came from having a tiny computer embedded in the typewriter, but we didn't care, any more than we cared that traffic signals were controlled by small computers. As long as they did the job and we could use their particular talents, we were happy.

But then I started hearing how word processors worked. The whole document was kept in memory that lasted even when you turned the machine off. You could go into the document and edit it right in the middle, then print the whole thing out and it would *repaginate itself*.

As a writer—of fiction, and of rewritten articles for the magazine I worked for—the worst problem was that any time you made a significant change, you either had to retype (introducing new typing errors) or cut and paste, adding A, B, and C pages or taping replacement paragraphs over the old version. The result was a messy, nightmarish manuscript that practically begged typesetters to make new mistakes of their own (they seemed to love to find ways to misinterpret our instructions and show us we weren't as smart and precise as we thought).

So the idea of a word processor took hold in my imagination and I knew I had to own one.

A local store (Salt Lake City, at that time) sold “word processors,” and I went in and described what I needed.

“What you want,” said the salesman, “isn’t a dedicated word processor. You want a computer that runs word processing software.”

“Why?” I asked.

“Because then it can run other software, too.”

“But I only want to run a word processor.”

“That’s what you think now,” he said. “But a dedicated word processor is merely a crippled computer. It does one thing, but it never gets any *better* at it. While with a computer, you can upgrade the word processing program.”

“Why would I want to do that? Isn’t it good now?”

“Yes. It’s excellent. But they’ll think of ways to improve it. I promise you. And the computer costs the same. Even less.”

I came home with an Altos computer running WordStar on top of the CP/M operating system and it was everything I wanted. It was so blissful to be able to go back and change a character’s name, for instance, all the way through the document by using a *single command*. And to insert a scene in the middle of a chapter without having to retype anything that came after.

I also learned about saving files the first time we had a quick power black-out. Lights off, then on again—and 30 pages of a play I was writing were irrevocably gone.

Here’s the odd thing, though. When I first started with the computer, nothing on the screen felt real until I had printed it out. I printed things out constantly—on fanfold paper with microperforated edges, using my fancy NEC Spinwriter with proportional spacing.

Within a year, things didn’t feel real unless they were on disk. The computer version of the manuscript was more real than the printout, because I realized that as long as I had enough backups, the computer version was permanent and the paper versions were ephemeral, because I could *work* with the file on the computer, but couldn’t do anything with the printout.

The computer salesman was right. I also began to buy other programs.

First, it was an upgrade to WordStar. Then a spell-checker—which annoyed me because, of course, all my character names and made-up words were flagged as “errors.” Then again, it was fun to see how many new words I made up in each of my books.

Soon, though, I had bought the game Adventure, in which I explored a fantasy environment by typing commands like “left” and “up” and “take sword” and “pay troll.”

And only six months after buying my CP/M machine, I upgraded to the multiuser Altos running MP/M. It had a 10-megabyte hard drive so all the novels and stories I was working on could be available to me without inserting a single disk—though of course I backed everything up onto 8-inch floppies.

I bought a second terminal for my wife, who also loved her IBM machines and immediately fell in love with the power of WordStar and the look of documents printed on that Spinwriter.

Here's my shameful secret: I still use the WordStar command set. I've programmed my WordPerfect software to recognize that Ctrl-S means go back a space and Ctrl-G means delete the next character, etc. Why? Because WordStar was created when many terminals lacked dedicated cursor keys and long before there were any mice. So the software used control-key combinations to move the cursor.

And for a touch typist like me, that meant I could do all my moving around the document without ever removing my fingers from the home keys. It sped up my work and still does. When the original Macintosh came out, lacking a control key and therefore forcing users to take their fingers off the home keys and mouse their way through a document, I treated it with the disdain it deserved. It was a toy for people who were going to be passive users of their computer. For serious typists, it was a useless paperweight; it crippled you and slowed you down to a crawl.

Not that I had anything against toys when I *wasn't* working.



Right along with my growing love affair with a serious working computer, my Altos with WordStar, I had also fallen for the gaming machines. My favorite videogames in the arcades were Breakout and Asteroids. I was very, very good. But the little Atari 2600 game machine couldn't handle the graphics. To get those great games at home, you had to pop for the Atari 400 computer and insert the cartridges for the games you wanted.

It happened to have a keyboard, but I didn't care. It was Breakout and Asteroids I wanted, and I got them—along with dozens of other games that were sometimes great and sometimes boring. Didn't matter.

