eBook Publishing:
Technologies & Standards

New Riders

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International Standard Book Number:

Library of Congress Catalog Card Number:

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Part I: History of eBook Publishing

This section focuses on how the emerging eBook publishing industry has adapted over time to the challenges and potential advantages of eBooks. Chapter 1 highlights the promise and the problems inherent in eBooks. Chapter 2 reviews the history of eBook publishing. Chapter 3 examines early attempts to create a format that could be viewed without paying for an application program. Chapter 4 introduces current eBook formats, programs, and readers. Chapter 5 discusses ways in which the Internet is used to read or distribute eBooks.

Chapter 1

The Promise and Problems of eBook Publishing

In this chapter:

- What is eBook Publishing?
- Differing Viewpoints by Publishers, Authors, and Readers
- Advantages of eBooks
- Obstacles Facing eBooks

Introduction

On December 31, 1999, the Arts and Entertainment network (A&E) counted down the 100 most influential people of the last millennium. A panel of experts had met to decide who would be on the list. The list contained many of the people you would expect; Washington, Lincoln, Einstein, Hitler, Lenin, Henry Ford, and even Bill Gates. Nevertheless, there were also many surprises. One of the surprises was the #1 choice. Johannes Gutenberg was chosen as the most influential person in the last millennium. The program went on to explain that Gutenberg was chosen because of the effect of books on the last millennium and Gutenberg's effect on the availability of books. Without inexpensive available books, many of the other people on the list would have had a greatly diminished effect and, without Gutenberg, inexpensive books would have been impossible.

It's not clear yet whether the growing availability of eBooks will have as big an effect as Gutenberg did, but there are signs that eBooks are having an effect.

- On March 14, 2000, Stephen King released a new book exclusively through electronic medium. His eBook *Riding the Bullet* sold 400,000 copies on the first day alone, but within 48 hours, the secure encrypted copy had been broken and was available on several hacker websites.

- Steve Riggio, vice chairman and acting CEO of barnesandnoble.com, has been quoted as saying that he believes the e-book revenue stream will be much larger than for MP3 music.

- The Frankfurt Book Fair has established seven annual awards for eBooks, including a grand prize of $100,000.

It's clear that eBooks are here to stay and will be a major part of the publishing industry in the new millennium. But what are eBooks and what are the benefits and challenges that face this emerging industry? How will the publishers and authors profit from the benefits and overcome the challenges in this relatively new medium?

What is eBook Publishing

For the sake of this book, eBook Publishing will be defined as any combination of hardware, software, and content that delivers the equivalent of a traditional paper book. The hardware used may be a personal computer, a laptop computer, a dedicated reader platform, a personal digital assistant (PDA), or a web browser hooked to the Internet. The software used may be a custom designed reader, a web browser, or a simple text editor. The content is as broad as the subject matter in the traditional publishing industry. It ranges from fiction for light reading to highly detailed and technical non-fiction.

The paragraph above describes an industry that is extremely broad and varied. It also guarantees that no one approach will be the best. Different types of content will be easier or more difficult to implement based on choices in hardware and software. Publishers don't use small paperbacks to publish textbooks that contain highly detailed illustrations and tables. In the same way, smaller more portable eBook reading devices like PDAs are most often used for light recreational fiction. Reference books that are more detailed are better reproduced on larger computer or laptop screens. Even dedicated readers show a tendency for one type of content with their choice of color or black and white, size, and cost. For example, the Rocket eBook is the size of a large paperback, costs about $200 and has a black and white screen. This makes it most suitable for recreational reading. The proposed Everybook

Dedicated Reader has two larger 8.5" X 11" color screens and will be more expensive, but it is much better for reproducing technical material with color illustrations. Software standards show the same kind of dichotomy. Some readers concentrate on producing reformatable text with few technical enhancements. Other reader software seeks to reproduce exactly the layout of a printed page, including placement of illustrations and figures. This variety in the eBook publishing industry means that each vendor will have different capabilities when it comes to meeting the challenges and taking advantage of the promise of eBook publishing.

Differing viewpoints by Authors, Publishers, and Readers

There are three stakeholders in any discussion of the benefits and challenges involved in producing and reading eBooks. They are the publishers authors, and readers. Authors are concerned about Digital Rights Management (DRM) and interested in the availability of an expanded market. Publishers are also concerned about DRM, but to them an expanded market can be more of a threat than an advantage. Finally, consumers have an entirely different viewpoint. For them, price, availability, and portability are prime concerns. Each group has a slightly different list of pros and cons.

