"The Design Space for EBooks"
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Robert J. Glushko
glushko@berkeley.edu
@rjglushko

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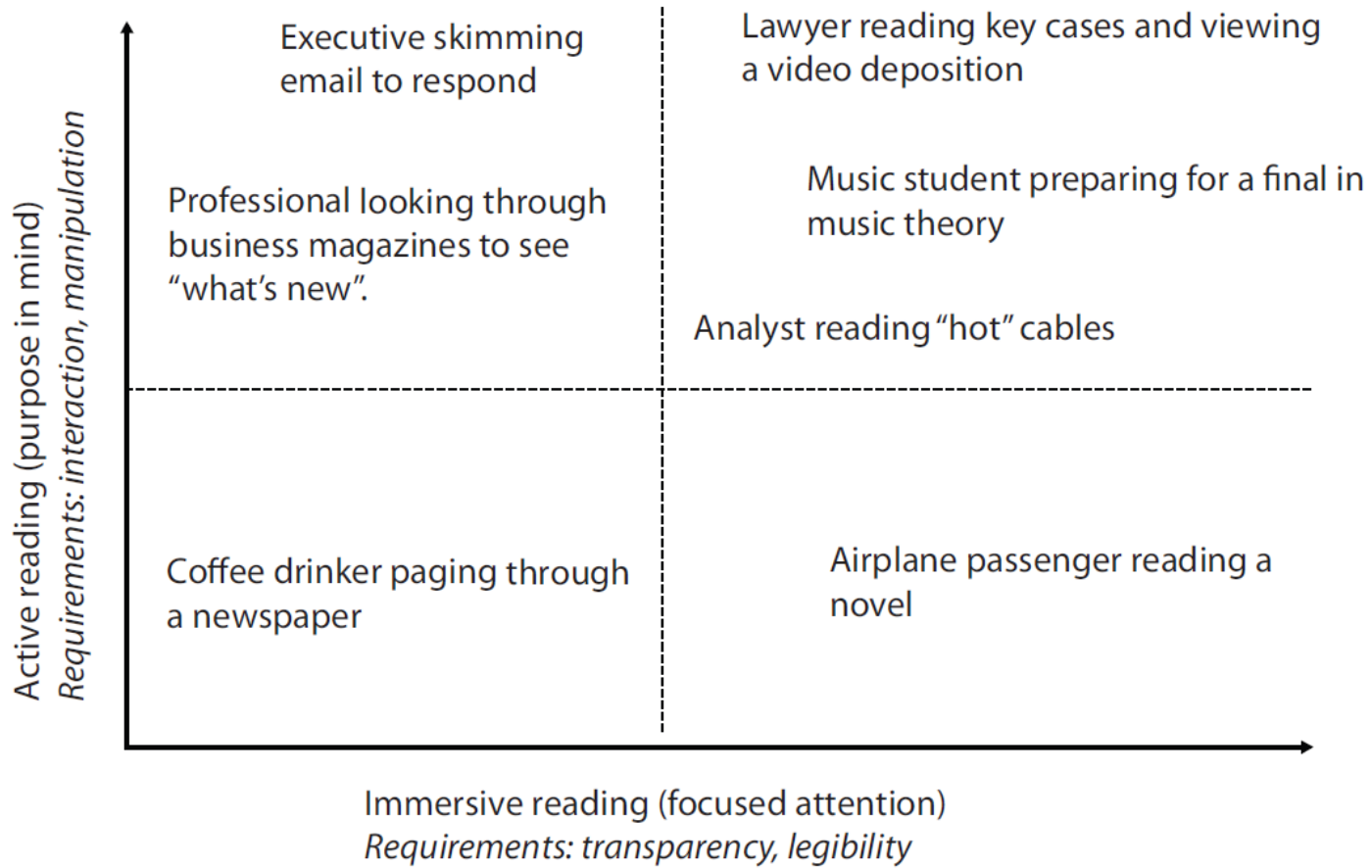
A Starting Thought About Design

EBook products to date have focused on particular types of reading—reading for entertainment, as one would read a novel, or reading to become more informed, as one would read a business book—and have more or less ignored others (e.g., reading to learn, as one would read a textbook, or reading for reference, as one would consult an encyclopedia). These assumptions about types of reading have dictated general eBook functionality and the specific facilities for interacting with eBooks.

- Cathy Marshall (2010), *Reading and Writing the Electronic Book*, p. 37

EBook Design and Types of Reading

Executive skimming email to respond

Lawyer reading key cases and viewing a video deposition

Professional looking through business magazines to see "what's new".

