The Discovery Ecosystem: Upgrading the User Experience

2-25-2015

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Athena Hoeppner  
*University of Central Florida, athena@ucf.edu*

Christopher Spalding  
*Emory University*

Kristian Serrano  
*Emory University*

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The Discovery Ecosystem

Upgrading the User Experience
3 Correct. This was just a placeholder slide with thoughts. This then was spread out. We’ll use this as an intro to this section, but the text will be replaced. I’ll schedule time next to bang out our slides, portion of the presentation and activity.
Christopher Spalding, 02-Aug-19

1 I’m not sure I see the distinction between this activity and the one on slide #56.
Kristian Serrano, 02-Aug-19

2 I’m happy to remove this slide since you’ve got this covered in the next two slides, not sure we need to discuss more but I’ll let Athena chime in
Rebecca L Blakiston, 02-Aug-19

1 These sound like great discussion questions, Chris
Rebecca L Blakiston, 02-Aug-19

2 Planning on deleting this slide once we discuss.
Christopher Spalding, 02-Aug-19

1 I plan to ask people to move into groups by vendor for this exercise. Ask for the group to discuss each others descriptors from the ice-breaker. The current challenges with the product? Local user perceptions? How active a product community? How supportive or forward thinking is the vendor?
Christopher Spalding, 02-Aug-19
Today’s Agenda

● Introductions
● The Current State of Discovery
● Designing Search with the User in Mind
● The Discovery Edcosystem & User Journeys
● Break
● Evaluating the User Experience through Heuristic Evaluation and Usability Testing
● Analyzing Results
● Improving the Discovery Ecosystem
The Speakers

Rebecca Blakiston
User Experience Librarian
University of Arizona
- Project Manager
- User Researcher
- Content Awesomist
- Discovery Product: Summon

Athena Hoeppner
Electronic Resources Librarian
University of Central Florida
- Discovery Goddess
- Implementation Lead and Administrator
- Discovery Product: EBSCO Discovery Service

Christopher Spalding
Director of Libraries Core Systems
Emory University
- Library and Vendor Experience
- Discovery Product: Primo (Ninja Level)

Kristian Serrano
Lead Web Developer/Designer
Emory University
- Web Slinger
- Content Strategist
- Fights for the Users
- Discovery Product: Primo (Noob)
Your Turn!

- Name
- Who are you?
- Institution
- Where do you work?
- Title
- What do you do?
The Current State of Discovery
WSD systems couple…

a pre-harvested central index of metadata and content…

… with a richly featured discovery layer.
Pre-harvested Index

CENTRAL INDEX

- WSD/Vendor Agreements
- Library Subs
- Publisher Supplied
- Open Access FT and A/I
- Library Supplied
Pre-harvested Index
Mutually-licensed content and other complexities

- WSD/Vendor Agreements
- Open Access FT and A/I
- CENTRAL INDEX
- Library Subs
- Library Supplied
- Publisher Supplied
- Gale OneFile
- LexisNexis
- HathiTrust
- arXiv.org
- MEDLINE
- DOAJ
- IRs
- MLA
- IBISworld
- INSPEC
- ISI
- Scopus
- MLA
- ebrary
- Digitized
- Springer
- MARC
- IRs
- Wiley
- OUP
- T&F
- Elsevier
- Elsevier
- Springer
Out of the Box Discovery Layer

Your University Library

Ask | Reserves | Hours | ILL | Your Account

Books | Articles | Journals | Digital

Search: Keywords, titles, authors...
Out of the Box Discovery Layer

Search: Venture
Sort: Relevancy

How venture capital works.
Author: Christian Science Monitor (1908-Current file) ISSN: 0145-8027
Date: 03/11/1985 Description: 17

The Venture cloning method.
Author: Thadius S. Venture
ISBN: 01-0045-802 Date: 2008

Due: Yesterday!!
Bells and Whistles

See the map to the Small Business Ventures Capitol Incubator.

How venture capital works.
Author: Christian Science Monitor
ISSN: 0145-8027
Date: 03/11/1985
Description: 17

Search: Venture

Sort: Relevancy

Full Text

Ask a Librarian

YU Library | Ask | Reserves | ILL | Your Account

500 hits

Company:
DuPo (30)
IBM (26)
Dow Jones (2)
...mo

Discipline Selector:
Arts
Busin
Chem

Data Source: JSTO

See the map to the Small Business Ventures Capitol Incubator.

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500 hits

Company:
DuPo (30)
IBM (26)
Dow Jones (2)
...mo

Discipline Selector:
Arts
Busin
Chem

Data Source: JSTO
## The Big Discovery Vendors

<table>
<thead>
<tr>
<th>WorldCat Local</th>
<th>EBSCO Discovery Service</th>
<th>Summon</th>
<th>Primo</th>
<th>Encore Synergy</th>
</tr>
</thead>
<tbody>
<tr>
<td>OCLC</td>
<td>EBSCO</td>
<td>Serials Solutions</td>
<td>ExLibris</td>
<td>Innovative</td>
</tr>
</tbody>
</table>
Your Discovery Layers

Group Discussions (Therapy?)

- Summon
  - Rebecca

- Primo
  - Kristian

- EBSCO Discovery
  - Athena/Eric

- Open Source or Non-affiliated Systems
  - Athena
Your Discovery Layers

Challenges with the product?
Local user perceptions?
Big issues?
How supportive is the vendor?
How active a product community?
Everybody Now...