The rest of this chapter covers the obstacles and promise of the emerging eBook publishing. These issues will have differing importance for each of the groups discussed above. Different software formats or reader devices will also face these obstacles or take advantage of these promises differently. The promise of eBook publishing will be covered first. Remember, not all the hardware, software, and content combinations can take advantage of these benefits.

The Promise of eBook Publishing

Most of the advantages inherent in eBooks are related to the technological differences between electronic publishing and traditional paper publishing. EBook technology makes things possible that could never be attempted on paper. Nevertheless, many of these technological advantages are two-edged swords. For example, displaying the text of a book electronically makes it easy to resize text for vision-impaired readers. But, the same font technology contributes to eyestrain for regular readers since onscreen fonts aren't as well formed as printed text of the same size. Many of the other advantages listed below also have matching problems. The advantages of eBook publishing can be broken down into readability, usability, changeability, portability, multimedia capability, and availability.

Readability

People with various levels of vision impairment have always had problems with traditional publishing. Large print editions help many readers, but they have always had limited availability. The cost of resetting type for a large print edition limits the number of books produced in this format. Audio books are another solution, but they are even more limited in availability. Some eBook formats are perfectly suited for reading by the vision impaired. Scalable font sizes work better on a format that allows reformatting of the books rather than just magnification. Some formats, such as the proposed Open eBook standard

(OEB) and AportisDoc, allow this, while other formats based on Adobe portable document format (.pdf) only allow scaling of the page.

EBooks also offer hope for those who are completely blind. An eBook based Braille Reader is currently under development by the National Institute of Standards and Technology (NIST). The Braille Reader is based on OEB that stores content as reformatable text rather than images, which makes it easy to translate output into Braille. Prototypes of this Braille Reader have already been tested successfully.

There are even possibilities when scalable font sizes or Braille-based readers won't work. Computer generated voice software is already available on standard operating systems like Microsoft Windows 98 and Windows 2000. It will soon be possible to include this technology in dedicated readers as well. Even readers as small as the 3Com Palm Pilot or Pocket PCs running Windows CE may eventually have computerized voice software.

Usability

Advances have also been made in the basic usability of eBooks. Most eBook formats allow hypertext cross-reference links both within the book and to the Internet. Clicking on a reference in the text can take you to an illustration, a footnote, or even a totally separate chapter. For example, if you are reading this as an eBook click on the attached reference to go

to a sample footnote (*see sample footnote*). Not all eBook readers support this capability.

Screen size is an issue on many of the reader platforms that will be covered in this book. For example, the new Pocket PCs that implement the new Microsoft Reader software are only 240 X 320 pixels. The use of thumbnail illustrations as links to full illustrations can alleviate some of the problems inherent in such small amounts of screen real estate (*see figure 1.a below for an example*).

Another enhancement to usability is the addition of full text search in many eBook formats. EBooks can be searched for a word, a phrase, or an entire sentence. Right now, you can only search for exact matches. The inclusion of "fuzzy logic" search technology should eventually become available in eBooks just as it is appearing on the Internet.

The final enhancement to usability deals with the integration of a dictionary into an eBook reader. How often have you been reading a book only to come across a word that you didn't recognize. Imagine having instant access to a full dictionary definition of

Figure 1.a: Using the integrated Dictionary

that word. If you are using an eBook reader like the Glassbook plus reader or the Microsoft Reader, you can use the integrated dictionary to lookup unknown words. For example, in the Microsoft Reader select a word by holding the stylus on the screen for a few moments. After the context menu appears, choose *lookup*. In the

Glassbook plus reader, you can access a definition by double-clicking on a word. A pop up box will appear with a definition from the integrated dictionary. Try it now or see an example from the Microsoft Reader in Figure 1.a.

Changeability

One of the traditional problems with electronic text has been the inability to make marginal comments or highlight. In order to protect Copyrights, most eBooks will be distributed in "Read Only" formats. However, consumers still want to highlight and make marginal comments, especially in technical or educational texts. Many of the readers and formats covered in this book allow the reader to insert bookmarks, attach marginal comments, and visually highlight specific passages.

If your reader supports these features, try them out now. First, create a bookmark. This is usually done by choosing a menu option or right clicking on the text to gain access to a context menu. The same context menu will often allow you to add a note or highlight a section of text in a different color. Notes may be printed in the margin or a visual indicator may be placed on the page that allows you to jump to the note for viewing.

