A Single Search Box Interface to the NCSU Libraries, Two Years Later

Tito Sierra
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DLF Spring Forum 2007

Opening Remarks

I will not talk about:

- Endeca

- ILS/OPACs

- Faceted search

Opening Remarks

I will talk about:

- Academic library search, beyond the catalog

- A project called **Quick Search**
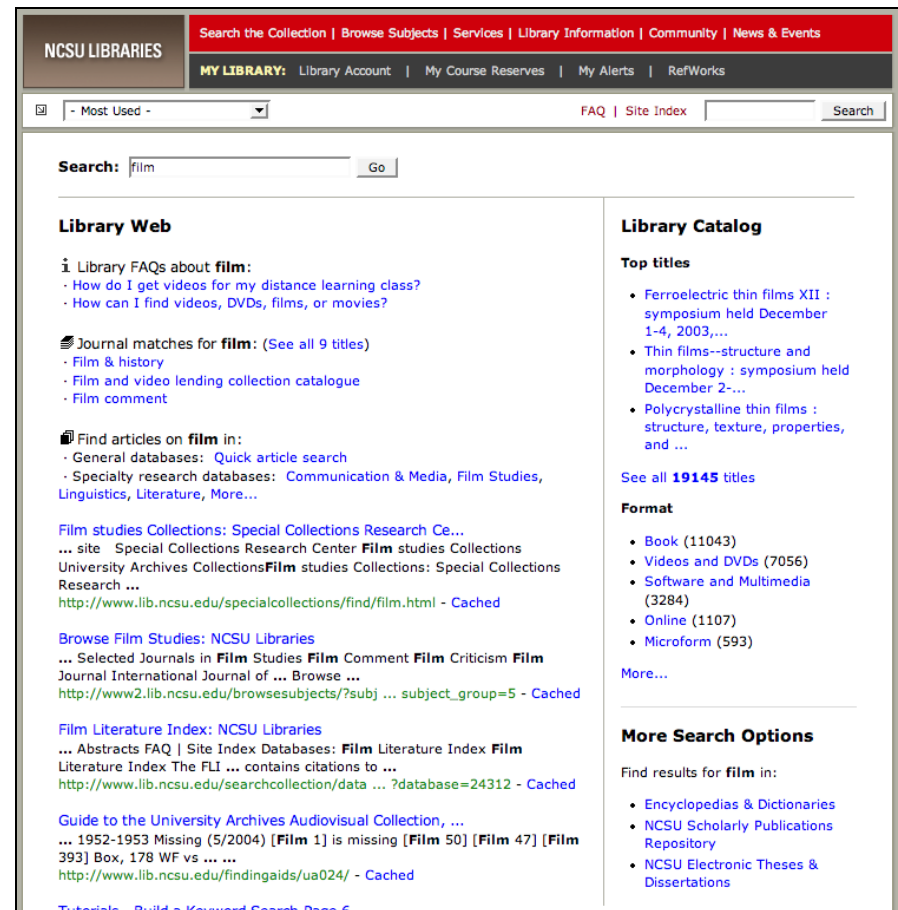
Opening Remarks

