User-Centered Collaboration for Archival Discovery

Session 403 / #s403
SAA 2017
Portland, Oregon
User-Centered Collaboration for Archival Discovery

10:00 - 10:30 Presentations

- Archival Discovery at NYU
- ArchivesSpace Public User Interface
- ArcLight

10:30 - 11:00 Facilitated group discussion
Presenters and Facilitators

**Chair:** Mark Matienzo, *Collaboration & Interoperability Architect, Stanford University Libraries*

James Bullen, *Founder, Hudson Molonglo*

Wendy Hagenmaier, *Digital Collections Archivist, Georgia Institute of Technology*

Emilie Hardman, *Research, Instruction, and Digital Initiatives Librarian, Harvard University*

Susan Pyzynski, *Associate Librarian of Houghton Library for Technical Services, Harvard University*

Mike Shallcross, *Assistant Director for Curation, University of Michigan Bentley Historical Library*

Sally Vermaaten, *Manager, Archive Solutions, Gates Archives*
Archival Discovery at NYU
Finding Aids ‘Bridge’

Sally Vermaaten
Gates Archive
2013 - Methods

- Literature review
- Ideation workshop and affinity grouping
- Peer system assessment
- High-level requirements
- Personas (started)
Proof of concept
Prioritizing discovery with other system needs

1. Archival search and browse - Blacklight
2. Collection management - ArchivesSpace
3. Request and workflow management - Aeon
4. Special collections discovery - ???
Bridge to a better user experience
Methods - Heuristic evaluation

<table>
<thead>
<tr>
<th>Heuristic</th>
<th>Description</th>
<th>Questions</th>
</tr>
</thead>
</table>
| H2 Language | The interface should speak the users’ language, with words, phrases, and concepts familiar to the user rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order. | Q1: Is the language used on the site easy to understand?  
Q2: Is the terminology consistent, both within the Archival Collections Finding Aid and compared with BIBCO? |
| H3 User Control | Users often choose interface functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Supports undo and redo. | Q1: When the user makes errors, is it easy to exit the unwanted state without going through unnecessary dialogue? |
| H4 Cognitive Load | The user should not have to remember information from one part of the dialogue to another. Instructions for the use of the system should be visible or easily retrievable whenever appropriate. | Q1: Are actions, options and objects always visible without the user having to remember them? (e.g. list of previous searches). |
| H5 Flexibility & Efficiency | Accelerators improve efficiency for interactions performed frequently (e.g. redo a previous search). | Q1: Are accelerators used on the site? |
| H6 Aesthetic | Dialogues should not contain information that is irrelevant or rarely needed. | Q1: Is irrelevant or unnecessary information minimized? |
| H7 Errors | Dialogues should not contain information that is irrelevant or rarely needed. | Q1: Are errors prevented by confirmation options?  
Q2: Are error messages constructive and in plain language? |
| H8 Help | Error messages should be expressed in plain language (no codes), indicate the problem precisely, and suggest a solution constructively. | Q1: Is help documentation easy to find and focused on the task at hand?  
Q2: Does it contain concrete steps, and is it not too large? |

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Severity Distribution of Issues per Heuristic Category

<table>
<thead>
<tr>
<th>Heuristic</th>
<th>Number of Issues Identified</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1 (11)</td>
<td>1 1 1 2 0 1 1 1 1 1</td>
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<tr>
<td>H2 (9)</td>
<td>3 4 2 1 0 2 1 3 9</td>
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<tr>
<td>H3 (3)</td>
<td>4 4 0 2 2 1 0 0 3</td>
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<tr>
<td>H4 (6)</td>
<td>3 0 0 0 0 1 0 1 1</td>
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<td>H5 (2)</td>
<td>1 1 1 1 1 1 1 1 1</td>
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<td>H6 (4)</td>
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<td>H7 (3)</td>
<td>1 1 1 1 1 1 1 1 1</td>
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<tr>
<td>H8 (5)</td>
<td>1 1 1 1 1 1 1 1 1</td>
</tr>
<tr>
<td>H9 (14)</td>
<td>1 1 1 1 1 1 1 1 1</td>
</tr>
</tbody>
</table>

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specialcollections.library.nyu.edu | https://github.com/NYULibraries/findingaids | Sally Vermaaten
Methods - Wireframing and feedback
Prioritizing discovery with other system needs

