

WEB 2.0

What is Web 2.0

- It is **Second generation of services** available on the Web that lets people collaborate and share information online
- **O'Reilly Media** and **MediaLive International** popularized the term
- Google is now seen as the torch bearer of the term by the media
- From a technology perspective **Web 2.0 uses AJAX, Mashups and RSS** predominantly

Web 2.0

Second generation web services

Social networking: blogs, wikis, tagging

Emphasis on collaboration and sharing

Convenience is king

Web 2.0: Phrase coined by Tim O'Reilly

Web 2.0

Available anywhere, anytime

Collaborative

Convenient

“People are in fact kind of a killer app.”

Tim O'Reilly

<http://www.oreillynet.com/pub/a/oreilly/tim/news/2005/09/30/what-is-web-20.html>

What is Web 2.0

- 2004 Tim O'Reilly Web 2.0 Conference
 - Web is a new platform
 - User participates
 - Personalization
 - Peer 2 Peer sharing
- **In fact, there's no new techniques in web 2.0**
- **What's new?**

Web 1.0 2.0 3.0?!

- **Web 1.0**
 - For the user
- **Web 2.0**
 - By the user
- **Web 3.0**
 - ?? the user

Web 1.0

- MP3 (pre-iPod)
- Britannica Online
- Personal websites
- Documentation
- Directories (taxonomy)
- Stickiness

Web 2.0

- iPods
- Wikipedia
- Blogs
- Wikis
- Tags (folksonomy)
- Syndication

Library 2.0

- **Web 2.0 tools to deliver library services**

Blogs and Wikis

RSS Feeds

MySpace/Facebook

Social Bookmarks

Tagging

Web 2.0: Evolution Towards a Read/Write Platform

Web 1.0

(1993-2003)

Pretty much HTML pages viewed through a browser

Web 2.0

(2003- beyond)

Web pages, plus a lot of other "content" shared over the web, with more interactivity; more like an application than a "page"

"Read"

"Page"

"static"

Web browser

"Client Server"

Web Coders

"geeks"

Mode

Primary Unit of content

State

Viewed through...

Architecture

Content Created by...

Domain of...

"Write" & Contribute

"Post / record"

"dynamic"

