Lecture Notes: Goals of WWW and W3C

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Contents

1 Tim Berners-Lee and Robert Callou of CERN

- Logical markup following LaTeXmodel (separate content from structure and presentation)
- ease of access
  - One of TBL's design ideas was that no one would seethe URLs or need to know the addresses
  - Almost all editing would be done by programs
- a vision for sharing information for physicists
- `telnet info.cern.ch` see `Top.html`
  - information
  - the WWW has no Top, but there had to be a starting point (earliest portal?)

1.1 Early Days

- originally an attempt to work within existing standards (e.g. MIME types)
- pre-version 2.0 HTML was not standardized. It was described by implementation example and, secondarily, by 'WWW Book'
- HTML 2.0 is an IETF Standard (RFC1866)
- URL standard expected to fill-in for 6 months while something better was worked out
- messages about WWW handsigns so users could recognize each other!
- lofty goals: link types (`rel` and `rev` attributes for documents and anchors)

1.2 Goals of the W3C

standardization to

- make money
- keep access open
- prevent more `img`-type problems (see below)

early on anyone could join, now it is more difficult

2 An Aside: Hypertext

> Text which does not form a single sequence and which may be read in various orders; specially text and graphics ... which are interconnected in such a way that a reader of the material (as displayed at a computer terminal, etc.) can discontinue reading one document at certain points in order to consult other related matter.
>
> (OED Addtions Series, Volume 2 [Simpson and Weiner, 1993, pp.152–3])

Does this mean there is always one preferred order? ⇒ Not Always
Often thought of as a graph, but not necessarily

2.1 History

Named by Ted Nelson
This type of text has existed for centuries, possibly from the beginning of writing
Jewish religous texts from the 17^{th} century for instance show that HT was being used then

2.1.1 Modern

Choose-your-own-adventure books, etc.

2.1.2 Computerized

Englebart's NLS/Augment in 1950s

2.2 Major Features

From Nelson Nelson [1990]:

transclusion a document (or part of it) may appear in more than one place, including in other documents, without actually being copied

versioning what happens when you transclude something but the original is gone, or changed?

micropayments think of referrals to Amazon.com from webpages

link types Nelson doesn't really require links but he is interested in typing them and organizing

Project Xanada has a model of how to do this (see also AutoDesk if you are interested)

3 The Big Time: WWW after Mosaic

3.1 Major Browsers

TBL's browser on NeXT & CERN linemode
↓
Mosaic
↓
Netscape
↓
Internet Explorer & Netscape (& Amaya)
↓
IE, NS, Opera, (Amaya), etc.

Mosaic was massively popular
Written by students at NCSA
Standards moved too slowly for them (even within W3C)

3.2 The `img` Problem

- backwards compatibility, orthogonality, graceful degradation (see Graceful Degredation lecture notes at ⟨URL:`http://www.cs.dal.ca/~jamie/course/CS/4173/Materials/Lecture/HTML/graceful.shtml`⟩)
- *de facto* vs. *de jure* standards

de facto	de jure
controlled by one party or no one	easy to find
arise more quickly	can be carefully defined

3.3 Moving On

Formed Netscape Communications to capitalize on their knowledge and skills

First product? Mozilla (the Mosaic killer) Marketting made them change the name (type `about:mozilla` into the location bar of any version and see the message. Do it under early Unix versions and see the logo change).

What sold Netscape? Incremental image loading ▷ already in the Mac version of Mosaic

Aside

Most versions of IE and NS do not seem to include this feature anymore
Netscape bundled with many ISP packages (e.g. Internet in a Box)
Browser for sale, but free 90 day trial is longer than difference between versions
Where is the profit needed to support growth?...

3.4 The Server Wars

Bill G. finally reverses stand that I'net is only for a few
M$ begins massive effort to hire and train for web-based apps

- New incomptabile features from both NS and M$
  - marquee/banner and frames for example
  - frames: broke the back button (the second most used item after the link), messed up history lists, derailed the evolving sub-document standard
  - frames: still don't work well today (shrinking mirror effect)
- One or both use veto in W3C to block standards
- Servers assign priority to incoming connections from browsers their companies sell

What about Metcalfe's Law of Network Value?! (Value = square of number of users) (See readings in course website ⟨URL:http://www.cs.dal.ca/~jamie/course/CS/4173/Resources/\#reads⟩)

4 Review of HTML and XHTML

See Powerpoint presentation in ⟨URL:http://www.cs.dal.ca/~jamie/course/CS/4173/Materials/\#lects⟩

1. first: IBM's General Markup Language (GML)
   - Charles Goldfarb (lawyer, not CS)
   - GML not easily parsed by computer
2. later: Standardized General Markup Language (SGML)
   - still very complex
   - used by some publishing companies and a few others

4.1 Goals of XML

- Design principles and users*
  - not complex to use (SGML principles, not SGML syntax)
  - support for many applications and types of applications

*Taken from Durand and DeRose (1998 and 2000) Durand and DeRose [1998], DeRose and Durand [2000]

- compatible with SGML
- easy to write programs for
- avoid optional features
- human readable
- formal concise design
- design produced quickly

- what gave XML the boost? → buy in from NS, M$, & others (wanted a standard they could claim adherence to)
- **but** tried very hard to make it weaker and less useful
- "'Don't let us kill again," they said'

4.2 XHTML

W3C rewrite of HTML in XML form
Goals: extensible and conformant user agents
Ruby is an example of extensibility
Strict mode in IE

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