Web 2.0

What's next for the web?

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SICS, Swedish Institute of Computer Science

National research institute

- R&D in information and communication technologies
- Non-profit
- 100 employees

Objective:

- contribute to the competitive strength of Swedish industry
- by conducting advanced and focused research in strategic areas of computer science, and
- actively promoting the use of new ideas and results in industry and society at large.



Sponsors: TeliaSonera, Ericsson, Saab Systems, FMV (Defence Materiel Administration), Green Cargo (Swedish freight railway oper ABB, Bombardier Transportation





About predictions

• It is difficult to make predictions, especially about the future.

- Niels Bohr



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 - Freeman Dyson





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- The best way to learn about the future, is to stay alive as long as you can, and see what happens.
 - Freeman Dyson
- The best way to predict the future is to invent it.
 Alan Kay



Structure of presentation

- 1. Where were we, a moment ago?
- 2. What has changed?
- 3. What is this thing called Web 2.0?
- 4. Ajax technology toolbox
- 5. "So what? What's in it for me?"









1. Where were we, a moment ago?



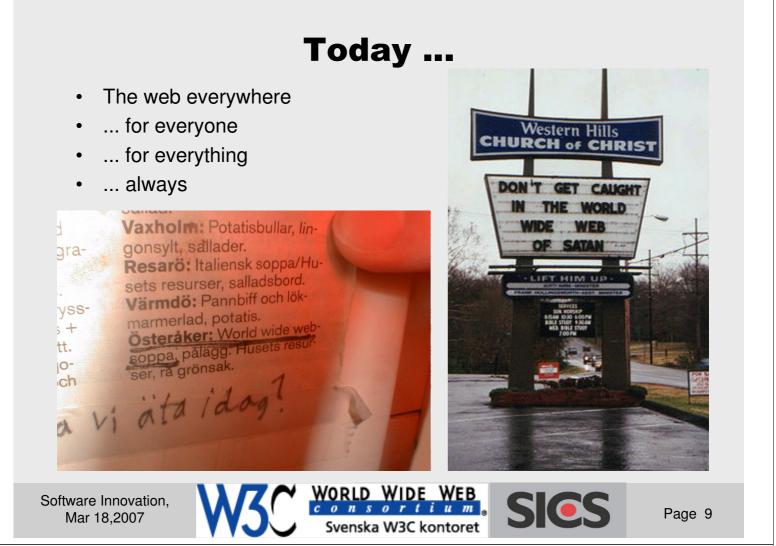
The Web – as we know it

- An old friend
- · Taken for granted
- ... like the car or the telephone









The "content web"



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The "service web"



Isn't this enough?

- Will the future be "more of the same"?
- Or?
- There is always a next generation coming up from behind, *thinking differently*! ("Net Generation")







2. What has changed?



A lot is happening on the web!

 Hot actors on the web / hot sites

BBC News in video and audio

Last Updated: Thursday, 21 April, 2005, 21:06 GMT 22:06 UK

Search ads fire up Google profits

Internet search engine Google has reaped the rewards of a rapid growth in search advertising with a near six-fold surge in quarterly earnings.

Google reported a net income of \$369.2m (£282.7m), or \$1.29 a share, in the first quarter, compared with \$64m, or 24 cents a share a year ago.



Google is one of the world's most popular search engines

The figures eclipsed even the most optimistic of Wall Street forecasts.



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🚮 We found 91 photos

about stockholms and stadshus.

Show thumbnails

Blogs and citizen journalism



... and cool web services



What about businesses?

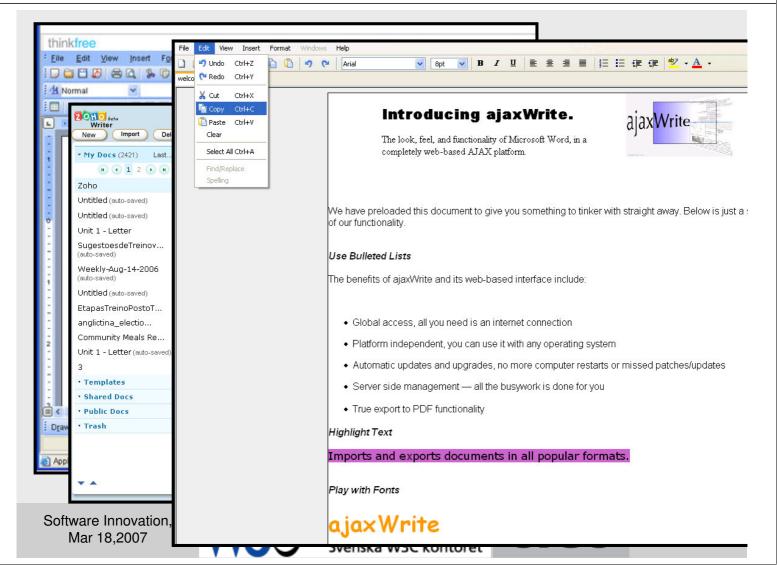
... we see office applications appearing on the web!

