The Library User Meets LCS

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The reaction of library users to LCS (Library Control System) at the Ohio State University Libraries varies from the very positive to the very negative. The following quotations from two LCS users illustrate the average attitudes toward LCS. "I enjoy using LCS, everything is very convenient, LCS makes it easier to find what I want and provides the library location." Another LCS user had this to say, "I never liked these machines. I am afraid of pressing the wrong key and messing up the computer." The reasons for the difference between these attitudes will be obvious, when the circumstances of the comments are known.

The first individual was interviewed in December 1979 as part of Moore's survey of on-line catalog users which was conducted at four libraries which have public access on-line catalogs.[1] The OSU Libraries was one of the four libraries. Most of the LCS users at that time were self-selected. Thus, the users interviewed were self-motivated. The comments on the interview questionnaires from the December 1979 survey are generally positive toward on-line catalogs if LCS is an example. Other comments include "Easier than the card catalog; don't have to run around so much," or "I don't have to run all over the place; I know if the book is available. I like the access to the State Library." Still another comment was "LCS is the best system for ease of operation. LCS is one of the best things at Ohio State."

The second comment was from a student who was participating in the pilot of a week-long, instructional unit on the library. All members of several English 110 classes were included in the pilot; thus, this user was not self-motivated. The comments from the English 110 students regarding LCS and the LCS instruction are interesting. If a pattern is present, it is a concern and uncertainty when beginning the exercise and gratitude and excitement upon the completion of the LCS exercise. The person who was afraid of pushing the wrong key ended the comment with, "I found that LCS could be done quickly and easily and it was fun." Another student said, "I never felt LCS was very convenient; it seemed almost complicated. This exercise was a good chance to learn how to use LCS. I came back in the evening. It was kind of fun." Still another student commented, "This part took the most time but was well worth it. Learning how to use the terminals was the most interesting part of the trip."

Environment

The Ohio State University Libraries have used LCS since November 1970 to circulate library materials in twenty-six department libraries, two undergraduate libraries, and the main library. The libraries' collection contains approximately 3.6 million volumes for 1.6 million titles, all of which have library location records on LCS. (Figure 1.)

Susan L. Miller. Photo credit: Ray Bial, Parkland College.

Figure 1.
LCS LIBRARY LOCATION RECORD

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User command:
   ATS/SAGADRAGO
LCS response:
Page 1                          2 TITLES                    (ALL DISPLAYED IN 1 PAGE)
01 Sagan, Carl, 1934-                    The dragons of Eden:              1977 FBR
02*Sagan, Carl, 1934-                    The dragons of Eden:              1977 FBR
END      FOR AVAILABILITY ENTER DSL/ AND LINE NO.
User command:
   DSL/1
LCS response:
BF431S2    Sagan, Carl, 1934-    The dragons of Eden:    1st ed.    76-53472
       2101740     1977      4   ADDED: 770527    FBR
01   001 3WK      BRW
02   002 3WK      WCL
03   003 3WK      UND
04   004 3WK      WCL 71005624 0 CHGD  800909/801001
PAGE 1 END
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1. Call number	2. Author	3. Title
4. Edition	5. LC card number	6. LCS title number
7. Imprint date	8. Number of holdings	9. Indicates FBR available
10. LCS line number	11. Copy number	12. Loan period
13. Location code	14. Patron ID	15. Status
16. Dates charged/due		

The campus community, which the libraries serve, is in excess of 70,000 students, faculty, and staff. The libraries circulate annually nearly 2 million items. The libraries' staffing includes 75 librarians and 212 clerical staff.

In March 1979, the State Library of Ohio began using the OSU LCS for circulation control of approximately 160,000 titles. Sharing the same circulation system facilitates reciprocal borrowing between the two libraries.[2] In addition the State Library has stopped filing cards into its card catalog and is relying on LCS as the catalog to its collection.

The OSU Libraries have provided public access terminals for the libraries' users since January 1975. Initially, only one terminal was available; currently the libraries have 115 public access terminals.