And as long as that keyboard was there, why not insert the BASIC cartridge and learn how to program a little? I was like everybody else—once I'd learned a little programming, I couldn't resist going into stores and typing into the demo models:

```
1 PRINT "Buy me and take me home! I'm lonely in this store!"
```

```
2 GOTO 1
```

The computer would then sit there and type the stupid message forever—until a store clerk interrupted it and cleared it out of memory.

I'd only owned the 400 for a couple of months before I absolutely had to have the Atari 800. I'd already learned with my Altos how much better it was to have a disk drive than to save things on a cassette tape, the way you had to do with the Atari 400.

Here were the prices, more or less:

Altos with hard drive: \$4,000

Terminal: \$3,000

NEC Spinwriter: \$3,000

Atari 800: \$800

Atari disk drive: \$800

That's not including the cost of disks, game controllers, the dedicated monitor I eventually bought for the Atari, and the software.

Nor does it include the cost of the countless hours I spent writing programs and playing games. By now I was going to grad school, working on a doctorate at Notre Dame, and I could hardly keep my hands off the computers. And it was no secret when I was working and when I was playing—working had me in my upstairs office using the Altos, while playing had me in the basement on the Atari.

And I was getting more and more serious about programming on the Atari. I had BASIC for the Altos, too, but my attempts at programming my own text adventure didn't work because I didn't yet understand the conceptual framework of the game. I hadn't got the mental map of it yet.

The Atari, though, had whole programs you could type in from listings in magazines like *Compute!* and see how the bones of the things worked. I began to be a critic of the programs, to see how they could have tightened their code.

And I read the editorial where *Compute!*'s publisher invited people to apply for jobs like “book editor.”

I had been a book editor. And since there was a recession right then, the whole novel-writing thing didn't look like it was going to be able to support my family for much longer. I applied, I got the job, and I moved to Greensboro, North Carolina, where I still live today.

Nine months later, I quit the job and went back to freelance writing. In the meantime, though, I had become a reasonably good programmer on the 6502 processor, using the Atari's brilliant design. I had learned machine language and would POKE in superfast subroutines that ran in the graphics interrupts.

I created a set of routines for the Atari that other programmers could use to add music that would run in the interrupts, so it didn't slow down their BASIC programs.

But by the time I was ready to publish it, the market was gone.

IBM killed it.

We welcomed the IBM PC at first. Well, sort of. The graphics were lame beyond belief—only three colors besides black and white, pathetic sound, and the miserable Intel processors that only had 16 registers. The 6502 used the whole zero page as registers! Programming in machine language on the Intel processors was so tedious it wasn't fun anymore.

And IBM's BASIC was also lame. It didn't do any of the cool things you could do with the Commodore 64 or Atari 800—especially the 800, with its Bill Wilkinson-designed “compilerpreter”—a system that compiled your programs as you created them so you never waited for your programs to compile before testing them.

I did, however, like the IBM PC junior—“PCjr.” Not with the original chiclet keyboard—that was completely unusable!—but its BASIC was a pretty good one, with a cool system for creating music and drawing lines.

In writing a book for the PCjr, for my former employers at *Compute!*, I created software that I still haven’t seen anyone else duplicate. Ostensibly designed to teach programming to PCjr owners, it was really a predecessor to “PC-USA.” Only instead of giving you state information, I had researched the electoral vote in every election in US history, and mapped it in.

When you had the program up and running, you could move backward and forward through the years, with the map showing the electoral votes for all the parties, including disputed votes, third parties, and weird candidates. It played like a slide show of electoral history. It was my best real program ever.

And the PCjr died before the book came out.

No point publishing a book for a computer that IBM is no longer supporting. It was never published. Nobody ever saw my program except my wife and kids and me. And the kids were way too young to care.



Meanwhile, though, I was still working away on my Altos. I had bought a modem for it, first a 300-baud device and then the expensive upgrade to 1200 bps. That wasn’t 1200 characters per second, it was 1200 *bits*, which meant only 150 characters per second. But it was 150 characters per second transmitted over phone lines and appearing instantaneously on someone else’s computer.

Only I didn’t have many people with modems to send things to.

I joined both DELPHI and CompuServe, but I almost never used CompuServe because I hated having to memorize a string of numbers and DELPHI let me use my own name. Also, CompuServe’s menu structure was painful to use, and DELPHI’s I learned quickly and easily.

This was now 1984, and I had just finished (right after Christmas of ’83) the manuscript of my novel *Ender’s Game*. I thought it would be way cool to upload it to DELPHI so other people could download it and read it on their own computers.

The sysop of the science fiction area on DELPHI agreed with me and so I spent hours (and dollars!) one night uploading the whole thing, chapter by chapter.