Music student preparing for a final in music theory

Analyst reading "hot" cables

Active reading (purpose in mind)
Requirements: interaction, manipulation

Coffee drinker paging through a newspaper

Airplane passenger reading a novel

Immersive reading (focused attention)
Requirements: transparency, legibility

Marshall Figure 2.1, p, 19

The EBook Design Space(s)

- Is there one design space, or are there different design spaces for different types of "books"

  - where "type" means "document type" or "genre" – fiction novels, business books, textbooks, encyclopedias, catalogs, books for kids, etc.
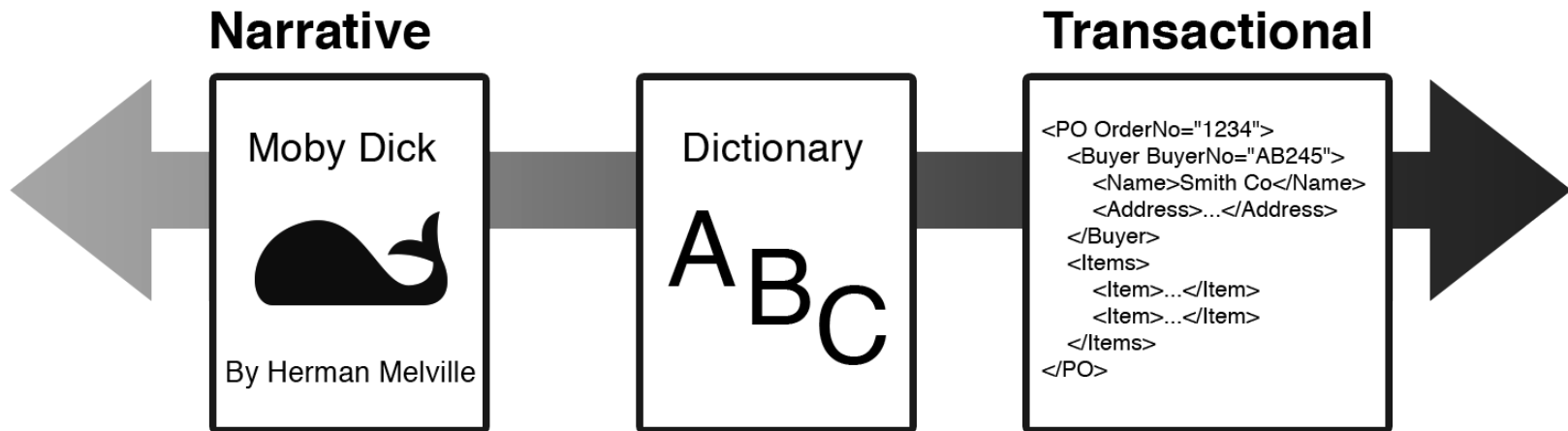
The Document Type Spectrum

Figure 3.2 in Glushko (2013), *The Discipline of Organizing*, p. 102

The Document Type Spectrum

Different domains or types of documents can be distinguished according to the extent to which their content is semantically prescribed, by the amount of internal structure, and by the correlations of their presentation and formatting to their content and structure. These three characteristics of content, structure, and presentation vary systematically from narrative document types like novels to transactional document types like invoices.

Narrative types are authored by people and are heterogeneous in structure and content, and their content is usually just prose and graphic elements. Their presentational characteristics carefully reinforce their structure and semantics; for example, the text of titles or major headings is large because the content is important, in contrast to the small text of footnotes. Transactional document types are usually created mechanically and, as a result, are homogeneous in structure and content; their content is largely "data" — strongly typed content with precise semantics that can be processed by computers.

In the middle of the spectrum are hybrid document types like textbooks, encyclopedias, and technical manuals that contain a mixture of narrative text and structured content in figures, data tables, code examples, and so on.
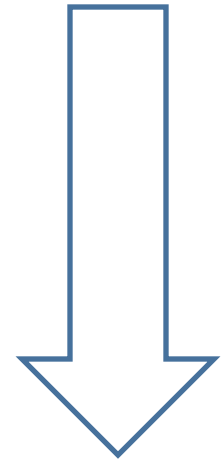
Glushko (2013), *The Discipline of Organizing*, p. 101

The EBook Design Space(s)

- Is there one design space, or are there different design spaces for different types of "books"

  - where "type" means "delivery platform" – books in the browser, books in dedicated ebook readers, books in "book apps"

FLASHBACK to 9/3: Definitions of Ebooks

- Electronic or digital texts:

  - viewable on a computer OR

  - downloadable to a device OR

  - printable on demand

- Electronic or digital books – a package of hardware and software that enables "book-like" interactions

