

Usability Findings for Archives at Yale: ArchivesSpace Public User Interface

Report completed on March 7, 2018 by Yale PUI Usability and Accessibility Workgroup :
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INTRODUCTION

The Usability and Accessibility Workgroup (UA Workgroup) of the Yale ArchivesSpace Public User Interface (PUI) Implementation Team was tasked with assessing the usability and accessibility of the new ArchivesSpace PUI which will replace the current Yale Finding Aid Database (YFAD). The UA Workgroup chose to conduct qualitative facilitated usability tests following the model laid out by Steve Krug in *Rocket Surgery Made Easy*.¹

Usability tests were conducted between February 1, 2018 and February 16, 2018 in the TEST instance of the PUI (puitestarchivesspace.library.yale.edu) running on ArchivesSpace version 2.2.2.

DEFINING THE “USER”

The target audience for the PUI was defined at the onset of the project in consultation with the PUI team leads and the project manager. The target audience includes five user groups:

1. Undergraduate students
2. Graduate students
3. Yale faculty
4. Outside researchers
5. Yale University Library (YUL) staff

The UA Workgroup determined that the average user will also have a minimal familiarity with archives and special collections. Earlier user tests with a wide range of undergraduate students, including novice users, showed that users lacking basic familiarity with archival research can only provide minimal feedback on site usability and user experience for targeted searching. Therefore, test participants were recruited in each of the five user groups and were required to have at least some archival research experience. Test participants were recruited from individuals on Yale’s campus (including visiting researchers) so most were familiar with the Yale Finding Aid Database and/or Orbis or Quicksearch.

Participants with accessibility needs were also recruited to test the site with screen readers to address WCAG 2.0 accessibility requirements and to include the perspective of people with disabilities in order to create an inclusive design. Inclusive and universal design means creating

¹ Krug, Steve. *Rocket Surgery Made Easy*. (Berkeley: New Riders, 2010)

an environment, digital or otherwise, that can be used by *everyone*. For example, the use of captions or transcripts in audio/visual material can benefit not just those with a hearing impairment, but also those for whom English is not a primary language, or a student who simply wishes to view materials without disturbing others. Designing for accessibility does not mean designing only for a specific population. In fact, accessible design often improves usability for everyone.

METHOD

Test facilitators met with each participant in a private room² and asked the participant to use their own computer to run through three tasks designed to test the basic functionality of the site.

Test facilitators read from a script and asked participants to “think out loud” throughout the test. During the tests, Zoom was used to record the voice and on-screen actions of each participant. All participants (excluding YUL employees) were compensated with a \$10 Amazon gift card.

Tasks

Tasks were designed to address the following site functions:

1. Identify the purpose of the site, which institution is represented, and what users think they can do on the site.
2. Find collections relevant to a search topic, subject, name, collection identifier, or date range (or combination thereof).
3. Find known materials within a larger collection.
4. Understand how to access materials and request material for use in the reading room.³

Participants were asked to complete the following tasks:

1. Imagine you are working on a research project about the role of women during the American Civil War and you would like to find resources related to your topic in Yale’s library collections. You have already done some background reading and are looking for primary source materials to review in detail and possibly include in your research. Please use the website to identify one or two items or groups of items that will be helpful. (Reminder: The American Civil War was fought in the United States from 1861-1865).

² One test was conducted remotely.

³ Due to the incomplete Aeon plug-in, the final function above could not be tested. However, we asked users how they would go about requesting material if the plug-in were functional. Additional testing will follow once the plug-in is integrated with the PUI.

2. I'd now like you to research Yale's Berkeley College. A relative of yours attended Yale during the 1940s and was active in student life and team sports in Berkeley College. You've been told that Yale has a scrapbook with newspaper clippings from this time. Can you find anything about this material?
3. I'd like to ask you to use this site for own research purpose. Along the way, please narrate what are finding related to your research, if you're able to discover anything that you might not have known about, or even if you can't find something that you know that we have. Once you have spent some time with the search results, I will ask you to pick something from your search results that you would like to learn more about.

Tests completed

We facilitated 16 tests including:

- 4 Yale undergraduate students
- 5 Yale graduate students
- 2 Yale faculty
- 2 outside researchers (conducting research at the Beinecke Library)
- 3 YUL staff

One test participant used a screen reader. Out of the sixteen tests, two graduate student tests had incomplete data due to technical difficulties with the recordings. These tests are included in findings when the available data applies. There was also one test where the participant unknowingly used the PUI with the "compatibility mode" in Internet Explorer; this impacted the participant's ability to navigate the PUI as well as assess the interface. Usability problems solely attributed to this browser issue have been discounted.

During the test period, Lyrasis began a process of subjects/agents remediation which effected a few tests where the user employed subject-based search. The PUI's grey background was updated to a white background on February 14, 2018, so all tests before this date were conducted with grey skinning and all tests after this date were conducted with white skinning. This may have had an effect on the users reactions to the PUI's visual appearance and on overall accessibility and usability.

ANALYSIS

Results of usability testing have been compiled below, sorted into groups by component or section of the PUI. Recommendations are listed at the end of each section. Most recommendations come from members of the US Workgroup but some recommendations came directly from users. *Critical recommendations, as determined by the UA Workgroup, are highlighted in red.*

Notes on all findings

All users were using the PUI for the first time and all were at least marginally familiar with finding aids. Some were more comfortable searching for collection level records only and were very focused on looking for a recognizable finding aid list. Many users, especially students and outside researchers liked seeing all levels of description in search results. One user said that in some ways, looking at archival components is more useful than finding aids because it has all the information he needs at the top of the page (title of the item, box and folder number, collection information). Over half of users found the site more intuitive and easier to use than YFAD.

