The Usability Group was charged with providing data about users’ experiences using discovery systems compared to using the resources Princeton University Library currently provides. This report documents the findings of usability testing conducted during May 2010. In addition to the Princeton University Library website, two discovery systems were also selected for the test: Dartmouth University’s Summon and Stanford University’s SearchWorks (Blacklight). Seven participants from the Princeton University community took part in the testing, which was conducted over a two week period, from May 19-27, 2010. Of the two discovery systems, Blacklight and Summon, Summon was rated better by all participants except one, although a true comparison cannot be made because, unlike Summon, Stanford’s implementation of Blacklight does not include indexed articles.

In general, most participants felt that Princeton’s website was too cluttered and confusing. Aside from the Main Catalog, which was well regarded, participants were often uncertain about how to find specific items on the Princeton website (except in the book finding task). Several people stated that they use Google, even to find Princeton-owned material such as online journal articles. The participant most comfortable with Princeton’s website was the faculty member, who uses a very specific method of searching for her research: she almost never searches for items by subject.

Dartmouth’s Summon was generally seen as fast and easy to use for finding specific items (except for streaming audio, which is not yet available in their system) and general topics. The student participants were enthusiastic about the single search box and the speed of the results. The student participants all mentioned Google at some point during the testing and were mostly enthusiastic about seeing a Google approach with Summon; the faculty member disliked this approach because of the mixing of journal articles with books in the results. Icons depicting material type were also popular, as were the preview window that displays more information for results and the ability to sort, download, print and export. Facets were not immediately obvious to the participants and were not used in the first stages of searching. It was only after participants became frustrated that they began exploring the facets and advanced search functionality. In certain instances, participants found navigation to be cumbersome. For example, when looking for a specific online journal, most participants failed to recognize that the online journal itself was not the first result listed; the first three results were actually indexes to specific volumes of the journal. For two participants, there was a recurring problem with the search screen not clearing properly, which was a source of frustration.
Most of the student participants liked the one-box approach on Stanford’s Blacklight but ran into difficulty because articles are not indexed in Blacklight and several of the tasks involved finding articles. There were mixed reactions to the tag cloud of library names listed in different fonts and different colors. In general, the facets were popular on this system, except for their pre-searching appearance which seemed to be confusing.

**Methodology**

**Software**

The Library purchased Morae software (TechSmith), version 3.2, which includes three modules: Recorder, for recording the testing; Observer, to allow the testing to be watched live and to capture notes entered by the observers; and Manager, for editing and analyzing the results. The modules were installed by the Library’s systems staff on two computers, one in A-14-J-2, where the testing was done, and one in A-7-C, where the testing was viewed and observations recorded.

**Participants**

Seven individuals from the University participated in the testing: three undergraduate students (freshman, junior, senior), two graduate students, one faculty member, and one staff member. The academic disciplines represented by the upper class students, graduate students, and faculty were engineering, economics, Woodrow Wilson School, and history/Hellenic Studies. Each participant signed a release form to permit the test to be recorded (audio and video) and viewed by the committee, and each received a $15 Starbucks gift card as compensation.

**Sites tested**

In addition to Princeton University Library’s website (catalog, Articles & Databases, etc.), participants were asked to use two systems to complete a series of tasks: Serials Solutions’ Summon system installed at Dartmouth University Library (http://www.dartmouth.edu/~library/home/find/summon/) as an example of a commercial system, and Stanford University Library’s SULAIR SearchWorks (Blacklight) (http://searchworks.stanford.edu/) as an example of an open-source system.

**Testing procedure**

The tests took between forty minutes and 1 ½ hours to complete. Each session began with the explanation that the testing would be recorded and each participant signed a release form. A modified script downloaded from usability expert Steve Krug’s website “Advanced Common Sense,” (http://www.sensible.com) was used. As much as possible, the librarian facilitating the testing tried to refrain from helping the participants in order to gauge how easily people could use the systems on their own.
Tasks performed
Based on tasks created for testing the Library’s website several years ago, a list of six items was compiled for the participants to find on all three systems. There were two tasks for items unique to Princeton, making a total of 20 tasks. The complete list of tasks is included in Appendix A.

Specific tasks

Find a specific journal online (tasks 1, 9, 15)
Almost all participants completed this task with ease in all systems. One user had a difficult time connecting to the online text via SFX in the Princeton library catalog. The first link she tried from the SFX menu was the Gale LegalTrac link. When she got to the Gale page for the journal, it was not obvious to her that she had arrived at the journal online, so she went back to the SFX menu to try the other links. Another user spent over three minutes on this question in Dartmouth’s Summon system, although he found it with relative ease. He started with the advanced search and ended up with articles from the journal in his results rather than a link to the journal itself. He was unable to find a direct link to the journal online but concluded that it was indeed available online from Dartmouth.

