ONLINE CATALOGS — SELECTED READINGS

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This bibliography with abstracts has been designed to provide a general overview of several aspects of online catalog development and evaluation. It does not attempt to be comprehensive, but rather to give a sampling of readings that deal with each issue. Most of the articles date from 1985 to the present, but two readings are included that provide insights into earlier ideas about online catalogs. Several items were impossible to abstract, but the citations are included as they seemed valuable readings on the topic.

The items were selected from a search of the Information Science Abstracts and Educational Resources Information Center (ERIC) databases. All papers with a Pub# are available from the ERIC Document Reproduction Service, 3030 North Fairfax Drive, Arlington, VA, 22201, USA.

PLANNING/DESIGN


This paper reviews the process through which the University of Guelph Library moved from offline to online catalog access; discusses the impact of information technology on the role of the academic library as an informa-

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tion resource center for an electronic educational network; and discusses the goals of this library, given that role.


This paper discusses how microcomputers have significantly changed the architecture of online catalog systems. Two major uses are: (1) the microcomputer provides all the computer support for the entire system; (2) the micro-computer is a replacement for the conventional or dumb terminal. Library patrons may be linked directly to the online catalog without an intermediary. The intelligence and data storage of the system may be distributed to the most efficient and/or cost effective location. The programmability of the microcomputer makes it suitable for supporting new user-system interactions such as electronic bulletin boards, electronic mail, and various store-and-forward operations. Finally, the partnership of the microcomputer with telecommunications truly brings the world of information directly to the library user.


Five brief papers explore the issues of "ownership" and proprietary interest in the online catalog, relationships between technical services and public services in the design and management of the catalog, and opportunities presented by the new technologies to alter ways of working together. (Abstract Source: ERIC)

Landesman, B. "Online public access catalogs and serials."

This paper examines how online Public Access Catalogs (OPACs) should integrate serials information with all other bibliographic records, allowing the patron to find everything in one place. The author discusses problems inherent in retrospective conversion of serial records to machine-readable format, such as successive versus latest entry cataloging. It is concluded that the OPAC should ideally allow the patron to search remote databases from the online catalog.


This book examines and evaluates the application of prototyping methodology in the design of a microcomputer-based online library catalog. The methodology includes a five-part examination of the problem, including a discussion of the standard life cycle of information, a definition of prototyping, a presentation of two types of prototyping, and an analysis of the use of prototyping methodology, among other topics.


This paper deals with the procedures involved in creating foreign language stopword lists for an online public access catalog (OPAC) in a medium-sized academic library—the University of Kentucky Libraries’ version of LS/2000. Although LS/2000 is a turn-key system available from OCLC, each library is responsible for the design specifications for its own version of the system. Since the University of Kentucky was the first member of the Association of Research Libraries to install LS/2000 and at the same time the largest unit on the system, it was determined that those
stopword lists provided by the vendor and used by other libraries would not adequately serve local system needs. Construction of as well as the interaction among the three major components of the stop-word list system are described.


Describes the history and current status of bibliographic control in Japanese libraries, including the necessity for standardizing the combination of Japanese phonetic script and Chinese characters. The results of a survey of bibliographic activities and library automation are presented, and a developing plan to establish Japanese bibliographic utilities is proposed.


Converting catalog cards to online archival tape poses perplexing problems for library collections in Chinese, Japanese, and Korean. One problem is the need for specialized, expensive equipment and complex encoding procedures for inputting and retrieving records with vernacular scripts in those languages. Another is caused by the nature of the languages, whose romanized form is fraught with ambiguity and uncertainty. In this essay the San Diego State University Library’s decision to convert its Asian collection online through OCLC, in romanized form only, is closely examined, and the procedures that were adopted are explained.


These proceedings include papers on several topics involved in advances in intelligent retrieval, including: ex-
tended relational analysis, non-numeric processing, word processing, clustering and nearest neighbor searching, free text retrieval systems, linguistic methods for information retrieval, retrieval aids in public online catalogs, and HEADS, a cataloging advisory system.


