

Research Record

Librarianship and Human-Computer Interaction

Raya Fidel

The interdisciplinary area of human-computer interaction emerged as a partnership among researchers from computer science, business administration, psychology, communication, educational technology, and librarianship (i.e., library and information science), among others. It covers a broad spectrum of subjects, ranging from user studies to information storage to information display.

As in any partnership, each member in this area of research is expected to make a contribution and to benefit from the results of the collective endeavor. Librarianship has already collected some benefits. For instance, research in automated indexing is performed most often in computer science departments, and research on bibliographic databases utilizes various database management systems. It is not clear, however, what librarianship has contributed to this partnership because most researchers ignore the experience gained in our field.

Nevertheless, librarianship is the only discipline that deals with the organization of knowledge. Long before computers came into use, libraries developed their own databases, such as books in classified order on shelves or card catalogs, to name only two. The practice of developing these databases fed theoretical investigations and was nourished by them.

This long experience resulted in a substantive body of knowledge in the area of information storage and re-

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trieval, but it is yet to be disseminated to other disciplines. Today, researchers in computer science and business administration work on database design in complete isolation from the rich experience gained by librarianship in the building of bibliographic databases. A major barrier to the transfer of our knowledge to other disciplines—though not the only one—is the language we use: principles of design for bibliographic databases are stated in terms that are relevant only to this kind of databases.

There are some exceptions. Classification research has always been concerned with general principles, and Soergel adapted a database approach in his book about organizing information.¹ To make our theory accessible to database designers, however, we need to expand our territory—to generalize more of our findings and principles to fit a generalized database approach.

Using this approach, this writer analyzed the Anglo-American Cataloging Rules (AACR2) because, in database terminology, they are rules for data collection. Clearly, every database needs its own AACR2; that is, a set of rules for data collection. A generalized version of the AACR2 would, therefore, be relevant to data collection for any database.

Analysis of the rules revealed that they fall into several general categories. For example, a rule to determine the publication date when two or more dates are found in an item is a rule about establishing an element in the bibliographic record. It belongs, therefore, to the establishing elements category. This category of data collection is found in all other databases. Similarly, the rule that requires the date to be recorded after the publisher's name is a format rule—it determines the place of the date in the

bibliographic record.

Once the AACR2 rules were divided into general categories, it was possible to apply principles from a generalized database approach to examine the structure of the AACR2—in particular, those that concern the relationships among the categories. One of these principles requires that rules for establishing elements appear before rules for the actual format in which information is recorded. The generalized approach revealed that this practice is not always followed by the AACR2, and at the same time, suggested a preferred organization of rules.

Database designers can benefit from such analysis because the rich experience gathered in descriptive cataloging is available to them, and the general categories identified by the rules in AACR2 can now be applied to the creation of rules necessary for their data collection.

The AACR2 is only one example of knowledge that can be transferred to a more general level. With a general approach that focuses on data, or information, rather than on documents, librarianship is ready to make a

substantial contribution to research in human-computer interaction.

Other specialties within librarianship, such as thesaurus construction or online searching behavior, also should be examined from a generalized database approach to both assist database design and to further the analysis of these topics within librarianship.

References

1. Soergel, D.: *Organizing Information: Principles of Data Base and Retrieval Systems* (Orlando, FL: Academic Pr., 1985).
2. Fidel, R., and Crandall, M.: "The AACR2 as a Design Schema for Bibliographic Databases," submitted for publication.

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Besides columns by the column editor, readers are encouraged to submit articles of 1,000-1,500 words on topics related to research to Terrence Books, Graduate School of Library and Information Science, University of Washington, 133 Suzzallo Library, FM-30, Seattle, WA 98195. The database of dissertations in progress can also be accessed through the column editor. Results of a computer search on specific topics or a book catalog of the entire database (about 220-225 records) are available on request.

"The Visible College"

ADELE M. FASICK, EDITOR

The Browsing Collection: A Lab for Library Science Students

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and Barbara J. Fahey

What activities involve a student in the average material selection or col-

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lection development course? He/she writes a hypothetical selection policy for a hypothetical collection. The requisite number of reviews are read and materials are selected. An order (generally in the form of a bibliography) is prepared and turned in to the instructor. Feedback in the form of patron satisfaction, censorship problems, or budget difficulties come solely from the instructor. There are probably other activities that innovative library science instructors devise to make the student's experience more inspiring and more real, but the student never

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