

# **Core Collection Search Portal Usability Report**

Metasearch Infrastructure Project  
California Digital Library

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# I. Methodology

## Introduction

The CDL is working to create metasearch tools and software that campus libraries can use to craft search portals tailored to specific audiences. The Core Collection portal is targeted towards undergraduate students doing research for papers, as well as researchers doing research in subjects outside of their areas of expertise. The primary goal of the metasearch service is to assist users in efficient discovery of information across a range of resources. After a thorough review of leading commercial metasearch products, the CDL purchased the MetaLib application from Ex Libris and has been working with them to further develop the software.

This document describes and reports on the first round of usability testing and needs assessment for the Core Collection project. The purpose of usability testing is to predict the expected performance of the actual users interacting with the current MetaLib interface, as well as detect any serious usability problems prior to the release of this service. The purpose of the needs assessment portion is to determine whether students will perceive this service as useful.

## Purpose of the Usability Assessment

The usability assessment of the Core Collection portal evaluated the difficulties involved in using the interface for search, as well as identified possible future development work. Many of the questions explored during the assessment process were derived from discussions held among the Core Collection project team. Other issues were identified by the assessment unit.

## Concerns

Issues to be addressed by this round of evaluation include:

1. Do UI labels and linking in the interface make sense to the user?
2. Are users able to easily navigate from an initial set of search results to the full text of individual items?
3. What should the system's name and tagline be?
4. Are the current wait times for initial search results acceptable?
5. Does the perceived usefulness of this service change if Google is included?
6. Will users be more likely to adopt this service if Google is included?
7. Will users go to Google even if it is included in this service?
8. Do users want simple results or value-added results?
9. How long are users willing to wait for value-added results?
10. What is users' level of interest in other potentially valuable features, such as images, suggested keywords, limitation of results to full text, citation formatter, research paper scheduler, and database advisor?

## Target Audience

The primary audience for the Core Collection portal is University of California undergraduate students doing research for a paper. The secondary audience includes researchers doing research in unfamiliar areas of study.

## Subject Selection Criteria

For this round of testing, undergraduates at the University of California at Santa Cruz who have never worked at a campus library were recruited.

## **Usability Assessment Design**

The first round of usability assessment consisted of seven sessions of task-based user testing and one focus group session. Each user testing session consisted of one participant, a facilitator, a note-taker, and an observer. The focus group was comprised of four participants plus moderators.

### Task-based User Testing

Each participant was greeted by the facilitator and made to feel as comfortable as possible. The facilitator explained the purpose of the test. Participants were assured that the system is being tested, not them. The facilitator summarized test procedures and instructed participants on the “thinking aloud” protocol. At the end of the introduction, the facilitator told the participants about their right to stop testing at any time and ask them to sign consent forms.

### Observation

As the participant went through the tasks during the task-based user testing, the observer took notes on the steps taken by the participant and any signs of frustration or satisfaction from the participant. During the focus group session, the observer took notes about the discussion.

### Post-test Interview/Survey

After the task-based portion of the test, the facilitator asked participants to share their overall comments about their experience and the system. The facilitator asked about any specific problems encountered during the test. She then asked participants to fill out a brief post-test survey. At the end of the session, the facilitator thanked the participants for their efforts and gave them a \$25 gift card for campus snack bars.

### Focus Group

The assessment team conducted one focus group consisting of 4 undergraduates from UC Santa Cruz. The facilitator started by introducing herself and the purpose of the focus group. The questions followed a standard focus group sequence. The facilitator posed an opening question designed to establish a sense of commonality and get everyone to speak. The next few questions led to the key discussion topics. The facilitator tried to allow the discussion to proceed as naturally as possible while staying on topic. Ending questions allowed participants to consider previous comments and helped to bring closure to the discussion. Finally, the participants were asked to fill out a short survey.

### **Data Collection Methodology**

During task-based user tests, data was collected using the “thinking aloud” protocol.

Data collected included the following:

1. The steps taken by the participant for each task
2. The indications of frustration or satisfaction from the participant
3. The opinions of usability and aesthetics of the system expressed by the participants

During the focus group session and through the post-test interview/survey, answers to the following questions were explored:

4. What should the service be named? What’s a good tagline?
5. Does the perceived usefulness of the service change if Google is included?  
Would students be more likely to adopt the service if Google is included?
6. Are current wait times acceptable?
7. What is the level of interest in other potentially valuable services, such as images, suggested keywords, limitation of results to full text, citation formatting, research paper scheduling, and database advising?
8. How long are students willing to wait for value-added results?

### **Schedule**

The testing took place October 26-27, 2004 at UC Santa Cruz.

## II. Findings

### User Perceptions

1. **Library Credibility:** Users trust the library and librarians as sources of reliable, relevant information. To paraphrase one user, if you can't trust the library to give you good information, who can you trust? The same user stated that he "almost take[s] it for granted that these [academic databases] are going to be reliable sources".
2. **FindIt's Credibility:** Users become suspicious of FindIt if it doesn't behave as they think it should. The lack of consistency of search results instills doubt in users. The lack of transparency and clarity in how FindIt handles "records found" versus "records retrieved" further confuses users.
3. **Database Content:** Users aren't sure what each database contains. Lacking descriptive information, they make assumptions and try to guess by looking at the name of the database. In one instance, an experienced user was surprised to find articles about the Civil Rights Movement in the Web of Science database. Another user said, "I don't know what all these databases are. A first time user needs information."
4. **FindIt's Purpose:** Novice users view FindIt as an index of databases.
5. **Simple Search:** Users think simple search is for when they don't know exactly what they want.
6. **Refereed Articles:** Users think that refereed articles are more reliable and relevant.
7. **Native Interfaces:** Users think that the advantage of native database interfaces is the availability of greater options for limiting searches.
8. **Metasearch:** Users think that the advantage of metasearch is being able to search multiple databases at once using a common interface.
9. **Ranking:** Users aren't sure what ranking refers to.

