Information Retrieval or Instruction?
Combining the Differing Multi-media Information Needs of Museums, Universities, & Libraries

Howard Besser
Assistant Professor
School of Library & Information Science
University of Pittsburgh
610 LIS Bldg.
Pittsburgh, PA 15260

Information in museum, university, and library settings is usually designed either to be retrieved (like bibliographic data in an online catalog) or to instruct (like interactive exhibits). Particularly with multi-media information there is little cross-over between these purposes, and up until now most multi-media software has either belonged to the library world or to the world of instructional design and programmed learning.

In the museum world, we see this manifested in the clear distinction between museum education functions (such as interactive exhibitions) which are designed to instruct, and collection management functions which are designed for retrieval. Elsewhere (Besser, 1991), this author has shown how technological changes are likely to provide the groundwork for these two museum functions to converge and combine with one another. Beginning with a collection management system, a common base of knowledge about the collection can be extended both to provide precise information about particular objects as well as to instruct about entire classes of objects.

Within a university setting, combining retrieval and instruction purposes becomes far more complex. A museum is a relatively controlled setting, with a clearly defined collection and domain of knowledge that it seeks to cover. A university, on the other hand, has an incredibly broad collection and (at least in theory) seeks to cover "all knowledge". The museum's task of expanding upon the collection management system to provide instruction appears to be limited enough to be done in incremental steps, each of which can clearly demonstrate some progress towards the eventual goal. A university, on the other hand, is not likely to find that adding instructional material to an online catalog will bring it much closer to combining its library and instructional objectives unless it is willing to put hundreds of person-years into the effort.

Yet, given the right set of circumstances, efforts like this might indeed help a university realize a narrower set of instructional objectives. Given a set of objects owned by a University unit (such as a museum, special library, or archive), the informational records about these objects (eg. cataloging or collection management records) might be enhanced to aid instructional objectives in specific instructional domains. The author has been involved in creating very limited prototypes to attempt this with art historical, architectural, anthropological, educational, and geographic materials at UC Berkeley, Carnegie Mellon University and at the University of Pittsburgh. Many of the bureaucratic and conceptual problems have been outlined elsewhere (Besser & Snow, 1990).

Technological problems include the impact of large image files on storage capacity, networking, and display. Image compression and progressive transmission appear to be the best answers to these problems, but much further research remains to be done on acceptable image display quality.

A key technical problem is the lack of a standard storage format for the type of information such a system would require. Extensions (such as those expected by the CIMI project) may enhance the MARC record so that it will become sufficiently robust to incorporate collection management systems, but these extensions are not likely to provide for the added information that instructional objectives are likely to require.

Other key technical and technological factors include: how to integrate the display requirements of multimedia into traditional shared-user cataloging systems; how the costs of bit-mapped workstations and the bandwidth of networking are finally becoming affordable enough to begin thinking about shared-user networked applications; and how the development of standards and protocols (such as Z39.50) are beginning to encourage people to explore remote systems.

In the near future, we are likely to see more applications which begin with a set of information about objects residing in museums, archives, and libraries, and enhance these cataloging or collection management records to further contribute to universities' instructional objectives.

Citations

Besser, Howard (1991). "User Interfaces for Museums," *Visual Resources* 7, 1991, pages 293-309 (in press).

Besser, Howard and Snow, Maryly (1990). "Access to Diverse Collections in University Settings: The Berkeley Dilemma," in Toni Petersen and Pat Moholt (eds.), *Beyond the Book: Extending MARC for Subject Access*, Boston: G.K. Hall, pages 203-224.

