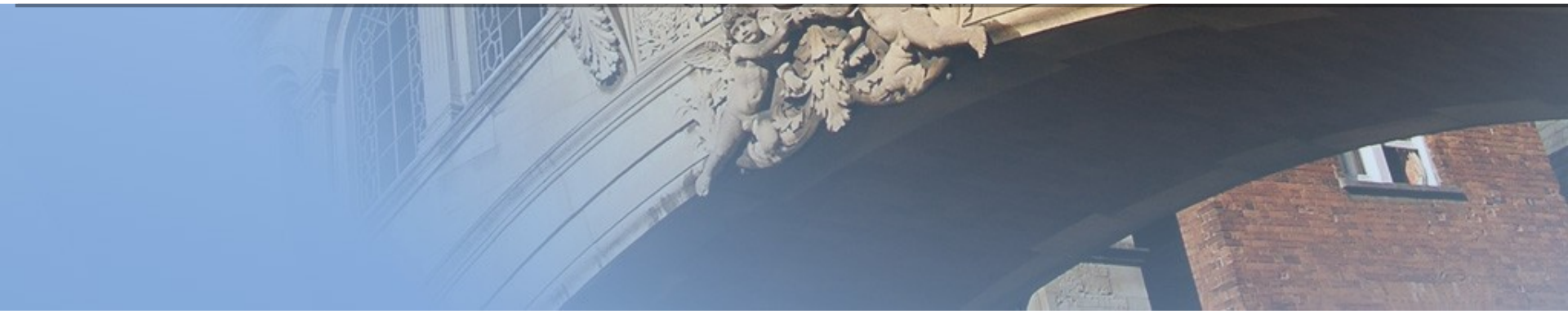
Microformats: what are they, and why should we use them?

Dan Connolly



©W3C 2007 licensed to CSW Group Ltd

Overview

- Microformats in action
  - How to *(just a little)*
- Principles, process
  - A little history
- Beyond Microformats
  - Limitations: what doesn't work so well
  - Native XML
  - Semantic Web (RDF, OWL)

Acknowledgements

- microformats.org
- Tantek Çelik
  - http://tantek.com/presentations/2007/04/microformats/

The Personal Information Disaster

- Document exchange in the Web mostly works
- Not so for data
  - soccer schedule
  - flight itinerary
- Copy and paste one field at a time
  - Isn't that what computers are for?!

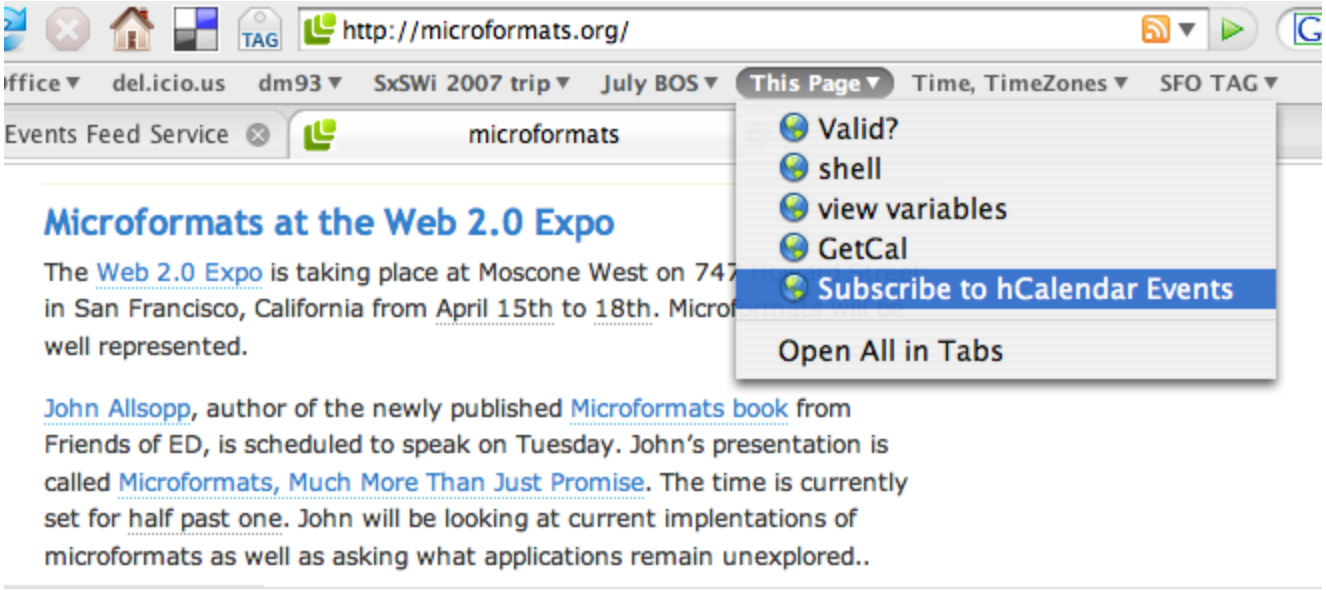
Microformats to the Rescue

- Integration with personal data tools
- calendar subscription with hCalendar
- contact import with hCard

