



E-Book Technology

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Abstract:

- This session presents a technical overview of electronic books comparing the various formats, and taking a closer look at .LIT & .PDF



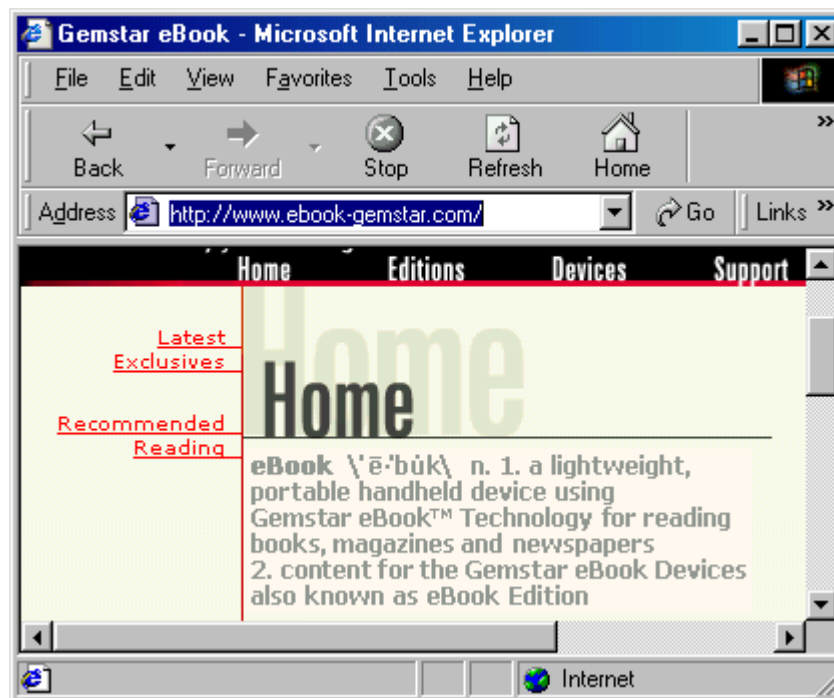


What we'll cover...

1. Recap: What is an eBook?
2. Why eBooks (pragmatic)?
3. Characteristics of eBooks
4. Common eBook formats
5. OEB/LIT & PDF
6. Selecting an eBook format
7. Selling eBooks on the Web



Recap: What is an eBook?



- So many definitions:
Gemstar suggest that it's a device based on their eBook Technology or content for it



Recap: What is an eBook?

- Concise Oxford says that it's an electronic version of a printed book which can be read on a PC or handheld.
- Other's would suggest that, that form of an eBook is a primitive workalike, and that an eBook should be a rich multimedia hyperlinked experience.
Example: James Monaco's book, How to Read a Film, which is distributed on DVD. Not reproducible on paper. Cannot be read cover to cover
<http://www.readfilm.com/>
- Still others suggest it's a transport and delivery mechanism for a Print on Demand book. Still ending its life as ink on paper.
- Obviously the future is yet unknown, but I'd postulate that it's likely we'll see all forms in varying degrees.



Why eBooks? (pragmatic)

Pros (benefits)

- Providing access to remote resources (distance education)
- Out-of-print books
- Be used as a archival/delivery for Print on Demand
- Be used in an Academic environment (ex. photocopier)
- Offers greater searchability and portability
- Allowing previously unviable publications to be published



Why eBooks? (pragmatic) cont...

Cons (challenges)

- Allowing previously unviable publications to be published
- Archival issue has not been solved
- Standardized format is not yet determined
- Rights management is not yet determined
- Not available to those without computers (lower socio, overseas)



Properties/Characteristics of eBooks

What makes an eBook distinct from any other data file?

- Like a printed book, it's (usually) a final form document, non-editable
- Can have an ISBN associated with it
- Usually formatted for on-screen viewing (6 x 9")
- Using a font (primarily) designed for screen reading
- Usually images downsampled to screen resolution (72dpi)



Properties/Characteristics of eBooks cont...

- Ideally compact and transportable – single file, self-contained – Web Ready
- Searchable with embedded metadata
- The same margins for each page rather left/right
- Has 'traditional' front matter, back matter (Cover page, Title Page, TOC, Index)



Common eBook Formats

- PDF
Suitable for richly formatted documents – academic textbooks, magazines and similar publications. Published proprietary standard
- OEB
Open eBook Format, suitable for trade books, simple text and graphics. Open standard.
- LIT
Microsoft's wrapper around OEB



Common eBook Formats cont...

