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Web 2.0 + Library = Library 2.0 / What is Library 2.0?

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1.0 Introduction

The continuous and rapid advancements in Information Communication Technologies (ICT) have caused massive and rapid alterations across all human social activities (Torero & Braun, 2005). The development in ICT has facilitated the accessing, transmitting and storing information (Lopez, 2005).

ICT offered new opportunities for the development of new services and improved quality of life (Moodley, 2004). The result of these electronic activities made the current era known by the information era and made individuals or social actors leave in Information Societies (Moodley, 2004).

The dramatic advances in technologies, particularly in Internet technologies have changed the way individuals seek and obtain information, as a result it changed the learning environments (Craig, 2007). There are dramatic increases in web usage worldwide, statistics show more than one billion online hosts out of the entire world population which is six billion, active on the Internet (Internet World States, 2007).

The emerging of new programming languages for the web such as: Java and XML and the integration of it such as: asynchronous Javascript and XML (AJAX) (Ritchie, 2007) has promised new transformation for more dynamic web applications (Jazayeri, 2007) and more interactive between online users. This current shift in web technologies is commonly under a sobriquet for several of online activities known currently by Web 2.0 (Maness, 2006).

This assignment will present the definitions and will demonstrate the scholar's views about Web 2.0. Also, this assignment will cover briefly the states of the Web 2.0 activities in Middle East area, specifically the Gulf Cooperation Countries. At the end the researcher will focus and explore some of the Web 2.0 activities that developed and changed the libraries environment and caused the shifting to what is currently known by the Library 2.0 (L2.0).

2.0 Web 2.0

The term Web 2.0 was conceptualized and introduced by Tim O'Reilly and Dale Dougherty in 2004 by O'Reilly Media (Maness, 2006). After eighteen months from the announcement of the Web 2.0 term 9.5 million citations has been found in Google search engine citing this term (O'Reilly, 2005). This huge number of citation shows that people are eager for new electronic experience or maybe of new electronic era.

In 2005 O'Reilly presented the concept of Web 2.0 after it has been announced in 2004 as:

“leverage customer-self service and algorithmic data management to reach out the entire web, to the edges and not just the center, to the long tail and not just the head” (2005).

After a year O'Reilly in 2006 presented more coherent definition for Web 2.0, as response to the request of the commentators regarding more clarification about the definition. O'Reilly defined Web 2.0 as:

“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” (2006).

Comparing the two definitions will present an indication that O'Reilly is trying to connect all the elements of Web 2.0 as much as possible. However, as O'Reilly mentioned in 2006 that the concept of Web 2.0 is new and needs more time to ripen. It seems is not only experts have not clear understanding but also O'Reilly floundering in presenting clear definition about this new concept.

There is quite huge number of literature that combined the definition of Web 2.0, most of the studies were about defining and describing Web 2.0.

Deshpande & Jadad (2006) defined Web 2.0 as:

“a term used to herald the second wave of the World Wide Web, one that allows individuals to publish, collaborate and share experiences with other like-minded individuals or groups” (2006:333).

This definition focused mainly on sharing and collaboration between online hosts, does this mean that the defect of Web 1.0 was inhibiting the collaboration and sharing between online hosts. Perhaps Deshpande & Jadad want to encourage these types of activities on the Internet.

Madden & Fox (2006) mentioned three points before defining Web 2.0, the points as follows:

- “Web 2.0 does not have anything to do with Internet;
- Web 2.0 is not a new and improved internet network operating on a separate backbone;
- It is Ok if you’ve heard the term and nodded in recognition, without having the faintest idea of what it really means” (2006).

Then, in the same paper, Madden & Fox (2006) introduced the concept of Web 2.0 as a group of principles and applications evolved from latest technologies.

Most of the definitions mentioned in the literature were spinning in the same link about Internet socializations and the emerging of new technologies. The researchers still unsure about the tangible concept of Web 2.0 and this perhaps that the researcher are not convinced yet of when Web 1.0 did it end, and when Web 2.0 did launch.

The literature about Web 2.0 comprised several of views among the researcher about Web 2.0 the following section will demonstrate some of these views.

3.0 What is Web 2.0?

Varies researches and commentaries exist about Web 2.0 delivered different visions about scholars prospective toward Web 2.0 which makes currently the context of Web 2.0 is not to cohere (Crawford, 2006) and to some extent there is inaccurate perception about Web 2.0 between scholars (O'Reilly, 2005). Perhaps it is new technological advent and every branch of science or knowledge want to draw its implications out of web 2.0 for the technology landscape.

There are four views among scholars who have written about Web 2.0. The first view is some scholars perceive the Web 2.0 as new breakthrough in electronic applications emerged on the Internet new revolution of publishing based on host's new methods in interaction and socialising (Anderson, 2007). The second view of scholars believed that Web 2.0 is new technological development occurred lately on web technology (Maness, 2006). While others see Web 2.0 is a combination of both of the above visions (Jazayeri, 2007). The most interesting vision was presented by Marshall Breeding, an expert in the field of library science and a commentator in *Computers in Libraries Journal* in May 2007, that no one knows the tangible meaning of Web 2.0 it is just a hyperbole and the electronic activities of this concept its been existed in Web 1.0 long before the emerging of the Web 2.0 concept in 2004 (Breeding, 2007).