Events on a Web Page

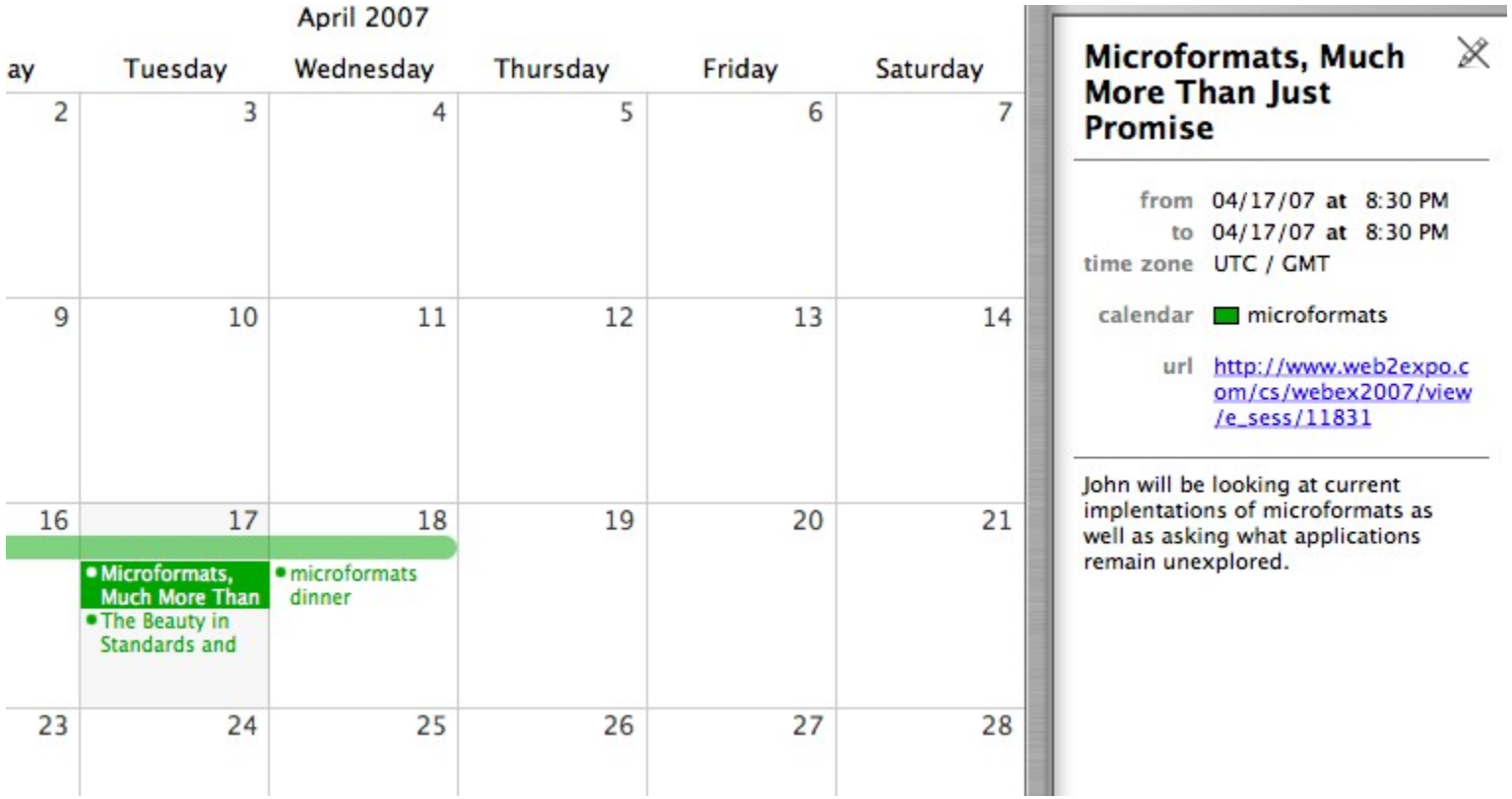
hCalendar bookmarklet

- Bookmarklet = javascript powered bookmark
- Technorati service converts hCalendar to .ics format used by desktop tools



Rescued!

- No manual copy-and-paste
- Subscription with live update



summer school

View Source

```
<span class="vevent">John's presentation is called
  <a class="summary url"
  href="http://www.web2expo.com/cs/webex2007/view/e_sess/11831">Microformats, Much More Than
  Just Promise</a>. The time is currently set for
  <abbr class="dtstart" title="20070417T133000-
  0700">half past one</abbr>. <span
  class="description">John will be looking at current
  implentations of microformats as well as asking
  what applications remain
  unexplored.</span></span>.
```

hCalendar deployment

- hCalendar creator
- Dreamweaver plug-in
- iCal Extraction
- large and growing list of sites:
  - Eventful.com
  - LinkedIn
  - Yedda
  - Yahoo! Tech Reviews

hCalendar = iCalendar * HTML

- vevent {1}
  - category*
  - class?
  - description?
  - dtend (ISO date)?
  - dtstart (ISO date) {1}
  - duration?
  - location?
  - status?
  - summary {1}
  - uid?
  - url?
  - last-modified?

