

PREPARING FOR THE ONLINE CATALOG[†]

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Public services to patrons by librarians and support staff have been based on the instruction, interpretation, and subsequent use of early handwritten and, more recently, typewritten or printed indexes and catalogs. Even the technological advances that have introduced new forms of computer-produced indexes and computer-output-microforms (COM) have not required substantial changes in the skills required for use.

Interpretation is based not on the physical format but rather on the construction and arrangement of entries. The ability to read and to progress logically through the collection of data is necessary. Some explanation of the arrangement of entries, either through written introductions or verbal commentary, is also required.

Public and special librarians generally locate the desired information for their patrons. Librarians in school and academic libraries continue their traditional methods of bibliographic instruction—signs posted in the catalog or index area; one-to-one instruction; group presentations, library tours, etc.

There are two questions we should raise here:

First, how successful have we been in explaining the complexities of our current card catalogs—with myriad rules for filing numbers and abbreviations as if spelled out; subjects after names

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(or author names here and subject names there); and interfiling M-c and M-a-c.

Second, a question presented by John Bennett of IBM in early 1971, "How prepared are we to build the transition from a relatively familiar yet underused tool, such as the card catalog, to the new world of interactive search?" He warned us to learn from "the history of technology [that] it is not sufficient to provide a tool with potential if there is no understanding of how that potential can be realized."¹

Over the last ten years libraries have introduced patrons to online services through the growing availability of computerized reference data bases. Again, two approaches have been employed for providing data to patrons. Subject specialists in corporate or governmental libraries have often requested training in online techniques so that they can perform their own literature searches. However, in academic or public library environments, queries are relatively general in nature and are infrequently presented by the same patron. There the sophisticated search procedures and economic pressures of connect time for online searching have proscribed that the librarian assume the role of intermediary between the patron and online indexes. While some of our experiences with these online reference data bases may assist in implementing online catalogs, there are major differences. For example, since online catalogs will be available in a dedicated or constant mode, log-on procedures are eliminated and browsing can be encouraged.

In discussing online catalogs, let us state some basic assumptions:

First, that online catalogs will be evident in many, and perhaps most, libraries by the end of the twentieth century;

Second, that patrons of libraries will have been exposed to computer terminals in other environments. For example, through computer-assisted-instruction in the classroom or laboratory, programming classes, data processing tools, and home computers;

Third, that the price of computer-related equipment will be low enough so that placement of terminals in multiple locations within the library and in its service area (in offices, public buildings, college dormitories, etc.) is feasible; and

Fourth, that the pioneers in the field will continue to share their experiences—both positive and negative—with us and thus assist in the implementation of online catalogs in other libraries.

Before libraries can implement online catalogs, planning must occur. It is never too early to begin planning for an online catalog. If a library is involved in *any* automation efforts at the present time, their automation plan should allow for the option of an online catalog at some future time. If the alternative is not planned for, it will be much more difficult to implement.

As an example, Library X is automating their circulation system. During the bar-coding of their collection, selected information on each title is being converted to machine-readable form: call number, copy number, main entry, short title, date. If they decide at some point to mount their circulation tapes as the basis for an online catalog, they will be lacking some important data elements: joint authors, series, subjects, etc. I am not saying that if automating circulation, one needs complete MARC format records. What I am trying to indicate is that one should look at not only the immediate, short-term goal of the circulation system, but also consider what may be happening in three, five, or eight years. A little extra work now could save time, money, and a lot of frustration in the long run.

Remember, a file in machine-readable form can be used for many different things—with appropriate programming. Elements can be stripped off for circulation systems, COM or online catalogs, etc. It can be expensive, however, to augment an existing file. Also, do not overlook the possibility of sharing files with other libraries—either through cooperative conversion or systems or by outright purchase and sale of data files.

Planning should involve as many staff as possible: management, technical services, public services, branches. Some may

have to change their attitudes about automation. As Miriam Drake has pointed out, "this can take place in several areas—convincing management that allocation of resources for automation can result in lowering or differing staff requirements (and thus money) while providing better service to users by reduced search time, delivery of greater quantities of information, or faster location of library materials; and in the ability to deal with an informed patronage whose expectations and demands for information are high."²

Between planning and implementation comes the design process. The many steps required are documented fully in the literature. I want to focus on those which have the greatest impact on the public services librarians who must not only be able to access the information and teach others to do so, but to recognize and interpret the data displayed.

