

Telling Their Stories: Using Outreach to Create Biographies of Alumni Veterans

by Jason G. Speck

Abstract

When a donor demanded that one of its treasures be returned, the University of Maryland Archives could have become territorial or defensive. Instead, the Archives used the request as an opportunity to work more closely with that donor, recognizing that what the donor really wanted was enhanced access. Out of this potentially difficult situation came the creation of a new student internship program, one which has received widespread positive publicity for its work in creating biographies of alumni veterans who perished in service to their country. These biographies will eventually serve as the foundation for a website that will provide the access that the donor desires. This new form of outreach has also benefitted the Archives by raising its profile on campus.

On November 19, 1961, University of Maryland President Wilson Elkins spoke to a rapt audience in the university's Memorial Chapel. This was no ordinary service: those present were assembled to offer a stirring commemoration of university alumni who had perished in the service of their country, in the form of a very special book. The university had opened the Chapel nine years earlier, and Elkins described it "as a poignant reminder that the price of freedom is high—sometimes life itself."¹ He reminded his audience that these alumni "whose names are recorded in this impressive book, made the supreme

sacrifice” so that “we and future generations might travel the high road.”²

The book in question is simply titled “Roll of Honor,” although it is referred to on campus as the “Memorial Book.” A gorgeous, leather-bound tome weighing some fifteen pounds and beautifully inscribed by White House calligrapher William Tolley, himself a graduate of the University of Maryland, the book’s dedication states that “the men whose names are inscribed in this book shared the honor and the sacrifice of defending American liberties and the rights and dignity of all mankind against the recurring assaults of tyranny.”³ It is meant to commemorate those alumni who lost their lives while serving their country in World War I, World War II, or the Korean War.

The Memorial Book’s ancestor, if it can be called that, is the American Roll of Honour, dedicated at St. Paul’s Cathedral in London in 1951 to memorialize the American servicemen who were “killed on their way to, or stationed in, the UK during the Second World War.”⁴ Indeed, at least one member of the university community had visited the book in 1955 to take pictures of it, pictures that were given as an exemplar to William P. Cole, chairman of the board of regents. Cole wrote enthusiastically in response: “The pictures you made . . . are wonderful. . . . Before a great while I hope our Book at the Memorial Chapel will be complete.”⁵

Cole could not know that it would be another six years before the book’s dedication, and much about the process to create it remains shrouded in mystery. There have been no records unearthed to date that indicate why the book was so long delayed. There is no documentation regarding the process for choosing the two hundred names that grace

its pages. The university planned on distributing a pamphlet or brochure detailing the process, but for whatever reason this never occurred, and no draft of that document has ever been found.⁶ There is no evidence to suggest that anyone considered keeping the book current, despite the fact that they knew the book to be incomplete. Blank pages comprise the latter portion of the book, but no names were ever added after the book's initial creation.⁷

Despite these issues, the Memorial Book took up proud residence in the university's Memorial Chapel, where it was displayed for long stretches until 2002. Concerned for the book's safety and long-term preservation, the coordinator of the Chapel contacted the University Archives about donating the book. The Chapel is an open-access building, and this status had led to problems in the past. From minor incidents regarding the disappearance of flower stands and Bibles to more serious thefts involving an ark and pieces of the Chapel's silver communion set, there was increasing risk involved in having the Chapel's most precious artifacts laying about unsecured.

The University Archives quickly agreed to receive the Memorial Book, the remaining pieces of the Chapel's communion silver, and other historical documents relating to the operation of the Chapel during its first fifty years. These items were transferred into the Archives' custody in 2002.⁸

Conflicts Arise

This situation remained static until 2008, when a senior chaplain requested that artifacts transferred to the Archives, most notably the Memorial Book, be returned to the Chapel's custody on a permanent basis. The chaplain felt that the prior Chapel coordinator had inappropriately given

these items to the Archives, that they were the Chapel's property, and that while in the Archives' custody they had been "locked away" where no one was allowed to see them.

The Archives initially deflected most of the criticism by pointing out that anyone who visited the research room in Hornbake Library, where the University Archives is located, could view the items. This did not sufficiently quell the debate, and it became increasingly clear that the Archives would need to be creative in suggesting a solution that accomplished two divergent goals: giving the Chapel better access to the artifact, while at the same time making clear that it would not be returned.