hCard = vCard * HTML

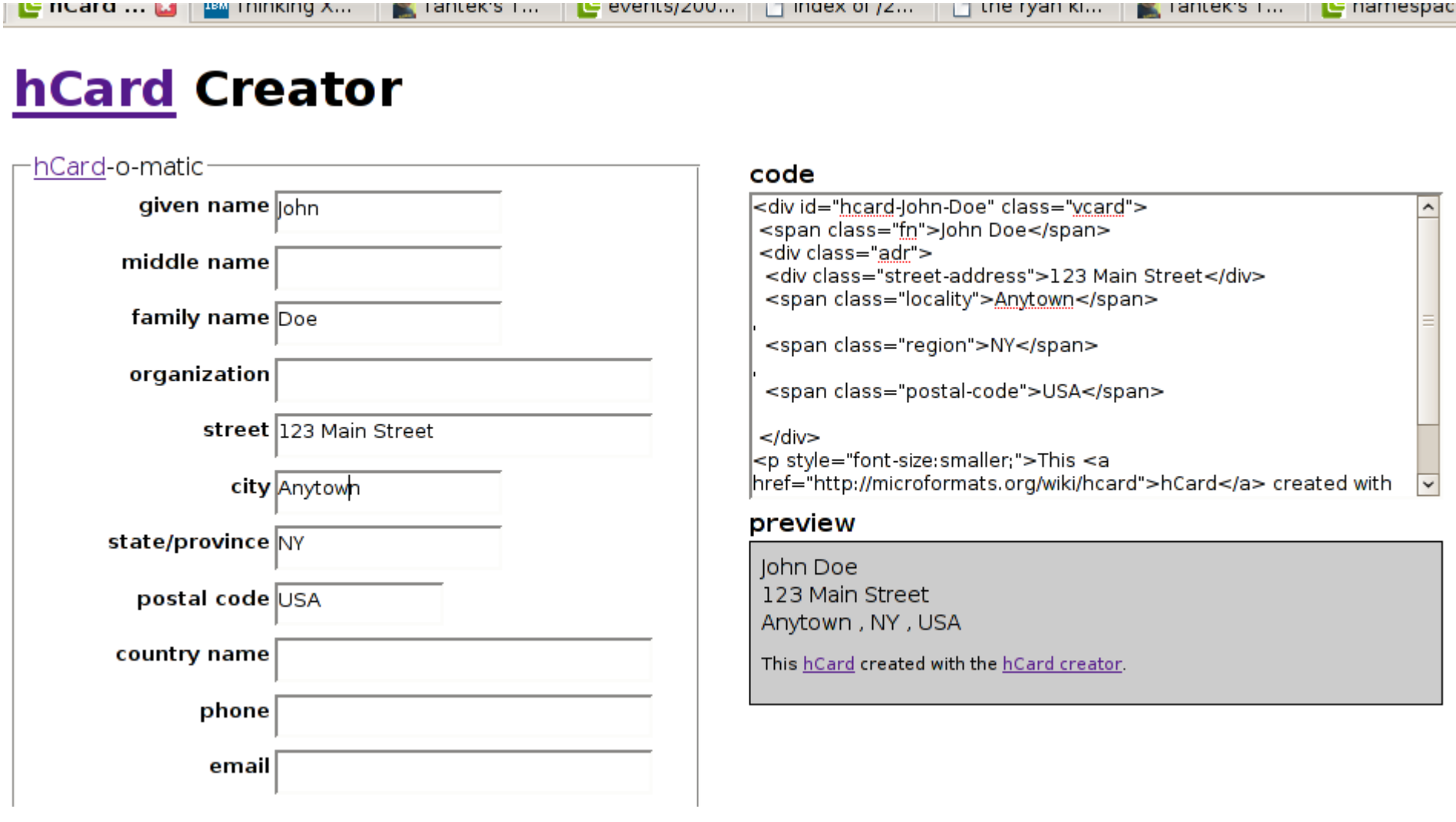
- vcard {1}
  - fn {1}
  - n?
    - honorific-prefix*, given-name*, additional-name*, family-name*, honorific-suffix*
  - sort-string?
  - title*, org*
  - email*, tel*, url*
  - adr*
    - type, street-address?, locality?, region?, postal-code? country-name?
  - photo*
  - ...

Microformats Principles

- solve a specific problem
- simple as possible
  - evolutionary improvements
- humans first, machines second
  - presentable *and* parsable
  - adapt to current behaviors
- reuse from widely adopted standards
  - semantic (X)HTML, schemas from interoperable RFCs
- modularity / embeddability
- decentralized development, content, services