As a general rule, users scanned each page from the left, over a few inches, then all the way down first before reading things at top right of page. These results are in line with published eye-tracking studies about how users read web-sites. Studies show that users scan “the page in an ‘F’ pattern, reading a few words at the beginning of each line or paragraph.” Screen-reader users also scan text.⁴

Throughout our usability tests, we found that some language and design elements did not match the user’s mental model.⁵ Based on comments made during usability testing, we infer that users’ mental models were informed by background and education, design of other websites they use, and other Yale Library websites with similar functionality.

Key points of confusion included:

- Search relevancy and search behavior
- “Where is the finding aid?”
- Inherited description from the collection level
- Location of page elements does not match the user’s mental model
- Users were confused by references to digital materials, which is likely to be resolved by upcoming digital materials display enhancements

Notes on Accessibility

Aside from issues noted below (see accessibility issues) a user using a screen reader found the PUI to be “pretty intuitive” overall compared to other discovery tools he’s used previously. Unless otherwise noted, the tab order on pages seems logical.

⁴ Horton, Sarah and Whitney Quesenbery. *A Web for Everyone: Designing Accessible User Experiences*. (Brooklyn, New York: Rosenfeld Media, 2013), 136-137.

⁵ As defined by the Nielsen Norman Group, “a mental model is *what the user believes* about the system at hand.” See <https://www.nngroup.com/articles/mental-models/> for a fuller definition.

Test results and recommendations

1. HOME PAGE

- A. **Unclear which repositories are represented:** There was some confusion about the repositories represented by the site. Most users assumed that the site represented the Beinecke Library with the addition of one or two repositories (Manuscripts and Archives and the Walpole Library). This consistent misunderstanding indicates a lack of specificity in the branding and content of the homepage.
- *This may have resulted from users' limited personal research experience with these repositories, or because they were initially contacted by a team member who works at the Beinecke Library.*
- B. **Descriptive text is helpful but too long and too small:** All users understood the purpose of the site but disliked the content length and sizing
- C. **Text on requesting materials is helpful:** A few users mentioned that this explanation is necessary for users and they liked seeing it up-front.
- D. **Search form is expected to be at the top of the page:** Some users commented that they expected to see the primary search directly below the top navigation bar, consistent with other library search tools like Orbis, Quicksearch, and Findit. The search bar gets lost below the scroll on smaller screens. **This is also an accessibility issue** because a screen reader must go through all of the descriptive text to get to the search form at the bottom of the page.

Recommendations

- *Move search bar to top of the home page*
- Simplify descriptive introductory text and *clearly list participating repositories, (perhaps via a drop-down menu or list)* but keep language about requesting material

2. VISUAL APPEARANCE

- A. **Clean, modern, minimalist look:** Most users commented on the uncluttered, "modern" and "clean" look of the site which gave some users the impression that the site is "more updated" than the current YFAD
- B. **Bland and boring:** Some users like the clean look but thought the design was *too* minimal expecting to see more "pictures and more color."
- C. **White background is preferred to gray:** Those that tested the site with a grey background commented the it looked "boring" or "bland." Users who tested the site after the grey background was removed had only positive comments about the minimalist design.

- D. **Text is too small:** Many users commented that the body text on the home page and in the top navigation bar was too small compared to the Yale logo. The small text size was also a problem throughout the site for the following elements:
 - a. Container and folder numbers not prominent enough
 - b. Breadcrumbs not prominent enough and are hard to read
- E. **Display issue with Internet Explorer in compatibility mode:** None of the site's bootstrap elements work with IE running in compatibility mode (found in one usability test).
- F. **Placement of "request" button not intuitive:** Most users had trouble locating the "request" button expecting it to stand out more from the rest of the page. Two users expected to find it adjacent to the call number, mimicking request links in other Yale library databases.
- G. **No Yale color branding, doesn't look like Yale.**

Recommendations

- *Add "Archives at Yale" and Yale branding*
- *Use larger text size on elements users use the most:*
 - *Container and Folder number*
 - *Breadcrumbs*
 - Intro text
 - Etc.
- *Add override code for Internet Explorer compatibility mode*
- *Consider relocating request button or redesigning for greater visibility*
- Maintain minimalist design and white background
- Possibly add images or other visual interest element to home page

3. **NAVIGATION**

- A. **Difficulty navigating back to the homepage:** Most users struggled to find an intuitive way to navigate back to the home page but many assumed that the Yale icon at the top of the page would behave like a home button. This behavior is somewhat in alignment with other major discovery interfaces at the Library, including [Quicksearch](#), [Findit](#), and [Articles+](#). However, on those sites the large logo on the top left of the page names the service itself, as opposed to just "Yale" as it does here.
- B. **Preference for navigating with the Collection Organization sidebar:** All users used this side-bar to navigate within a collection, but most did not intuitively find it or understand that it could be used to navigate the collection.
 - Most thought default width was too narrow

- Most had trouble expanding the side-bar (the resizable sidebar handle is difficult to find because the location on the left of the sidebar is counter-intuitive)
 - Some thought it was the finding aid
- C. **Use of top navigation bar is limited and confusing:** Only a few users used the links in the top navigation bar to navigate the site. Most users ignored them, didn't notice them, or didn't understand what the links referred to (see [Language and Use of Jargon section](#) below). One user thought that the links would navigate him to specific digital objects, subjects, collections etc. related to a selected resource record.
- D. **Confused about how to start over with a new search:** Whether they wanted to go back to the homepage or start over with a new search, users were confused about how to navigate back without using the back button. All users relied on the back button but many were looking for a quicker way to get to a clean search page.

Recommendations

- *Relabel the Collection Organization sidebar "Navigate the collection"*
- *Find a solution for the narrow default width and/or hard to see resizable sidebar handle on the Collection Organization sidebar*
- Reconsider quantity, purpose, and content of top navigation bar links
- Add a home button to the top navigation bar

4. LANGUAGE AND USE OF JARGON

The following is a list of words that caused confusion, missteps, or other usability issues for users. In many cases jargon or other language does not match the mental model of the user, causing some confusion or discomfort. In some cases misunderstandings result in an inability to complete a task. These misunderstandings are considered the most critical language problems and are highlighted in red.