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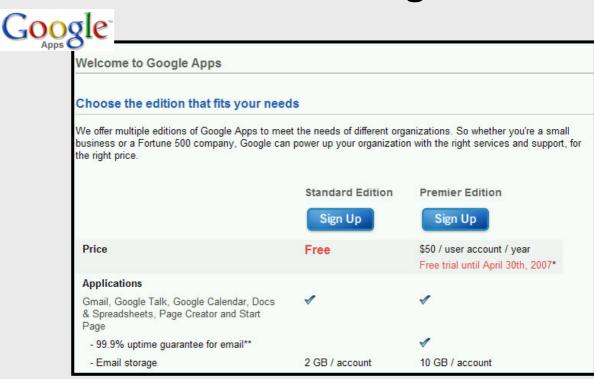




Office on the web – an old idea



And now ... Google



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The signs in the sky

- The concept of Software-as-a-Service (SaaS) has established itself:
- Delivered on the web
- Hosted", or on an Intranet
- Web-based data storage
 - As done in present webbased mail systems
- Simplifies systems management
 - "The terminal" is back!





The increasing importance of the web

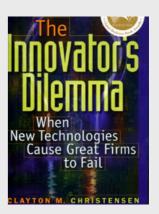
- If something *can* be done on the web, it *will* be done there.
- The web will be the natural space for IT.
- Traditional IT will be "webbified".
- Old types of services and functions, but also completely new ones
- New types of actors, with new types of business models and business processes



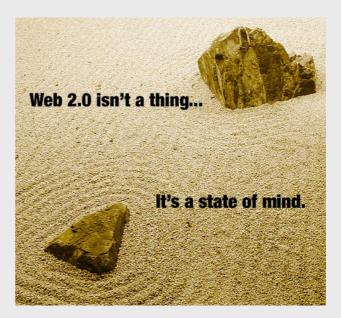


Witnessing a disruption

- Disruptive technology:
 - "technological innovation, product, or service that eventually overturns the existing dominant technology or product in the market"
- Examples:
 - − Vacuum tubes → transistors
 - − Mainframes → minicomputers
 - − Minicomputers → personal computers
 - − Video tape → DVD
 - PC as platform \rightarrow the web as the platform







3. What is this thing called Web 2.0?

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Terms around Web 2.0



How to make sense of all this?

Perspectives:

- Applications/services
 - Well, is there anything new??
- Technology
 - New technology for the new web?
- Business models
 - Is it any different?
- Users
 - Have their roles changed?

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What is new?

Web 2.0 (term first coined 2004)

- Users:
 - participate ... producers
 - cooperate
 - communities are born and grow up
 - technology offers new user experiences

- ...

- Business:
 - users generate value
 - new types of business,
 - new possibilities

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Some example categories

- Active participation who is producer, who is consumer?
 - Blogs
 - Wikis
 - Recommendation systems
- Pragmatic semantics
 - Tagging
 - Focused search, vertical search
- Take advantage of changing contents
 - Monitor changes

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The creative individual - blogs



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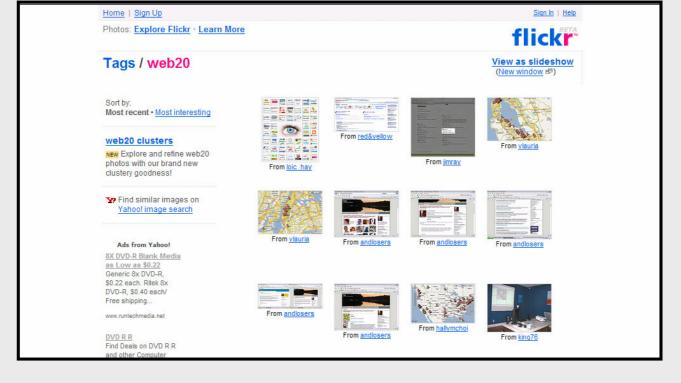
The creative community - Wikipedia