hCard creator

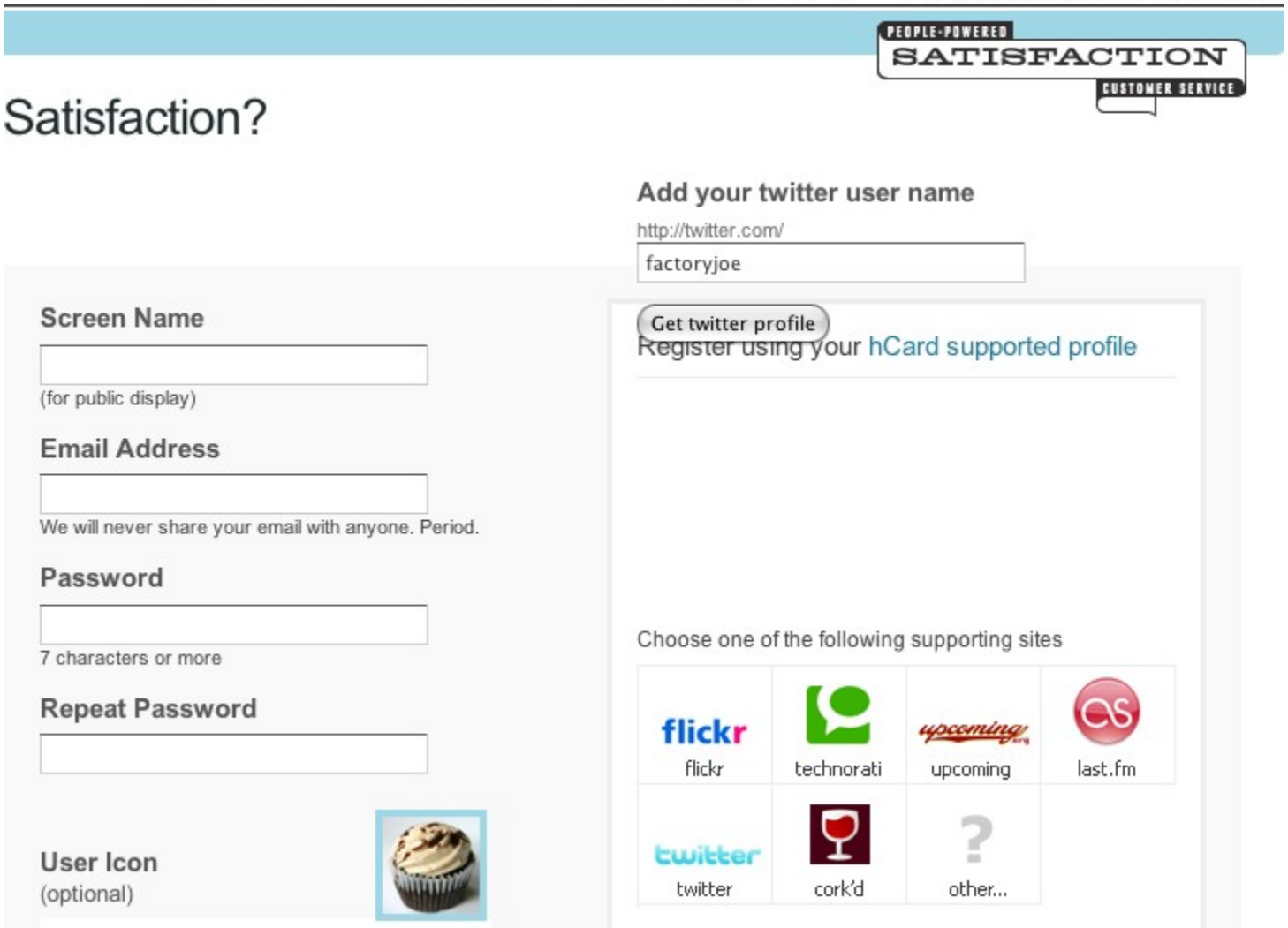
- http://microformats.org/code/hcard/creator



hCard sign up

- to fill out such basics as your name, your user icon
- use your existing hCard
  - from Cork’d, Last FM, Flickr, Technorati, Twitter, Yedda etc.
  - like dropping a business card