An open discussion on challenges
Designing Search with the User in Mind
Who are Your Users?

• Undergrads?
• Grads?
• PhD candidates?
• Distance students?
• Faculty?
• Clinicians?
• Staff?
• Visiting researchers?
• Community members?
“One of our problems is we try to design search for everyone.”

~Tyler Tate, *Designing the Search Experience* 
@tylertate
Cheyenne Williams, *Undergraduate Student*

<table>
<thead>
<tr>
<th>Common Tasks</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>● Find a textbook based on a title</td>
<td>● Find a scholarly article on a topic</td>
</tr>
<tr>
<td>● Find an article based on a citation</td>
<td>● Juggling work &amp; school</td>
</tr>
<tr>
<td></td>
<td>● Can’t afford textbooks</td>
</tr>
<tr>
<td></td>
<td>● Tends to procrastinate and usually needs things available right now</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Common Challenges</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>● Hasn’t chosen a major yet</td>
<td>● Glued to her MacBook and iPhone</td>
</tr>
<tr>
<td>● Used her high school library once or twice</td>
<td>● Regularly searches on Netflix, Amazon, Pinterest, and eBay</td>
</tr>
<tr>
<td>● Assigned her first college research paper</td>
<td></td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>Technical Expertise</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>● Find a scholarly article on a topic</td>
</tr>
<tr>
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<tr>
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<td>● Can’t afford textbooks</td>
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<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Domain Expertise</th>
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<tr>
<td>● Hasn’t chosen a major yet</td>
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</tr>
<tr>
<td>● Assigned her first college research paper</td>
<td></td>
</tr>
<tr>
<td>Type of Query</td>
<td>Example</td>
</tr>
<tr>
<td>--------------</td>
<td>---------</td>
</tr>
<tr>
<td>Casual</td>
<td>Journalism student browsing for news articles on this week’s events.</td>
</tr>
<tr>
<td>Lookup</td>
<td>Physics graduate student wanting to know the answer to his scientific problem.</td>
</tr>
<tr>
<td>Learn</td>
<td>English composition student wanting to know more about the history of the abortion debate.</td>
</tr>
<tr>
<td>Investigate</td>
<td>PhD candidate wanting to delve deeper into the literature to discover new connections and obtain new knowledge.</td>
</tr>
</tbody>
</table>
Search: The User Journey
The Searching Process

1. Have need
2. Formulate query
3. Do search
4. Refine search

It’s so simple, yes?
Searching Evolves Over Time

Initial query → skimming results → redefining query →
skimming results → gathering more data → using facets →
accessing content → revising query → saving content →
reviewing content → exporting content → requesting content →
asking for help → revising query →
narrowing topic → using facets → gaining more knowledge →
saving results → getting advice → emailing results
Make Users Feel Smart
Conventions & Good UX Practices
Basic Search Must Be *Really* Easy to Use.

Rectangular search box with a button.
Search at Top of the Page

The University of Arizona

University Libraries

Search our site

Request Materials

Article or Book Chapter

We'll email you articles, book chapters, and more free of charge.
Especially on Smaller Screens

Request Materials

Article or Book Chapter

We'll email you articles, book chapters, and more free of charge.

If we own it in print, we can scan it for you. If we don't own it, we'll request it from another library.

We offer access to rare and unique materials for scholars, researchers, and the public.
Pagination Should Be at the Bottom of the Page

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publisher</th>
<th>Year</th>
<th>Online Access</th>
</tr>
</thead>
<tbody>
<tr>
<td>Usability Success Stories How Organizations Improve By Making Easier-To-Use Software and Web Sites</td>
<td>Paul Sherman</td>
<td>Farnham: Ashgate Publishing Ltd, 2007</td>
<td></td>
<td>Online access</td>
</tr>
<tr>
<td>Multimodal usability</td>
<td>Niels Ole Bernsen</td>
<td>Berlin: New York: Springer, 2009</td>
<td></td>
<td>Online access</td>
</tr>
<tr>
<td>Distributed user interfaces : usability and collaboration</td>
<td></td>
<td></td>
<td></td>
<td>Online access</td>
</tr>
</tbody>
</table>
You Should See How Many Results There Are

Results 1 - 10 of 20,877 for Everything

Sorted by: Relevance

Sign in to see all search results

Usability
Stewart, Tom
Taylor & Francis
The final paper in this issue on usability... between the United Nations and Usability News...
EDITORIAL Usability It’s easy to get
• Full text available

Niels Ole Børnsen
Berlin; New York; Springer, 2009
• Online access

Distributed user interfaces: usability and collaboration
2013, 2014
• Online access

Results 1 - 10 of 20,877 for Everything
Help Users Formulate Their Queries

<table>
<thead>
<tr>
<th>All</th>
<th>Articles</th>
<th>Books &amp; Media</th>
<th>Our Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Search for ebooks, journals, movies...</td>
<td>SEARCH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example: Freakonomics</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>All</th>
<th>Articles</th>
<th>Books &amp; Media</th>
<th>Our Website</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Search the library website</td>
<td>SEARCH</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Example: Borrow a Laptop</td>
<td></td>
</tr>
</tbody>
</table>
**Autocomplete:** Completes a Known Entity
**Autosuggest:** Ideas the User Hasn’t Thought of Yet
Contextual Help: Exposing Resources
Contextual Help: Search Tips

**Looking for peer reviewed articles?**
Under REFINE YOUR SEARCH, select Scholarly (Peer Reviewed) and under CONTENT TYPE, select Journal Article. Your results will be updated to only include peer reviewed journal articles.