  - dedicated functionality OR

  - one of many functions on the device OR

  - book reading apps

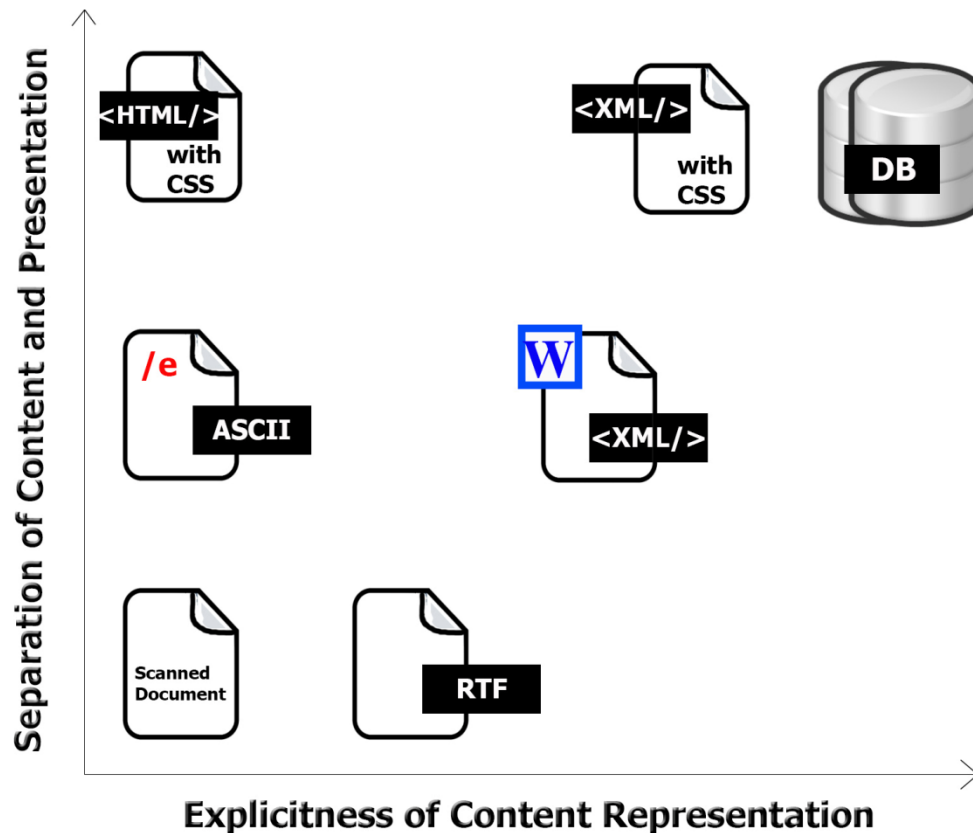- Any app with interactive information content

More "book like"

Less "book like"

8

The EBook Design Space(s)

- Is there one design space, or are there different design spaces for different types of "books"

  - where "type" means "representation format" – PDF, Word, ASCII, HTML, epub

Format Matters!

eBooks and Formats

- An eBook authored in an XML format inherently separates the content from its presentation, which is determined by a separate transformations and styling

- An eBook authored in HTML5, the base format of the epub standard, will inherently embody a great deal less architectural separation between content and styling

- A self-aware author can use HTML5 in an architecturally sound way... but it takes more work... especially since most authoring tools are WYSIWYG

- An eBook authored in any format that ends up as pdf is going to be very limited in its access to and manipulation of text content and structure

The EBook Design Space(s)

- Is there one design space, or are there different design spaces for different types of "books"

  - where "type" means "newly authored" versus "converted from print-targeted content

12

FLASHBACK to 9/3:
Engineers vs Literati, Revisited

- Most ebooks today are essentially "engineering" ebooks – converted from the backlist of print books as efficiently as possible

- This typically means they offer little capability beyond simple page turning and search

- But highly valuable books (like widely used textbooks) are redesigned and redeveloped by "literati" because the cost of hand-crafting can be amortized over high sales volume

- Challenge as the backlist runs out - can we create enhanced ebooks using scalable engineering methods?

The EBook Design Space(s)

- Is there one design space, or are there different design spaces for different types of "books"
    - where "type" reflects the authoring and production methods and the business model they are based on
    - …which are often tightly coupled; choosing iBooks Author as the authoring tool means that your book can only be read in iBooks and you must distribute your book through the Apple Store

Platform-Specific "Design" Advice is Easy to Find

- Langer, Maria. *iBooks Author: Publishing Your First Ebook. (2012)* [h ttps://itunes.apple.com/us/book/ibooks-author-publishing-your/ id507901873?mt=11](https://itunes.apple.com/us/book/ibooks-author-publishing-your/id507901873?mt=11)

- McKesson, Nellie, and Adam Witwer. *Publishing with iBooks Author*. O'Reilly, 2012 http://shop.oreilly.com/product/0636920025597.do

- Gruman, Galen. *iBooks Author for dummies*. John Wiley & Sons, 2012.

