This study presents findings from a content analysis I conducted on the usability of 264 online finding aids from archival institutions. I developed a coding scheme consisting of 6 categories and 31 checklist items based on recommendations from previous studies of online finding aid usability along with web usability literature. Despite repeated user feedback from usability studies, this study found that archival terminology still commonly appears in finding aids, but explanations for the terminology are rare. Most institutions implemented standard navigation elements to their finding aids, but the adoption of recommended navigation elements, such as persistent local navigation and you-are-here indicators, was low. A local search box or browser built-in search indication appeared on less than half of finding aids and the adoption of help and Web 2.0 features was low. All institutions formatted finding aid section headings, but stronger formatting could improve finding aid scanability. The study also found that the visual indications for a hierarchical collection structure appear in more than half of the finding aids, but indications for accessing online materials or requesting collection materials were rare.

Headings:

Archival description

Finding aids

Usability

Websites -- Design
WHERE ARE WE AGAIN? A CONTENT ANALYSIS ON USABILITY OF ONLINE FINDING AIDS

by
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Approved by

Denise Anthony
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1. INTRODUCTION

Access to archival collections is dependent on finding aids. The archival community put an enormous amount of time and resources into developing Encoded Archival Description (EAD) to embrace the digital age. With this effort from past decades, the format of finding aids has changed from physical to digital documents. The merits of online finding aids were reported by archivists early on. In their study, Altman and Nemmers (2001) found that researchers were able to save time and resource for travels by using the web interface. Moreover, users saw online finding aids as “a powerful tool to conduct research and a great improvement over traditional printed finding aids” (Altman & Nemmers, 2001, p. 128).

When using a website, Steve Krug (2014), a web usability expert, argues that a user “should be able to “get it”—what it is and how to use it—without expending any effort thinking about it” (p. 11). Yet, online finding aids are far from being straightforward because adapting physical finding aids to the web environment left user experience out of the transition process. This gap caused various usability issues for online finding aids. This is not a matter to overlook because if a user finds a webpage is difficult to use, the user not only gets frustrated but also leaves the webpage (Nielsen, 2012).
To investigate the issues, the archival community has conducted more than a dozen usability studies on online finding aids to date. The studies from the past two decades concluded that users have trouble using these web documents from archives. The community has repeatedly found issues in areas such as terminology and labels, navigation, search, help features, Web 2.0 features, and straightforward and visual design.

The similarity between recommendations across the usability studies seems to suggest we have reached a saturation point. Most of the studies focus on a handful of archival institutions. This approach, however, has a potential to blindfold the archival community’s understanding of the current state. Unfortunately, few archival studies surveyed the landscape of online archival finding aids’ usability (Kim, 2004; Zhou, 2007). Therefore, an examination of the current landscape is needed to understand what the archival profession has accomplished in the past decade and where online finding aids should go from here.

This study aimed to answer two questions: What are the usability features commonly recommended by usability studies of online finding aids? Are archival institutions adopting these recommended usability features for online finding aids? To answer these questions, I conducted a quantitative content analysis on online finding aids from 264 U.S. archival institutions. I consolidated usability recommendations for online finding aids resulting from archival usability studies along with web usability literature to develop a coding scheme that consisted of 31 checklist items.
2. LITERATURE REVIEW

As archivists expanded their focus from archival materials to archives users, the notion of user-centric design gained attention in the profession (Lack, 2007). With a growing number of archival finding aids published on the web, the body of literature for online finding aids usability has been increasing.

According to Jakob Nielsen (2012), who is a web usability expert, there are three basic components to usability testing: representative users, representative tasks, and observation of users performing tasks. While each usability study may include essential components, these studies are often set in different contexts, including not only various types of institutions and users but also varying degrees of study scope and scale. Even contradicting results, therefore, can be found. For example, Schaffner (2009) found conflicting usability study results exist for the granularity of online finding aid description.

Despite these variances and inconsistencies, findings across more than a dozen usability studies to date have concluded that users have trouble interacting with online finding aids from archives. For the past two decades, these studies repeatedly found usability issues in areas, including but not limited to terminology and labels, navigation, search, help features, Web 2.0 features, and straightforward and visual design.

2.1 Terminology and Labels

To archivists, terms such as “finding aid,” “creator,” “extent,” “container,” and “series” are everyday vocabulary. Yet, most of the usability studies found that users perceived these terms as archival jargon. When labels, such as section headings and attribute labels, included the jargon, users were confused. (Chapman, 2010b; Daines &
Lack (2007) reported that “many of the specialized archival terms [that] commonly tripped people up” (p. 72), and Chapman (2010b) confirmed the same issue. She found “complaints about terminology were one of the largest issues that arose during [her] study” (p. 18). These findings show why many studies reported that users want clear labels (Duff & Stoyanova, 1998; Lack, 2007; Nimer & Daines, 2008; Prom, 2004; Yakel, 2004). In her study, moreover, Kim (2004) found labels in finding aids are used inconsistently across archival institutions. What is worse, some studies reported that even the concept of finding aids was confusing to users (Lack, 2007; Prom, 2004). These user frustrations resulted in usability recommendations, such as using plain language instead of archival jargon or providing explanations on the terminology via statements and hover-captions (Chapman, 2010a, 2010b; Scheir, 2006; Walton, 2017).

Nimer and Daines (2008), however, reported that users were able to use the finding aid without any frustration when archival terminology had a context surrounding them. A later study also corroborated the 2008 study’s findings. Chapman (2010b) found “unknown terms in context (such as “series” and “container” when used in the “Contents List”) did not hinder participants in information discovery” (p. 17). Yet, Hoa Loranger (2017), who is a web usability expert, argues that avoiding “unnecessary jargon or complex terms” improves the readability of a webpage and is beneficial to everyone, including even professionals.
2.2 Navigation

Similar to the terminology issue, most of the usability studies reported online finding aids have navigation issues. Many archival studies found that users have trouble moving around finding aids, and they are getting lost in a finding aid’s long inventory list. The studies reported that these issues occur because online finding aids lack navigation features. (Altman & Nemmers, 2001; Chapman, 2010a, 2010b; Daines & Nimer, 2011; Lack, 2007; Nimer & Daines, 2008; Prom, 2004; Scheir, 2006; Walton, 2017; Yakel, 2004)

In Scheir’s 2006 study, one study participant describes the moving-around issue: “[I]t is also difficult to maneuver back to the home page, or to backtrack where you were” (p. 68). To address this issue, Lack (2007) recommended “common navigation elements such as links to Home, Search, About, and Contact Us” (p. 79) to be available and noticeable on online finding aids. Additionally, archival studies also reported that the back-to-the-top feature is a useful feature when finding aids are long (Chapman, 2010a; Kim, 2004).

To address the getting-lost issue, archivists have been recommending features that will allow users to know “where they are in a finding aid at any given time” (Chapman, 2010a, p. 14). For instance, features such as persistent navigation and you-are-here indicators in online finding aids. (Altman & Nemmers, 2001; Chapman, 2010a; Nimer & Daines, 2008; Yakel, 2004). In a recent study, Walton (2017) corroborated others studies by providing a usability recommendation: “[g]ive users a way to visually explore and browse through collection contents without “losing their place’” (p. 45). The recommendation from the web usability literature also aligns with these archival studies.
In her article, Susan Farrell (2015), a web usability expert, emphasized that a website must continuously signal where users are now by using various location indicators, such as navigation-bar changes, headings, and contextual cues.

2.3 Search

Unlike paper finding aids, the benefit of online finding aids is that users can perform a keyword search across archival collections or search within a collection. Despite the significance of this functionality, many researchers reported that the search feature of online finding aids suffers various usability issues (Altman & Nemmers, 2001; Lack, 2007; Prom, 2004; Yakel, 2004; Zhou, 2007).

Online finding aids need to offer not only basic search but also advanced search to accommodate different user groups (Altman & Nemmers, 2001; Lack, 2007). In her study, Lack (2007) found users’ preference towards two search interfaces was based on one’s familiarity with a topic. When users were unfamiliar with their topic, they favored the Google-like basic search, but users favored the advanced search when they were knowledgeable about their topic. Some studies, moreover, highlighted that search parameters in search interfaces should have more useful options, such as “date, geographic location, proper names, and repository” (Lack, 2007, p. 80) (Lack, 2007; Yakel, 2004).

Before issuing a search query, studies reported that users feel frustrated due to difficulties in search term selection and format (e.g., name or date) (Daniels & Yakel, 2010; Lack, 2007). Lack (2007) found users were unsure of what search terms to use because they perceived “the system is using specialized vocabulary” (p. 78). She also found if a search interface is missing for “the scope and extent of the collection” (p. 78),
users would show the similar frustration. A later usability study by Daniels and Yakel (2010) supports Lack’s finding.

After getting back search results, on the other hand, Prom (2004) reported: “many participants expected the results to be relevance ranked” (p. 254). Lack (2007), moreover, found “users want search results to contain enough information to help them choose the best match” (p. 81). Along with a title, date, and short description, she emphasized elements such as “a snippet of text from the site with the user’s search term(s) highlighted” (Lack, 2007, p. 81).

While the display of search results is crucial, Zhou (2007) pointed out online finding aids are missing a search feedback feature. When a user’s search query did not retrieve any result, search feedback can provide the user with search tips, strategies, or alternatives. In her 2007 study of EAD websites’ search functions, she found “twenty-five out of forty-five [websites] provided some form of search feedback when no results were retrieved” (Zhou, 2007, p. 113).

Along with searching across archival collections, some archivists also examined the usability of searching within a finding aid (Chapman, 2010a, 2010b; Daines & Nimer, 2011; Nimer & Daines, 2008; Prom, 2004; Scheir, 2006). Instead of creating another search system, Prom (2004) argued archival institutions should utilize the built-in search function (i.e., Control-F or Command-F) offered by all major web browsers. Chapman (2010b), however, found only about half of usability study participants, mostly those who had high levels of Internet proficiency, knew how to use the built-in browser function (p. 11).
2.4 Help and Web 2.0 Features

Help Features

The above usability issues show that various potential breakdowns could occur during a user-finding aid interaction. This circumstance led some archival studies to focus on providing help features (Altman & Nemmers, 2001; Scheir, 2006). In a usability study for the Pepper Online Archival Retrieval and Information System (POLARIS) project, Altman and Nemmers (2001) reported that users found the help screens extremely useful. The authors found that “[s]everal [study] participants asked for the finding-aid help pages to be expanded because researchers will be utilizing the finding aid without the benefit of in-person staff assistance” (p. 127). Moreover, Scheir (2006) recommended a help feature that provides “hyperlinks to glossaries of specialized expressions and basic archival concepts” (p. 72). Chapman (2010b), furthermore, reported novice users were “willing to navigate away from the current page in order to use one of the two help pages available” (p. 12). She also found users perceived the label “FAQ” more approachable than “Help.”