It become evident out of the visions presented above that there is consensus amongst researchers about the existing of Web 2.0. However, there is a lack of comprehensive awareness about Web 2.0 (O'Reilly, 2006) whether it is publishing, social revolution or it is web development. The concept of Web 2.0 needs more sufficient time (Oberhelman, 2007; O'Reilly, 2006) to toss between ICT experts in different fields in order to get more patent.

It is worth mentioning that after reviewing the literature of Web 2.0 the main focus from authors was mainly about introducing the concept. However, there has been seldom number of literature that have addressed, examined or investigated any of demographic factors such as: culture, age and gender, but it was not about Web 2.0 was about ICT and have addressed some of the Web 2.0 applications.

One of the main factors that have substantial number of studies and under ongoing projects is the gender factor. For several of reasons there is a phenomena that female are taking less advantage in sharing for building the information society (United Nation Economic commission, 2005).

Hou et al. (2006) have conducted study about gender differences and use of ICT applications. In this study it has been found that boys and girls between the ages of 9 to 13 have different perceptions toward the use of computers. In general girls can handle more than an electronic application and prefer mostly the communication. Whereas, boys there perception toward technology is for entertainment and fun.

There are studies that focused on women as workers on the IT sectors (Nielsen et al., 2003). Carayon et al. (2003) conducted study to examine the factors of work environment that might affect women in the IT workforce. The study found that there is no impact of gender on job satisfaction that is connected to IT workforce.

After presenting briefly the gender factor which is considered one of the essential factors that concern most experts in the ICT field, it shows that there is an obstacle regarding women and the use of technology. Maybe this obstacle will appear again in Web 2.0 or perhaps this obstacle will stay on Web 1.0 and the Web 2.0 will be the solution for women to have better chance in building the information society.

The following section will present briefly some of Web 2.0 components and the definitions of it.

4.0 Web 2.0 components

There are several of Web 2.0 applications that appeared on the Internet long time before the emerging of the Web 2.0 concept in 2004 its known by Web-based services (Breeding, 2007). These applications based on sharing information or media files between online hosts that represent certain syndication or group (Maness, 2006).

These applications include blogs, wikis, content tagging, mashups, synchronous messaging, streaming media and RSS feeds and other examples (Breeding, 2006; Anderson, 2007).

This section will introduce the definitions for some of these applications mentioned above, due to the words limit of this assignment. A later discussion about Library 2.0 will demonstrate the aspiration of the library and information science scholars toward the emerging of these Web 2.0 applications mainly the applications that defined in this section.

4.1 Blogs

Blog is an abbreviation that was coined by Jorn Barger in 1997 which means web-log (Anderson, 2007). Blogs have essential implications in adding to knowledge. It is considered as another form of publishing (Maness, 2006), and what makes it interesting is allowing the blog participants to add comments. This is some examples of blogs <http://radar.oreilly.com> and <http://librariansmatter.com/blog/> . Google has introduced a search engine that facilitates locating any preferable blog at <http://blogsearch.google.com/> .

4.2 Wikis

To some extent wikis idea is similar to the blog. However, wikis has more vital applications in making the web page is open for any registered host to publish, modify or update what has been published. Wikis is considered a tool that gathers different experts from all around the world to work as group and to present their production (Anderson, 2007). Some examples of wikis <http://en.wikipedia.org/wiki/Wiki> and <http://www.wikohow.com> .

4.3 Content Tagging

The idea of this application which allows the Internet hosts to create subject headings for certain object. It gives the opportunity for the hosts not only to add and modify the data, but also adding description to the data which is known by metadata via Application Programmer Interface (API) (Sinha, 2005). The tagging is a service that includes lots of digital formats such as video, audio and images. These are some useful examples of tagging application <http://www.flickr.com/> and <http://youtube.com/> , Also <http://www.librarything.com/> .

4.4 Really Simple Syndication (RSS) Feeds

RSS feeds is family of formats which was known previously by Rich Site Summary which facilitate transmitting and receiving contents via RSS and other XML protocols (Breeding, 2007). The fundamental idea for RSS is shortcut method that enables the host to requesting updates with out a requirement to visit other web sites (Anderson, 2007).

4.5 Mashups

The idea beyond mashups is hybrid or mix Web 2.0 applications (Maness, 2006). It allows the participant to activate, share or collaborate by any recommended form whether transmitting or receiving textual data, descriptive metadata, information, images and videos etc.

5.0 Web 2.0 and the Gulf countries

The Gulf region comprises six countries, namely Kuwait, Qatar, the United Arab Emirates, Oman, Saudi Arabia, and Bahrain. After reviewing Internet world states statistics it has been found major growth of the internet users in the Gulf countries during the past six years. The statistics shows that almost one fifth which is 18.3 % of the entire Gulf countries population which is almost 35,500,000 are currently log into the Internet (Internet World States, 2007).