**Looking for ebooks?**
Contextual Help: Related Content

- **Worried about plagiarism?**
  See our [avoiding plagiarism guide](#).

- **When is the library open?**
  The Main Library is open 24 hours/day during the regular school week. [See all library hours](#).

### Articles

**sea turtles and climate change**

**Why should I also try databases and journals?**

There is no single website or search box in the world that can search every article ever published on the web, even the search on this page or Google Scholar (although both are great places to start). Sometimes, to find enough articles for your paper, you'll have to search multiple databases and/or journals. Additionally, databases and journals provide a subject-specific search experience, which can be to your advantage.
Users Want Results Quickly
Segmented Control

Users can select their preferred display of results.
Designing a Search Engine Results Page (SERP)
What Details Does the User Want to See in the Results?

<table>
<thead>
<tr>
<th>Book Title</th>
<th>Edition</th>
<th>Author(s)</th>
<th>Publication Date</th>
<th>Paperback Price</th>
<th>Kindle Price</th>
<th>Condition</th>
<th>Availability</th>
<th>Trade-in Eligibility</th>
<th>Books Available</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Content Strategy for the Web, 2nd Edition</em></td>
<td>Feb 20, 2012</td>
<td>Kristina Halvorson and Melissa Rach</td>
<td></td>
<td>$25.23 ($34.99 Prime)</td>
<td>$15.39</td>
<td>Auto-delivered wirelessly</td>
<td></td>
<td>46</td>
<td>See all 17,235 items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$16.99 used &amp; new</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Managing Enterprise Content: A Unified Content Strategy (2nd Edition)</em></td>
<td>Feb 26, 2012</td>
<td>Ann Rockley and Charles Cooper</td>
<td></td>
<td>$32.49 ($44.99 Prime)</td>
<td>$19.79</td>
<td>Auto-delivered wirelessly</td>
<td></td>
<td>13</td>
<td>See all 17,235 items</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Only 15 left in stock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>$22.85 used &amp; new</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Subjects: Electronic books

Rodeo Austin [electronic resource] : Blue Ribbons, Buckin' Broncs, and Big
By: Carmack, Liz. College Station : Texas A&M University Press, 2012. 1 online resource (129 p.)
Subjects: Electronic books

Concentrations, loads, and yields of particle-associated contaminants in urban creeks, Austin, Texas, 1999-2004
Online access

Milton Avery 1885-1965
Austin : University of Texas at Austin, 1976
Available at Cabell Library General Collection (ND237.A85 M55 1976 )
Easy-to-access Previews of Items in the Results List
Continuous Scroll: An Ongoing Debate
Continuous Scroll: An Ongoing Debate

- Reduces cognitive load.
- Can be frustrating, especially if users want to go back up to something.
- Do users usually want to go back to something when researching?
Expand the Most Common Facets and Collapse the Rest
Allow Users to Easily Control Filters

Give the ability for the user to remove certain filters.

Give the option to keep the same facets (“search within”) as well as start over (“clear all”).
Users Shouldn’t Get Lost

Make it clear to the user where they are (horizontal breadcrumbs, vertical bread box, or “your selection”).

Users should be able to look at the page and understand what was searched.
Questions?

Observations about the search experience within discovery tools?
But Wait... THERE'S MORE!!!
Reality of Discovery to Delivery

Discovery is everywhere.

Diagram showing various components such as Aggregators, eResource Librarians, Blackboard, Ares - Reserves, Library Websites, Primo Central, Primo, IR, SFX, Aleph, ETD, Shibboleth, Subject Liaisons, Info Literacy & Outreach, e-Scholarship.
Data Points

- Google Analytics
- Primo BIRT Reports
- SFX referrals
- PID manager files
- Alma BI
- Shibboleth logs
## Mobile Users Attempts