### Google

1. Users don't value Google as an academic resource, in general. Users have been warned about the reliability of Google results by their professors, and they believe that most Google results are irrelevant and untrustworthy. Said one user, "A Google search will probably give me celebrity gossip."
2. Some users believe that Google can be a tool for helping determine search terms and for narrowing down topics because it "works every time" and "It's really fast."
3. Users would never go through an intermediate site to get to Google.

### *If Google remains in the list of databases searched...*

4. Some users want the URL to be part of the search results record in order to judge the relevance and reliability of the website.
5. Users were confused by the "External" link.
6. The presence of the UC-eLinks button confused users, since it has nothing to do with Google records.
7. Users were confused by the "External" and "Title" hyperlinks, which use the same words but link to different places.

## Navigation

1. Users wanted to return to their original list of search results but couldn't.
2. Users had difficulty returning to the search page.
3. Users had difficulty finding where to perform a new search.
4. Users will use the browser's back button to navigate. Unfortunately, using the back button causes problems in the system.
5. Some users are accustomed to clicking a site's logo to return to the home page.
6. Users were confused by the "Current Search Results" link. They expected it to link to the original list of search results from their current search. Instead, it links to the view of their last action on those results.
7. Movement of the "Table View", "Brief View", and "Full View" links confused users, making it harder for them to tell which view they were in.
8. The clustering of the view links, the "Limit results to a single database" link, and the surrounding text makes all the links hard to see. The graphic treatment of the links is too uniform. One user commented, the link "is just text to me".
9. Users didn't like being redirected to other systems. (e.g. Oxford)

## Results Display

1. Users want call number to be part of the record display.
2. Users want format to be part of the record display.
3. Users want source to be part of the record display.
4. Users want the ability to sort by format.
5. Users judge relevance from title, source, and format.
6. Users didn't know why only limited results were returned after their initial search. They were not sure if other databases are being searched, especially since initial results seem to be dominated by records from one or two databases.
7. Users want to know the number of articles returned from each database. "So it actually did search everything. Why didn't it show it?" Furthermore, users want this information on the initial results page. "Anything that helps me go to less screens is better."
8. Users want the ability to sort by word count.
9. Users want the ability to sort by relevance.
10. Users want the ability to sort by date of publication.
11. Users want the ability to sort by database/source.
12. Users were confused by the default sorting of the "Limit results to a single database" view and by the lack of sorting options on that page.
13. If full text is given in Full View of record, users want a clear indication of that on this page, as well as on the initial results page.
14. Users did not like how the title is displayed in Table View. They felt that long titles were being squeezed into narrow columns and that this made them difficult to read. Some users preferred Brief View because of this reason and also because Brief View displays source information.
15. Users want the ability to save and email articles.
16. Users want help formatting citations.
17. Users value the ability to do research from home and strongly prefer getting results with full text.

### Database Selection

1. Users want descriptions of databases in order to make informed choices about which databases to use.
2. If a user knows source/database he or she wants to use, he or she will go to database directly in order to have more search options.
3. Novice users were much more likely to immediately click to individual databases rather than discover and use the FindIt search box.
4. Experienced users were more likely to discover and use the ability to select and deselect databases early in the testing session.

### Wait Screen

1. Users expressed a strong desire for an uncluttered, distraction-free wait screen – nothing flashing or streaming.
2. All users found the current wait screen to be acceptable; they just need to know that computer hasn't crashed and Internet connection is still up.
3. Some users would prefer a bar that filled in because this would give them an indication of how much longer they would have to wait.
4. Users are willing to wait as long as they think that they will get useful results. Their perceptions of time depend on this belief.

### Search Options

1. Users want the ability to limit results to full text.
2. Users want the ability to limit by journal title.
3. Users want the ability to limit by format.
4. Users want the ability to narrow searches so they don't get overwhelmed with results.
5. Users were unsure about the "All fields" option. They are more comfortable with "keywords".
6. Users don't know what Simple search can do. (i.e. Can it handle quotes or Boolean operators?)
7. Users don't know how to format author's name. Most tried first name last name, which does not work.
8. Users want to know what search terms they've used.

### General vs. Subject-Specific FindIt

1. Users were asked whether they would prefer a general FindIt or a subject-specific FindIt. The results are as follows:

Test participants:	General (3) Specific (3) Both (1)
Focus group participants:	Specific (4)

### Terminology and Icons

1. Focus group participants found the action icons confusing.
2. No user testing participants used the action buttons even though some wanted more information about each database.
3. Some users did not recognize or understand the function of UC-eLinks.
4. Experienced users are accustomed to clicking a PDF icon for full text.



**Logo/Graphic Design**

1. Users were split on the logo design. Some found the logo “dispassionate” or too corporate. Others liked its simple, clean design.
2. Some users found the color scheme pleasing. Others thought that the lack of color made everything look washed out and made it difficult to recognize various buttons and links.
3. Users commented that the “Search” button looks too much like “Go” button. Some thought that they performed the same action.

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**Feature Discovery Questions**

1. When does the user discover or use advanced search?
2. When does the user discover or use the ability to select and deselect databases?
3. When does the user first click on a database link to go directly to that database?
4. How does the user enter authors’ names?

**Feature Discovery Table**

	Question 1 Adv. Search	Question 2 Select/Deselect	Question 3 DB link	Question 4 Author Name
Participant 1	<b>Task 2</b>	<b>Task 2</b>	<b>Never</b>	<b>Last only</b>
Participant 2	<b>Task 7</b>	<b>Task 8</b>	<b>Task 1</b>	<b>Last, First</b>
Participant 3	<b>Task 1<sup>1</sup></b>	<b>Never<sup>2</sup></b>	<b>Task 3</b>	<b>First Last</b>
Participant 4	<b>Task 4</b>	<b>Never</b>	<b>Task 1</b>	<b>First Last</b>
Participant 5	<b>Task 2<sup>3</sup></b>	<b>Task 1</b>	<b>Never</b>	<b>First Last</b>
Participant 6	<b>Task 1</b>	<b>Task 1</b>	<b>Task 1<sup>4</sup></b>	<b>First Last<sup>5</sup> Last, First</b>
Participant 7	<b>Task 1</b>	<b>Task 1</b>	<b>Never</b>	<b>First Last<sup>5</sup> Last, First</b>

<sup>1</sup> Facilitators did not reset and refresh the system after the previous test. Interface showed advanced tab at beginning of test.