On October 14, 2008, university archivist Anne Turkos wrote to the chaplain who had requested the return of the Memorial Book. Turkos's letter pointed out that because of security and environmental concerns, the book could not be returned. Turkos then put forth a proposal developed by the University Archives, the UM Libraries' Digital Collections unit, and the Student Union, which oversees the operation of the Chapel. This proposal had two key points. First, the book would be digitized and made accessible online through the Libraries' Digital Collections web site. Second, there would be further discussion about creating brief biographies of all of the alumni veterans in the book, which could be linked to the names in the digitized version.⁹

From this letter would arise one of the most successful outreach projects that the University of Maryland Archives has undertaken to date. Spearheaded by the Memorial Chapel coordinator and the assistant university archivist, the project would shift the focus from the physical artifact to where the spotlight rightfully belonged: the veterans memorialized in the book. This article recounts the

transformation of this episode from conflict to common purpose, and outlines the process by which an archive turned a contested artifact into a successful outreach project.

Reaching Out

In the immediate aftermath of this discussion, the first step was to digitize the book. Initially this was thought to be unnecessary, as the book originally had been digitized for the Chapel in 2005, but in the intervening years these files were misplaced, quite possibly during the transition between successive Chapel coordinators. The book was quickly re-scanned and almost immediately made available online.¹⁰

The second portion of the project was not so easily handled. How exactly could these promised biographies be created, and who would create them? How would the biographies be linked to the book, and who would be responsible for accomplishing this? How quickly could this work be completed, and what form should the final product take? Who would be responsible for maintaining and updating this digital resource as needed?

A series of additional conversations between the University Archives and the Memorial Chapel took place in the winter and spring of 2008-2009, during which some of these questions were addressed. It became clear almost immediately that neither staff had the time to conduct the research needed to create the biographies, and the conversation quickly shifted to potential student involvement in the project. With the student staffs of each department already occupied, assistance would have to come from outside students. The possibility of paying students to conduct the research was discussed and dismissed as neither

department had the funds, and in the dire economic climate surrounding the entire university, stable financial support for such a project could not be expected.

Archives and Chapel staff then discussed the creation of an internship in which undergraduate students would receive course credit either through their major or through the Student Union's link to the College of Education. An administrator in the Student Union would be the nominal "instructor," but the real instruction work would be a joint effort between the assistant university archivist and the Chapel coordinator. The internship idea appeared to satisfy the staffing and funding problems raised, and ensured that the students involved would understand the expectations for quality work. It was agreed that the first iteration of the Veterans Research Internship, as it became known, would take place in fall 2009.

The Veterans Research Internship

Deciding to offer an internship is easy; creating one for course credit from scratch is not. Developing publishable biographies was the main goal, but what could be done to make the experience truly educational, and not simply work-for-hire by another name? Assignments had to be devised and measurable goals identified to make the experience valuable and memorable for the students. Additionally, how should students be chosen for the internship?

Advertisements were placed around campus and on distribution lists inviting interested students to apply. Students were asked to complete a brief application, which included an essay asking them to describe their previous research experience and related coursework. This evaluation process was not terribly rigorous; interns simply needed to

demonstrate a basic understanding of primary source research methods, as well as a passion to participate in the project. Not surprisingly, the most passionate students, the ones who self-identified as coming from military backgrounds, would submit a record of their upbringing or family.

One obvious skill students would need to develop or enhance was their ability to conduct primary source research. The assistant university archivist agreed to teach at least one class on conducting primary source research and to be available during the semester for personal or e-mail consultations about the direction of the students' research. Additionally, the assistant university archivist would facilitate contacts at other research institutions for the students and accompany them on at least one field trip to acclimate them to conducting research offsite. He also agreed to set up a class for the students with the Libraries' subject area specialist for history, so that the specialist could show the students any resources the archivist had overlooked.

Subsequent conversations about course structure and content followed. First and foremost, students would write the biographies, each accompanied by citations and copies of documentation the students found during the course of their research. To measure both work volume and intellectual engagement in the course, students were required to submit a weekly journal detailing their thoughts and experiences with regard to the internship. Students also hours, which the Chapel coordinator would track, and an end-of-term reflection paper.

Four further points were finalized during these discussions. First, the final outcome of the project would be a

website that would incorporate both the biographies of alumni veterans and the digitized Memorial Book into an interactive digital object; the site would be created and maintained by the Memorial Chapel. The University Archives would actively support the Chapel in enhancing the access to and value of one of its prized artifacts, but the records of the project and the outcome would be the responsibility of the Chapel until such time as the records were no longer active, at which point they would be transferred to the Archives.