1. Archival search and browse ✔
2. Collection management - ArchivesSpace
3. Request and workflow management - Aeon
4. Special collections discovery - ???
2017 - Special Collections Discovery System
Takeaway #1

Where possible, share your user assessment data, system evaluations, design artefacts, as well as code. Seek to build on the work of others rather than re-inventing wheels.
Takeaway #2

Identifying and documenting user needs can be both an input into and impetus for software development and improvement projects.
Takeaway #3

Consider proof-of-concept approach and incremental, phased roll outs of different components.
ArchivesSpace Public User Interface
User Requirements and Assessment

susan pyzynski
associate librarian for technical services
houghton library, harvard university

emilie hardman
research, instruction & digital initiatives librarian
houghton library, harvard university
Beginning the Design Process, 2015

- ArchivesSpace starts the process to create a new PUI
- Mark Custer (Yale) agrees to lead the membership driven process
- May: a first call for volunteers goes out, a 14 member working group is formed
- Cherry Hill chosen as the design firm
- June: the PUI Enhancement Working Group has first virtual meeting, design process runs through December 2015
ArchivesSpace PUI Design Working Group

Mark Custer, Yale University, Chair

Susan C. Pyzynski, Harvard University
Linda Hocking, Litchfield Historical Society
Susan Luftschein, Univ. of Southern California
Maura Carbone, Brandeis University
Matt Francis, Penn State University
Mariella Soprano, Calltech
Dara Flinn, Rice University
Cate Putrirsksis, Ohio State University
Scott Schwartz, University of Illinois
Cory Nimer, Brigham Young University
Krista Ferrante, MITRE Corporation
Claryn Spies, Yale University
Elisa Piccio, Caltech
Jessica Dowd Crouch, Univ. of South Carolina
Collaboration

- Virtual meetings every two weeks with the working group and Cherry Hill
- Used GoToMeeting and Slack for the collaborative design process
- Careful documentation of design and decision-making through a public wiki https://archivesspace.atlassian.net/wiki/spaces/ADC/pages/66355216/Design+Phase
- Sought outside comments and contributions
- Reviewed and integrated all past functionality requests from members
First Round of User Testing

- Determined we should incorporate user testing of original ArchivesSpace front end in design process
- Harvard, Rice, and Yale performed user testing in conjunction with Cherry Hill
- Results were incorporated in the final Cherry Hill design
- Decided to do continuous user testing during the development phase of the PUI
User Testing: PUI Development Phase

- Development phase runs January 2016–June 2017
- Smaller Development Group formed: members from ASpace/Lyrasis, Hudson Molongo, Yale, Harvard
- Harvard volunteers to take the lead in user testing
- User testing carried out: July–November 2016
- Incorporation of test results into development process and decisions
“From the moment I saw the site I was automatically like I’m going to be frustrated and, here, exactly, it’s just not giving me the right details.”
UX at Harvard

User Research Center (2 FTE, including Senior Consultant)

Trained User Experience Consultants embedded in 7 functional areas through Library
Methods

Moderated task-based usability testing
Unmoderated task-based usability testing
Guided Site Interviews
Card Sort
Modified Card Sort/Vocabulary-generating exercise
From Recommendations:

For future development, it may be useful to think about ways that users can interact with the data in ways that offer them more personal and directly useful ways to sort and resort, filter, expand, and further explore.
ArcLight

illuminating archives

Mark A. Matienzo / @anarchivist / 28 July 2017
Collaboration & Interoperability Architect, Stanford University Libraries
For more information, visit http://bit.ly/arclightproject
Description and objectives

- Project initiated by Stanford University in 2014 to address a long-standing interest in discovery/delivery of information in archives
- Support discovery of physical and digital objects
- Compatibility with and intended for integration with other systems, e.g. ArchivesSpace and Hydra-based repositories
- Development, enhancement, and maintenance by the Blacklight/Hydra communities
- Maintain a community focus throughout the project
The ArcLight design process

- Process led by 2 UX designers in Stanford Libraries’ Digital Library Systems & Services group (Gary Geisler and Jennifer Vine)
- Followed a model for user-centered design developed and refined over time (see DLF 2014 presentation)
- Community-oriented, collaborative design process was an intentional choice and existed from the beginning
  - Informed by Stanford’s participation in open source projects
  - Opportunity for other institutions to identify needs and participate in work
  - Build interest and identify potential commitments for software development
Design process contributors

