Discovering Information through Summon: An Analysis of User Search Strategies and Search Success

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What is a Discovery Layer?

Student’s view:

- Articles

Librarian’s view:

- Catalog
- Full text Databases
- Journal Packages
- Open Access Journals

Collections

Discovery Layer
How Did WRLC Select Summon?

- WRLC Discovery Layer Task Force in Later 2011
- Four Candidate Systems: Encore Synergy, Summon, EDS, Primo
- Comparative Criteria: Content coverage, Metadata depth, Usability, Customizability, Link resolver, ILS integration, Versioning, Local content, and Usage statistics
Timeline of Our Summon Implementation

- Summer of 2012 started to set each institution’s instant
- Summer of 2012 to Summer of 2013 WRLC catalog records were loaded and mapped in Summon
- January of 2013 Summon article search went live at CUA Libraries homepage
- Fall of 2013 full Summon went live with CUA Libraries new designed homepage
- Fall of 2013 Summon 2.0 went live, and Serials Solutions announced it would switch all Summon 1.0 users to Summon 2.0 in January 2014
SUMMON DISCOVERY PROJECT
Project Objective
To understand how users make use of Summon

Research Questions: Summon 1 vs. Summon 2
- How do users perform searches and refine their search queries in the two versions of Summon?
- What are the problems users encounter in searching Summon 1.0 and Summon 2.0? What strategies do they use to resolve the problems?
- How successful are users in finding the information they need in Summon 1.0 and Summon 2.0?
- How do users perceive Summon as a research tool?
Research Team

- Dr. Ingrid Hsieh-Yee, Professor, Dept. of Library and Information Science (Principal Investigator)
- Shanyun Zhang, Head, Electronic Resources & Services, University Libraries (Principal Investigator)
- Steve Cherry, Electronic Services Librarian, University Libraries
- Kun Lin, Web Support Librarian, University Libraries
- Jennifer Flagan-Fry, Research Assistant, MSLIS student
- Rachel James, Research Assistant, MSLIS student
CUA Support

• Project Period: August 2013 -
• A CUA Grant for the project (Oct. 2013)
• Cooperation and support of faculty members for recruitment of subjects: education, history, psychology, politics, etc.
• Mullen Library’s support for staff participation and data collection
Study Population

• Population: CUA undergraduates
• Convenient sample: Sophomores, juniors, and seniors
• Disciplines: academic units with large number of majors, such as Politics, Psychology, History
• Recruitment: 30 subjects
  – Classroom visits
  – Posters on campus
Summon Discovery Project

Project Objective
To understand how users make use of Summom, an innovative information discovery tool that facilitates searches of library collections and databases from one single search box like Google.

Project Team
Dr. Ingrid Hsieh-Yee, Professor, Library and Information Science Department
Ms. Shanyun Zhang, Head of Electronic Resources and Services, CUA Library
Two librarians and two research assistants

Sponsorship: The project is funded by a CUA grant

Participants and Tasks
• Sophomores, juniors, seniors
• 1 hour search session at a time that works best for you
• Four search tasks plus a short online survey and a post-search discussion with the RAs
• Data collection: November and December 2013

Benefits
• A $15 gift card for completing the search session
• An opportunity to help ensure the new tool is supportive of users
• A better information discovery tool for you and fellow CUA students
Earn $15 by Helping Us

How to help: Participate in a research project to finish 4 search tasks using a search system plus a short online survey

Who can help: Sophomores, Juniors, Seniors

How long it takes: 1 hour

What to earn: A $15 gift card
Study Design

A. Mixed-Method Approach: survey, experiment, interview

B. Quantitative data on search effort, search process, and search success

C. Qualitative data on search activities, experience with Summon, comparison with Google, how Summon fits into regular research workflow
Data Collection

- Pre-search survey to collect demographic information
- Each subject conducted four searches:
  - Own topic
  - Three assigned search topics
- Verbal protocol recorded by Camtasia
- Keystrokes and system responses captured by Camtasia
- Post-search interviews recorded by Camtasia
Search Tasks

• Task 1. User task
• Task 2. How choice of college major relates to career development
• Task 3. How taking care of elderly parents affects sibling relations
• Task 4. Find a definition of “digital divide” and its relations to democracy
• Pre-study searches to ensure the search topics will give subjects opportunities to explore the system (i.e., the answers are not too obvious)
Data Processing & Analysis

- Two Research Assistants: data collection (script & standard observation form)
- Four team members transcribed search sessions and filled out data report forms
- Data Collection form to ensure consistency in data recording
- Quantitative data aggregated by system and task for further analysis
- Qualitative data aggregated for comparison
Dependent Variables: Search Activities

