Web Standards in FLOSS Development
(was: Open Source and Web Standards)

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Abstract

Open source plays a key role in the development of standards for the web. With open source, new technologies, or extensions to existing technologies, may be experimented and demonstrated during the early stages of standard development. This provides feedback to standard bodies during the design phase, making stadards more robust. This also makes sure that implementations are available as soon as the standard is finished, thus facilitating early adoption of new standards. We analyze in this talk the benefits that open source brings to open standards, based on the experience gained with the Amaya project that is hosted jointly by W3C and INRIA.

Overview

Open Source and Web Standards

- Web standards
- What FOSS and web standards have in common
- How web standards benefit from FOSS
- An example: the Amaya web editor
- Demos

Web Standards -- Examples

Examples of web standards:

- HTML, SVG, MathML, CSS, HTTP, URIs, DOM

Web standards define different things:

- Document languages and formats: HTML, SVG, MathML -- CSS
- Network protocols: HTTP
- Addressing schemes: URIs
- APIs: DOM

Not all formats used on the web are web standards:

- Flash, PDF, MP3

Web Standards -- Features

A web standard is a technical specification that

- contributes to interoperability on the web,
- is available to anyone for free,
- is developed through an open process,
- is not encumbered by patents,
- integrates into other web standards (web platform),
- is extensible to cope with the evolutions of the web.

Commonalities

FOSS and web standards have much in common:

- Open development
- Involvement of a community
- Patent free
- Reusability, extensibility

Web Standards and Implementation

Web standards require running code

- Experiment -- standard development
- Demonstrate -- feedback from community
- Popularize -- deployment of standards

FOSS plays a key role in these development phases of web standards

- Famous examples: Apache server, Firefox browser

Role of FOSS in Web Standards

Specific features of FOSS are important to web standards:

- Early releases of implementations bring early feedback on standards
- Open code eases early implementation of standards
  -- especially for extentions to existing standards (HTML, CSS)
- Free software stimulates early adoption
- Popuarity of FOSS tools contributes strongly to adoption

An Example: Amaya

A web editor developed jointly by W3C and INRIA with the community

- Editing web pages *online*
- *Integrated* editing and browsing features
- Strict *conformance* to standards
- A *structured* approach to HTML and other document formats
- *WYSIWYG* style of interface
- *Compound* documents: text, tables, forms, graphics, mathematical notations, links

Support for a number of web standards: HTML, URIs, HTTP, CSS, SVG, MathML, XLink, RDF, RDFa

Structure Editing

A single editing environment

- The internal data structure is a tree (XML structure)
- The structure is edited through is graphical representations
- A single structure for text, graphics, mathematics, etc.

Demo

Editing Style

Style (in CSS) defines the graphical aspect of the document structure

- Style is edited in the same environment
- Style may be specified at different levels (style sheets)
- Debugging style sheets may be complex

Demo

Editing Links

Links are first class citizens on the web

- Editing URIs is error-prone
- Editing documents could break links
- Links are not restricted to text
- Specific tools are necessary to edit links

Demo

Early experiments

This editing environment was (is) used for a number of experiments

- Editing web pages online -- one-click publication
- Editing links, XLink
- Early CSS implementation
- XML syntax, XHTML

Early experiments (cont'd)

- Compound documents, XML namespaces
- Structured graphics (SVG), Text / Graphics integration
- Text / Mathematics / Graphics integration (MathML)
- Document Object Model (DOM)
- RDFa -- RDF annotations in HTML pages

Concluding Remarks

- The initial web was based on FOSS (CERN httpd)
- Very popular web tools are FOSS
- FOSS plays a key role on the developement of Web standards
- The web would not exist without FOSS

Thank you!

These slides:

http://wam.inrialpes.fr/talks/2010/fOSSa-Nov10/slides.html