Chapter II

Interactive IR in OPAC Environments

Overview of OPAC Environments

History and Background

Online catalogs are types of interactive computer systems; they can also be called “interactive catalogs” because a user interacts with the computer to find relevant information. The interaction is the main difference between Online Public Access Catalogs (OPACs) and other types of library catalogs (Hildreth, 1982; Matthews, 1985). Online catalogs are regarded as real-time interactive retrieval systems for libraries (Fayen, 1983). According to Peters (1991), the development of online catalogs can be characterized by three decades of development. In the 1960s, the development of online catalogs was led by the development of computer technology and the library community’s desire to increase efficiency in finding library materials. In the 1970s, commercial vendors started to replace large university libraries...
as the principal developers of computer-based library systems. In the 1980s, local libraries expand their control of the library catalog systems.

Specifically, Yee and Layne (1998) highlighted some of the key developments of OPAC systems. In the late 1950s and early 1960s, the first computer-output microfiche catalog was created. During the 1960s and 1970s, many universities developed local library automation projects to support processing materials in the library. In 1967, Online Computer Library Center (OCLC) launched the first successful online library automation project. In 1968, the Library of Congress published the United States MAchine-Readable Cataloging (USMARC) format, which was the first standard structure for machine-readable data. The USMARC format permits record transferring without conversion. OPAC systems, which are designed specifically for public access, emerged in 1980s; they include MELVYL (University of California System) and MSU/PALS (Minnesota State University System) systems. In 1980, CLSI (Computer Library Services International, Ltd.) installed the first OPAC at the Evanston Public Library in Illinois. Another operational OPAC system is the Universal Library Systems (ULISYS) online catalog (Matthews, 1985). Three main benefits resulted from the availability of OPACs: reduced costs to provide a library catalog, improved access to the collection, and immediate access to location and status information (Kochtanek & Matthews, 2002).

Definition and Types of OPACs

An OPAC is defined, by Library of Congress at the Dartmouth conference sponsored by the Council on Library Resources in the 1980, as “an access tool and resource guide to the collections of a library or libraries, which contains interrelated sets of bibliographic data in a machine-readable form and which can be searched interactively on a terminal by users” (Fayen, 1983, p. 4). Saffady (1999, p. 218-222) summarized the general characteristics of OPACs:

- Organized, machine-readable collection that represents a library’s holdings.
- Can be accessed from any locations by authorized persons equipped with compatible terminals.
- Can be updated in real time.
- Most of OPAC modules are menu-driven.
- Recent development supports OPAC searches by microcomputers equipped with Web browsers.
- In additional to the traditional retrieval functionality of card catalogs, many systems support unique record identifiers, such as library of Congress Card Number (LCCN) or International Standard Book Number (ISBN), and so forth.
Conclusions and Future Work

Badya Al-Hamadani and Joan Lu (2013). Design, Performance, and Analysis of Innovative Information Retrieval (pp. 154-178).

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