Second, the students would be required to complete a final assignment: a thorough review of at least one website dedicated to memorializing fallen veterans. It was hoped that this would help identify what types of sites already existed, what features these sites offered, their level of sophistication, and how the Chapel's future site could improve upon current practice.

Third, students could register for one to three course credits; each credit hour would carry an assignment of three veteran biographies. This was essentially a guess as to how much work was reasonable to expect, and there was anticipation of having to modify this requirement after one semester's experience.

Fourth, the course would meet only six times during the semester: three times for instruction seminars or field trips, and three times for progress and end-of-semester conferences. Much of the responsibility for time management and attention to detail would fall on the students' shoulders, but it was hoped that if the right candidates were chosen, this risk could be minimized.

New Avenues, New Lessons

The first meeting of the Veterans Research Internship class took place on September 4, 2009. The assistant university archivist explained the origins of the internship to the students and showed them the Memorial Book, a program from the book's dedication, original invitations to the dedication, and President Elkins' handwritten remarks from the event. The students received training on primary source research and were encouraged to begin their investigations in the University Archives. Some of these materials, such as copies of the alumni magazines, would need to be viewed in the research room. Others, like the university's yearbooks, have been digitized and are available online. Additional sources available through the UM Libraries, including digitized newspapers, were also discussed. The students were then assigned their veterans, and the work began in earnest.

While the students began their research, the Archives and the Chapel both sought ways to bring attention to the internship/website project, solicited support from the campus community, located information that could be included in the biographies, and secured funding for the proposed website. One highly visible outlet for increasing the project's profile was its inclusion in campus Veterans Day celebrations. Both the Archives and the Chapel are represented on the university's Veterans Day Committee, and staff immediately recognized the value of alerting that committee to the project. An insert was designed for the Veterans Day service program which outlined the project on one side and featured three veterans' biographies on the other. This color insert received many positive comments after the service and raised the project's profile considerably.

Project partners were also successful in collaborating with university communications and marketing teams. The internship/website project was featured in the student newspaper, the campus' faculty newsletter, and the alumni magazine. The University Archives promoted the project through its blog and Facebook page, and it was highlighted on the university's main news sites. The student interns were thrilled to be involved in publicizing the project and their efforts, and it encouraged them as they worked.

Nevertheless, unanticipated obstacles arose and needed to be surmounted, something that continued throughout the initial semester:

- **Students' research habits:** Despite repeated warnings about the challenges of primary source research, the students still expected to find most of their sources online, without having to leave their computers. They quickly became frustrated and called on the assistant university archivist, who then spent considerable time teaching them to dig deeper.
- **Duplication costs:** No allowances for student reproduction costs had been made, leaving us scrambling for a solution.
- **Memorial Book errors:** The book is a beautiful artifact, but it is riddled with problems. Misspelled names and incorrect dates or branches of service slowed the research process. Students even discovered the name of a veteran who was alive until recently!
- **Unnecessary seminars:** The seminar held by the Libraries' subject area specialist for history turned out to be entirely duplicative of what the archivist

had taught during the first session, wasting a precious class period.

- **Wasted assignments:** The website evaluation assignment, while well-intentioned, was a failure. The students' evaluations did not adhere to the assignment guidelines and were ultimately a poor source for gathering data for a future site.
- **Poor time management:** While there were progress meetings during the semester, the course's initial design unintentionally back-loaded the assignments. Clustering due dates at the end of the semester created problems for the students who were not inclined to work proactively. One student was forced to take an incomplete and make up the work over the winter break.
- **Grading issues:** We failed to include a specific rubric for grades, which left us vulnerable if a student wanted to contest their grade for the course. (Fortunately this did not occur.) Additionally, giving students the option of registering for one to three credits became a problem, as a few students signed up for two or three credits and then wanted to negotiate downwards as the semester progressed. Keeping track of who was taking how many credits became a burden.

