SuiteTwo | Web 2.0 Primer

What is Web 2.0?

There are as many opinions surrounding what constitutes Web 2.0 as there are open source applications leveraging its basic capabilities. But two views, one from Tim O'Reilly and another, more IT-centric view from Gartner, help to illuminate the core elements of Web 2.0.

Open Source Perspective from Tim O'Reilly

• The Web as a Platform

Web 2.0 can be viewed as a series of services that demonstrate some or all the principles of series of capabilities. These services use Web 2.0 as a kind of platform rather than architecture or hard set of technical boundaries.

• Harnessing Collective Intelligence

The success of companies which managed to break through the downturn that buried many companies during the post-dotcom era appears to hinge upon this basic fact: that they have embraced the Web to harness collective intelligence (from employees, partners, customers and virtually anyone impacted or interested in that particular organization's communication agenda).

• Data is the Next "Intel Inside"

With the growing popularity of consumer-generated content and information on a mass scale, the concept of "software" is quickly being replaced with the term "infoware", or a service experience dominated by rich, unique—and more often then not—user-generated content. From Google to MapQuest to eBay to Craigslist, these highly successful Web 2.0 companies have a common trait that involves massive data sources that inspire users to participate, and in return, contribute their own perspective, knowledge or data.

• End of the Software Release Cycle

A defining characteristic of Internet-era software is simply that it is delivered as a service, not as a product. Leading providers of internet services have all but eliminated the notion of a release cycle and instead allow users to dictate when they're ready for new functionality and interface changes.

• Lightweight Programming Models

Web 2.0 is transitioning the solution game away from heavy stacks of programming interfaces toward a distinctive assembly approach that relies upon lightweight components. Ajax, REST, XML, and to a lesser extent SOAP have become sudden stars on the developer scene due to their simplicity, but more importantly, due to the ease of assembling an open-based service using these new tools.

• Software Above the Level of a Single Device

iTunes and TiVo demonstrate many of the principles of Web 2.0. They are not Web applications per se, but they leverage the power of the Web as a "platform" to deliver a valuable experience to the end user. It's important to note that neither service delivers the final user experience on the classic PC platform, but both maximize the Web as a platform designed to facilitate the distinctive user experience on that non-PC device.

• Rich User Experiences

The ability of Web 2.0 to both remake current applications (e-mail, word processing, spreadsheets, etc.) and invent novel approaches to existing problems (mapping, real estate, auctions, etc.) is highly dependent upon new capabilities at the presentation layer. Combining Ajax, XHTML, CSS, Asynchronous HTML and classic JavaScript, Web developers finally have the tools they need to create truly immersive application experiences that were formerly the purview of client-based applications.

An IT Perspective from The Gartner Group

User Centered	Open	Simple and Lightweight	Decentralized and Participatory
• User-contributed content (Wikipedia, TripAdvisor) • User-generated metadata (TagCloud, Delicious) • User-centered design innovation (Google Maps and Gmail) • User-controlled Web experience (Firefox and Opera)	• Open services (Google and Amazon APIs) • Open technology foundation (LAMP) • Open intellectual property (LiveJournal, SocialText) • Open business practices (LiveJournal, Google)	• Keep-it-Simple Focus (Flickr, Google) • Simplicity in design (Google) • Lightweight protocols (SOAP, WSDL and XML) • Lightweight interfaces (Ajax) • Lightweight scripting languages (PHP, Perl)	• Decentralized and distributed content (RSS, Atom) • Decentralized and distributed logic (SOAP, REST, XHTML) • Decentralized and distributed development (open source)

What makes a company or service "Web 2.0-like"?

Services, not packaged software

An organization's users should interact with Web 2.0 through a serviced model with no inclination to install, manage or configure an actual application.

Control over unique, hard-to-recreate data sources

Harnessing the collective intelligence both inside and outside an organization results in a rich and ever-expanding repository of information and knowledge. As participation and interaction grows, these sources become even more enriched with unique and invaluable data.

Trusting users as co-developers

Employing lightweight and loosely-coupled systems provides those individuals most impacted by a service to contribute to its design and function. The benefactor of these services—users—become the functional drivers behind its fundamental capabilities, thus reflecting their base requirements and instinctive method of interaction with others.

Harnessing collective intelligence

Probably the most valuable aspect to Web 2.0 is harnessing and leveraging the collective intelligence of others. This will provide the viral base of contributors that continually improve and increase the rich information repository available to new and current participants.

Leveraging the long tail

Small sites make up the bulk of the internet's content; efficiently reaching and leveraging this aspect of the internet requires a focused self-service model that has a built-in viral communication mechanism.