- TK3
NightKitchen's format, incorporates support for text, images, sounds and videos. Looks like a Windows application
- TXT
Project Gutenberg eTexts are based on vanilla ASCII text. Over 3400 titles.
- HTML, AportisDOC, Palm Reader, and many more...



Selecting an eBook Format?

- Knowing that there's so many different eBook formats, how do you as a publisher or author know which one is most appropriate?

(hint: the answer is easy....)





Selecting an eBook Format cont...

- You don't! – It's very difficult.
- In most cases, you can't select a single output format and use that without exception. That's because your choice of format depends on:
 - The content itself (text, complex graphics)
 - The source document (FrameMaker, Quark, Word, PostScript, Paper)
 - Your production system & staff skills
 - Your eBook Retailers sales system
 - Intended Digital Rights Management system
 - The reading systems of your customers (target devices)
 - The phases of the moon



Selecting an eBook Format cont 2...

- However, if forced to make a choice, currently there's two 'dominant' formats in use for eBook content, Open eBook Format (OEB)/.LIT and Adobe's Portable Document Format (PDF).
1. OEB is used primarily for simple text documents with limited table and image support (Microsoft Reader, MobiPocket Reader, and Ansys's Mobile Office.) Can be viewed on a handheld.
 2. PDF is used for richer documents due to its high fidelity and complex layout capabilities. Academic textbooks and magazines are more suitable for conversion to PDF. Handheld is possible, although desktop is preferred. POD suitable.



What is OEB?

- The Open eBook Publication Structure Specification 1.01, provides a specification for representing the content of electronic books. From the latest edition, July 2, 2001, of the specification, its purpose is:
 1. To give content providers and tool providers minimal and common guidelines which ensure fidelity, accuracy, accessibility, and presentation of electronic content over various electronic book platforms.
 2. To reflect established content format standards.
 3. To provide the purveyors of electronic-book content a format for use in providing content to multiple reading systems.



OEB cont...

- OEB is a non-proprietary specification that specifies eBook file format and structure.
- OEB is based on XML, well-formed not valid.
- Is expected to comply with XHTML
- Dublin Core elements are used for describing metadata
- Defines its own style language based on CSS1 & 2. This is to provide a baseline rendering functionality.
- An OEB package file specifies the OEB documents, images and other objects that comprise the 'publication'. No means is defined for a physically bundling files together (zip, tar, etc...)
- OEB does not address DRM at this stage, hence one of the reasons why .LIT has emerged.

DEMO





What is PDF?

- PDF is Adobe's Portable Document Format and has been around since 1991
- It is a "published" proprietary format that Adobe specifically grants copyright permission to "anyone" to use.
- Unlike OEB which uses markup, PDF uses a "marking" syntax to draw marks on pages.
- You can position text and images exactly within a PDF file which allow you to reproduce visually rich books such as Academic Textbooks and Science Technical Medical (STM).
- PDF and/or PostScript is often already part of a production workflow which makes creating electronic book versions fairly simple and straightforward.
- PDF is complex and mostly suitable for display on the desktop, with the exception of Ansy's MobileOffice product (Primer)



PDF continued...

- PDF was referred to by Joe Eschbach, VP ePaper Solutions Gp, as the reliable digital master. This is because PDF acts as a complete wrapper containing all fonts, images, text used within a document in a single wrapper. Consequently, PDF is becoming increasingly used in the workflows of prepress agencies and professional print production.
- Because of this and of PDF's relationship to PostScript, it is a reasonably easy process to redirect a for-Print book to a PDF-based eBook. And by the same logic, it's equally easy, to use a PDF-based eBook for Print on Demand. The same could not be said for OEB at this stage.



