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Introduction to Webology

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Abstract

This paper defines Webology as a field of science that deals with the phenomenon of the World Wide Web. Webology is still in its infancy, and just like other fields of science, it needs to be studied and matured during the time. On the other hand, the Web as an important information source should be studied to identify its capabilities, problems, advantages and disadvantages.

Keywords

Introduction

The World Wide Web is the global hypertext network of servers providing access to documents written in a language called Hyper Text Markup Language (HTML) that allows its contents to be interlinked, locally and remotely. The Web is a vast network of hyperlinked resources, stored on computers throughout the world that can provide access to information on a huge variety of subjects for all kinds of users. It is a great ocean on which anyone surfs from site to site. The Web has a greater impact on communications and society than any other technology and it has only just started. The introduction of the Web as a part of the Internet in 1991, helped make the Internet more popular and easier to use.

The fundamental idea of the World Wide Web is the presentation of hypertext. The origins of hypertext can be traced back to 1945. Then, Vannevar Bush, a science advisor to President Roosevelt, proposed a system called "Memex". It was able to store vast amounts of information, links of related texts and illustrations, which could be saved and used for future reference. Twenty years later Theodor Holm Nelson coined the word "hypertext" and in 1981 he conceptualized "Xanadu", a central, pay-per-document hypertext database containing "all" written information. In 1988, Autodesk bought the Xanadu project, "finished" it, and dropped the project in 1992. In 1994, Nelson was invited to Japan and founded the Sapporo HyperLab with the support of Hitachi and Fujitsu. More recently he was given a research appointment by Keio University, where he planed to continue building Xanadu (Scholz, 1998).

The Web was designed in 1989 by Tim Berners-Lee at the European Organization for Nuclear Research (CERN) in Geneva. He was working in the computing services section

of CERN in 1989 when he came up with the concept of the Web. His proposal concerned the management of general information about accelerators and experiments at CERN. It discussed the problems of loss of information about complex evolving systems and derived a solution based on a distributed hypertext system. The Web was designed as a "hypertext system" for the purpose of enabling efficient and easy information-sharing among geographically separated teams of researchers. His proposed system would have the following components:

- A consistent user interface
- The ability to incorporate a wide range of technologies and document types
- "universal readership", that means anyone sitting anywhere on the network could read the same document as anyone else, and could do so easily.

Berners-Lee's proposal on information management included the following quote: "Meanwhile, several programs have been made exploring these ideas, both commercially and academically. Most of them use 'hot spots' in documents, like icons, or highlighted phrases, as sensitive areas. Touching a hot spot with a mouse brings up the relevant information, or expands the text on the screen to include it. Imagine, then, the references in this document, all being associated with the network address of the thing to which they referred, so that while reading this document you could skip to them with a click of the mouse" (Berners-Lee, 1989).

The Web is the global networked information system of interlinked computer networks that serves files formatted in HTML, XML, PDF, DOC, and other file types. These files (documents) can contain text, images and multimedia components, can include hyperlinks to other such files on different host servers, and can also act as interfaces, in particular, help users to meet their specific information needs. Some people incorrectly equate the World Wide Web with the Internet. Although the Web utilizes the Internet as its information transmission medium, they are not the same. The Web is not synonymous with the Internet; but, it is just one of the most popular services on the Internet.

As stated by Tim Berners-Lee (2004) the dream behind the Web is of a common information space in which we communicate by sharing information. Its universality is essential: the fact that a hypertext link can point to anything, be it personal, local or global, be it draft or highly polished. There was a second part of the dream, too, dependent on the Web being so generally used that it became a realistic mirror (or in fact the primary embodiment) of the ways in which we work and play and socialize. That was that once the state of our interactions was online, we could then use computers to help us analyze it, make sense of what we are doing, where we individually fit in, and how we can better work together. The Web is administered by the Internet Architecture Board (IAB) and the W3 Consortium (www.w3.org) running at the Massachusetts Institute of Technology (MIT). Their function is controlling the Web in collaboration with the originator of the World Wide Web, CERN.

The Web is an important medium of research and education in many parts of the world. It is now widely used as one of the primary means of disseminating research findings and information through digital libraries and electronic documents such as e-journals (Harter & Ford, 2000; Halliday & Oppenheim, 2001), e-print archives (Harnad & Carr, 2000; Garner et al., 2001; Town et al., 2002) and online conference proceedings (Goodrum et al., 2001). The Internet and more specifically the Web quickly has become a major information medium and influences several aspects of our lives. Therefore, systematic evaluation and analysis of all aspects of the Web phenomena can help us understand how this medium works.

What is webology?

Briefly, *Webology* is a compound noun coming from two words, "Web" and the suffix "-logy" as a word ending. "Web" stands for "World Wide Web", and the suffix "-ology" means "the study of". There are many definitions of the words "-*logy*" and "-*ology*". In this paper, we try to explain the most important definitions of them. "-logy" is a word ending that defines as the science or study of something. It is a colloquial or humorous name for any science or branch of knowledge (Dictionary.reference.com, 2004). The root word, "-logy" comes from the Greek word "Logos". It is a combining form denoting a discourse, treatise, doctrine, theory, science; as *psychology*, *biology* (Webster's Revised Unabridged Dictionary, 1998). The word *ology* is a back-formation from the names of these disciplines. Such words are formed from Greek or Latin roots with the terminal -*logy* derived from the Greek suffix -*λογια* (-*logia*), *speaking*, from *λεγειν* (*legein*), *to speak* (The Free Dictionary, 2004).

The names of sciences or departments of study, like "Webology", have always a noun for their first element, and *o* is the combining vowel of all declensions of Greek nouns, the ending of these compounds is in actual use always -ολογία, becoming -ology in English. The names of sciences with this ending are very numerous: some represent words already formed in Greek, as *theology*, *astrology*; many represent formations which might legitimately have existed in Greek, as *geology*, *zoology*, *psychology*; others are of hybrid composition, as *sociology*, *terminology*, *insectology*. The modern formations in -*logy* follow the analogy of Greek formations in having *o* as the combining vowel; exceptions are *petrology* and *mineralogy* (French *minéralogie*) which may be viewed as a contraction for *mineralology*. The suffix -*ology* is freely used in the formation of humorous nonce-words (Oxford English Dictionary, 2004). There are about 400 different -ologies listed in Chambers Dictionary (2003), but in about 90 % of cases -*ology* means the study, theory, art, or science of a subject.

Webology is a new science concerned with the study and theory of the Web phenomenon. *Webology* encompasses all studies of web-related phenomena. In other words, *Webology* is the study of the Web including its structure, organization, topology, functions, characteristics, interconnections, and development.

Conclusion

Webology as an academic discipline is still in its experimental stage and it seems necessary to study all the various aspects and issues of the Web. For this purpose, some universities and academic institutions, such as the Northern Marianas College, are organizing an academic department called "The Department of Webology" for studying the World Wide Web.

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