Chapter XV

Usability of Digital Libraries in a Multicultural Environment

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Abstract

Usability is a critical issue for digital libraries, complicated by the fact that users have varying levels of knowledge of library systems and subject knowledge and may be novices or experts and frequent or occasional users of specific digital libraries. Usability is further complicated by multicultural issues, as digital library users may come from many cultures and nations, or it may be necessary to orient a digital library toward the needs of users from one or more specific localities or cultures. Usability evaluation may be formative, summative, iterative or comparative and is usually specific to a particular digital library context. The four papers in this section, illustrating formative, iterative and summative approaches, cover a variety of contexts—education, music, cultural heritage and a national digital library.
Introduction

Interest in research and practice for digital libraries (DLs) is growing around the world, and the Asia Pacific region is no exception. The International Conferences on Asian DLs have attracted a broad array of researchers and practitioners from around the region and around the world. Over the five years of this conference series, papers and panels on usability have increased from minor to major parts of the program. Many usability issues are global, given the user communities for DLs. Others are local, given the varying languages and cultures within and between regions.

This chapter provides a brief summary of usability, multicultural, and evaluation issues for DLs in the Asia Pacific and serves as an introduction and overview of the four contributed chapters in the section on “Users and Usability.”

Usability and Digital Libraries

Usability can be defined as “the ease with which a user can learn to operate, prepare inputs for, and interpret outputs of a system or component” (IEEE, 1990). Nielsen (2003), a well-known usability expert, defines it as “a quality attribute that assesses how easy user interfaces are to use.” Other authors point out that reference to the “ease of use” of a system is best seen as shorthand for a set of characteristics that determine “the extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use,” per the ISO 9241 standard. Quesenbery (2001) further deconstructs this definition into five characteristics: the effectiveness of the system in allowing the user to meet his or her goals in a comprehensive and accurate manner; the efficiency or speed with which users can achieve those goals; the degree to which the system engages the user by providing a pleasant and satisfying interaction; the error tolerance of the system in preventing and responding to errors; and the extent to which the system is easy to learn initially and over time.

Identification of attributes that contribute to usability is a necessary first step to evaluation and measurement. In their study of user acceptance of DLs, Thong et al. (2002) summarize attempts to operationalize usability and conclude that ease of use and usefulness are component attributes. Usefulness is a measure of the performance of the system, its ability to deliver relevant material to the user, and therefore is determined not only by how the user interacts with the system, but also by the mechanisms for interacting with DL content. The quality