Browsers, RSS Readers, anything

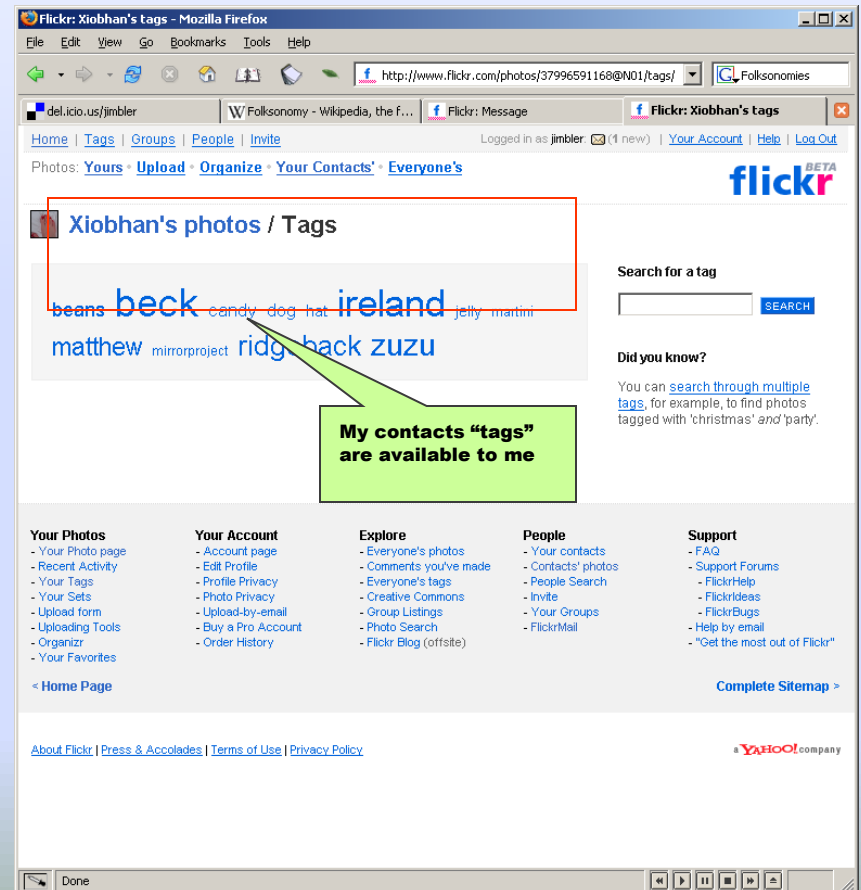
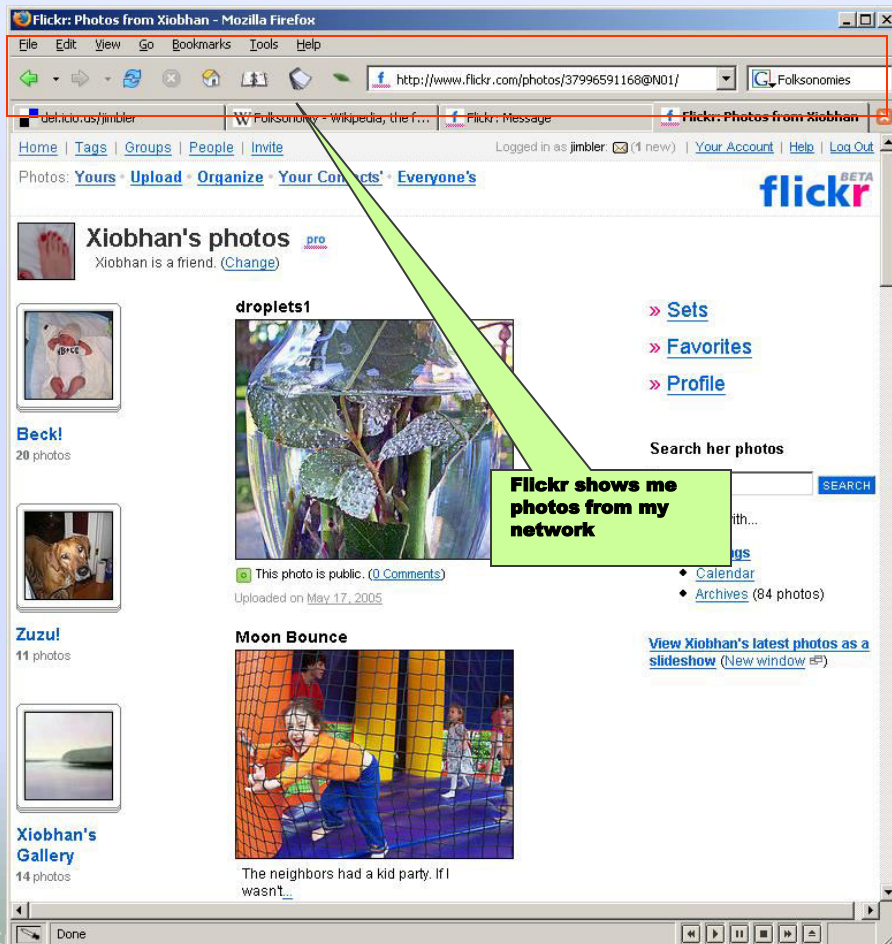
"Web Services"

Everyone

"mass amatuerization"

Flickr is a social network for sharing photos

Flickr combines a social network with user generated content. Users can work together to collaborate on photo projects and use each others' tags to find new photos. Flickr also has an API for web services to integrate photo collections with blogs and other apps.



Wikipedia is a Collaborative Dictionary Being Edited in Realtime by Anyone

Web 2.0 - Wikipedia, the free encyclopedia - Mozilla Firefox


File Edit View Go Bookmarks Tools Help

http://en.wikipedia.org/wiki/Web_2.0

My Yahoo! (Untitled) Web 2.0 - Wikipedia, the free encycl... Create account / log in

article discussion edit this page history

Web 2.0

**The neutrality of this article is disputed.**
Please see the relevant discussion on the talk page.

Web 2.0 is a term often applied to a perceived ongoing transition of the [World Wide Web](#) from a collection of [websites](#) to a full-fledged [computing platform](#) serving [web applications](#) to [end users](#). Ultimately Web 2.0 services are expected to replace [desktop computing](#) applications for many purposes.