Web 2.0 Features

Web 2.0 features, such as commenting, tagging, or providing RSS (Really Simple Syndication) feeds became common on the web. Few archivists have explored implementing such features into online finding aids (Krause & Yakel, 2007; Nimer & Daines, 2008). The Polar Bear Expedition Digital Collections did implement the ability for users to comment. However, Krause and Yakel (2007) reported that the usage of the user comment feature was low. In her study, moreover, Chapman (2010b) investigated
“participants’ interest in Web 2.0 features for online finding aids” (p. 10). She found that “enthusiasm for Web 2.0 features was low for features that involved user modification of the finding aid or that would require participants to trust other users” (p. 11). She reported that users were “more interested in features that would help them personally organize information” (p. 11). Furthermore, Walton (2017) corroborated Chapman by providing a usability recommendation: “[d]o not add Web 2.0 features without cause or a consideration of user preferences” (p. 45).

2.5 Straightforward and Visual Design

In his article, Nielsen (1997) reports the finding from a usability study focusing on how people read websites. The study found “79 percent of our test users always scanned any new page they came across; only 16 percent read word-by-word.” Later usability studies corroborated this user behavior (Nielsen, 2016; Pernice, 2017; Schade, 2018).

Archivists create online finding aids with an expectation that users will read these documents. However, the web usability studies show that most users scan web documents. Scheir (2006) reported that one of the participants in her study perceived online finding aids as a “wall of text” and called it “visually annoying” (p. 57). This comment shows the design of online finding aids has not caught up with web design principles.

The call for finding aid redesign, however, has existed for the past two decades. Duff and Stoyanova recommended using section headings, formatting for section headings, and whitespace between sections in 1998. Moreover, Prom (2004) emphasized the importance of the “simple design” (p. 264) in his finding aid study. He described this
design “provided subtle but powerful visual clues” (p. 264) for drawing users into online finding aids and helping users to navigate “multilevel description in an intuitive fashion” (p. 264). Furthermore, Lack (2007) reported that even labels and icons used in online finding aids are not intuitive and need a redesign, which Walton corroborated in her 2017 usability study.

It is difficult to pinpoint design elements that are the source of user frustration. Based on usability studies, however, the design of online finding aids needs to support the scanning behavior of users and provide visual cues for main user-finding aid interactions.

2.6 Content Analysis Studies on Online Finding Aids

After conducting a usability study on online finding aids from Princeton University, Walton (2017) concluded her article with ten usability recommendations for online archival description. The recommendations encompass what previous studies have been reporting for the past two decades. The similarity between these findings seems to suggest we have reached a saturation point.

These usability studies for online finding aids often focus on a single institution. While this approach is beneficial to improve the institution’s archival practice, there is a potential to blindfold the archival community’s understanding of the current archival description landscape. A content analysis study that examines the state of the art is necessary. However, only a handful of studies in the archival profession took this approach.

In 2004, Kim examined seventeen EAD finding aids, which were selected from 161 Research Libraries Group (RLG) member institution websites. Using a content
analysis method, she examined EAD finding aid’s five different aspects: data elements, labeling terminology, navigation, browsing, and searching.

Zhou (2007) also conducted a similar content analysis study that assessed 58 EAD finding aids, which were from archival institution websites chosen from the Library of Congress website. She focused on the search feature of finding aids, including “the type of search engine, search modes, options for searching, search results display, search feedback, and other features of the search systems” (p. 99).

It has been a decade since Kim and Zhou conducted their content analysis studies. This and the repeated findings from a dozen usability studies points to a question: what is the current landscape of online finding aids’ usability?
3. METHODOLOGY

The aim of this study was to answer the following research questions:

- What are the usability features commonly recommended by usability studies of online finding aids?
- Are archival institutions adopting these recommended usability features for online finding aids?

To answer the above questions, I used a quantitative content analysis method. I examined online finding aids from 264 U.S. archival institutions using a coding scheme based on recommendations for online finding aids resulting from archival usability studies along with web usability literature.

3.1 Developing a Coding Scheme

To develop a coding scheme, I collected publications from the archival and web usability literature. For the archival literature, I performed searches in two major journals, *The American Archivist* and *Journal of Archival Organization*, using the following search keywords: “usability study” and “user study.” Moreover, I used citations and a bibliography from Walton (2017) and Chapman (2010b) to find relevant online finding aid studies. I selected an article only if it included usability recommendations for online finding aids. As a result, I found 20 archival publications and used them to identify recommendations.

For the web usability literature, I reviewed publications authored by web usability experts and firms. I focused on book sections and articles that provide usability principles and recommendations that address issues discussed in the Literature Review section of this paper. I selected ten web usability publications and used them to support the
recommendations identified from the archival studies. Appendix 1 lists all 30 archival and web usability publications.

After examining the 20 finding aid usability studies, I compiled a list of 11 recommendation.

- Use plain language instead of archival terminology
- Provide explanations for archival terminology via statements and hover-captions
- Provide basic navigation feature
- Provide persistent navigation and a you-are-here indicator
- Provide back-to-top feature
- Provide local search feature
- Provide a help page
- Do not add Web 2.0 features
- Straightforward design that supports the scanning behavior
- Visual design that provides visual cues for main user-finding aid interactions

To conduct the content analysis, I used the web usability literature to create a list of observable items representing these recommendations. The below list shows the recommendations and the corresponding operationalization items.

- [Rec.] Use plain language instead of archival terminology
  -------- [Initial] Item 1. Usage of the term “Finding Aid (1-1),” “Creator (1-2),” “Extent (1-3),” “Container (1-4),” and “Series (1-5)” as labels

- [Rec.] Provide explanations for archival terminology via statements and hover-captions
  -------- [Initial] Item 2. Explanation of finding aid
  -------- [Initial] Item 3. Explanation of finding aid terminology
  -------- [Initial] Item 4. Usage of hover caption feature for terminology

- [Rec.] Provide basic navigation feature
  -------- [Initial] Item 9. Institution name or logo
  -------- [Initial] Item 10. Global navigation (Top menus)
  -------- [Initial] Item 11. Collection name
  -------- [Initial] Item 13. Footer navigation (Bottom menus)
• [Rec.] Provide persistent navigation and a you-are-here indicator
  ------- [Initial] Item 12. Persistent local navigation
  ------- [Initial] Item 14. You-are-here indicator for local navigation
  ------- [Initial] Item 15. Breadcrumb feature

• [Rec.] Provide back-to-top feature
  ------- [Initial] Item 16. Back-to-top feature

• [Rec.] Provide local search feature
  [Rec.] Provide a built-in search indication
  ------- [Initial] Item 17. Local search box or browser built-in search indication

• [Rec.] Provide a help page
  ------- [Initial] Item 18. Link to a help or FAQ page

• [Rec.] Do not add Web 2.0 features
  ------- [Initial] Item 19. User comment feature
  ------- [Initial] Item 20. User tagging feature

• [Rec.] Straightforward design that supports the scanning behavior
  ------- [Initial] Item 5. Usage of finding aid section headings
  ------- [Initial] Item 6. Usage of formats for finding aid section headings
  ------- [Initial] Item 7. Usage of whitespace between finding aid sections
  ------- [Initial] Item 8. Collapsible finding aid section
  ------- [Initial] Item 22. Usage of bullets in descriptions
  ------- [Initial] Item 23. Usage of Show More/Less feature in descriptions

• [Rec.] Visual design that provides visual cues for main user-finding aid interactions
  ------- [Initial] Item 21. Usage of collection-specific visual content
  ------- [Initial] Item 24. Visual indication of hierarchical finding aid structure
  ------- [Initial] Item 25. Visual indication for digital content
  ------- [Initial] Item 26. Visual indication for collection request

The items were then grouped into seven categories: “Terminology and Labels,” “Structure,” “Navigation,” “Search,” “Help Feature,” “Web 2.0 Feature,” and “Straightforward and Visual Design.” The initial coding scheme thus included 7 categories and 30 checklist items.
To improve the replicability of the content analysis, I conducted a pilot test. The test had two coders, which included the author and a graduate student who had knowledge of both archives and web development. The test used the initial coding scheme to analyze ten selected online finding aids. The pilot test revealed disagreement about seven checklist items. Based on these test results, I modified checklist items from the initial scheme. The below list describes the revision decisions. The final scheme consisted of 6 categories and 31 checklist items. Appendix 2 lists all categories and checklist items.

- **[Initial] Item 1-1. Usage of the term “Finding Aid” as labels**
  
  **-------- [Final] Item 1. Occurrence of the term “Finding Aid”**

  : After the pilot test, this item showed three disagreements between two coders. We understood what the term “as labels” meant differently. As a result, I revised the item to check any occurrence of the phrase within a finding aid. Moreover, the term “usage” was changed to “occurrence” in order to better reflect what this item is examining. Items 1-2, 1-3, 1-4, and 1-5 in the initial scheme were also edited due to the same issue.

- **[Initial] Item 2. Explanation of finding aid**
  
  **-------- [Final] Item 3. Explanation of finding aid function**

  : This item showed 1 disagreement between two coders. The intent was to check whether a finding aid includes a statement that explains what finding aids are. The second coder, however, understood the term “explanation” more broadly. For example, the second coder coded “Present (1)” if a finding aid included information about the finding aid author, language, or description rule. As a result, I clarified by adding the term “function” to the final version.
• [Initial] Item 7. Usage of whitespace between finding aid sections
  "----"  [Final] Item 20. One or more whitespace lines between sections

  After the pilot test, this item showed two disagreements. We discussed the need to define how much whitespace can be considered as “Present (1).” As a result, I revised the item to assess one or more whitespace lines. Moreover, I removed the term “usage” in the final scheme. It was because the term could mislead coders to examine how a feature is being used in a finding aid. Items 4, 5, 6, 21, 22, and 23 in the initial scheme were also edited due to the same issue.