Term	Locations in PUI	Defined by users as	Usability issue caused
<i>Collection Organization [Critical]</i>	<i>Collection level resource record</i>	<i>≠ Finding Aid</i>	<i>Can't find the "Finding Aid"</i>
Container	Search results, Every resource record	Eventually realize it means "box" but this is not intuitive	Confusion/discomfort

Container Inventory [Critical]	<i>Collection level resource record page</i>	<i>Unclear (for most)</i>	<i>Can't find "Box list"</i>
Creator	Drop down "search by" menu in search bar	Unclear (for some)	Avoidance
Digital Materials	Drop-down "limit to" menu in search bar	Unclear (digitized vs. born digital), Unique from collections	Confusion and avoidance
Digital Objects	Top navigation bar	Unclear (digitized vs. born digital), different from Digital Materials?	Confusion and avoidance
File	Search results, File level resource record pages	Computer file, folder, item (inconsistent)	Confusion about relationship between description and physical items
Notes	Drop down "search by" menu in search bar	Unclear (for all)	Avoidance
Person	Search results	"What qualifies a name a 'person'?"	Confusion about where these linked records will lead
Repositories	Top navigation bar, text throughout	Unclear without further exploration (visible list of repositories)	Confusion and avoidance

Recommendations

- *Consider changing words marked critical above (simplify language or use terms that match the user's mental model)*

- Create a glossary of terms on the Help page and/or use hover text to define words that are also used to navigate the site

5. TOP NAVIGATION BAR

- Confusion about what these links are:** A few users expected dropdown submenus for options on top navigation bar, which would be helpful to preview what else is on those pages without clicking on it. At least one user thought these were filters, or subject/digital materials lists for the collection they were viewing.
- Jargon:** Users were uncertain what “digital objects” or “classifications” meant (See [Language and Use of Jargon section](#) above).
- Some users did not notice top navigation bar.**

Recommendations

- Add hover text to explain links. Perhaps a “what’s this?” kind of link for “digital objects” and “classifications that navigates” to a related topic on the Help page.

6. SEARCHING

- Date range limiter heavily used but with unsatisfactory results:** This was a consistent issue across almost every search. For the American Civil War and Berkeley College scrapbook search, the users made heavy use of the date range feature and were confused to find collections that fell well outside the date range. One user found the presence of the date range limiter on each additional row confusing and didn’t know how it would interact with other search terms.
- Users did not use “Limit to digital materials”:** Many users were confused by the options to limit a search to collections or digital materials and assumed the two were mutually exclusive. Two users chose “limit to collections” but most users did not want to limit their search too much and were confused by the meaning of “digital materials.”
- Users wanted to limit search by repository from the beginning:** A few patrons said they would like this feature.
- Users wanted the option of limiting the initial search by language and format.**
- Users wanted an “Advanced Search” option and liked the “add a line” and “and/or/not” option:** Some users noticed there was no “advanced search” option, although some said later that everything they would want in an advanced search was available on the main search page. Some users made use of quotes, adding additional lines, date range limits, and Boolean searching.

- F. **Some users didn't see the "+" button to add a line:** Users either didn't see this option or didn't know what it meant. On smaller screens, the "+" button gets bumped to the second line.
- G. **Call number search is not intuitive:** Users expected to be able to search for collections by call number without putting the call number in quotes.

Recommendations

- *Investigate date limit feature. It's unclear if it's not working or if patrons just don't understand how it's supposed to work.*
- *Resolve confusion about "limit to collections" and "limit to digital materials."*
- Consider adding to main search options:
 - Limit by repository
 - Search by format
 - Search by language
- Perhaps in the beginning, include a help page, brief video, or another kind of tutorial specifically for experienced YFAD users to explain how they should go about tasks they often did in YFAD in ArchivesSpace.
- Even out the padding between all the fields and drop-down options in the search bar so users perceive that they are all weighed together.

7. FILTERS ON SEARCH RESULTS PAGES

- A. **Used by at least half of users for filtering results:** Once users noticed filters, many found them "very helpful," "excellent," and useful for narrowing an initial search. Two users wanted to be able to select multiple filters at once (using check boxes for example), to speed up the search process.
- B. **Filters are hard to notice on the right side of the screen:** Some users didn't see them at first because they were scanning the results on the left side of the screen. More than one user suggested that it would definitely be helpful to have the filters in the left sidebar rather than the right. YUL's other major discovery interfaces locate filters on the left side of the page, as do many websites like Amazon. This may have influenced user's expectations. Screen readers must read through everything on the left side of the page (all 100 search results) before coming to this section, so right-hand orientation **is also an accessibility issue.**
- C. **Limiting by date is useful:** Users who missed the date limiter in the initial search often thought it was a helpful option to further narrow an initial group of results.
- D. **At least three users used "search within collection" to add filters or date limits.**

Recommendations

- *Move filters to the left side of the screen to match user's mental model, improve web accessibility, and to stay in alignment with other discovery interfaces in the Library*
- Enable selection of multiple filters at once