Contents [\[hide\]](#)

- 1 Overview
 - 1.1 Comparison with Semantic Web
- 2 Technology
 - 2.1 Content syndication
 - 2.2 Web services
 - 2.3 Server software
- 3 Social impact
- 4 Business impact
- 5 External links
 - 5.1 Examples

[\[edit\]](#)

Overview

The original conception of the web (in this context, labeled *Web 1.0*) comprised static [HTML](#) pages that were updated rarely, if at all. The success of the [dot-com](#) era depended on a more dynamic web (sometimes labeled *Web 1.5*) where [content management systems](#) served dynamic [HTML](#) web pages created on the fly from an ever-changing [content database](#). In both senses, so-called [eyeballing](#) was considered intrinsic to the web experience, thus making [page hits](#) and visual aesthetics important factors.

Proponents of the Web 2.0 approach believe that web usage is increasingly oriented toward interaction and rudimentary [social networks](#), which can serve content that exploits [network effects](#) with or without creating a visual, interactive web page. In one view, Web 2.0 sites act more as [points of presence](#), or [user-dependent web portals](#), than as traditional [websites](#).

[\[edit\]](#)

Comparison with Semantic Web

[\[edit\]](#)

Blogging is the Most Recognized Example of Web 2.0



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



Source: Pew Internet & American Life Project, May 2005

064578 ©2005 eMarketer, Inc.

www.eMarketer.com

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



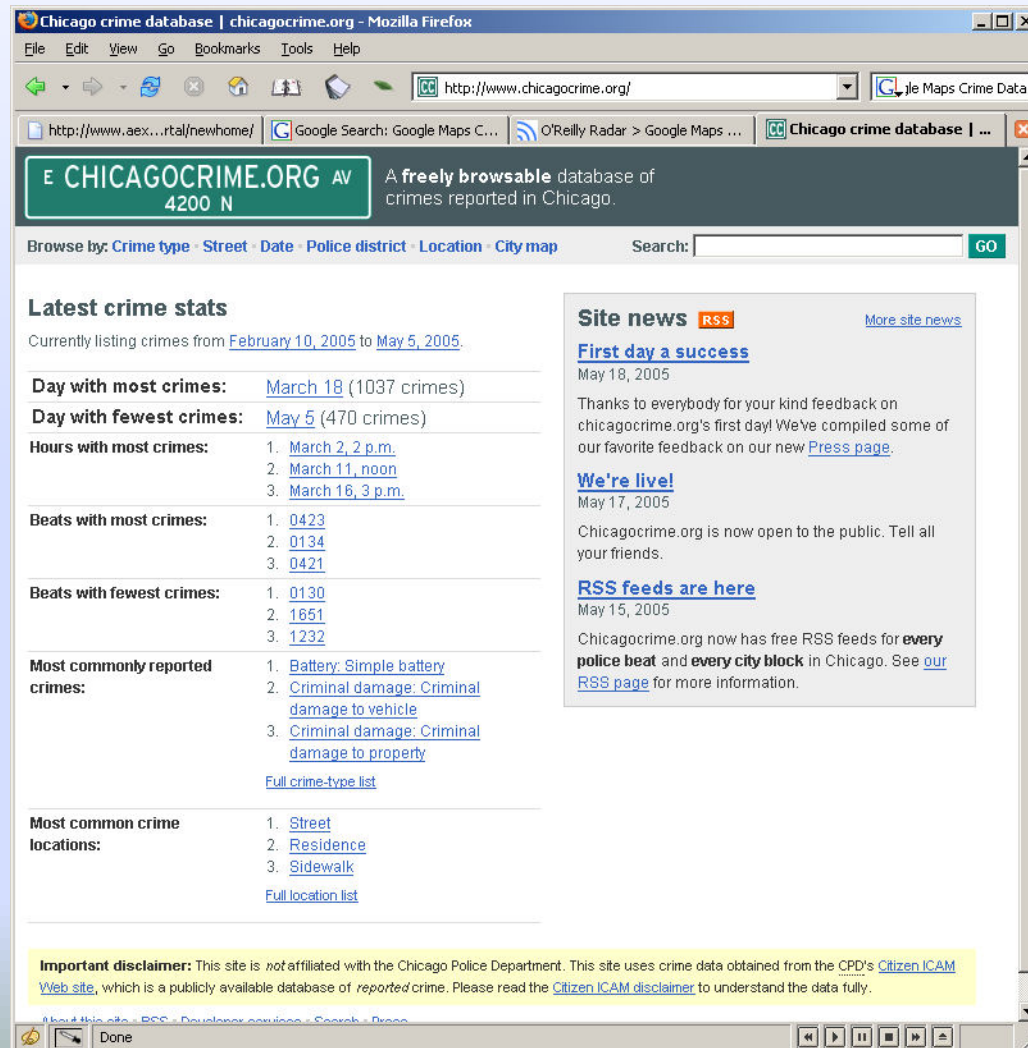
Note: n=2,630

Source: Harris Interactive, April 2005

064580 ©2005 eMarketer, Inc.

