Crossroads
The ACM Student Magazine

What is Web 2.0?

by ***Daniel Lewis***

Web 2.0 is what the Web is turning into. It is a revolutionary step forward, including not just what Web sites look like, but methods of interaction, styles of development, and sources of content. This article discusses the Web 2.0 concept and characteristics.

One of the main ideas behind Web 2.0 is usability. Web 2.0 applications tend to look more like desktop applications than Web pages: they have simple interfaces with plain colors and no busy patterns, logos, or animation. Moreover, they provide a richness of interaction previously found only in desktop applications. How is this possible? It's not just talented graphic artists, but perhaps how the applications are developed...

Web 2.0 systems are developed by creative programmers using development frameworks such as Ruby On Rails (for the Ruby programming language) and Django (for the Python programming language), or families of technologies like AJAX. The developers favor dynamic languages because they enable fast development, debugging, and deployment. Compare this to compiled, static languages, which tend to require more time to develop and are more complex to deploy. Dynamic programming languages also allow data and information to flow through the Web system easily, providing dynamic content.

Dynamic content is another important force behind Web 2.0. Information can be gathered from multiple sources in real time and assembled on a single Web page. But where does the information come from? Often users of a site create the content themselves. This comes in many forms, including:

- Blogging, or Web logging, which is like an online diary or news feed.
- Syndication, a concept similar to blogging except that information does not need to be viewed on a Web page.
- Resource sharing, which allows users to share their favorite Web links and other resources using descriptive words called tags. Example systems include **del.icio.us** and **bibsonomy.org**.

Similarly, topical information sharing is an open, collaborative approach to content generation that is typical of Web 2.0. The quintessential example of a topical information sharing system is the wiki (pronounced "wick-ee"). Wikis at first glance look like standard Web pages, but if you look carefully, you see that it is possible for any user to edit these pages. The most famous wiki is Wikipedia, an online encyclopedia that anyone can edit or add to.

Tim O'Reilly, the originator of the Web 2.0 concept, gives examples of Web 1.0 systems and ideas versus Web 2.0 systems and ideas [3]:

Web 1.0	**Web 2.0**
DoubleClick	Google AdSense
Ofoto	Flickr
Akamai	BitTorrent
mp3.com	Napster
Britannica Online	Wikipedia
personal websites	blogging
Evite	upcoming.org and EVDB
domain name speculation	search engine optimization
page views	cost per click
screen scraping	Web services
publishing	participation
content management systems	wikis
directories (taxonomy)	tagging ("folksonomy")
stickiness	syndication

As Web 2.0 systems emerge and develop, they are bringing desktop programs to the Web, to the point that desktop applications may be replaced by the Internet browser . We can already replace Word with Writely.com and Excel with Google Spreadsheet. We may eventually be able to replace Photoshop or GIMP with Pixoh.com.

There are a few potential problems to look out for though, as Web 2.0 takes shape. Chief among these is the loss of structure that could occur if Web developers focus exclusively on presenting data in human-oriented formats. The data can become messy and unreadable for machine users, hiding important or interesting information and making automation of tasks difficult. But the sheer numbers of Web 2.0 services already available show that it is time to upgrade the system.

For further detail and discussion, Paul Graham presents an interesting review of the technology [2]. There is also a Web 2.0 site that checks to see if other websites could be claimed as Web 2.0 [1]. Or check out an alternative view of Web 2.0 and its possible successor in [4].

References

1. Web 2.0 Validator, 03/03/2006, **http://web2.0validator.com/**
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4. Wainwright, P.What To Expect From Web 3.0, 11/29/2005, **http://blogs.zdnet.com/SAAS/?p=68**.

Biography

Daniel Lewis is a student at Oxford Brookes University studying for a BSc(Hons) in Intelligent Systems and Software Engineering. His computing interests include semantic web, Web 2.0, and intelligent systems. He is the Founder of the Brookes Computing Society at Oxford Brookes University