This paper describes a project that is a joint effort sponsored by the Ameritech company involving the Akron Art Museum (Ohio), the University of Akron (its libraries, New Media Center, and education faculty), and the state-wide library and multimedia consortium, OhioLink. The project combines the machine-readable cataloging of the museum's library with the creation of a World Wide Web site that includes images of the museum's permanent art collection. The purpose of the grant was to find the necessary software to connect bibliographic information with image data in both the library's catalog, which it shares with the university, and the Web-based database. Once completed, parts of this art/library Web product can be refashioned into an important and accessible educational tool for use within the museum itself, out in the greater metropolitan area, and wherever Internet-based Web resources can reach. (MES)
Connecting Art Images and Bibliographic Data: Creating a Tool for Distance Education through Collaboration

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Abstract

Collaboration and cooperation with other agencies is about the only way a small non-profit art museum and its library can hope to create and disseminate its collections through a web-based program, and to use the product for off-site education in the surrounding community. Creating a web site and database is a difficult process, considering the number of constituencies involved B the art library itself, the Museum staff, curators, and administration; plus, the other collaborators and sponsors. Keeping the page up to date is another factor. At some point, the partners disappear, while the ongoing work that must be done (without all the expertise required to set up the thing in the first place) is still there. Such issues go to the point of whether all the effort is worth it. Planning is crucial.

This paper describes and focuses on one such project. The project is a joint effort sponsored by the Ameritech company through a sizable grant, and involves the Akron Art Museum, The University of Akron (its Libraries, New Media Center, and education faculty), and the state-wide library and multimedia consortium, OhioLink. The project combines the machine-readable cataloguing of the museum's library with the creation of a web-site that includes images of the museum's permanent art collection. The purpose of the grant was to find the necessary software to connect bibliographic information with image data in both the library's catalogue (which it shares with the university) and the web-based database. Once completed, parts of this art/library web product can be refashioned into an important and accessible educational tool for use within the museum itself, out in the greater metropolitan area, and wherever Internet-based web resources can reach.
Paper

Background:

In 1997, The University of Akron's University Libraries (in Akron, Ohio, USA) established a formal cooperative relationship with the Akron Art Museum to help organize and automate the Museum library. The University Libraries have agreed to catalogue currently received materials. The University Libraries provide (for free) the labor for all ordering, check-in, payment, cataloguing, binding, and physical processing, while the Museum pays only actual costs to vendors and other suppliers. For its part, the Museum is to be responsible for out-of-pocket expenses to OCLC for use of its bibliographic utility system.

The Art Museum has been established as a virtual branch within the University Libraries' catalogue in return for providing copies of articles through interlibrary lending. The Museum allows faculty and students use of its book materials on site. Duplication of serial holdings in both institutions has been cut, so that each library has an expanded selection of periodicals.

Membership in library consortia, specifically OCLC, Ohionet, and OhioLink, has been attained for the Museum. Museum employees have full use of the University Libraries' collections and services, and the statewide resources available through OhioLink.

The two libraries have agreed on cooperative purchases of library materials in order to supplement areas of academic and research interest in both institutions. Internship programs for University students, and shared art and bibliographic materials exhibits have been developed.

The Project:

During this same time period, the University's and the Museum's libraries were investigating other ways to help develop the Museum's library service program. One project had to do with the retrospective conversion of the Museum's card catalogue. Further, since the Museum library was connected via the University's server as a virtual branch of the University Libraries, there was an opportunity for important connections between web pages. The University Libraries' online catalogue is available through a web pack interface. That generated interest in developing a Museum library-oriented web page, with significant connections between its art holdings and the bibliographic records of holdings associated with them. An extension of this idea involved links to the larger collection represented by the University's holdings.

An opportunity for monetary resources in the amount of $150,000 (the maximum allowed) surfaced through the generosity of a telecommunications company, Ameritech. The grant had a two-year cycle for completion, from initial conception and conversion of files to testing and evaluating the educational component that will be described later in this paper. The proposal, called the Ameritech ArtSmart Project, had the following goals:

To provide for online public access for the first time to all resources in the Museum's library, and to integrate bibliographic records into the University's extensive holdings.

This project included the retrospective conversion of the Museum's library catalogue of 6,000 titles over a nine-month period. It also involved the cataloguing of a small backlog of materials, a serials file, a few audio-visual materials, and 3,000 exhibition catalogues.

Over one-third of the money allotted by the grant was earmarked for this purpose. The institutions believed that there was a more significant investment to be had in converting the collection's records at this stage, so that other aspects of the grant would be possible, either within the time frame and financial resources of the grant, or afterward.
To provide for ongoing access to the Museum's permanent collection.

Although the intention is ultimately to mount images of all 3,000 works of art in the Museum's permanent collection, both institutions decided to choose 200 of the most important works for the initial imaging phase. The smaller number was more economically feasible and made sense in terms of the two-year grant period. Both of these things suggested that fewer samples would be better than trying to accomplish too much in one project.

As part of an earlier Museum project, 100 images had already been created. Fortunately, these images had been composed well within the standard guidelines being espoused by OhioLink and the University's New Media Center. Individual artists were contacted for permission to use the images, when required.

Thus, the real test of this project was to find ways to make appropriate links between images, web sites, and bibliographic information in both libraries. Most of the effort would constitute development costs for creating the software to accomplish this goal.

