“Web 2.0 and the Future of Social Networking and Online Communities”

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ECOM-ICOM Experts Address Series
March 14, 2006
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What Web 2.0 is Not

• The Semantic Web (though there are some commonalities)
• A new collection of technologies (though there are new applications of existing technologies)
• Just blogging, wikis, and RSS
Web 2.0 is Happening

Logos of start-ups “claiming” to be Web 2.0
So, What is Web 2.0? (1/2)

• Definition is still evolving…
• An *ATTITUDE*
• Shifts the focus to the user of the information, not the creator of the information
• Information moves “beyond” Web sites
• Information has properties and these properties follow each other and find relationships
• Information comes to users as they move around
So, What is Web 2.0? (2/2)

- Information is broken up into “microcontent” units that can be distributed over many domains
- Interaction is no longer limited to (X)HTML
- Users are able to control how information is categorized and manipulated
- User agent becomes a “fat” rather than “thin” client
- Requires a new set of tools to aggregate and remix microcontent in new and useful ways
Tim O’Reilly’s Web 2.0 Meme Map
# Web 2.0 By Example (Tim O’Reilly)

<table>
<thead>
<tr>
<th><strong>Web 1.0</strong></th>
<th><strong>Web 2.0</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personal Web Sites</td>
<td>Blogs</td>
</tr>
<tr>
<td>Britannica Online</td>
<td>Wikipedia</td>
</tr>
<tr>
<td>Content Management Systems</td>
<td>Wikis</td>
</tr>
<tr>
<td>Directories (Taxonomy)</td>
<td>Tagging (&quot;Folksonomy&quot;)</td>
</tr>
<tr>
<td>Screen Scraping</td>
<td>Web Services</td>
</tr>
<tr>
<td>Etc.</td>
<td>Etc.</td>
</tr>
</tbody>
</table>
Web 2.0 Drivers - Technology

- Computing power
  - Still doubling every 18 months
  - PC-based data centers
- Connectivity
  - Low cost, broad reach Internet
  - Wireless, broadband access
- Device proliferation
  - PDAs, cell phones, etc.
  - Towards a digital devices decade
- Internet standards
  - XML-based integration
- User Interface
  - Many possibilities
Web 2.0 Drivers - Environmental

- The “dot-com” collapse forced a Web re-examination
- The “long tail” – the collective power of small sites that make up the bulk of the Web’s content
- The Web reached a critical mass of
  - (Good) information content sources
  - Use (and desire for reuse)
  - Trust
- Web users developed an expectation of fulfillment
(Adaptive Path)
What is Web 2.0 Again?

“Web 2.0 is a convergence of individual traits, and social and technological forces”

“User-Focused Web = User Satisfaction”
Basic Paradigm Shifts (1/2)

<table>
<thead>
<tr>
<th></th>
<th><strong>Web 1.0</strong></th>
<th><strong>Web 2.0</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>Top down</td>
<td>Bottom Up</td>
</tr>
<tr>
<td>Communications</td>
<td>People to Machine</td>
<td>Machine to Machine and People to People</td>
</tr>
<tr>
<td>Information Discovery</td>
<td>Search and Browse</td>
<td>Publish and Subscribe</td>
</tr>
<tr>
<td>Information Retrieval</td>
<td>Transactional</td>
<td>Relationships</td>
</tr>
<tr>
<td>Information Aggregation</td>
<td>Portals, Commercial Aggregators</td>
<td>Micro-Aggregation</td>
</tr>
</tbody>
</table>
### Basic Paradigm Shifts (2/2)

<table>
<thead>
<tr>
<th></th>
<th><strong>Web 1.0</strong></th>
<th><strong>Web 2.0</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing, Selling</td>
<td>Push, Contextual</td>
<td>Conversational, Personal</td>
</tr>
<tr>
<td>Content Control</td>
<td>Publishers, Aggregators</td>
<td>Content Authors</td>
</tr>
<tr>
<td>Content Structure</td>
<td>Documents, Pages</td>
<td>Tagged Objects</td>
</tr>
<tr>
<td>Applications</td>
<td>Closed, Proprietary</td>
<td>Open, Standards-based</td>
</tr>
<tr>
<td>Technology</td>
<td>HTML, Solaris, Oracle</td>
<td>XML, AJAX, RSS, PHP, MySQL, XQuery</td>
</tr>
</tbody>
</table>
Five Characteristics of Web 2.0 Infrastructure

- “Web as Platform” – “A platform beats an application every time”
- Web as “Point of Presence” – “visiting vs. immersion”
- Microcontent-based – open, decentralized, bottom-up, and self-organizing infrastructure
- 2\textsuperscript{nd} Order Content or Metacontent – content reuse, out of context
- A Metaweb – to support the dream of the Semantic Web
### Blogging

