Moving Forward: The Next-Gen Catalog and the New Discovery Tools

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Abstract

This article explores two emerging solutions—next-gen catalogs and discovery products. A next-gen catalog provides an intuitive interface designed in accordance with current web standards. It incorporates features such as visually rich displays, virtual shelf browsing, a spell-check function, auto-completion options, and search-term suggestions, as well as social features that encourage patron participation, such as tagging, ranking, and reviews. The discovery products are a new type of software-an interface that layers on top of the library management system (LMS). It provides the capability to simultaneously search for material in the library's local collection, articles in subscription databases, and digital collections managed locally.

Keywords

Integrated library systems, library catalogs, library management systems,

online library catalogs, school libraries

Introduction

Do your students prefer to use Google instead of the library catalog? Ever wondered why? Google is easier to use and delivers plenty of "good enough" resources to meet their needs. Yet we know that the quality of information sourced in this way falls far short of what we can offer through our resources. The current generation of online catalogs has two main problems. First, the look and feel of the interface doesn't reflect the conventions adhered to elsewhere on the web, and the functionality may fall short of current expectations. Second, the online catalog doesn't index the complete array of library collections, so students have to use other tools to access other types of material, such as magazine and journal articles. This article explores two emerging solutions-next-gen catalogs and discovery products. A next-gen catalog provides an intuitive interface designed in accordance with current web standards. It incorporates features such as visually rich displays, virtual shelf browsing, a spell-check function, auto-completion options, and search-term suggestions, as well as social features that encourage patron participation, such as tagging, ranking, and reviews. The discovery products are a new type of software-an interface that layers on top of the library management system (LMS). It provides the capability to simultaneously search for material in the library's local collection, articles in subscription databases, and digital collections managed locally. These discovery products include the Web 2.0 features listed above. However, these new products have not been developed primarily for school libraries.

Terminology

New terminology describes the differences in functionality between these new products. The legacy catalog, or Web 1.0 catalog, is still widely in use. The term next-gen catalog, sometimes referred to as Web 2.0 catalog or OPAC 2.0, refers to the new generation of online public access catalogs that integrate Web 2.0 technologies and social features. Discovery products consist of new software

developed to search a larger portion of the resources the library subscribes to or owns, not just the resources managed by the LMS.

Legacy Catalogs

Many school libraries use a proprietary LMS with an outdated interface that relies heavily on text. They fall short of contemporary web standards for intuitive usability and lack the visual features now standard throughout the web. Many do not offer sophisticated search and information delivery capabilities. For example, traditional catalogs do not correct for misspelled words or offer suggestions for alternative or related terms. Nor do traditional catalogs provide features such as the capacity to post user ratings or reviews, faceted navigation, and related resource recommendations.

Because the legacy catalog addresses only the resources managed by the LMS—and because the variety of materials to which our libraries have access has grown—the legacy catalog has outlived its usefulness. While the LMS continues to be an indispensable tool for managing physical collections (books and media), articles available through subscription databases are generally outside its scope.

Moving Beyond OPAC 1.0: The Next-Gen Catalog

What features should the next-gen catalog include? Certainly the interface needs to have a modern look, feel, and functionality that meets the expectations of our students. Search help should include an auto-complete option, a spell-check function ("Did you mean…?"), and search term recommendations ("more like this"). Results should be ranked by relevancy. Results pages should include faceted navigation options. Web 2.0 and social networking functionality, such as the ability for patrons to add reviews, should be available. The interface should include visually rich displays such as tag clouds and virtual shelf browsing. We will review these features below.

The library catalog could be the main information portal of the school, but its functionality needs to be as intuitive and attractive to our students as a Google search. Librarians should not have to teach students how to use the catalog. If a student cannot figure out how to use the features of the

catalog on his own, then the catalog has not met the level of usability that this generation expects. We tend to take interface functionality for granted—until we encounter one that doesn't function well. If the functionality of the interface frustrates the student, he will go elsewhere.

Ask, Bing, Google, and Yahoo utilize an auto-complete option. As a user begins to type a query, suggested terms appear below the search box (before the user has struck the enter key) to help him select a search term. A library catalog should not be delivering a "no results found" message in response to a misspelled query; spelling errors and typing errors should not prevent students from finding results. A next-generation catalog will return a "Did you mean…?" message with spelling suggestions.

Search term recommendations (or query recommendations) should not be delivered only for misspellings; the "Did you mean…?" feature might include related terms generated from a thesaurus or entered by the school librarian. As librarians we know the language specific to our school, and we could include topics used in our curriculum. A good recommendation system proactively delivers meaningful results. A "more like this" feature suggests related resources to patrons. This would function like Amazon's "frequently bought together" and "Customers who bought this item also bought…" recommendation features.