At the present time, The Ohio State University Libraries are maintaining two catalogs for the university libraries' collections — the card catalog and the on-line catalog. OSU intends to continue supporting both catalogs until sometime in mid - 1982, when the libraries will stop producing cards for those titles which are cataloged through OCLC.

Description

The on-line catalog capabilities of the OSU LCS are similar to the LCS which is being used in Illinois. The similarities include the short record display (Figure 1), the non-prompted three character commands for title search, author/title search, detailed search, and the shelf position search. OSU has only one author search which is the AUT/command using the 6,3 search key. Figure 2 is a list of the public access commands.

The OSU LCS has some on-line catalog capabilities which are not available in the Illinois installation. Specifically, the ability to store and display the full bibliographic record (Figure 3), of which there are currently 360,000 on LCS. The OSU Libraries plan to have FBR records on LCS for most titles cataloged since 1974. The provision for the FBR has also allowed LCS to have a subject search. (Figure 4.)

The OSU LCS programmers are currently programming for LCS Heading Control and Cross Reference display which is scheduled for implementation in December 1981.

Figure 2.
LCS CATALOG ACCESS COMMANDS

COMMAND	ARGUMENT	DISPLAY	ILLINOIS	OSU
DSC/	CALL NUMBER	LIBRARY LOCATION RECORD	YES	YES
DSL/	LCS LINE NUMBER	LIBRARY LOCATION RECORD	YES	YES
SPS/	CALL NUMBER	SHELFLIST	YES	YES
AUT/	AUTHOR 6/3 KEY	LIST OF TITLES	YES	YES
AUS/	AUTHOR WORDS	LIST OF TITLES	YES	NO
TLS/	TITLE 4/5 KEY	LIST OF TITLES	YES	YES
ATS/	AUTHOR/TITLE 4/5 KEY	LIST OF TITLES	YES	YES
SIS/	SUBJECT HEADING	LIST OF SUBJECTS	NO	YES
SBL/	LCS LINE NUMBER	LIST OF TITLES	NO	YES
FBC/	CALL NUMBER	FULL BIBLIOGRAPHIC RECORD	NO	YES
FBL/	LCS LINE NUMBER	FULL BIBLIOGRAPHIC RECORD	NO	YES

Figure 3.
LCS FULL BIBLIOGRAPHIC RECORD

User command:
  FBC/BF432S2

LCS response:

BF431S2
Sagan, Carl, 1934-
  The dragons of Eden: speculations on the evolution of human intelligence/Carl Sagan. 1st ed.
New York: Random House, c1977. 263 p. : ill.; 24 cm.
  Includes index. Bibliography: p. (241)-249.
SUB: 1. GENETIC PSYCHOLOGY 2. BRAIN 3.INTELLECT
LC CARD #:76-53472 TITLE #:2101740 OCLC #:2922889 &DQ780926
PAGE 1 END

This new capability will allow the storage and display of "see" and "see also" references and will permit the library staff to change a heading once and have that change reflected for every occurrence of the heading in the system.

User Needs

In July 1980, the Council on Library Resources (CLR) sponsored a two day meeting of librarians representing libraries which either have some form of on-line catalog or are planning an on-line catalog. The purpose of the meeting was to develop a list of needed research to support the design of on-line catalogs. User needs was one of four research areas identified. The conference participants also stated that user needs should include "user wants." The working session participants were adamant that card catalog user studies could not be used to determine the needs of the on-line catalog users. There was a concern that the nature of the card catalog may have modified perceived user needs. The conference participants also recommended that users of experimental on-line catalogs should be the subjects of the user needs survey.