**Individuals**

Gary Geisler, Stanford University Libraries  
Wendy Hagenmaier, Georgia Tech  
Nabeela Jaffer, University of Michigan  
Mark Matienzo, Stanford University Libraries  
Sarah Newhouse, Chemical Heritage Foundation  
Kayla Ondracek, University of Michigan  
Chris Powell, University of Michigan  
John Rees, National Library of Medicine  
Mike Shallcross, University of Michigan  
Jennifer Vine, Stanford University Libraries  
Laura Wilsey, Stanford University Libraries

**Institutions**

Bentley Historical Library (University of Michigan)  
Chemical Heritage Foundation  
Columbia University  
Georgia Tech  
Getty Research Institute  
Indiana University  
National Library of Medicine  
New York University  
Pennsylvania State University  
Rockefeller Archives Center  
Stanford University  
United States Holocaust Memorial Museum  
Yale University

Design process components

**Discovery**
- Phase 1: Environmental scan, Stakeholder goals, Interview planning
- Phase 2: Archivist interviews, End-user interviews, Interview analysis

**Information Architecture**
- Phase 1: User needs, User personas, Requirements prioritization
- Phase 2: Conceptual models, Conceptual sitemaps, Wireframes

**Visual Design**
- Phase 1: Visual design mockups, Visual design style guide

Timeline:
- Nov 2014
- Feb 2015
- May 2015
- Summer 2016
- Oct 2016
- Nov 2016
- Jan 2017
- Feb 2017
- Mar 2017
- Apr 2017
- Jun 2017
Tracing user needs

- Idea/need: provide delivery of digital objects in context of description
- Environmental scan: investigate existing implementations and encoding practices
- Interview questions
  - Archivists
    - What proportion of [your repository’s collections] are digital archives or have some digital content?
    - Do you have requirements for linking finding aids to digital content? Do you currently do this? How?
    - How would like to see links to digital objects instantiated? In other words, if your finding aid links to a digital image, how would that digital image be displayed? What about other media types?
  - Researchers
    - How important to you is access to the digital content in an archival collection?
    - Do you choose an archival collection based on whether it includes digital content?
Tracing needs: interviews

Sample quotes from interview analysis on user needs

ArcLight, to the extent that it's feasible, we want to give the user access to the digital objects within ArcLight… Pretty straightforward for something like images, even for video… Even an embeddable viewer… at some point. *(Archivist)*

I think the distinctions [where content is stored] are important for us … for knowing where things are, especially if there is a reprocessing project or we need to verify something. That's what we use our current collections management database for… But probably I feel researchers don't care where things live as long as they can have access to them *(Archivist)*

ArcLight probably can't have an embeddable viewer, accomplish delivery of every file format. The great thing about finding aids, is we have this link. For the most part, for crawls and [digital repository], [you] probably get a better view. *(Archivist)*

[Access to digital content is] super important if I can't come to the archive. Even if I have the money to go to an archive, I'm only going to look at the stuff that isn't digitized. *(Researcher)*

The other issue, I do think when things are digitized it's easy for them to… get the sense that they're not in a continuum next to other things or in folders or together in a way. Sometimes, it's very crucial how things are or left or either reorganized or whatever it is. The things that are nearby. *(Researcher)*

### Tracing needs: personas

**ArcLight Administrator Persona**

- **Name:** Marie Garza
- **Role:** Systems Analyst
- **Context:** A rule-based system developer at a major research institution.

**Description:** Marie is an experienced systems analyst with a deep understanding of user needs and behavior. Her role involves working closely with stakeholders to ensure that the developed systems meet their requirements.

**Tracing needs:**
- Stakes and goals: Marie needs to understand the users' needs and prioritize them effectively.
- Tracing needs: Marie needs to trace the requirements and ensure they are met.

**Nancy Varza**

- **Role:** Administrative Assistant

- **Context:** A rule-based system developer at a major research institution.

- **Description:** Nancy is a seasoned technical writer who helps in communicating the requirements to the stakeholders.

- **Tracing needs:**
  - Stakes and goals: Nancy needs to ensure that the requirements are clearly communicated.
  - Tracing needs: Nancy needs to verify the requirements are understood and met.

**ArcLight Advanced Researcher Persona**

- **Name:** Anne Chandler, PhD
- **Role:** Associate Professor
- **Context:** A research university professor studying human-computer interaction.

- **Description:** Anne is a renowned researcher in the field of human-computer interaction, with a focus on user-centered design.