<sup>2</sup> Facilitator showed user this feature during post-test interview.

<sup>3</sup> Unexpected behavior by the system forced user to the advanced screen. (User clicked on “Title” in full view of a record.)

<sup>4</sup> User elaborated on scenario given in Task 1 on her own.

<sup>5</sup> User recognized that format of author’s name affected search and inverted the name after the first attempt failed.

We gathered the following responses during a usability assessment conducted at UC Santa Cruz on October 26-27. Seven respondents completed the survey directly after participating in hour-long task-based user tests. Four completed the survey following a 90-minute focus group session.

For questions 1 – 6, please circle the most appropriate choice.

1. Using FindIt would improve my ability to do research.
 

Very Likely	Likely	Neutral	Unlikely	Very Unlikely
<b>45.5%</b>	<b>54.5%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
  
2. It would be easy for me to become skillful at using FindIt.
 

Very Likely	Likely	Neutral	Unlikely	Very Unlikely
<b>36.4%</b>	<b>54.5%</b>	<b>9.1%</b>	<b>0%</b>	<b>0%</b>
  
3. I would recommend FindIt to my classmates.
 

Very Likely	Likely	Neutral	Unlikely	Very Unlikely
<b>72.7%</b>	<b>9.1%</b>	<b>18.2%</b>	<b>0%</b>	<b>0%</b>
  
4. I intend to use FindIt when it becomes available at my campus library.
 

Very Likely	Likely	Neutral	Unlikely	Very Unlikely
<b>45.5%</b>	<b>36.4%</b>	<b>18.2%</b>	<b>0%</b>	<b>0%</b>
  
5. Currently, Google is included in the list of databases searched by FindIt. Please circle your opinion about the following statements.
  - a) Because Google is included, I am more likely to use FindIt.
 

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>18.2%</b>	<b>9.1%</b>	<b>27.3%</b>	<b>18.2%</b>	<b>27.3%</b>
  
  - b) If Google were excluded, FindIt would be more valuable.
 

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
<b>18.2%</b>	<b>9.1%</b>	<b>45.5%</b>	<b>18.2%</b>	<b>9.1%</b>

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6. The current maximum wait time of 1 minute for getting search results is acceptable.

Agree	Disagree
<b>63.6%</b>	<b>36.4%</b>

a) If you disagreed, what is an acceptable maximum wait time for receiving search results?

10 seconds	20 seconds	30 seconds	45 seconds	Other: _____
<b>0%</b>	<b>50%</b>	<b>50%</b>	<b>0%</b>	

7. Please indicate your level of interest in the following features by marking the appropriate box.

	Interested	Neutral	Not Interested
Inclusion of images	<b>40%</b>	<b>40%</b>	<b>20%</b>
Suggested keywords for expanded searching	<b>90.9%</b>	<b>9.1%</b>	<b>0%</b>
Limitation of result to full-text articles	<b>63.6%</b>	<b>27.3%</b>	<b>9.1%</b>
Citation formatting	<b>80%</b>	<b>20%</b>	<b>0%</b>
Research paper schedule maker	<b>18.2%</b>	<b>63.6%</b>	<b>18.2%</b>
Database advising	<b>70%</b>	<b>20%</b>	<b>10%</b>

8. How long would you be willing to wait for an email containing some of the features in the list above?

15 minutes	30 minutes	1 hour	3 hours	Other: _____
<b>36.4%</b>	<b>18.2%</b>	<b>18.2%</b>	<b>18.2%</b>	<b>9.1%</b>

**“Other” responses:**

- We expect email to be near instant.
- Better would be 15...

9. Please indicate your opinions on the following options for naming the service you just used by marking the appropriate box.

	Like	Neutral	Dislike
FindIt	63.6%	27.3%	9.1%
FindIt: Smart Start	72.7%	18.2%	9.1%
FindIt: Panic Button	9.1%	27.3%	63.6%
InfoSnap	45.5%	36.4%	18.2%
Panic Search	9.1%	27.3%	63.6%
FindIt: Go Beyond Google	36.4%	9.1%	54.5%
InfoFirst	20%	40%	40%
Research Starter	45.5%	36.4%	18.2%

Other suggestions: \_\_\_\_\_

“Other Suggestions” responses:

- a. InfoSwap
- b. SlugSearch, SlugFind
- c. Ubersearch, Ultrafinder, Ulti-search
- d. A lot of the names are not appropriate for the search engine.