• [Initial] Item 12. Persistent local navigation
[Initial] Item 14. You-are-here indicator for local navigation
  "----"  [Final] Item 10. Local navigation
  "----"  [Final] Item 10-1. Persistent local navigation
  "----"  [Final] Item 10-2. You-are-here indicator for local navigation

  Item 12 from the initial scheme showed two disagreements. The second coder suggested describing what the local navigation is for. As a result, I added “used for finding aid” to the item. In the final scheme, moreover, I created Item 10 “Local navigation.” Then, I moved “Persistent local navigation” and “You-are-here indicator for local navigation” items under Item 10 and allowed Items 10-1 and 10-2 to have additional code value “N/A (9)” since two items cannot be observed when a local navigation was absent from online finding aids.

• [Initial] Item 22. Usage of bullets in descriptions
  "----"  [Final] Item 22. Summarizing bullets in section body

  Although this item did not show a disagreement, there was a potential for misunderstanding what kind of bullets the item is examining. The intent was to check whether bullets are being used to improve scanability of section body. As a result, I clarified by adding the term “summarizing” to the final version. Moreover, the term “descriptions” was changed to “section body” in order to better articulate what this item is examining. Item 22 in the final scheme was also edited due to the same issue.

• [Final] Item 24. Visual indication of a hierarchical collection structure in the local navigation or the collection inventory

  In the final scheme, I introduced the additional code value “N/A (9)” because some online finding aids did not have both local navigation and collection inventory.
3.2 Sampling and Coding

To create a list of online finding aids, I used an archival material database, ArchiveGrid, which has archival metadata from more than 1,000 archival institutions. From ArchiveGrid, I exported an initial list of U.S. institutions located in 50 states and the District of Columbia.

The initial list included 1,344 institutions. From that list, I filtered institutions using two keywords, “university” and “college.” I made this decision to increase the possibility of encountering online finding aids based on the assumption that higher education institutions will likely have budget and staff to publish online finding aids. Then, I removed duplicates and institutions that were not actually a university or college (e.g., University Club of New York Library).

The filtered list included 729 institutions. Some online finding aids were accessible through ArchiveGrid, but other collections and items offered there just provided an abstract or summary. To locate online finding aids, I performed searches in Google using a search term that combines a name of an institution and the following keywords: “special collections,” “archives,” and “finding aids.” If there were no relevant results, I navigated to the institution’s main or library webpage to locate a link to its online finding aids.

Within the filtered list, 190 institutions were child institutions that were a part of their parent institution’s online finding aid system. Similarly, online finding aids from 91 institutions were served through their consortium’s system. For these two scenarios, I only selected each unique online finding aid system. Additionally, I excluded 109 institutions that provide their finding aids in a PDF or Microsoft Word format from the
list. Furthermore, I was not able to locate the online finding aids for 138 institutions using the strategy I described the above.

After filtering and refining the list, 264 institutions with unique online finding aid systems, including 11 consortia, remained. Finally, I randomly selected one finding aid from each institution’s system. Appendix 3 lists all examined online finding aids.

I conducted the analysis using the final coding scheme (Appendix 2), which consisted of 31 checklist items. During the analysis, I accessed all of the online finding aids using Safari 11.0.3 without browser extensions in macOS 10.13.3 environment.

During the analysis, moreover, I identified and counted finding aid systems using Archon and ArchivesSpace frameworks. The two frameworks were easily recognizable, and the finding aids using these frameworks shared similar usability features. For finding aids using the Archon framework, the Control Card view often acts as a landing page for a collection, but this view omits some information. Therefore, I examined a collection’s full finding aid view. As for finding aids using the ArchivesSpace framework, I reviewed a collection-level finding aid for the similar reason.
4. FINDINGS

Table 1 through Table 5 in this section show the results of each checklist item by code values, “Present,” “Absent,” and “N/A (i.e., not applicable)” (see Appendix B for the complete result). Among 264 online finding aids, 44 (16%) systems used the Archon framework and 60 (22%) systems used the ArchivesSpace framework. Additionally, 19 of 60 ArchivesSpace systems were using the v1.5.4 release or below.

Table 1. Results from Checklist Item 1 – 5

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Occurrence of the term “Finding Aid”</td>
<td>197</td>
<td>67</td>
<td>0</td>
</tr>
<tr>
<td>2-1</td>
<td>Occurrence of the term “Creator” in labels</td>
<td>155</td>
<td>109</td>
<td>0</td>
</tr>
<tr>
<td>2-2</td>
<td>Occurrence of the term “Extent” in labels</td>
<td>165</td>
<td>99</td>
<td>0</td>
</tr>
<tr>
<td>2-3</td>
<td>Occurrence of the term “Container” in labels</td>
<td>81</td>
<td>183</td>
<td>0</td>
</tr>
<tr>
<td>2-4</td>
<td>Occurrence of the term “Series” in labels</td>
<td>143</td>
<td>121</td>
<td>0</td>
</tr>
<tr>
<td>3</td>
<td>Explanation of finding aid function</td>
<td>3</td>
<td>261</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>Explanation of finding aid labels</td>
<td>2</td>
<td>262</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>Hover caption feature for explanations</td>
<td>2</td>
<td>262</td>
<td>0</td>
</tr>
</tbody>
</table>

4.1 Terminology and Labels

The archival literature on usability has discouraged using the phrase “finding aid” because it misleads archival users (Chapman, 2010a, 2010b; Daines & Nimer, 2011; Freund & Toms, 2016; Lack, 2007; Nimer & Daines, 2008; Scheir, 2006; Walton, 2017). Despite this, the results from Item 1 show 197 (74%) online finding aids included the phrase. In most cases, “finding aid” appeared in navigation labels and section headings. For example, the phrase appeared in the breadcrumb feature of Archon finding aids and the “Finding Aid & Administrative Information” section heading of ArchivesSpace finding aids. Additionally, the phrase appeared in descriptions when the archival document was referring to itself. The phrase “finding aid” rarely appeared in collection titles; however, an alternative term “guide” often appeared instead.
The terms “creator,” “extent,” “container,” and “series” were also the terms often identified in the usability studies as archival jargon. Items 2-1 to 2-4 examined the occurrence of these terms in finding aid labels, including section headings and attribute labels, and results show the four terms appeared in 155 (58%), 165 (62%), 81 (30%), and 143 (54%) online finding aids, respectively. Similar to findings by Kim (2004), these terms showed different wording and meaning. For instance, the term “extent” showed various synonyms, such as “physical description,” “quantity,” “size,” and “volume.” The term “container,” on the other hand, appeared as either a part of archival units (e.g., Container, Series, Box, and Folder) or a section heading for collection inventory (e.g., Container List).

While online finding aids frequently incorporated archival terminology, providing terminology explanations was extremely rare (Items 3 and 4). Three finding aids provided a statement explaining what this document is to their users on the webpage’s first fold (see Figures 1, 2, and 3).

**Figure 1. Ave Maria University Finding Aid**

“The finding aid contains a description of archival material held in the Canizaro Library at Ave Maria University. Unless otherwise noted, the materials described below are physically available in our reading room, and not digitally through the World Wide Web.”
Figure 2. University of North Carolina, Chapel Hill Finding Aid

“This is a finding aid. It is a description of archival material held in the Wilson Library at the University of North Carolina at Chapel Hill. Unless otherwise noted, the materials described below are physically available in our reading room, and not digitally available through the World Wide Web. See the Duplication Policy section for more information.”

Figure 3. University of Pennsylvania Finding Aid

“This is a finding aid. It is a description of archival material held at the University of Pennsylvania. Unless otherwise noted, the materials described below are physically available in our reading room, and not digitally available through the web.”

Moreover, two finding aids explained archival terminology (Item 4) via a hover caption feature (Item 5) (see Figures 4 and 5). When a user hovered over the collection title, the finding aid from SUNY-Albany showed an explanation of the term “Paper,” which is archival terminology. Similarly, a user could access the definition of section headings when they hovered over links in a UNC-CH finding aid’s local navigation.
Figure 4. SUNY, Albany Finding Aid

William E. Adams Papers
1966-1970

Also: Politics and Politicians

Figure 5. University of North Carolina, Chapel Hill Finding Aid

Collection Title: Guy Benton Johnson Papers

This collection has access restrictions.

Portions of this collection have been digitized as part of "Content, Context, and Capacity: Repackaging" made possible by funding from the federal Institute for Museum and Library Services (IMLS) under the division of the Department of Cultural Resources. This collection was rehoused and a summary created in ECHO.

Collection Overview

Size
61.0 feet of linear shelf space (approximate)

Abstract
Guy Benton Johnson was one of the origina University of North Carolina in 1927, retiring Benton Jr. (Benny) (b. 1928) and Edward (L
During the study, I observed some archival institutions providing explanations for archival terminology on their homepage. A user, however, can arrive at online finding aids directly from a web search (Chapman, 2010a). In such cases, users are not aware of explanations provided elsewhere on a website.

### 4.2 Navigation

The difficulty of navigating complex finding aids has been continuously reported by archival usability studies (Altman & Nemmers, 2001; Chapman, 2010a, 2010b; Daines & Nimer, 2011; Lack, 2007; Nimer & Daines, 2008; Prom, 2004; Scheir, 2006; Walton, 2017; Yakel, 2004).

**Table 2. Results from Checklist Item 6 – 12**

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Site ID (Institution name or logo)</td>
<td>227</td>
<td>37</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Section navigation (Top navigation)</td>
<td>219</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Page name (Collection name)</td>
<td>264</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>Breadcrumb feature</td>
<td>159</td>
<td>105</td>
<td>0</td>
</tr>
<tr>
<td>10</td>
<td>Local navigation</td>
<td>179</td>
<td>85</td>
<td>0</td>
</tr>
<tr>
<td>10-1</td>
<td>Persistent local navigation</td>
<td>91</td>
<td>88</td>
<td>85</td>
</tr>
<tr>
<td>10-2</td>
<td>You-are-here indicator for local navigation</td>
<td>50</td>
<td>129</td>
<td>85</td>
</tr>
<tr>
<td>11</td>
<td>Back-to-top feature</td>
<td>66</td>
<td>198</td>
<td>0</td>
</tr>
<tr>
<td>12</td>
<td>Footer navigation (Bottom navigation)</td>
<td>192</td>
<td>72</td>
<td>0</td>
</tr>
</tbody>
</table>

This study used nine checklist items to examine how many online finding aids implemented suggested navigational features. Among the nine checklist items, five items (Items 6, 7, 8, 10, and 12) were a part of “the basic convention for the Web (Krug, 2014, p. 65)” navigation elements. In this study, I considered the institution name or logo (Item 6) as the site ID element and the collection name (Item 8) as the page name element. I derived the remaining four items (Items 9, 10-1, 10-2, and 11) from recommendations.