Each chapter was a separate file, so that if you lost your connection during the download, you’d only have to redo the one chapter instead of the whole manuscript.

Even so, I think it had exactly six downloads. There just weren’t that many people online! And certainly not that many who wanted to spend *hours* downloading a book.



It was 452K—452,000 characters. By contrast, MP3s of single songs generally run about three megabytes—3,000,000 characters. You can see that the day for downloading music had not yet come.

And, judging from the six novel downloads, it wasn't time for e-books, either.

But it was free, it was online, and it appeared on DELPHI nearly a year before it was published in hardcover (by TOR, in January 1985). I think it was the first published novel ever to appear online prior to coming out in print. And if any of those six people actually read the whole thing, they were making history with me.

1985—that's not even a quarter of a century ago.

It was a different world. But I loved it then. Your computer still belonged to you, instead of to Microsoft or Apple; you didn't wake up in the morning to find that Microsoft had caused your computer to reboot in the middle of the night as part of a "security update," thereby stopping the process you had wanted it to finish overnight.

Everything was new; you felt like a pioneer. The computer was a fantastic new tool that let you do old jobs a thousand times faster and better—and new games and tasks that simply hadn't existed before.

I was there on Prodigy—a cleverly designed program whose graphical interface was a good idea, but whose human interface was a nightmare of stupidity. They were so determined that nobody could go off-topic in any of the interest areas that in the area called "Orson Scott Card," if someone posted a question like, "Where is OSC doing his next signing?" if I answered by saying, "I'll be signing in NYC on the 18th of June," Prodigy would refuse to post my message because it was "personal." In vain did I explain to them that I *was* Orson Scott Card, and so I was actually answering the question—and providing Prodigy with value for free. It could only help them if they became known as a place where, if you asked a question about an author, the author himself would sign on and answer it!

Instead, I had to write circumlocutory messages that referred to me in the third person; and even then, I actually had a Prodigy employee write to me saying, "We know what you're doing and we're not fooled." They threatened me that if I didn't stop putting up personal messages I would be booted off their system!

No wonder Prodigy failed.

Along came AOL, with a graphical interface my mother could use, and we left Prodigy behind forever.



I lived through all the changes. And yet I didn't know what was really going on. I didn't know *why* various programs and machines came and went. Things just happened. Some of them were disastrous—the standardization that

Microsoft brought was good, but the actual product we standardized on was icky. One thing is certain: the better mousetrap does *not* always win. Instead, it's the sneaky, snaky monopolistic business that generally seems to prevail, as long as its product is semi-adequate to the task.

But that's another book and another history. What Michael A. Banks has created here is the story, person by person and step by step, of how we got from those early home computers to the infobahn.

I loved this book. I devoured every word of it. At last things made sense.

Now, there were additional chapters I'd have loved to see. Since I almost went to work for ColecoVision, I wanted a chapter on them; I wanted more about Prodigy just so I could boo and hiss.

Banks couldn't write an infinite book. There had to be a final number of pages. Stuff had to be left out.

But not much! This is a thorough, entertaining, informative, useful history of how our world was transformed during my adult life. Many people in their thirties now have no memory of ever living in a house without a computer of one kind or another. Most people in their teens don't know what it's like to live in a world that isn't online.

And the best thing about this history is that you don't have to know anything at all about how computers work, or what a 6502 processor is, or anything. You just have to know how to read and have a basic idea of what it means to go online.

Orson Scott Card  
Author of *Ender's Game*, *Magic Street*,  
and the *Tales of Alvin Maker*

# About the Author

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**Michael A. Banks** is the author of more than 40 books, among them several titles that deal with Internet topics, including *The eBay Survival Guide*; *Web Psychos, Stalkers, and Pranksters*; *The Modem Reference*; *PC Confidential*; and *Welcome to CompuServe*. He is co-author of *Crosley: The Story of Two Brothers and the Business Empire That Transformed the Nation* (Clerisy, 2006), the biography of

twentieth-century industrialist/entrepreneur and communications magnate Powel Crosley, Jr. (This book made *The New York Times* extended bestseller list, *The Wall Street Journal* hardcover business book best-seller list, and the *Business Week* bestseller list. It received a full-page writeup in the February 12, 2007, issue of *Publishers Weekly*.)

He has written hundreds of magazine articles and served as a contributing editor and columnist for *Computer Shopper*, *Windows*, and other magazines.

