Last month I went to a talk by David Adjaye, the architect of the Denver Contemporary Art Museum, about architecture and community space. I was so inspired that I had to share his work with as many people as possible, and this was the largest audience I could find. I'll get to next-generation library catalogs in a minute.
Adjaye has worked on a number of projects—several of them competitions—located in areas in the midst of urban renewal. In Denver, the Contemporary Art Museum is part of an effort to revitalize the economically depressed inner-city community between the downtown core and the outer ring of suburbs. In London, his projects in Deptford and Whitechapel are located in immigrant communities that have experienced rapid population growth, expanding well beyond the Victorian town center where the church and the library are traditionally found. High poverty rates, gang violence, and institutional racism were all part of the urban decay. At the same time, the diversity and energy of populations constantly changing, world cultures juxtaposed in a small geographic area, have drawn artists to the area and made conditions ripe for a community center—an arts space—housed...in a library.

This library is called The Idea Store -- the Whitechapel and Crisp Street locations were designed by David Adjaye. This library includes a dance studio, a coffee shop, a daycare, community workshops, an excellent view of London, audio/visual collections, oh, and books. The building opens on to High Street in the middle of the daily market. This is a library where people want to be. I've told you about this project because it is the exemplary "library as place."
“Library-as-place and the delivery of excellent service to patrons visiting in person remains the heart of most libraries. I think the need to deliver the library's content and services both physically and virtually is just part of our reality. The online presence of a library is increasingly important and demands the same degree of creative thinking and planning as that devoted to its physical facilities and activities.”


Marshall Breeding at Vanderbilt, whose name is frequently mentioned in discussions of next-generation catalogs, has said that the library’s online presence is just as important as its physical presence.
Here are the key features of the Ideastore Whitechapel that are useful when thinking about the online environment.

- Central Location
- Well-Designed
- Exploration Encouraged
- New Services, New Materials
- Open Access
- Democratization
- Collaboration
First, its central location. The library was built on a prominent site in the middle of the community. Your library should likewise have prime real estate on the university, museum or community home page, on the campus portal, department website—a visible place that patrons frequent.
The Idea Store Whitechapel was designed by an architect with an international reputation. The façade was inspired by a Kente textile that serves as a record of the community history, a diagram of the community.
It is a transparent exterior that makes use of natural light. The light fixtures and even the bookcases were designed by Adjaye because it was less expensive than purchasing them. It is unlikely that a library could afford an internationally recognized designer--wouldn't Experimental Jetset be ideal?--to create its web or catalog interface using open source software. But, a site created by a professional graphic designer with an emphasis on the principles of design is an essential aspect of next-generation library catalogs. Google's interface shows that "less is more."
Adjaye’s transparent façade wraps around the building not as a disguise of what lies behind, but as a device to envelop the community into the library space. It invites the community to explore, encourages curiosity about what they can glimpse through the colored glass that also symbolizes their diversity woven together tightly in Whitechapel. Next-generation library catalogs are about that sort of exploration. They are an "interface that sits atop an ILS..." They are a new façade for the old OPAC.
Digital Library Federation ILS - Discovery Interface Survey

- September 2007
- Published 2008 (currently in draft form)
- 100+ Responders
- More than 40% are considering a new ILS
- 77% use a supplemental discovery tool
- Only 13% have no plans to implement an extra

Source: Survey Results

This topic is important primarily because statistics show that a large percentage of academic libraries are considering changes to the way patrons access their library catalog.
The façade is not just new packaging for that same old OPAC. Like the Whitechapel IdeaStore, Next-Generation library catalogs offer new services, new materials, and increased access.
Common End-User Problems

- Result sets too large or too small, or no results
- Apathy or lack of understanding about catalog
- Incorrect syntax or search commands
- Not substituting related concepts
- Incomplete information for searching
- Don’t know LCSH
- Misspelling, mistyping
- Incorrect word order
- Wrong search type

Source: Graves and Ruppel, “Usability Testing and Instruction Librarians: A Perfect Pair”

The next-generation library catalog accounts for users’ shortcomings.
More than just Metadata: Possibilities for the Library Catalog