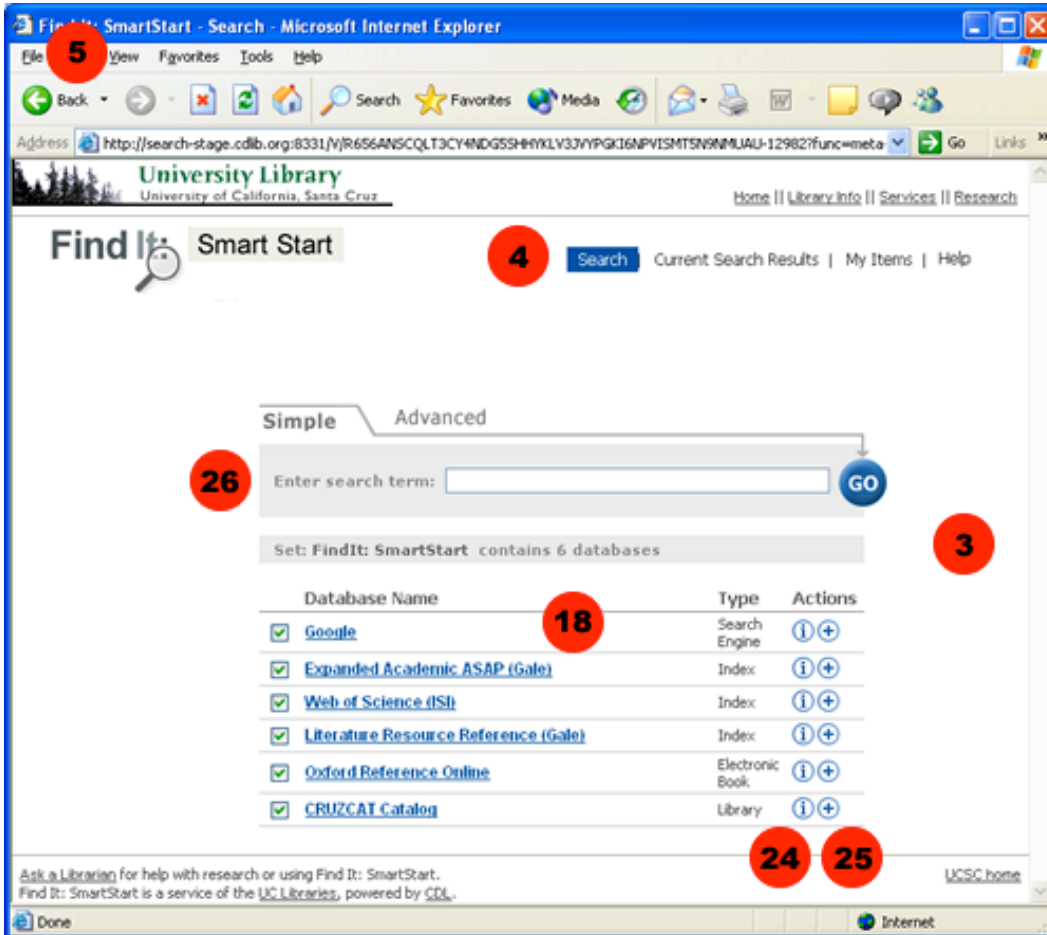
10. What one thing about FindIt do you think should be changed?

**Responses:**

- a. FindIt should use other search engines besides google like vivismo and etc.
- b. Change "basic" to default instead of "table" view.
- c. Really nothing. I like the way it is set up, pretty easy to use.
- d. Addition of changes that I recommended.
- e. The "Please Wait" page; limit result to single database should be on right side all the time; call #'s available.
- f. major-specific database searching
- g. Expand the title (text) format for search results.
- h. Make the color scheme warm, inviting, sensual, etc...
- i. Being able to search by topic. A more prominent "Help" button.
- j. Not sure what I would change, but I like that we can uncheck things and maybe FindIt should help us format our bibliography.
- k. Icons to the right of the databases should be more self-explanatory (especially the "Plus" one).

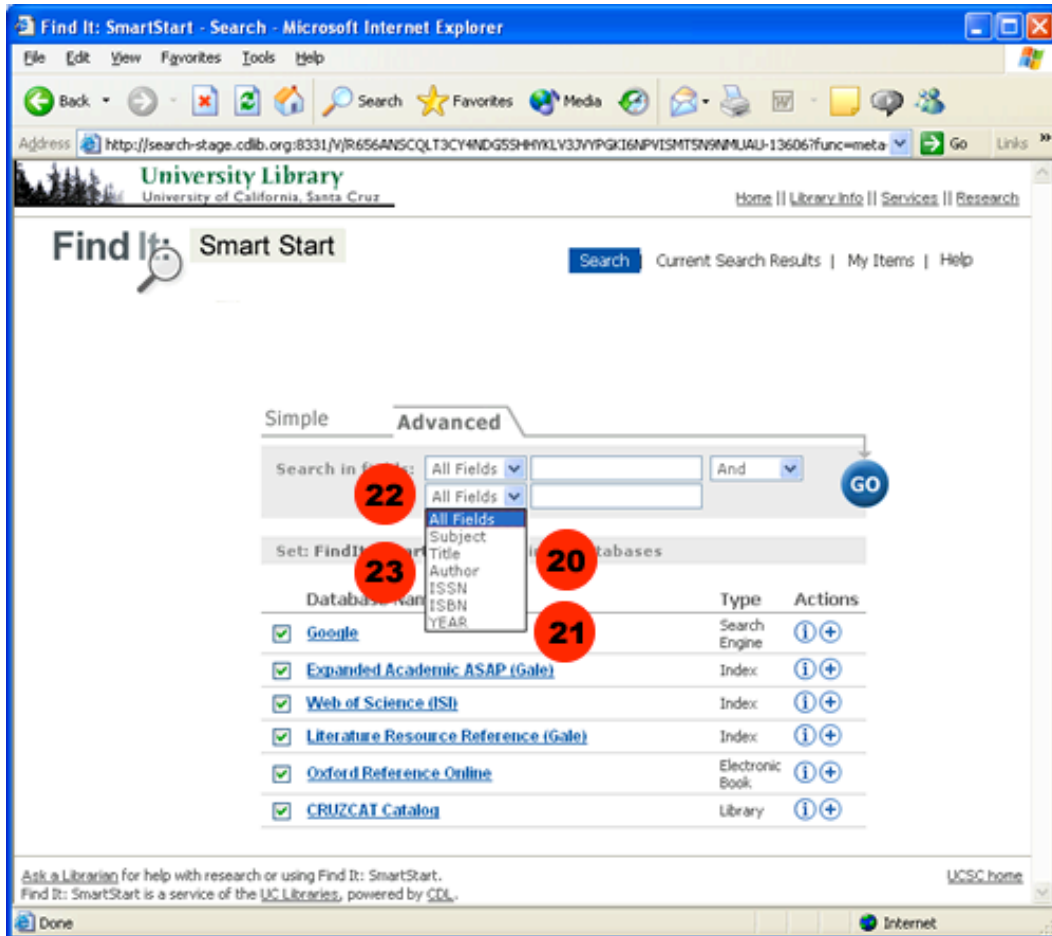
### III. Specific User Interface Recommendations

#### Initial Search Page



3. Add descriptive text about database content, FindIt's purpose, what records FindIt initially displays, and UC-eLinks. Add search examples (for formatting search).
4. Redesign top level navigation with a focus on consistency and clarity of navigation structure and ease of use.
5. Give users the ability to use the browser's back button to navigate FindIt.
24. Replace "i" icon button with "More Info" link and place it next to database name.
25. Replace "+" icon button with a textual link.
26. Add a drop-down box of search field options to simple search.