In Search of the Single Search Box: Building a "First-step" Library Search Tool

DLF Spring Forum 2005
Tito Sierra and Steven Morris

NCSU LIBRARIES

Opening Remarks

Outline

- Motivation
- The State of Library Search
- Quick Search at NCSU
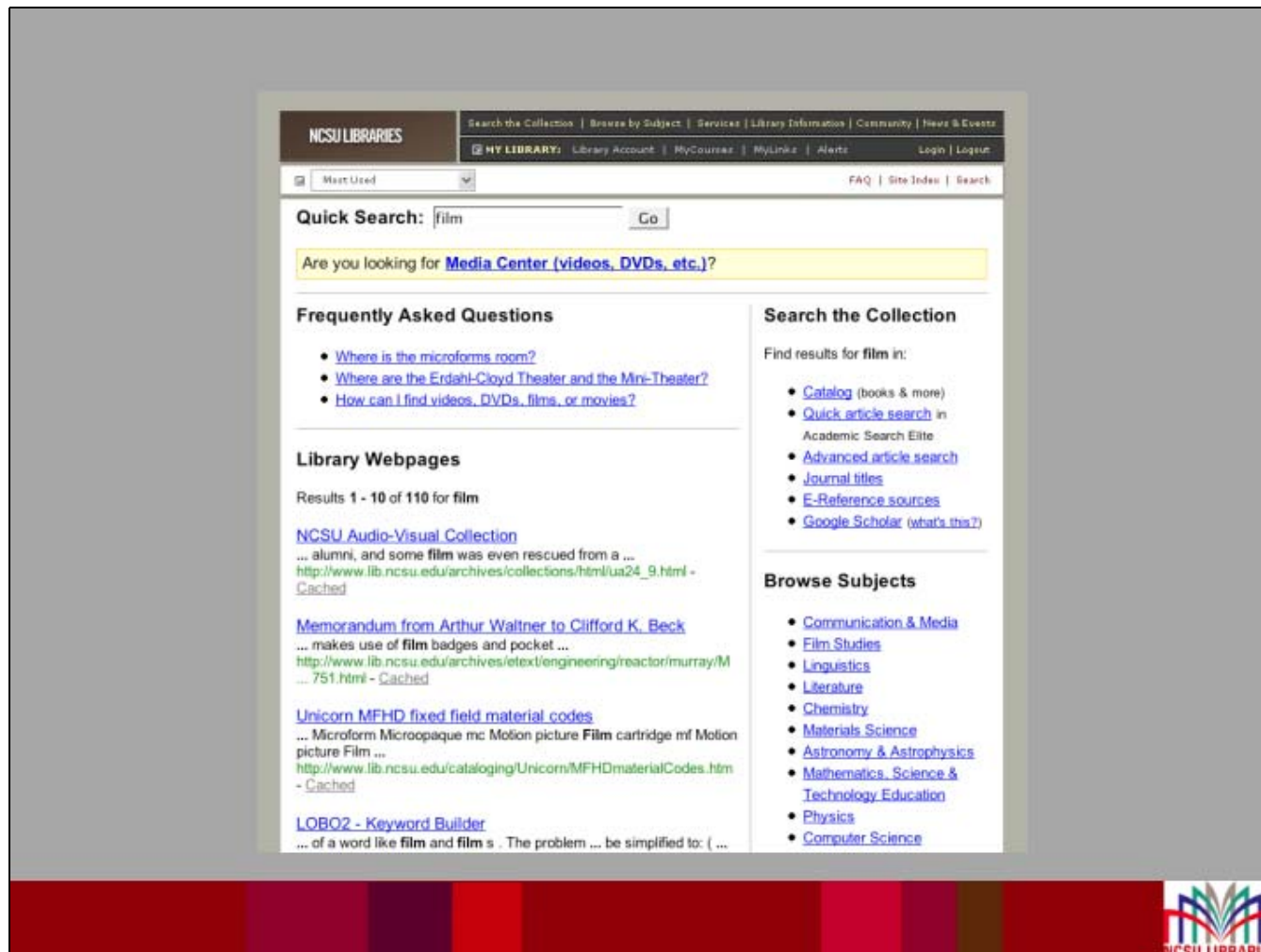- Usage Statistics
- Lessons Learned

Motivation

- Libraries provide online access to a variety of information resources
  - Print resources
  - Electronic journals and serials
  - Article databases
  - Subject guides and reference tools
  - Library services and information
- Many of these resources are keyword searchable, but via separate interfaces

Motivation

- User desire for a single search box that searches everything the library has to offer
- Evidence of library website search being used exactly in this way

Motivation

Search Logs:

acm digital, ILL, policies, standard, international economic development, fines, dissertation abstracts, music therapy, ACM, wolfcopy, Oxford English Dictionary, audio, illegal immigration, schedule, interlibrary, datamonitor, chemistry, JAMA, stephen king, CRC, photography, vision, wiley, citation builder, job, andrew pace, academic search elite, ria, film studies, career development, sanborn maps, citation index, iee, history, industry analysis, scholarly journals, sitation builder, hamlet, ethics, spss, petition, animal behavior, psych info, repository, ENR, diabetes, data, lrl, cancer, textbooks, wharton, Christian Science Monitor, ITTC, blah, PubMed, time magazine, nutrition, book return, DVD, questia, conductive heat transfer, sage, newspaper, mp3 player, enzyme lactase, digital media lab, american journal of psychology

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The Challenge

To develop a ***useful* and *usable*** single search box interface to the library

The State of Library Search

Many dedicated discovery tools:

- Catalog search
- Journal finders
- Database finders
- Article metasearch
- Subject guides/portals
- Library website search