- **Search Effort: Time per task**
- **Search Process:**
  - Number of search statements
  - Number of search refinements
  - Use of facets
  - Frequency in monitoring searches
  - User errors
- **Search Outcome: successful or not**
<table>
<thead>
<tr>
<th>Data</th>
<th>Data Value</th>
</tr>
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<tbody>
<tr>
<td><strong>Search time:</strong> from the time the user began the search to the time when the user declared the search was completed.</td>
<td></td>
</tr>
<tr>
<td><strong># of search statements</strong></td>
<td></td>
</tr>
<tr>
<td>List all the search statements in the order entered by the user</td>
<td></td>
</tr>
<tr>
<td><strong>New effort – New statement</strong></td>
<td></td>
</tr>
<tr>
<td><strong>New effort – Advanced search</strong></td>
<td></td>
</tr>
<tr>
<td><strong>New effort – Basic search</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Refine – Add</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Refine – Drop</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Refine – Facet(s) (including SORT – make a note when SORT is used)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Refine – Adv. Search fields</strong></td>
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<tr>
<td><strong>Facet – Refine your search</strong> (if this move is used a lot, we will review how they use this block of facets)</td>
<td></td>
</tr>
<tr>
<td><strong>Facet – Content type</strong></td>
<td></td>
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<tr>
<td><strong>Facet – Institution</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Facet – Subject</strong></td>
<td></td>
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<tr>
<td><strong>Facet – Language</strong></td>
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Data Report Form
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<tr>
<th>Task</th>
<th>Time</th>
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<th>New-Adv</th>
<th>New-S</th>
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<td>0</td>
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<td>Time</td>
<td>Statement#</td>
<td>New-New</td>
<td>New-Adv</td>
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<td>2</td>
<td>1</td>
<td>0</td>
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<td>T1</td>
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**Average**

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<th>Statement#</th>
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<th>New-Adv</th>
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<tbody>
<tr>
<td>15</td>
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<td>0</td>
</tr>
<tr>
<td>3:36</td>
<td>1.7</td>
<td>0.6</td>
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</table>
Demographic Data

N = 24 (as of Jan. 30, 2014)
Sophomore: 11
Junior: 5
Senior: 8

Research instruction sessions attended

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<tr>
<th>Session number</th>
<th>Respondent number</th>
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<tr>
<td>0</td>
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<td>1</td>
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<tr>
<td>2-3</td>
<td>4</td>
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<td>4 or more</td>
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## Experience w/ Search Tools

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<thead>
<tr>
<th></th>
<th>A lot</th>
<th>Some</th>
<th>Little</th>
<th>None</th>
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<tbody>
<tr>
<td>Summon</td>
<td>1</td>
<td>4</td>
<td>7</td>
<td>12</td>
</tr>
<tr>
<td>Search engine</td>
<td>15</td>
<td>8</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Catalog</td>
<td>4</td>
<td>14</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Database</td>
<td>3</td>
<td>11</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>Abilities w/ Web Resource</td>
<td>Excellent</td>
<td>Good</td>
<td>Fair</td>
<td>Limited</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-----------</td>
<td>------</td>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>Finding Web resources</td>
<td>3</td>
<td>18</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Evaluating Web resources</td>
<td>7</td>
<td>14</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>First-time</td>
<td>Summon Experience</td>
<td>Positive search experience</td>
<td>Likely to use Summon for future research</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------</td>
<td>----------------------------</td>
<td>------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>First-time</td>
<td>10</td>
<td>Yes</td>
<td>Range: 5 to 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Average: 8.5</td>
<td></td>
</tr>
<tr>
<td>Used before</td>
<td>9</td>
<td>Yes</td>
<td>Range: 3.5 to 10</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Average: 7.3</td>
<td></td>
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</tbody>
</table>
Positive Comments

• Everything is in one place
• No need to identify a database or a journal to search. The system takes care of it all.
• Speed
• Ease of use
• Bringing back verified, reliable resources (3)
• Similar to Google Scholar or Google
• Facets are helpful for narrowing down the search
• Save folder makes it easy to manage search results
• Hover to preview is great
Negative Comments

• A little confusing for a first-time user
• Facets are useful, but the Date facet is hard to use
• Not realizing old facets were still in effect when a new search was done
Is Summon Better than Google?

They are the same:  4
Different strengths:  6
Summon is better:  7
Summon is worse:  2
Everything in One Place

“the conglomeration of different results were really nice”

“This seems to be very robust in being able to search everything”

“feels good and helpful. Does not need to think about which database/journal you need to use and looks like Google Scholar”
Issue of Trust

“I would like to trust a website like this more than just randomly searching Google”

“Broad range of reliable sources”

like to use Summon more than Google due to reliability
Interesting Comments

“With Google you don’t have to know what you are talking about, and you will still get resources. With Search Box you have to have a better understand of topic, but it gives better quality resources”

“No one knows about this”
Third Panel in Summon 2.0

- New feature Serials Solutions boast about
- Display background information and preview of search
- A go-to place to stack up additional information about the search

Image Source: Serials Solution Website
User Reaction

• Oh, I like that. It show you the abstracts and citations on the side so that you can see everything without leaving the page.

• Oh the definition, for what it means, I guess it’s right here, from Wikipedia.
Mistakes made by users

- Most common type of error: forgot the facet they have applied / not applied
- Accidently hit some button
- Misunderstand “scholarly” article
- Interface bug
Next Steps

- Finish gathering data
- Analyze data
- Present information to library for
  - Instructors
  - Tweak the Summon interface
- Present suggestions to Summon
Questions & Answers
Contact Information
Ingrid Hsieh-Yee    hsiehyee@cua.edu
Shanyun Zhang      zhangs@cua.edu