I found that all 264 online finding aids had a page name. Moreover, the results from Items 6, 7, and 12 show that 227 (85%), 219 (82%), and 192 (72%) finding aids have a site ID, section navigation, and footer navigation respectively. If an institution’s main or library webpage hosted finding aids, I observed that all three elements were often present. While this was also true for finding aids using frameworks, many institutions were using the default framework template without any customization. For example, some finding aids using ArchivesSpace framework displayed the ArchivesSpace logo as the site ID, and the webpage’s footer navigation had links to “Staff Interface,” “ArchivesSpace.org,” and “LYRASIS.” There is a high possibility that users will get confused what website they are on.

For Items 10, 10-1, and 10-2, I examined features related to navigating within an online finding aid. The local navigation feature (Item 10), which is a part of the web convention, appeared in 179 (67%) finding aids. Previous usability studies have reported users get lost in finding aids, and therefore recommend letting users know “where they are in a finding aid at any given time” (Chapman, 2010a, p. 14). In this study, I chose to survey the implementation of two solutions: persistent local navigation and you-are-here indicators (Items 10-1 and 10-2).

Persistent local navigation allows users to access other finding aid sections anytime. You-are-here indicators provide a visual cue to users where they are at the moment. Among 179 finding aids with local navigation, 91 (50%) finding aids had Item 10-1 and 50 (27%) finding aids had Item 10-2. Furthermore, 33 (18%) finding aids
implemented both features. Traditionally, local navigations were often placed on the left or right side of a website. During this study, I observed some local navigation below the section navigation. For example, St. Catherine University used top local navigation. This navigational menu was not only persistent but also provided a robust you-are-here indicator that changes as a user scrolls down the finding aid (see Figure 6).

**Figure 6.** St. Catherine University Finding Aid. This figure shows section navigation, which includes links for the St. Catherine University library; local navigation, which includes links for finding aid sections; and a you-are-here indicator, which is the purple background color used in the local navigation.

The Mary Ellen Chase Collection consists of letters, photographs, and typescripts and publications both by and about Chase. The bulk of the letters date from the early 1920's through the 1930's and were received by various Sisters of St. Joseph of Carondolet, most notably Sister Ste. Helene Guthrie and Mother Antonia McHugh. Full of information about her publications and lecture tours, the "on-the-road" expectations of Chase provide an interesting contrast to her chapter on lecturing in The Goody Fellowship (1929). The typescripts and publications generally come from her earlier works, including her doctoral dissertation, but also includes "Whitby 106" (1934), the title referencing a classroom known as the "Miss Chase Room," written by Sister Antonine O'Brien at the request of the editors of To Dragma, the journal of the women's fraternity Alpha Omicron Pi. Other publications about Chase's visits and correspondence can also be found in the college publications Ariston, a literary journal, and La Concha, the year-book, which are available in the online Digital Collections.

**Organization**

The collection is organized into four series.

- Series 1 — Correspondence
- Series 2 — Typescripts and Publications
- Series 3 — Publications about Chase
- Series 4 — Photographs

**Administration**

Publication Information
The archival and web usability literature identified the breadcrumb (Item 9) and back-to-the-top (Item 11) features as beneficial to users (Chapman, 2010a; Farrell, 2015; Kim, 2004; Krug, 2014). Similar to you-are-here indicators, the breadcrumb feature assists users to know where they are and “make it easy to move back up to higher levels in the hierarchy of a site” (Krug, 2014, p. 79). I found this feature exists in 159 (60%) online finding aids. The back-to-top feature, on the other hand, was only offered on 66 (25%) finding aids. For finding aids that have persistent local navigation (Item 10-1), this feature may not be necessary because users can use links in the persistent local navigation to move back to the top. However, if a long finding aid does not have persistent local navigation, implementing this feature could significantly improve the usability of the finding aid.

Steve Krug (2014), an expert on web usability, argues that conforming to the conventional is critical since all users assume where a specific navigational element to be and how it will function. Needless to say, it is frustrating for a user when crucial navigational elements are missing. Therefore, archival institutions must consider implementing Items 6, 7, 8, 10, or 12, if any are missing from their online finding aids.

Furthermore, institutions with longer online finding aids need to review the benefits of providing recommended navigation features, such as Items 9, 10-1, 10-2, and 11, to mitigate the complexity of their finding aids.
4.3 Search

Archival studies have been reporting that users want to perform a global (i.e., across-collection) and local (i.e., within-collection) keyword search (Chapman, 2010a, 2010b; Daines & Nimer, 2011; Nimer & Daines, 2008; Prom, 2004; Scheir, 2006). In Item 13, the study’s focus was to survey whether online finding aids offer a local search function. The item also included an indication for browser built-in search (i.e., Control-F or Command-F) since it offers a similar function. I found Item 13 was present in 120 (45%) of the examined online finding aids.

Table 3. Result from Checklist Item 13

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>13</td>
<td>Local search box or browser built-in search indication</td>
<td>120</td>
<td>144</td>
<td>0</td>
</tr>
</tbody>
</table>

Among them, eight finding aids had the browser built-in search indication. While developing a local search solution may be complicated, Prom (2004) and Chapman (2010a) described it as relatively easy to add an instruction describing how to use the browser built-in search function on a finding aid. Institutions that cannot provide the local search function should consider adding the instruction (see Figures 5, 7, and 8). The function can significantly reduce users’ time spent on combing through content lists. Yet, if a finding aid consists of multiple webpages, it is important to remind users that the scope for browser built-in search is limited to the current page, not the entire finding aid.
During this study, I observed some search boxes were missing a search scope indication, i.e., “Search all finding aids” or “Search this finding aid.” The missing indication could potentially hurt the finding aid usability since users are likely to get confused when they see search results that include other collection materials.
4.4 Help and Web 2.0 Features

For surveying the help feature (Item 14), I used four keywords, “help,” “faq,” “frequent,” and “question,” to locate a link to a help or frequently asked questions (FAQ) webpage.

Table 4. Results from Checklist Item 14 – 16

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>Link to a help or frequently asked questions (FAQ) page</td>
<td>33</td>
<td>231</td>
<td>0</td>
</tr>
<tr>
<td>15</td>
<td>User comment feature</td>
<td>2</td>
<td>262</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>User tagging feature</td>
<td>0</td>
<td>264</td>
<td>0</td>
</tr>
</tbody>
</table>

Despite the evidence that these features are useful to novice users (Altman & Nemmers, 2001; Chapman, 2010a, 2010b; Lack, 2007), the results from this study show only 33 (12%) online finding aids had such a link. I did observe most online finding aids have a link to “Contact (us),” “Ask (question, librarian, archivist),” or “Chat” webpages. These link labels, however, do not signify the same meaning as the “Help” label does to users. Moreover, these webpages often do not provide self-educational content, which novice users are seeking.

Yakel and Torres (2003) proposed the concept “archival intelligence,” which is one of three factors that influences researchers’ success when they are searching for a primary source in archival institutions. They defined “archival intelligence” as “a researcher’s knowledge of archival principles, practices, and institutions” (p. 53). Daniels and Yakel (2010) noted that study participants who did not know about the underlying principles of archival description were frustrated. Providing a help page could raise the level of users’ archival intelligence: they will benefit by having a better understanding of a finding aid’s structure and a better chance of locating the desired information.
On the other hand, findings and discussions in the recent archival studies recommend that online finding aids should not add Web 2.0 features unless users prefer these features (Chapman, 2010b; Walton, 2017). This study found only two finding aids had a user comment feature (Item 15) and none had a user-tagging feature (Item 16), supporting earlier conclusions.

4.5 Straightforward and Visual Design

It is a well-documented fact that users do not read web documents word by word (Nielsen, 1997). Most of the users scan webpages and read relevant bits, which consist of a few words and sentences. The scanning behavior is apparent in eye-tracking studies where “users often read [w]eb pages in an F-shaped pattern: two horizontal stripes followed by a vertical stripe” (Nielsen, 2016) (Pernice, 2017; Schade, 2018). Archival studies of online finding aids, however, have been reporting they are difficult to scan.

This study examined elements from two design categories, straightforward (Item 17–22) and visual (Item 23–26) design.

Table 5. Results from Checklist Item 17–26

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>Section headings</td>
<td>263</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>18</td>
<td>Section heading formatting</td>
<td>263</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>One or more whitespace lines between sections</td>
<td>264</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>Collapsible sections</td>
<td>56</td>
<td>208</td>
<td>0</td>
</tr>
<tr>
<td>21</td>
<td>Summarizing bullets in section body</td>
<td>0</td>
<td>264</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>Show More/Less feature in section body</td>
<td>22</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>Collection-specific visual content</td>
<td>22</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>Visual indication of a hierarchical collection structure in the local navigation or the collection inventory</td>
<td>161</td>
<td>74</td>
<td>29</td>
</tr>
<tr>
<td>25</td>
<td>Visual indication for online materials in a collection</td>
<td>13</td>
<td>251</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>Visual indication for requesting collection materials</td>
<td>61</td>
<td>203</td>
<td>0</td>
</tr>
</tbody>
</table>
Straightforward Design

I defined straightforward design as structural design elements that support the F-shaped scanning behavior. I focused on finding aid section headings and bodies because these are the content areas where the two horizontal movements in the F-shaped pattern occur. The result from Item 17 shows 263 out of 264 online finding aids have section headings. All 263 section headings had formatting elements such as font family, font size, font style, or font color. I observed, however, some format styles were weak. In finding aids with a large amount of text, for example, a single element, such as an italicized or all-capitalized heading, was not enough to differentiate a section’s heading from the body of the section. Using two or more formatting elements for section headings seemed to provide stronger visibility, which supports scanning a finding aid quickly.