- http://www.apple.com/ibooks-author/gallery.html

- Kindle Authoring Tools [http://www.amazon.com/gp/feature.html/ref=amb_link_357883242_1? ie=UTF8&docId=1000729511&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=right-4& pf_rd_r=0CMAC1B4YFZ6Z9ZER51R&pf_rd_t=1401&pf_rd_p=1325986302&pf _rd_i=1000729901](http://www.amazon.com/gp/feature.html/ref=amb_link_357883242_1?ie=UTF8&docId=1000729511&pf_rd_m=ATVPDKIKX0DER&pf_rd_s=right-4&pf_rd_r=0CMAC1B4YFZ6Z9ZER51R&pf_rd_t=1401&pf_rd_p=1325986302&pf_rd_i=1000729901)

- Kindle Publishing Guidelines [http://kindlegen.s3.amazonaws.com/ AmazonKindlePublishingGuidelines.pdf](http://kindlegen.s3.amazonaws.com/AmazonKindlePublishingGuidelines.pdf)

The EBook Design Challenge

- Given the difficulty of defining the design space(s)...

  - What design principles and guidance apply to all types of books?

  - What design principles and guidance apply to specific types of books?

  - How do we scope and organize the EBook Cookbook as a result of how we answer these questions?

The EBook Cookbook

- In the course description: The overall goal of this course is to write the initial draft of the "EBook Cookbook", a compendium that will combine design guidance and best practices from the underexploited research corpus and the experiences of the most innovative publishers of ebooks and ebook technology vendors

- .But… given the size and complexity of the eBook design space(s), we probably need to narrow the scope of the Cookbook

  - to textbooks or academic publishing?

  - to a particular set of platforms?

- Or we might create an outline / ToC for a broad and shallow Cookbook that will become deeper over time

Some eBook Design Topics

- navigation and orientation

- interactivity

- non-text components; images, audio, animation, data visualization, etc…

- annotations

- making books "smart" with intelligent content

- accessibility

- {presentation layer: layout, color schemes, typography}

Architectural Thinking

- Best practice in content management and systems design is to separate issues concerning user interface or presentation layer from logical design and implementation issues

- For example, "what is a unit of content?" or "what is a link?" are logical issues; paging vs scrolling, the appearance and behavior of links, (and layout and typography) are presentation issues

- But much of the "design guidance" for ebooks confounds logical and presentation issues and we need to determine how to deal with that in this course and in the Cookbook

Navigation and Orientation

- Table of contents is essential; but possible "Table of X" where X is any content type

- Orientation with page numbers, running heads

- Structure-based navigation

  - Next / Previous page

  - Inline hyperlinks to important structures

  - Selectable representations of key pages

- Behavior-based navigation

  - History and backtracking

Interactivity

- Interacting with the content, not just with its {page, card, other unit} structure as with navigation and orientation mechanisms

- Often enabled as a transformation from an non-interactive component in a printed book

  - a data table => visualization

  - formula => simulation

  - list of key points => questions & answers

- A broad design category, hard to scope because of typical confounding of design and presentation

Design Issues about Interactivity

- What interactions apply to all types of books?

- What interactions apply to specific types of books?