Comparing eBook formats

	PDF	OEB	LIT
Text	YES	YES	YES
Graphics	YES	YES	LTD*
Sound/Movie	YES	NO	NO
Tables	YES	YES	LTD*
Print	YES	LTD*	NO
Handheld	LTD*	YES	YES
Palm	LTD*	YES	NO
Windows	YES	YES	YES
Mac	YES	YES	NO*
Unix	LTD	YES	NO
Security	YES	NO	YES



Selling eBooks on the Web

- So you've decided that you're all for this eBook idea, and you want to sell yours on the Web – but you're curious about security? Two schools of thought:
 1. Some say: By locking up content you place more barriers in place for your customer and make it difficult for them to enjoy your product or service, making it less likely that they'll return to buy your product/service again in the future.
 2. Others says: By not locking your product, you run the risk of rampant piracy destroying and cannibalizing your livelihood – the 'napsterizing' of eBooks. They say you won't be around in the future if you choose Option 1.
- At this stage, the jury is still out, but it's definitely a contentious area.



What about security?

- With that said, there's a number of general solutions available to you as follows...
 - Post the files as plain .LIT files, .OEB (in some form of wrapper), .PDF or any other unencrypted content and require payment before you provide the files.
 - Encrypt your files and secure access using a password
 - Inscribe the Reader's name into the file, hopefully preventing them from passing it on.
 - Supply them with an encrypted version, and a voucher which only functions on the computer they purchased the book on.



PDF Security

- Adobe Systems have built an extensible plug-in model for Adobe Acrobat. Hence it's possible for any developer to build what's called a Security Handler to add their own Digital Rights Management (DRM) system to Adobe Acrobat. However, the following products are available out of the box:
 - Adobe Content Server (formerly Glassbook Content Server)
Note: PDF Merchant is now discontinued and incorporated within the Adobe Content Server.
 - FileOpen Publisher – <http://www.fileopen.com/>
 - Indataco's eBook Server -
<http://www.indataco.com/products.asp>
 - DocGuard Plus from Normex -
<http://www.digitaldocuments.org/>
 - Authentica's PageRecall – not for eBooks as such, but arguably the most secure solution available today –
<http://www.authentica.com/>



.LIT Security

- Remember: No DRM for OEB at this stage.
- There are a number of levels of security for .LIT. Originally 5 levels but pared down to 3*. To implement these you require the Microsoft Digital Asset Server, and to pass a set of requirements associated with it.
 1. Sealed: The content is encrypted to ensure the authenticity of the content. Text inside the eBook can't be modified. Anyone can read the content.
 2. Inscribed: Sealed titles (as above) with the user's name on the front page of the book. Think of it as a customized eBook. Anyone can read the content.
 3. Owner Exclusive: Fully secure. Only the device with the license file can decrypt and read the content.

*<http://www.microsoft.com/mobile/pocketpc/columns/msreader.asp>



Where to from here?

- That's it: If I've earned my stripes, you've learnt a little more about the underlying detail of eBooks
- Time for questions in a moment, followed by our Workshop session where we'll produce a PDF and a .LIT based eBook.
- Mia Garlick, Gilbert & Tobin is talking tomorrow morning about DRM in the Content Management Stream
- Renato Iannella, Chief Scientist, IPR Systems is giving a closing keynote at 13:00 Thursday 2, August, 2001 on 'Open Electronic Book DRM Standards'



General Resources for eBooks

- Planet eBook
<http://www.planetebook.com/>
- Planet PDF
<http://www.planetpdf.com/>
- eBookWeb
<http://www.ebookweb.org/>
- Open eBook Forum
<http://www.openebook.com/>
- Seybold Reports e-Books Zone
<http://www.seyboldreports.com/ebooks/index.html>
- Adobe eBooks Center
<http://www.adobe.com/epaper/ebooks/main.html>



Specific Resources for eBooks

- Pat Coyne, PDF and eBooks: Linking Form and Content,
<http://www.planetpdf.com/mainpage.asp?webpageid=526>
- How to Create Adobe eBooks
<http://www.adobe.com/epaper/tips/acr5ebook/pdfs/eBook.pdf>
- Night Kitchen
<http://www.nightkitchen.com/>



Questions?



ad of having nothing to do: once or twice
er sister was reading, but it had no pictur
the use of a book,' thought Alice 'w
o she considering in her own mind (s
ay made her feel very sleepy and stupid)
daisy-chain would be worth the trouble c
aisies, when suddenly a White Rabbit wit
here was nothing so very remarkable in th
ery much out of the way to hear the Rabb
ear! I shall be late!' (when she thought it
er that she ought to have wondered at thi