CS1001

Lecture 10

Overview

- HTML and Usability
- Copyright

Goals

- Know some cognitive guidelines for designing effective hypermedia documents
- Know some of the issues surrounding digital copyright
- How is source code licensed? What do you own?

Assignments

- Brookshear: Ch 8.2, 8.3 (Read)
- Hypermedia/Usability
  - http://www.ibiblio.org/pioneers/bush.html
  - http://www.theatlantic.com/unbound/flashbks/computer/bushf.htm
- Copyright
- Read linked documents on these slides (slides will be posted in courseworks)

Hypermedia

- Hypermedia is designed to link information together

- Hypermedia facilitates easier access to information (when implemented correctly)

Origins of Hypermedia

- Vannevar Bush, 1945 (FDR's science adviser)
- Devised the "Memex" – a *theoretical* device for retrieving cross linked information
  - Based on microfilm and eye tracking technology (which did not exist yet)

The Memex

- Wholly new forms of encyclopedias will appear, ready-made with a mesh of associative trails running through them, ready to be dropped into the memex and there amplified. The lawyer has at his touch the associated opinions and decisions of his whole experience, and of the experience of friends and authorities... (Bush, 1945)
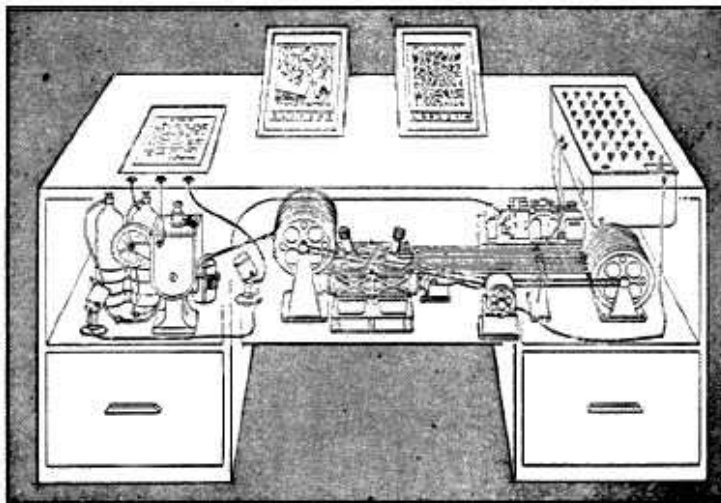
Memex in the form of a desk would instantly bring files and material on any subject to the operator's fingertips. Slanting translucent viewing screens magnify supermicrofilm filed by code numbers. At left is a mechanism which automatically photographs longhand notes, pictures and letters, then files them in the desk for future reference (LIFE 19(11), p. 123).

What Information is Appropriate for Hypermedia?

- *Golden Rules of Hypertext* (Schneiderman, 1989); Choose projects that adhere to the following:
    - There is a large body of information organized into numerous fragments
    - The fragments relate to one another
    - The user needs only a small fraction of the fragments at any time
    - (Note: *Most* information satisfies these requirements)

Object-Action Interface Model for Web Site Design

- Task
  - Structured information objects (for example, hierarchies, networks)
  - Information actions (for example, searching, linking)

- Interface
  - Metaphors for information objects
  - Handles for actions (for example, querying, zooming)

Example Information Aggregation Strategies

- Short unstructured lists
- Linear structures
- Arrays or tables
- Hierarchies, trees
- Multitrees, faceted retrieval
- Networks

Example Metaphors

- File cabinet with folders and documents
- Book with chapters
- Encyclopedia with articles
- Television with channels
- Shopping mall with stores
- Museum with exhibits

Copyright

- Is information free?
  - If we apply a "library" metaphor to the internet, then typically we are used to libraries being free
- Fundamental problem: Copying
  - You can't easily copy books (there is some effort involved); Digital data can be copied extremely easily
  - Digital copies are *lossless* (they are as pristine as the original)

Copyright

- When you publish on the internet, your content is implicitly copyrighted along with images, sounds, etc
- However, as with books, people are free to re-express your content in their own words

Software and Copyright

- Fundamental Problem: Software *is* information (it's just code)
- Does this mean that you can re-implement someone else's *algorithm?*

Licenses

- Buy the software for unlimited use
- Lease the software as a service
- GPL (General Public License) and other free licenses