Emerging Technologies

World Wide Web Consortium's
Emerging Technologies

http://www.w3.org/2007/Talks/1128-sb-W3CemergingTech/Bratt-W3CemergingTechp.pdf

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IT Challenges for Most Organizations

- Customer (+employee) relationship management
- Security
- Legacy systems and data
- Interfacing and interoperability
- Transaction speed and reliability
- Mergers and acquisitions
- Risk management
- Corporate governance
- Competition and efficiency
- Globalization
- Leveraging IT -- a challenge in itself!
  – XML, SOA, WS, mobile, and more ...

So ...

How *Can* Your Organization Leverage Emerging Web Technologies?

W3C Can Help You to …

Make it (your content, data, services)

- *Standard*
- *Accessible*
- *Secure*
- *Heard*
- *Mobile*
- *Web 2.0*
- *Web 3.0*
- *Useful*

Make … *Standard*

Why?

Saying in China*: *"Third-class companies make products; second-class companies develop technology; first-class companies set standards."*

- Broad industry agreement (if done right)

- Interoperability ... cross -app, -org, -data

- Avoids vendor lock-in ... for providers and users

- Open access = no black boxes

- Mandated ... by customers, government

- Royalty-free standards = good <u>business sense</u>

The Leading Web Standards Organization

- ## Engineering the Web's foundation
  - 1000+ technologists in 60 groups, working on (x)HTML, XML, CSS, Web Services, and tens of emerging standards
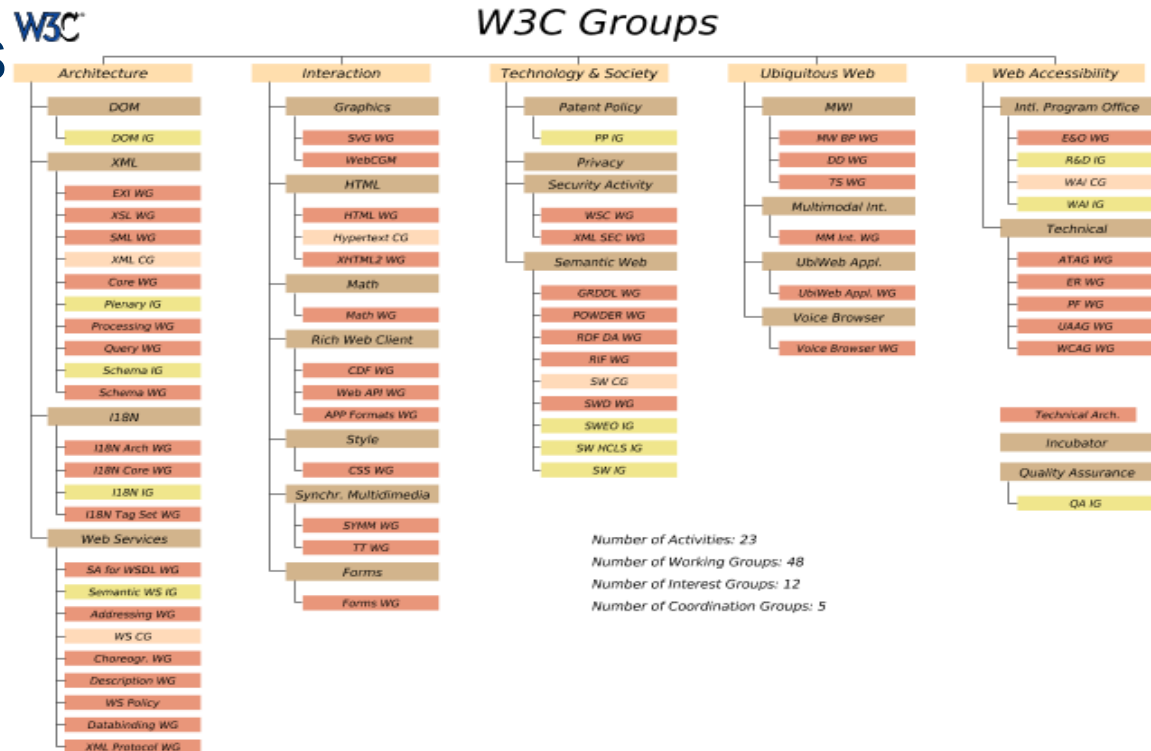
- ## 430 Members