www.eMarketer.com

Chicago Crimes – Daily Crime Data on top of Google Maps, sent to you by RSS



The screenshot shows a Mozilla Firefox browser window displaying the Chicago Crime Database website. The address bar shows the URL <http://www.chicagocrime.org/>. The website header includes the logo "CHICAGOCRIME.ORG AV 4200 N" and the tagline "A freely browsable database of crimes reported in Chicago." Below the header is a navigation menu with options: "Browse by: Crime type", "Street", "Date", "Police district", "Location", "City map", and a search bar with a "GO" button.

The main content area is divided into two columns. The left column, titled "Latest crime stats", provides a summary of crime data from February 10, 2005, to May 5, 2005. It lists the day with the most crimes (March 18, 1037 crimes) and the day with the fewest crimes (May 5, 470 crimes). It also lists the hours with the most crimes (March 2, 2 p.m.; March 11, noon; March 16, 3 p.m.) and the beats with the most crimes (0423, 0134, 0421). The most commonly reported crimes are listed as Battery: Simple battery, Criminal damage: Criminal damage to vehicle, and Criminal damage: Criminal damage to property. The most common crime locations are Street, Residence, and Sidewalk.

The right column, titled "Site news", features an RSS icon and a link to "More site news". It contains three news items: "First day a success" (May 18, 2005), "We're live!" (May 17, 2005), and "RSS feeds are here" (May 15, 2005). The "RSS feeds are here" item mentions that the site now has free RSS feeds for every police beat and every city block in Chicago.

At the bottom of the page, there is an "Important disclaimer" stating that the site is not affiliated with the Chicago Police Department and uses crime data from the CPD's Citizen ICAM Web site. A footer at the very bottom of the browser window shows the text "I love this site - RSS - Developer services - Search - Press".

Social Networks Connect Users into Communities of Trust (or interests)

The image shows a collage of social networking websites. On the left, there's a LinkedIn banner with a man's photo and the text "Find out more" and "Find People". Below it is a Meetup banner with the text "Groups of people... living near you... sharing an interest... and meeting r". To the right of Meetup is a Ryze Business Networking page with a "ryze" logo and "Business Networking" text. Further right is the Consumating website, which has a "CONSUMATING beta" logo and a "DATE BETTER!" banner. Below the banner is a "SIGN UP NOW >>" button and a login section with "e-mail" and "password" input fields and a "Log In >>" button. The Consumating page also features a "Question Of The Week: George Lucas: Savior Of Film or Destroyer Of Your Childhood?" and a list of tags like "cactus", "lucky13", "spirituality", etc. At the bottom, there are two quotes from the Chicago Tribune about Meetup.

Why Web 2.0

- Life Changed
 - Rapid Growth of Internet and WWW
 - Internet is part of our life
- **Dot-com failed**
- **Centralized -> Decentralized**
 - Blog
 - RSS

Web 2.0 Techniques

- CSS , XHTML
- Ajax
 - Asynchronous JavaScript and XML
 - Not a language, a concept
 - Decreasing the # of refreshing
 - XHTML+ CSS + Javascript + XMLHttpRequest + XML

Web 2.0 Techniques

- **RSS/ATOM**
 - **Subscribe Mechanism**
 - **No more check everyday**
- **Mashup**
 - **Web Service API**
 - **HousingMaps.com**
 - **Craigslist + GoogleMAP**

Web 2.0 Techniques

- **LAMP**
 - Linux + Apache + MySQL + PHP
- **New web language**
 - Ruby on rails
- **Community Techniques**

Types of Web 2.0

- **Mashup**

- <http://mapstats.blogflux.com/>
- <http://pipes.yahoo.com/>

- **Webware**

- **Google Docs**
- **Gmail**

Types of Web 2.0

- **Social Media**

- <http://Badongo.com>
- SkyDrive

- **Podcast**

- **Social Network Service**

- <http://www.facebook.com/>
- <http://www.myspace.com/>

Hot Web 2.0 Services

- **Wikipedia**
 - <http://www.wikipedia.org>
- **Blog**
- **Digg**
 - <http://www.digg.com>
- **Delicious**
 - <http://del.icio.us>
- **Flickr**
 - <http://www.flickr.com>
- **Facebook**
 - <http://www.facebook.com>

What is AJAX?