8. SEARCH RESULTS DISPLAY

- Poor search relevancy and too many results confused users:** Many users were confused by their search results and didn't understand how the search algorithm functioned. Some users blamed themselves for being "bad searchers."
 - Many users wanted more information about the search algorithm.
 - Many users noticed inaccurate name matching and ranking.
 - Too many results cause accessibility issues.
- Users noticed title, call number, and "collection", "series", or "file" label:**
- Users were frustrated that dates do not display in results:** Most users scanned the results list for dates to quickly identify relevant material but were disappointed that dates were not always displayed.
- Users would like to see search terms highlighted or a count of how many times the terms appear:** Most users analyzed search results by scanning the list for relevant keywords or search terms. Many users mentioned that they would like to see their search terms highlighted in each hit in the results list to give them a better idea of why search results are appearing in the list. Sometimes the relevancy wasn't obvious from the search results page.
- Variety of material types in results is helpful (colors are confusing):** Many users noticed that the search results included collection, series, and files, and though this is different than what they are used to, many users, especially undergraduates, graduate students, and outside researchers, liked this new feature. Colors helped "call out" these material types but the color choices confused some users.
- Too many agent record results show up at the top of the list:** Users were confused by Person and Subject records in search results list.
- Breadcrumbs are helpful:** Users like the "Found in" listing in search results page which provides context for each component.
- Some users had difficulty getting back to original search results:** Most users depending on the back button to return to search results or opened selected items in new tabs, to preserve their original searches.
- Heading structure seems to be good:** Enough information is present to be able to determine what the result is with a screen reader.

Recommendations

- *Improve search relevancy and name matching*

- Give users the option to list collections first?
- *Display date range in search results*
- *Limit number of search results per page or enable "# of results to display per page" functionality* like in Quicksearch, so users can limit the number of results displaying per page. It is much easier to navigate fewer search results with a screen reader. This may also resolve existing performance/speed issues.
- *Highlight search terms in results or show how many times search terms appear in each result*
- Suppress agent and subject records from search results

9. RESOURCE RECORD DISPLAY

- A. **Not identifiable as a finding aid/"where is the finding aid?":** Users expected a more intuitive and visible link to a finding aid or finding aid view. Many users searched for the word "finding aid" on the page and were confused. A number of users were confused because they expected to see a box and folder list. Most eventually understood that they were looking at a version of a finding aid but this took some time.
- B. **Repeated scope and content notes at lower levels confused users:** Ten out of fourteen users were confused by collection level description that appears at series or file levels. As a result, users struggled to find what they were looking for because they thought they were looking at the same items again and again. Users often got stuck in a loop where they would click on links in the collection overview sidebar expecting to find more information about the component and would only circle back to the collection overview page with the same description.
- C. **Users assumed child components would be listed on each parent component page:** Many users clicked on series or sub-series level components from the Collection Organization Sidebar expecting to see a list of all child components on that series or sub-series level page. They were confused that these mid-level component records did not include this list. This behavior goes against the user's mental model and makes the user do extra work.
- D. **Requesting materials button is not intuitive:** Some users were confused about how to request materials because the request button location was not where they expected it to be. The request button is not on every level of description which confused some users.
- E. **Breadcrumbs are helpful but not immediately noticeable, making users feel lost:** Some users had trouble seeing the breadcrumbs at the top of the page and were missing the context of the item they were viewing. It took some users time

to recognize they were looking at components within a collection. Once users noticed them, they found them essential for providing context.

- F. **Container/folder number not visible enough and jargon is confusing:** Some users just wanted “to know which box to order,” and did not see the container and folder number right away, possibly because they were scanning for the word “box.”
- G. **Users had trouble navigating from the lower component-level view back to the collection-level view:** Users often went around in circles navigating between a collection level record and file level and did not have an easy way to return to the collection organization tab, container inventory, and collection overview. A few users were confused that these tabs disappeared at lower levels of description and worried they had left the collection.

9.1. COLLECTION OVERVIEW (TAB)

- A. **Users expected the option of downloading a PDF at every level of description:** Users who regularly use PDF finding aids (faculty, outside researchers, and some students) were frustrated that they could not access it at all levels.
- B. **Users looked for the finding aid under “Finding Aid and Administrative Information” note:** This confused many users, who expected to find the actual finding aid. Terms like “under revision” were confusing. One user thought that this was “duplicate information.” Users also expected to see contents of boxes listed here.
- C. **Users used “Ctrl F” or “find in page” function to locate search terms in collection notes:** A number of users instinctually used “find in page” browser tools to highlight their search terms in the collection level scope and contents notes. They used this tool to quickly scan the description and determine relevance to their search.
- D. **Function or purpose of expandable notes was unclear at times:** Users explored this section to see if there was something relevant that would further aid them in their search, or to see if there was information about which box to request. These notes helped to “orient” one user a bit more, but the user found the resource record page “confusing” and expected to see an option for sorting material.

9.2. COLLECTION ORGANIZATION (TAB)

- A. **Users found this confusing and wasn’t sure what would be there:** Users did not understand the difference between this and the container inventory or the collection organization sidebar. After some exploring,

some users expected this to be the finding aid, but were confused by the label.

- B. **More than two users said it scrolled too fast:** At least one users was using a touchpad. This may be a display bug.
- C. **Some users did not notice this tab or chose not to explore it.**

9.3. CONTAINER INVENTORY (TAB)

- A. **Users were not sure what this information was referring to:** One user found this feature helpful, while another seemed confused between this and "Collection Organization." Yet another did not notice or use this feature.
- B. **Users liked being able to see the contents of each box:** Users who clicked through to a specific box link were happy to see a list of all contents. However, not all users went this far because they were confused by the initial container inventory.
- C. **Users were confused by "lack of context" in container list:** Users found insufficient context and not enough detail about each box.
- D. **Users were confused when they encountered multiple "container 1's", etc.:** This may only be an issue for repositories who restart their container numbers at each series.
- E. **Repeated inherited Scope and Contents Notes were not helpful in individual container inventories:** One user noted that a title, date, container/folder number, and breadcrumbs provided enough contextual information for each file listed under a single container. Repeated Scope and Contents notes take up room with identical information requiring unnecessary scrolling.
- F. **Some users did not notice this tab or chose not to explore it.**