- ## 40+ Liaisons

- ## 21 Offices
  - Newest: India, China, S. Africa Brazil

http://www.w3.org/

W3C Groups

Make it … *Accessible*

## *Access for people with disabilities and an aging population ...*

- Web usage continues to expand
- Barriers for millions with disabilities
- Aging population = more disabled with age
- Often required
- Huge carry-over benefits
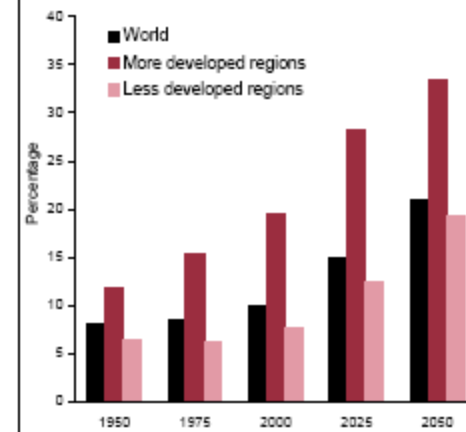
  Developing a Web Accessibility Business Case

- Web Accessibility Initiative @ W3C

  – New Web Content Accessibility Guidelines 2.0 soon

Figure 10. Proportion of population aged 60 or over: world and development regions, 1950-2050

More developed regions have relatively high proportions of older persons

Make it … *Secure*

- **Web Security Context Working Group**
  - Practical standards to address
    most pressing problems (e.g., phishing)
  - Participants: Browser, security, financial companies
  - Usable, mutual authentication
    - ... e.g., "secure letterhead", "petname", padlock use, certificates.
  - Web Security Experience, Indicators and Trusts

(*workshop*)
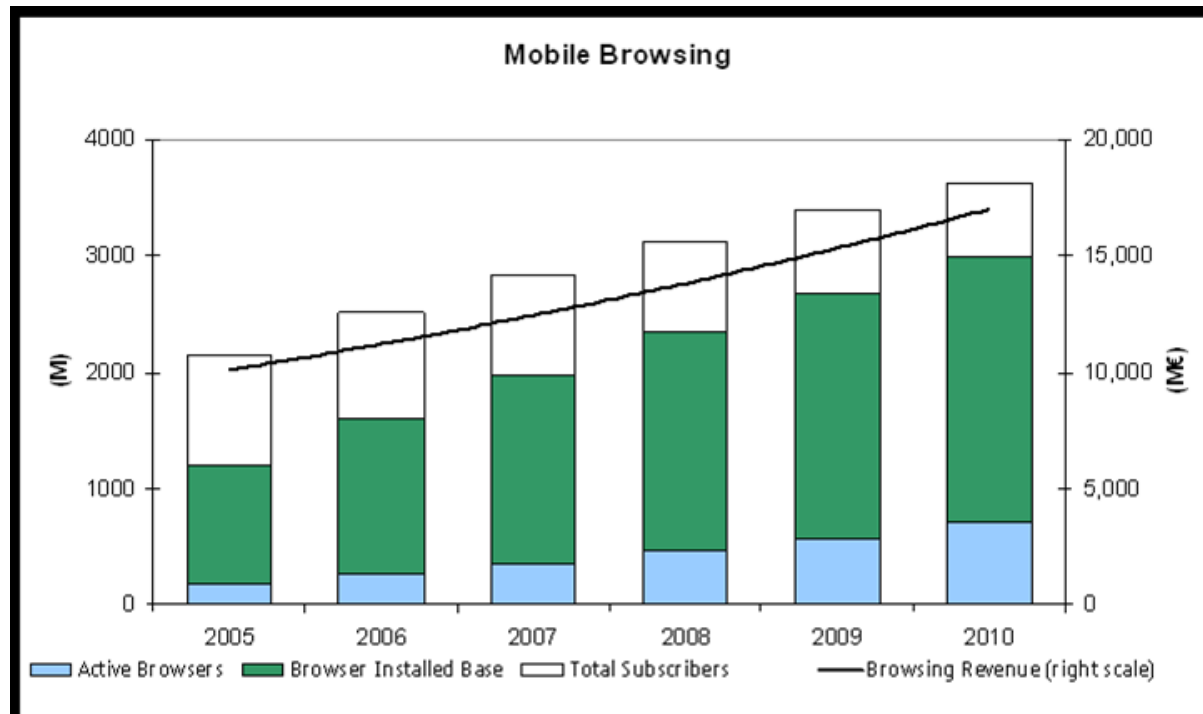
Make it … *Heard*

- **VoiceXML @ W3C: Why?**
  - You provide interactive voice response
  - You use Web XML to manage data
  - Similarities between voice- and screen-browsing
- **What is W3C doing?**
  - Standards for vocal interaction with Web applications
  - Convergence with other Web technologies
- **How important is this?**
  - One of the largest W3C Working Groups
  - VoiceXML lead is expanding in voice markup market
 - Also Speech synthesis and recognition, call control

Make it … *Mobile*

- 2 billion people own mobile phones with Web browsers
  - *300-400 million are actively used*