Find a senior thesis (task 2 – Princeton only)
All participants remarked that they were uncertain where to begin, that there was not an obvious place to search for senior theses. The four participants who found the senior thesis catalog with relative ease did so almost by accident, trying the “Special Collections” link from the library’s home page or searching on the Princeton University home page. Of the two participants whose attempts failed to find the catalog, one said she knew “there is a place where you can search for just theses, but I don’t know where that is.”
**Find a specific book (tasks 3, 10, 16)**

All participants performed this task with ease in both the Princeton and Dartmouth systems. Some participants noticed or clicked on a record for a review of the book that appeared at the top of the Summon results but easily identified the error and made their way to the record for the book itself. Two participants had difficulty finding the book in the Stanford SearchWorks system because of an ampersand (&) in the title of the book.

**Find a specific journal article (tasks 4, 11, 17)**

Most participants performed this task with ease in the Princeton system using the Articles & Databases page. One participant, however, had a little difficulty as he started his search in ProQuest, which apparently does not index the journal in question. Most of the participants found the article with ease in the Dartmouth system; however, one participant searched for the name of the journal first and ended up with an article by that title. Another user, who already did not like Summon, gave up after approximately one minute claiming “I can’t tell what this is…this stinks.” By contrast, most participants had a difficult time or failed on this task in the Stanford system. The two participants who succeeded with ease did so by searching for the journal title. Other participants tried article title or other types of searches first. Their difficulty may have been due, in part, to the order in which the systems (i.e., Princeton, Dartmouth, Stanford) were used and an expectation that Stanford’s search system would include individual articles as does Dartmouth’s Summon.
Find a recent article on a specific topic (tasks 5, 12, 18)

All but one participant completed this task with ease in the Princeton system. All participants completed this task with ease in the Dartmouth system. Four of the seven participants had difficulty or failed to complete this task in the Stanford system. There seemed to be a general sense of not knowing where to start among the participants who had difficulty.

Find papers of the American Civil Liberties Union (task 6 – Princeton only)

Only three of the seven participants found the papers, two through catalog searches and one, almost accidently, by trying the “Public Policy Papers” link under “Special Collections.” A couple of people who failed to find them thought they had succeeded in what they found, i.e., the ACLU web site through a Google search or a link to FBI files through a main catalog record. These results reflect the ambiguity of the task and/or the user’s unfamiliarity with archival research. One person, who does archival research overseas, understood that one would look under “Special Collections,” but still could not find the papers through those links.

Find newspapers from a specific country (Canada) (tasks 7, 13, 19)

Most participants had difficulty or failed to complete this task in the Princeton system. All but one user failed to complete this task in the Dartmouth system. Participants had much more success in the Stanford system with only two failing to complete the task. Stanford’s facets include one for formats including newspapers, which seemed to help with this task. Those who tried to use Stanford’s geographic facet found that neither the country nor any cities within that country were included in the
list, even though later, by using “Canada” as a keyword in the search, they found Canadian newspapers.

**Find specific streaming audio (tasks 8, 14, 20)**

This task was extremely difficult in all systems, in part because a label such as “sound recording” seems to imply that one might be able to listen to the recording online. On PUL’s site, participants did not know that streaming media files are accessible through the catalog, and those that found the streaming audio did so through the Music Library’s website. Though Dartmouth subscribes to “Classical Music Library,” where streaming audio could be found, it is not yet discoverable through Summon, and testers never found it through a different method. More people were successful in finding the “Naxos Music Library” link for the online recording on the Stanford site, though some found the pre-limiters “sound recording” and “music recording” confusing.

Jennifer Baxmeyer
Willow Dressel
Nancy Pressman-Levy
Linda Oppenheim
June 18, 2010
Appendix A: Usability test questions

The following tasks were given to the testing participants to search on all three systems, except for tasks 2 and 6, which were used only on the Princeton system:

1. Is the journal *Human Rights Quarterly* available online (full-text)?
2. Can you find a *senior thesis* done at Princeton on the *Japanese economy*?
3. Does the library’s copy of *Picasso & Apollinaire: the persistence of memory* by Peter Read circulate?
4. Your colleague suggested that you read an article “Potential health risks of complementary alternative medicines in HIV patients” (Authors: Ladenheim, D.; Horn, O.; HIV Medicine, 2008, 9, 8, 653-659). Find a copy.
5. Find a *recent article* on *post traumatic stress disorder*?
6. How would you find the *papers* of the *American Civil Liberties Union* available at the Princeton University Library?
7. What *newspapers* from *Canada* does library have?
8. Find a *recording* of *Brahms 3rd symphony* that you can listen to online (streaming).
## Appendix B: Participants’ impressions and feedback

