Some Interesting Quotes

■ “Network effects from user contributions are the key to market dominance in the Web 2.0 era.”
  ▶ Tim O'Reilly

■ “Link by link, click by click, search is building possibly the most lasting, ponderous, and significant cultural artifact in the history of humankind: the Database of Intentions.”
  ▶ John Battelle, The Search

More Interesting Quotes

■ “Web 2.0 is a massive social experiment...this is an opportunity to build a new kind of international understanding...citizen to citizen, person to person”.
  ▶ Lev Grossman, TIME

■ “One of the powerful things about networking technology like the Internet or the Web or the Semantic Web...is that the things we’ve just done with them far surpass the imagination of the people who invented them.”
  ▶ Tim Berners-Lee, interviewed by Peter Moon, IDG Now
OBJECTIVES

In this chapter you will learn:

■ The defining characteristics of Web 2.0.
■ Why search is fundamental to Web 2.0.
■ How Web 2.0 empowers the individual.
■ The importance of collective intelligence and network effects.
■ The significance and growth of blogging.
■ Social networking, social media and social bookmarking.
■ How tagging leads to folksonomies.
■ How web services enable new applications to be quickly and easily “mashed up” from existing applications.
■ Web 2.0 technologies.
■ Web 2.0 Internet business and monetization models.
■ The emerging Semantic Web (the “web of meaning”).

Chapter 3 Sections

■ 3.1 Introduction
■ 3.2 What Is Web 2.0?
■ 3.3 Search
■ 3.4 Content Networks
■ 3.5 User-Generated Content

3.1 Introduction

■ 1993 - Mosaic browser introduced
   ► Web exploded in popularity.
■ 1990s – tremendous growth - “dot-com bubble”
■ 2001 - bubble burst
■ 2003 - people and businesses were using the web and developing web-based applications in a different way
   ► Collaborative, community-based sites
   ► Social networking, blogs, wikis, etc.
Growth of Web 2.0 - Key Factors

- Hardware - cheaper and faster
  - memory capacities and speeds increasing at a rapid rate
- Broadband Internet explosion
- Abundant open source software
  - Cheaper (often free) customizable software options
    - Easier to start new Web 2.0 companies
    - Decreases the cost of failure
- Easy-to-employ models available to monetize Web 2.0 business
  - i.e., this is cool but can we make any money from this?

3.2 What Is Web 2.0?

- Web 1.0 → "brochure web"
  - Web 1.0 is as a lecture
- Web 2.0 →
  - Web 2.0 is a conversation

Architecture of Participation

- Many Web 2.0 companies built on user-generated content
  - users create the content,
  - sites provide the platforms
- Harness collective intelligence
- Examples
  - MySpace
  - Facebook
  - Flickr
  - YouTube
  - Wikipedia
User-Centric

- User
  - contributes content
  - decides how media is delivered
  - decides which news and information outlets to trust
  - Success = lots of users

- Social bookmarking
  - del.icio.us
  - ma.gnolia

- Social media
  - Digg
  - Reddit

- Social networking
  - MySpace
  - Facebook
  - Bebo
  - LinkedIn
  - Second Life

Web 2.0 businesses leverage the Long Tail

- Long Tail = economic model in which the market for non-hits could be significant and sometimes even greater than the market for big hits

Leverage the Long Tail

- Long Tail
  - Economic model
  - Cater to the market for non-hits
    - Low volume items or low interest items
    - Everyone needs just one
    - Worldwide – low interest accumulates to sufficient interest to justify and make a profit
  - Market for big hits is covered sufficiently with Web 1.0
    - High volume items or high interest items
    - All needs are met by one source
    - Little competition
  - Market for non-hits could be significant and sometimes even greater than the market for big hits

Web 2.0 Technologies

- Ajax
- XHTML
- Cascading Style Sheets
- Javascript, the Document Object Model
- XML
- AJAX/JSON/JSONP/JSONRequest object
- Popular Ajax toolkits
  - jQuery
  - Script.aculo.us
## Web 2.0 Technologies

### Rich Internet Applications (RIAs)
- Web applications that offer the responsiveness and GUI features of desktop applications
- Key tools for building RIAs
  - Adobe Flex
  - Microsoft Silverlight
  - ASP.NET Ajax
  - Sun’s JavaServer Faces
- Other Web development tools and technologies
  - Adobe’s Dreamweaver
  - web servers IIS and Apache
  - MySQL
  - PHP
  - ASP.NET

### Web services
- Allow you to incorporate functionality from existing applications into your own applications quickly and easily
  - Amazon Web Services
  - Google Maps web services
  - eBay web services