- 2-3 million new mobile phones sold / day
  - *Most new phones will continue to include simple Web browsers*

- *Potential for bringing the Web to more people is huge*

Graphic: Nokia

Mobile Web Initiative

- Mobile Web Best Practices 1.0 (Summary)
  - Authoring content for **good user experience**
  - Effective delivery to and display on all mobile devices
  - Leveraging existing Web standards
  - Checker: http://www.w3.org/Mobile/check

- Related Working Groups
  - Device Description
  - Ubiquitous Web Applications
  - Developing Countries
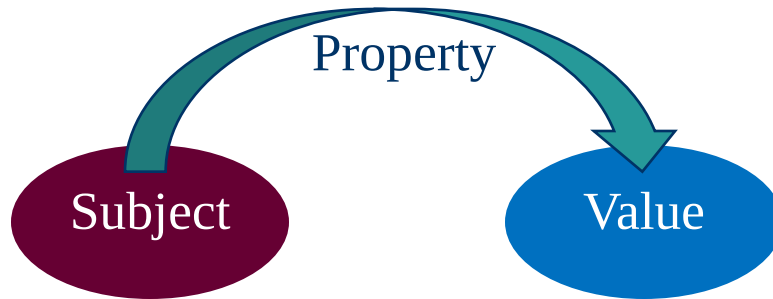
Make it … *Web 2.0*

- Web 2.0
  - Users are authors
  - Dynamic interaction
- Web 2.0 @ W3C = <u>Rich Web Clients Activity</u>
- Starting with existing W3C standards & javascript
  - New <u>HTML</u> WG bringing most important spec up to date
  - <u>DOM</u>, <u>CSS</u>, <u>SVG</u>, are critical elements
- Plus new standardization of work in the field
  - AJAX (<u>XMLHTTPRequest object</u>) and other JS features
  - <u>Widget packaging and delivery format</u>, etc.
  - Considering security, especially re: javascript use

Make it … *Web 3.0*

- Web 1.0 = Linked Documents
- Semantic Web = Linked Data (Web 3.0*)

Property

Subject

Value

Where Subjects, Properties, Values can each have their own URLs, and thus are universally unique and linkable across the Web

- Web becomes a global, relational database
- Semantic Web Activity @ W3C
  - Query, Rules, Content Labeling, Case Studies and Use Cases

*New York Times, InternetNews

Make it … *Useful*

- **Increasing focus on end users**
  - Supports application of standards to real, important problem
  - Improves standards: Use cases, requirements, implementation, testing
- **Health Care and Life Sciences**
  - "use of Semantic Web technologies ... to improve collaboration, research and development, and innovation adoption"
  - Agfa, AstraZeneca, Cleveland Clinic, Eli Lilly, HL7, Merck, Partners, Pfizer (60+ participants)
- **Interest in a Financial Services Group?**
  - Citigroup, Dow Jones joined W3C in 2006 (others considering)

For more information

http://www.w3.org/

- W3C Membership:

http://www.w3.org/Consortium/membership

Why Participate in W3C?

Saying in China*: *"Third-class companies make products; second-class companies develop technology; first-class companies set standards."*

- **Leadership**
  - Introduce ideas through <u>submissions</u>, <u>workshops</u>, <u>Incubator Groups</u>
  - Influence standards through <u>Working Group</u>s, review, implementation
- **Early insight into market trends**
  - Access world's foremost Web technologists from <u>Member</u> & <u>Team</u>
  - Plan for emerging technologies & markets through <u>Member access</u>
- **Promoting image as innovator**
  - Participate in int'l media activities, <u>press releases</u>, testimonials
  - Display logo on <u>W3C site</u> (300K visits/day) and <u>W3C logo</u> on your site

(<u>Membership</u> / <u>Benefits</u> / <u>How to join W3C</u> / <u>"At a Glance" brochure</u>)

Selected References

- W3C: http://www.w3.org/
- HTML: http://www.w3.org/html/
- CSS: http://www.w3.org/Style/CSS/
- XML: http://www.w3.org/XML/
- Mobile Web: http://www.w3.org/Mobile/
- Ubiquitous Web: http://www.w3.org/2006/10/uwa-activity-proposal.html
- Labeling: http://www.w3.org/2007/powder/
- Voice: http://www.w3.org/Voice/
- Multimodal: http://www.w3.org/2002/mmi/
- Accessibility: http://www.w3.org/WAI/
- Internationalization: http://www.w3.org/International/
- Developing Countries: http://www.w3.org/2006/12/digital_divide/public.html
- Security: http://www.w3.org/Security/
- Web Services: http://www.w3.org/2002/ws/
- Semantic Web: http://www.w3.org/2001/sw/