Resource Record Display Recommendations

- *Add PDF download button at all levels of description*
- *Change "Collection Organization" tab label to "Finding Aid view"*
- *Add label to all Scope and Content note displays*
- *Eliminate inheritance of Scope and Content notes at lower levels or change label to read "Scope and Contents Note from Collection Level"*
- *Add context to each container entry in Container Inventory display*
- *Address scrolling issue in Collection Organization Tab*
- *Redesign request button to make it more intuitive (contrast, location, language)*
- *Make breadcrumbs larger, increase contrast with background, and make them the same weight as the title*

- Change “container” to “box” to match user’s mental model
- Make all three tabs more noticeable (larger, more contrast) and include them on every page
- Eliminate Scope and Contents note display from Container list display
- Highlight search terms in page when coming from a search results list

10. **COLLECTION ORGANIZATION SIDEBAR**

- A. Used by all users to navigate the collection:** One user called this “a very helpful view.” Another commented that it was a very easy tool for navigating the collection because it allowed the user to scan easily and toggle between a macro and micro view of the collection contents. One user noted that separating intellectual arrangement and physical arrangement makes the finding aid easier to read and understand.
- B. Most users did not notice immediately:** Many users did not see this sidebar immediately because they scan the page down along the left side. Some users noted that they expected this type of feature to be on the left side of the screen. Screen readers must read through everything on the left side of the page before coming to this section so right-hand orientation is **also an accessibility issue.**
- C. Expected to see more information:** Some users expected to see series numbers, dates on every level, box and folder numbers, and indications of digitized material in this list.
- D. Expand/collapse toggles are not clear in a complex hierarchy:** Users did not expand all components of the hierarchy. Chevrons do not always read as “expandable” when closed in a deep hierarchy which causes some components of the collection to remain hidden and undiscoverable. One user said they would expect to see a plus and minus sign like in YFAD.
- E. Most users thought default width was too narrow and could not expand the box:** Users were frustrated that longer lines of text are cut off and do not wrap. Most had trouble expanding the side-bar. The resizable sidebar handle is difficult to find because the location on the left of the sidebar is counter-intuitive. Only one user found this handle right away.
- F. Relationship to content on left-side of page is unclear:** One user did not see/understand the relationship between the collection organization sidebar and the information in the main content area of the page.
- G. “Search within collection” used by some users, but missing at lower levels:** Some users liked the “search within collection” feature, especially those that were exploring known collections (faculty and outside researchers). Users wanted this feature to appear at every level of description, not just the collection level.

- H. **Accessibility issues with table layout:** The context tree in the sidebar was difficult to navigate because of the table layout; the links in the tree also seemed redundant. A sighted person can see hierarchy because of the way links are nested, but there's no way to tell that this represents a hierarchical structure with a screen reader (using and might help with this). User suggested implementing some sort of numbering or lettering scheme to indicate relationships and/or nested link structure.

Recommendations

- *Move Collection Organization Sidebar to the left side of the screen*
- *Add “search within collection” and date limiter search at all levels of the collection*
- *Change expand/collapse toggle chevrons to “+” and “-” to match the user’s mental model*
- *Find a way to replicate the visual (nested) structure of the links in the context tree for screen reader users so that links don’t appear as “duplicates”*
- *Relabel sidebar as “Navigate the collection”*
- *Find a solution for the narrow default width and/or hard to see resizable sidebar handle*

11. SUBJECTS AND AGENTS

- **Users used subject filters and links to find like materials:** Users used subjects links in collections and in search filters to group related material together. A few people used the subjects from the subject list on the top navigation bar.
- **Users liked seeing subjects in the collection overview:** At least three users expressed delight to find linked subjects in the finding aid and said they would use subjects to find additional related material and helpful search terms.
- **Users would like to see biog/hist notes for a person or organization when clicking on linked name:** Some users expected more information about linked names or expected that clicking on a linked name would bring together all items related to that person *in the selected collection*, not in all collections.
- **Users are unclear about where subjects/names/collections come from**
- **Three users wanted subject list and names in A to Z alphabetical order**

Recommendations

- *Add explanatory text on each landing page defining the contents* (for example, the Subjects page could include language about where subjects come from including the Library of Congress, and that the subjects are the same ones used in Orbis, etc.)
- *Provide an option to browse Collection, Subject, and Name pages alphabetically instead of by page number*

12. REQUESTING

We did not specifically test the usability of the Aeon request plug-in but many users expressed a desire to request materials from the site, thus providing some initial user feedback on requesting:

- A. **Request link not noticeable:** See [2.F](#) and [9.D](#) above.
- B. **Users wanted to request “boxes” from the container listing and the “Physical Location Information” note**
- C. **Some users clicked on the Orbis link to request material**

RECOMMENDATIONS FOR HELP PAGE FAQ

- Explanation on how to conduct more targeted searching specifically of larger collections.
- Description of how search algorithm works.
- Glossary of terms including those references in [Language and Use of Jargon section](#) above.
- How is this different from YFAD?
- Tips for conducting YFAD style searches in the new PUI. For example, “If you did this in YFAD, try this is Archives at Yale.”
- User feedback mechanism
- Links to Subject Librarians, Personal Librarians, and Curator contact information at all repositories
- Link to Ask Yale Library

RECOMMENDATIONS FOR FUTURE USABILITY TESTING

The UA Workgroup will disband at the end of the ArchivesSpace PUI softlaunch period. However the group strongly **recommends that an actionable plan be put in place for future iterative usability testing**. The UA Workgroup recommends that smaller scale usability tests be conducted after every major software upgrade and after every major change to the layout or visual design of the site. Small scale targeted usability tests should also be conducted after major plug-ins or service enhancements are added. Based on this first round of tests conducted with the [user population defined above](#), future small scale tests should include one undergraduate, one graduate student (search behaviors are similar to outside researchers and faculty), and one YUL staff member. Future tests may use one of the [tasks listed above](#) (appropriate for software upgrades and wide-spread design changes), or may incorporate a new task specifically designed to test the usability of new site features.