<table>
<thead>
<tr>
<th>Participant Number</th>
<th>Princeton</th>
<th>Summon (Dartmouth)</th>
<th>Blacklight (Stanford)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Uses Princeton site for status and location information of books, hard copy. If needs online information (e.g., scientific journal articles), uses Google. For music would not go to the Library.</td>
<td>Easy to find specific items and for finding information on general topics. Format icons on results useful. Easy to use…looks very much like Google. Likes the one search box approach.</td>
<td>Likes Google-like search box. Side-bar filters make limiting searches easier than in Princeton’s catalog. Liked having number of results listed for each filter category.</td>
</tr>
<tr>
<td>2</td>
<td>Easier to use with specific information, i.e., author, title, etc. Harder for general topic searches</td>
<td>Easy for topic searching. “Type in whatever you want.” Side facets allow refining after searching. Faster and easier to use.</td>
<td>Impressed by post-searching filtering by facets. Easy to use side facets. Pre-searching limiting was confusing.</td>
</tr>
<tr>
<td>3</td>
<td>Our layout is overwhelming. Uses Main Catalog, Articles &amp; Databases, and Your Account primarily. Likes the Main Catalog and the ability to sort by date. Doesn’t know what “Digital Collections” means. Site should be more interactive.</td>
<td>Loved preview window on Summon, called it a “magic window.” Search did not clear properly. Not clear how to get back to basic search: “this is ridiculous” and “so frustrating.” This system is not user friendly at all; disliked it more than liked it.</td>
<td>Found different font sizes “obnoxious.” Assumed that non-book material would be available, but that is not the case. Couldn’t find databases; PUL has a great way to find databases since they are broken out as “core.”</td>
</tr>
<tr>
<td>4</td>
<td>There are so many listings for catalogs and it’s hard to know difference between them. Usually does not use the library web page but goes directly to Google. Likes that Google links to e-journals that Princeton has access to (uses Findit@PUL option). PUL site is like a huge tree: you have to keep clicking and hope you choose the right link.</td>
<td>“One stop shopping…fantastic.” Compared PUL’s site to Wegmans and Dartmouth’s site to Trader Joe’s + Wegmans. If a user just wants a few items and not a lot of choices they can go to Trader Joe’s (Summon). If they want to spend more time and have more choices, they go to Wegmans. The Dartmouth (Summon) site has both choices available. PUL library site is only Wegmans.</td>
<td>Likes the familiar “one box” approach. Nice layout, not so cluttered and has a lot of white space. However, likes “that the PUL catalog has…keyword…to easily find (books/authors),” unlike this site. This site is not as good as the Summon site; it doesn’t have the power of the Dartmouth site.</td>
</tr>
<tr>
<td>5</td>
<td>Some things are straightforward; others are not obvious, like finding senior theses and newspapers from a country. Main catalog is very useful.</td>
<td>Google-like search box. Liked the speed and ease of finding specific items. Harder for general topics and items in specific collections.</td>
<td>Harder to find specific journal articles. [Databases not evident.] Broader searches (i.e., list of newspapers, music online) difficult.</td>
</tr>
<tr>
<td>Participant Number</td>
<td>Princeton</td>
<td>Summon (Dartmouth)</td>
<td>Blacklight (Stanford)</td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------</td>
<td>--------------------</td>
<td>----------------------</td>
</tr>
<tr>
<td>6</td>
<td>Limited to doing the type of searches she’s familiar with. Not evident how to look for archival materials or music. Likes this site the best of the three.</td>
<td>Google-like search box. Didn’t like at how; didn’t like mixing journal articles and books. Searching for a topic [PTSD] was easier.</td>
<td>Pre-searching facets puzzling. Like this site the least. “Couldn’t tell where I was [in searching].”</td>
</tr>
<tr>
<td>7</td>
<td>Doesn’t like its look. Difficult to navigate. Must spend a lot of time looking for things.</td>
<td>Likes the Amazon-like searching, with post-search limiters on left. It was much easier to do most of the tasks on this site.</td>
<td>Doesn’t like “busy” look and tag cloud. Didn’t like pre-search limiters. Wants ability to check multiple limiters.</td>
</tr>
</tbody>
</table>