The State of Library Search
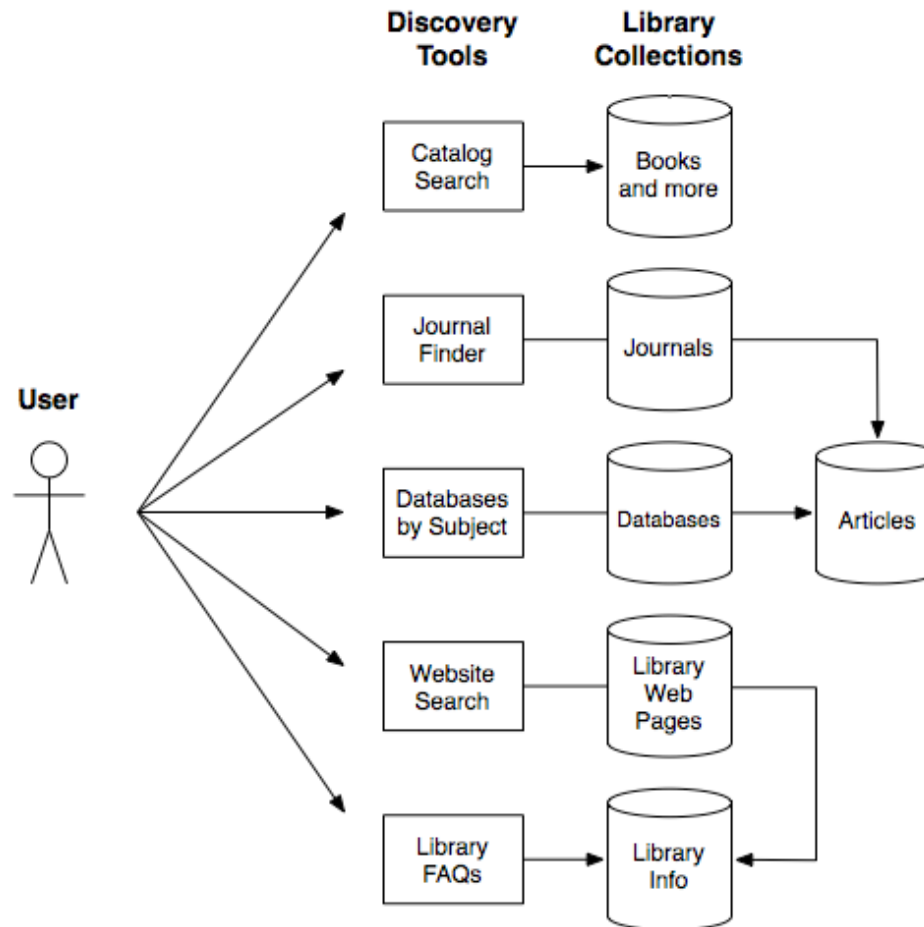
The State of Library Search

Problems:

- Assumes users know they need to select a dedicated discovery tool

- Assumes users know which discovery tool they should select for their search

- Sometimes the library's information architecture does not make this selection process easy

Quick Search at NCSU

A ***unified*** search interface to the library:

- Not a replacement for dedicated discovery tools!

- A simplified single search box interface

- Goal is to direct users to the appropriate library discovery tool, collection or resource for their search

Quick Search at NCSU

Quick Search at NCSU

Demo

Quick Search Modules

1. Best Bets
2. Frequently Asked Questions
3. Library Web Pages
4. Catalog Results (new)
5. Journal Title Results (in development)
6. Find Articles

Best Bets

Best Bets

Best Bets

Best Bets

Goal:

- Quick access to high demand resources

Mix of:

- Popular databases ('Web of Science')
- Services ('Course Reserves')
- Library information ('Library Hours')

Best Bets

How it works:

- Best Bets collection based on top 100 most searched for items

- Specialized search index of xml files representing each Best Bet link

- Keyword-based retrieval returns the single most relevant Best Bet link, if any

Best Bets

Benefits:

- Force popular resources to the top
- Includes items that aren't included in your Web search crawl (e.g. databases)
- Custom <keywords> field enables matching on misspellings or synonyms (e.g. 'Lexus Nexus')
- Custom description displays

Frequently Asked Questions

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Goal:

- Answers to common library questions

How it works:

- Searches our homegrown FAQ database

- Displays the top two matches from our FAQ database, if any

Library Web Pages

Library Web Pages

Library Web Pages

Goal:

- Provide relevant Google-style search results for our library website

How it works:

- Locally managed search engine crawls library website once a week
- We control what gets crawled

Catalog Results

Catalog Results

Catalog Results

Goal:

- Direct users to native catalog interface for catalog specific searches

- Provide a direct link to the most relevant catalog matches for their search

Catalog Results

How it works:

- Ajax request to a locally developed catalog web services api (CatalogWS)

- Module displays:
  - Top three matching titles
  - Top five matching "Format" facet values

- CatalogWS provides us with more detailed information, if we ever need it

Journal Title Results

Journal Title Results

Journal Title Results

Search: amer journal of psychology   (Go)

Library Web

🗇 Journal matches for **amer journal of psychology** :
· American journal of psychology

📖 Find articles on **amer journal of psychology** in:
· General databases: Quick article search
· Specialty research databases: Psychology, Education, Leadership & Counselor Education, Landscape Architecture, More...

Careers in Psychology: Subject Guide: NCSU Libraries
... Careers in **Psychology**: Subject Guide: NCSU Libraries MY ...
http://www.lib.ncsu.edu/guides/psychology/psychcareers.html - Cached

Journal Title Results

Goal:

- Provide direct links to journals for known item journal title searches

How it works:

- Remote request to the Journal List for the top three matching titles
- Only displays if there is a direct match

Find Articles

- Article search: toughest nut to crack
- Library metasearch is slow and poorly ranked, making direct integration of metasearch results difficult to do well
- Google Scholar is fast, but does not accurately represent library holdings
- The Find Articles Module is a stop-gap until something better comes along

Find Articles

Find Articles

Find Articles

Search: music therapy [Go]

Library Web

i Library FAQs about **music therapy**:
· How do I find music scores?

