

Adaptive Online Environments and Semantic Web in the Development of the Web

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Abstract

The aim of this research is important in the development process, which occupies a web technology to explore Adaptive Online Environments and Semantic Web concepts. Web technologies it's important place in the lives of users. In this sense, it is thought that show the way to the researchers of the concepts studied. This research is document analysis method. Information obtained from different sources can be Adapted in Online Environments, the Semantic Web and the development of different aspects of the web, and the relationship between them are revealed. In this respect can be Adapted Environments today and the Semantic Web is a quick orientation to issues concluded.

Keywords: Adaptive online environments, Semantic web, Web development

1. Introduction

The use of the Web began in the 1990s and to date. Communications officer training, entertainments and shopping in different fields has progressed very quickly. This is also the Web's development progress in the process. Rapid progress with new Web technologies that provide different names; Web 1.0, Web 2.0 and Web 3.0. Different names encountered concepts of new Web technologies. Adaptive Online Environments and the Semantic Web is one of these concepts. Web technologies used to replace each other different concepts sometimes. In fact, they have different meanings.

Adaptive Online Environments are increasingly spreading and becoming a popular traditional application. The development of technology with Web 3.0 and Semantic Web technologies and therefore is considered to be a fairly large contribution to these environments. Emerging technologies can be adapted in parallel studies related to online environments is increasing rapidly (Şahin & Kışla, 2013).

2. Method

In this study, the development of the web, Adaptive Online Environments and the Semantic Web to provide information about the types of qualitative research document analysis. Document analysis, targeted to investigate a case or event that contains information about the materials analysis (Yıldırım ve Şimşek, 2013).

There are a number of stages to be followed when the document analysis. These are (1) access to documents, (2) check the authenticity of the documents, (3) comprehension, (4) using the data to analyse the data, and (5) is in the form of (Forster, 1995). In this respect the first "Adaptive Online Environments, the concept of the Web, the Semantic Web" using keywords such as digital databases, press release sites and weblogs through a democratization. Information obtained as a result of browsing the different sources, large scale by comparing with the right information. As a result, we tried to obtain consistent results reporting.

3. Results

3.1. Adaptive Online Environments

A distinctive feature of an adaptive system is an explicit user model that represents user knowledge, goals, interests, as well as other features that enable the system to adapt to different users with their own specific set of goals. An adaptive system collects data for the user model from various sources that can include implicitly observing user interaction and explicitly requesting direct input from the user. The user model is applied to provide an adaptation effect, i.e., tailor interaction to different users in the same context. In different kinds of adaptive systems, adaptation effects could vary greatly. In these systems, it is limited to three major adaptation technologies — adaptive content selection, adaptive navigation support, and adaptive presentation. The first of these three technologies comes from the fields of adaptive Information Retrieval (IR) and Intelligent Tutoring Systems (ITS) (Brusilovsky, 2012).

Adaptive Online Environments, it can be said that the three main reasons why the need to be heard (Somyürek, 2009):

- Due to the increased density of the information needed to help you quickly reach the right and requirement information,
- For all users in the same environments that offer different content and navigation structure to meet requirements of individuals and individuals with time running out to meet requirements changed,
- Some non-linear structure of hypermedia usability problems caused by prevention needs.

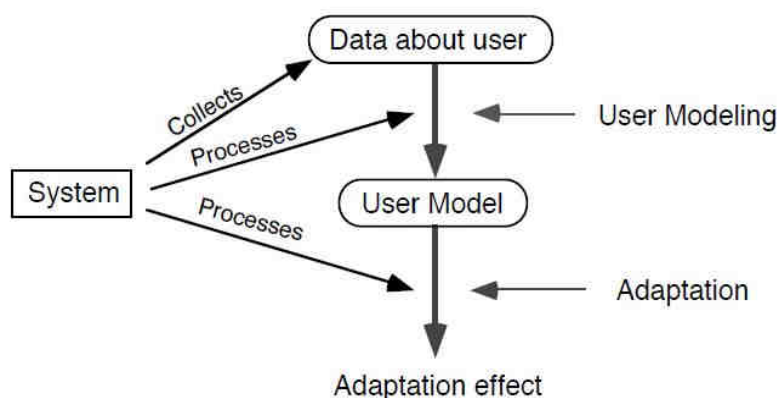


Figure 1. Classic loop “user modeling-adaptation” in adaptive systems (Brusilovsky, 1996)

In addition there are two basic Adaptive systems according to size (Somyürek, 2009):

- User model creation
- Implementation of adaptations

3.2. Semantic Web

“The Semantic Web provides a common framework that allows data to be shared and reused across application, enterprise, and community boundaries. It is a collaborative effort led by W3C. It is based on the Resource Description Framework (RDF).”(Campbell & MacNeill, 2010).