Addendum to Usability Findings for Archives at Yale: ArchivesSpace Public User Interface

Report addendum completed on July 27, 2018 by Yale PUI Usability and Accessibility Workgroup: Eve Neiger (Team Lead), Moira Fitzgerald, Tracy MacMath, and Jenn Nolte; and Alison Clemens (Team Lead for Settings and Enhancements Workgroup)

INTRODUCTION

The UA Workgroup conducted a second round of usability tests on the ArchivesSpace PUI, now called Archives at Yale, following settings changes, customizations, and updates to the core code which were added after the first round of usability testing conducted in February 2018.

The second round of usability tests was conducted between June 12, 2018 and Jun 28, 2018 in the TEST instance of the PUI (`puittestarchivespace.library.yale.edu`) running on ArchivesSpace version 2.3.2.

Though we maintained the same target audience defined during the first round of testings¹, the second round of testing drew from a smaller pool of participants. Based on the results of the first round of testing, we found that research behavior of outside researchers is similar to that of graduate students. Therefore, we decided that graduate student test participants would serve as adequate proxies for outside researchers in our test environment. Since this was the second round of testing, and meant to serve as a model for minimal-impact iterative testing, we tested with a smaller group of people, six participants total.

Like the first round of testing, test participants were recruited from individuals on Yale's campus, so most were familiar with the Yale Finding Aid Database and/or Orbis or Quicksearch.

Participants with accessibility needs were not recruited for this round because few of these users are available on campus during the summer term. Subsequent accessibility testing with screen readers is planned for the academic term.

METHOD

The same method was used for the second round of testing. See [above](#).

¹ The target audience for the PUI was defined at the onset of the project in consultation with the PUI team leads and the project manager. The target audience included five user groups: Undergraduate students, Graduate students, Yale faculty, Outside researchers, and Yale University Library (YUL) staff.

Tasks

Tasks were designed to address the following site functions:

1. Identify the purpose of the site, which institutions are represented, and what users think they can do on the site.
2. Find collections relevant to a search topic, subject, name, collection identifier, or date range (or combination thereof).
3. Find known materials within a larger collection.
4. Understand how to access materials and request material for use in the reading room.
5. Request multiple items stored in the same box.
6. Request items from different repositories with different reading room appointment and material requesting policies.

Participants were asked to complete the following tasks:

1. Imagine you are working on a research project about the role of women during the American Civil War and you would like to find resources related to your topic in Yale's library collections. You have already done some background reading and are looking for primary source materials to review in detail and possibly include in your research. Please use the website to identify one or two items or groups of items that will be helpful and request them for use in the reading room. (Reminder: The American Civil War was fought in the United States from 1861-1865).
2. You are preparing to visit the Beinecke to research literary manuscripts this week and would like to view the following items:
 - a. Chandler, Raymond. *Killer in the rain* (1964)
 - b. Conrad, Joseph. *Congo diary and other uncollected pieces* (1978)
 - c. Creeley, Robert. *The gold diggers* (1965)

Please use Archives at Yale to find records for the items and request them for use in the reading room this week.

3. You also plan to research Rosamund Johnson this week while you are at Yale and you would like to view the following items:
 1. The Saint Vitus Rag (from Medical Historical)
 2. Photograph of Rosamund Johnson with Harry Rome (Music)
 3. His composition "Fishing" (LSF music)

Please use Archives at Yale to find records for the items and request them for use in the reading room this week.

Tests completed

We facilitated 6 tests, including:

- 2 non-Yale undergraduate students
- 1 Yale graduate student

- 3 YUL staff (including 2 who teach with special collections)

One test was conducted while the Aeon request plug-in was down, so this individual was unable to complete the requesting portion of the tasks.

During the test period, the date limiter in search was not working, which affected how search behavior was perceived.

ANALYSIS

Additional results from this round of usability testing have been compiled below, sorted into groups by component or section of the PUI. Recommendations are listed at the end of each section. Most recommendations come from members of the UA Workgroup but some recommendations came directly from users. *Critical recommendations, as determined by the UA Workgroup, are highlighted in red.*

Improvements since last round of testing

Overall, recommendations implemented since the last round of testing have had a positive effect on site usability and most users were able to easily navigate the site, locate collection material, and request material for use in the reading room. There were fewer issues with visibility of site elements like breadcrumbs, location information, and use of filters. Most of the users' frustrations arose from search relevancy issues rather than confusion about how to use the site, which seemed easy to learn, especially after users had fully completed the first task and felt oriented to the site. Search relevancy is a known issue and is currently being addressed by the ArchivesSpace PUI Implementation team and the ArchivesSpace community.

Notes on all findings

In general, users were able to easily navigate the site. Users liked "the simplicity of the site" and felt that they had to make fewer clicks to request material than they had with YFAD (though one user thought they had to make too many clicks to get where they were going). Most users said they liked the site better than YFAD.

Between our two rounds of testing, we found that one type of user, a more experienced researcher who worked with limited collections, expects to see a linear finding aid document and is frustrated by the new format. This user wants to see everything in the collection, along with all description, listed together in one view. For this reason, the Finding Aid view is an essential tool for some users. However, in its current state, this view is frustrating to use and only semi-functional. We recommend fixing the Finding Aid view so it is usable. The Finding Aid view is currently the also the only way to quickly scan the full contents of a series. In the future, we recommend that each series and subseries component page includes a list of all their

descendents beneath the accordion sections. Users expected this information when they clicked links to these levels and were confused when they didn't find the information they were looking for.

Aside from this type of user, other users found the site simple to use and fairly easy to learn. A number of users made comments like "well, now that I know how this site works..." before quickly completing a task. Other than search relevancy issues, this indicated that, in general, the site's behavior was easy to understand. This was more true for novice users than for users who have more experience with YFAD. Novice users also expected more material to be available digitally on-demand.