<table>
<thead>
<tr>
<th>Operating System</th>
<th>Acquisition</th>
<th>Behavior</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sessions</td>
<td>% New Sessions</td>
</tr>
<tr>
<td></td>
<td>↓</td>
<td>↑</td>
</tr>
<tr>
<td></td>
<td>591,592</td>
<td>58.95%</td>
</tr>
<tr>
<td></td>
<td>% of Total: 100.00% (591,592)</td>
<td>100.01% (348,716)</td>
</tr>
<tr>
<td><strong>1. Linux</strong></td>
<td>211,584</td>
<td>99.51%</td>
</tr>
<tr>
<td></td>
<td>(35.77%)</td>
<td>(0.01%)</td>
</tr>
<tr>
<td><strong>2. Windows</strong></td>
<td>202,272</td>
<td>42.09%</td>
</tr>
<tr>
<td></td>
<td>(34.19%)</td>
<td>(24.41%)</td>
</tr>
<tr>
<td><strong>3. Macintosh</strong></td>
<td>148,909</td>
<td>28.33%</td>
</tr>
<tr>
<td></td>
<td>(25.17%)</td>
<td>(12.10%)</td>
</tr>
<tr>
<td><strong>4. iOS</strong></td>
<td>21,685</td>
<td>38.08%</td>
</tr>
<tr>
<td></td>
<td>(3.67%)</td>
<td>(2.37%)</td>
</tr>
<tr>
<td><strong>5. Android</strong></td>
<td>5,776</td>
<td>37.29%</td>
</tr>
<tr>
<td></td>
<td>(0.98%)</td>
<td>(0.62%)</td>
</tr>
<tr>
<td><strong>6. Chrome OS</strong></td>
<td>1,124</td>
<td>28.65%</td>
</tr>
<tr>
<td></td>
<td>(0.19%)</td>
<td>(0.09%)</td>
</tr>
<tr>
<td><strong>7. Windows Phone</strong></td>
<td>124</td>
<td>50.81%</td>
</tr>
<tr>
<td></td>
<td>(0.02%)</td>
<td>(0.02%)</td>
</tr>
<tr>
<td><strong>8. BlackBerry</strong></td>
<td>53</td>
<td>54.72%</td>
</tr>
<tr>
<td></td>
<td>(0.01%)</td>
<td>(0.01%)</td>
</tr>
<tr>
<td><strong>9. (not set)</strong></td>
<td>47</td>
<td>87.23%</td>
</tr>
<tr>
<td></td>
<td>(0.01%)</td>
<td>(0.01%)</td>
</tr>
<tr>
<td><strong>10. Samsung</strong></td>
<td>7</td>
<td>42.86%</td>
</tr>
<tr>
<td></td>
<td>(0.00%)</td>
<td>(0.00%)</td>
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</tbody>
</table>
In Other Words...
## Ecosystem Flow

<table>
<thead>
<tr>
<th>Source / Medium</th>
<th>Acquisition</th>
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<tbody>
<tr>
<td></td>
<td>591,592</td>
</tr>
<tr>
<td></td>
<td>% of Total: 100.00%</td>
</tr>
<tr>
<td></td>
<td>(591,592)</td>
</tr>
<tr>
<td>1. primo02v1.hosted.exlibrisgroup.com:8991 / referral</td>
<td>494,948 (83.66%)</td>
</tr>
<tr>
<td>2. (direct) / (none)</td>
<td>51,376 (8.68%)</td>
</tr>
<tr>
<td>3. web.library.emory.edu / referral</td>
<td>28,091 (4.76%)</td>
</tr>
<tr>
<td>4. pitts.emory.edu / referral</td>
<td>4,816 (0.81%)</td>
</tr>
<tr>
<td>5. oxford.library.emory.edu / referral</td>
<td>2,229 (0.38%)</td>
</tr>
<tr>
<td>6. sfxhosted.exlibrisgroup.com / referral</td>
<td>1,986 (0.34%)</td>
</tr>
<tr>
<td>7. worldcat.org / referral</td>
<td>1,614 (0.27%)</td>
</tr>
<tr>
<td>8. sfxhosted.exlibrisgroup.com.proxy.library.emory.edu / referral</td>
<td>1,008 (0.17%)</td>
</tr>
<tr>
<td>9. guides.main.library.emory.edu / referral</td>
<td>750 (0.13%)</td>
</tr>
<tr>
<td>10. doc2kg0497na.hosted.exlibrisgroup.com:8991 / referral</td>
<td>674 (0.11%)</td>
</tr>
<tr>
<td>11. emory-aleph.hosted.exlibrisgroup.com:8991 / referral</td>
<td>509 (0.09%)</td>
</tr>
<tr>
<td>12. business.library.emory.edu / referral</td>
<td>410 (0.07%)</td>
</tr>
<tr>
<td>13. firstsearch.oclc.org / referral</td>
<td>409 (0.07%)</td>
</tr>
<tr>
<td>14. guides.theology.library.emory.edu / referral</td>
<td>299 (0.05%)</td>
</tr>
<tr>
<td>15. libraries.emory.edu / referral</td>
<td>218 (0.04%)</td>
</tr>
<tr>
<td>16. health.library.emory.edu / referral</td>
<td>187 (0.03%)</td>
</tr>
<tr>
<td>17. marbl.library.emory.edu / referral</td>
<td>143 (0.02%)</td>
</tr>
<tr>
<td>18. sfx.galib.uga.edu / referral</td>
<td>127 (0.02%)</td>
</tr>
<tr>
<td>19. sfx.galib.uga.edu.proxy.library.emory.edu / referral</td>
<td>122 (0.02%)</td>
</tr>
<tr>
<td>20. guides.oxford.library.emory.edu / referral</td>
<td>119 (0.02%)</td>
</tr>
</tbody>
</table>
Data Isn’t the Answer

Data tells us what users are doing.  But why are they doing it?  How can data inform design?
Complexities of Paths
Complexities of Paths
Complexities of Paths
Complexities of Paths
Complexities of Paths

Systems are disparate.

Set the user’s expectation before each link and click.

Clarity and consistency within each system aligns the user with the path to completion.
Understand the User

Where is the user coming from?

What patterns are they expecting?

What terminology are they using?

What device and network are they on?
Consider the User’s Context

Device of the user

Performance of the system

Concurrent Tasks
Content Design Reduces Cognitive Load

- Proximity
- Focus
- Consistency
- Clarity and Concision

“Obvious always wins.”
Personas

A profile with a given context of how the user approaches a task.

