Library Catalog as Versatile Discovery Platform

Tito Sierra, Emily Lynema, and Markus Wust
North Carolina State University Libraries
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Outline

• Next Generation Catalogs
• Catalog as Discovery Platform
• CatalogWS API
• Current CatalogWS Applications
• Closing Thoughts
Next Generation Catalogs
Background
Examples - Endeca
Examples - AquaBrowser
Examples - Encore
Examples - Primo

Search for

usability

Look for my query: All items that contain my query words anywhere in the record

MNCAT Catalog All Campuses Catalog Articles

Results for MNCAT: Books & More (Twin Cities)

119 Results, sorted by: Relevance

Show only: Online Resources (30) Available (111)

1. Handbook of usability testing how to plan, design, and conduct effective tests (View details)
   Rubin, Jeffrey. 1946-
   Online access (U of M) (Get It)

2. Usability testing for library websites : a hands-on guide (View details)
   Norlin, Elaina
   Online access (U of M) (Get It)

Refine My Results

Narrow my results by limiting the search to:
Availability:
> online_resources (30)
> available (111)

Resource Type:
Examples - WorldCat Local

Search results for 'usability'

1. **Designing Web usability**
   by Jakob Nielsen
   Language: English
   Type: Book
   Held by: University of Washington Libraries

2. **The trouble with computers usefulness, usability, and productivity**
   by Thomas K Landauer; NetLibrary, Inc.
   Language: English
   Type: Internet Resource
   Held by: University of Washington Libraries

3. **Handheld usability**
   by Scott Weiss; NetLibrary, Inc.
   Language: English
   Type: Internet Resource
   Publisher: Chichester, West Sussex : Wiley, ©2002.
   Held by: University of Washington Libraries
Examples - Solr-powered
Examples - Solr-powered
Next Generation Catalogs

- Modern search options
  - Relevance ranking
  - Faceted search
  - Tag/word clouds

- New content and functionality
  - User contributed content, social features
  - Enriched content (book covers, reviews)
  - Current awareness (RSS feeds)
Next Generation Catalogs

Current “next generation catalog” systems are largely focused on optimizing a single discovery context… the OPAC
Question…

Why should the discovery of cataloged library collections be limited to user interaction with a single catalog application?
Catalog as Discovery Platform
... a “platform” is a system that can be reprogrammed and therefore customized by outside developers -- users -- and in that way, adapted to countless needs and niches that the platform's original developers could not have possibly contemplated, much less had time to accommodate.

In contrast, an “application” is a system that cannot be reprogrammed by outside developers. It is a closed environment that does whatever its original developers intended it to do, and nothing more.

— Marc Andreessen, “Analyzing the Facebook Platform, three weeks in” (http://blog.pmarca.com/2007/06/analyzing_the_f.html)
Discovery Happens Elsewhere

No single website is the sole focus of a user's attention. Increasingly people discover websites, or encounter content from them, in a variety of places. These may be network level services (Google, ...), or personal services (my RSS aggregator or 'webtop'), or services which allow me to traverse from personal to network (Delicious, LibraryThing, ...).

— Lorcan Dempsey, “Discovery happens elsewhere”
(http://orweblog.oclc.org/archives/001430.html)
Platform Motivation

- Move beyond the “one-size-fits-all” approach to catalog discovery
- Make it easier to reuse and repurpose catalog data outside the ILS/OPAC
- Build catalog interfaces optimized for different use contexts
CatalogWS API
CatalogWS Goals

Initial impetus:

• Can we have RSS feeds for the catalog?
• Can we integrate catalog results into library website Quick Search?

Final result:

• Rich API for searching NCSU Libraries Catalog
NCSU Catalog Architecture
Search Indices as Data Source

Benefits:
- Performance
- Search features
- Consolidated and normalized data

Limitations:
- Subset of catalog data
- Read-only
- [Not real time]
Technical Design

• RESTful architecture
  • Define query using HTTP GET requests with URL parameters
• Separate web application handles API requests
  • Java, Tomcat, XOM, Saxon 8.8, org.json
API Functionality

Technical documentation:
http://www.lib.ncsu.edu/catalog/ws/

- Discovery-oriented
- Catalog availability
  - service=availability
  - Focus on known-item lookup (isbn)
- Catalog search
  - service=search
  - Support known-item and exploratory searching
  - Mimic functionality available on catalog search results page
Example Request

http://www.lib.ncsu.edu/catalogws/?service=search&query=deforestation
Required Parameters

- service
  - availability | search
- query
  - Any term(s)
Optional Parameters

- output
  - [xml] | rss | opensearch | json
- count
  - default: 30, max: 300
- offset
  - default: 0
- sort
  - [relevance] | date_desc | date_asc | call_number | most_popular | date_added
- style
  - URL of XSL to transform to custom output
XML Response

