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Smart library services with discovery tool: A present-day context

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Smart Library Services with Discovery Tool: A – Present day Context

Sadaf Shahid

Abstract:
With the passage of time things have been evolved from manual to automation and then integrated. The successors and versions of the cataloguing standards has come up with their enhancements alike AACR2 to Resource Description and Access. RDA is being developed to provide a better acceptability with object-oriented database structures. Today card catalogues are totally replaced with OPACs and now discovery interfaces are replacing OPACs. Discovery interfaces are also called next generation catalogs which give an enriched web-based interface used by users including scholars and researchers. It also provides link resolver and an indexing, search and retrieval element. This paper discusses the discovery services and its development in the libraries and provides an overview of how libraries are using and take advantages of advance technology and make their resources easily accessible to the patrons through single search interface.

Keywords: 1. Online Information Services; 2. Discovery Tools – Libraries. 3. Web-scale Discovery Systems

Background:
With the increase of internet usage over the last two decades has been a curse and as well as blessing for libraries. Libraries are taking advantage to make information available to their patrons in 24/7. In early 2000s federated search was introduced in the libraries which allow users to search multiple resources at the same time returning a single set of results. Many libraries thought that federated searching would allow libraries to compete with Google for the consideration of users. After the implementation of federated search, many of the libraries faced complications in searching and speed was also a big issue.

These issues with federated searching and the development of Google Scholar led some to call for a new kind of resource that could compete with Google Scholar both in terms of speed and scope. In 2009 Serials Solutions announced the development of such a resource when it unveiled its web-scale discovery tool, Summon. Other vendors soon followed with similar products, such as Ebsco’s discovery service and Primo central from Ex Libris. Unlike federated search tools, which search across a limited number of individual resources simultaneously, these resources pre-harvest content into one single index, allowing users to search across a greater amount of content. This single index also allows for quicker results than with federated searching. And while federated search tools have always struggled with duplicating, merging and ranking search results from multiple resources, the single, pre-harvested indexes of web-scale discovery tools eliminate the need to merge results and allow for easier duplication and better relevancy ranking.1
Introduction:

Discovery systems are now progressively the core technology through which users' access and locate the information resources in libraries.

Below are the different categories of Discovery platforms:
- Discovery interface
- Indexed based discovery services
- Local index content
- Non library discovery services
- Article level discovery services
- Public library discovery services
- Comprehensive library portals

The simple, easy-to-use interface enables users to access a search system for discovering, displaying, and interacting with the content in library systems, such as a WSD central index. Web-scale discovery services purportedly solve the problems that plague federated search tools by promising the ease and speed of Google's keyword search, sorting massive retrieval sets with complex relevancy-ranking algorithms to bring the most relevant resources to the top of the results lists. 

Discovery tools endeavor to provide users with a clean and simplified interface that returns result quickly and from a wide range of library resources.

Below are some features of Discovery Interfaces:
- State of the art interface
- One-stop searching
- Enriched content
- User contribution
- Relevancy
- Simple keyword search box
- FRBR
- Integrates with social networking sites
- Persistent links
- Mobile compatibility
- RSS feeds

Acquire Metadata:

Discovery products harvest metadata from various library databases to fulfill the promise to offer library patrons one-stop shopping for library resources. They index metadata along with the metadata for resources from the discovery service into a single product for search.

The metadata from each library sources may come in diverse metadata formats such as MARC with AACR2 or RDA as the content standard, simple or unqualified Dublin Core Metadata Element Set Qualified Dublin Core (QDC), Encoded Archival Description (EAD), and many more.
Metadata in various formats from different sources often requires changes into another metadata format before it can be indexed, searched, and displayed within the discovery product. Metadata transformations are often performed inside of both the repository and discovery product differently. For example, some transformations may be performed by the original repository system that houses the metadata, such as an IR, in order to map the internal metadata to Qualified Dublin Core. The discovery product will then harvest the QDC record and transform it into its internal record format which in the case of Primo would be PNX.3

**Data Import:**

Libraries often use to deposit metadata from an institutional repository, digital library, or other database into a discovery product through bulk export from the repository and then bulk import the metadata records into the discovery product.