📑 Find articles on **music therapy** in:
· General databases: Quick article search
· Specialty research databases: Music, Curriculum & Instruction, Education, Communication & Media, More...

Tutorials - LOBO: Psychology
... Intelligence tests Learning disabilities Memory **Music therapy** Physical attraction Repressed memories Schizophrenia ...

Find Articles

Goal:

- Direct users to the best place to initiate an article search

How it works:

- "Quick article search" link passes search to Academic Search Premier
- Subject links go to subject portal page listing core databases mapped to the subject

Technology

- Homegrown front end based on open source technologies
    - PHP for website programming
    - SWISH-E for local content indexing
    - Nutch for website search results
    - Ajax for catalog and journal results
- Not a standalone product
- Highly adapted to our diverse library systems infrastructure

Usage Statistics
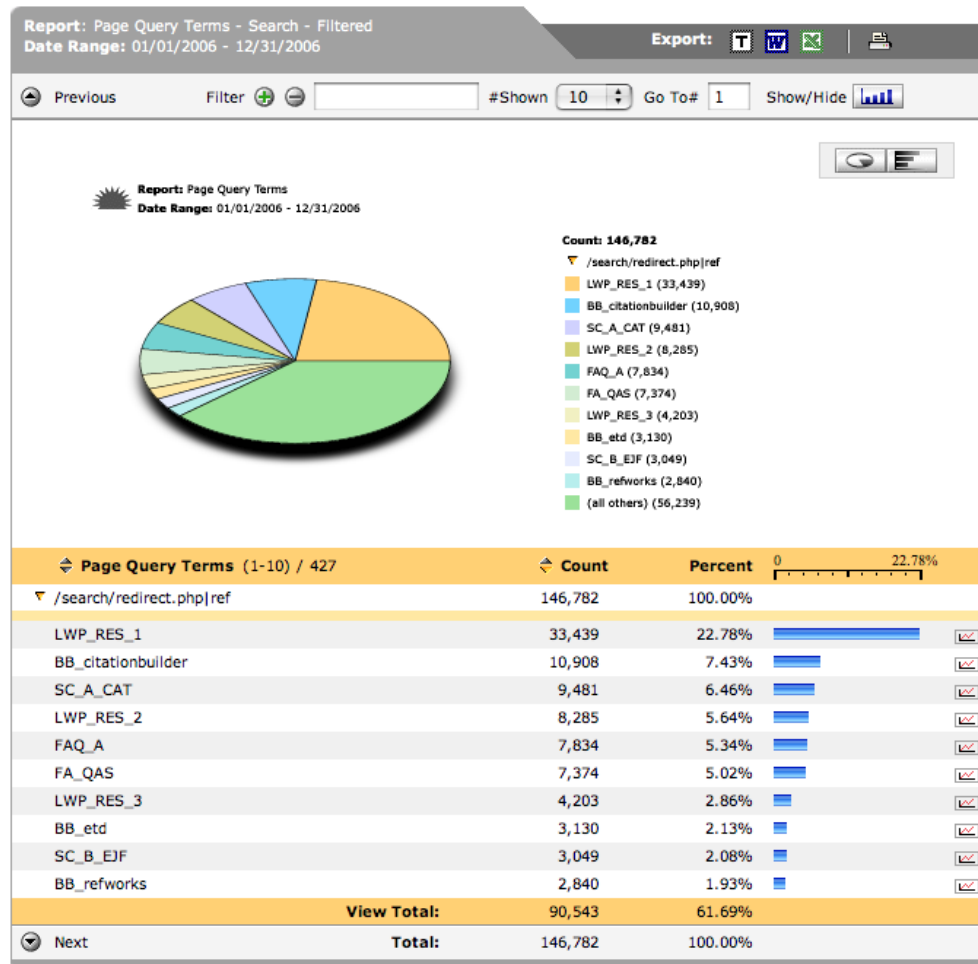
Usage Statistics Method

- Web stats enhanced by collecting click data on the individual link level rather than just the page level

- Individual links tracked using a unique "reference" code

- Aggregated click totals for each link visible through Urchin "Page Query Terms" feature

Usage Statistics Method

Example:

Usage Statistics Method

Example:

