

**Art Libraries Society of North America, 33rd Annual Conference
Hilton Americas, Houston, Texas, April 1-6, 2005**

**Session V: Visual Access to Visual Materials/Panel 05
Sunday, April 3, 2005, 1:30 – 3:30 PM**

Moderator: Rachel Beckwith, Massachusetts College of Art

Panelists:

James Wang, Penn State University
Abby A. Goodrum, Syracuse University
Paul Dobbs, Massachusetts College of Art
Katherine Cowan, Maryland Institute College of Art

Recorder: Rachel Resnik, Massachusetts College of Art

Introduction:

Beckwith welcomed everyone to the session and introduced the speakers. She explained that today's panelists would be discussing strategies for increasing access to visual materials.

James Wang, "New Technologies for Managing Image Collections"

Digital resources, whether image databases like AMICO or personal digital photos, are growing at a rapid rate. As a result managing pictures is becoming more of a challenge. Textual retrieval requires manual annotation, which is expensive and cumbersome. As an alternative we could train computers to do automatic linguistic indexing of pictures.

Wang showed IBM's QBIC (query by image content) as an example of a feature-based approach to image retrieval. With this software one can use a color wheel and draw an image to retrieve pictures.

While at Stanford University, Wang worked on a project to develop the SIMPLIcity (semantics-sensitive integrated matching for picture libraries) system, which uses wavelets for efficient feature extraction and combines statistical semantic classification with image retrieval. The feature extraction partitions an image into graphs and analyzes the content in segments, which then allows for easy clustering of images. This clustering can be more accurate than textual clustering. SIMPLIcity requires training the computer to recognize different aspects of an image and apply descriptors to the image from a list of six hundred concepts.

While Wang has used this technology for biomedicine, defense, and law enforcement, he also suggests it could be practical for art instructors illustrating lectures.

Abby Goodrum, "Browse? Query? Both? Blending CBIR and Text Retrieval Methods for Image Searching"

Goodrum focused on how to provide both textual query tools and CBIR to improve user access to images. She discussed five studies she has conducted related to this topic. The advantage to providing both textual and visual access to image databases is that the user is not always able to verbally express what it is he/she is looking for. It would be nice to allow the user to draw a picture of what he/she wants or simply request images similar to one retrieved. In the first study, which compared keyframes and keywords in video tasks, she found that for specific needs, keywords are more effective but for more ambiguous needs keyframes (or seeing the image) is more useful. Her second study analyzed over a million queries using the EXCITE search engine. She found that people input few terms to describe what they need, but use a lot of qualifiers. And while some search terms are used repeatedly, for less popular searches there is little consistency in terminology. The third study, which looked at the Google image database, revealed that there is little overlap in terms used to describe art and abstract images on the Web. The pictures on the Web are being used to support text and not vice versa. On average it takes someone twenty minutes to locate an image on the web. The fourth study analyzed requests made to AskERIC and the Virtual Reference Desk (VRD). This study found that terms used in a request do not correspond to terms used to index resources and responses sent back to the requestor often do not include the original search terms. In the fifth study, Goodrum found that educated users spend as much time searching for images as naïve users. Much of this time is spent browsing, rather than crafting and modifying a query.

Some practical points that can be extracted from these studies are that people prefer to begin searching using text, but then like to refine searches with CBIR. Users need to know how a system works—for example most people assume databases default to a Boolean “and” search, QBIC however does an “or” search. Providing thumbnails enables faster decision-making. Providing text and CBIR capabilities, while also informing the user of how the database is working, will allow for better searching.

Paul Dobbs, How Would Artists Design Content-based Image Retrieval (CBIR)? Developing a CBIR Application on an Art School Campus

Current developments in CBIR have been designed to meet the needs of non-art related fields such as science, medicine, and the military. CBIR has practical applications for a variety of fields, one of these is the area of visual art. Dobbs’ talk focused on how visual artists might design CBIR to fit their needs. Artists are uniquely qualified to design CBIR for artistic applications. While not all artists are strong in communicating verbally, they are adept at communicating visually. The importance of visual literacy has a long history, ranging from the writings of Munsell to those of the Bauhaus. As test pilots, artists offer visual intelligence—they are able to match what is in their head (mental) to what they see (perceptual). Artists are browsers. Whether books in the stacks or slides from a drawer, artists glean information and enhance creative thinking during the act of browsing. Digital image collections would be so much more useful to artists if they could browse patterns, or search for images with high contrast. Another application of CBIR in an image database, which would benefit art historians, is the ability to do source hunting—such as finding the antecedents to Picasso’s *Demaiselles d’Avignon*. A diverse team of computer scientists, librarians, and artists would be required for a project such as this. One of the first stumbling blocks they would need to overcome is the hierarchical assumption that verbal information is superior to visual information.

Catherine Cowan, "Visual Access to Fragile Assets: An Artists' Book Collection Goes Online"

Several factors inspired Cowan to provide library users digital images of books from their artists' books collection. Because the collection is being used by more and more classes and the items within the collection are fragile, she felt that providing digital images would greatly increase sensory access to the collection. While all of the items in the collection are cataloged in the OPAC, the textual records do not provide the same level of information as images. She was also interested in working on a digital project with art students because they have so much to offer. Because the Maryland Institute College of Art's IT department, which supports the library, uses Cold Fusion—that was the software used for this project. They will be incorporating in Cold Fusion's pilot project called Text Finder. Among the resources available for the project were MICA staff and student workers and a digital camera and flatbed scanner. The process entailed importing MARC catalog records into an Access database and running them through a Cold Fusion. The books are now "browsable" and searchable through the web. Dropdown menus enable users to browse authors, titles, and presses. Future enhancements will include providing a hyperlink within the OPAC, inserting thumbnail sketches into the OPAC records, enhancing subjects, and providing a light box feature.

Questions:

For Cowan: How many books are in the artists' books collection?

For Goodrum: Have there been any recent studies on how people select which source to query for images?