## Advanced Search Tab



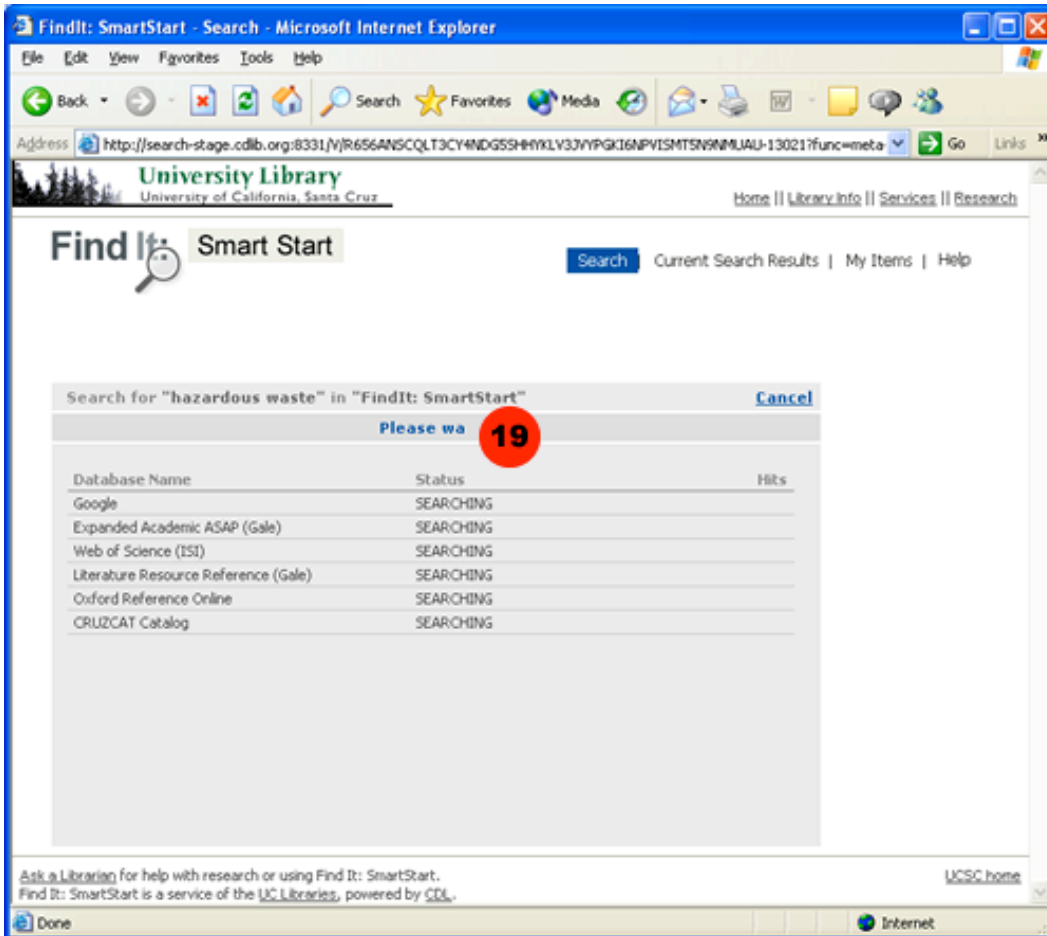
20. Under search options, add the ability to limit by journal title.

21. Under search options, add the ability to limit results to full text.

22. Change "All Fields" to "Keywords".

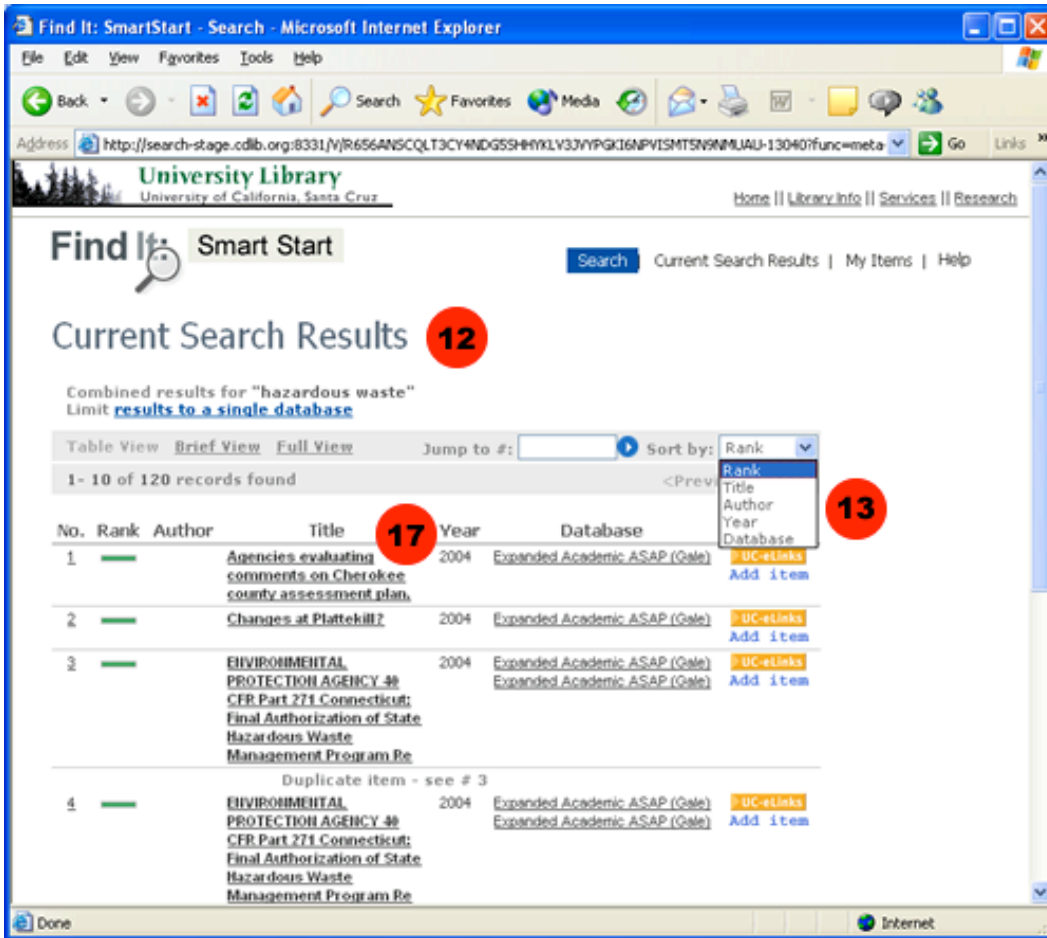
23. Change "Author" to "Author (Last name first)".