Personas provide empathy for the user
Scenarios Are the User’s Needs and Context

Primary goal

Mood (relaxed or flustered?)

Concurrent tasks (focused or distracted?)
Personas
Cheyenne Williams

freshman, undecided major, 18 years old

How's Academic Life?
I'm taking five classes – Spanish, English 102, College Algebra and two gened courses. I really have to hustle to keep up with everything. I'm still trying to decide on a major, but I'm interested in political science.

About me:
- Friends call me “Chey” even though I'm anything but shy
- I’m glued to my MacBook and iPhone 24/7
- I like to listen to music when I’m studying, so I always have my headphones
- I wish I had a car, but do fine getting around by bike and on the bus

What's your Research Process?
In English 102, we have to choose a controversial topic and write an analysis. I chose rising college costs. We are supposed to both scholarly and popular articles that show different perspectives on the topic. I Googled “rising college tuition” and found some good websites. My professor suggested Google Scholar, which had some good articles I can use for my paper, although some of them were kind of dated (from 1990s). She also showed me links in D2L (our course management system) to a few different library search engines.

My challenges:
- I only know the resources shown by my teachers
- I tend to procrastinate and usually need things available right now
- I have trouble finding things that are scholarly, relevant, and current
Personas

Emily Davis
MFA student, creative nonfiction, 26 years old

How's Academic Life?
I love to write about nature and our environment. I'm taking a nonfiction writing workshop and craft seminar – both intensive writing classes! I'm also taking an elective course through the Journalism Department on science writing. I am a teaching assistant for two sections of ENGL 101 this semester and will be teaching ENGL 102 in the fall. Most of my time is focused on writing and prepping for my classes.

About me:
- I worked as a nature guide for the past two years
- I have a Samsung netbook, but it breaks a lot
- I share a house with two other grad students about a mile north of campus

What's your Research Process?
A lot of my research and writing is experiential. I draw from my time spent in nature, but I am also constantly looking for books and articles to use for background information and inspiration. For my MFA thesis I am writing a series of essays about the ecology of the Sonoran Desert. If I know the book I want, I look for it directly in the library catalog. I find the main library search confusing and usually avoid it – there’s so much stuff in there. When I am exploring a topic, I usually go to Amazon to find good books and then enter those into the library catalog to find it or request it through interlibrary loan. I use JSTOR to look for articles. When I can’t find what I’m looking for I go to Ask a Librarian. I read a lot online, but I prefer print whenever I can get it. My eyes get tired pretty easily.

My challenges:
- The main library search engine seems massive and hard to narrow down to what I'm looking for
**Brandon Green**

**PhD student, geosciences, 31 years old**

**How's Academic Life?**

My research looks at frost rings found within pine trees and their links to atmospheric circulation. I've finished most of my classes, so I'm only taking one course related to my PhD minor in global change. But I'm studying around the clock for my comp exams. I'll also defend my dissertation proposal soon, and I'm currently working on my lit review. I hope to be done with my PhD in two years and then find a tenure-track academic position.

**About me:**

- I'm a research assistant, so I spend hours processing tree-ring samples in a lab
- I got my BS and MS in geology from the UMass, Amherst
- My wife and I just had a baby girl 2 months ago, I've barely slept in 2 months!
- I work on a PC desktop at home and in the lab and recently splurged on an iPad

**What's your Research Process?**

Right now I am gathering sources that I need to read for my comps or use in my dissertation proposal. I have an overwhelming stack of stuff to get through, but I still worry that I'm missing important resources – especially since my field is so interdisciplinary. I start by looking at the bibliographies from articles my committee members gave me or from my classes. I'll then search for these citations from the library website. That sometimes works. And my advisor showed me how to use Web of Science to find a key article and look to see what it cited and what articles have subsequently cited it. I find that pretty useful, but I have to sort through a lot of stuff.

**My challenges:**

- Getting to articles off campus can be a pain
- Sometimes I find articles the library doesn’t have, but I really need for my research
Personas

Renee Johnson
Asst. Professor, math education, 41 years old

How’s Academic Life?
I am an assistant professor in Teaching, Learning and Sociocultural Studies. My research focuses on equity and social justice issues in mathematics education. I’m crazy busy, but I love my work! I teach an undergraduate course on teaching mathematics to children and a graduate-level research methods course. This summer, I’m piloting an outreach program for elementary school teachers on teaching math through percussive dance. If it goes well, I’m hoping to find a grant or other funding to make it an ongoing program.

About me:
- I have a PhD in Curriculum, Teaching, and Educational Policy with an emphasis on elementary math education
- I studied classical ballet up through college and love all forms of dance
- I do most of my work on my Dell laptop and have a Samsung Galaxy phone

What’s your Research Process?
A lot of the time I’m looking for articles for either my own research or to share with my students. Sometimes I know what I’m looking for, but often I’m just trying to keep up with my field or looking for everything by a particular author. I’d love to use the library as my primary search tool, but I don’t find it intuitive enough and it often is missing key resources. I usually find articles in Google Scholar, and I like that I can easily track citations (even my own!) and save things to “my library.”

