

Just Use The Web

The Case For Naming Classes and Properties with URLs



Sandro Hawke, W3C
October 16, 2008 -- Santa Clara, CA

W3C

- Founded 1994 by Sir Tim Berners-Lee
- ~50 WGs, ~500 Participants, ~50 Staff,
- ~400 Member Orgs, ~40 Countries
- >100 Recommendations

Web Standards

- When you want computers to talk
- ... without custom coding
- What is “Web”
 - HTTP, HTML, URLs ?
 - Publish-at-Location, Access-at-Location ?

Massive Scale

- We all know the scale of the Web
- Can't control it, only nudge it
- Viral
- Excitement
- Political

Stability Paradox

- Won't be used until it's stable
- Bugs only show up in real use
- Then it's too late to change it!
- cf Network Effect

Iterative Design

- Concentric Circles of Review
- OK to start simple & cheap (homegrown)
- Grow in place (sort of)

Third Party Extensibility

- Event worse than changing your deployed format
- Some group of your users want to deploy some new feature
- What should software do when it sees an extension?

XML, RDF

- (Either works, for current discussion)
- “Extensible”
- “Self-Describing”
- Has declarative transforms (shims)

Schema or Ontology? (Data Interface)

- Not always the same thing
- “Every Human Has Two (bio) Parents”
- Reincarnation of Object/Relational mismatch
- Web3: Data Interface Specification
- Handle the differences carefully

SOLUTION: Using Web Address for Names

- self-describing for people == websites of documentation
- self-describing for machines == validations, shims
- clear (enough) ownership of names (syntax) for extensibility

Self-Describing for People

- Alas, rarely done well (so far)
- Any good examples out there?

Self-Describing for Machines – Validation

- You receive a document, and know just that it's XML or RDF
- You can do lots of error checking, by following the URLs to schemas

Self-Describing for Machines – Automatic Shims

- You receive a document, knowing just that it's XML or RDF
- It's not in a format you implement!
- You can use the URLs to find transforms.
- (this technology isn't standard, deployed yet; cf XTAN)

Clear (enough) Ownership of Names

- Avoid accidental re-use of names
- Give extra weight to a name's owner
- You can re-invent directory services, but you'll hit the same social problems

Problems/Opportunities

- Ontology/Schema Hosting Services
- Nice URL dereference for humans
- Ontology/Schema Marketplace
- XML Namespaces vs RDF URI-Based Names
- httpRange-14, 303-See-Other

Some Case Studies

- FOAF evolution, hosting, mapping
- Dublin Core evolution, hosting, mapping

The Future

- Many more decentralized computer applications
- Many, many more standards
- Evolving politics and practice of standardization