<a href="redirect.php?
target=[destination_url]
&ref=**FA_QAS**">

Find **A**rticles module,
   "**Q**uick **a**rticle **s**earch"
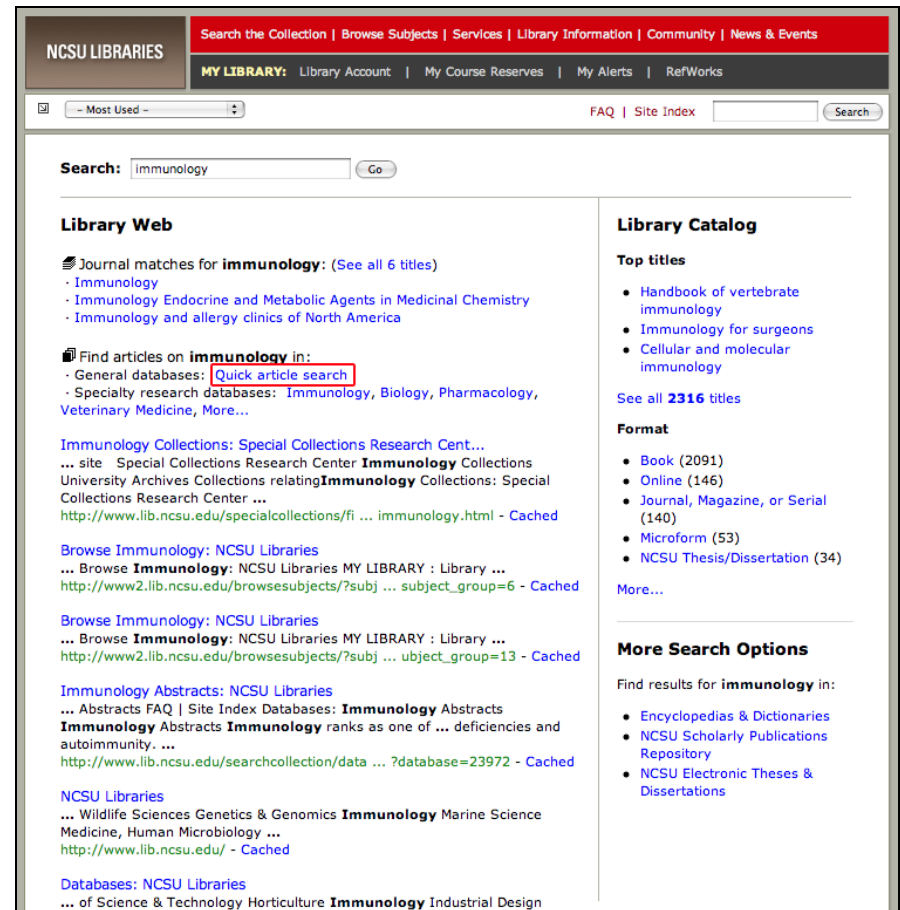
Usage Statistics Method

Example:

<a href="redirect.php?
target=[destination_url]
&ref=**CAT_RES_2**">

Catalog **Res**ults module,
  second result
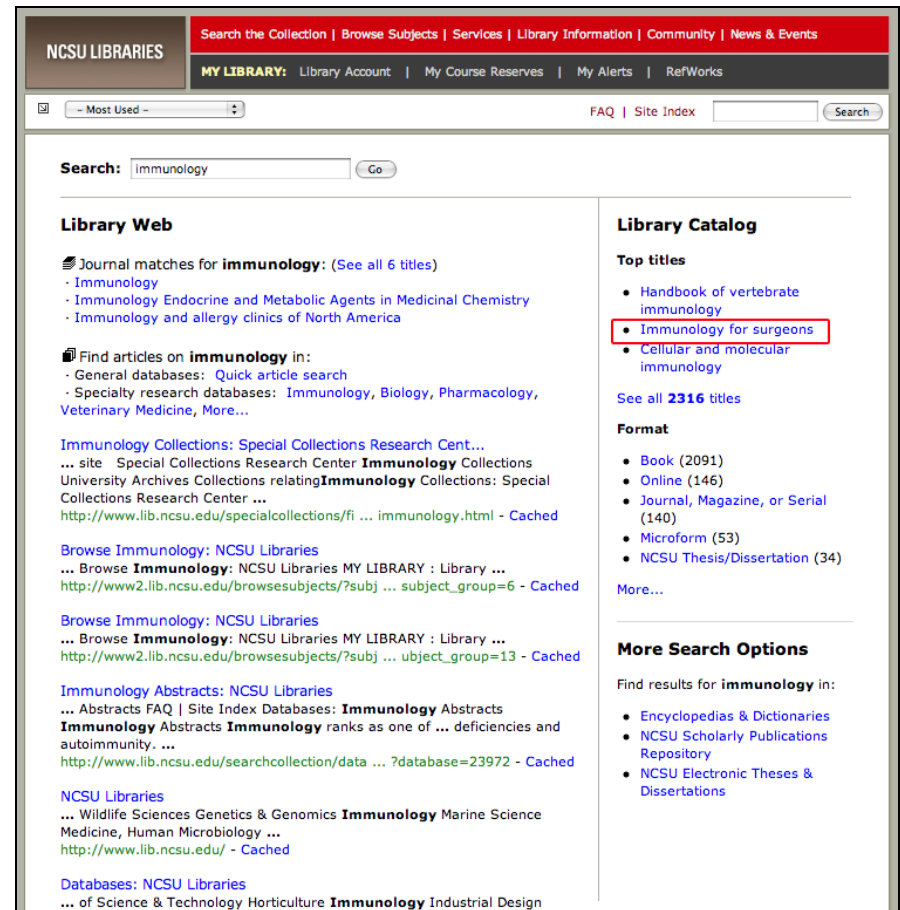
Usage Statistics Method