Figure 4.
LCS SUBJECT SEARCH

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User command:
   SIS/GENETIC PSYCHOLOGY
LCS response:
11    3 GENETIC POLYMORPHISMS
12   58 GENETIC PSYCHOLOGY
13    5 GENETIC PSYCHOLOGY — ADDRESSES, ESSAYS, LECTURES
14    4 GENETIC PSYCHOLOGY — CONGRESSES
15    1 GENETIC PSYCHOLOGY — HISTORY
16    6 GENETIC RECOMBINATION
17    4 GENETIC RECOMBINATION — CONGRESSES
18    1 GENETIC RECOMBINATION — PATENTS — UNITED STATES
19    1 GENETIC RECOMBINATION — RESEARCH — GREAT BRITAIN
20    1 GENETIC RECOMBINATION — RESEARCH — PERIODICALS
   PAGE 2 OF 3    FOR OTHER PAGES ENTER PS AND PAGE NUMBER
                  FOR TITLES ON A SPECIFIC SUBJECT ENTER SBL/ AND LINE NUMBER
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The CLR is currently supporting four research projects in which identifying user needs are the objective. These projects are being undertaken by Doug Ferguson of RLG, Neal Kaske of OCLC, Edwin Brownrigg, Department of Library Automation, University of California, and Joe Mathews, library consultant. These researchers are working together to develop a survey instrument to identify user wants. This survey instrument will be adapted by each of the projects for distribution to users of several on-line catalogs.

Although the users' needs should be considered when developing an on-line catalog, the OSU staff available to plan the on-line catalog for LCS was insufficient to do the necessary research to identify the users needs. LCS is a pioneer on-line public access catalog. As such, the Ohio LCS is included as a research site for the OCLC project.

LCS was designed as a staff-use circulation system under the assumption that all users would be trained and supervised as they used the system. This assumption has given OSU an on-

line catalog which is command driven with insufficient prompts, displays which our users say have too many codes, terminals which were not designed to assist the user, and error messages which are often obtuse.

More recently developed on-line library systems provide menus from which to select a search request, displays which identify the data, and terminals, which like magnets, draw the users. The process of comparing LCS with these more recently developed systems hopefully will produce valuable insights as to what users need and want.

LCS as a Catalog

The LCS which is being upgraded at OSU should be considered an automated card catalog. As other on-line catalogs become operational, their capabilities and success will have an impact on the future plans for LCS. For the time being, however, the LCS on-line catalog like the card catalog must meet Margaret Mann's seven functions of a catalog.[3]

The Illinois LCS now serves three of the functions of a catalog. These three are (1) to show each work in the library under author, (2) to show these author entries so that all works of one writer will be together, and (3) to show the titles of works. However, in these three areas LCS has much room for improvement.

The author and title displays on LCS need to be in alphabetical order. Even though 90 percent of the entered searches respond with ten or fewer titles, if these responses were alphabetical, the screen display would be easier to use.

The LCS title search should be more discriminating. Perhaps changing the key to include 3 or 4 words more like the OCLC title search would provide an improved search. However, developing a more discriminating search key may lead to patron frustration. OSU Libraries Public Service staff find that patrons are sometimes disappointed when only a few titles are retrieved even though the response was precisely what was wanted. This attitude may be the source of the following patron statement, "There's almost nothing in its memory." The library users have been accustomed to selecting desired titles from the large card catalogs, which obviously held entries to many titles, even though there was only a single card under the entry desired. Perhaps displaying all entries around the entry specified in the search would be more satisfactory to the patrons.

Entering the complete work rather than a search key might be desirable; thus eliminating the false responses caused by the search key. On the other hand, for non-typists the search key may be faster than entering the complete word. The search keys also can be an aid to those who do not remember the full entry. Search keys are certainly an aid to those who believe in serendipity.

The concept of last name first is sometimes forgotten when using LCS, even though the patrons also use the telephone book and perhaps at some time have used a card catalog. The sequence of the name would not be a problem in a Boolean search; but in a Boolean search the patrons may be faced with numerous false responses because they did not specify adjacency or proximity, possibly because the system did not allow for these search enhancements or because they had not learned how to use the enhancements.

The Ohio LCS now supplies six of Mann's functions of a catalog for all of the State Library of Ohio records and for most of the OSU titles cataloged after January 1974. The three functions which are not available in Illinois are (1) to show each work under the subjects which

it treats, (2) to show these subject entries so that like subjects will fall together, and (3) to show a description of each book by giving imprint, collation, and notes when necessary.