Banks has been online since 1979, when he caught his first glimpse of CompuServe. During the 1980s, he was involved in a number of Internet firsts, including online book promotion. He has helped maintain BBSs, was a SIG manager on DELPHI for a number of years, and worked in a consulting capacity for CompuServe and The Source. He wrote one of the first guides to online services, *The Modem Reference* (Brady/Simon & Schuster), which introduced hundreds of thousands of users to modems and the online world. Because of his reputation as a modem and telecommunications expert, GENie and BIX (*Byte Information Exchange*) created special online forums for Banks—early blogs. He has also advised a number of businesses in the area of online marketing.



# About the Technical Reviewer

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**John Vacca** is an information technology consultant and internationally known best-selling author based in Pomeroy, Ohio. Since 1982, John has authored 52 books and more than 600 articles in the areas of advanced storage, computer security, and aerospace technology. John was also a configuration management specialist, computer specialist, and the computer security official (CSO) for NASA's space station program (Freedom) and the International Space Station Program, from 1988 until his early retirement from NASA in 1995. In addition, John is also an independent online book reviewer. John was also one of the security consultants for the MGM movie *AntiTrust*, which was released on January 12, 2001.



# Preface

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The further in time you get from an event, the more garbled the facts are. In books, magazine articles, and newspaper stories, some facts get blurred or omitted. Others are replaced with what an author thinks he remembers. Half-memories that have little to do with reality are often set down as history because they seem right. The truth gets shuffled as deadlines loom.

For these reasons, I went to as many primary sources as I could in researching this book. Paramount among the sources were reports contemporary to the times, and *people who were there*. Occasionally one story or report would conflict with another. In such cases I sought out a third source to verify one or the other.

Hopefully, I have found all the right facts, and organized them clearly without introducing inaccuracies.





# Acknowledgments

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I was fortunate to be in contact with several primary sources as I wrote this book—people who played important roles in the development of the online world. Leonard Kleinrock and Larry Roberts, two ARPANET founders, provided invaluable help as I struggled to sort out the facts from the unfortunately large number of erroneous assumptions that have been perpetrated regarding the origins and development of the world's first computer network.

Alexander “Sandy” Trevor, one of the original crew at CompuServe’s “skunk works” project, MicroNET, graciously permitted me to interview him at his home on New Year’s Day. His technical knowledge, insight, and patience with my numerous follow-up questions were and are appreciated.

Bill Loudon, a veteran of CompuServe’s early days, proprietor of the first dot.com to go bust, founder of GENie, and the man responsible for getting more people hooked on online games than anyone else, generously shared unique insider information about the economics, personalities, technology, and evolution of online services.

Any factual errors are mine.

The professional staff at Apress were extremely helpful as we went through the process of transforming ideas and a raw manuscript into a bound book. I am especially grateful to Jeffrey Pepper for spotting the idea’s potential. He and Richard Dal Porto did an excellent job of managing and moving the process along, and stoically endured the suspense of late chapter arrivals, a thankless part of editing and publishing.

Thanks are due John Vacca for dealing with some puzzling elements, and for catching bloopers and lending insightful opinion and fact.

Even though I disagree with her on the use of a certain interCap, my compliments to Liz Welch as one of the most professional and capable copy editors with whom it has been my pleasure to work. And thanks are due Laura Esterman for her astute transformation of the manuscript into pages.

Special thanks to Debra Morner for proofreading drafts of early chapters. Finally, thanks to Bill Brohaugh for unwittingly giving me the Ven-Tel modem that started me on my way to the Web, all those years ago.



# Introduction

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Friday was a good day to be indoors and online. It was the middle of a long holiday weekend, with temperatures hovering in the high nineties. Chat rooms buzzed with untold thousands of conversations on everything from television and the stock market to computers and, of course, the weather. Stubborn gamers engaged in mortal multiplayer combat literally clogged some parts of the Internet, while shoppers flooded online malls like lemmings. Online auctions offered the possibility of bargains on hot items like the new Sony Walkman.

It was a good day for online crime, too. More people online meant more victims. Spoofers and phishers collected passwords and other sensitive information like picking up pebbles on a beach. Pseudo-anarchists promoted chaos by uploading free copies of expensive commercial software, and posting public messages with IDs and passwords for a variety of online systems. Hackers lurked everywhere, but few had deadly agendas. Most sought *satori* and empowerment in a realm where they could exist on their own terms.

Elsewhere online, couples “met” for romantic purposes. They flirted, chatted, and emailed, eventually to arrange offline meetings. Some of these encounters ended with marriage. At least one ended in tragedy. Those who were afraid to meet in person holed up in private chat rooms to talk about what it might be like to meet.