- Ajax is not a technology in itself
- Shorthand for **Asynchronous JavaScript and XML**
- The term was first used by [Adaptive Path](#) only in Feb 2005
- Removes the need to reload entire web page each time the user makes a change.
- Increase the web page's interactivity, speed, and usability.
- XML is used as the format for transferring data between the server and client.
- XML files may be created dynamically by some form of server-side scripting

AJAX

- Stands for Asynchronous JavaScript + XML

- Ajax is not

- Standards-based
- Dynamically updates content
- Data communication is asynchronous
- Event-driven programming
- Use other programming languages

- Asynchronous

- Make requests to server
- Parse and display data

- Extensively used

- E.g. Google

- Web page can communicate with web server online as user enters data into an HTML form



The image shows the Google Labs 'Suggest' interface. At the top is the Google logo with a flask containing green liquid and bubbles, with the text 'Suggest LABS' below it. Below the logo are navigation links: 'Web', 'Images', 'Video', 'News', 'Maps', and 'more »'. A search input field contains the text 'grid re'. Below the input field is a list of suggestions with their corresponding result counts:

grid re	
grid reference	20,400,000 results
grid references	4,920,000 results
grid recordings	1,020,000 results
grid ref	4,300,000 results
grid reference map	4,490,000 results
grid reference search	15,900,000 results
grid reference finder	1,040,000 results
grid records	3,700,000 results
grid reference maps	8,000,000 results

To the right of the suggestions list are links for 'Advanced Search', 'Preferences', and 'Language Tools'. Below the suggestions list, there is a link 'results. Learn more'. At the bottom of the screenshot, it says '©2007 Google'.

ject Model)

```
<script type="text/javascript" language="javascript">
  var http_request ;
  function makeRequest(url) {
  if (window.XMLHttpRequest) { // For Mozilla, Safari
    http_request = new XMLHttpRequest();
    } else if (window.ActiveXObject) { // For IE
    http_request = new ActiveXObject("Msxml2.XMLHTTP");
    }
  }
```

Make an HTTP request using XMLHttpRequest class

```
http_request.onreadystatechange = alertContents;
http_request.open('GET', url, true);
http_request.send(null);
```

Provide HTTP request object the name of JavaScript object which will process *onreadystatechange* property

```
function alertContents() {
  if (http_request.readyState == 4) {
    if (http_request.status == 200) {
      alert(http_request.responseText);
    } else { alert('There was a problem with the request. '); }
  }
}
```

Once the state of request AND status code of server response is checked, we can process the data

```
} </script>
```

```
<span style="cursor: pointer; text-decoration: underline;" onclick="makeRequest('test.html')">
```

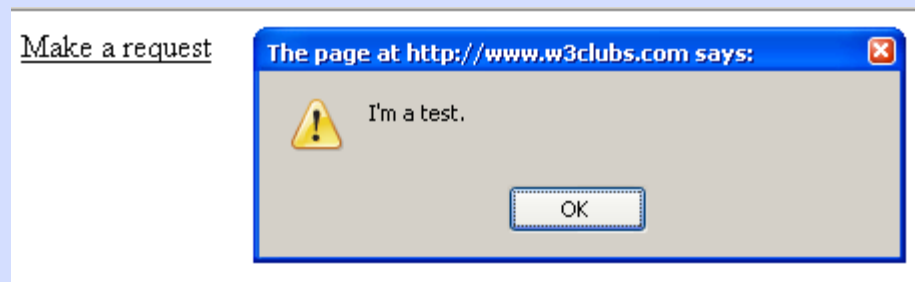
```
Make a request
```

```
</span>
```

User makes the request in browser

Output

- User clicks the link “Make a Request in the Browser”
- This calls the `makerequest(“test.html”) with test.html in the same directory`
- Request is made and then (*onreadystatechange*) execution is passed to `alertContents()`
- `alertContents()` verifies the response received and then `alert()`s the content of `test.html` file (as part of processing the data)



Limits of AJAX

- XMLHttpRequest object lets JavaScript make GET HTTP requests
- But as a security feature you cannot call third party domains through latest web browsers
 - Exception IE 5 and 6 only under low security settings
- You can only make requests back to the original server/hostname
- Solution: Some hacks/methods
 - Server-side application proxies
 - Apache Proxy
 - JSON