An allied alternative to this is to bulk load the records into the library’s catalog, which is already being harvested by the discovery product. This approach may be implemented by some libraries because of limitations in their discovery product or because they could not, or did not want to, copy records directly from the repository.

The most common method used to harvest local metadata is the Open Archives Initiative Protocol for Metadata Harvesting (OAI-PMH).

**Open Archives Initiative Protocol for Metadata Harvesting:**

The Open Archives Initiative Protocol for Metadata Harvesting standard was created by the Open Archives Initiative. An overly simple way to envision OAI-PMH is that it is a technical method enabling metadata to be copied from one technology system into another technology system.4

OAI-PMH was originally designed to harvest online repositories on the web in order to allow for the creation of central indexes that can be searched instead of users having to search individual repositories.

**Usage of Discovery Tool in Libraries:**

Discovery products are using mechanisms appropriate to location, content type and license arrangement to provide access to materials. These mechanisms might include identifying the current location and status of a physical item with service options to request the item be held or delivered, to provide linking or direct viewing or download of articles, chapters, e-books, or other textual items available electronically, and presentation of digital images or multi-media content. Discovery products may also have social features that enable library patrons to comment, review, rate, or recommend content items or to interact dynamically with other patrons.5

**Some libraries with proprietary discovery tools:**

<table>
<thead>
<tr>
<th>Primo and Primo Central from Ex Libris Group</th>
<th>Aberystwyth University</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coventry University</td>
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<td></td>
<td>Curtin University</td>
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<td></td>
<td>Emory University</td>
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<td></td>
<td>New York University</td>
</tr>
</tbody>
</table>
Some libraries with open source discovery tools:

<table>
<thead>
<tr>
<th>Library Type</th>
<th>University/Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBSCO Discovery Service from EBSCO Information Services</td>
<td>University of Iowa, Vanderbilt University, University of Queensland, The University of California, Berkeley, Aston University, Massey University, Rider University, St. Edward's University, Lahore University of Management Sciences</td>
</tr>
<tr>
<td>Summon (Serials Solutions)</td>
<td>Arizona State University, Dartmouth College, Duke University, Florida State University, Liberty University, University of Sydney</td>
</tr>
<tr>
<td>WorldCat Discovery Service from OCLC</td>
<td>Bowie State University, Eastern Washington University, Louisiana State University, Saint John's University, Saint Xavier University</td>
</tr>
<tr>
<td>Enterprise from SirsiDynix</td>
<td>Maricopa County Community Colleges, Mountain State University/University of Charleston, University of Mary, University of the Virgin Islands, Western Iowa Tech Community College</td>
</tr>
<tr>
<td>Encore from Innovative</td>
<td>Adelphi University, California State University, Deakin University</td>
</tr>
<tr>
<td>BiblioCore (BiblioCommons)</td>
<td>Oakville Public Library, Princeton Public Library, Seattle Public Library, West Perth (Australia) Public Library, Whatcom County library System</td>
</tr>
</tbody>
</table>
Discovery tools are providing its users with the highest quality results from articles, eBooks, catalogue, institutional repositories and other sources. According to Erik Mitchell, Associate University Librarian for Digital Initiatives and Collaborative Services, and Associate CIO for the UC Berkeley Libraries "EBSCO Discovery Service is an important part of our effort to support continuous improvement in library service and is helping students; faculty and staff find scholarly information as quickly and effectively as possible."

**Conclusion:**
At this stage we can say that discovery tools are really a blessing for any library as we are in 21st century and users are very demanding in terms of services and resources because in users including students, scholars, researchers, doctors, lawyers, media specialists, journalist, scientists and intellectuals from various fields; to fulfill the needs of every researcher is not an easy job in given time. By the usage of discovery layers in libraries, users are much more comfortable because they are getting information in one single point regardless of their nature for e.g.: metadata of any book including its status whether it is available or not, eBooks, articles from repositories, instructional guides from in house portals and LibGuides and other academic and non-academic stuff and resources.

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