

Web 2.0 Definition

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Online text: <https://www.telework.ro/en/web-2-0/> <https://www.setthings.com/en/web-2-0-technologies/>

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Web 2.0 is the evolution of the Web towards greater simplicity (requiring no technical knowledge or computer for users) and interactivity (allowing everyone, individually or collectively, to contribute, share and collaborate in various forms). The term "Web 2.0" means all technical, features and uses of the World Wide Web that follow the original form of the web, especially interfaces that allow users with little technical knowledge to adopt new functionality of the web. Thus, users contribute to the exchange of information and can interact (share, exchange, etc.) simply, with both the content and structure of the pages, but also between them, creating this way the social web. The user is using the tools at its disposal, as an active person on the canvas.

The term "Web 2.0" used by Dale Dougherty in 2003, broadcast by Tim O'Reilly in 2004 and consolidated in 2005 with the position paper "What Is Web 2.0", was imposed from 2007.

The term "2.0" is now used as a generic term to apply the concept of Web 2.0 to other application domains.

Web 2.0 facilitates interaction between users, crowdsourcing and the creation of rudimentary social networks, which may serve content and exploiting network effects, with or without actual visual and interactive rendering of Web pages. In this sense, Web 2.0 sites act more as points of presence, or web portals, focusing on the user rather than on traditional websites. The evolution of the media allowing to consult the websites, their different formats, refocuses in 2008 on the content rather than on the aspect approach.

The new Web 2.0 templates try to make a graph care, effects, while remaining compatible with the variety of media. In Web 2.0 the Internet becomes an actor in feeding the sites content, such as blogs or wikis collaboratively, with even very rigorous citizen science devices.

2.0 websites allow users to do more than withdraw the information. By increasing what was already possible with Web 1.0, they provide users with new interfaces and new software. Users can now provide information to Web 2.0 sites and have control over some of them.

Web 2.0 technologies

The infrastructure of the Web 2.0 is complex and changing in nature, but it always includes:

- * server software,
- * content syndication,
- * messaging protocols,
- * navigation standards
- * various client applications (plug-ins, or grafts, non-standards are generally avoided).

These complementary approaches provide Web 2.0 storage capacities, creation and dissemination, as well as much higher than what was previously expected websites serendipity.

A site could be considered as part of a Web 2.0 approach if uses in a special way the following techniques:

- * CSS, XHTML markup semantically valid and microformats;
- * technology-rich applications such as Ajax;
- * RSS / Atom syndication and aggregation of content;
- * categorization labeling;
- * appropriate use of the URL;
- * REST or XML web services.

Web 2.0 is defined by its *content*, the shift to Web 2.0 therefore has nothing to do with the evolution of communication standards such as the transition to IPv6.

Rich Internet Application

Since the turn of the century, the rich Internet application techniques such as AJAX have improved the user experience of applications using a web browser. A web application using AJAX can exchange information between the client and the server to update the contents of a web page without refreshing the entire page using the browser. The "*Geospatial Web*" is one of the emerging forms of geographic recomposition of the entries of knowledge through ICTs, democratization of GPS and sometimes crowdsourcing applied to the citizen mapping, who gave OpenStreetMap for ex., and in other scales the NASA World Wind, and Google Earth, and Microsoft Live Local in 3D with environmental, social and economic still poorly understood impacts.

RSS

The first important move towards Web 2.0 was content syndication, using standardized protocols that allow users to make use of data from one site in another context, from another website to a browser plugin, or even a separate desktop application. These protocols include RSS, RDF (as in RSS 1.1) and Atom. All are based on XML. Specialized protocols such as FOAF and XFN (both for social networking) extend the functionality of the site and allow users to interact in a decentralized manner.

This bottom-up trend that many of these protocols become de facto standards rather than standards.

Labelling

Tags or labels or keywords improve semantic search, more heuristic and therefore presented in the form of a tag cloud.

These labels are small text expressions that describe a concept, are attached to a concept and used for searching content (typical examples: a forum, a blog, a blog directory) and, more

importantly, interconnect things together. A bit like a neural network: the more a label is used, the more the concept attached to the label is present and it takes more weight. More labels are present and more the attached concepts are interconnected.

The "markers" can include meta-elements (ie metadata).

Social tagging, folksonomy

The label provides a hierarchical prior sorting of sought items. The order of items is either the number of references or a "satisfaction rating" given by readers. In the latter case, the weighting scheme is defined by a human factor (the social side) which highlights some interesting data or articles in the mass of information. This is typically the case of social bookmarking.

Web protocols

Web communication protocols are a key component of the Web 2.0 infrastructure. Two main approaches are:

* *REST (REpresentational State Transfer)* indicates a way to exchange and manipulate data by simply using the HTTP GET, POST, PUT and DELETE verbs.

* *SOAP*, which involves posting to a server XML queries with a set of instructions to be executed.

In both cases, access to the services are defined by an application programming interface (API). Often, the interface is specific to the server. However, standardized interfaces to web programming (for example, to post on a blog) emerge. Most, but not all, communication with web services involves a transaction as XML (*eXtensible Markup Language*).

There is also WSDL (*Web Services Description Language*), a standard for the publication of Web Services interfaces.

Economic issues

After the gains due to the new economy, Web 2.0 has enabled the rapid enrichment of a few companies, as was the case during the first broadcast of the Web. And Facebook founder Mark Zuckerberg became a billionaire at age 23.

However, some were worried about the risk of developing a "2.0 bubble" similar to the first internet bubble. The blog TechCrunch, first blog of the A list, even made an article announcing the death of Web 2.0, the headstone marked "2004-2008" (which is also a valuable reference in the difficult task of dating the birth of the Web 2.0). But contrary to what was held for the first Internet bubble, this time the internet activities are not behind the 2008 crisis.