#### US Internet Users Who Read Blogs, 2004 & 2005 (as a % of respondents)

<table>
<thead>
<tr>
<th>Month</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 2004</td>
<td>17%</td>
</tr>
<tr>
<td>November 2004</td>
<td>27%</td>
</tr>
<tr>
<td>March 2005</td>
<td>25%</td>
</tr>
</tbody>
</table>

Source: Pew Internet & American Life Project, May 2005

#### Frequency with which US Internet Users Read Political Blogs, March 2005 (as a % of respondents)

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>At least once a day</td>
<td>5%</td>
</tr>
<tr>
<td>2-3 times a week</td>
<td>7%</td>
</tr>
<tr>
<td>Once a week</td>
<td>6%</td>
</tr>
<tr>
<td>2-3 times a month</td>
<td>5%</td>
</tr>
<tr>
<td>Once a month</td>
<td>5%</td>
</tr>
<tr>
<td>Never read</td>
<td>16%</td>
</tr>
</tbody>
</table>

Note: n=2,630
Source: Harris Interactive, April 2005
The Value of Blogs?

*September 30th, 2005 - What I Ate Today*

Breakfast, the usual: Cong You Bing, no surprises.

After breakfast, I had a snack I couldn’t resist, Fried Chicken Flavor Cheetos. This actually consists of completely cheeseless-flavored cheetos, (in fact, almost completely flavorless cheetos) which you sprinkle a packet of flavoring over. That packet is, I’m convinced, the exact same stuff you mix in chicken-flavored instant noodle.

At lunchtime, I managed to sneak into a MOS Burger and have a small, but tastey, cheeseburger. MOS’ burgers are a bit messy, and weird, but, I like ‘em. Their fries are decent, too... if only they’d put some salt on them... or even have salt somewhere in the restaurant.

Good thing I did sneak into MOS because the family planned lunch for me, which was take-out Peking Duck and celery.
www.blog.people.com.cn

Set up by Chinese government for members of National People’s Congress (NPC)

To boost public interest in the NPC
User Response to Blogs

US Internet Users Who Find Information on Blogs Helpful in Making Purchasing Decisions, March 2005 (as a % of respondents)

Helpful 93.7%
Not helpful 6.3%

Note: *among respondents who have referred to blogs to look for information on products and services they were considering buying
Source: Hostway, Taylor Nelson Sofres (TNS), April 2005

US Bloggers’ Feelings about Blog Advertisements, 2005 (as a % of respondents)

Acceptable 71%
Not acceptable 29%

Note: Over 1,000 bloggers were surveyed
Source: BlogKits, April 2005

US Blog Readers Who Have Clicked on Blog Advertisements, May 2004 (as a % of respondents)

Yes 66.7%
Can’t recall 10.9%
No 22.4%

Note: n=15,234
Source: Blogads, June 2004
Wikipedia

A Collaborative Dictionary being edited in real time by anyone.

Everyone becomes an author, an editor, and a publisher.
Deception as Official Public Policy
[Opinion] American people turn against Bush’s tactics
Immediately after its seizure of power by a court negotiated ruling, the Bush administration seemed determined to marginalize the American public. The terrorist attacks of Sept. 11 were... (Ramy Baroud)

Iranian Women March for Freedom
Women’s Day demonstration in Tehran brutally suppressed
Witnesses reported the arrest of many marchers; in fact, during the last six months the situation of women in Iran has gotten much worse. While Iran is the only country... (Dorina Kouzehgar)

Choi’s Attack Not Isolated Case
Korean lawmaker’s outrage highlights social issues around gender, drinking
According to an Internet poll, 76 percent of citizens think Choi should resign. An Internet blogger compared Choi’s case to that of John Brogden, a former opposition leader... (Hyejin Kim)

‘The Hills Have Eyes’ a Bloody Thrill Ride
Horror remake tops original
An update of Wes Craven’s 1977 film, Aja’s “Hill” is eager to thicken the trauma inflicted by Craven
OhmyNews

- 41,000 “citizen reporters”
- 60 “professional reporters and editors”
- 700,000 repeat visitors per day
“No journalism organization, no matter how big it is, knows as much about a particular topic as the people who read or listen to it. …That doesn’t mean that there is no longer a role for journalists – there is a huge role. But in a world that is moving away from a lecture to a conversation, it makes sense for there to be more participation from the audience.”