This was the online world as the general public perceived it on July 5, 1984. To most it was the internet—the public internet, although the real Internet existed on another plane entirely, walled-off and secure against unauthorized intrusion.

A decade before the Web.

Primitive, fascinating, and seductive, this early public Internet reached deep into the mind, its small-screen glow all but irresistible to those exposed to it. The exposure would be life changing for many.

Thirty-year-old Steve Roberts, for example. On this day, Roberts was in the second year of a high-tech road trip inspired and made possible by the beginnings of the Internet. Riding a recumbent bicycle equipped with solar

cell-powered computers and radio gear, the 6'4" technophile would eventually rack up 17,000 miles pedaling into and out of the lives of an ever-changing cast of friends, lovers, and business associates. Along the way he would prove the viability of a high-tech, low-energy consumption, mobile lifestyle. Roberts chronicled his journeys in magazine articles and a book titled *Computing Across America*. CompuServe made his journey possible by providing a link with the world wherever he went, and a forum for reporting on his travels to CompuServe readers. CompuServe email kept him in touch with his sponsors and helped him plan his trips and deal with technical issues.

The online world touched thousands of other lives in less colorful but equally important ways that year. Marriage ceremonies were held online. Computer consultants found themselves in the business of putting businesses online. Writers suddenly had new books to write (writing guides to online services would become a minor industry in itself).

That was just the beginning. The online services that brought the Internet into homes themselves created jobs—in engineering, programming, marketing, and customer service. Manufacturers ramped up to supply modems and communications software to millions of new computer owners. New magazines explained how to get online and what to do once you got there.

Entrepreneurs partnered with services such as CompuServe, The Source, and DELPHI by creating products to bring more people online and keep them there longer. For this, some received a share of the revenue generated. Others, functioning as “helpers,” were content just to have free time online.

Some of these early online entrepreneurs were stunningly successful. Beginning in 1983 Paul and Sarah Edwards founded a work-from-home industry based on telling others how to work from home. The foundation of their empire was a CompuServe Forum. The Forum, profitable in itself, spawned books, magazine articles, and columns, as well as syndicated radio and TV programs. Self-referential, but it worked.

Other special-interest groups—particularly those devoted to a specific brand of computer—enjoyed similar successes. Content providers such as *The Wall Street Journal*, *The New York Times*, and other print media found it profitable to be online. Online game designers, though few, might earn as much as \$30,000 per month in royalties from one game.

Obviously, the online world was booming in those pre-AOL days. And that's a strange fact to ponder if, like many people, you thought the Internet came along sometime after 1990, with the Web hot on its heels.

In truth, the Internet goes back a lot further than that. Just how far back depends on what you're talking about. If you mark the beginning of the Internet by the very first communications between two computers, you'll have to go back to the 1950s, or maybe the 1940s. Multiple computers communicating and sharing resources from several locations? That would be ARPANET, the government-sponsored research program that most histories peg as the beginning of the Internet (and which just happened to begin the year CompuServe and its network were founded: 1969).

ARPANET is a likely candidate, responsible as it was for developing the technology that makes the Internet possible. And so many major events cluster around it. But we can break it down further than that, if you like. Maybe the Internet began with the first ARPA long-distance computer communications experiment, which created the first wide area network (WAN). Or was it the first message sent from one computer sitting next to another? Could it have begun with the very concept of networked computers?

It's your choice. There are other possibilities set forth in the pages that follow. But hold your judgment until you've read the whole story of what happened on the way to the Web, once we got started. Here you will find tales of not only technology, but also of the people behind the technology and institutions that led to the Web.

You'll meet the visionaries and engineers (and at least one psychologist) who set up the first experiments in networking and established the earliest online outposts. Among them are some clever people who turned the limitations of computers into assets, along with the first online information hucksters—people who, as you'll see, could make money from (almost) nothing.

And that group connects us to the people who created the first Information Superhighway in the early 1970s. In between are those responsible for commercializing ARPANET technology (without which it would never have achieved its fullest potential).

Equally as important as those who made the Internet are those who made it public. They're in this book, along with the entrepreneurs who made the public Internet possible, and made their fortunes on the way to the Web. Not to mention the companies—US Robotics, AOL, The Source, DELPHI, PLink, Telenet, Playnet, and dozens more that put us on the road to today's Internet.

And of course there are the people responsible for the shape of the Internet—its customs, rules, traditions, appearance, and more. You may be one of them. Read on and learn how they affected the paths we followed on the way to the Web, and how they continue to shape the Web today.