My challenges:
- I want to use library search tools, but am not confident that they have all the seminal articles in my field
Scenarios

1. Find an image to use in the presentation.
2. Find maps of the region involved in the conflict.
3. Find a primary source relating to the reasons for the war.
4. Find a scholarly article about the war.
5. Find an ebook with at least a chapter on the conflict.
6. Find a dissertation about the war.
7. Find a short chronology of the conflict.
8. Find a government document related to the conflict.
10. Find a summary of the conflict, giving important locations, dates, governments, and persons involved.
Exercise #1: User Journey Mapping

How are users getting to resources in your libraries?
Map user journeys for a particular library.

Discuss perceived issues.
Be back by 3:00pm
Evaluating the User Experience
Methods

- Heuristic evaluation
- User interviews & focus groups
- Usability testing (my personal fave)
- Also…
  - A/B testing
  - Card sorting
  - Information architecture validation testing
  - Web analytics
  - And more!
Heuristic Evaluation

“…involves having a small set of evaluators examine the interface and judge its compliance with recognized usability principles (the ‘heuristics’).”

~ Nielsen Norman Group
Example: Error Prevention

Prevent problems from occurring in the first place, or check for them and present users with a confirmation option before they commit to the action.

- Spell-check ("did you mean…?")
- Something useful happens when there are no search results
- What else?
Don't make me think: a common sense approach to Web usability
by Krug, Steve
2006, 2nd ed.

The second edition of this classic adds three new chapters that explain why people really leave Web sites, how to make sites usable and accessible, and the art of surviving executive design whims.

Source: UA Library Catalog
Publisher: New Riders Pub
Pages: xii, 201
Date: 2006
Edition: 2nd ed.
ISBN: 0321344758, 9780321344755
Subjects: Web sites, Web site development, Writing, Data Display, User-Computer Interface, Publishing, Internet, Design
Language: English

Summary
Five years and more than 100,000 copies after it was first published, it's hard to imagine anyone working in Web design who hasn't read Steve Krug's "instant classic" on Web usability, but people are still discovering it everyday. In this second edition, Steve adds three new chapters in the same style as the original: way and entertaining, yet loaded with insights and practical advice.

Don't be surprised if it completely changes your views.
<table>
<thead>
<tr>
<th>Screenshot</th>
<th>HEURISTIC</th>
<th>SEVERITY</th>
<th>NOTES</th>
<th>RECOMMENDATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Screenshot" /></td>
<td>Flexibility and efficiency of use</td>
<td>1</td>
<td>Relevance is a link, but not clear what it would take you to. A drop-down would be more consistent with other search interfaces.</td>
<td>Make the link a drop-down of options</td>
</tr>
<tr>
<td><img src="image2.png" alt="Screenshot" /></td>
<td>Match between system and the real world</td>
<td>2</td>
<td>This looks like a play button for a video, what's up with that.</td>
<td>This takes you to the material. Unnecessary, since the link takes you there. Remove it.</td>
</tr>
</tbody>
</table>
Exercise #2: Begin a Heuristic Evaluation

Use the checklist in your packets

Go to your own instance of a discovery system, or select one of your choice

End by 3:15
User Interviews & Focus Groups

• Ask open-ended questions.
• Explore the big picture.
• Discover trends and patterns.
• Define your audience & their tasks.
Questions You Could Ask

• Tell us about your research process. Where do you start? What tools do you find most useful, and why?
• What was the last research paper you wrote? How did you go about completing the assignment?
• Do you use Google Scholar? What is most useful about it?
What we like about the library:
- energy and study spaces
- the silence
- checking out books and computers
- group study rooms
- Size - tutorials

What we don't like:
- study rooms always busy
- for research, hard to know where to start
- Old articles
- Book locations don't make sense
What You Might Discover

- They recognize the value in library databases but have trouble with the website
- They search with particular databases because a faculty member of librarian once showed them how to use it
- They use Google Scholar over your discovery tool due to ease of use and better search results
- Citation management is really important
Planning a Usability Test
What is Cheyenne trying to do?

Tasks for Usability Testing

- Find a scholarly article on a topic
- Find a textbook based on a title
- Find an article based on a citation
Tasks:

What you want the user to do
(for your eyes only)
Scenarios:

What you tell them to do
(for participant)
Test What You Can Fix (First)
Translate Tasks into Scenarios (What You Will Tell the User to Do)

<table>
<thead>
<tr>
<th>Task</th>
<th>Scenario</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find an article</td>
<td>You need to find a scholarly article about legalizing marijuana. See if you can find a useful article using this search tool.</td>
</tr>
<tr>
<td>Request a book through interlibrary loan</td>
<td>You need to get this book, <em>Designing the Search Experience</em>. How would you go about getting the book?</td>
</tr>
</tbody>
</table>
## Controlled vs. Broad Tasks

<table>
<thead>
<tr>
<th>Controlled</th>
<th>Broad</th>
</tr>
</thead>
<tbody>
<tr>
<td>You want to find books on Philosophy.</td>
<td>You want to find books on a topic related to your major.</td>
</tr>
<tr>
<td>You have an assignment to find 2 scholarly articles.</td>
<td>Find articles that would help you complete a current assignment.</td>
</tr>
</tbody>
</table>
### Known Item vs. Open Ended Tasks