Tagging photos – Flickr





Tagging web docs - del.icio.us

del.icio.us / search	popular hel login registe
Search results for web 2.0	web 2.0 search
showing 1 - 10 of about 3753	common tags
« previous next » script.aculo.us - web 2.0 javascript to javascript ajax programming web css and 7490 offen records	web2.0 web ajax blog
The Best Web 2.0 Software of 2005 (web2.wsj2.com) to web2.0 software ajax web 2005 and a contract	business design internet
O'Reilly: What Is Web 2.0 to web2.0 web oreilly internet article article 280% of the activity	programming software tools
Virtual Karma: Complete List of Web 2.0 Applications Rian's blog to web2.0 ajax web links internet	webdesign blogs
Web 2.0 Workgroup - A network of Web 2.0 resources to web2.0 blog ajax web blogs enter the and the second	javascript css rss
ProgrammableWeb: Web 2.0 API Reference to api web2.0 programming reference web encertreaded in response	reference technology social
Web 2.0 Workgroup - A network of Web 2.0 resources to web2.0 blog blogs web technology	article asp.net .net
[ws] Color Scheme Generator 2 to color design webdesign web tools and 1900-rolling region	tutorial socialsoftware
I want to - a page of utilities that help you do stuff you want to	google webservices





Monitor blogs - technorati

[Technorati	Search Tags Blog Finder Explore	
What's this? This is a live search for web 2.0 with results sorted newest to oldest. Keyword Search Help »	web 2.0 130,851 posts contain: web 2.0 in All Blogs. Limit to blogs about:	Search Doptions Add to Watchlist View in Mini
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Monitor events - eventful

home events venues calendar	rs groups users		Add Even
Discover,	create and share e	ents that matter to	vou.
Upcoming Events in chicago, il (ch	ange location)	Search for Events	New to Eventful?
FART Institute of Chicago Daily Admission		What	Take a tour to learn how Eventfu works for you.
Feallery Audio Guide		concert, lecture, etc.	Cool Tools
-		Where	Eventful is full of useful tools and
FStorytime for Infants & Toddlers		city, state or zip (optional)	features. Check out some of our favorites:
		When	» Recently added events
FStorytime Thursdays, 11 AM		When	» Recently viewed calendars » Users' stickers
F#oft Science		dec 31st, friday, next week, etc.	» Developer API
		Search Eventful	A Random Selection of Event
	More events in chicago, il		A Kandoni Selection of Event
		Popular Event Tags	SAN AL DESIGN 2.0 CH
From the Eventful Blog	Join a Group	art arts barnesandnoble	
» Free T-Shirt Offer, or, Ruby Developers Take Note: New Ruby API for EVDB	Find others interested in the same kinds of events as you!	books borders ca concerts family	
» System Maintenance 9-11pm U.S. Pacific		No. 199	nono tech 200
» System Maintenance 9-11pm 0.5, Pacific		games lionking meetup mlb moms	

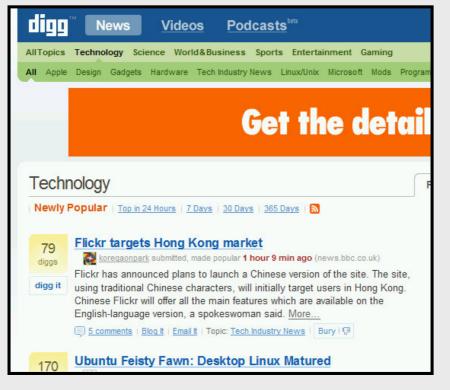




Mash-up multiple sources- Nestoria

Property to: B	UY (119)	RENT										Found 119
Min. Price:	£100k £400k	£150k £450k	£200k £500k	£250k £750k	£300k £1,000k	£350k no min	Type of Property: Min. Bedrooms:	all types studio+	flat 1+	house 2+ 3	e }+ 4+	5+
Max. Price:	£100k £400k	£150k £450k	£200k £500k	£250k £750k	£300k £1,000k	£350k no max	Min. Bathrooms:	any	2+	3+ 4	1+ 5+	6+
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1 - 10 of 119 Sor	rt: Nestoria	a Rank Pr	ice 🛧 🖊 I	Beds 🛧 🖊								
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Voting/recommendations – digg



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So, what's new under the sun?