Describes the design and operation of a prototype online catalog; reviews research which evaluated the system in terms of types of searches and success rates; and offers suggestions for enhancing subject access, including automatic stemming, synonym tables and cross-reference lists, and relevance feedback mechanisms.

CLASSIFICATION/SUBJECT ACCESS


This research study addressed four issues relating to subject searching in online catalogs: faculty and student use of subject searching in library catalogs; users' knowledge of and use of the Library of Congress Subject Headings List (LCSH) in a controlled subject heading search; strategies for teaching effective subject searching; and users’ preferences for improvements to achieve more effective subject searching. The report includes a discussion of the research methodology; reports of the findings for both the student and faculty surveys; and a summary and conclusions.

Presents a model for the design of online catalog subject access based on three principles: the uncertainty of subject indexing, the need for greater variety in searcher's queries, and the complexity of the search process. The proposed system is based on existing Library of Congress subject cataloging. (Abstract Source: ERIC)


This book is a collection of papers describing what the Library of Congress Subject Headings will become within an online catalog. Suggestions for improving the form of LCSH headings in library catalogs are presented. The cross-reference structure, subdivisions, and user assistance through online access are examined. Other articles deal with examples of the use of LCSH, as well as ideas for improving its use. Two sample articles are entitled "Enriching the library catalog record for subject access" by C.A. Mandel, and "Integrating subject pathfinders into online catalogs", by W.E. Jarvis.


A collection of 30 papers covering the years 1961–1984, on the effects of library automation and online systems on conventional methods of cataloging, classification, subject analysis, and indexing. The author calls for a revolution in ways of thinking about these matters, rather than merely adapting old methods to the new technology. Special attention is given to subject access to documents, a mode which online users prefer to author/title access. Cooperation amongst librarians, publishers, bibliographical services, and the designers of online systems in adhering to
standards is essential for the success of online subject access.


The proceedings of a conference that met to review the results of the Dewey Decimal Classification Online Project, explore potential future use of the DDC online in libraries. Topics include: what subject search enhancements should be incorporated in the next generation of online catalogs; what the future role of class number searching in online catalogs is; and how we can use machine-readable LCC and DDC schedules online.


In this research project, subject terms from the Dewey Decimal Classification (DDC) Schedules and Relative Index were incorporated into an online catalog as searcher's tools for subject access, browsing, and display. Four features of the DDC were employed to help searchers browse for and match their own subject terms with the online catalog's terminology: (1) subject terms in the DDC Schedules; (2) hierarchical arrays of related terms in the DDC Schedules; (3) subject terms in the DDC Relative Index; and (4) class numbers in the DDC Schedules and Relative Index. The effectiveness of the DDC in an online catalog was tested in online retrieval experiments with library patrons and staff several university and public libraries. The research findings chiefly address subject searchers' use of a library classification in the information retrieval environment of an online catalog. These findings provide insight into searchers' problems with online displays of the DDC Schedules and
Relative Index, bibliographic record displays enhanced with subject information from the DDC, and online catalog capabilities necessary to support searching, displaying, and retrieving library cataloging and classification information.


This paper points out the role of classification codes (class codes) as a useful enrichment to verbal online searching. Part one discusses the extent to which classification schemes as a means of subject access are to be found in bibliographic databases? What is the nature of these systems and their notation? Part two shows several advantageous applications of using classification codes in bibliographic online searching. Part three deals with modifications and changes of classification systems, which constitute the main problem when using them in online searching.


