Chapter 36
Capturing Online Collaboration in the Design Elements Model for Web 2.0 and Beyond

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ABSTRACT

When analyzing the design elements of Web 1.0 applications, Rayport and Jaworski’s 7C Framework (2001) is a model commonly used by researchers. With the advancement of the Web into the Web 2.0 generation, the 7C Framework is insufficient in addressing a critical feature ubiquitously present in Web 2.0 applications, that is, collaboration. In our previous work, we had extended the 7C Framework into the 8C Framework by incorporating the collaboration element in order to capture the collaboration element in Web 2.0 applications (Yang, Kim, Dhalwani, & Vu, 2008). In this chapter, we present the 8C framework as a reference model for analyzing collaborative Web 2.0 applications, including online social networking Web sites and online collaborative sites such as Wikipedia.

INTRODUCTION

With the advancement of Internet technologies and innovations in developing Web-based services in the past decade, Web-based applications are moving towards a new trend, that is Web 2.0. As the second phase in the evolution of the Web, Web 2.0 is recognized as an important collection of technologies, business strategies, and collaborative online social trends (Murugesan, 2007). Web 2.0 applications are capturing attention of many researchers through its special characteristics. Existing theoretical models such as the 7C Framework (Rayport & Jaworski,
Capturing Online Collaboration in the Design Elements Model for Web 2.0 and Beyond

2001) are useful in representing the interface elements of traditional Web-based applications. The framework is considered as a useful reference model for developers, analysts, managers, and executives, when designing and/or evaluating the interface components of Web-based applications. However, the 7C Framework is not sufficient for Web 2.0 applications since it fails to capture an important element of Web 2.0 application (i.e., collaboration). The basic question is how to develop the 7C model into an 8C framework as a reference model for analyzing collaborative Web 2.0 applications, including online social networking websites and online collaborative sites such as Wikipedia. Our primary contribution in this chapter is the development of the 8C framework as a reference model for analyzing collaborative Web 2.0 applications.

In the rest of this chapter, we first discuss the general principles of Web 2.0 and its technical characteristics. Then, we discuss the concept of collaboration in Web 2.0 applications and the facilitating technologies related to collaboration. We also discuss Wikipedia and related examples as illustrations of online collaboration in Web 2.0. Extending the 7C model by adding collaboration element, which is present in almost all Web 2.0 applications, we introduce the 8C Framework as a reference model for designing and evaluating Web 2.0 applications. Next, we compare and analyze online social networks (OSN) and online collaboration sites (OCS) as representative Web-based services using the 8C Framework. Finally, the interface design elements of the Wikipedia website are examined using the 8C Framework.

WEB 2.0, ITS PRINCIPLES AND TECHNICAL CHARACTERISTICS

Over the last few years, the World Wide Web has undergone many innovative changes, such as changes in application design (e.g., the look and feel components), development technologies / tools (e.g., Java scripts, Flash technology, etc.), and services (e.g., commerce, social networking, collaboration, etc.). A new term Web 2.0 has been coined by O’Reilly Media (O’Reilly, 2005) to distinguish between the old and the new generations of Web applications. Web 2.0 has unique principles and technical characteristics.

Web 2.0 Principles

Tim O’Reilly, the president and CEO of O’Reilly Media, is the one who is instrumental in coining the term Web 2.0. He explained what Web 2.0 is by using seven principles/features, which are considered as the core competencies of Web 2.0 applications (O’Reilly, 2005). Those principles include the following:

- **Services, not packaged software, with cost-effective scalability:** This means that it is the services that are generating the revenue for the organizations, as opposed to selling products in traditional applications.
- **Control over unique, hard-to-recreate data sources that get richer as more people use them:** An example is the bit-torrent where people using the services add their own resources to the whole set of consumers. Thus the services get better and better as more people use it.
- **Trusting users as co-developers:** This type of development model is used in developing many open source products. The feedback from the users helps the developer and/or the organization to make the product better, and in many cases, the users are active developers as well. Therefore, the collective intelligence (see below) of the users/developers adds value to the products.
- **Harnessing collective intelligence:** This aspect deals with collaborative services provided by the Web site. The network effects from user contributions are the key to market dominance in Web 2.0. The success