## Wait Screen



19. Replace "Please Wait..." with a bar that fills in. Leave wait screen uncluttered and distraction-free. Users do not want to be entertained

Initial Search Results View



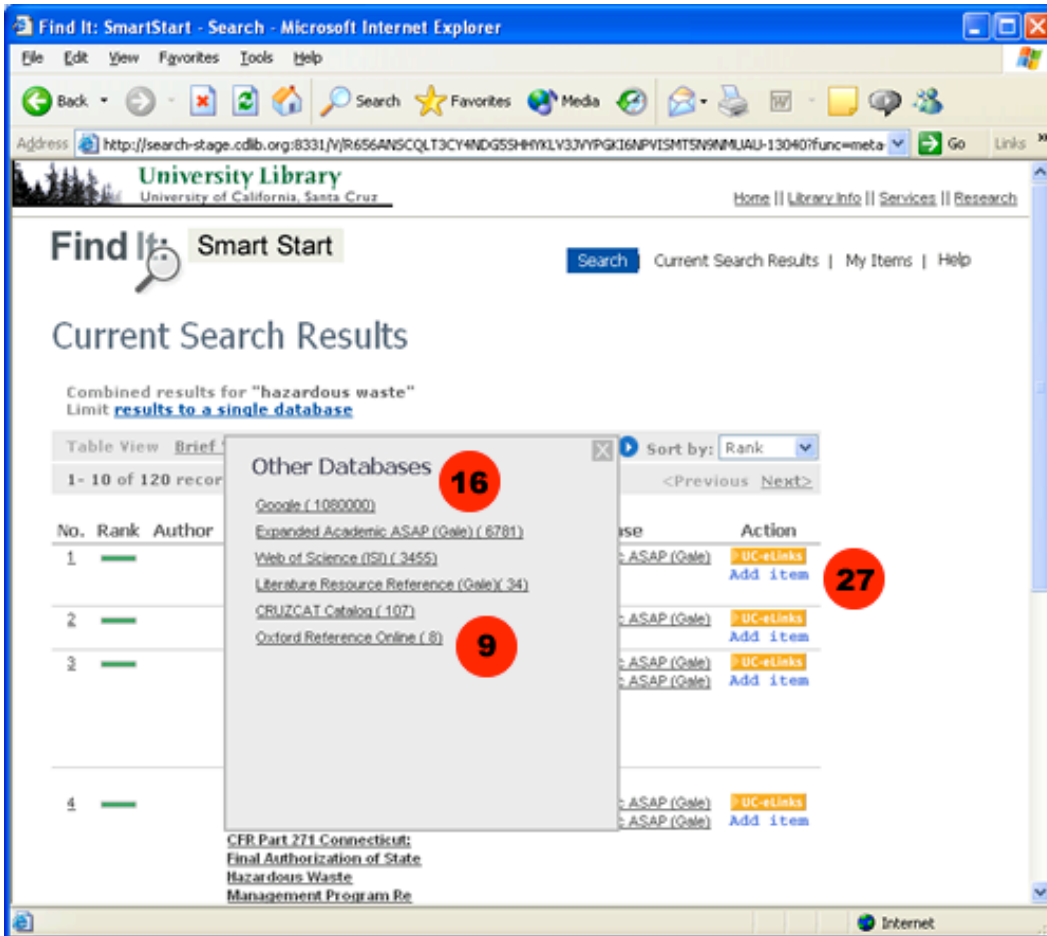
12. Add source/citation information and format to initial search results view.