hCard sign-up: Satisfaction Inc. June 2007



XFN – social networking

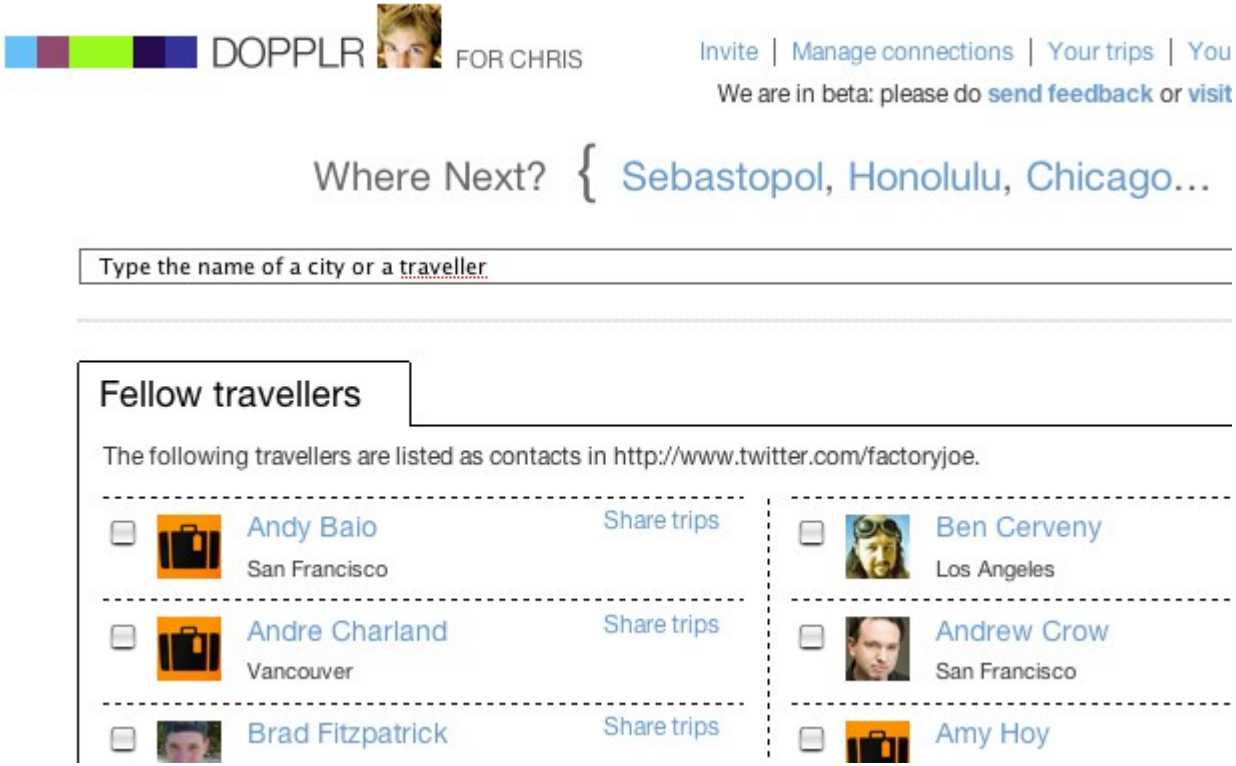
- Jane
- Dave
- Darryl
- MetaFilter
- James Expert

XFN+hCard social network import

- instead of having to manually find and re-add everyone to yet another site...
- import your contacts from any other site that publishes your contact list with hCard for the people and XFN for your relationship(s) to them

XFN+hCard import: Dopplr.com June 2007

- travelplan sharing site
- *currently invite-only*



creative commons search with rel-license

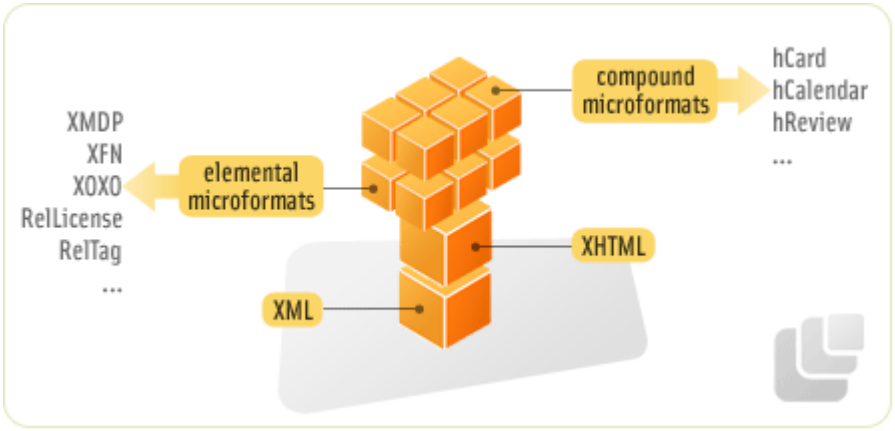
- *I need an image of a koala for my presentation...*
- *How do I know if I have rights to reuse all these photos?*

rel-license support

- Creative Commons (cc) license chooser
- Yahoo! (cc) search
- Google "Usage Rights" search
- Trivial* for publishers:
  - Copyright © 2007 some rights reserved
  - * assuming a license is chosen

More Microformats

- XOXO – outlines, blogrolls
- hReview – product reviews
- hListing – item, price, ...



microformats - just better markup?

- built on valid semantic HTML (POSH)
  - as with HTML, broadly human read/writable/editable
  - easier maintenance, updates, collaboration, team work
  - better default behaviors from more user agents
  - accessibility - screen readers
  - diverse device support - mobile
  - search engine optimization
- more than just "good class names"
  - principles keep things "micro"
  - process emphasizes getting real
  - community minimizes duplicates

Why not XML?

- Why encode this in HTML?
- Why not use an XML vocabulary for contacts and calendar information and ...?

summer school

Why not XML? (Ogbuji)

- "XOXO is far more inscrutable and harder to process than almost any XML you might design to replace it."

Thinking XML: Microformats the XML way
Uche Ogbuji, 15 May 2007

Validating Microformats (Walsh)

- The use of token lists in attributes “blows direct RELAX NG validation completely out of the water.”
  - Direct W3C XML Schema validation is “impossible too.”
- Schematron might work
  - But you have to express both what is and what isn't allowed
  - And you have to mess with all that token parsing

Validating microformats, Norm Walsh, Apr 2006

XML Calendar Vocabulary

- *Guideline for use of XML with iCalendar elements*
  - Internet Draft 2004-2005 by T. Hare
  - Some support in Mozilla Sunbird
    - via XSLT
  - Expired
- Technically sound, but not widely adopted
  - insufficient advocacy?
  - insufficient benefits?
  - *insufficient integration with Web architecture*?

summer school

Why not XML? (Pilgrim)

"XML has had many successes. I just finished writing a 400-page book in DocBook XML. It is over one megabyte of well-formed XML, and I use off-the-shelf tools to transform it into HTML, PDF, and a number of other formats. This was one of the original use cases for XML, way back in 1997 when SGML ruled the Earth and dinosaurs like ISO-8879 were gospel. It works; I love it; I recommend it for any serious content creator."