To make possible meaningful access to the collection for as many people as possible.

The Museum Documentation Association reports that "one-third of the inquiries received by museums do not relate directly to the individual objects." Most people, it seems, "seek explanations, background and further information." So, the relationship between works and information about them is meaningful.

For the project, the Museum gathered biographical and bibliographical information about the artists and their works. The information was scripted onto the web page, with hyperlinks made between key terms and bibliographic entries to records in the electronic catalogue shared by the two institutions. The University Libraries agreed to purchase any books that were cited in the bio-bibliographies but not already in the collections in order to ensure a complete finished product. Links were also made out of additional entries in the library catalogue to the web site entries, so that the user could approach topics and projects either way.

This idea alone represented the uniqueness of the project, that is, the tie between text data, images, and bibliographic records. Other instructional web sites generally resemble library pathfinders, in that they incorporate text organized into subject arrangements with bibliographic entries for related works. Sites range from those offering prepared text with links to images of works, to searches by broad subject category that reach across the holdings of the museum. In some cases, there is metadata type cataloguing that describes the work, but there are no connections to bibliographic records representing the holdings of any library.

In museum sites, information is quite often organized ahead of time around an exhibition, an artist, or an artistic medium, and thus allows for little choice on the part of a researcher for what additional items may be recovered.

In the Akron site, a potential library or museum user could view an image of, say, an Ansel Adams photograph. With it would be information about Adams as artist, photography as medium, or the subject of the photograph, each with appropriate links to books and other materials held in the libraries related to either the broad topic or the specific photograph. If journal articles were appropriate, they would be scanned into the University Libraries' electronic reserve system and linked to the Museum's web site entry.

Going the other way, a library user may be doing research on Ansel Adams through the library's catalogue. As part of the search, the person would run across entries on photography, and would see an entry for the scanned image found in the Museum's collection, probably under his name and under the subject category. At that point, the person could find the additional bio-bibliographic information, along with the image, at the Museum's site that may
be of value.

In short, this process is an extension of the "related works" concept in library catalogues. A by-product of this process, and part of the reason for entering into the cooperative arrangement, would be to get the person to visit the Museum as part of the research adventure. Lectures that are given before performing arts events (like those for operas where a knowledgeable critic prepares the audience for the unfamiliar work and genre he is about to see), speak to the idea that people respond to and like what they know and understand. The arts educator, therefore, aids by getting people to know about the arts, and thereby inculcates a desire to gravitate to the arts.

Software that would support this educational idea altered as the plan for the project got underway. OhioLink, the statewide consortium, was becoming heavily interested in imaging and other media efforts. The University Libraries and the Museum Library sent a proposal requesting that OhioLink provide appropriate software for describing and otherwise cataloguing key information (metadata) about the works that the institutions would be storing. The descriptive information was mapped from disc records that were prepared by the Museum and that were to be housed at the University's site.

In sum, images are stored in OhioLink, bibliographic records are in the library's catalogue, and biographical and other bibliographic information is available on both the University's and the Museum's web site. Additionally, metadata catalogue information is funneled through OhioLink into a separate datafile housed in the University. These databases, some of which were new, required an interface common to the Museum's site and the Libraries' online catalogue that would display the images and associated bibliographic information.

A subcontract was awarded to a graphic design firm to work out ways to call for information from all five "places" and merge them in meaningful ways for employees, educators, or lay users. Navigation includes search and browse capabilities and free movement between the Museum site and The University of Akron's Library catalogue. Interactive tools were developed to allow interaction for both visitors to the Museum site and the staff at the Museum.

It was especially important that the means of mapping the various sources of information be easily and readily capable of being updated so that, as other images and text are added, the means of locating them are integrated into the original product. The idea was to have software that would serve for future growth and the meager financial resources of the institutions.

There is great flexibility in that an educator or researcher can combine search results in a variety of ways for their educative purposes. This range of freedom gives a strong academic quality to the product. In fact, it fits (and has helped to define) the idea behind the OhioLink multimedia database design, by which anyone searching for information can combine the results for his own pedagogical purposes.

To inform the community, and especially educators, about the works of art through new access mechanisms and orient them to their use.

Museum staff people are working with an outside arts educational technology consultant to develop text for three sample instructional units that can be used by teachers and families. Museum educators visit schools in the area regularly. Through this effort, they will be able to connect to the site through electronic links in the schools (perhaps through the network of electronic classrooms established by the University in various geographic sites within 50 miles in any direction from the city center). In essence, the site will become a kind of traveling slide show that can be easily adapted depending on where the educator is at the moment, and for the kind of course being presented.

Additionally, the secondary resources available for information about them comes in a variety
of languages, each of which can be selected (and potentially added to) by educators and researchers around the world. Educational web sites seemingly are substantive elements in the globalization of education.

**Conclusion:**

The integration of the Museum's catalogue and web site with those of both The University of Akron and OhioLink provides for a kind of visibility that the art institution could otherwise not achieve on its own. Museums represent one of the most frequently used resources on the Internet. This Museum's presence will be enhanced because of the bibliographic connections inherent within it and because of the strong link to the educational components being developed for it by the project.

The University gets a wonderful kind of laboratory resource for its students by association with a nearby art museum. Because of the collaboration with the Museum, students have the opportunity to see works of art and learn about them in their biographical, historical, social, psychological and political contexts. This makes the works relevant in ways they had not been before.
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