There were a few key points of confusion, including:

- Search relevancy and search behavior (including date searching and the automatic "or" Boolean search)
- Finding Aid View not functioning well
- Users do not notice that requesting multiple items from the same box would lead to those requests being combined

Test results and recommendations

1. HOME PAGE

- Overall, users liked the site design** and found it clean and easy to understand.
- Users liked the ability to add lines to their search**; all users figured out how to do this easily and preferred it to going to a separate page for advanced search.
- Most users understood that the site was searching archival materials at Yale.**
- There was some confusion about whether patrons can request** as well as "find" archival collections at Yale. One user did not see that requesting was mentioned and only saw "find what you are looking for".
- Library staff users were concerned that patrons may think this is the ONLY place to search for archival/special collections materials at Yale.**

Recommendations

- *Mention more clearly what is and isn't in ArchivesSpace.* For example, published materials, manuscript volumes, and small archival collections.
- Perhaps make information about requesting a little more prominent.

2. VISUAL APPEARANCE

- Compared favorably to YFAD.**

- B. **Most users liked the way the site looked** and complemented the “simplicity” of the site.

Recommendations

- *Ensure site meets WCAG 2.0 Level AA accessibility standards.*

3. NAVIGATION

- A. **Most users liked the breadcrumbs and used them to navigate.** Some users expressed delight at how the breadcrumbs function to orient the user within a collection.
- B. **One user felt like they needed to “jump around” too much** to do what they needed to do.
- C. **One user did not notice “search within this collection” at first, and thought it might be too faint.** They also weren’t sure if they were just searching the collection titles displayed in “Navigate the Collection” or other metadata.

Recommendations

- Make “search within this collection” more prominent. Perhaps add hover text that explains they are searching the entire collection.

4. LANGUAGE AND USE OF JARGON

- A. **Some users did not understand the difference between “collection” and “all records”** and did not understand what “Collections” represented in the top menu

Recommendations

- Consider adding information on the help page to explain the difference between these types of searches.

5. TOP NAVIGATION BAR

- A. **One user didn’t understand why only “Repositories” is a dropdown menu** (it has little arrow) and others aren't (they don't have arrows). This user guessed that there were probably too many subjects/names for a dropdown. One patron suggested a dropdown of “subject categories”
- B. **Overall, users were confused about what collections, subjects, and names were** and how they would be useful.
- C. **Repository dropdown menu is helpful:** clear that you would navigate to one of those places to search only at that place.

- D. **Users either did not notice the top menu bar or were unsure what “Collections” and “Names”** in the top menu do and what they are useful for.

Recommendations

- *Add more context on each of the pages for collections and names, as there are for subjects.* For example, when one clicks on “collections” one sees at the top “Showing Collections: 1–20 of 5249”. Perhaps some explanatory text about what the patron is seeing and a suggestion to use the filters on the left to narrow down the search.
- Hover text over “Collections” and “Names” to give context to the patron about what they are.

6. SEARCHING

A. **Users were frustrated and confused by search behavior.**

■ Users generally:

- Thought there were **too many search results** returned
- **Expected short strings of search words to be automatically “and-ed”** in a Boolean search
- Were confused by **seemingly irrelevant hits**
- Were confused when **searching by date did not have any visible effect** on search results

■ In some cases, a user:

- Thought putting multiple search elements (e.g. author and title) in one search box would not work
- Assumed that more "well-known" items and names would be at the top of the search results list
- Was unsure of what the "search all record types" dropdown does
- Assumed that the “creator” search would apply at all levels of description; this demonstrates that users do not understand that in most cases subjects and names are only applied at the collection level.

- B. **All users used the date limiter** to search for material in a given date range and were confused when it wasn’t working.
- C. **Users liked the option of adding filters**, refining a search, and making searches more complex (adding AND/OR search terms) without going to a separate search page.
- D. **Users wanted easier access to information about how search works** and how search limiters (e.g. search by creator, title, subject, etc.) are applied.
- E. **Some users seemed to have improved search relevancy success with subject searching.**

- F. **Users seemed to prefer having a single search box**, but multiple users added additional search terms and appreciated having more search terms, as compared to YFAD.
- G. One user observed that when you add a second search line, you see plus sign and not a minus sign, so you can't remove it.
- H. One user wanted to limit by location.

Recommendations

- *Implement Boolean "and-ing" for search.*
- *Add language to "No results found" error message that directs users to search tips.*
- *Fix the search by date feature, or eliminate it as an option if it doesn't work.*
- Add an option to remove additional searches via a "minus" sign in the advanced search.
- Add option to limit by location on main search page.

7. FILTERS ON SEARCH RESULTS PAGES

- A. **Multiple users wanted the option of combining multiple filters in one category** and thought that choosing one filter would be too limiting.
- B. **Some users were confused by how few subjects and names appeared in the filters** compared to how many search results they had; this demonstrates that users do not understand that in most cases subjects and names are only applied at the collection level.
- C. **Some users found that the filter options were insufficient for their needs.**
- D. One user was **worried that applying filters would limit search results too much.**
- E. One user was **uncertain about what the "type" filter** (e.g. archival record, collection) meant.

Recommendations

- Add option to combine multiple filters in one category.
- Reconsider labeling for the "type" filter (e.g. archival record, collection).

8. SEARCH RESULTS DISPLAY

- A. **Users liked the summarized information provided on the search results page** for each result (e.g. dates; holding repository) and most users felt that they had enough information about each search result.
- B. **Users were confused by search results because they did not understand search behavior**, did not see why certain results were coming up, and did not see how to determine how relevant results would be from the results list; this demonstrates

- that users were looking for information on why their search results were relevant to their search terms.
- C. **One user noticed their highlighted search terms at the top of the search results page but was confused by not seeing them in the results list;** they thought it would be useful to see highlighted search terms in context under each search result, since otherwise they would have to click on each result to know how relevant they were.
 - D. Users were confused because **date limiters were not working.**
 - E. **Users appreciated the large font and blue links** in the results list.
 - F. One user wanted to know immediately what kind of material their search results were (e.g. journal article, novel, newspaper, photograph, poster, visual material).