Lightweight user interfaces, development models, and business models

Fostering broad participation without monolithic controls requires a new approach to interface design and business process models. These structures and supporting processes must be simple and lightweight, affording users the opportunity to not only participate, but ultimately change the experience itself.

Evolution of the Web— from Web 1.0 to Web 2.0

Why "Web 2.0" is more than a buzzword

Skeptics may see the term "Web 2.0" as little more than a buzzword; however, the label has helped aggregate a number of converging Web services under one banner that were formerly considered disjointed, although acknowledged to all be on a collision course. From RSS to Ajax, from wiki to blog, from RSS to mash-up, many collective intelligence or user-centric services have essentially emerged as a new Web platform—now commonly referred to, rightly or wrongly, as "Web 2.0". From static Web sites/pages (Web 1.0) to more dynamic Web pages (Web 1.5), Web 2.0 provides a new collaborative and participatory platform that blurs the lines between "publisher" and "reader".

Benefits to users

- Taking an active role on the Web, participating, creating and impacting versus browsing, reading and watching
- Simplified and more intuitive user experience
- Returning the Web's original promise of community one user at a time
- Returning consumers to the drivers seat
- More fulfilled promise of interoperability across applications and services

Benefits to IT professionals and support staff

• Faster development due to lighter development stacks
• Elimination of massive beta cycles
• Less burden on IT resources

Commercial Benefits of Web 2.0

Increased productivity

Organizations are closely following early Web 2.0 implementations from Google, LiveJournal, Flickr, Wikipedia and others for signs of dramatic productivity gains. The ability to leverage massive communication and collaboration capabilities at low cost across millions of users is attractive to many IT leaders. Few traditional applications have afforded these levels of scalability at near zero cost to the service provider.

Near instantaneous viral marketing capabilities

Early Web 2.0 implementations (Google, LiveJournal, Flickr, etc.) obtained their sheer size and scale through viral communication and community collaboration. Blogs, social networks and Wikipedia are essentially collaborative applications built on user-supplied content models—essentially applications that leverage the Web 2.0 platform. The once overstated "networking effect" of the Web has actually been realized, although late, with the Web 2.0 platform. The difference between today's platform and the promise of network-based marketing can be explained by the maturity and consistency in today's Web 2.0 platform.

More engaged staff, partners and customers

Research suggests that only 30% of an organization's staff are fully "engaged" in the operational success of their respective companies. An increase in staff communication, collaboration and to a certain extent social networking (staff networking) translates into increased productivity and more efficient staff communication. These productivity gains can be extended to partners and customers through the same capabilities applied within the organization.

Technology Versus Cultural Aspects of Web 2.0

Gartner Group analysts rightly pointed out the real impact of Web 2.0 may come in the form of change behaviors inside and outside the organization. While the technology enabling Web 2.0 may have immediate affects upon organization efficiencies (improved communication and faster user interface experiences), the more impactful and far-reaching affects may come in the form of how individuals interact with each other and in closing the gap between customers, products and brands.

Web 2.0 Examples—Evolution from Web 1.0 and Web 2.0

Rather then provide examples of strictly Web 2.0 solutions, it might be more informative to view Web 2.0 services in the context of earlier Web 1.0 offerings in the same basic category or solution area. The accompany table illustrates how evolutionary Web-centric solutions are, and more importantly, how Web 2.0 may only be an evolutionary staging area for future Web 3.0 capabilities!

Solution	Web 1.0 < Web 2.0
Ad Serving	DoubleClick < Google AdSense
Photo Sharing	Ofoto < Flickr
Distributed Bandwidth	Akamai < BitTorrent
Music Distribution	mp3.com < Napster
Knowledge Management	Britanica.com < Wikipedia
Publishing	Personal websites < blogging
Event Calendars	Evite < upcoming .org
Measurement	Page views < Cost per click
Site Integration	Screen scraping < Web Services
Information Distribution	Publishing < Participation
Information Structure	Content Management Systems < Wikis
Directory Model	Taxonomies < Folksonomies
Reader Loyalty	Stickiness < Syndication (RSS)

What happens next?

According to Gartner, Forrester and other industry experts, most organizations cannot ignore the compelling benefits inherent in the Web 2.0 story. The technology has become increasingly standards-driven while application components are nearly mainstream amongst consumer applications (Google, Flickr, Wikipedia, LiveJournal, etc.). Technology-focused areas of Web 2.0 such as Ajax, Really Simple Syndication (RSS) and representational state transfer (REST) APIs are easily adopted by IT organizations with minimal impact on current investments and the ITs target client base.

"Re-factoring" the organization into a more participatory model may pose more difficult in the short term for many enterprises. Emerging Web 2.0 bundles, such as those from SpikeSource, can provide the assurance IT managers need to begin deploying Web 2.0 solutions.