---Dan Gillmor,

*We the Media: Grassroots Journalism by the People, for the People*
Web 2.0 and Copyright/Copyleft

- User focus builds upon
  - The ability for legal copying, modification, sharing
  - Creative Commons
  - GNU Free Documentation License
Key Element of Web 2.0 – Collective Intelligence

- An architecture of participation
- Users add value
- An evolved Web perspective
  - Payment
  - Volunteering
  - Selfish interests build collective value as an automatic byproduct
- User ratings
- User tagging
User Ratings

Spotlight Reviews (What's this?)
Write an online review and share your thoughts with other customers.

103 of 108 people found the following review helpful:

🌟🌟🌟🌟🌟 Blowin' In The Wind, September 28, 2005
Reviewer: Thomas Magnum (NJ, USA) - See all my reviews

Neil Young has always been a musical chameleon. Shifting from hard rock to rockabilly to grunge to futuristic synth music, he’s tried every music genre. But the style he keeps returning to is country-rock. Prairie Wind is yet another superb album in this vein. The past few years haven’t been kind to Mr. Young with the death of his father and the mother of his first child or finding out that he has a brain aneurysm. With the sense of loss and mortality, Prairie Wind reflects on life and family. "The Painter" brilliantly sets the tone for the album as it a brooding, moody piece that shows music gives eternal life to its artists. "Far From Home" is a lovely ode to his parents and "Here For You" is a sweet song for his kids that has a great harmonica solo. "Falling From The Face Of The Earth" is a gentle lament and "He Was The King" is a goofy salute to Elvis Presley, but one done with spirit. "When God Made Me" has a full gospel chorus and "This Old Guitar" is the best track on the album with its simple story and laid-back charm. Country-rock is the skin Mr. Young feels most comfortable in and Prairie Wind is his best album in a decade.

Was this review helpful to you?  yes  no  (Report this)
User Tagging (1/2)

• *Folksonomy* – alternative to Taxonomy – A style of collaborative categorization of Web sites using freely chosen keywords (tags) allowing for retrieval methods generated by user activity
User Tagging (2/2)

**Recent items tagged 'web2.0'**

- **I should be so lucky.**
  
- **Software Only. The Facebook unplugged at Stanford ETL**
  
- **Edge Perspectives with John Hagel: What is Web 2.0?**
  
- **Business 2.0 :: Magazine Article :: Features :: The Flickrization of Yahoo**
  
- **The Ten Best Ajax Links: Tutorials, Examples, and History > My Gadget Bag**
  
- **FolderShare.com - sync files, folders, xfer, share files, web download, access files anywhere**
  
- **Salesforce.com thumbs nose at Microsoft | NetworkWorld.com Community**
  
- **PledgeBank - Tell the world "I'll do it, but only if you'll help"**

**Related tags**

- ajax
- web
- javascript
- programming
- blog
- tools
- reference
- google
- social
- software
- socialsoftware

*del.icio.us / tag / web2.0*
Pushing Out Content – RSS – Has Become Commonplace
RSS Example
Mash-ups

This is made possible by accessible APIs fostering creativity.
A Goal of Web 2.0 - A Rich User Experience

• Get the user to content they want
• Link the user to content they might want
• Don’t tell the user how to find content
• Let the user decide how to use the content
• Do all of the above quickly and efficiently
Web as “Point of Presence”
“visiting vs. immersion”

- Evolution of the Web has split into (at least) two directions
- “Data-centric” – e.g., the Semantic Web
- “User-centric” – e.g., Web 2.0
- These two “children of Web 1.0” are not at odds with one another
“The Semantic Web is a Web of data. There is lots of data we all use every day, and it's not part of the web. I can see my bank statements on the Web, and my photographs, and I can see my appointments in a calendar. But can I see my photos in a calendar to see what I was doing when I took them? Can I see bank statement lines in a calendar?

Why not? Because we don't have a web of data. Because data is controlled by applications, and each application keeps it to itself.”

---http://www.w3.org/
“The Web is more a social creation than a technical one. I designed it for a social effect — to help people work together — and not as a technical toy. The ultimate goal of the Web is to support and improve our ‘Web-like’ existence in the world. We clump into families, associations, and companies. We develop trust across the miles and distrust around the corner. “

---Tim Berners-Lee, Weaving The Web
Social Networking

• “A social network is a social structure between actors, mostly individuals or organizations” – Wikipedia (!)

• Social networks view social relationships in terms of nodes and ties.
  – Nodes are the individual actors within the networks
  – Ties are the relationships between the actors

• “The interaction between community, computers and society.”