- Tagging resources/objects
 - Direct value for users
- "Folksonomy" community use of tagging
 - New conceptualizations
- Blogging
 - The value of being linked to
 - The value of being commented on
- Mashup/Remix
 - The value of reuse
- Exploiting patterns of usage
 - Votes, recommendations



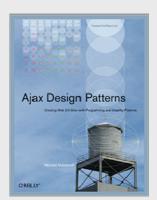


4. Ajax – technology toolbox



AJAX technologies

- AJAX (first coined 2005):
 - "Asynchronous JavaScript and XML"
- Set of technologies:
 - CSS,
 - JavaScript,
 - XML,
 - XMLHttpRequest



- · Existing technologies used in new ways
 - Pushing the limits of what present implementations support
 - Create attractive user experience!



The reactive interface

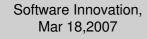
- Styling in webbish ways, not like glossy magazines
 CSS
- Dynamic visual modifications, no page loads
 DHTML, JavaScript, DOM
- Context sensitive user options, no server checks
 DHTML, JavaScript, DOM
- Asynchronous *data fetch*, no bulk data (re)load from server
 XMLHttpRequest
- Behave like a desktop application!





Technology providers

- Industrial AJAX toolboxes:
 - GWT, Oracle, SAP, ... Dojo Foundation, ...
 - Support authoring/programming AJAX sites
- Based on existing and emerging standards!:
 - [X]HTML, RSS, Atom, FOAF,
 - HTTP, Atom (WS: SOAP, ...)
- ... the infrastructure of the web is what is needed!





World Wide Web Consortium

- World Wide Web Consortium (1994-)
- Industry consortium specifies webbstandards
- Approx 400 members industry, public sector, reserach
 - Global coverage
- Produces starndards ("W3C Recommendations") i via a consensus-based process
 - HTML, HTTP, XML,



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Technology Stack

Web Applications	Mobile	Voice	Web Services	Semantic Web	Privacy, Security
XHTML	XHTML Basic	VoiceXML	SOAP	OWL	P3P
SVG CDF	Mobile SVG	SRGS	мтом	SKOS	APPEL
SMIL	SMIL Mobile	SSML	WSDL	SVV BP	XML Sig
XForms	XForms Basic	CCXML	WS-CDL	RIF	XML Enc
CSS	CSS Mobile	EMMA	WS-A		XKMS
WICD	MWI BP				
XM	L, Namespaces, Schema	is, XQuery/XPath, XSL XML Infoset, F Web Architect	LDF(S) Graph	ointer, RDF/XML, SPARC	2
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Assuring AJAX interoperability

- W3C, Rich Web Client Activity:
 - Compound Document Formats Working Group
 - Web API Working Group
 - Web Application Formats Working Group

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5. "So what? What's in it for me?"



Who is concerned? Why?

- External web 2.0
 - The Web 2.0 landscape "out there"
 - How our user / customers / clients see us
 - What will attract / satisfy users?
 - Future users the Net Gen!
- Internal web 2.0
 - The IT landscape "in-house"
 - How we support our employees
 - How do we support our employees?
 - Future employees the Net Gen!

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Industry/Society in the new game



Web 2.0 ... insights

Don't design for users – let users design for themselves

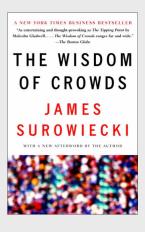
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- E.g., mash-ups
- · Enable users to profile objects
 - E.g., tagging
- Support community building
 - E.g., tag sharing, folksonomies
- Find ways of capturing new values
 - E.g., community-based recommendations





Example: knowledge management

- Traditional knowledge management
 - does not work
- Community-based knowledge management
 - Critical component: usage knowledge
 - Emerges through practical use
 - Concept models created by community
 - Handles dynamic trends ... "usage drift"
 - Supports reuse of information and of experts
- Key innovation areas, such as:
 - Social bookmarking
 - Information dynamics



Conclusion



Web 2.0, you, and communities

- Users optimise value through communities
- · Communities emerge, they are not designed
- Technology can support community building and community life
- What *external* communities do you serve?
- What internal communities do you have?



Links

The presentation:
 http://www.w3c.se/resources/office/talks/20070318/