This study undertook, first, to determine the percentage of personal and corporate name authority records in the Library of Congress authority file that do not contain any references. Second, by means of a categorization, tabulation, and analysis process, the study also attempted to identify the percentage of references present on existing authority records that are not needed in an automatic right-hand truncation and keyword searching environment. The results provide an indicator of all the authority records in the Library of Congress authority file that would not have had to be created manually, or even created at all, in a system that provided other means for authority control. These results should provide helpful information to libraries pre-
and potential sources of problems due either to individual characteristics or system variables are discussed. Possible solutions and areas that need further research are noted. (Abstract Source: ERIC)


The author outlines the process leading to the creation of a user-based design of an online catalogue for the library of the Hong Kong Polytechnic. He goes on to describe user reaction to the catalog, as well as the evolution of user instruction techniques. He cites the following factors which were considered in the construction of the program: 1) academic level; 2) size of student population; 3) English as a second language; 4) students' library skills. Seminars provided to librarians are described, as well as the video programs which have been produced for use in library instruction, both generally and for the online catalog users. Results of a mini-survey using questionnaire are reported.


Displays for online catalogs should be understandable and attractive but should also be compact, presenting needed information on a single screen. No means of testing the overall results of display decisions has been available. RLG developed a means of testing displays against several hundred thousand records at a reasonable cost and used that means to test several dozen different display possibilities. The test methods and resulting publication should offer some guidance for future bibliographic displays.

Frost, C. "Subject searching in an online catalog." *Information*

The author discusses a survey at the University of Houston which examined factors related to subject searching success in online catalogs, including: extent of subject searching; response to unsuccessful searches; reasons subject search is not used; users' awareness of sources of subject terms; and suggestions from users for improving subject searching capabilities. (Abstract Source: ERIC)

Gilliland, A. “Online catalogs and library users.” In Human Aspects of Library Automation: Helping Staff and Patrons Cope. Urbana, IL: Graduate School of Library and Information Science, University of Illinois at Urbana-Champaign, 1986.

The author discusses variables which should be considered in order to determine what is the most effective way to manage an online catalog and to produce something that is also "user-driven" as a system. Responses are offered from a survey conducted by the author to see what had been done with the online catalog in terms of how it serves the user. Services provided by an online catalog are described, and user interface in accessing such services is examined. The physical considerations of online public access catalogs are discussed such as terminal types and displays used. Questions are raised to be considered for libraries conducting analyses of their online catalog, and the author offers brief recommendations about managerial awareness.


Reviews recent and current research and development projects in the United Kingdom dealing with online information systems. Main areas of research (systems design,
impact on user behavior and organizational structure, ergonomics and bibliographic factors) and research techniques (features analysis, transaction log analysis, surveys and comparative studies) are identified and discussed.


This investigation of the effects of age, gender, college status, and computer experience on students’ attitudes toward an online catalog measured student attitudes on three subscales—computer anxiety, computer confidence, and computer liking. Results of analysis of variance showed that computer experience was significantly related to computer anxiety and computer liking. (Abstract Source: ERIC)


Reports the rationale, design, implementation, and results of an examination of the impact of online subject catalogs on users by comparing their behaviors before and after catalog installation. Evaluation criteria included volume of use, types of searches, use of other catalogs, search time, user satisfaction, and need for assistance.


Presents detailed guidelines based on the literature for screen layout and design of online catalogs, and discusses the potential advantages in terms of number of transactions per hour and user satisfaction. Further research questions are suggested and an extensive bibliography is provided.

The proceedings of a conference on screen displays for online catalogs, with participants including librarians, system designers, vendors, and consultants. Topics include guidelines for screen layouts, design of online catalogs, displays in database search systems, a critique of online display screens, and human factors perspectives on screen displays.

**EVALUATION/PERFORMANCE**

SOLINET LAMBDA system, and presents guidelines and commentaries developed by the LAMBDA Users Group in its efforts to correct existing problems and maintain a high level of quality in the LAMBDA data base. These guidelines and commentaries should prove of interest to other libraries in similar environments.


This article discusses issues related to online catalog performance—how fast and how many functions the system can perform, and capacity—the maximum levels that can actually be supported by the hardware and software. The characteristics of traditional menu and command-driven systems that affect performance, Boolean searching, response time, and system testing are described.