Publishing revisions is another advantage afforded by the electronic nature of eBooks. Textual errors, corrections, and clarifications can be made without having to reset type for another print run. Books that deal with subjects that change frequently can be

updated and redistributed easily. In fact, verifying who should get updates is more difficult than creating the updates.

Many of the standards and technologies covered in this book are evolving very quickly. Some have even been replaced or superseded since research began for this book six months ago. The changeable nature of eBooks will allow me to easily update the text of this book as topics evolve. A secure web site will make these updates available online. Complete revisions should be available yearly.

Portability

eBook readers vary in size from PDAs as small as the 3Com Palm V to desktop computer systems with full size 17″ or even 20″ monitors. No one would consider a desktop personal computer portable, but laptops, PDAs, and other dedicated readers are portable. Many of the PDAs are smaller but weigh about the same as a large paperback and dedicated readers are often the size and weight of a hardback textbook. This makes it possible to take a book with you and read anytime, anywhere.

Nevertheless, the physical portability of eBook devices is not the only measure of the portability of eBooks. All of these devices can carry not just a single book, but a whole library at one time. An average eBook is usually less than 500Kb and even small reading devices have at least 2Mb of storage (4+ books). Many devices have 8Mb or 16Mb and some allow the use of extra memory in the form of Compact Flash

that can go as high as 128Mb (256+ books). Laptop and Desktop computers are only limited by the availability of removable media, such as floppy disks, or the size of their hard drives, which are measured in Gigabytes.

Another measure of eBook portability is the method of acquisition. Although some eBooks are distributed on physical media like disks or CD-ROM, the primary method of retrieval is by downloading from the Internet. This makes eBooks available anywhere you can gain access to the Internet. There are also some eBook reader systems that only require an Internet web browser to read a book online. Although your desktop computer may not be portable, these systems can be accessed from almost any Web browser. Browser-based systems lack some portability because you can only read online, but gain in portability because they aren't limited to a particular hardware device.

Multimedia Capability

Expansion on traditional book formats is perhaps the biggest source of promise in eBooks. Imagine being able to not just read the introduction to a book, but actually hear or even view an introduction presented by the author or some other significant person. (If your reader supports this type of enhancement, you may click here for a short sample Introduction to this book.) Another use for multimedia is enhancement of specific passages in a book. Have you ever read a novel and come across an embedded song, poem, or

dramatic quote? Imagine being able to not only read such an insert, but actually listen to music or a performance of the short piece. For example, click on the poem below to hear my attempt at a dramatic reading.

[Mary had a little lamb,](#)
  [Its fleece was white as snow,](#)
[And everywhere that Mary went,](#)
  [The Lamb was sure to go.](#)

Other multimedia enhancements are also possible. Illustrations are no longer limited to snapshot pictures. An author could include animations that show an evolving process or short film clips that illustrate a point. Tables could also be animated to reveal results as associated text is read.

Availability

Traditional publishers must predict how many copies of a book they will sell when they make their press run. Although reprinting is less expensive than the first run, it is still an expensive process that is only offset by economies of scale. This makes predicting the size of a print run critical for traditional publishers and leads to a phenomenon known as "Out of Print". We've all run into the problem of trying to purchase a book that was last year's best seller only to find that it's no longer available. Limited shelf space in bookstores also leads to a quick turnover of most traditionally printed books. "Print on Demand" is one answer to this problem for traditional publishing, but it requires a few days of lead time. As mentioned

previously, most eBooks are immediately downloadable. Once an eBook has been created it can be downloaded once or a million times with no change in the cost or storage requirements. This makes it easier for online bookstores and libraries to keep eBooks available for extended periods of time.

Many eBook publishers have actively courted authors whose books are now "Out of Print". Converting these books to eBooks will make them available to a whole new generation of readers without incurring the cost of another print run or shelf space in a bookstore. In the next chapter we cover an undertaking called *Project Gutenberg* that focuses on converting books in the Public domain into eBook formats to enhance their distribution (*see Project Gutenberg in Chapter 2*). Thousands of books that were available only in libraries and private collections are now available in eBook format thanks to the volunteers of *Project Gutenberg*.