Eric Lease Morgan

- Add to my collection
- Annotate
- Cite
- Compare & contrast
- Create different version of
- Create flip book
- Create tag cloud from
- Delete from my collection
- Do concordance against
- Do rudimentary morphology
- Find opposite
- Find similar
- Highlight
- Incorporate into syllabus
- Map to controlled vocabulary term
- Plot on a map
- Print
- Purchase
- Rate
- Review
- Save
- Search
- Search my collection
- Share
- Summarize
- Tag
- Trace author
- Trace citation
- Translate


Eric Lease Morgan at Notre Dame has compiled a list of all the elements that can be incorporated into a next-gen OPAC. This is definitely a change from the old catalog that was just an OPAC--an online version for public access to the library’s old card catalog.
Limitations of Current ILS

- For print materials
- For inventory
- Not for digital resources
- Limited to owned items
- Limited support of metadata standards and FRBR
- Interfaces that are not intuitive
- Little forgiveness of user error
- “Siloing” of information

Source: DLF ILS-DF Task Force Survey Results

It contained physical materials only with limited access points to the content of the material. When libraries started offering electronic indexes and full-text databases they were developed in an alternate location -- the equivalent of going to a separate library building for each type of material you're looking for.
This is commonly called "siloing" of information. Silos are definitely not hot . . . at least not information silos.
“I would encourage image librarians, just as I would encourage any other librarian, to think of a library catalog as if it were more than an inventory list. Consider ways to allow the images to be enhanced, tagged, edited, manipulated, shared, enhanced, interpreted, saved, searched, reviewed, annotated, evaluated, etc. In other words, explore and investigate ways the images can be used. Anybody and everybody can search for and get images. Where a library has an edge up is providing tools against the image so their content can be used.”

Eric Lease Morgan, University of Notre Dame

I would argue that access is the most important change in next generation online catalogs. These catalogs make it less important to know how to search or what silo to go to to find a particular piece of information. As Marshall Breeding has said, "systems are doing the thinking about searching." This is what Google does so well, and as we know, Google is the standard students expect when they are searching for information. It's not just students of the "Google generation" who are compelling libraries to change their ways. Way back in 1993, the Getty survey of humanities scholars discovered that the most advanced researchers prefer one-word search terms. Next-generation libraries need to be concerned about the democratization of information. David Adjaye mentioned that there was some discussion about the public/community open space with a cafe not being on the ground floor, opening onto the market space. He wanted it to be on the top floor because it gives the common person a view of the city generally reserved for the top tier of society. Taxi drivers on a break like to have coffee there.
When “systems are doing the thinking about searching,” the focus of library instruction can shift from the intricacies of using a particular online interface to information literacy.

An information literate individual is able to:

- Determine the extent of information needed
- Access the needed information effectively and efficiently
- Evaluate information and its sources critically
- Incorporate selected information into one's knowledge base
- Use information effectively to accomplish a specific purpose
- Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally

Source: ACRL, Information Literacy Competency Standards for Higher Education

In a similar way, the resources of the library should be transparent to the general population or those who haven't taken a class on how to search the library catalog or who don't have a PhD's worth of experience. The average art student, museum-patron or artist, visual thinkers, should be able to enter and explore the catalog easily. This frees up instructions librarians to focus on information literacy rather than the intricacies of Boolean searching of the wonders of truncation. The next-generation library catalog also means more efficient research for those with the PhD's--cursory research, time spent looking through a book (possibly related to the subject of interest) to see if there's a mention of a term instead can be devoted to analysis of a topic and more time pursuing leads that are known to be relevant.
How? Full-text searching. This hasn't become a part of most library catalogs yet, but it will with the Google Book project and other mass digitization efforts. I spent some time talking with Marshall Breeding, Director for Innovative Technologies and Research for the Jean and Alexander Heard Library at Vanderbilt University, about this topic. I would encourage you to take a look at the transcript on the related virtual poster session that Bryan Loar and I have prepared.

