Chapter XIV

Designing Hypertext and the Web with the Heart and the Mind

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ABSTRACT

This chapter reviews continuing usability problems with hypertext and Web applications and highlights new issues, in particular, cultural and ethical, brought about due to internationalisation. It argues for a move away from treatment to prevention, from treating the end-user’s symptoms — themselves a reaction to bad design — to avoiding the bad design. Therefore, the way hypertexts and the Web are designed and built needs to be re-examined. It suggests that new approaches to Web modelling are required to address usability issues that might be due to human errors or design problems. This chapter concludes by suggesting several practical and theoretical contributions to address the deficiencies in current hypertext and Web design.
BRIEF HISTORY OF HYPERTEXT AND THE WEB

When Vannevar Bush (1945) envisioned his hypertext "memex," he dreamed of a personal microfiche-based system that would help him tackle the problem of information overload at that time. His vision of the "memex" heralded the beginning of a search for a system that mimics the human mind to access information quickly and intuitively by reference. In 1965, Ted Nelson (1987) coined the term "hypertext" and presented it as a radical new way of structuring textual information into nonsequential format, a computer-based incarnation of Bush's dream "memex" (Berk & Devlin, 1991). Even though the technology in the "early" years of the hypertext history (for example, Conklin, 1987; Nielsen, 1995; etc.) was not sophisticated enough for many of the ideas to be realised, hypertext pioneers staunchly believed that hypertext technology had something special to offer. The hypertext systems that have evolved over the past five decades give us some clues on the different perspectives taken by hypertext authors with regard to what they think hypertext is, what hypertext could be used for, and the then available technology that supported its implementation (Theng, 1997).

Not surprisingly, as the years roll by, hypertext systems grow more sophisticated and computer is the technology that has enabled the concept of hypertext to be seen and not just heard. For example, computers have greater processing power than before to adequately support complex hypertext systems running into thousands of nodes. Technological advancements in hardware, etc., enable high-resolution screens to be produced, thus make reading easier and more pleasant than earlier character-based ones.

The growing popularity of the Internet and advancements in networking saw the birth of networked hypertext systems, such as the Web. The Web project initiated in 1990 was originally created as an online information tool for high-energy physics research at CERN (the European Center for Nuclear Physics Research in Geneva, Switzerland). Tim Berners-Lee and colleagues, the originators of the Web, built it based on the hypertext paradigm. Information is organised as a series of documents referring to each other with links of search and retrieval of text, images, sound and video. Link in a document may go to other server machines containing the actual information. Based on its likeness to a spider's web, this world of hypertext links is also called the Web.

Although the Web was first made available in 1991, it was only after the release of Mosaic by the National Center for Supercomputing Applications (NCSA) in January 1993 that it really gained prominence. Mosaic, NCSA’s

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