

User Needs Assessment and Evaluation of Digital Libraries (DLs)

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In General

**Marchionini, G.; Plaisant, C.; Komlodi, A. (forthcoming) [The People in Digital Libraries: Multifaceted Approaches to Assessing Needs and Impact](#). Chapter to appear in A. Bishop, B. Buttenfield, & N. VanHouse (Eds.) *Digital library use: Social practice in design and evaluation*. MIT Press.
(<http://ils.unc.edu/~march/revision.pdf>)

Describes the methodology used for user needs assessment and illustrates it with three examples: the Perseus digital library, the Baltimore Learning community, and the Library of Congress National Digital Library. Less detailed and more focused on overall themes: human information needs, characteristics, contexts; design, implementation, and evaluation, digital libraries.

*[How We Do User-Centered Design and Evaluation of Digital Libraries: A Methodological Forum](#). 37th Allerton Institute 1995. Graduate School of Library and Information Science University of Illinois at Urbana-Champaign. Full-text of presentations.
(<http://edfu.lis.uiuc.edu/allerton/95/>)

"The papers presented here represent discussion documents submitted by participants in the 1995 Allerton Institute, called "How We Do User-Centered Design and Evaluation of Digital Libraries: A Methodological Forum." The Institute, sponsored by the National Science Foundation, was conducted on October 29-31 by the Graduate School of Library and Information Science at the University of Illinois. The idea for the Institute arose from a joint meeting of investigators associated with the six NSF/ARPA/NASA Digital Library Initiative projects currently underway in universities across the country (Bishop, 1995). As chairperson of the Institute, my goal was to bring together an international, interdisciplinary group of researchers and practitioners involved in the design and study of information systems, in user-centered research in traditional libraries, and in a wide range of digital library projects. The purpose of the Institute was to present both the range of user-centered methods available for studying digital libraries and rationales for choosing amongst them; we also wanted to look ahead to new methods and developments and map out the challenges ahead of us." Ann Bishop

*[Libraries, People, and Change: A Research Forum on Digital Libraries](#). 38th Allerton Institute 1996. Graduate School of Library and Information Science University of Illinois at Urbana-Champaign. Full-text of presentations.
(<http://edfu.lis.uiuc.edu/allerton/96/>)

The purpose of Allerton '96 is to bring together people from various disciplines who have been involved in research and practice related to how people use digital libraries (DLs). Our intent is provide an informal and convivial environment that will help nurture this emerging community. A particular focus is understanding the contributions and implications of applying different theoretical frameworks and methodological approaches from the social sciences to DL research. Emphasis throughout will be on relating research approaches to important research questions and findings, and on the role of, and interactions among, people involved in creating and using DLs.

*[Design and Evaluation: A Review of the State-of-the-Art](#). D-Lib Magazine. July/August 1998. (<http://www.dlib.org/dlib/july98/nrc/07nrc.html>)

This article first appeared as Chapter 4 in the National Research Council report, [More Than Screen Deep: Toward Every-Citizen Interfaces to the Nation's Information Infrastructure](#) (1997). At the request of the National Science Foundation, the Computer Science and Telecommunications Board (CSTB) convened a steering committee, which met three times in the spring and summer of 1996 and held a two-day workshop that August. The impetus behind the project was the recognition that the expansion of information systems and an information infrastructure raises "questions about the technology's ease of use by different people" (Preface, p. vii). The human-machine interaction or user interface "represents the means by which people communicate with a given system" (Introduction, p. 1), hence the focus on interface design. The full report includes chapters on requirements, input/output technologies, collaboration, agents and intelligent systems and contributed position papers as well as a synthesis of the committee's findings. D-Lib Magazine has chosen the chapter on design and evaluation because its findings are broadly relevant to research in digital libraries and have implications beyond interface design, which is itself critical to digital libraries research.

*[Marchionini, G. \(1994\) Evaluation of the Perseus Hypermedia Corpus](#). (<http://www.perseus.tufts.edu/FIPSE/report-final.html>)

Provides an example of digital library evaluation. The author describes methodology, results and implications. An evaluation of the Perseus Project, an evolving digital library of resources for the study of the ancient world was carried out. A variety of data were collected and used to assess how Perseus affects teaching and learning. Educational sites using the resource were visited and various data collection methods used (interviews, written journals, questionnaires, document analysis). A descriptive summary of each site provides a context for understanding how Perseus was used, the types of learning and teaching Perseus engendered, and the problems and challenges it created for instructors and students. Together with the four years of previous evaluation results, these summaries provide the basis for defining models and raising issues related to using hypermedia materials and digital libraries in teaching and learning.

DLs with Geographical Content

**[Hill, L. et al. \(1997\) User Evaluation: Summary of the Methodologies and Results for the Alexandria Digital Library, University of California, Santa Barbara](#). In: ASIS '97. The Annual Meeting of the American Association for Information Science. (<http://www.asis.org/annual-97/alexia.htm>)

The Alexandria Digital Library (ADL) is one of the six digital library projects funded by NSF, DARPA, and NASA. ADL's collection and services focus on geospatial information: maps, images, georeferenced data sets and text, and other information sources with links to geographic locations. This paper is especially relevant to the ESIP project, because of the content similarities. Describes the methodology used, result, and implications. Throughout the project, user feedback has been collected through various formal and informal methods. These include online surveys, beta tester registration, ethnographic studies of ADL users and potential users, target user group focus sessions, and user feedback comments while using the interfaces. This paper briefly describes the evaluation studies conducted and what was learned about user characteristics and about the study approaches themselves. User reactions to the ADL interface and to the functionality and content of ADL are summarized. Finally, the value of these findings to design and implementation decisions is considered. For a more detailed account of their activities, please see the evaluation section of the 1997 and 1998 [Annual Reports](#) . (<http://www.alexandria.ucsb.edu/frames3.html>)

*Tyahla, Lori. (1994) [ECS User Characterization Methodology and Results](http://edhs1.gsfc.nasa.gov/waisdata/docsw/html/tp19400313.html)
(<http://edhs1.gsfc.nasa.gov/waisdata/docsw/html/tp19400313.html>)

The purpose of this Technical Paper is to document the methodologies used to characterize the ECS user community as of the second quarter of 1994. In addition, this document details the interfaces between the User Characterization Team and several other design groups, including both developers and modelers. Because the ECS user community is very large and diverse, several methods were employed to describe both the demographics of the community and the interactions of the user community with EOSDIS. This document explains the origin and subsequent development of the User Scenario Matrix, the processes of scenario collection and analysis, and the methods used to obtain demographic information about the ECS user community. A high-level summary of the results of the user characterization effort can be found in the User Characterization and Requirement Analysis and the reader is encouraged to obtain that document, since it contains results which are not necessarily part of this document.

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