<table>
<thead>
<tr>
<th>Known item</th>
<th>Open ended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find Kristina Halverson’s book: <em>Content Strategy for the Web</em></td>
<td>Find books on content strategy.</td>
</tr>
<tr>
<td>Find the article, “Developing a Content Strategy for an Academic Library Website”</td>
<td>Find articles on content strategy.</td>
</tr>
</tbody>
</table>
## Other Types of Tasks

<table>
<thead>
<tr>
<th>Type of task</th>
<th>Description of task</th>
</tr>
</thead>
<tbody>
<tr>
<td>Explorative search</td>
<td>Search for topic ‘de bello gallico’</td>
</tr>
<tr>
<td>Refinement of search</td>
<td>Narrowing down to content type ‘books’</td>
</tr>
<tr>
<td>Other functions</td>
<td>Sorting according to ‘year of publication’</td>
</tr>
<tr>
<td>Other functions</td>
<td>Printing of list of results</td>
</tr>
<tr>
<td>Targeted search</td>
<td>Search for specific book</td>
</tr>
<tr>
<td>Other functions</td>
<td>Saving of result</td>
</tr>
<tr>
<td>Targeted search</td>
<td>Search for specific eBook</td>
</tr>
<tr>
<td>Targeted search</td>
<td>Search for specific ISBN</td>
</tr>
<tr>
<td>Other functions</td>
<td>Selection of a citation format and email dispatch</td>
</tr>
<tr>
<td>Explorative search</td>
<td>Narrowing down to ‘academic publications’</td>
</tr>
<tr>
<td>Refinement of search</td>
<td>Narrowing down to topic ‘history’</td>
</tr>
<tr>
<td>Refinement of search</td>
<td>Narrowing to year of publication ‘from 2010’</td>
</tr>
<tr>
<td>Other functions</td>
<td>Use of preview function</td>
</tr>
<tr>
<td>Other functions</td>
<td>Preservation of search criteria</td>
</tr>
<tr>
<td>Other functions</td>
<td>Use of RSS feed</td>
</tr>
<tr>
<td>Refinement of search</td>
<td>Narrowing to material type ‘film’</td>
</tr>
</tbody>
</table>
Define Success

<table>
<thead>
<tr>
<th>Task</th>
<th>Success is...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Find Kristina Halverson’s book: <em>Content Strategy for the Web</em></td>
<td>Participant identifies the call number and location of this book.</td>
</tr>
<tr>
<td>Find the article, “Developing a Content Strategy for an Academic Library Website”</td>
<td>Participant accesses the full text of this article.</td>
</tr>
</tbody>
</table>
Gather Incentives
Pick a Device
Identify Other Technology & Software (Maybe)

Jing Project

Silverback

MORAE

102
Exercise #3: Create a Usability Testing Plan

Use the template in your packets. Think about how to plan a usability test at your own institution.

Until 3:35pm
Conducting a Usability Test
Let Them Know It’s for a Good Cause and Won’t Take Much Time

Do you have a few minutes to help us improve our website?
Initial Interview

• Affiliation?
• Major/discipline?
• Research experience?

(Technical & domain knowledge)
Introduce the Test

• We want to improve the website.
• You can’t do anything wrong.
• Talk out loud, it will help us a lot.
Talk Aloud Method

- Participants explain what they are doing and why.
- Retrospective review is an alternate method.
Facilitate the test. Keep them talking.

What are you thinking?
Is that what you expected to see?
Manage Their Emotions. Keep Them Happy.

I’m feeling lost...

Oh, crap...

This is very helpful.
Good Facilitation is Key

- Ask clarifying questions
- Manage their emotions
- Remain neutral
- Don’t guide them
- Use good judgment
Taking Useful Notes

- Tasks/scenarios
- Navigation paths
- Number of attempts
- Ultimate success/failure
- Time on task (maybe)
- User comments
- Your own insights
Exercise #4: Conduct a Test

Get in groups of 3, and rotate:
- 1 persona/participant,
- 1 facilitator, and
- 1 note taker.

(or, work with one other person. One of you starts by playing the role of a persona. The other facilitates and conducts notes for a test).

End by 4:00
Don’t Freak Out. Don’t Blame the User.
Debrief Right Afterwards

I was surprised when…
Focus on the Most Serious Problems
Focus on the Problems Easiest to Fix

What’s the *smallest* change we can make *right now* to smooth over this problem for *most* people?
Easy Fix: Changing a Label
Harder Fix: Metadata Problems

Google Scholar Metrics for Publications
by Jacsó, Péter
Online Information Review, 08/2012, Volume 36, Issue 4
Purpose - The purpose of this paper is to review the software and content features of the Google Scholar Metrics (GSM...)

Journal Article: Full Text Online

Google Scholar Metrics for Publications
by Péter Jacsó
Online Information Review, 07/2012, Volume 36, Issue 4
Purpose - The purpose of this paper is to review the software and content features of the Google Scholar Metrics (GSM...)