Here is an example of how a student's desire to learn more about a sculpture on campus could take them to directly to accurate information online in the next generation library catalog in very few steps:

[demonstration of University of Chicago’s Aquabrowser implementation, LENS, search for nuclear bomb -> article in Google books about the sculpture. Click on Nuclear Energy to open LENS in a web browser; click on Chicago to view a campus map situating the sculpture that would ideally be linked to the image record in the catalog]
“When you have tens of thousands or hundreds of thousands of images, how long would it take a human to write metadata about each of those? You know, it just takes longer than we have. So the more that we can leverage automatic description to at least get a first cut at search and retrieval . . . I think [this] will be important as the universe of these objects gets bigger and bigger.”

Marshall Breeding, Telephone Interview, April 2008

The automated metadata produced by scanning millions of books is, of course, much less effective without the subject access points provided by catalogers. But, there’s only so much a cataloger can do. . .
Automated metadata is definitely "hot." The most exciting automated content is for moving images from the Informedia Lab at Carnegie Mellon.
The information that users want, in my view, involves the content of our collections in all its various forms but especially ready-to-eat items such as fulltext articles, photographs, and audio and video clips. It's this kind of research content that has the most potential to draw users to library websites.

Libraries should pull out all the stops when it comes to original local information and research content, giving it prominent position and funneling in visitors through any means available. Locally digitized collections of photos, newspaper clippings, news footage, and genealogical records represent content that will attract users like magnets to your site if the collections are well-exposed on the web.


All of this new technology is very exciting and futuristic, but at this point there are very few next-generation library catalogs that actually include images. There are those previous generation catalogs that include MARC records of images, but only a handful incorporate xml records and the latest interfaces. I sent a request for information about images and art-related digital resources in next-generation OPACs to the next-generation library catalog listserv. Of course, systems librarians may not always be thinking about art and visual resources of any kind, but I received 3 replies. The Dallas Public Library is using a Polaris ILS that has an image module--it will roll out at the end of May. And Holy Cross has images in their old OPAC using Dublin Core/EAD. Regina Public Library in Canada is trying to overcome rights issues with the artists whose work they own. Of course, Marshall Breeding has incorporated the records of the Vanderbilt Television and News Archive into their new Primo interface, but there are no thumbnails. The thumbnails you see in next-generation catalogs right not are images of book covers. It's this type of visual information that draws users in. You've probably heard facebook is pretty popular -- and that's exactly the point -- people want to look at faces, pictures, images. This is more than ornamentation, it supplements the bibliographic record. Many people recognize a book by its cover, or if you're searching for nuclear energy for a physics project and see a sculpture by Henry Moore, you can quickly scan over that source. Or better yet, incorporate art work into your physics project. And wouldn't it be great if a record for images of Henry Moore's sculpture appeared right there in the OPAC when you constrained your search to images? This image would, of course, be linked to the campus map that includes campus sculpture...
So how do you get images and other next-generation art information into your next-generation OPAC? I'm going to get a bit technical just for a moment. Like I said, next-generation online catalogs are façades or interfaces or a giant index for materials from all parts of the library. Here is a great graphic by Eric Lease Morgan to illustrate. To pull the information from diverse sources -- the library website, your image databases, etc. you use a protocol. Z39.50 is the old standard that's being phased out.
API (Application Programming Interface)

“Building an application with no APIs, says Josh Walker, an analyst at Forrester Research Inc. in Cambridge, Mass., ‘is basically like building a house with no doors. The API for all computing purposes is how you open the blinds and the doors and exchange information.’ APIs also exist between applications.”

Source: David Orenstein, “QuickStudy: Application Programming Interface (API),” Computerworld.com

APIs (Application Programming Interfaces) are taking its place. There is an effort right now to standardize APIs for greater interoperability with and among libraries. In some cases, vendors are limiting the ways you can use APIs to share information, even with other clients of the same company.
What you can do

- Talk to your:
  - Systems Librarian or Systems Administrator
  - Visual Resources Curator, Digital Librarian or Art Librarian
  - Registrar or Collections Manager
- Get involved in usability testing/user studies
- Find out if your image system advertises meta-searching capability
- Visit the virtual poster session that accompanies this presentation

You don't have to know how to create or implement APIs, but here are a few links to image databases with built-in xml gateways/APIs that you can pass on to your systems librarian. Talk to people or agencies responsible for systems, marketing, instruction and work together to reclaim the library's community role. Talk to your patrons to find out how they search at your institution and what kind of visual information is useful to them, and then share it with your colleagues! Thank you.