The Problems of eBook Publishing

There are also obstacles that must be overcome if eBooks are to become widely accepted. Many of the advances in technology discussed above are not yet mature and some of the advantages bring their own inherent problems. There is also the traditional problem summed up in the seven words "We never did it that way before." Just like the promise of eBook publishing, the problems of eBook publishing do not apply uniformly to all platforms, formats or groups. The obstacles to eBook publishing can be broken down into resistance to change, font issues, lack of a standard format, digital rights management, reproduction of graphics, and reader hardware.

Resistance to Change

I am an unrepentant technical gadget "junkie". I'm always looking for the newest technological gadget to try out, just because it's new. Not everyone is like that. Many, if not most, people avoid making changes in their core habits. They may try something new for a period of time, but rarely look forward to adopting radical changes in the way they do things. Reading eBooks is one of those kinds of changes. Instead of a traditional paper based book that readers can see and feel, eBooks are an electronic medium. They have no physical representation unless you are storing them on a disk or CD-ROM. Even the act of reading has changed. Try "curling up with a good book" when you are reading books online or with a laptop or desktop computer. As mentioned in

portability above, many of the readers are not as portable as a regular book. Their advantage comes from being capable of storing a whole library of books in a fraction of the space. Even when a reader is small enough and light enough to be portable, the act of reading is altered. No more turning pages, now it's scrolling. Some readers have tried to approximate the current experience by adding the sound of a paper page turning when you move from one page to the next, simply to minimize the jarring difference of the new experience. The very enhancements that make eBooks a potentially superior reading experience will keep may people from switching (*see Multimedia above*).

Font Issues

Fonts are both an advantage and a disadvantage for eBooks. The ability to resize fonts to fit the needs of the vision-impaired reader is an advantage (*see Readability above*). However, fonts on a computer screen at sizes equal to those used in printed materials are not as easy on the eyes.

Characters on paper are analog, but characters on an LCD screen or monitor are digital. The outline of characters printed on a page are smooth, but characters on a monitor are made up of little dots spaced into a pattern which our eyes have come to recognize as a printed character. It's like comparing output from an old dot matrix printer to a laser printer. Laser printers print at 300, 600, or even 1200 dpi (dots per inch). Compare that to a monitor

or LCD screen that operates at about 72 dpi. Characters on a computer screen are not as easy to read as characters on a printed page. The difference in the quality of fonts can lead to eyestrain when reading eBooks.

Some eBook vendors are actively looking for ways to enhance the resolution of fonts on eBook software and hardware. Figure 1.b below shows a magnification of two views of text on a computer screen. The top half of the figure shows text displayed with a normal computer font. The bottom half shows the same text on Glassbook Reader with sub pixel rendering of the font turned on. Sub pixel rendering creates an optical illusion of a better font quality than is currently possible with an LCD screen or monitor. Microsoft Reader also uses this type of technology (*see ClearType in Chapter 12*).

Figure 1.b: Subpixel rendering

Typography is another font problem faced by eBooks. Some eBook formats allow text to be reformatted to fit the physical dimensions of the eBook reader. For many types of content this is an

advantage (*see Readability above*).   But in some
books, the way text is arranged on the page is part of
the message of the book. Imagine reading the poetry
of e.e. Cummings or the mouse's tail passage from
"Alice in Wonderland" with the words just jumbled
together on the page. In many books, controlling the
formatting of the type on the page is a necessity.
This is very difficult, if not impossible, in some eBook
formats.

Lack of a Standard format

Imagine trying to read a book if there was no
agreement on how to put the words on a printed
page. Should they be printed as black on white or
white on black. Should they run left to right or right
to left. Maybe they should be printed from top to
bottom. Should a printed book be bound together or
just loose pages. Should it open from the top, the
left or the right? Without agreement on these simple
standards, reading would be a definite adventure.
The problem is many times worse in the eBook
publishing industry. Lack of a single overriding
standard means that authors, publishers, and even
readers must choose what format they will support.

We've seen that different combinations of hardware
and software are better or worse for different types of
content. That guarantees that there will be multiple
formats supported by different vendors trying to take
advantage of specific markets. For example, the
Rocket eBook from NuvoMedia uses a relatively small
black and white screen to enhance portability and

minimize price. These are advantages if you are marketing primarily to recreational readers. Softbook Publishing's reader has a single 8" X 11" color screen, which is more expensive but better suited to reproduction of more demanding reading material like textbooks. Each reader has their own format. Rocket eBook is a proprietary format and Softbook Publishing uses a format based on Adobe .pdf. An attempt has been made to create a single universal standard called the Open eBook specification (*see OEB in Chapter 10*), but many vendors still prefer .pdf (*see .pdf in Chapter 9*).