Again, experience with these displays will indicate where changes should be made to improve. In the case of these new displays, however, desirable changes have not been as readily apparent.

The LCS full bibliographic record display is similar to a catalog card. There are no captions explaining the content of the data lines in the record. Several other on-line library systems do identify the author with the word "author," for example. We chose not to do so due to the space available in the terminal display, and we thought the patrons were familiar with the same information on a catalog card.

The LCS subject headings are searched as a complete heading just as they are searched in the card catalog. The subject headings which are used in OSU cataloging are Library of Congress, which were not designed for an on-line catalog. Several years ago, the OSU Libraries' Mechanized Information Center staff undertook an evaluation of Boolean searches on LC subject headings. The information retrieval system used would not permit the specification of proximity or adjacency in the Boolean search, and neither would string searches be permitted. The results of the Boolean searches were compared to the results of subject access in the card catalog. Without the sophisticated capabilities in the Boolean searches, the card catalog searches were judged superior because of the greater precision that was available in the card catalog search. Some of the findings of the research into the needs of the on-line catalog user may indicate that Boolean search capability is desirable, but these findings may also indicate that more complete subject analysis designed for on-line retrieval is desirable in on-line catalogs.

Another question which will not be fully answered until Boolean searching is available in a public access on-line catalog is whether intermediaries are necessary to assist with Boolean searches. The National Library of Medicine has for many years had an on-line catalog called CATLINE which is only available through Medline searchers. The Library of Congress has made available as a public access on-line catalog the Scorpio and Mums data files. They also staff the on-line catalog area with two professional librarians to assist the catalog users.

User Expectations

Librarians do not know the user's expectations of an on-line catalog. How do they view response time, downtime, the computer?

Librarians become impatient with slow response time. Do users have the same reaction? Indications are slow response time is the equivalent to downtime for the user, possibly a valid concept. However, when the card catalog is no longer maintained, patrons who must use the catalog will begin to recognize the slow response.

What about computer downtime? One patron responded "That's alright, I'll come back tomorrow" when informed that the computer was down. It had been suggested that he use the card catalog.

A more recent comment on LCS being down occurred last December when the Amdahl computer was installed and LCS was scheduled to be down Thursday through Sunday the week before Christmas. The libraries had not made a general announcement to the campus community. An irate graduate student approached the circulation desk to ask why LCS was down and what would be done about the down. He had scheduled his generals for two weeks later, and he planned to use LCS while preparing for his exams. The assistant head of circulation explained

the circumstances and offered the card catalog. That did not satisfy the patron. The assistant head commented that Indiana University and University of Michigan had only card catalogs. The patron response was "I'm not at Indiana or Michigan, I'm here!"

LCS Transactions

Much can be learned about LCS and the users by reviewing the LCS transaction by terminal report which is produced monthly at OSU. In February, for example, 614,000 transactions were entered into LCS from 117 public terminals on the campus, 115 of which are in the libraries. The average number of transactions per terminal was 5,200 for the month. Six of these terminals had under 1,500 transactions while 11 had more than 11,000 transactions. The highest was 15,300. (Before OSU Libraries added the last 99 terminals, the highest public terminal frequently was in the range of 20-25,000 transactions per month.)

Three of the four most frequently used terminals are located in the card catalog area. This is particularly interesting because the card catalog area was the last location designated for terminals in the main library. These terminals are located on the catalog consultation tables in between rows of catalog cases. Why do these terminals show the greatest use? Possible answers include: (1) These terminals are the closest to the entrance to the main library. (2) These terminals are isolated from staff view. (3) Patrons are often seen with a catalog drawer beside the terminal doing call number searches for availability information. (4) The patrons at these terminals are often seated on the high stools in the area, and seats are not available for many other terminals.

Eight of the highest used terminals are in the main library, while 14 of the 18 lowest used terminals are in department libraries outside of the main library. Two of the 18 are locations in the main library on the second and third floors, two are owned by faculty departments in humanities. Eight of the fourteen lowest used terminals are in the location in order to provide a public access terminal (in the case of two very small libraries) or provide a backup terminal (in the case of slightly larger libraries).