• The first social networking Website was SixDegrees.com, which began in 1997

• Isn’t E-Learning a form of social networking?
Both a “Data-centric Web” and a “User-Centric Web” See Value in Social Networking

- **FOAF**
  - A ‘rigid’ Semantic Web (RDFS) description of relationships
  - Illustrates very rich and powerful relationships
- **XFN**
  - A simple description of relationships that is easily implemented and displayed in a wide variety of ways

<a href="http://www.stanford.edu/~bebo/" rel="friend met">Bebo</a>
<a href="http://john.example.com/" rel="met acquaintance">John</a>
<a href="http://example.com/" rel="co-worker friend met">Mary</a>
<a href="http://nick.example.com/">Nick</a>
Web 2.0 and Social Networking

- People (not just Websites) can/have become entities on the Internet
- It’s not just people using data, but people developing capabilities
- Blogs – combined with aggregation tools
- Social networking Web sites – goal is to connect people with one another
- Geographical mapping
- Comment systems
- Folksonomies
- etc., etc.
Flickr is a Photo-Sharing Social Network
Del.icio.us is a Bookmark-Sharing Social Network

Tags: Descriptive words applied by users to links. Tags are searchable

My Tags: Words I’ve used to describe links in a way that makes sense to me
LinkedIn is a Business Contact Social Network

From: LinkedIn Notifications [welcome@linkedin.com]
To: White, Debo
Cc:
Subject: People you know are not connected to you

People you know are not connected to you...

4 people from Stanford Linear Accelerator Center

Thousands of professionals join LinkedIn every day, including people you've worked with in the past. Follow the links above to see who's joined and get reconnected with colleagues now.

This message was sent to keep you updated about things relevant to you on LinkedIn. Let us know if you prefer not to receive messages like this.

LinkedIn values your privacy. At no time has LinkedIn made your email address available to any other LinkedIn user without your permission, including the professionals who are trying to get in touch with you today.

© 2006, LinkedIn Corporation
Eventful is a Calendar/Announcement Social Network

May 23, 2006
All Day BST

Workshop on Open Source Software - A Collaboration Platform for Web Applications
Added by bebo, Monday, December 26, 2005 1:52 pm PST

This workshop is a part of the program of 2006 International WWW Conference in Edinburgh, Scotland. Details can be found at the conference Web site (www.www2006.org) or the workshop Web site (www.stanford.edu/~bebo/www2006/).

Links (add)

Add this event to a calendar or group

Listed in 1 calendars. 0 comments / 0 trackbacks. 0 links.
SaveMeSites is a “Begging” Social Network

Individual Sites

There are a lot of people out there on the web who need help. If you’re looking for someone to help, this site can be a good place to start. If you’re looking for help, you can look at some of these sites for ideas, link exchanges, and even moral support.

We’re currently helping 166,14 active sites. We’ve sent 412,734 visitors to our listed sites and we’ve provided 3,672 free pages for people in need.

You can also look at just sites that have debt or sites that have dreams. The sites are currently in date order; you could see them by title too.

If you have already built your own site somewhere else, you can advertise it here for free. If you don’t have your own site, but would like a page, you can request a free site on SaveMeSites.com. The whole process should take less than 10 minutes.

SINGLE MOTHER OF 3 ON SSD NEEDS HELP!!!!! (Debts)
I am a single mother of 3, and I receive $674.00 on ssd a month. This is our only income for our family, and we are having a lot of problems right now. making it on that because we rent a house out in the country that uses propane, and that is using all our.
6 visitors from here since March 8, 2006

Invalid pensioner is tired of struggling to survive (Debts)
I have very serious chronic illnesses that will put me in a wheelchair. I have debt that I would like to clear and need some money in the bank to help with medical needs.
4 visitors from here since March 8, 2006
GeoURL Helps Build Physical Networks

- GeoURL is a location-to-URL reverse directory
- Allows you to find URLs by their proximity to a given location

<meta name="ICBM" content="37.766929, -122.447782" />
<meta name="DC.title" content="Bebo White" />
YackPack is simple, web-based voice messaging for groups.

- **Simple**: As easy as Click, Talk, Send.
- **Web-based**: Get to your YackPack from any computer with an Internet connection.
- **Voice messaging**: Think email, but with voice.
- **For groups**: Send to as many as you choose within the privacy of your group.

It's easy to get started using YackPack - and it's free!
Summary: The Great Ideas Behind Web 2.0

• Focus on users, not technologies (and not just data…)
• Focus on utility, not functionality
• Value delivery, not data
• Focus on agility, not reactivity
• Provide constant improvements
• Drive innovation by user (not consumer) satisfaction
Thanks for your patience!

Questions? Comments?

Slides available at http://www.stanford.edu/~bebo/talks/

bebo@slac.stanford.edu
“I’m always ready to hear great new application ideas for Web 2.0 !”