Benefits:

- Enables comparative performance on the module level

- Allows comparative clickthrough analysis within a module

- Enables application specific analysis

Seasonality of Library Search

Searches and Clicks in 2006
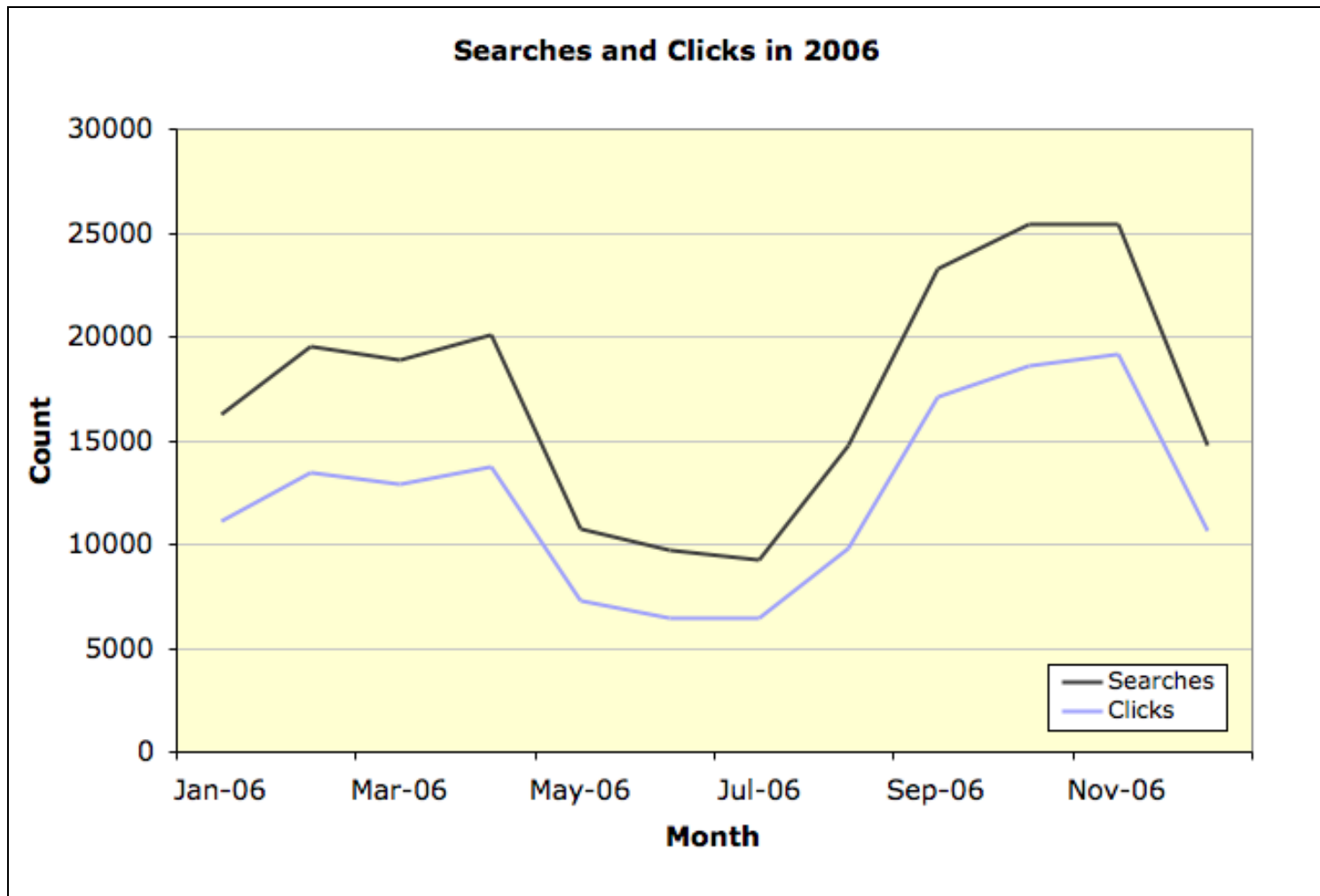
Top Search Terms in 2006

1. citation builder
2. refworks
3. web of science
4. jstor
5. citation

1. lobo
2. thesis
3. gis
4. etd
5. ieee

Year to Year Comparison

	Fall 2005	**Fall 2006**
Searches per day	548	757
Sessions per day	331	472
Searches per session	1.66	1.60
Length of Session	00:03:17	00:03:18
Total searches	58552	81105
Total clicks	38995	60147
Clicks per search	0.67	0.74

Fall 2005 Module Usage

Fall 2005 Click Share

- Book or Article Alert 2%
- Browse Subjects 2%
- FAQs 7%
- Search the Collection 16%
- Library Web Pages 47%
- Best Bets 26%