Concerning Web 2.0 (Eikelmann et al., 2007) pointed that Middle East users and this is Gulf countries including Egypt are frequently visit Web 2.0 sites such as: Amazon, Wikipidia, Hi5, youtube, and the most demandable Web 2.0 sites are Mp3.com, MySpace, Blogger, iTunes. The other finding that the study found that 50% of adults worldwide and out of it 15% of Middle Eastern adults use Web 2.0 sites.

This is considered a major finding for the acceptance of Web 2.0 between Internet users in the Middle East. The ratio presented also deliver a kind of the future expectation for the use of the Web 2.o sites and will flourish for more users in the near future.

The following section will define and demonstrate library 2.0 and the new web facilities that libraries will gather out of the Web 2.0 applications.

6.0 Library 2.0

It is noted that the professionals in the field of libraries and information science are, for the most part, the scholars who have focused with clarity on the concept of Web 2.0 (Iser, 2006). Scholars in the libraries domain have examined this concept in several dimensions and what is attracting these experts is the idea of socialising and particularly sharing and collaboration online.

However, the experts are also divided into three types of views, but these views are more focused and are delivered in a more coherent form. The first and second views are similar to those that have been mentioned above and are related to socialising on the Internet and to technological development. The third view is presenting the concept of the Web 2.0 as a revolution that has occurred and has developed the software and become known now as social software (Secker, 2007).

Before presenting examples, this section will cover only the Web 2.0 applications that were presented in section 4.0, due to the word limitations of this assignment.

Adopting Web 2.0 applications in libraries will add great value to the activities of collaboration, communication and information sharing between the library and its patrons.

6.1 Blogs for libraries

As mentioned above blogs are a new method of publication. Scholars in the field of library and information science see blogs as a new source of information that will benefit collection development (Maness, 2006).

However, there are some disadvantages to introducing the blogs application to libraries and they are connected to a lack of security as well as to the editorial process used for the information published in these blogs (Maness, 2006). Also, blogs require some tasks from the librarian in the collection development process which current librarians and libraries are not familiar with (Maness, 2006).

6.2 Libraries Wikis as service

Although, wikis are similar to blogs, wikis are seen by scholars as study rooms online (Maness, 2006). Library patrons via the wiki can share information, ask or even answer questions.

6.3 Content Tagging

This application interests mostly the libraries. The idea of this application is similar to an open catalogue, which allows the library patrons to add to the library catalogue. This idea will enrich the catalogue relationship with the library resource and will facilitate the process of searching to identify certain items in the library.

6.4 RSS Feeds

This is a series of formats that facilitate the updating service through a process known as syndication. Librarians can gain the benefit of using this format to be updated with, for instance, publishing information or new items in the library collection. It is worth

mentioning that most blogs depend on RSS formats to allow participants in the blogs to be updated. RSS is considered a gateway for most Web 2.0 applications (Bradley, 2007).

6.5 Mashups

Library 2.0 is a mashup for library 1.0. The mashup is a hybrid of technologies that are evolved from Web 2.0, compressing all of the applications mentioned above.

The latest developments in web technology have allowed the libraries to identify and remember their users online. Web 2.0 has promised for the library and the librarians a new shift to an era of more online interaction and social activity between the library and its users. Moreover, Web 2.0 will provide a rich addition to library electronic content and this is will add new functions to the library and new experiences.

7.0 Conclusion

From what has been presented in the literature, the concept of Web 2.0 is still being established. There is a unique desire to describe either a tangible technological development or a shift to a new technological era. Perhaps Web 2.0 is step in future development, which is paving the way for the web interfaces to be ready for a new advent. However, is it really a development or is it just encouraging the Internet hosts to condense specific Web 2.0 applications?

Researchers and experts need to conduct focused studies around the state of the current web with particular focus on the Web 2.0 applications. Also, as the science is witnessing a new branch of knowledge, the researcher must see it as a web science area. This branch of knowledge must be considered by experts and presented with an independent science foundation.

On the other hand, Web 2.0 implications are not only affecting the developed countries, as witnessed with several ICT applications, but also the developing countries, where there is considerable Internet use and this must also be borne in scholars' minds.

The Web 2.0 influenced the libraries domain and has promised the libraries a shift in the near future to what is known as Library 2.0. The emergence of this concept will change the library electronic environment and will add new forms to library electronic resources. This requires the libraries to cope with these activities and decision makers must take serious resolutions for adopting the Web 2.0 components. Also, libraries should prepare their staff for this new transformation.

The idea of combining both the interaction of the user and the web gives great motivation to the way the Internet hosts use the web. However, the question that needs to be clarified is whether there is a need for new methods or applications based on this way of using the Internet or whether there is a need for real technological development and an actual shift to a new technological era. This what the schools are going to provide in their up coming and up dated studies.

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