Digital Rights Management (DRM)

Protecting an author's copyright is one of the prime concerns when distributing books via electronic format. Similar concerns were raised about traditional books when copiers became commonly available. Although copying an entire book is now possible, the cost and inconvenience of doing it manually has kept this type of piracy to a minimum. But when copying is as easy as duplicating a file, piracy becomes a major problem. Current struggles by performers and the music industry over the MP3 format is a preview of what could happen in eBook publishing. The music industry has been trying to combat the problem by lobbying for inclusion of encryption protection in the MP3 standard. However, even encryption is not a guarantee. As mentioned in the introduction to this chapter, it took less than 48 hours before the encryption on Stephen King's eBook "Riding the Bullet" was broken. Some method of

securely distributing eBooks and preserving the copyrights and royalties of authors is essential if eBooks are to flourish. Adobe, Xerox, and Microsoft are just a few of the companies currently working on this problem (*see Digital Rights Management, Chapter 13*).

Encryption and secure distribution are important parts of the solution to Digital Rights Management, but they also cause other problems. Documents encrypted to be read on one device can't be copied to another device. What happens if you wish to lend an eBook to a friend after you've finished reading it? How will lending libraries be created and operated? What happens if you upgrade your reader hardware or software? Flexible mechanisms must be created that protect the rights of authors and publishers without burdening the consumer. Some vendors are already working on ways to securely "lend" a copy of an eBook by transferring it to another reader.

Reproduction of Graphics

Full color graphics, complex tables, and figures are not easily reproducible on small screens. Some eBook formats don't even support the inclusion of images. In order to lower the price and increase battery life some eBook hardware uses only a black and white screen. All of these factors make reproduction of graphic elements on many eBooks a challenge. For many types of content, such as fiction, this is a minor inconvenience. But for technical

publications and textbooks, inclusion of graphics is a necessity.

Some potential solutions include using a thumbnail graphic with a hyperlink in place of a full graphic. This allows the reader to view the graphic full size on a small screen without intruding on the text. A zoomed in view with scrolling is another way to allow the use of a graphic, table or figure that is larger than the screen of the eBook device. Most of the eBook formats that don't currently support graphics are also looking at ways to enhance their standards to allow the inclusion of graphic elements. The one limitation that seems here to stay is the one imposed by Black and White screens. But just as the declining price of color televisions marked the obsolescence of Black and White TVs, the declining price of color LCDs should allow the next generation of eBook devices to offer color at a reasonable price. The recent release of the new Palm IIIc and color Pocket PCs are a perfect example.

Reader Hardware

The final problem associated with eBooks is Reader hardware and software itself. eBook readers range in size from a small handheld PDA to a desktop computer and dedicated readers are relatively expensive when compared to the price of a book. Readers range from PDAs and dedicated readers costing $150-$200 to full Personal computers, laptops, and some dedicated readers costing thousands. The price of readers continues to be a

major roadblock to the expansion of eBook publishing. Of course, many people already own personal computers and laptops, but the change in habits required by these devices has already been mentioned as a problem (*see Resistance to Change above*).

Finally, the variety of incompatible hardware, software, and formats also leads to a problem. Since many eBook formats are not interchangeable, a consumer must choose carefully when purchasing a platform or they might not be able to read the books that they want. Publishers must also go to the added expense of creating books in multiple formats or forgo whole sections of the eBook marketplace. For example, this book will be published in three or four different eBook formats in an effort to maximize coverage of the eBook market.

Summary

eBooks are not for everyone and they won't replace traditional publications tomorrow. But more people take notice of their potential everyday. Many traditional publishers and vendors are looking for ways to expand into the eBook marketplace.

- Time Warner Trade Publishing recently announced http://www.ipublish.com, where they will actively solicit and support authors who would like their work published in eBook format.

- Barnes and Noble recently opened a section of http://www.barnesandnoble.com that deals exclusively with eBooks.

- Microsoft made their Reader software one of the key applications on their new Pocket PCs.

Other vendors, publishers, and authors will surely follow suit. EBooks promise a new age of reading pleasure, but there will be bumps in the road, especially for early adopters. The rest of this book will attempt to look at the technological foundations on which the eBook publishing business stands. We will examine the following:

- What is the history of the industry that led us to this point.

