Web Basics

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Happy 20th Birthday, World Wide Web


Since 1989

The Mind Behind the Web
Tim Berners-Lee invented the World Wide Web and continues to shape its frantic evolution. He’s not

Facts about the Web’s Creation
Everything you ever wanted to know about the Web’s first days

Remembering the Day the World Wide Web Was Born
What drove Tim Berners-Lee to imagine this game-changing model for information sharing.

The Future of Computing (Circa 1999)
M.I.T.’s Laboratory for Computer Sciences is developing a new infrastructure for
W3C launches Web and Mobile Interest Group
22 August 2013 (Active)

W3C launched today a Web and Mobile Interest Group that is chartered to accelerate the development of Web technology so that it becomes a compelling platform for mobile applications and the obvious choice for once platform development. The forum is intended to include organizations that commission such products and services, designers, developers, equipment manufacturers, tool and platform vendors, browser vendors, operators and other relevant participants in the value chain that creates and operates such products and services. Participants will focus on a wide range of sectors including retail, advertising, technology, network operators, content creation and content distribution.

The initial deliverables of the group include:

- Core Mobile Web Platform 2013 Deployment Status, which will summarise the various actions that the Interest Group is undertaking to ensure that the relevant stakeholders facilitate the deployment and adoption of the features that have been identified in the Core Mobile Web Platform 2013 report. The group will also publish new versions of the report.
- Standards for Web Applications on Mobile, current state and roadmap, which will take a broader look at all the Web technologies under development that are particularly relevant to mobile devices, and track their status and adoption.

OASIS

Don’t develop your standards at the kids’ table.
- Accredited, internationally recognised, auditable process
- Proven IPR Policy
- Liaisons with de jure bodies
- Rules that protect the level playing field

Other Languages + Site Map + Member Login

I want to: take a tour of OASIS

Committee Categories
- Cloud
- Security
- Smart Grid
- IoT/M2M
- Messaging
- Emergency Mgmt
- Healthcare

See complete list.

Learn more

Discuss potential need for Digital Asset Management interoperability standard; open call 16 Sept.
See latest issue of OASIS News: 19 Aug

Public Review / Member Vote
- 15-day Public Review for KMIP Profiles V1.1
  Errata 01., ends 13 Sep
- 15-day Public Review for KMIP Specification V1.1
  Errata 01., ends 13 Sep
- 30-day Public Review for Request / Response Interface based on JSON and HTTP for #XACML
  3.0 V1.0., ends 21 Sep
- 30-day Public Review for Cloud Application Management for Platforms (CAMP) V1.1., ends 19 Sep
- 30-day Public Review for #XACML
  Data Aggregation V4.0., ends 13 Sep

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Web 2.0: Where Are We?

Hyperlinks

- Hypertext: Text with a reference to other text
- Hyperlinks as the reference on the Web
  - Link any unit of information (e.g., documents) to any unit of information on the Web
- Concept suggested by V. Bush in 1945
  - “one could link any two pages of information into a trail of related information, and then scroll back and forth among pages in a trail…”
- Term coined by T. Nelson in 1965
- Independently implemented by D. Engelbart in 1966
Hyperlinks

- Implemented in many applications
  - Apple HyperCard
  - HTML
  - Adobe PDF

Mark-Up

- A way to annotate text with distinctive syntax
  - Eg, TeX, LaTeX, HTML
- Structural Mark-Up: SGML
  - A notation for writing text with markup tags (<tag>)
  - Tags indicate the structure of the text
  - Tags have names and attributes
  - Tags may enclose a part of the text
  - Invented around 1970 by C. F. Goldfarb
Mark-Up Example

History of HTML

- **HTML: Hyper-Text Markup Language**
  - Invented by Tim Berners-Lee and Robert Caillau at CERN in 1991
  - Stripped-down version of SGML
- **Two important features:** Hypertext & Markup
  - Can jump btw. web documents using links
  - Data in tag notations
- **HTML 2.0 in 1995**
- **HTML 4.0 in 1997**
- **HTML 4.01 in 2000**
- **HTML 5 in 2008 (working draft)**
HTML 5

- To replace: HTML 4.01, XHTML 1.0, DOM 2.0, & Web Forms 2.0, etc
- To reduce: RIA (Plug-in based Rich Internet Application) architecture usage
  - Eg, Adobe Flash, MS Silverlight
  - `<audio>` and `<video>` components
- Better error handling
  - Different web browsers give consistent results
- Inline SVG and MathML
- To remove: applet, font, frame, frameset, …

(2010) Apple doesn’t support Adobe Flash technology – instead it supports HTML 5 for video embedding …
HTML was designed to **display data** and to focus on **how data looks**.

HTTP: HyperText Transfer Protocol

![Diagram](image_url)
HTTP: HyperText Transfer Protocol

Request:
http://foo.bar.com/hello.htm

Response
Connect me to:
foo.bar.com
I want file: hello.htm

“Explain”

hello.htm

<html><body>
Hello World!
</body></html>

Static vs. Dynamic HTML

- We want a piece of code that really “runs”, i.e. generate different result in different conditions
- Two kinds of scripts:
  - Client side script: running at client side, i.e. in your browser
    Eg, JavaScript
  - Server side script: running at server side, give you the result in the form of pure HTML
    Eg, PHP, Servlet
Dynamic HTML

Request:
http://foo.bar.com/date.php

Response
Connect me to:
foo.bar.com
I want file: date.php

“Explain”
This is PHP code

<html><body>
<?echo date("l, F d Y")?>
</body></html>

date.php

URL

• URL: Universal Resource Locator
  • Part of URI (Universal Resource Identifier)
  • But often used interchangeably
  • Character string to uniquely specify the location on the Web

• Syntax  Scheme :// domain : port / path
  • Scheme: http, https, ftp, gopher, …
  • Domain: ist.psu.edu
  • Port: 80 (default), 8000
  • Path: /course/2013-fall/index.html