All observed online finding aids used one or more whitespace lines between sections (i.e., Item 19). These whitespace lines help users to identify where each section ends and begins. With a complicated finding aid, however, it can be cumbersome to scroll through lengthy sections. If sections are collapsible (Item 20), users can choose to open or close sections that are most relevant to them (see Figure 9). Yet, I found only 56 (21%) finding aids adopted this feature. In addition, I found only 22 (8%) finding aids, implemented the Show More/Less feature in a section body (Item 22) (see Figure 10). These finding aids were using ArchivesSpace and Access to Memory (AtoM) framework.
None of the online finding aids used summarizing bullets in a section body (Item 21). In her 2018 web usability article, Schade emphasized the benefits of the Inverted-Pyramid style for webpages. She recommends starting “content with the most important piece of information,” and even making the main takeaways into a bulleted list of key points. Although finding aids do provide an abstract, most of the sections are detail-oriented, which make sections difficult to scan.
Visual Design

I defined visual design as graphical design elements that provide visual cues to users when they are scanning an online finding aid. I focused on four primary user-finding aid interactions: landing on a collection, browsing a collection inventory, accessing online materials in a collection, and requesting collection materials.

Item 23, collection-specific visual content, helps users to make sense of where they have landed. For example, University of New Hampshire, Durham shows a portrait photo of Lotte Jacobi in her collection’s online finding aid (see Figure 11). I found 22 (8%) online finding aids had this type of visual content.

Figure 11. University of New Hampshire, Durham Finding Aid

Guide to the Lotte Jacobi Papers, 1898-2000

About Lotte Jacobi (1896-1990)

The photographer Johanne Alexander Jacobi Reiss, affectionately known as Lotte, was born in Thiers, West Prussia in 1896 in what is now Poland. When she was two years old, her family moved to nearby Poznań. In 1904, Lotte married and a year later gave birth to a son, Joachim. After Poznań became part of Poland in 1920, the Jacobi family moved to Berlin, Germany, where, after a long separation, Lotte's marriage ended in 1924.

Directly after the divorce, she began her film and camera work, studying film at the University of Munich, while simultaneously attending the Berlin State Academy of Photography. Photography ran in the Jacobi family. Lotte's great-grandfather, Samuel Jacobi, visited Paris between 1889 and 1892, where he obtained a camera, learned photography, and made some photographs. In 1902, Lotte's father, Julius, an upholsterer, handed the business down to his three sons, the eldest of whom was Lotte's father, Sigismund. Thus, there was always the expectation that Lotte and her sisters, Ruth (a brother, Alexander, died at age 20), would continue the family business. With such a heritage, Lotte once commented, “I was to be a photographer and that was that.”

After completing her formal studies, Jacobi entered the family business in 1927. During this same period (1926-31) she began her professional work as a photographer, and she also produced her films, the most important being “Portrait of the Artist,” a study of David Scharf, that entered in October of 1931 to the Soviet Jews, in particular the exhibition and collections, taking photographs of all she saw. She returned to Berlin in 1933, one month after Hitler came to power. As persecution against Jews increased, Lotte left Germany with her son, arriving in New York City in September 1933, where she opened a studio in Manhattan. In 1936, Lotte married Emil Reiss, a distinguished German publisher and writer, a marriage that lasted until his death in 1951. During this time, she continued her portrait photography of her studio, while also embarking on an experimental type of photographic work that until the late 1940s she rarely exhibited.

In 1935, Lotte left New York with her son and daughter-in-law and moved to Des Moines, New Hampshire, a move that changed her life. There she opened a new studio, where she continued her own work and displayed works by other artists. She became interested in politics and was a fervent Democrat, representing New Hampshire at the Democratic National Convention in 1948. She traveled extensively in the U.S., Europe, and Asia and enjoyed new-found fame in the 1970s and 1980s. She died in 1990 at the age of 93.

On the other hand, 161 (60%) online finding aids had Item 24, a visual indication of a hierarchical collection structure in the local navigation or the collection inventory. I included indentations and tree structures as indications. However, I did not consider a table with a series title, box and folder numbers repeatedly printed on each row as an
indication because the table does not show the structure visually. Similar to Item 18, I observed some indications were weak. In some finding aids using indentations, for example, the spacing was not wide enough to show the hierarchical structure of the archival units.

For the last two items, I examined finding aids for the presence of visual indications for accessing online materials in a collection (Item 25) and requesting collection materials (Item 26). I did not consider a hyperlinked text as a visual indication; an element had to have an icon or shape (e.g., a button). Thirteen (4%) online finding aids had a visual indication for accessing online materials while 61 (23%) finding aids had a visual indication for requesting collection materials.

Noticeable examples of Item 25 were finding aids from Duke University, Emory University, and UNC-CH (see Figures 12, 13, and 14). They had a strong indicator for digital content on the first fold. Some finding aids using Archon framework, on the other hand, provided a play icon (▶) for accessing online materials and a shopping cart icon (🛒) for requesting materials. These icons, however, were small and may be overlooked by users.

On the other hand, I did not encounter any online finding aids that indicated no online materials. In her usability study, Jackson (2012) argues the importance of not only “indicating [the] existence of digital content” but also “the lack of digital content viability” because “once users are familiar with the presence of digital content, they expect that it will be available” (p. 61).
Figure 12. Duke University Finding Aid

Guide to the Charles N. Hunter Papers, 1850s-1932 and undated

Digitized

Figure 13. Emory University Finding Aid

MULDOON, PAUL
PAUL MULDOON PAPERS, 1939-2016
Emory University
Stuart A. Rose Manuscript, Archives, and Rare Book Library
Atlanta, GA 30322
404-727-6887
rose.library@emory.edu
Permanent link: http://purl.emory.edu/ark:/25593/Vnn402

Digital Material Available In this Collection

Collection Stored Off-Site
All or portions of this collection are housed off-site. Materials can still be requested but requesters should expect a delay of up to two business days for retrieval.

Table of Contents
Description of Series

Figure 14. University of North Carolina, Chapel Hill Finding Aid

Collection Number: 03826
Collection Title: Guy Benton Johnson Papers, 1830-1882, 1901-1987

Digital Content
Some content for this collection is available online. Browse the contents for details.

This collection has access restrictions. For details, please see the restrictions.
4.6 Additional Observation

Before performing the content analysis, I searched the finding aids from the 729 archival institutions on the filtered list from Archive Grid. During this process, I observed that how institutions provide access to finding aids is inconsistent. For example, online finding aids can be delivered through any combination of the following locations: an institution’s main website, library website, library catalog system, archival description system (e.g., Archon and ArchivesSpace), archival repository system (e.g., CONTENTdm and DSpace), consortium website (e.g., Online Archive of California and Archives West), and aggregator website (e.g., ArchiveGrid). While providing archival descriptions on multiple platforms promotes access, I observed that some platforms only have a subset of finding aids from the archival institution. This practice could potentially mislead users to assume they are interacting with the entirety of archives.

While conducting the content analysis, I examined 264 online finding aids. During this process, I observed that the content of these archival documents ranged widely from only-narrative to just-inventory style. They had not only different amounts of description but also different sets of description elements. As I encountered more finding aids during the study, the boundary between what a finding aid is and what it is for became fuzzier. A Glossary of Archival and Records Terminology defines the term “finding aid” as:

“A description of records that gives the repository physical and intellectual control over the materials and that assists users to gain access to and understand the materials” (Pearce-Moses, 2005, p. 168).
In the note section, the glossary further describes the term as:

“[A] single document that places the materials in context by consolidating information about the collection, such as acquisition and processing; provenance, including administrative history or biographical note; scope of the collection, including size, subjects, media; organization and arrangement; and an inventory of the series and the folders” (Pearce-Moses, 2005, p. 168).

The above shows how finding aids are open to broad interpretation. The first definition indicates the document serves two user groups, archivists and archival material users, and has two different purposes. To take control over archival materials, archivists aim to put as much information as possible into finding aids. To users on the web, however, a finding aid is a “billboard going by at 60 miles an hour” (Krug, 2014, p. 21), and users are glancing at billboards to find archival materials that might be relevant to them. It is possible that finding aids’ dual-purpose nature may be the complicating factor to satisfying both user groups.
5. CONCLUSION

This study surveyed the current landscape of online finding aids’ usability. Despite repeated user feedback from usability studies, this study found that archival terminology still commonly appears in finding aids, but explanations for the terminology are rare. Most institutions implemented standard navigation elements to their finding aids, but the adoption of recommended navigation elements, such as persistent local navigation and you-are-here indicators, was low. A local search box or browser built-in search indication appeared on less than half of finding aids and the adoption of help and Web 2.0 features was low. All institutions formatted finding aid section headings, but stronger formatting could improve finding aid scanability. The study also found that the visual indications for a hierarchical collection structure appear in more than half of the finding aids, but indications for accessing online materials or requesting collection materials were rare.

As with most content analysis studies, there are limitations. First, I sampled online finding aids in this study from U.S. higher education archival institutions. The findings, therefore, may not reflect other types of archival institutions (i.e., government and corporate archives) or archival institutions in other countries. Within an archival institution, moreover, collections are processed to different levels of granularity. Because I selected one finding aid from each archival institution, it is possible that some of the selected finding aids came from archival collections with a minimal description. These incidents may have led some checklist items to be underreported. For example, the ArchivesSpace framework provides the Show More/Less feature for a finding aid section
body (Item 22). If the body had a short description, however, the system would not show the feature, and the study would have counted it as “Absent (0).”

Lastly, the unit of analysis was an online finding aid webpage, which is a component of a larger archival institution website. Examinations of other website components are needed to get a holistic view of user experience. Furthermore, broader issues, such as website architecture, global (i.e., across-collection) search and browse feature, and online material delivery interface, need further investigation.

While this study does have limitations, findings show online finding aids still need improvements. Along with this study, recent archival studies have provided consolidated usability recommendations. Walton (2017) included ten usability guidelines for online finding aids. Chapman (2010a), moreover, published an article that explains “tech-lite” and “tech-heavy” solutions for improving online finding aid usability. Furthermore, the web usability literature also provides ample amount of recommendations, which online finding aids can use. Using these resources, archival institutions should consider updating their writing guideline to suit online finding aids better for the web.