13. Add the ability to sort by word count, format, relevance, date of publication, and source.

17. Widen the title column in Table View.

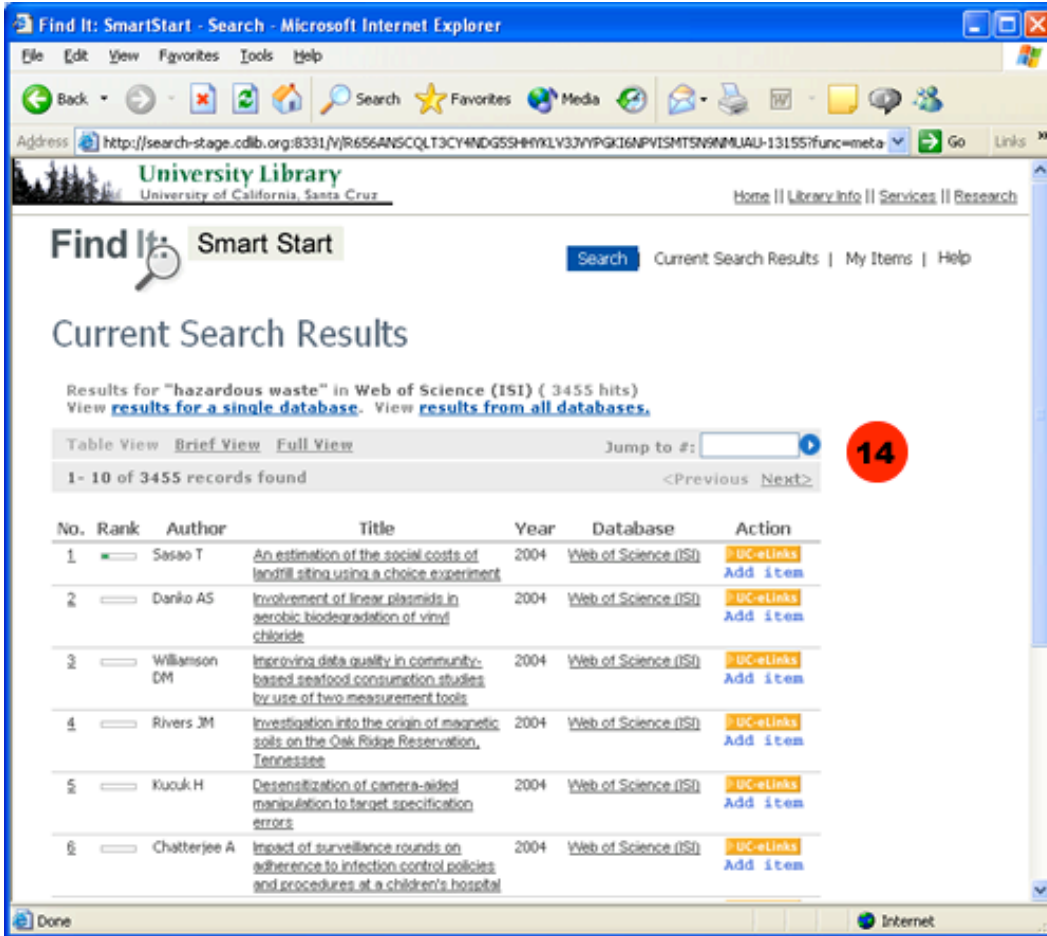


“Limit results to a single database” Popup Window



- 9. Warn users that limiting to Oxford citations leads them offsite.
- 16. Provide information about number of articles found in each database directly on the search results page.
- 27. Change “Add item” link to “Add to My Items” button for consistency.

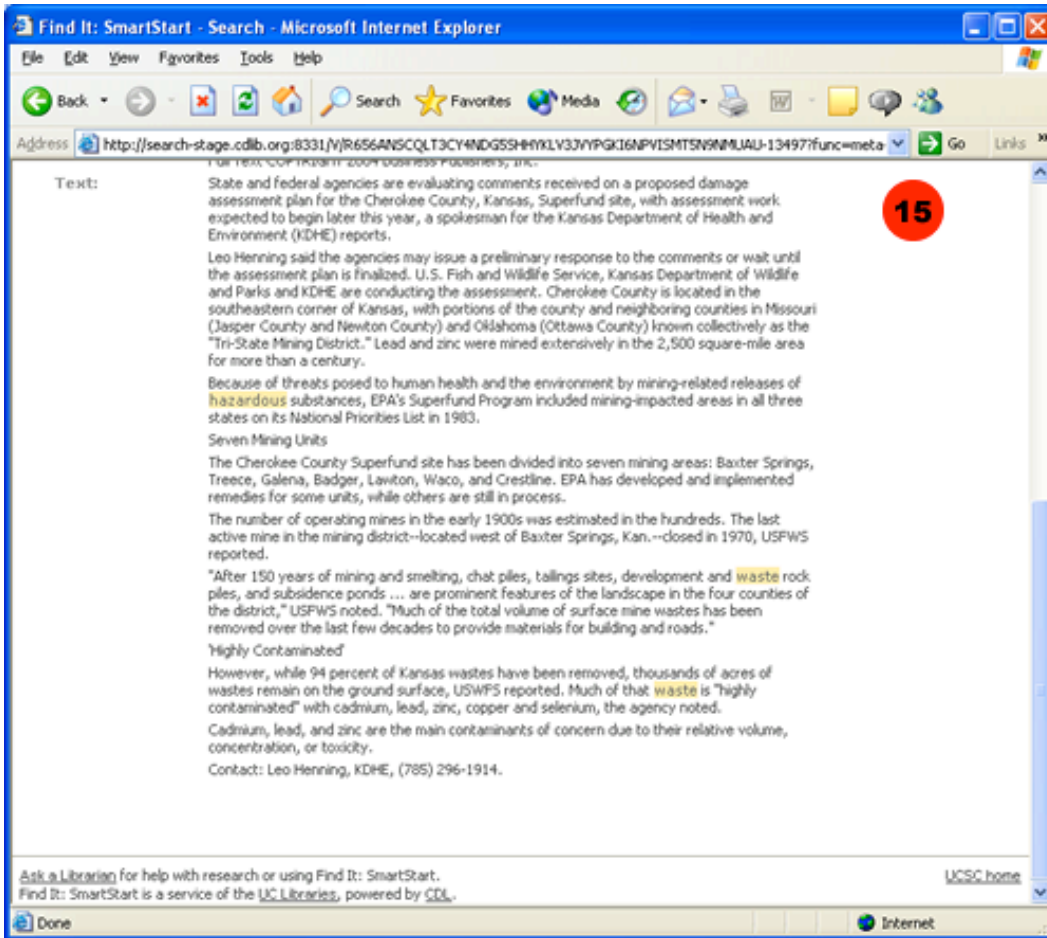
Initial “Limit results to a single database” View