- **Tracing needs:**
  - Stakes and goals: Anne needs to ensure that the research meets the expectations and requirements of the users.
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**Cynthia Roy**

- **Role:** Management and Design Specialist

- **Context:** A management and design specialist at a major research institution.

- **Description:** Cynthia is a management and design specialist who works closely with stakeholders to ensure the projects meet their needs.

- **Tracing needs:**
  - Stakes and goals: Cynthia needs to ensure that the projects meet the expectations and requirements of the users.
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**ArcLight Administrator Personas**

- **Name:** Edward Johnson
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## Tracing needs: requirements

<table>
<thead>
<tr>
<th>1.45</th>
<th>1. Core Discovery</th>
<th>UI features</th>
<th>Display/link digital material at various levels: item, folder, series, and/or collection</th>
<th>1 - Must have</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.61</td>
<td>1. Core Discovery</td>
<td>UI features</td>
<td>When components of archival collections and digital objects are presented, display a core set of descriptive and administrative metadata (including collection, series, sub-series, item, etc.) to maintain context and provenance of materials</td>
<td>1 - Must have</td>
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<tr>
<td>6.8</td>
<td>6. Digital objects</td>
<td>Integrated delivery</td>
<td>Display of AV in context of description</td>
<td>1 - Must have</td>
</tr>
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<td>6.9</td>
<td>6. Digital objects</td>
<td>Integrated delivery</td>
<td>Display of images in context of description</td>
<td>1 - Must have</td>
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<tr>
<td>6.13</td>
<td>6. Digital objects</td>
<td>Integrated delivery</td>
<td>Support for user access to digital content</td>
<td>1 - Must have</td>
</tr>
<tr>
<td>6.15</td>
<td>6. Digital objects</td>
<td>UI features</td>
<td>Clearly communicate the level (collection, series, sub-series, item, etc.) of description for digital objects</td>
<td>1 - Must have</td>
</tr>
<tr>
<td>6.16</td>
<td>6. Digital objects</td>
<td>UI features</td>
<td>Display metadata about the digital object that comes from the archival component (not necessarily the digital object), and does so in a way that allows for a predefined portion or all the metadata to display</td>
<td>1 - Must have</td>
</tr>
<tr>
<td>6.19</td>
<td>6. Digital objects</td>
<td>UI features</td>
<td>Preview digital content with thumbnails</td>
<td>1 - Must have</td>
</tr>
<tr>
<td>1.13</td>
<td>1. Core Discovery</td>
<td>Discovery</td>
<td>Bring together elements of the archival collection that might be in different silos (i.e., a Hydra repository, an Archive-It web archives collection, email in ePADD, etc.).</td>
<td>2 - Should have</td>
</tr>
</tbody>
</table>
Tracing needs: wireframes

Initial design

Revised design

Tracing needs: implementation

https://arclight-demo.projectblacklight.org/
Observations

- Valuable to get early and frequent input on designs
- Overhead of collaboration sometimes slows things down; requires additional coordination
- Some parts of design process require deep UX or design expertise
- Fear of design by committee mitigated by demonstrating leadership while making adequate space for critical feedback
- Being heavily community-focused allowed for greater engagement and built more excitement

Thank You!

Mark A. Matienzo / @anarchivist / 28 July 2017
Collaboration & Interoperability Architect, Stanford University Libraries
For more information, visit http://bit.ly/arclightproject
Group discussion ground rules

- Only one person should speak at any given time
- Move up/Move up (switch your speaking and listening habits)
- No one knows everything; together we know a lot
- We can’t be articulate all the time
- Education, not argumentation
- Be mindful of time
- Discussion held under Chatham House Rule: https://www.chathamhouse.org/about/chatham-house-rule
Discussion Questions

State of archival discovery

- How would you describe archival discovery at your current institution?
- What works well with your current archival discovery implementation? What helps your users to discover archival materials?
- What are the weaknesses with your archival discovery implementation or what do you want to improve? What challenges do users face in discovering archival materials?

User centered design and user assessment

- How do you see using user assessment/collaborative work as a way to address that?
- What are the challenges to doing that in your institution?
- What are the weaknesses of using a user-centered approach?
- How do you think about your users? Who are and aren’t your users? Who are you designing for?
- Are there tools/techniques that would make it easier to lower the barrier to using user-centered design processes?

Collaborative work

- How has your department collaborated with other departments or institutions in the past?
- What are the barriers and opportunities you see to working collaboratively across institutions?