Search engines list results according to relevancy, and our students expect that results from a catalog search will also be returned in relevancy-ranked order. Next-generation catalogs offer relevance as the default sort option. Options for sorting by publication date or alphabetical order (by author or title) should also be available.

If a particular search has yielded a large number of results, faceted navigation allows the user to reduce the number of results to a smaller, more manageable set. The facets will be presented as a list alongside the results. The facet groups may include subject/topic, format/ media type, language, publication data/date, genre, and physical availability; some might show user-supplied tags or facet groups created by the librarian. A good faceted navigation system displays the number of items that will

be returned when a particular facet is selected. Such a tool allows students to drill down to find materials that will meet their particular needs.

User-contributed comments, rankings, and reviews have become a web standard. For our catalogs to be attractive to our users, they need to be able to contribute and interact. Student comments could be approved or edited by the librarian before being displayed publicly.

A related social feature is tagging. Our students may tag resources they have found in the catalog so that they can easily locate the items again. Librarians could also assign tags to resources, including cataloged websites, instead of creating pathfinders. Students would then search the tag, which could be the unit topic or theme title, and find all results useful to their study.

Another common feature is the tag cloud, a visual representation of text. In search applications the tag cloud usually consists of key words or search terms. The frequency of each tag is shown with variation in font size. This visual cloud of terms can be used to explore related terms and concepts. Users can click on any of the terms in a tag cloud to retrieve related items.

The legacy catalog has a text-oriented interface. One of the hallmarks of the next-generation catalog interface is its visual appeal. Virtual shelf browsing (or visual shelf browsing) reproduces shelf arrangement utilizing the call number and the shelving location, coupled with cover art display. Students can now browse the material to the left and right of the shelf position of any item and see what the material looks like.

<div align="center">**Discovery**</div>

Despite all of these improvements, the central problem with the online catalog module of the LMS persists: the OPAC only addresses the resources managed by the LMS, and not the wealth of articles in databases to which the library subscribes. Many academic libraries have implemented a new discovery interface that provides a single point of access to more of the resources managed by the

library, including the items indexed in the LMS, content from the library's database subscriptions, and local digital resources.

Most libraries provide far too many starting points. Currently, a student has to know to start with the online catalog when looking for print materials, search a number of different journal databases when looking for articles, wade through countless pathfinders or topic-specific wikis set up by the librarian, and explore the institutional repository when looking for local content. The ability of a discovery tool to provide access to full-text journal articles, photographs, sound recordings, appropriate websites, and videos—as well as to physical media available in the library—may motivate them to turn to the library's new OPAC to complete their assignments rather than to the open web.

Many academic libraries, public libraries, and consortia now offer a single search of journal databases through federated search, or metasearch, allowing students to search multiple databases from a single search box. Unfortunately, federated search has significant limitations; it can be very slow, and the results list will often contain numerous duplicate citations. The return of results is slow because the search terms are transmitted to several preselected databases and each is searched separately, and then the results are merged into a single list for the user. There are many duplicates because results are being returned from multiple databases at the same time, and de-duplication is not very effective. The new discovery products index the content in advance through a comprehensive harvesting of targeted resources. The search query is sent to one comprehensive database. This should result in the faster return of results with fewer duplicate items in the results list.

Another key difference between the discovery products and next-gen OPACs is that the new discovery product operates with the current LMS; it is not a replacement. Because discovery products operate independently of the LMS rather than replacing them, there is no need to make a wholesale change in the automation environment. This leaves a library the option to upgrade their LMS at a later date while expanding the search capabilities in the present.

However, these discovery products have been primarily designed for—and adopted by—college and university libraries. These products have been implemented by some public libraries as well, but not by school libraries. Some that are commonly used include commercial products such as Encore (Innovative Interfaces), Primo (Ex Libris), and Summon (Serials Solutions), and open source products such as Blacklight and VuFind.

<div align="center">**Conclusion**</div>

The next generation of online public access catalogs progresses beyond the legacy catalog in a number of areas: navigation is more intuitive, they are easier to use, and they have incorporated various aspects of social computing. The new discovery products not only include these features of the next-gen catalogs, but also address the larger issue of providing a single search portal for resources found beyond what has been indexed by the library catalog. It is crucial to invest in tools that will help students to access all of your content.

Although the K-12 vendors currently do not offer this dream product, significant progress has been made, and we shouldn't wait for the advent of the ideal search and delivery product. We need to aim for improvement, not perfection. A modern interface that is more engaging for our students would be a good start. The challenge now is to have a discovery product specifically designed for the school library market. It will take a forward-thinking K-12 vendor to fast-track this concept and deliver a product tailored to meet our needs. School librarians can take an active role by insisting on the development of products that not only help us manage our local library operations efficiently and effectively, but that also embrace the next-generation vision so that our library becomes the indispensable information portal of our school.