The basic idea of a Semantic Web is to provide cost-efficient ways to publish information in distributed environments. To reduce costs when it comes to transferring information among systems, standards play the most crucial role. Either the transmitter or the receiver has to convert or map its data into a structure so it can be understood by the receiver. This conversion or mapping must be done on at least three different levels: used syntax, schemas and vocabularies used to deliver meaningful information; it becomes even more time-consuming when information is provided by multiple systems. An ideal scenario would be a fully-harmonised internet where all of those layers are based on exactly one single standard, but the fact is that we face too many standards or de-facto standards today (Bauer & Kaltenbock, 2016).

Figure 2 shows the architecture of web layers.

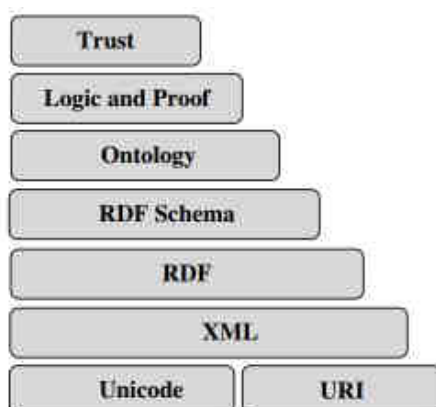


Figure 2. Semantic Web layered architecture (Aghaei, Nematbakhsh & Farsani, 2012).

The essential property of the World Wide Web is its universality. The power of a hypertext link is that "anything can link to anything." Web technology, therefore, must not discriminate between the scribbled draft and the polished performance, between commercial and academic information, or among cultures, languages, media and so on. Information varies along many axes. One of these is the difference between information produced primarily for human consumption and that produced mainly for machines. At one end of the scale we have everything from the five-second TV commercial to poetry. At the other end we have databases, programs and sensor output. To date, the Web has developed most rapidly as a medium of documents for people rather than for data and information that can be processed automatically. The Semantic Web aims to make up for this (Berners-Lee, Hendler & Lassila, 2001).

3.3. Development of the Web

While phenomenally successful in terms of size and number of users, today's World Wide Web is fundamentally a relatively simple artefact. Web content consists mainly of distributed hypertext, and is accessed via a combination of keyword based search and link navigation. This simplicity has been one of the great strengths of the web, and has been an important factor in its popularity and growth: naive users are able to use it, and can even create their own content (Horrocks & Bechhofer, 2016).

The tabular comparison gives an idea of a variety of features related to these web generations. Web 1.0 provided users a platform to search and buy products or services from anywhere at any time. Web 2.0 facilitated users to share their views and ideas with other users across the globe through social media. Web 3.0 added machine learning to the web pages which reduced human cognitive efforts required to deal with the Internet. The symbiotic nature of Web 4.0 will bring a new era of "human social engagement" with the web (Solanki & Dongaonkar, 2016).

Web technologies development are given in Figure 2.

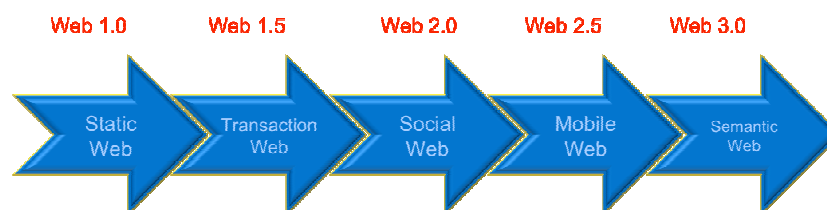


Figure 2. Development of web technologies (Webnextgen, 2016)

As shown in Figure 2, Web technologies are evolving since the day it started. This development offers new technologies and are referred to by different names.

4. Conclusion

These working with Adaptive Online Environments, Semantic Web, and information about the development of the Web. This has made it possible for researchers to be aware of the areas of web technology. Researchers in this informational web technologies is required for future success.

The success of Adaptive Online Environments and Semantic Web technologies depends on the development of the concept of computer software and ontology. Computer engineers and researchers to work in this field to learn about important topics. These topics and concepts for their new detailed and interdisciplinary studies.

This study also provides an overview of the Web development. Starting with Web 1.0 and Web 3.0 to the ongoing process with new technologies. This work with the Web development process, process about the web are given information about the types. Thus, information to be kept informed of the development of researcher in the field of Web is intended to provide.

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