

What is Web 2.0?

*A talk given to London Metropolitan Network
30th April 2008*

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Why are we talking about this?



JISC Technology & Standards Watch:

- www.jisc.ac.uk/techwatch



Horizon scanning service for JISC and HE/FE



Five to ten years time horizon



Lots of discussion within HE/FE about Web 2.0 and implications + lot of confusion/uncertainty.



This talk based on JISC report : "What is Web 2.0? Ideas, technology and implications for education". See:



<http://www.jisc.ac.uk/media/documents/techwatch/tsw0701b.pdf>

So, what is Web
2.0?

A blizzard of concepts and terms...

Social Software

Social Media

Collaboration

Sharing content

Tagging

Social Networking

Blogs

Wikis

MySpace

Facebook

Social Bookmarks

Podcasting

Mash-up

Youtube

RSS

Flickr

tag cloud

folksonomy

The logo for JISC, consisting of the letters 'JISC' in a bold, orange, sans-serif font.

TechWatch's View

3 layers to help understanding

★ Like an iceberg?

★ 3 layers - A, B, C

★ Current manifestations are on the visible surface - A

★ Services and social software (blogs, wikis, Flickr etc.)

★ 6 Big Ideas - B

★ Underlying Web technologies - C

B: Six Big Ideas

- ★ User generated content
- ★ Harness the power of the crowd
- ★ Data on an epic scale
- ★ The architecture of participation
- ★ Network effects
- ★ Openness

1. User generated content

★ Explosion of self-generated content
(videos, music, blog text, photos)

(UGC) or self-production

following in footsteps of punk rock fanzines and do-it-yourself bands.

★ Barriers to entry have been lowered dramatically by cheap video cams, pro-quality digital cameras, software etc.

★ Powerful driver amongst the young - "Digital Natives" - who are spending more time creating and networking on the Web than watching TV or reading newspapers.

★ Why? Reputation and the exposure culture, where "getting noticed is everything" (see Anderson, C., "Long Tail", p. 74).

2. Harness the power of the crowd

- ★ Services making increasing use of the power of the crowd on the Internet.
- ★ Wisdom of crowds - James Surowiecki.
- ★ Acting independently, but collectively - "Ask the audience".
- ★ Crowdsourcing - the rise of the amateur.

★ 3. **Data on an epic scale** We generate and make use of increasing amounts of data.

- ★ von Baeyer's invisible rain of information (in "Information: the new language of science" - book).
- ★ Web 2.0 companies capture data, then process, aggregate and turn into mighty rivers. Rivers that can be fished.
- ★ Tim O'Reilly was clear in original paper that those companies that can collect and manage data on large scale are successful.
- ★ Google's database is measured in 100s of peta-bytes (a million, billion).
- ★ Much collected indirectly from the user each time they use a service such as Google or Ebay.

★ A subtle concept and one of the key ideas from O'Reilly's paper.

4. **The architecture of participation**

★ Equal weight to both words - about architecture as much as participation.

★ The way a service is designed facilitates mass participation.

★ and, crucially, the service gets better through normal use - a side effect - as more use it.

★ Classic examples are Google,

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5. Network effects

- ★ Billion users on the Net.
- ★ Linked graphs. Understanding the effects of such large networks and topology is increasingly important.
- ★ What shape is the Web?
- ★ O'Reilly argued that companies that understood would succeed.
- ★ Combined with ideas like user-generated content - mass sharing = new social fabric?

★ Continuing the tradition of
6. Openness openness on the Internet.

★ Open standards, using open source software, free re-use of data.

★ Re-use of data in mash-ups e.g. Google Earth.

★ Open APIs.

★ However, some concerns developing:

★ Privacy & scale of data being collected.

★ Copyright under assault?

C: Underlying

- ## ★ Technologies
- ★ New generation of web-related technologies and standards - the work of the W3C and others
 - ★ Concept of "Web as Platform" - software delivered through the browser
 - ★ Less emphasis on the software (as a package) and more on service e.g. Google Mail.
 - ★ This has become feasible because of:
 - ★ Broadband
 - ★ Ajax, XML, Flash, Rich Internet Applications (RIA) etc.
 - ★ Firefox (with browser plug-ins)

A: Current manifestations - Web

- ★ Blogs 2.0 services
- ★ Wikis
- ★ Podcasting
- ★ Social bookmarking
- ★ Multi-media sharing (YouTube, Flickr)
- ★ Social networks (MySpace, Facebook, Ning)
- ★ And on and on....



So What?

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It's the
Premiss of the TechWatch
report is that it is the
powerful ideas of Web 2.0 that
will have impact in longer
term, not the individual
technical manifestations



User-generated content,
massive data collection, crowd
sourcing etc. Big ideas and
big changes - paradigm shift
that is changing business and
some argue society.



Educational applications and
uses are described in the

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That's great,
But...

Bandwidth Nightmares

- ★ Bandwidth hogging potential of YouTube, Skype, social nets and peer-to-peer file share
- ★ In UK, one of our ancient universities having problems with bandwidth at night - can't do back-ups and maintenance over the network
- ★ Ethics and problems of packet-shaping - see EduCause Review, July/Aug 2007, p. 72

Strategic

Questions

- ★ Should we build and run ICT infrastructure if services are all going to be freely available externally? e.g. VLEs
- ★ Should we buy expensive licenced software if students are just going to use GoogleDocs?
- ★ How does all this fit with the new emphasis on Service Oriented Architecture (SOA) - see forthcoming JISC TechWatch

Using External

★ Whole raft of issues and organisational barriers:

★ Legal

★ Openly accessible data and ownership

★ Privacy

★ Reliability - disappearing services and the perpetual beta

★ Trusting corporate third parties

● Etc etc

Some HE/FE

- ★ Guidelines for using External Web 2.0 services - University of Edinburgh
- ★ Institutional Web Managers Workshop 2008 - 22nd July - Aberdeen
- ★ Theme: "Are Web 2.0 services a distraction to well-managed, high quality web resources."
- ★ Google Generation report from JISC/British Library

Summary

- ★ Web 2.0 is more than 'cool' technologies and services.
- ★ Economic, social and business models.
- ★ Powerful new ideas driven by size and growth of web and new standards and technologies.
- ★ Will have an impact on education, but exactly how - the jury is still out! Change is happening quickly - everyone needs to get involved in debates.

“What is Web 2.0: ideas,
technologies and
implications for education”

JISC Report on Web 2.0 is at:

www.jisc.ac.uk/techwatch

My blog:

<http://techlun.ch>

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