Unlike paper finding aids, online finding aids are webpages, and if web users experience a usability issue on a webpage, they leave (Nielsen, 2012). When considering the web is now the primary platform to provide access to archival materials, improving the usability of online finding aids is worthy of archivists’ attention. As the web evolves, user’s expectations on web usability also shift. Improving online finding aid usability, therefore, is not an annual activity, but a constant commitment. Further usability testing and studies focusing on answering who uses archival description, how, and why are
required. Such research will allow archivists to better understand the needs of online
users and draw a blueprint for an archival access system tailored to web users.
BIBLIOGRAPHY


Nimer, C., & Daines, J. G. (2008). What do you mean it doesn’t make sense?


https://doi.org/10.17723/aarc.67.2.7317671548328620


APPENDICES

Appendix A List of Archival and Web Usability Publications

https://doi.org/10.17723/aarc.64.1.80300272655rqu74


https://doi.org/10.1080/15332748.2010.484361

https://doi.org/10.1080/15332748.2011.574019

https://doi.org/10.17723/aarc.73.2.p578900680650357


Appendix B List of Checklist Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Note</th>
<th>Present</th>
<th>Absent</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Terminology and Labels</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td>Occurrence of the term “Finding Aid”</td>
<td>197</td>
<td>67</td>
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</tr>
<tr>
<td>2-1</td>
<td>Occurrence of the term “Creator” in labels</td>
<td>155</td>
<td>109</td>
<td>0</td>
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<tr>
<td>2-2</td>
<td>Occurrence of the term “Extent” in labels</td>
<td>165</td>
<td>99</td>
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<td>Occurrence of the term “Container” in labels</td>
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<td>3</td>
<td>Explanation of finding aid function</td>
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<td>261</td>
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<td>4</td>
<td>Explanation of finding aid labels</td>
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<td>262</td>
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</tr>
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<td>5</td>
<td>Hover caption feature for explanations</td>
<td>2</td>
<td>262</td>
<td>0</td>
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<tr>
<td><strong>Navigation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Site ID (Institution name or logo)</td>
<td>227</td>
<td>37</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>Section navigation (Top navigation)</td>
<td>219</td>
<td>45</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Page name (Collection name)</td>
<td>264</td>
<td>0</td>
<td>0</td>
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<tr>
<td>9</td>
<td>Breadcrumb feature</td>
<td>159</td>
<td>105</td>
<td>0</td>
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<tr>
<td>10</td>
<td>Local navigation used for finding aid</td>
<td>179</td>
<td>85</td>
<td>0</td>
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<tr>
<td>10-1</td>
<td>Persistent local navigation</td>
<td>91</td>
<td>88</td>
<td>85</td>
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<tr>
<td>10-2</td>
<td>You-are-here indicator for local navigation</td>
<td>50</td>
<td>129</td>
<td>85</td>
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<tr>
<td>11</td>
<td>Back-to-top feature</td>
<td>66</td>
<td>198</td>
<td>0</td>
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<tr>
<td>12</td>
<td>Footer navigation (Bottom navigation)</td>
<td>192</td>
<td>72</td>
<td>0</td>
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<tr>
<td><strong>Search</strong></td>
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<td></td>
<td></td>
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<tr>
<td>13</td>
<td>Local search box or browser built-in search indication</td>
<td>120</td>
<td>144</td>
<td>0</td>
</tr>
<tr>
<td><strong>Help Feature</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Link to a help or frequently asked questions (FAQ) page</td>
<td>33</td>
<td>231</td>
<td>0</td>
</tr>
<tr>
<td><strong>Web 2.0 Feature</strong></td>
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<td></td>
<td></td>
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<tr>
<td>15</td>
<td>User comment feature</td>
<td>2</td>
<td>262</td>
<td>0</td>
</tr>
<tr>
<td>16</td>
<td>User tagging feature</td>
<td>0</td>
<td>264</td>
<td>0</td>
</tr>
<tr>
<td><strong>Straightforward and Visual Design</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Section headings</td>
<td>263</td>
<td>1</td>
<td>0</td>
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<tr>
<td>18</td>
<td>Section heading formatting</td>
<td>263</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>19</td>
<td>One or more whitespace lines between sections</td>
<td>264</td>
<td>0</td>
<td>0</td>
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<tr>
<td>20</td>
<td>Collapsible sections</td>
<td>56</td>
<td>208</td>
<td>0</td>
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<tr>
<td>21</td>
<td>Summarizing bullets in section body</td>
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<td>264</td>
<td>0</td>
</tr>
<tr>
<td>22</td>
<td>Show More/Less feature in section body</td>
<td>22</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>23</td>
<td>Collection-specific visual content</td>
<td>22</td>
<td>242</td>
<td>0</td>
</tr>
<tr>
<td>24</td>
<td>Visual indication of a hierarchical collection structure in the local navigation or the collection inventory</td>
<td>161</td>
<td>74</td>
<td>29</td>
</tr>
<tr>
<td>25</td>
<td>Visual indication for online materials in a collection</td>
<td>13</td>
<td>251</td>
<td>0</td>
</tr>
<tr>
<td>26</td>
<td>Visual indication for requesting collection materials</td>
<td>61</td>
<td>203</td>
<td>0</td>
</tr>
</tbody>
</table>
Appendix C List of Online Finding Aids

1. Alabama, Auburn University:
   http://www.lib.auburn.edu/archives/find-aid/448.htm

2. Alabama, Samford University:
   https://library.samford.edu/archives/collections/findaid&id=4&q=

3. Alabama, University of Alabama, Birmingham:
   http://library.uab.edu/locations/archives/collections/manuscripts/numerical/collection-mc46

4. Alabama, Troy University:
   https://www.troy.edu/wiregrassarchives/inventories/117.html

5. Alaska, University of Alaska, Anchorage:
   https://archives.consortiumlibrary.org/collections/specialcollections/hmc-0376/

6. Alaska, University of Alaska, Fairbanks:
   http://star.library.uaf.edu/

7. Arizona, Arizona Archives Online:
   http://azarchivesonline.org/xtf/view?docId=ead/uoa/UAMS594.xml

8. Arkansas, University of Arkansas, Fayetteville:
   https://libraries.uark.edu/specialcollections/findingaids/ead/transformation.asp?xml=mc1806&xsl=findingaid

9. Arkansas, University of Arkansas, Little Rock; Center for Arkansas History and Culture:
   http://arstudies.contentdm.oclc.org/utils/findingaidfull/collection/findingaids/id/4554

10. Arkansas, University of Central Arkansas:
    http://uca.edu/archives/m89-33-milford-pete-atkinson-collection/

11. California, Online Archives of California:
    http://www.oac.cdlib.org/findaid/ark:/13030/c8125zg8

12. California, Saint Mary's College:

13. Colorado, Colorado State University:
    https://lib2.colostate.edu/archives/findingaids/university/urbb.html

14. Colorado, Colorado State University, Pueblo:
    https://archon.csupueblo.edu/?p=collections/findingaid&id=39

15. Colorado, Regis University Library:
    http://libguides.regis.edu/varnell

16. Colorado, University of Colorado, Boulder:
    http://archives.colorado.edu/repositories/2/resources/390

17. Colorado, University of Denver:
    https://duarchives.coalliance.org/repositories/2/resources/167

18. Colorado, University of Northern Colorado:
    https://uncoarchives.coalliance.org/repositories/2/resources/280

19. Colorado, Colorado College:
    https://libraryweb.coloradocoll.edu/library/specialcollections/Manuscript/Beidleman.html

20. Colorado, Fort Lewis College; Center of Southwest Studies:
    https://swecenter.fortlewis.edu/finding_aids/Andrew_Gulliford.htm
21. Connecticut, Central Connecticut State University:
https://library.ccsu.edu/help/spcoII/equity/cardarelli.php

22. Connecticut, University of Connecticut:
http://archives.lib.uconn.edu/islandora/object/20002:860123188

23. Connecticut, University of Hartford:
http://archives.hartford.edu:8081/repositories/2/resources/67

24. Connecticut, Wesleyan University:
http://www.wesleyan.edu/libr/schome/FAs/be2009-32.xml

25. Connecticut, Western Connecticut State University:
http://archives.library.wcsu.edu/findingaids/geddes.xml

26. Connecticut, Yale University:
http://hdl.handle.net/10079/fa/mssa.ms.0809

27. Connecticut, Connecticut College:
http://collections.conncoll.edu/caron/learcars.html

28. Delaware, University of Delaware:
https://library.udel.edu/special/findingaids/view?docId=ead/mss0127.xml

29. District of Columbia, American University:
https://www.american.edu/library/archives/finding_aids/bliss_fa.cfm

30. District of Columbia, Catholic University of America:
http://archives.lib.cua.edu/findingaid/kane.cfm

31. District of Columbia, Dumbarton Oaks Research Library and Collection, Trustees for Harvard University:

32. District of Columbia, Gallaudet University:
http://www.gallaudet.edu/archives-and-deaf-collections/collections/manuscripts/mss-005

33. District of Columbia, George Washington University:
https://library.gwu.edu/ead/ms0766.xml

34. District of Columbia, Georgetown University:
https://findingaids.library.georgetown.edu/repositories/15/resources/10196

35. Florida, Ave Maria University:
https://avemariauniversity.conted.oclc.org/digital/collection/p17148coll3

36. Florida, Barry University:
http://eguides.barry.edu/c.php?g=287071&p=1912060

37. Florida, Florida Atlantic University:

38. Florida, Florida International University:

39. Florida, Florida State University:
http://fsuarchon.fcla.edu/index.php?p=collections/findingaid&id=244
40. Florida, University of Central Florida:

41. Florida, University of Florida:
http://web.uflib.ufl.edu/spec/pkyonge/jenningswilliams.htm

42. Florida, University of Miami:
http://proust.library.miami.edu/findingaids/index.php?p=collectionsfindingaid&id=446

43. Florida, University of North Florida:

44. Florida, University of South Florida:
http://digital.lib.usf.edu/SFS0032062/00001

45. Florida, University of West Florida Libraries:
http://librarydigitalservices.uwf.edu/Archon/index.php?p=collectionsfindingaid&id=88

46. Florida, New College of Florida:

47. Florida, Rollins College:
https://aspace.rollins.edu/repositories/2/resources/97

48. Georgia, Atlanta University Center:
http://findingaids.auctr.edu/arc/view?docId=ead/auctr.edu/lemoine_deleaver_pierce.xml

49. Georgia, Columbus State University:
https://archives.columbusstate.edu/findingaids/mc293.php

50. Georgia, Emory University:
https://findingaids.library.emory.edu/documents/muldoon784

51. Georgia, Georgia State University:
http://digitalcollections.library.gsu.edu/utils/findingaidfull/collection/findingaids/id/245