This article reports measures of the gains in search time and likelihood of success in known-item searches with the
Acorn automated catalog at Vanderbilt University. User time and search success are valued in dollar terms to make the measures meaningful for system design choices.


To gather information on current catalog maintenance practices, researchers selected institutions from respondents to the September 1984 version of the OMS (Office of Management Studies) Automation Inventory of Research Libraries. A telephone survey of technical services and systems staff at 23 libraries investigated a wide range of issues related to both the database itself and organization staffing. A concise summary addresses: planning and system issues; staffing and organization issues; and trends and implications. The kit contains SPEC survey information (questions asked, libraries contacted, documents received); manuals for catalog maintenance procedures from 10 institutions; job descriptions and/or organization charts from five institutions; and a selective bibliography.


This article describes the Illinois Library and Information Network which was designed to test the feasibility of distributing the statewide union catalog database on optical disk. First, the background of the project is described. Secondly, the experience of working with two companies in the optical information business is related. Finally, plans for evaluating the system are presented. In essence, this article describes one library's experimentation with an emerging technology.
SURVEYS


The automated system as it relates to cataloging processes at each of six university libraries are surveyed in this article. Areas that have been most affected are noted—authority control, catalog maintenance, decentralization of original cataloging and other technical services functions, enhanced public access to materials, and quality control.


Results of this survey of 26 public and academic libraries of national stature show that the country’s major libraries are fully committed to automating their library operations. Major findings of the survey show that: (1) all libraries surveyed are involved in automation; (2) all libraries surveyed have automated their catalogs and bibliographic control functions, and most have automated their acquisitions and circulation systems; (3) library automation has undergone tremendous changes, notably the improvement of the turnkey systems; (4) library automation has matured to the point of using complex database systems and sophisticated computing and data communication hardware; and (5) librarians are now much more sophisticated in their knowledge of automation and of library systems. The major accomplishment of fully integrated systems is identified as the current challenge facing librarians. Survey data are represented graphically in three exhibits included within the
text, and a list of participating libraries is appended.


At the conclusion of the Council on Library Resources' Online Catalog Project, the principal researchers, those from J. Matthews and Associates, the Library of Congress, the Online Computer Library Center (OCLC), the Research Libraries Group, and the University of California consider the implications of research findings from the viewpoint of systems designers, technical services, users, library managers and researchers. The importance of the findings reported in this book is twofold. As online catalogs emerge, librarians need to be aware of the successes and limitations of the early models, as this will help them in planning and implementing online catalogs in their own libraries, in preparing written specifications through suggesting areas which can be improved to meet users' needs more fully. Second, information about the first online catalogs' limitations can assist both public- and private-sector designers as they work to develop second- and third-generation online catalogs.


A group of 27 library administrators and library computer systems experts met to share their experiences and insights with regard to online catalogs, to review survey results from the Council on Library Resources 1982 Online Catalog Study, to review draft documents on the costs and features of online catalogs, and to discuss and recommend actions on matters required to advance the effective develop-
ment and use of online catalogs.


Four multifunctional library systems which utilize a single bibliographic database and common software to support cataloging, circulation control, and related operations: two turnkey systems—the Automated Library Information System and LS/2000 System—and two software packages—Dortmund and Lewen Library Systems and Virginia Tech Library System are reported on in detail in this review.

**FUTURE ISSUES**


This discussion of information technology and its impact on library operations and services emphasizes the development of microcomputer and laser optical disc technologies. Libraries’ earlier responses to bibliographic utilities, online databases, and online public access catalogs are described, and future directions for library services are discussed. (Abstract Source: ERIC)


Presents a classification scheme for generations of
online catalogs; discusses current online technologies and identifies deficiencies; and discusses enhancements that will take online catalogs into the next generation. Such enhancements will include increased access to information through user-system dialogue, automatic search aids, subject vocabularies, and the inclusion of periodical indexes.