- Defined with Relax NG Schema
- Discovery-centric
  - Search metadata
  - Results
    - Basic bibliographic metadata (not MARC)
    - Holdings / Item metadata
  - Facet metadata
  - Links
<requestUri>
  http://www2.lib.ncsu.edu:9921/catalogws/?service=search&query=
</requestUri>
<catalogLink>
  http://www2.lib.ncsu.edu/catalog/?Ntt=deforestation&Ntk=Keyword
</catalogLink>
<searchInfo>
  <query>
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    <key>Keyword</key>
  </query>
  <totalResults>395</totalResults>
  <offset>0</offset>
  <itemsPerPage>30</itemsPerPage>
</searchInfo>
<item id="1683670">
  <catalogLink>
    http://catalog.lib.ncsu.edu/web2/tramp2.exe/do_ccl_search/guest?searchTerm=Causes+of+deforestation+of+the+Brazilian+Amazon</catalogLink>
  <title>Causes of deforestation of the Brazilian Amazon</title>
  <author>Margulis, Sérgio.</author>
  <pubDate>2004.</pubDate>
  <format>Book</format>
  <isbn>0821356917</isbn>

  <holdings institution="ncsu">
    <library name="D.H. Hill Library">
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        <status>Available</status>
      </holdingsItem>
    </library>
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        <callNumber>SD418.3 .B6 M27 2003</callNumber>
        <location>Stacks</location>
        <status>Available</status>
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    </catalogLink>
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</facet>
Current CatalogWS Applications
Current CatalogWS Applications

Three categories:

1. Integration with external applications
2. Alternative catalog interfaces
3. Collection promotion
Integration with External Applications

• Integrate catalog data in external library applications: **Quick Search**
• Integrate catalog data in external non-library applications: **iGoogle Widget**
Quick Search

- Website Search Tool
- Combines:
  - Catalog search
  - Journal finder
  - Databases
  - Website search
  - Library FAQs
Quick Search

- Top matching titles
- Format facet results
- Links to full catalog search results
Google Widget
Google Widget

- Search and display catalog results within iGoogle
Alternative Catalog Applications

- **MobiLIB Catalog**: basic catalog interface for mobile devices
- **FacetBrowser**: experimental facet-based browsing interface
MobiLIB Overview

Current services:

- Catalog search
- Computer availability
- Library opening hours
- Campus directory
- Contact information for selected library departments and services
- Links to external sites
- Location of buses in campus transit system
MobiLIB Catalog

- Usage scenario: Known-item search on mobile device (smart phone, PDA, …)
- Bare-bones search interface
- Only one facet: Availability
MobiLIB Catalog

Search fields:

- Keyword
- Title
- Author
- ISBN
MobiLIB Catalog

Results display:

- Short title
- Library
- Availability
- Call number if only one copy
MobiLIB Catalog

Item display:
• Full title
• Format
• Author
• Date
• Library
• Availability
• Call number
• Location
FacetBrowser

- Exploratory search
- Focus on browsing with facets
- Same facets as OPAC
- Basic keyword search
Collection Promotion

- **FacetBrowser** as a collection promotion authoring tool
- Automatically generated “bookwalls”
- **RSS feeds** for new titles
FacetBrowser

- Includes shopping cart for saving selected items
- Currently offers four different output styles
FacetBrowser

- Displays output
- Generates HTML code for bookwall displays and blogs
New Books Bookwall

- Newest books in catalog
- Automatically generated
- Maintenance free
RSS Feeds

- Users can subscribe to RSS feeds based on their individual search preferences
- Active promotion
  - Information about newest items is pushed to users
RSS Feeds
Closing Thoughts
Benefits

Reduced development costs

The CatalogWS API has lowered the technical barriers for staff to develop new web applications that use catalog data.
Benefits

Versatile access to catalog data

The resource-oriented nature of the CatalogWS API makes it easy to integrate catalog data in external applications.
Platforms, Again

… a “platform” is a system that can be reprogrammed and therefore customized by outside developers -- users -- and in that way, adapted to countless needs and niches that the platform's original developers could not have possibly contemplated, much less had time to accommodate.

— Marc Andreessen, “Analyzing the Facebook Platform, three weeks in” (http://blog.pmarca.com/2007/06/analyzing_the_f.html)
Thanks!

Tito Sierra
tito_sierra@ncsu.edu

Emily Lynema
emily_lynema@ncsu.edu

Markus Wust
markus_wust@ncsu.edu
More Information

CatalogWS API:
http://www.lib.ncsu.edu/catalog/ws/

CatalogWS Applications:
http://www.lib.ncsu.edu/dli/projects/catalogwsapps/