52. Georgia, Kennesaw State University:
http://archivesspace.kennesaw.edu/repositories/4/resources/154

53. Georgia, Oglethorpe University:
http://library.oglethorpe.edu/archives/manuscript-files/mf6-n-pope-collection-1938-1943/

54. Georgia, University of Georgia:
http://hmfa.libs.uga.edu/hmfa/view?docId=ead/ms2807-ead.xml

55. Georgia, University of West Georgia:
http://uwg.galileo.usg.edu/uwg/view?docId=ead/MS-0018-ead.xml

56. Georgia, Valdosta State University:

57. Hawaii, University of Hawai'i, Manoa:

58. Idaho, Idaho State University:
http://libpublic2.eol.isu.edu/old/special/mc024.htm

59. Illinois, Chicago State University:
http://library.csu.edu/asc/findingaids/CNC_1867-1896.xml

60. Illinois, DePaul University:
http://archives.depaul.edu/repositories/2/resources/139

61. Illinois, Eastern Illinois University:
62. Illinois, Illinois State University:  

63. Illinois, Northwestern University:  
https://findingaids.library.northwestern.edu/repositories/6/resources/159

64. Illinois, Southern Illinois University, Carbondale:  

65. Illinois, University of Chicago:  
https://www.lib.uchicago.edu/e/src/findingaids/view.php?eadid=ICU.SPCL.EGABBOTT

66. Illinois, University of Illinois, Urbana Champaign:  
https://archives.library.illinois.edu/archon/index.php?p=collections/findingaid&id=9884

67. Illinois, University of Illinois, Chicago:  
http://findingaids.library.uic.edu/sc/MSRLC_04.xml

68. Illinois, University of Illinois, Springfield:  

69. Illinois, Knox College:  
http://library.knox.edu/archives/MSS/MSS-GaleFamily.htm

70. Illinois, MacMurray College:  
https://www.mac.edu/archives/finding_aids/michelson.html

71. Illinois, North Central College:  
http://library.nocotr.edu/archives/collections/fawell/index.html

72. Illinois, Wheaton College:  
https://archon.wheaton.edu/?p=collections/findingaid&id=1922

73. Indiana, Indiana University:  
http://purl.dlib.indiana.edu/iudl/findingaids/archives/InU-Ar-VAA7487

74. Indiana, Indiana University–Purdue University Indianapolis:  
https://ulib.iupui.edu/collections/general/mss008

75. Indiana, Purdue University:  
https://archives.lib.purdue.edu/repositories/2/resources/234

76. Indiana, University of Notre Dame:  
https://rbsc.library.nd.edu/finding_aids/und:mc87pn91w5s

77. Indiana, Earlham College:  

78. Iowa, Iowa State University:  
http://findingaids.lib.iastate.edu/spcl/manuscripts/MS394.html

79. Iowa, University of Iowa:  

80. Iowa, University of Northern Iowa:  
https://library.uni.edu/collections/special-collections/manuscript-list/lynn-cutler-papers

81. Iowa, Grinnell College:  

82. Kansas, Kansas State University:  
http://www.lib.k-state.edu/depts/sc_rev/findaids/ua2001-02.php

83. Kansas, University of Kansas:  
http://etext.ku.edu/view?docId=krslead/ksrl.ua.weissthomas.xml
84. Kansas, Wichita State University: 

85. Kentucky, Eastern Kentucky University: 
http://findingaids.eku.edu/?p=col lections.findingaid&id=257

86. Kentucky, Northern Kentucky University: 
https://steelyarchives.nku.edu/spe cialcollections/alphabeticallist/Vi rginiaStallingsPapers.html

87. Kentucky, University of Kentucky: 
https://nyx.uky.edu/fa/findingaid/ ?id=xt7jws8hf793

88. Kentucky, University of Louisville: 
https://archivescatalog.library.lou isville.edu/repositories/2/resources/s/121

89. Kentucky, Berea College: 

90. Kentucky, Centre College: 
http://library.centre.edu/sc/record s/cc129.html

91. Louisiana, Tulane University; 
Amistad Research Center: 
http://amistadresearchcenter.tulan e.edu/archon/?p=collections/findi ngaid&id=40

92. Louisiana, Tulane University; 
Louisiana Research Collection: 

93. Louisiana, University of Louisiana, 
Lafayette: 
https://library.louisiana.edu/node/ 406

94. Maine, University of Maine: 
http://archives.library.umaine.edu /repositories/2/resources/2376

95. Maine, University of New England: 
http://archivespace.une.edu:8081/repositories/3/resources/431

96. Maine, Bates College: 
http://abacus.bates.edu/muskie-archives/EADFindingAids/MC105.html

97. Maine, Bowdoin College: 
https://library.bowdoin.edu/arch/ mss/rabg.shtml

98. Maryland, Howard University; 
School of Law: 
https://hulawaspace.wrlc.org/pub lic/repositories/2/resources/1

99. Maryland, Johns Hopkins University: 
http://aspace.library.jhu.edu/repo sitories/4/resources/1177

100. Maryland, University of Baltimore: 
https://archivesspace.ubalt.edu/re positories/2/resources/47

101. Maryland, University of Maryland: 
http://hdl.handle.net/1903.1/4601

102. Maryland, University of Maryland, 
Baltimore County: 
https://library.umbc.edu/speccoll/ findingaids/coll007.php

103. Maryland, McDaniel College: 

104. Maryland, Saint Mary's College of Maryland: 
http://www.smc.edu/finding-guides/mss001.html
105. Massachusetts, Boston University; School of Theology: http://sthauschon.bu.edu/index.php?p=collectionsfindingaid&id=422
106. Massachusetts, Brandeis University: http://findingaids.brandeis.edu/repositories/2/resources/122
108. Massachusetts, Northeastern University: http://archivesspace.library.northeastern.edu:8081/repositories/2/resources/923
109. Massachusetts, Tufts University: https://dl.tufts.edu/catalog/ead/tufts:UA069.001.DO.MS226
110. Massachusetts, University of Massachusetts, Amherst: http://scua.library.umass.edu/ead/mums590.html
111. Massachusetts, Berklee College of Music: https://archives.berklee.edu/_archives/archives_content/FindingAids/BCA-020_Friedman.html
113. Massachusetts, Williams College: http://archivesspace.williams.edu:8081/repositories/2/resources/169
114. Massachusetts, Five College Archives and Manuscript Collections: http://asteria.fivecolleges.edu/findingaids/amherst/ma265.html
115. Michigan, Central Michigan University: https://quod.lib.umich.edu/c/clark/e/ehll--loeb?subview=standard;view=results
117. Michigan, Grand Valley State University: https://gvsu.lyrasistechnology.org/repositories/2/resources/432
118. Michigan, Michigan State University: http://as.lib.msu.edu/repositories/2/resources/1493
120. Michigan, Oakland University: https://library.oakland.edu/archives/findingaids/collection.php?collection=OUPRESIDENT.ODOWD
121. Michigan, University of Michigan: https://quod.lib.umich.edu/b/bhl/90118
122. Michigan, University of Michigan, Flint: http://www.umflint.edu/archives/ralph-m-freeman-papers
123. Michigan, Western Michigan University: https://aspace.library.wmich.edu/repositories/2/resources/58
125. Minnesota, Saint Cloud State University:
https://libsys.stcloudstate.edu/arc
hon/?p=collections/findingaid&id=155

126. Minnesota, St. Catherine University:
http://library.stkate.edu/archives/guidechase

127. Minnesota, University of Minnesota, Twin Cities:
http://archives.lib.umn.edu/repositories/11/resources/5910

128. Minnesota, University of St. Thomas:
https://stthomas.libraryhost.com/?p=collections/findingaid&id=86

129. Minnesota, Gustavus Adolphus College:

130. Mississippi, University of Mississippi:
http://www.olemiss.edu/depts/general_library/archives/finding_aids/MUM00297.html

131. Missouri, Saint Louis University:
http://archives.slu.edu/repositories/2/resources/47

132. Missouri, Southeast Missouri State University:
http://library.semo.edu:8081/repositories/2/resources/228

133. Missouri, Truman State University:
http://library.truman.edu/manuscripts/laughlinindex.asp

134. Missouri, University of Missouri, Columbia; Special Collections:
http://libraryguides.missouri.edu/pressephephema

135. Missouri, University of Missouri, Columbia; University Archives:
https://muarchives.missouri.edu/uw-rg4-s37.html

136. Missouri, University of Missouri, St. Louis:
https://www.umsl.edu/library/university-archives/facultyfiles/11-2-1.html

137. Missouri, Washington University, St. Louis; Bernard Becker Medical Library:

138. Missouri, Washington University, St. Louis:

139. Nebraska, University of Nebraska:
http://archivespec.unl.edu/findingaids/ms089-kopecky-unl.html

140. Nebraska, University of Nebraska, Omaha: http://unomaha-
public.lyrasistechnology.org/repositories/4/resources/416

141. Nevada, University of Nevada, Reno:
http://dewey.library.unr.edu/xtf/view?docld=ead/82-11-
ead.xml;brand=default

142. New Hampshire, University of New Hampshire, Durham:

143. New Hampshire, Dartmouth College:
http://ead.dartmouth.edu/html/ms1024_fullguide.html
144. New Jersey, Princeton University: https://findingaids.princeton.edu/collections/MC215

145. New Jersey, Rutgers University: http://www2.scc.rutgers.edu/ead/manuscripts/Barboza-Clarkf.html

146. New Jersey, Seton Hall University: https://archivesspace-library.shu.edu/repositories/2/resources/180

147. New Jersey, University of Medicine and Dentistry of New Jersey: https://www.libraries.rutgers.edu/history_of_medicine/manuscripts/ chinard


149. New Mexico, Rocky Mountain Online Archive: https://rmoa.unm.edu/docviewer.php?docId=nmalummamma2.xml


156. New York, Stony Brook University: http://www.stonybrook.edu/commcms/lbspicial/collections/manuscripts/chang.html

157. New York, Syracuse University: https://library.syr.edu/digital/guides/e/cassara_b.htm


159. New York, University of Rochester: http://rbscp.lib.rochester.edu/4710

160. New York, University of Rochester; Eastman School of Music: https://www.esm.rochester.edu/sibley/specialcollections/findingaids/charles-warren-fox-papers/

161. New York, Yeshiva University: http://libfindaids.yu.edu:8082/xtf/view?docId=ead/aarondavidburack.xml;query=;brand=default