These terminal activity reports are from February 1981 when the card catalog was still relatively current. The OSU Libraries are not ready to predict the transaction activity after the card catalog is no longer maintained other than the activity will surely increase. Another unknown is whether the use of the main library will taper off since the terminals in the department libraries provide access to the union catalog (LCS) while the departmental catalogs did not.

LCS Instruction

The adaption of LCS into a public access on-line catalog requires users and staff instruction. Some of the instruction is required due to the LCS design and other instruction is necessary because the circulation data is displayed in the catalog. Aspects of LCS for which instruction is required include the display content, LCS communication requirements, and change.

Display Content

The catalog data is displayed in a different form or appears to have a different significance in the LCS Library Location Record than in the card catalog. For example, the call number is on a single line with no spaces, which is different from the blocked call number of two to five lines on the OSU Libraries' catalog cards; and the library location abbreviations on LCS are not the same as those in the card catalog. The user wants the Library of Congress card number explained. In addition, the LCS Library Location Record has information that has not appeared on the catalog card. Most of this information is coded, for example, SER for serial, FBR for full bibliographic record, or NENG for non-English.

The circulation data must also be explained. Which is coded on LCS, and which includes circulation status (charges, renewals, saves, etc.), date borrowed, date due, and reserve codes (such as charges to closed reserve shelves or to the bindery).

For successful use of the combined on-line catalog and circulation system, the users need to understand the display. Obviously the call number, location, and circulation status are most important to the patron while learning the system.

LCS Communication

A problem in using any on-line system is learning and remembering how to communicate with the computer. Some on-line library systems have instructions, sometimes called menus, which appear on the terminal display to assist the user so that the learning and remembering are less of a problem.

The OSU LCS catalog access has twenty-two commands which may be used to communicate to the computer the type of search desired. Most of these mnemonic commands are prompted by LCS; but nine of the commands, which are the important commands to begin a search, are not prompted. The AUT/command for an author search is an example of one which is not prompted.

In addition to the commands, the LCS user must learn that search keys are used following some commands and that the subject search command is followed by a subject, preferably a Library of Congress subject search command is followed by call numbers; and three commands require a line number from a previous display. Since we cannot expect the user intuitively to know or remember all of these arguments, they are covered in the LCS brochure.

Because the research is not yet complete on user/ system communication and because the command structure is an integral part of the current LCS programs, the OSU Libraries have not requested reprogramming of the user/LCS interface. It is not that LCS cannot be improved but rather that the reprogramming should not be done before more is known about the needs of the LCS user. Another concern to be considered when planning changes for LCS relates to the time required to display, review, and respond to prompted on-line systems. In order for OSU Libraries to provide a sufficient number of terminals for the libraries' users, the on-line catalog transactions must allow rapid interaction.

Constant Change

LCS has been in constant evolution since it became operational in November 1970. A description of the system, written in 1971,[4] did not list any of the LCS commands that are in use today. One reason is the addition of the new search capabilities for subject, author, and full bibliographic record; but the primary reason was that all of the original commands were changed so they would be mnemonic. Luckily, this change occurred before LCS was available at public terminals for the patrons.

Generally, the patrons have readily accepted the changes, probably because many of the changes have improved the information and access available on LCS. However, we do not know how many patrons fail to learn of the changes, and either are frustrated or are unaware of a missed opportunity. The changes are probably more of a problem for the libraries' staff, who must provide more assistance to the users when the changes occur, and for the Committee on Education for On-line Library Systems, which must revise the instructional materials.

All on-line library systems that are available today have the potential for further evolution. First, none of the current systems are really complete. Second, the rate at which computer technology changes is rapid. And third, research may identify the answers for on-line catalog design. Thus, there is a constant potential for a better on-line catalog.

Libraries must be creative in the instruction for the on-line catalog and should include information that is basic to all on-line systems in order that patrons and staff can readily adapt to changes in on-line catalogs as they develop.

References

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