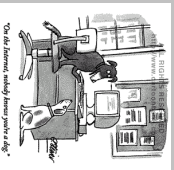


# Comments on *Web 2.0 and Beyond* or On the web nobody knows you're an archaeologist

W. Fredrick (Fred) Limp

Center for Advanced Spatial Technologies, Departments of Geosciences,  
Anthropology and Environment Dynamics Program, University of Arkansas



## Overview

- Brief excursion to bona fides
- Consideration of what “is” Web 2.0 and why do we care?
- Archaeology and Web 2.0 – 3.0 - .....
- What do we need to do to make it happen and what does this session tell us about where we are in this process?

# A few comments on my background

- Archaeology is NOT my day job – or at least not a large fraction of it
- “Wearer of many hats”
  - Here speaker would typically make a bad joke about impact of wearing many hats on hair follicles
    - Pause for polite but somewhat uncomfortable laughter
- Served as one of the founders of:
  - (1992) Open GRASS Foundation
  - (1994) Open GIS Consortium
    - renamed Open Geospatial Consortium
    - [www.opengeospatial.org](http://www.opengeospatial.org)
  - (2007) OGCii
    - Open Geospatial Consortium Interoperability Institute
      - R/D focus to move **process lessons** learned about development of interoperability into broader university research

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## OGC

- The Open Geospatial Consortium, Inc (OGC) is an international industry consortium of **347** companies, government agencies and universities participating in a **consensus** process to develop publicly available **interface** specifications.

- OpenGIS® Specifications support **interoperable** solutions that “geo-enable” the Web, wireless and location-based services, and mainstream IT.

<b>OpenGIS® Standards</b>
• Catalogue Service
• Coordinate Transformation
• Filter Encoding
• Geographic Objects
• Geography Markup Language
• Geospatial extensible Access Control Markup Language (GeoXACML)
• GML in JPEG 2000
• Grid Coverage Service
• Location Services (OpenLS)
• Observations and Measurements
• Sensor Model Language
• Sensor Observation Service
• Sensor Planning Service
• Simple Features
• Simple Features CORBA
• Simple Features OLE/COM
• Simple Features SQL
• Styled Layer Descriptor
• Symbolic Encoding
• Transducer Markup Language
• Web Coverage Service
• Web Feature Service
• Web Map Context
• Web Map Service .....

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# What is Web 2.0?

- As we've heard .. the term was first applied by Tim O'Reilley in 2004
  - “business revolution in the computer industry caused by a move to the internet as a platform.”
- (Sir) Tim Berners-Lee (aka “inventor of www”)
  - Argues that term is meaningless since the technology components have (essentially) been in place since the early days of web
- Much discussion on this ....

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# Hype or real?

- I'm going with **real** ..
  - But essentially more real as a **social** and **institutional** process and not (so much) as a new technology one
    - Arguments over whether its' SOAPy or RESTful are interesting but essentially secondary
      - (groan from all techno-wennies here befuddlement elsewhere)
- As archaeologists (note quick hat switch) we (of all people) should recognize that there is a complex interplay between technology and “society”
  - Here ideas of Boast and Biehl about knowledge as performance are particularly interesting and relevant
  - Role of presentation to multiple audiences

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## Basic definition of Web 2.0...

- To recapitulate and attempting to avoid (to a degree) techno-babble
- Key themes
  - **Separation of content – presentation – services**
  - Must decouple traditional system design and modularize all elements
  - Essential so that same content can be repurposed
    - Example: single database “back-end” serving multiple web services with data
  - Modularization of processes into web services allows best-of-breed app selection and mash-ups
  - Basis for grid computing
- **Fast interactive pages**
- **Architecture of participation**
- **Rich user experience**

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Comments on Web 2.0 and Beyond  
28 March 2008  
Vancouver BC



## So what about Web 2.0 and us?

- Why are we as (sorta) technologists here giving papers on ...
  - “How we ‘can or ought’ to adopt Web 2.0 in ...”
  - or “how our efforts to adopt 2.0 are helping ...”
- Rather than as archaeologists, in their natural habitat, giving papers on “how the **RESULTS** of research using Web 2.0 changed my (archaeological) life?”
  - BTW - this statement is somewhat unfair since this was a session emphasizing the technology not the archaeology - but you get my point.

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## It's (not) the technology stupid \*

- The success of any Web 2.0 “application” is built on a foundation
- That foundation is content
- Access to content requires
  - 1) a body of **digital** content
  - 2) adequate control of ontologies and semantics such that the content is to some degree interoperable

\* Apologies (but not recently) to James Carville

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## Digital content and archaeology

- For a Web 2.0 strategy to be successful there must be a “critical mass” of interoperable archaeological digital content
  - There is a “lot” of digital archaeological content, I would submit, “out there” but not a **critical mass** (yet) ...
  - With ADS, DACC, UEE and others we can see how to get to the destination
- There needs to be a (or a number of) “community of interest” specifications adequate for interoperability

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## Significance of disintermediation as a development driver

- The primary lesson learned from web development, generally, is that there are boat loads (or €s or £s) of money to be made through disintermediation
- The “value proposition” for disintermediation in scholarship generally, and archaeology research specifically, is much less clear
- BTW - there **is** a strong case for disintermediation in CRM
  - In US alone estimates are that there is ca \$1 billion/year

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## Scholarship and Web 2.0

- If there are boat loads of money to be made egos can (but not always) be checked at the door when...
  - The development of specifications and standards are a CONSENSUS processes
- Corporations work night and day for competitive advantage but it is (more often than not) the case that the solution that “wins” the consensus process really does combine both elegance and usability
- Can we duplicate this success in a scholarly effort?

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## Development of a consensus community structure

- The reward structure in archaeological scholarship (generally) provides a disincentive for participation in the consensus process and, instead, privileges the individual
- This is particularly troublesome in archaeological work with respect to ontology and semantic interoperability because of
  - The strong linkage between prestige and specific ontological positions
  - Historical trajectory of these in the field
- It is critical that we restructure this reward system
- How do we do this?
  - DAACS and UEE both presents some very useful process exemplars but also some understandable concerns about scalability
  - ADS user defined trails/facets “using the users” and Open Context attributed tagging both provide evidence how tools can address some of these

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## Separate the “data”

- One thing to do is to more forcefully separate data (observations) from higher level abstractions derived from them
- In archaeology much of what passes for data is instead an n<sup>th</sup>-order abstraction, approaching information but not there yet either
- If we can separate these logically we can provide different incentives for the dissemination of each
  - And yes – to the person with your hand up in the back of the room - I DO realize the complexity and recursive nature of the linkage between observation and theory
- Empower search engines and deep access
- And then ... we can move towards knowledge

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## Growing the digital content

- In a parallel effort to the changes needed in the specification processes, we need to create incentives for digital publishing and data distribution
- Recognition across discipline that “publishing” databases and other “primary” content is equal to (or greater than) publication of descriptive or synthetic prose
- New strategies discussed here and elsewhere to reduce “cost” (intellectual, time and fiscal) of this effort
  - Persistent URIs
  - Automated impact analysis systems
  - Integrate objective of ultimate digital content on web as part of ALL steps in the basic workflow
  - Critical need for effective Guides to Good Practice (cf ADS)

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## A different kind of digital convergence

- We need to acknowledge the good work we’ve seen here and encourage it and other continuing efforts
- When the content and interoperability catches up to the technology - then the real power of Web 2.0 (or 3 or the *semantic web*) approaches can flower
- We have a great deal of really hard work, much of it is boring
- Given what we’ve seen here I am very optimistic...

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