Journal Article: Full Text Online
## Normalizing Data

<table>
<thead>
<tr>
<th>Final Standardized Categories</th>
<th>Participants who used this Category</th>
<th>Total Cards In This Category</th>
<th>Unique cards</th>
<th>Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>22</td>
<td>199</td>
<td>38</td>
<td>0.24</td>
</tr>
<tr>
<td>Resources</td>
<td>21</td>
<td>189</td>
<td>40</td>
<td>0.23</td>
</tr>
<tr>
<td>Help</td>
<td>19</td>
<td>150</td>
<td>37</td>
<td>0.21</td>
</tr>
<tr>
<td>Information</td>
<td>18</td>
<td>142</td>
<td>37</td>
<td>0.21</td>
</tr>
<tr>
<td>Research</td>
<td>17</td>
<td>142</td>
<td>24</td>
<td>0.35</td>
</tr>
<tr>
<td>About</td>
<td>16</td>
<td>129</td>
<td>26</td>
<td>0.31</td>
</tr>
<tr>
<td>General</td>
<td>12</td>
<td>114</td>
<td>39</td>
<td>0.24</td>
</tr>
<tr>
<td>Account</td>
<td>12</td>
<td>31</td>
<td>11</td>
<td>0.23</td>
</tr>
</tbody>
</table>
Analyzing and Visualizing: Similarity Matrix
Analyzing and Visualizing: Agreement Dendogram
Decoding Recorded Tasks

### Table 1: Table of Task Results

<table>
<thead>
<tr>
<th>User #</th>
<th>Time</th>
<th># of Errors</th>
<th># of Clicks</th>
<th>Seeks Help</th>
<th>Facial expressions, gestures</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Task 1</strong></td>
</tr>
<tr>
<td>1</td>
<td>5:32</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>relaxed</td>
<td>Impressed w/ site databases</td>
</tr>
<tr>
<td>2</td>
<td>5:03</td>
<td>na</td>
<td>na</td>
<td>shy</td>
<td></td>
<td>Site overwhelming</td>
</tr>
<tr>
<td>3</td>
<td>2:34</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>relaxed</td>
<td>Went to Ask a Librarian</td>
</tr>
<tr>
<td>3</td>
<td>1:40</td>
<td>0</td>
<td>5</td>
<td>No</td>
<td>smiling</td>
<td>Looks at facilitator often</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Task 2</strong></td>
</tr>
<tr>
<td>1</td>
<td>3:85</td>
<td>3</td>
<td>9</td>
<td>No</td>
<td>relaxed</td>
<td>Slow download time</td>
</tr>
<tr>
<td>2</td>
<td>2:43</td>
<td>2</td>
<td>6</td>
<td>No</td>
<td>intense</td>
<td>Doesn’t change search criteria</td>
</tr>
<tr>
<td>3</td>
<td>1:40</td>
<td>0</td>
<td>5</td>
<td>No</td>
<td>smiling</td>
<td>Looks at facilitator often</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td><strong>Task 3</strong></td>
</tr>
<tr>
<td>1</td>
<td>1:42</td>
<td>2</td>
<td>4</td>
<td>No</td>
<td>hesitant</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>4:03</td>
<td>5</td>
<td>9</td>
<td>No</td>
<td>lost</td>
<td>Takes a while to get to first click</td>
</tr>
<tr>
<td>3</td>
<td>2:03</td>
<td>1</td>
<td>5</td>
<td>No</td>
<td>hesitant</td>
<td>Index search, back to homepage, tries to find once</td>
</tr>
</tbody>
</table>
Reports and Recommendations

Our Recommendations

Based on user responses to difficulties during testing, Group One offers the following recommendations:

1. use language consisted with users’ expectations
2. provide indexical cues to draw users’ attentions to important links, and
3. incorporate appropriate images to support textual links

We believe that most of the problems encountered during testing were related to these three issues, which directly impede the site’s effectiveness as a research tool for new users. While our testing sample is only three users, we cannot say conclusively that these users are representative of the much larger new-user population. However, we do offer that the experiences of these three participants can reveal much about the site’s usability. Below are more detailed explanations of our recommendations.
Mocking Up Changes

- Article Quicksearch
- Books – catalog search
- eJournals – journal title starts with
- Videos
- Our Website
- Hours
- Calendar widget – events
- Study rooms & PCs
- Other Locations Link
- News, general info, events, etc.
- Links to lots of additional library content (still TBD)
- Site map/index - additional ways to find content, not just a list of headings

- My account (sign on goes to redesigned landing page for all services)

- Small Match UCF main site

- Consistent on internal and external sites

- Update the UCF Libraries brand

- Meaningful and informative use of icons
Figuring Out What to Change

● What needs to change and where?
  ○ Terminology ([Library Terms that Users Understand](#))
  ○ Branding
  ○ Order/layout
  ○ Representation on library site
  ○ Representation on other sites
  ○ More substantial changes

● Who can make the changes
  ○ WSD admin
  ○ Web editor
  ○ Vendor
  ○ External Web Editor
Exercise 5: Planning Changes

What changes would you make based on your own experience? What type of changes do you anticipate wanting to make in the future?

1. Brainstorm what tests to use.
2. Come up with 3 prioritized ideas of what to change.
3. Outline who would be involved in the change.
4. Sketch a mock up of changes.
Exercise 6: Show and Tell

Ever wonder what the other guy can change in their discovery service? Is it easier or harder than what you go through?

Log in to your backend admin and demo how to:

1. Change colors and logos
2. Change facet order and labels
3. Change contents included in your index
Final Discussion

- What changes have you already made to improve the user experience with your discovery system?
- What remains our biggest UX challenge when it comes to discovery?
- How does the discovery vendor you have affect the changes you can make?
- What is the future of discovery; what is next?