XML on the Web Has Failed Mark Pilgrim, xml.com, 2004

Why not XML? (St Laurent)

- “XML has occasionally found its way to the Web, but it's hard to remember now that once upon a time, XML was supposed to be directly on the Web, the files people loaded and manipulated...
- “The particular XML Web described by Bosak and Bray never happened. (It still could, but hasn't.)”

The Next Web?

summer school

Why not XML? (Çelik)

- XML formats in the long run are *no better than proprietary binary formats*.
  - XML, both in technology (namespaces...) and as a "technical culture" is too biased towards Tower of Babel outcomes.
  - A few XML formats may survive and converge (RSS, maybe Atom)
    - but for now XHTML is the only longterm reliable XML format
    - That has more to do with it being based on HTML than it being XML.

Open data formats, longevity, and microforma

June 2006Tantek Çelik

summer school

Living without XML Validation

- Simplicity
  - view source, eyeball it
  - lots of peers to ask
- Testing
  - manual testing with consuming tools
  - heuristic validator
    - beta
    - x2v “pre-flight”
  - automated tests
- ... Cross that bridge when we come to it

Limits of Microformats

- The microformats process applies to common problems...
  - ... and *only* common problems.
- Mixing works in some cases
  - but don't push it
  - arbitrary mixing runs counter to “solve a specific problem”
- Validation is more art than science
- Query tools are yet to mature
- *So what if my problem is not so common?*

Web Architecture scales *down* as well as up

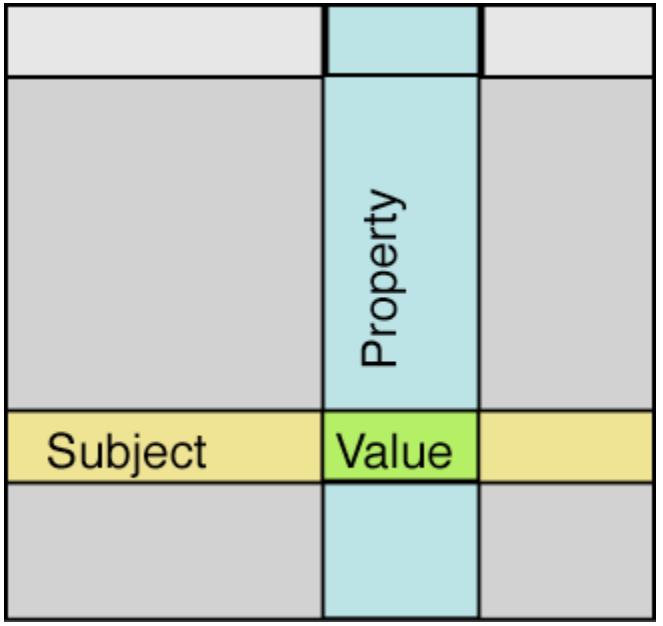
- Microformats covers 80%
- Web Architecture scales
  - up to billions of documents * users
  - down to family photo albums

Web Architecture for Documents

- Simple Hypertext
- + URIs for global naming
- - link consistency guarantee
- = viral growth

Web Architecture for Data

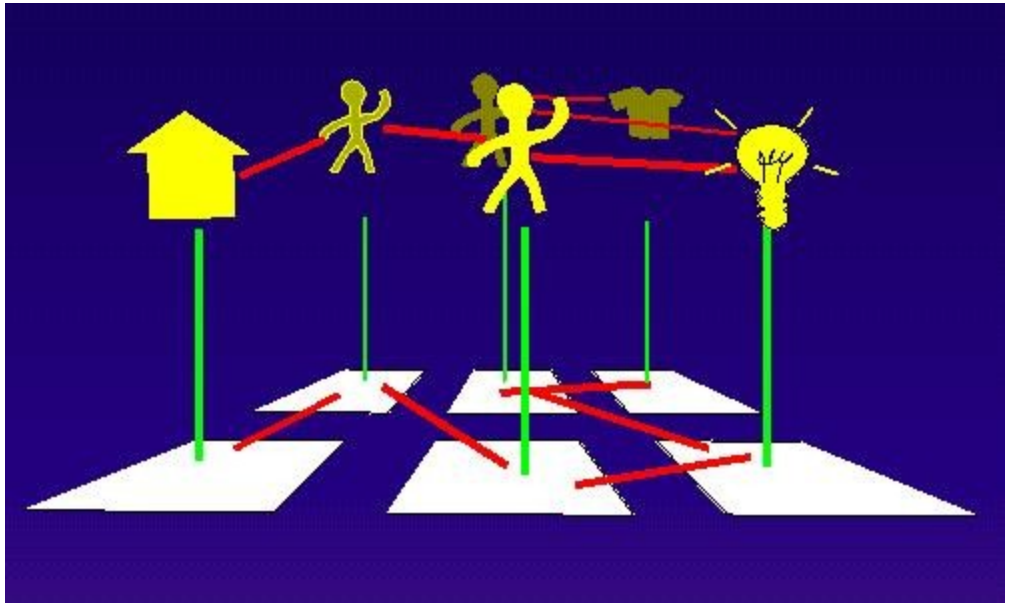
- Spreadsheets and Databases
- + URIs for global naming
- - some consistency guarantees
- = *viral growth?*