- What are the strengths and weaknesses of the eBook formats currently being used and refined.

- What are the key technologies currently being developed which will affect the future of the industry.

Chapter 2

The Early Days

In this chapter:

- Project Gutenberg
- Apple Hypercards
- Standard Graphical Markup Language (SGML)
- Electronic Help Files

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 3

Portable PC Documents

In this chapter:

- Standalone Viewers like Microsoft Word & PowerPoint Viewer
- Tumbleweed/Novell Envoy
- Adobe Acrobat

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 4

EBook Specific Formats

In this chapter:

- Palm Pilot Formats
- eBook Hardware Specific Formats
- eBook Software Formats
- Proposed Open eBook Standard

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 5

Internet Bookstores and Libraries

In this chapter:

- Freeware Sites
- Internet Libraries
- Internet Bookstores
- eBook of the month clubs

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Part II: eBook Formats

This section will detail the technical specifications of established and proposed eBook document formats introduced in Part I. Chapter 6 explains the use of plain text formats in eBooks. Chapter 7 highlights different formats which were originally developed for the Palm Pilot. Chapter 8 discusses formats which are specific to one brand of device or software reader. Chapter 9 examines formats which are based on Adobe .pdf and chapter 10 reviews the proposed Open eBook Standard.

Chapter 6

Plain Text Formats

In this chapter:

- Gutenberg Project
- Rich Text Format (RTF)
- Basic HTML

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 7

Palm Pilot Formats

In this chapter:

- .prc and .pdb Files
- AportisDoc and TealDoc
- iSilo
- Rich Reader

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 8

Platform Specific eBook Formats

In this chapter:

- Rocket eBook (a dvision of Gemstar)
- Librius
- Mobibook
- PeanutPress reader
- Online Only Formats

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 9

Adobe .pdf Formats

In this chapter:

- Adobe Acrobat (.pdf based formats)
- SoftBooks reader (a dvision of Gemstar)
- Everybook Dedicated Reader
- GlassBook – PC based

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 10

Proposed Open eBook Standard

In this chapter:

- The Open eBook Forum
- What is the OEB Standard
- The history of Markup Languages (SGML, HTML, and XML)
- Dublin Core Metadata Tags
- Cascading Style Sheets
- HTML 4.0 Tags

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Part III: Technologies and Tools

This section will highlight some of the production tools used to produce the eBook formats covered in Part II. Technologies that enhance eBooks will also be covered. Chapter 11 highlights tools used to create eBooks. Chapter 12 explains how specific technologies or hardware platforms are used in eBook publishing. Chapter 13 discusses the emerging standards which will ensure Digital Rights Management.

Chapter 11

Authoring Technologies and Tools

In this chapter:

- Optical Character Recognition (OCR)
- XML editing tools
- OEB Compliance Verification Tools
- Adobe Acrobat Exchange
- Overdrive ReaderWorks

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 12

Supporting Technologies

In this chapter:

- Unicode
- Dedicated Hardware Readers
- PDAs (Windows CE and Palm Pilot)
- ClearType font technology

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

Chapter 13

Digital Rights Management

In this chapter:

- .ebx encryption
- Adobe .pdf Merchant and Web Buy Reader
- ContentGuard (XrML)
- ONIX

This chapter is still under construction. Watch for the whole book 3rd Quarter, 2000

ABOUT THE AUTHOR

Paul Papanek Stork is a Senior Lecturer and Director of the E-Ideas Lab for Weatherhead School of Management at Case Western Reserve University. Paul has an MBA from Weatherhead and is a Microsoft Certified Trainer, a Microsoft Certified Systems Engineer plus Internet, and a Certified Novell Engineer with more than 14 years experience designing, implementing and supporting Microsoft and Novell Networks. Prior to his appointment as a lecturer at Weatherhead in January of 2000, Paul was an active member of Microsoft's Windows 2000 Rapid Deployment Program for DeCarlo, Paternite, and Associates, Inc. As a staff instructor at DPAI he was one of the first MCTs in the Midwest to teach Beta classes on Windows 2000 to other trainers and network engineers.

you can use the integrated dic-
tionary to lookup unknown
word

stylus *n*

1. phonograph needle

2. machine's tracing pen

3. engraving tool

Also called style

[1] This is a sample footnote.

[RETURN](#)

The video Introduction was not available in time for this version.