Search keys and language: try to use natural language, meaningful commands, and search structures that compensate for misspelled words and names. These, along with keyword searching and boolean techniques can make online instruction, and thus access, easier.

Display format: give enough information to satisfy user requirements but eliminate unnecessary elements such as ISBN. Too much data will simply confuse the user.

I should point out here that both the search keys and display format will be dependent on whether all or selected bibliographic elements were included in the data file. There is also the dichotomy pointed out by Andrew Wessel of potential users trying to specify requirements without knowing what things are feasible at what costs. He suggests experimental programs during which users can determine their informational requirements and work with both the system designers and management for flexible systems. This allows for later changes rather than an inflexible system which demands user adaptation.³

System responses: plan prompts for initial searchers using the principle of least action by users as described by Atherton,⁴

give an indication of when the system is down; prompt users to proceed to the next screen or next step in their search; give error messages in English language and in understandable terminology.

Physical environment: consider whether you will use tables and chairs or counters; attach printers for copies of search results; terminals with function or command keys, etc. The Council on Library Resources is currently funding research to determine the optimum number of terminals for public access; and there are numerous articles which discuss printer characteristics.

The design will take into consideration the genesis of the online catalog data file. Some evolve from automated technical processing projects—like Northwestern University's NOTIS system;⁵ others are outgrowths of local or regional circulation projects—such as Ohio State University's Library Control System;⁶ still others are components of integrated library systems—as at Mission College, San Jose; and, lastly, some are separate automated systems, either on a local or regional basis—like the University of California online catalog.

Presumably both technical and public services staff were making the decisions during the planning process on how much of and which parts of the collection were to be a part of the online file. The practical view of libraries with large collections and corresponding large catalogs supports Brett Butler's statement that "online files will exist as complements to printed catalogs."⁷ In those instances, having both manual and online catalogs may well be the only expedient solution. One hopes, however, that smaller libraries will make the effort and allocate resources, both fiscal and physical, to retro-spectively convert their entire collection to machine-readable form for inclusion in an online catalog. Generally there will be a period of transition during which public services staff will be explaining to patrons which materials from their collection are covered in the online catalog—everything that circulated (with an indication of whether the item is on the shelf or checked out); everything published, acquired, or processed

after a specific date; items on order, but not received; items received, but not processed; certain subject areas in their entirety and others selectively, etc.

In preparing library patrons to use online catalogs, then, we begin by describing the exact scope of the data base and possible search techniques in such a way as to generate reasonable expectations. We have to explain that the user cannot destroy the system through any manipulations at the search terminal (and make sure that is true by making the keyboard inoperative as far as programming functions might occur). Further we will be called upon to demonstrate search techniques, develop supplemental printed materials and online help screens, and be "on call" to assist searchers during terminal sessions. Note, however, that experience with INTREX showed that no single method of instruction will satisfy all, or even a majority of users—and that too many options have a "clutter effect" and users will ignore them all.⁸ Some users prefer to simply experiment at the terminal and figure it out for themselves.

Katter and McLarn describe three stages of development in the user of an online system:

"Stage 1) confidence — the user shifts from an uncertain, hesitant, somewhat anxious approach . . . to a more relaxed attitude of ease and optimism . . .

Stage 2) insight — the user shifts from learning about the system through rote memorization and practice to learning about the more general underlying principles and potentials of the system . . .

Stage 3) incorporation — the user shifts from an attitude of considering the systems' information products as novel and as supplementary . . . to an attitude of . . . necessary."⁹

Although these were descriptive of searching online reference data bases, we can draw an analogy with online catalogs.

I hope that none of you are worrying that with terminals and online access to catalog information, you will be out of a job. As Herndon and Van Pulis point out, there will still be a

“need for more public service personnel to interpret the [online] system and to use it for the patrons who cannot or, understandably, do not want to learn it for themselves.”¹⁰

The keys for successful access to online catalogs are: *involvement* in planning, *experimentation* with design, and *flexibility* during implementation.

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