Documents with Data

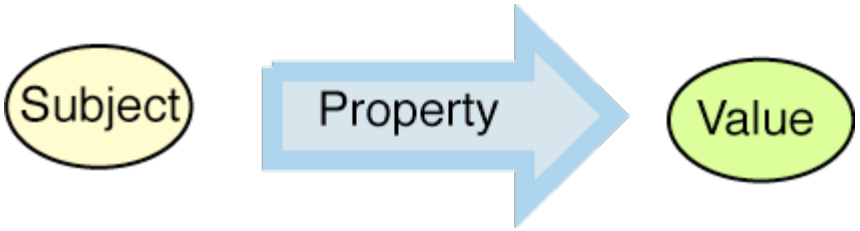
To a computer, then, the web is a flat, boring world devoid of meaning...This is a pity, as in fact documents on the web describe real objects and imaginary concepts, and give particular relationships between them

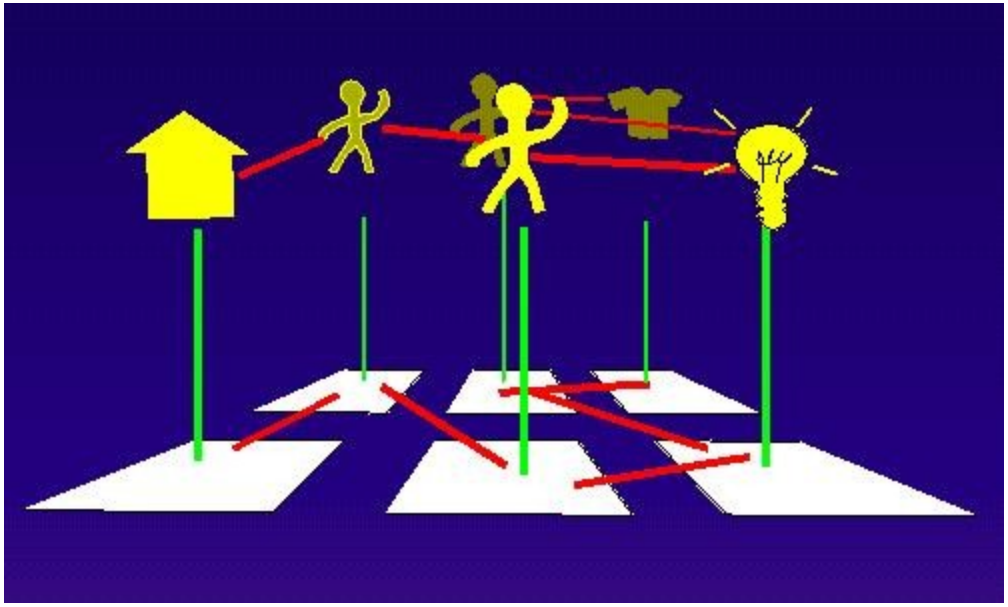
- Tim Berners-Lee, WWW1994

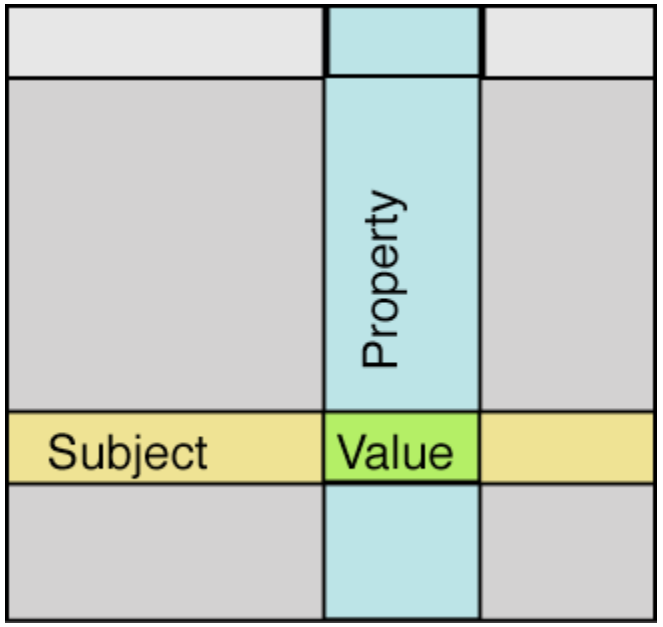


Semantic Web Building Block

- <schedule#e1> cal:organizer <staff#ted>.