Fall 2006 Module Usage

Fall 2006 Click Share

- Find Articles 16%
- Library Web Pages 30%
- FAQs 9%
- Search the Collection 15%
- Best Bets 30%
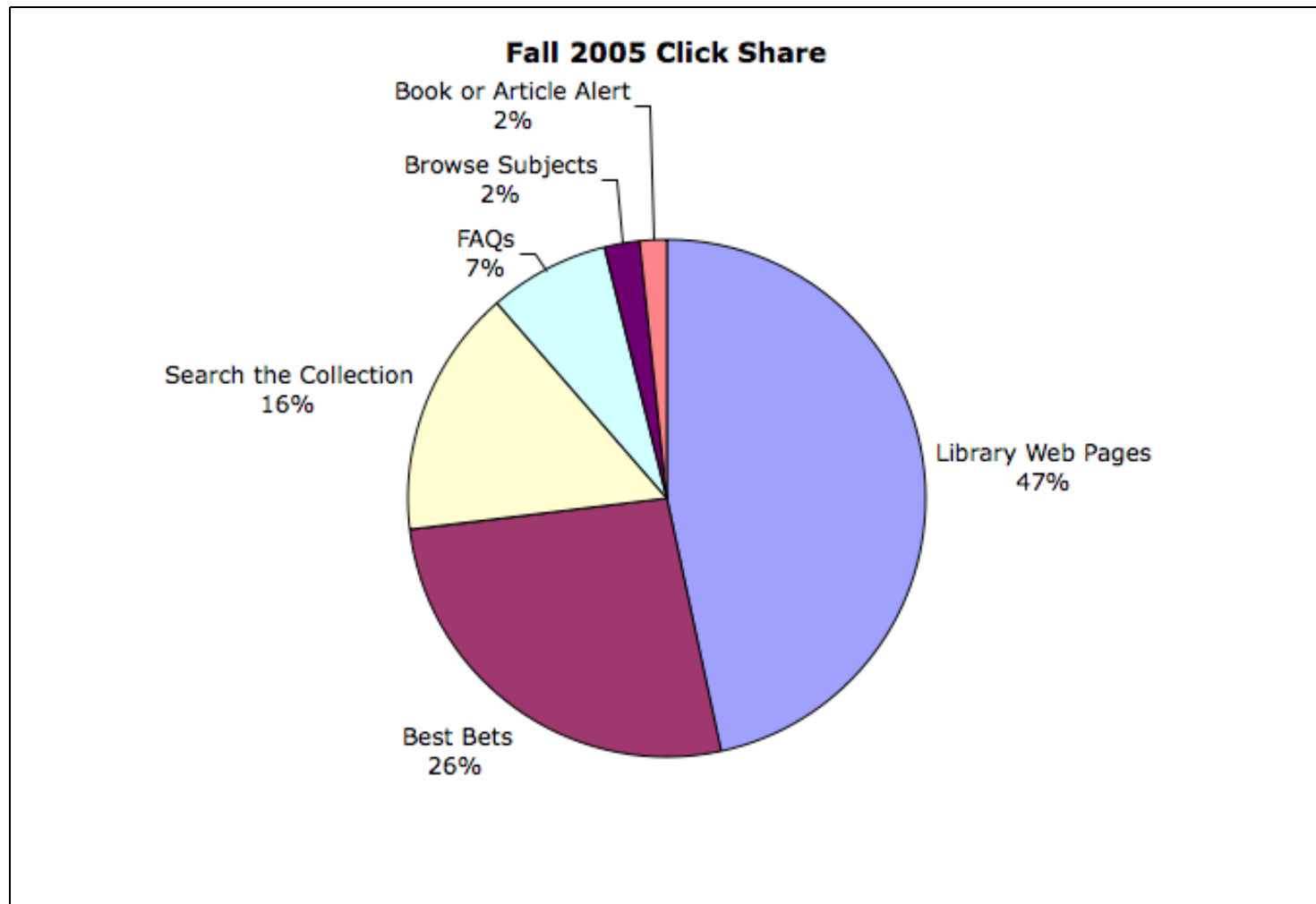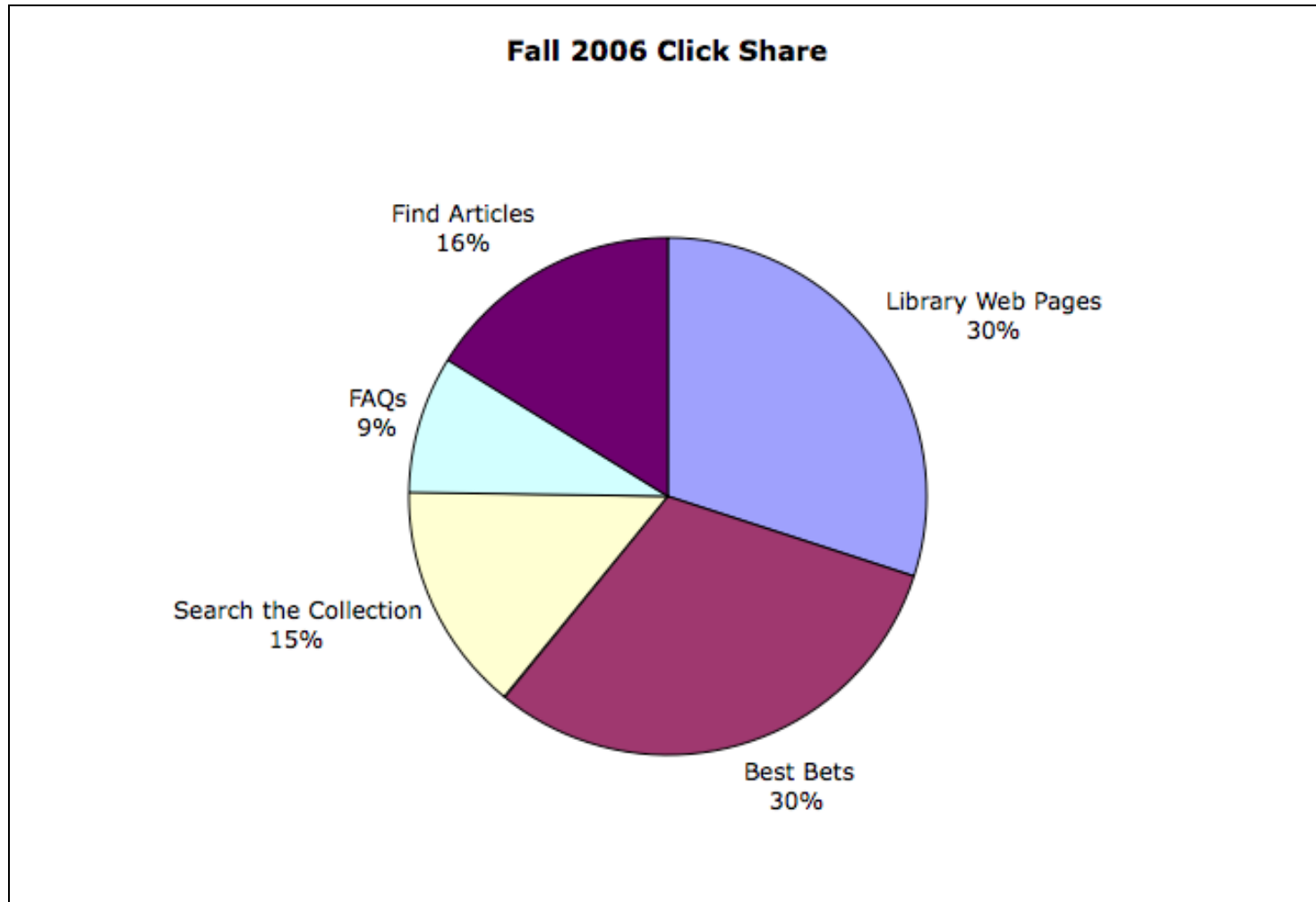
Most Clicked Links in 2006