164. New York, College of Staten Island, CUNY:
   http://www.library.csi.cuny.edu/archives/FindingAids/fa0047.htm

165. New York, Hamilton College:
   http://archives.hamilton.edu/repositories/5/resources/17

166. New York, Hartwick College Stevens:
   http://info.hartwick.edu/library/archives/gerry/moreinfo.html

167. New York, Hobart and William Smith Colleges:
   http://archivesspace.hws.edu/repositories/2/resources/82

168. New York, Queens College:
   http://archives.qc.cuny.edu/findings/MichaelWreszin

169. New York, SUNY, Potsdam:
   http://library.potsdam.edu/c.php?g=509816&p=3506320

170. New York, SUNY Maritime College:
   http://sunymaritimearchives.libraryhost.com/repositories/2/resources/19

171. New York, Sarah Lawrence College:

172. New York, Vassar College:
   https://specialcollections.vassar.edu/collections/archives/findingaids/president/simpson_alan.html

173. North Carolina, Appalachian State University:
   http://www.collections.library.appstate.edu/findingaids/ac318

174. North Carolina, Duke University:
   https://library.duke.edu/rubenstein/findingaids/huntercharles/

175. North Carolina, East Carolina University:
   https://digital.lib.ecu.edu/special/ead/findingaids/1293

176. North Carolina, Elon University:
   http://archives.elon.edu/repositories/2/resources/83

177. North Carolina, North Carolina State University:
   https://www.lib.ncsu.edu/findingaids/mc00485

178. North Carolina, Pfeiffer University:
   http://library.pfeiffer.edu/pfeiffer-merner.html

179. North Carolina, University of North Carolina, Chapel Hill:
   http://findingaids.lib.unc.edu/03826/

180. North Carolina, University of North Carolina, Greensboro:

181. North Carolina, University of North Carolina, Asheville:
   http://toto.lib.unca.edu/findingaids/mss/joyner_joseph/default_joyner_joseph.html

182. North Carolina, University of North Carolina, Charlotte:
   https://findingaids.uncc.edu/repositories/4/resources/308

183. North Carolina, University of North Carolina, Wilmington:
   http://archivesspace.uncw.edu/repositories/5/resources/411
184. North Carolina, Wake Forest University: https://wakespace.lib.wfu.edu/handle/10339/89885
187. North Dakota, University of North Dakota: https://apps.library.und.edu/archon/?p=collections/findingaid&id=293
188. Ohio, Bowling Green State University: https://lib.bgsu.edu/finding_aids/items/show/2755
189. Ohio, Kent State University: https://www.library.kent.edu/archold-adoff-papers
190. Ohio, Miami University: http://archivesspace.lib.miamioh.edu/repositories/7/resources/522
191. Ohio, Ohio State University: https://library.osu.edu/finding-aids/ead/UA/RG.42.142.xml
192. Ohio, OhioLINK Finding Aid: http://ead.ohiolink.edu/xtf-ead/view?docId=ead/OUN0193.xml
196. Oklahoma, Oklahoma State University: http://archivespaces.library.okstate.edu:8081/repositories/3/resources/35
197. Oklahoma, University of Oklahoma: https://arcou.edu/repositories/3/resources/153
198. Oklahoma, University of Tulsa: https://utulsa.as.atlast-sys.com/repositories/3/resources/587
200. Oregon, Oregon State University: http://scarc.library.oregonstate.edu/findaids/?p=collections/findingaid&id=8
201. Oregon, Pacific University: https://pacificu.libraryhost.com/repositories/2/resources/39
204. Pennsylvania, Bucknell University: http://catalog.archivesspace.bucknell.edu/repositories/2/resources/454
205. Pennsylvania, Drexel University: https://idea.library.drexel.edu/islandora/object/idea%3A5020
206. Pennsylvania, Duquesne University:
   http://archives.library.duq.edu/repositories/4/resources/50

207. Pennsylvania, Edinboro University of Pennsylvania:
   http://as-edinboro.klnpa.org/repositories/2/resources/15

208. Pennsylvania, Lehigh University:
   https://archivesspace.lib.lehigh.edu/repositories/3/resources/259

209. Pennsylvania, Millersville University:
   https://millersville.as.atlas-sys.com/repositories/2/resources/314

210. Pennsylvania, Pennsylvania State University:
   https://www.libraries.psu.edu/findingaids/754.htm

211. Pennsylvania, Temple University:
   https://library.temple.edu/scrc/arlene-tyner-papers

212. Pennsylvania, University of Pennsylvania Finding Aids:
   http://dla.library.upenn.edu/dla/ead/ead.html?id=EAD_upenn_bates_PUNMC133&

213. Pennsylvania, University of Pittsburgh:
   http://digital2.library.pitt.edu/islandora/object/pitt:US-PPiU-sci198301/from_search/69b2374cbe088ffa085560e674a4ddfe-12

214. Pennsylvania, Villanova University:
   https://library.villanova.edu/about/departments/collectionsdirectorate/digitallibrary/findingaids/sherwmanthackara

215. Pennsylvania, West Chester University:
   http://as-wcupa.klnpa.org/repositories/2/resources/1

216. Pennsylvania, Bryn Athyn College:
   http://archivesspace.brynathyn.edu:8081/repositories/4/resources/51

217. Pennsylvania, College of Physicians of Philadelphia:
   http://cpparchives.org/repositories/2/resources/46

218. Pennsylvania, Elizabethtown College:
   http://etownarchives.libraryhost.com/?p=collections/findingaid&id=1

219. Pennsylvania, Swarthmore College:
   http://www.swarthmore.edu/library/friends/ead/7005lungren.xml

220. Pennsylvania, Swarthmore College; Peace Collection:
   https://www.swarthmore.edu/Library/peace/DG100-150/dg140Alexander.htm

221. Rhode Island, Rhode Island Archival and Manuscript Collections Online:

222. Rhode Island, Providence College:
   http://library.providence.edu/special-collections/13_012-kellogg-grant-project

223. South Carolina, Furman University:
   https://libguides.furman.edu/special-collections/13_012-kellogg-grant-project

224. South Carolina, University of South Carolina:
   http://library.sc.edu/socar/mnscrpts/babcockh.html
225. South Carolina, University of South Carolina Upstate: http://archivespace.uscupstate.edu:8081/repositories/2/resources/3

226. South Carolina, College of Charleston: http://archives.library.cofc.edu/findingaids/mss1065-028.html


228. South Dakota, South Dakota State University: https://www.sdsstate.edu/sdsu-archives-and-special-collections/bert-popowski-papers

229. Tennessee, East Tennessee State University: http://archives.etsu.edu/repositories/2/resources/186

230. Tennessee, Lincoln Memorial University: http://library.lmunet.edu/archives/2016-057

231. Tennessee, University of Tennessee, Chattanooga: http://findingaids.library.utc.edu/repositories/2/resources/193

232. Tennessee, University of Tennessee, Knoxville: http://dlc.lib.utk.edu/spc/view?docId=ead/0012_002392_000000_0000/0012_002392_000000_0000.xml

233. Tennessee, Vanderbilt University: https://collections.library.vanderbilt.edu/repositories/2/resources/1597


235. Texas, Rice University: http://archives.library.rice.edu/repositories/2/resources/263

236. Texas, Sam Houston State University: https://archon.shsu.edu/?p=collections/findingaid&id=98

237. Texas, Southwestern University: http://ahab.southwestern.edu/info/services/departments/specialcollections/finding-aids/Hill.html

238. Texas, St. Edward's University: http://archives.stedwards.edu:8081/repositories/2/resources/13

239. Texas, Stephen F. Austin State University: https://library.sfasu.edu/findingaids/?p=collections/findingaid&id=446

240. Texas, Texas A&M University: http://archon.library.tamu.edu/?p=collections/findingaid&id=10

241. Texas, Texas Christian University: https://archives.tcu.edu/repositories/2/resources/116


244. Texas, University of Saint Thomas: https://stthomas.libraryhost.com/?p=collections/findingaid&id=49
245. Texas, Texas Archival Resources Online:
   https://legacy.lib.utexas.edu/taro/uthsca/00033/hscsa-00033.html

246. Texas, University of Texas, Dallas:
   https://www.utdallas.edu/library/specialcollections/universityarchives/UTDADVANCECollection.html

247. Utah, Brigham Young University:
   https://findingaid.lib.byu.edu/viewItem/MSS%202350

248. Utah, Westminster College:
   https://collections.lib.utah.edu/details?id=1097190

249. Vermont, University of Vermont:
   http://scfindingaids.uvm.edu/repositories/2/resources/269

250. Vermont, Middlebury College:
   http://archivesspace.middlebury.edu/repositories/2/resources/93

251. Vermont, Saint Michael's College:
   http://www.smelibrary.com/archon/?p=collections/findingaid&id=157

252. Virginia, George Mason University:
   https://scrc.gmu.edu/finding_aids/bosworth.html

253. Virginia, Old Dominion University:
   http://www.lib.odu.edu/archon/?p=collections/findingaid&id=167

254. Virginia, Radford University:
   https://mozart.radford.edu/archives/findingaids/dedmon-official.html

255. Virginia, Virginia Heritage:
   http://search.vaheritage.org/vivaxtf/view?docId=uva-hs/viuh00039.xml

256. Virginia, Virginia Commonwealth University:
   http://archives.library.vcu.edu/repositories/5/resources/178

257. Virginia, Washington and Lee University:
   https://www.archivesspace.wlu.edu/repositories/4/resources/609

258. Virginia, College of William and Mary:
   http://scdb.swem.wm.edu/?p= collections/findingaid&id=7801

259. Washington, Washington State University:
   http://ntserver1.wsulibs.wsu.edu/masc/finders/ua278.htm

260. West Virginia, West Virginia University:
   https://archives.lib.wvu.edu/repositories/2/resources/6152

261. Wisconsin, Lawrence University:
   http://archives.lawrence.edu/?p= collections/findingaid&id=335

262. Wisconsin, Marquette University:
   http://www.marquette.edu/library/archives/Mss/JPC/JPC-sc.php

263. Wisconsin, Archival Resources in Wisconsin:
   http://digital.library.wisc.edu/1711.dl/wiarchives.uw-whs-mil00008

264. Wisconsin, Alverno College:
   http://lampout1.alverno.edu/archives/archome/academicdean1.htm