Chapter 3
The Anatomy of Web 2.0: The Web as a Platform to Promote Users’ Participation and Collaboration

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ABSTRACT

In the last 20 years we have assisted to the birth and growth of the World Wide Web. It rapidly changed from a tool conceived for scientists at CERN, into a global information network, populated by billions of users. Currently, we are experiencing another change within the Web paradigm, where the Web is viewed as a read/write tool enhancing users’ collaboration and participation in information creation, consuming and sharing. Web 2.0, intended as a second step in the Web’s evolution, is a complex topic and therefore it is difficult to clearly define it. It concerns viewing the Web as a platform for the development of Rich Internet Applications that go beyond the page metaphor of Web 1.0. It lies on the ideas of 1) users’ participation; 2) users production of content and; 3) data remixability, so that Web applications and services can be employed as social tools allowing mass users collaboration and information sharing. The authors describe in this chapter, the main concepts behind the Web 2.0 paradigm, together with the technological aspects and design patterns that demonstrate this new way to use and perceive the Web. In second stance, they highlight future directions and research trends which are leading to the next Web’s evolution phase: the Social Semantic Web.

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INTRODUCTION

The Web was initially conceived as a standard to link static hypertext documents by means of the HTML language. This approach is known as the 1.0 stage of the Web. With the advent of the first data memorization systems and server-side languages, we assisted to the birth of dynamic Web sites, like on-line bulletin boards or forums. This brought many advantages both to the developers (who can easily manage the contents of their Web site) and to the users (who can make use of always up-to-date contents, with more possibility of interaction and data filtering). Moreover, client-side languages and Cascading Style Sheets (CSS) enabled the creation of Web applications which have functionalities that are similar to the corresponding desktop applications. Web 2.0 is the term adopted to identify this kind of evolution, where the increment in the version number (from 1.0 to 2.0) does not refer to an updating of the technical aspects of the World Wide Web, but to a different use of the Web platform by developers.

It was mainly in 2004 that the diffusion of this new term associated with the Internet began to take place. Web sites like Flickr¹, Youtube² and Wikipedia³ started to influence the form users search, consume and share information. It is important to notice that most of these users did not even know the term Web 2.0, testifying that the level of adoption of a certain technology by users is not necessarily bound to its name. As stated by Tim Berners Lee (2006) during an interview, “Web 2.0 is of course a piece of jargon, nobody even knows what it means”.

The salient characteristics of Web 2.0 are: 1) the users’ participation in generating information and the consequent development of a collective intelligence; 2) the Web as an environment where developing Web sites and applications that put the control of contents in the hand of its final users; 3) the user-centered design and the rich user experience.

BACKGROUND

Starting from 2004 we are assisting to an evolution of the Web due to the birth of new services and applications that are changing the habits of Internet users. The term Web 2.0 was coined during a conference brainstorming session during FOO Camp⁴ (a conference at O’Reilly Media) where Dale Dougherty, vice-president of O’Reilly, stated that the Internet was going through a phase of growth and innovation that cannot be ignored. It is not possible to give a unique and synthetic definition of what the Web 2.0 is, mainly because not all the people agree on the point that it really is an innovation or a mere evolution. In any case, it is possible to refer to this compact definition of Tim O’Reilly (2006) in order to catch some of the most important aspects of Web 2.0: “Web 2.0 is the business revolution in the computer industry caused by the move to the Internet as platform, and an attempt to understand the rules for success on that new platform. Chief among those rules is this: Build applications that harness network effects to get better the more people use them” (O’Reilly, 2006).

It appears clear from this definition that one of the cardinal points of the Web 2.0 is the possibility to view the Web as a platform for developing new applications that no longer reside on users’ machines. The same fact of labeling with a version number this new stage of the Web can be viewed as an analogy with the classical desktop application we are used to. This process is mainly guided by the fact that the user no longer accepts to passively use this communication medium but otherwise to actively participate in its growth. Therefore, it should be an error to consider this second stage of the Web only from a technical point of view.

Skeptics support the thesis that the Web 2.0 term does not have its own meaning because it rests mainly with the meaning each promoter decides to assign to it. As stated by Russell Shaw (2005): “[...] But Web 2.0 does not exist. First of
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