## 3.3 Search

### “Content is King”
- Search engines
- Primary tools people use to find information on the web
- Traffic to the major search engines growing rapidly
  - Americans conducted 8 billion search queries in June 2007, up 26% from the previous year
- Attention economy
  - Constant flow of information in today’s world causes attention to continually be diverted
  - Search engines help users quickly find and filter information

## Google Search

### Google
- Leading search company
- Online advertising company
- Founded by Larry Page and Sergey Brin
- Google’s success in search
  - PageRank algorithm
    - Number of links into the page, “quality” of linking sites, other factors = page rank value
  - Infrastructure of servers
- Google offers specialty search engines
  - Images, news, videos, blogs, etc.
- Google web services
  - Build Google Maps and other Google services into your applications
  - AdWords, Google’s pay-per-click (PPC) contextual advertising program
  - AdSense is Google’s advertising program for publishers
Other Search Players

- Yahoo!
  - Yahoo! started in 1994 by Jerry Yang and David Filo as a web directory rather than a search engine.
  - Yahoo! also expanded into other areas, becoming a popular provider of e-mail, user groups and more.
  - Yahoo! acquired Overture (now Yahoo! Search Marketing).

- MSN
  - MSN search was created in 1998, a year after Google was launched.
  - MSN’s Live Search includes a new search engine, index and.
  - Advertising market through Microsoft adCenter.

- Ask
  - Ask (formally known as AskJeeves.com).

Search Types

- Vertical Search
  - Vertical search engines are specialists.
    - focus on specific topics
    - (Google and Yahoo are generalists, e.g.)
  - Goal: providing user with fewer, more relevant results.

- Popular vertical search examples
  - Travel search (e.g., Kayak, Expedia).
  - Real-estate search (e.g., Zillow, Trulia).
  - Job search search (e.g., Indeed, Monster).
  - Shopping search (e.g., Shopzilla, MySimon).

- Location-Based Search
  - uses geographic information about the searcher to provide more relevant search results.
  - Have you experienced this?

Search Evolution

- Customized Search Engines
  - Rollyo.
  - build-your-own customized search engine website.
  - allows you to explore, create and personalize search engines (“searchrolls”) created by others.

- Search Engine Optimization (SEO)
  - Process of designing and tuning your website to maximize your findability and improve your rankings in organic (non-paid) search engine results.
  - Increase traffic.

- Link Building
  - Process of increasing search engine rankings and traffic by generating inbound links to a particular website.
  - Search engine result pages (SERPs).
  - Reciprocal linking.
  - Link baiting.
  - Natural linking.
More Search Evolution

- Search Engine Marketing (SEM)
  - Method of promoting your website to increase traffic and search results by raising the site’s visibility on search engine results pages
- Search Engine Watch and Search Engine Land
  - Search Engine Watch is a search engine marketing resource site
- Search Engine Strategies Conferences
  - Search Engine Strategies is a global conference series focused on search engine advertising (including current SEO and SEM issues).
- Discovery
  - Refers to finding new content you would not have otherwise sought out

3.4 Content Networks

- Content networks
  - websites or collections of websites that provide information in various forms
  - articles, wikis, blogs, etc
  - filter the vast amounts of information on the Internet

Fig. 3.2 Content Networks

- A network of over 200 blogs related to web, entertainment, technology, and more.
- Includes content on technology, business, law, science, and culture.
- Posts: Over 5,000 posts, authored by leading commentators in technology, business, law, science, and culture.
- Content is grouped into major topical areas, including: Web 2.0, Internet business, programming languages, software development, and more. See the footer for a complete list of categories.

- 100,000 articles explaining “how to do just about everything.”
  - The articles are written by members, and the site also features a section of “how to” videos.
3.5 User-Generated Content

- user-generated content =
- key to success for many leading Web 2.0 companies
  - articles
  - home videos
  - photos
  - implicitly generated

Collective Intelligence

- Collaboration can result in smart ideas
- Wisdom of Crowds
  - Large diverse groups of people can be smarter than a small group of specialists
### Other Collective Intelligence Examples

#### Craigslist
- Popular classified ads website that has radically changed the classified advertising market
- Ad postings on Craigslist are free
- Newspapers have experienced a decline in classified ad sales
- Users can post comments about their experiences with a vendor

#### Wikis
- Users edit existing content and add new information
  - Wikipedia
  - Wikia
  - MediaWiki open source software
  - SocialText
- Using wikis for project collaboration
  - reduces e-mails and phone calls among employees
  - allows tracking of changes to project content
- Collaborative Filtering
  - Users referee the content
    - Users promote valuable material
    - Users flag offensive, incorrect, or inappropriate material
  - Problems
    - Users might submit false or faulty information
    - Wikipedia "people deliberately add false information to entries"
    - Web 2.0 companies rely on the community to help police their sites

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### Dive Into® Web 2.0
(In Chapter 3)
Part One