- Some platforms support a larger number of interaction types than others

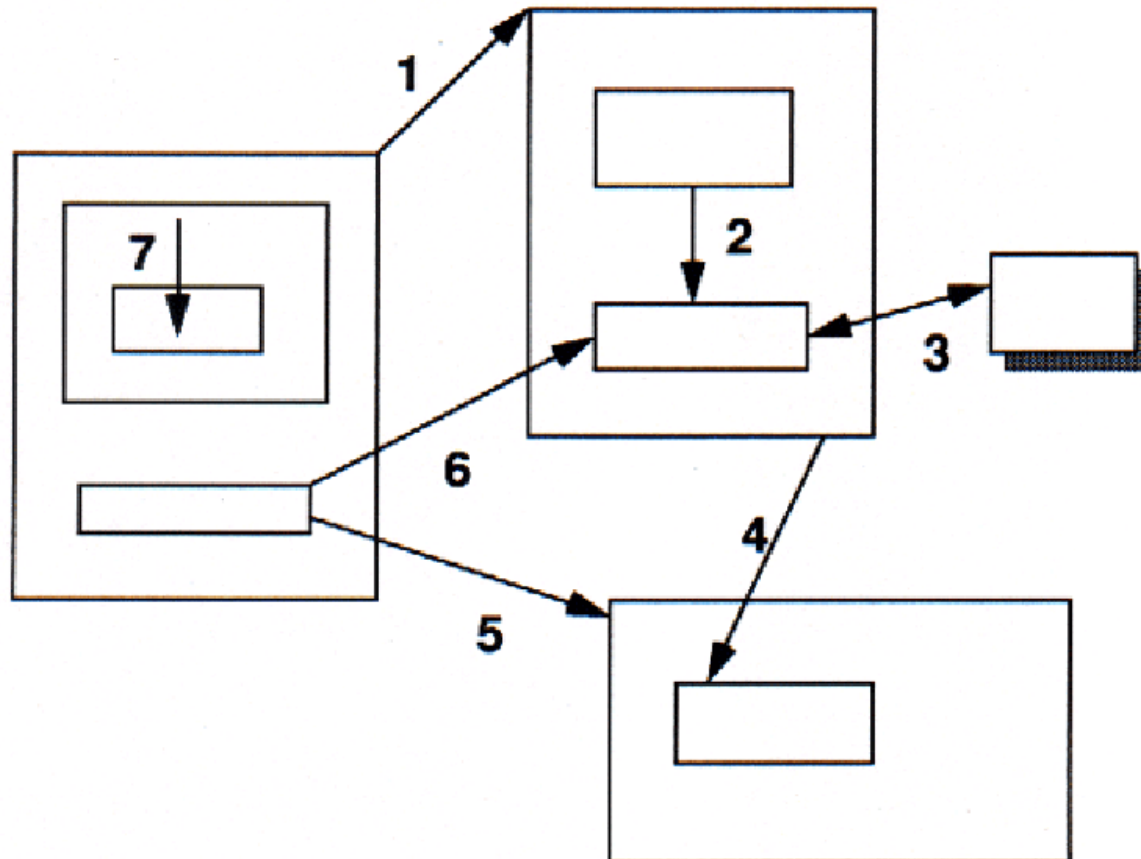 - does this imply platform-specific interaction design?

Marshall's Interactions (Ch 3 of RaWtEB)

- Annotation
- Link following {CM says that "reader linking" is possible but not implemented in any current system}
- Navigation
- Clipping
- Bookmarking

Linking Can be
Structurally & Semantically Complex

Jervis-Brazinski Interactivity Design Facets (Spring 2013)

- Media Type – What content type is presented or worked with in the widget

- Purpose – pedagogically defined or more experiential?

- Interactivity – presents info, or truly interactive?

- Freehand or Guided? – is the reader's path through the content pre-determined?

- Collaborative? – is there value in collaborative use or sharing of the results?

Non-text Components

- Images, audio, video,…

- The relationship between the text and non-text components depends on document type

    - Text can dominate (legal, accounting)

    - Text can provide the framework (textbook, encyclopedia, catalog)

    - The non-text can dominate (art book, engineering drawings)

- The relationship between text and non-text information can vary at all points on the document type spectrum

"Advice" About Non-Text Objects

Images are a basic way to spice up your book. To add one, drag it from Finder or the Photos tab of the Media Browser. You can drag images into the placeholder image boxes that come with your chosen Template, or you can just drop them anywhere in the file…

To add a movie or audio file, click Widgets in the Toolbar, and choose Media. Author immediately plunks a special box in the middle of your page, prefilled with a placeholder title, a spot for the file, and a placeholder caption…

- McKesson and Witwer (2012), *Publishing with IBooks Author*, p. 49, 60

- How many non-text objects should be in an eBook?
- What types of non-text objects or specific instances?
- Where should we put them in the text?
- How do we integrate them into the text?

Annotations

- Variety of implicit and explicit types

- Individual private vs shared or even collaborative "threads"

- The "wrapper" issue: annotation can be supported outside the book

Making eBooks Smart

- Content can be made more "intelligent" by marking it up semantically (names, places, products, other "entities")

- Context awareness; does the eBook know where the reader is? Does the eBook know if the reader has seen this part of the book before? Can this information be used to dynamically adapt the content or structure of the eBook?

Accessibility

- Can the eBook read itself aloud?

- Can it otherwise adapt to enable readers with disabilities to make effective of it?

- Can the book translate itself?

Where We Go From Here

- We need to make some scoping decisions about the eBook Cookbook

- People need to choose a design topic that has a place in that scope

- These two tasks are clearly intertwined... let's aim to have a plan and some responsibilities by October 1

31