Semantic Web Technologies

- Technologies Maturing
  - Web Ontology Language (OWL)
    - Medical Ontologies, drug discovery, ...
  - SPARQL Query Language and Protocol
    - Wikipedia query, ...
- Based on Resource Description Framework (RDF)
  - URI-based data merge is built-in

RDF is written in XML

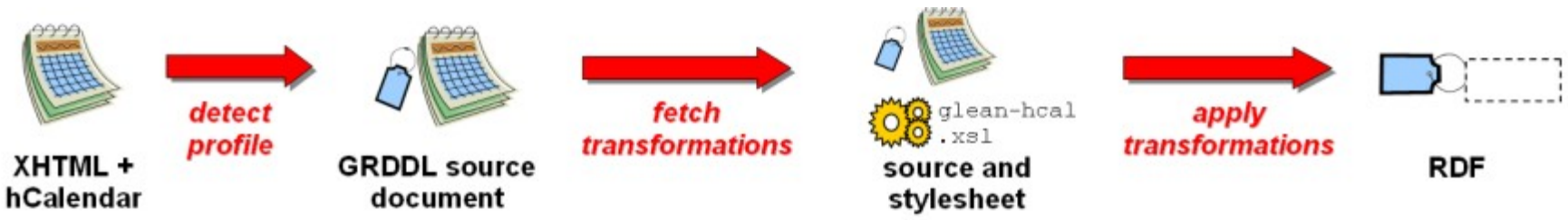
- Too constrained for some
  - Tries to look like Book/author/title metadata but has subtle constraints with striping, rdf:about,rdf:resource, etc.
- Not constrained enough for others
  - doesn't work with DTDs nor W3C XML Schemas; works awkwardly as input to XPath and XSLT

RDF Calendar

- Oct 2002: Workshop on the Semantic web and Calendaring, Bristol, UK
- Sep 2005: *RDF Calendar - an application of the Resource Description Framework to iCalendar Data* W3C Interest Group Note, Connolly and Miller
- Supported by a handful of tools
- Adoption prospects colored by RDF/XML syntax

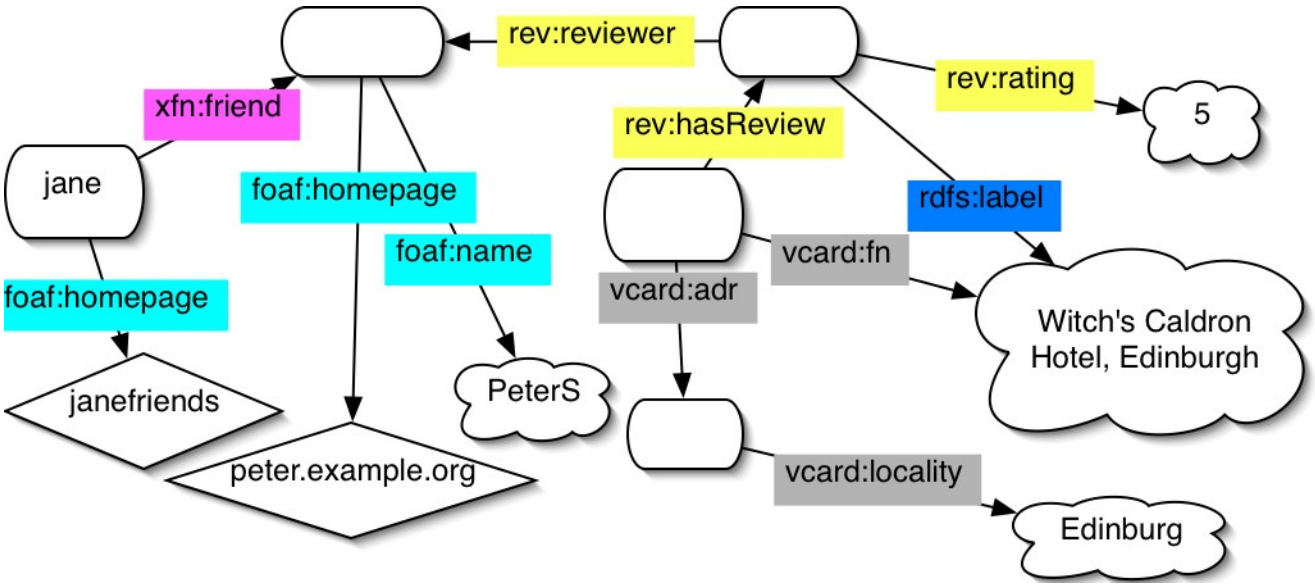
Microformats as Semantic Web Data

- hCalendar is XML
  - at least: if you use XHTML
- RDF Calendar is XML
- XSLT does XML to XML pretty well
  - glean-hcal.xsl
- GRDDL profiles link microformat documents to XSLT transformations



Semantic Web Mash-Ups

- Merging is automatic



Summary

- Microformats provide simple solutions to some common problems
  - calendar, contacts, ...
- XHTML is a good place to start
  - XML tools
  - HTML shared vocabulary
- XML vocabularies can be just as proprietary as binary formats
- Web Architecture scales down as well as up
  - URIs, namespaces
- Semantic Web data merges automatically