1. Library Web Pages - First Result	22.8%
2. Best Bets - Citation Builder	7.4%
3. Search the Collection - Catalog	6.5%
4. Library Web Pages - Second Result	5.6%
5. Frequently Asked Questions - First Result	5.3%
6. Find Articles - Quick Article Search	5.0%
7. Library Web Pages - Third Result	2.9%
8. Best Bets - Electronic Theses and Dissertations	2.1%
9. Search the Collection - Journal Titles	2.1%
10. Best Bets - Refworks	1.9%

Challenges and Issues

- Redundant results

- Finding articles

- How to deal with local stuff

  - Digitized collections

  - Institutional repositories

Lessons Learned

Library search behavior *is* diverse

Search logs confirm that when presented with a single search box on a library homepage, users search for a wide-range of resources, services, tools; they don't assume a single library collection type (e.g. catalog, articles)

Lessons Learned

There is high user demand for a simple way to find articles

Our Find Articles module gets a lot of use, particularly the "quick article search" link; libraries should be doing more to make the process of finding articles easier

Lessons Learned

Subject recommendations (in current form) are not very popular

Although users frequently enter open-ended topical searches, they don't seem to respond to our current implementation of subject recommendations; we don't know why, yet

Lessons Learned

Power law is in effect for library search

An exceeding small number of library resources account for a sizable percentage of all searches and clicks; it pays to make these high demand resources easier to find

Lessons Learned

In terms of library search, we still have a lot of work ahead of us

Libraries spend enormous resources on acquiring, cataloguing, and licensing content in a variety of forms; we need to make it easier to access all of this information; we ought to know more about how people search

More Information

Project Page:
http://www.lib.ncsu.edu/dli/projects/quicksearch/

Thanks!

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