Advances in W3C Web graphics standards

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- Component integration
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- Multimodal Interaction
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Part I

- Specification Roundup

- Integration

What's new.

SVG

SVG 1.0/1.1

Recommendations since Sep 2001 and Jan 2003

Adoption

- Renderers: Adobe plug-in, Batik, Corel Smart Graphics, etc.
- Editors: XStudio
- Exchange format: Maya 5, Invisio@@
- SVG Conference

SVG Mobile Profiles

Recommendation since Jan 03

- SVG Tiny
- SVG Basic
- Adoption

SVG 1.2

Second working draft released Apr2003

- adds: rendering XML
- adds: flowing text
- adds: audio/video

SVG Print

Authoring Guidelines, not a profile

Requirements document published Feb 2003

- No animation or scripting
- Color reproduction
- Page layout
- Multiple part (fonts, images) aggregation

Multimedia

Multimedia: SMIL

SMIL 2 Recommendation since Aug 2001

- Adoption: animation markup included in SVG
- 3GPP has defined a profile of SMIL for MMS messages
- Implementations: Qi mobile browser, X-Smiles, RealOne, IE, etc.

Multimedia: Timed-Text

New Working Group

- movie subtitling
- captioning for accessibility
- scrolling news items
- karaoke!
- Credits

Currently, several incompatible formats exist, causing interoperability problems when used within SMIL. Main idea is decouple video and timed-text.

Multimedia: Timed-Text

Multimedia: Timed-Text Requirements

15 May 2003: Use cases and requirements document

- suitable for text captioning
- allows for description of content
- streamable, user-customisable, etc.
- internationalised

XHTML2 / XForms

A new HTML

- Cleans up HTML, but not backwards compatible
- Leaves presentation to CSS
- Fully XML
- Modular

A new forms language

- Content cleanly split from presentation: abstract controls and presentation bindings
- Controls can be tied to other fields: activate, default value, etc.
- Can return any XML instance, following a given template

XHTML2 / XForms

- Support for XML Schema types: date, float, etc.

Currently a Candidate Recommendation, lots of implementations, should be finalised this year

CSS

Powerful styling for XML

CSS2

- 4 years old, but doing well
- Modern browsers now fully implement it
- allows attractive designs but remains simple and accessible

CSS3

- Many new properties: color, internationalisation
- Profiles for mobile devices, interactive TV

Multimodal

The future of HCI is the future of the Web

- Voice, Handwriting, Keyboard: all at once
- Mobility: mobile phones, PDAs, cars...
- The Web is the main application:
- A lot of information out there
- Systems will use HTTP, SOAP, RDF, etc.

W3C started a Working Group on 2002

43 Companies, 79 Participants. Goals:

- Definition of a Framework
- Components:

Multimodal

- Ink, Voice
- System and Environment
- Merging Information
- Annotating input

More on multimodal interaction

* Part II

Integration

- Component integration
- Device integration

Component integration

How to handle mixing namespaces

While the specs define how everything works together in terms of syntax (XML, namespaces, styling, etc), making it work in implementations can be tricky

- It works in monolithic software: e.g. X-Smiles, Mozilla, written in a modular fashion.
- But there are problems if integrating modules from different vendors, i.e plug-ins

Component extensions

- Goal define an API for plug-ins
- Requirements:

Component integration

- Rendering: allocation of boxes, line breaks
- propagation of events, CSS
- Error handling
- Nesting/reentrance
- ...

Work has not started, but pressure is mounting

Device integration

Fewer computers are desktop machines.

Old specifications are big and inadapted to mobile phones, or PDAs

Therefore, a lot of specs are being modularised:

- CSS: TV Profile, Mobile Profile, Media Queries
- XHTML Modularization
- SVG: Basic and Tiny profiles

Device Independence

Not only specifications are designed as modular, but the W3C are also working on a complete device independence framework

CC/PP

- Language for device description and user preferences
- content adaptation mechanisms (client/server, etc.)
- Authoring guidelines

Multimodal Interaction

Same as CC/PP for device description, but extended requirements:

- Concurrent input and output devices
- Environmental factors: geographical position, surrounding noise...
- Session migration: car to pda to phone, etc.

Fine

- A lot of activity going on at W3C
- Graphics standards always evolving
- ...to make a better Web

If you want to know more, or participate, email me (mf@w3.org)