Recommendations

- Implement way for users to understand why they're getting their results, via highlighting or other contextual clues.
- Remedy issue with date limiters.

9. RESOURCE RECORD DISPLAY

- A. **Users liked how easy it was to locate information about copyright and restricted materials.**
- B. **Some users wanted to have access to the Collection Overview, Finding Aid View, and Container List tabs at all levels of description** so they could easily navigate back to those views.

9.1. **COLLECTION OVERVIEW (TAB)**

- A. Most users **expanded all the note tabs** and one user wanted this information to be more visible and easier to find.

9.2. **FINDING AID VIEW (formerly COLLECTION ORGANIZATION TAB)**

- A. One user, who is most comfortable with a traditional PDF finding aid, found this view most helpful but was frustrated that the **scroll did not work well**. The user considered this view essential but very frustrating to use.
- B. **Using the "Find all" browser tool (e.g. control + F) does not work** correctly in this view
- C. As a user scrolled through the Finding Aid view, the Navigation pane tracked with the scroll but not the other way around. **The Finding Aid scroll does not track to scrolling through the Navigation pane**. This confused the user because they expected each section to mirror the other.

9.3. CONTAINER LIST (formerly CONTAINER INVENTORY TAB)

- A. **One user found this useful**, but navigated to it from an item record and understood that they were seeing everything in that box.
- B. **No users navigated to this list from the Resource Record page.**

Resource Record Display Recommendations

- *Set all notes to automatically expand when resource record is opened or auto-expand notes when control+F or equivalent is used. Alternatively set some notes, like "Additional Description" to automatically expand.*
- *Fix scroll problems in "Finding Aid View"*
- Make "Finding Aid view" compatible with browser "Find in page..." tools

10. NAVIGATE THE COLLECTION (formerly COLLECTION ORGANIZATION SIDEBAR)

- A. **All users successfully used the Navigation pane** to navigate to material within a collection
- B. **All users liked the "Navigation" pane and liked being able to expand or collapse** different levels of description: One user called this feature "lovely" and multiple users emphasized how much they liked it.
- C. **One user was very frustrated that the "Navigation" pane was on the right side of the screen.** The user suggested that the natural place for it is on the left side of the screen so it is read first.
- D. **One user got lost after navigating to a lower level of description** and didn't know where they were in the Navigation pane

Recommendations

- *Make highlighting more prominent to indicate where user is in the collection.*
- Consider moving Navigation pane to the left side of the screen.

11. SUBJECTS AND AGENTS

- A. **Users assumed that subjects and agents would be applied and searchable at lower levels of description.**
- B. **Users wanted more subject refinement options** in the filters.

Recommendations

- Consider adding more subject refinement options in the filters.
- Consider adding explanation of how subject and agent searching works.

12. REQUESTING

- A. **Users easily found the request button** and liked how accessible it was but were confused by the word “Aeon”: During the test the request button was displaying as “Aeon Request” instead of the preferred “Request”. This is a known issue that is set to be resolved before launch.
- B. **Date availability note (in red) is noticeable to all users**, and recovery from errors is good.
- C. **Users liked the calendar drop down on the Aeon page**, and most users found the Aeon request page easy to parse and noticed “Availability” information right away.
- D. **The request process was straightforward for most users.**
- E. **Text at the top of the Aeon page is not visible enough** to sighted users.
- F. **Separating Beinecke and other repository requests is confusing to users.**
- G. **When requesting is not available at a level of description, the user notices it's not possible but is not sure why.** Users expressed confusion and explored other options for requesting material.
- H. **Messaging for Music Library appointments was visible** to most users but it’s unclear that you can and must also submit the request.
- I. **Messaging for Music library confuses users** because they are unsure if their request went through.
- J. **When a request is interrupted by refreshing an Aeon registration, the request doesn’t go through and has to be made again.** The Aeon registration update form submission button says “Submit request” which makes the user think they are submitting their materials request.
- K. **Users do not understand that they are queuing things up for request** or that they have the option to leave requests in the queue and submit them at a later date.
 - Most users aren't choosing to use the queue feature to gather requests in the test environment.
 - Messaging that is dependent on material sitting in the queue is not visible to users who don’t use the queue feature.
- L. Requesting items from one box:
 - **There is no messaging to users when requests are combined for requests that have already been submitted.** Message is currently only showing up when duplicate box request are queued. With this message users didn’t notice the requests were being combined and thought they had lost requests.
 - **In the table cell where the request titles are combined, users do not notice that multiple titles are listed in one cell.**

- **Most users didn't notice they were requesting multiple items from the same box.**

Recommendations

- *Add more visual clues to make "You're not done!" stand out (e.g. icon, larger text); this would draw the eye and signal that the rest of the paragraph needs to be read.*
- *Add hover text to greyed out request button signaling user to request material at a lower level of description.*
- *Add clear language for Music Library requests to indicate that requests go through (even without a date) and instructing users on next steps.*
- *Make messaging about duplicate container requests visible to users both when duplicates are in the queue and when a duplicate container request has already been submitted for that date.*
- In the table cell where the request titles are combined, create a more visible separation between titles such as putting each on a new line, using bullet points, etc.

13. ASK A QUESTION

- A. **Noticed and used by at least 50% of tested users.**
- B. All users who noticed it were pleased with its visibility on the page and **understood its purpose.**

14. CITATION

- A. **Two users noticed the icon and clicked on it.** Both liked how it was easy to use and clear.

15. REPOSITORY CONTACT INFORMATION

- A. **One user thought MSSA's contact information would be confusing to researchers** because the first line says "Yale University Library".

Recommendations

- On the first line under "contact," include the repository name. This is done for Arts but not for most of the other repositories.