14. Add the ability to sort on the “Limit results to a single database” results page.

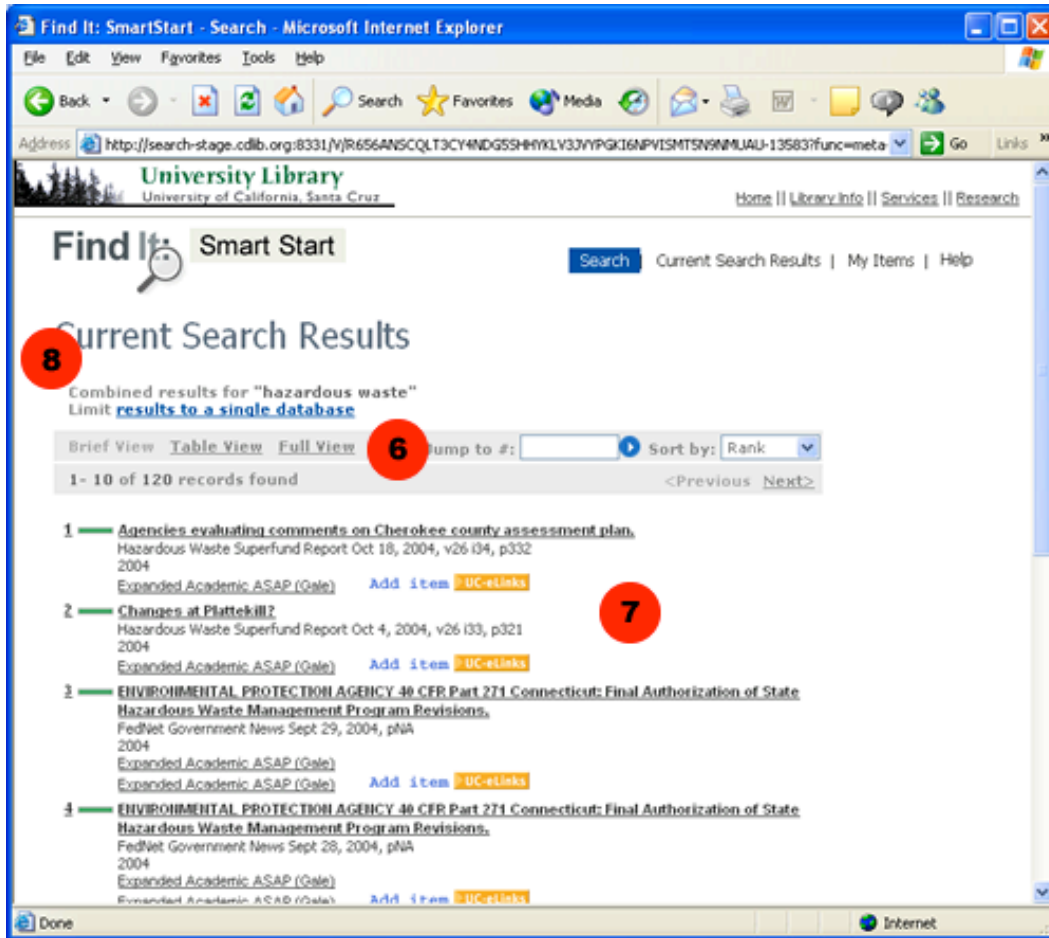


Full View – Bottom of webpage



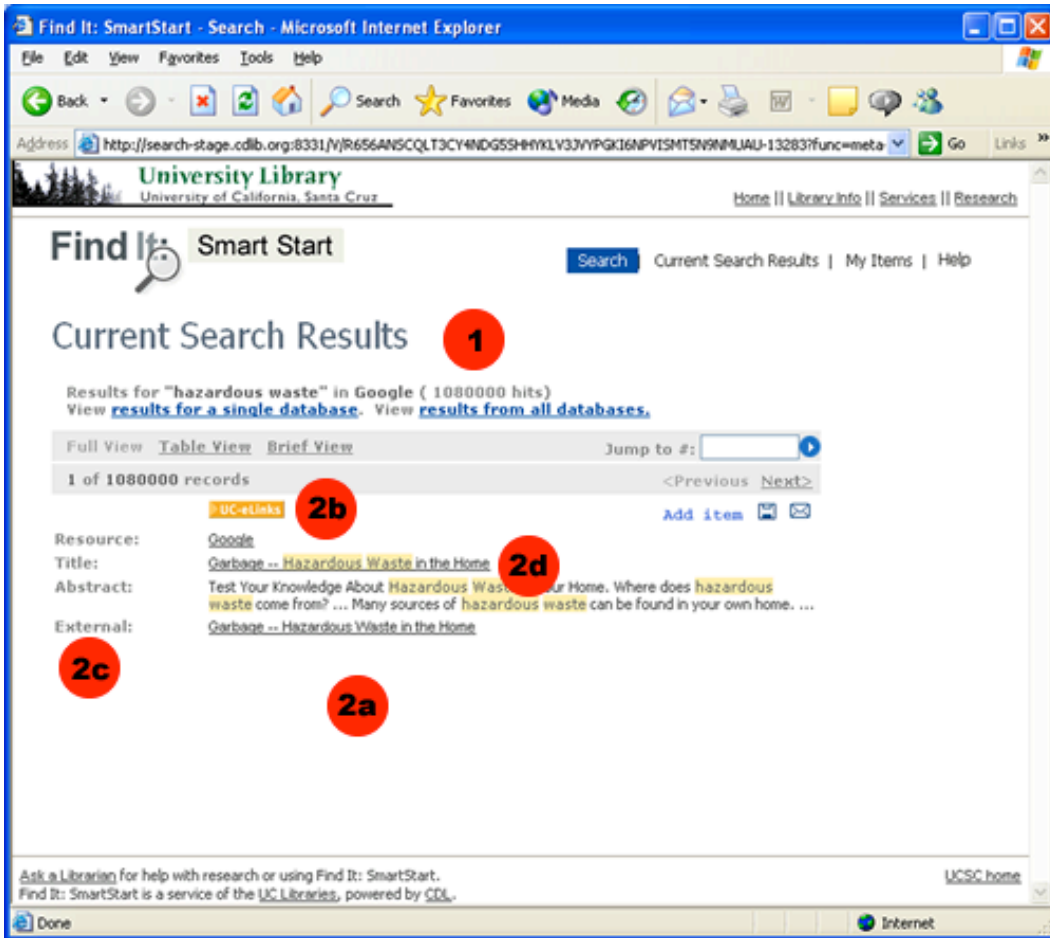
15. If full-text is given in the Full View of a record, clearly indicate this on the search results page and the individual record page.

Brief View



6. Stabilize the position of the Table View, Brief View, and Full View links.
7. Improve layout of Brief View so that records don't blend into each other visually.
8. Make "Limit results to a single database" more visible by freeing it from the block of text that surrounds it.

## Google Result – Full View



1. Remove Google from the list of databases searched by FindIt.
2. If Google remains,
  - a. include URL in search results record,
  - b. remove UC-eLinks button,
  - c. rename “External” to “Go to page” (or something like that),
  - d. and remove the hyperlink from “Title” field.