Evaluating and Improving the Internship

Despite all of these issues, we finished the semester with fifteen completed biographies. Both the Chapel and the Archives benefitted from a large volume of positive publicity about the internship and were asked to keep the project going. We decided not to offer the course in spring 2010,

instead choosing to ruminate on what had transpired and look for ways to improve the next offering in fall 2010. In March 2010, we met to discuss our impressions of the course and developed the following ideas for improvement:

- **Targeted recruitment:** We decided that we would seek students who were better equipped to deal with the rigors of primary source research, preferably those who had demonstrated prior experience.
- **Establish a duplication policy:** We made students responsible for some of the duplication costs, as they had no books or other required course materials to purchase. For more involved costs beyond basic fees we agreed to handle requests on a case-by-case basis.
- **Level the requirements:** Each student would be required to take the course for three credits and produce nine veteran biographies. This would simplify the process of monitoring each student and eliminate the possibility of accepting students looking for an “easy” one-credit class.
- **One student, one branch:** We also decided to give each student veterans from the same branch of service, rather than giving them a sampling from each. Each branch has separate reference resources and unique ways of accessing information, so forcing students to learn multiple processes was counter-productive. Allowing them to concentrate on becoming conversant with one branch’s resources improved productivity and lessened student stress levels.
- **More deliverables, more often:** We would combine the progress meetings with assignment due

dates, thereby encouraging better time management. Students would be required to turn in three biographies at each of the three meetings, keeping them on task and on time.

- **Provide more active research support:** The assistant university archivist decided to invest significantly more time in assisting the students with generating leads and aggressively monitoring their activities to minimize unscheduled downtime when confronted by obstacles.
- **Create a more concrete grading policy:** We created a rubric with a point system that clearly identified the requirements to achieve the requisite grades.
- **Streamline the course structure:** We eliminated the website evaluation and the seminar with the Libraries' subject area specialist. The subject specialist meeting was redundant and the website assignment as described above was both unsuccessful and unnecessary. We also eliminated a field trip to the National Archives, giving students the responsibility of visiting the facility on their own. Eliminating the field trip freed up one class period and gave the students more flexibility in the research process. The assistant university archivist provided them the contact information for one of the National Archives' records specialists who had graciously agreed to meet with the students one-on-one and orient them.

The University Archives' Outreach Bears Fruit

With these thoughts in mind, we revised the syllabus and offered the internship again in fall 2010. While we had the same number of students (four), the class went much more smoothly and was decidedly more productive. We received thirty-six completed biographies, more than doubling the output of the previous course. The students responded well to the course load, and there were no problems with late assignments. Students also appreciated having to deal with only one branch of service; they felt this decision really allowed them to develop an expertise that made their research go faster as the semester progressed. Having a grading rubric and a uniform set of expectations made administration of the internship much easier for the instructors as well.

During this second offering we looked at ways we could continue to increase the project's exposure. One improvement was that in addition to the insert in the Veterans Day service program, we invited one of the interns to speak directly about her experiences at the service itself. This student, a daughter of veterans, gave remarks that were heartfelt and very moving to those in attendance, and spoke volumes about the value of the internship as a part of the university's history. We also developed a slideshow featuring historic images of veterans that was shown at the service, further linking the University Archives to the legacy of campus veterans. After two years, involvement of project interns has become a staple of the Veterans Day service, broadening its audience every year.

Another positive result of this increased audience has been the recent allocation of two thousand dollars by the university to the University Archives and Memorial Chapel.

The purpose of this grant is to begin designing the website that will ultimately incorporate the biographies and the digitized Memorial Book. This portion of the project is slated to begin in fall 2011. By making the internship/website project as visible as possible and appealing to the appropriate audience, the University Archives and the Memorial Chapel created recognizable value where there previously had been only indifference—the definition of a successful outreach project.

More Challenges Ahead

With the Memorial Book project the University Archives has successfully turned conflict into a unifying cause and an amazingly successful outreach project. Student interns have researched and compiled biographies for over a quarter of the book's fallen alumni, and there now exists both the funding and the institutional will to turn a static artifact into a living document, one which will be seen the world over. Despite these successes, much remains to be done, and new challenges have appeared on the horizon.

In May 2011 the Memorial Chapel's coordinator left to take a position outside the university, delaying the next offering of the Veterans Research Internship course until the spring 2012 semester. All five students recruited for fall 2011 indicated they would still be interested in the later offering, but with the delay comes the possibility that scheduling conflicts could arise, possibly hampering the creation of biographies during the next academic year.

Another repercussion of this departure is that the website portion of the project will remain dormant until a new coordinator is in place. In the current economic climate this delay could conceivably result in the disappearance of

the allotted funds should there be a sudden realignment of fiscal priorities. Successful outreach requires building upon one's momentum; any delays can cause an organization to slip out of the public eye or off the list of funding priorities.

Fortunately, the University Archives was offered a seat at the table in determining the new coordinator, and the selection committee clearly understood that the Veterans Research Internship was one of the major job responsibilities for this individual—something that would not have happened two years ago. By initiating this project in 2008, the Archives has been able to make the preservation of a part of the campus' history one of the main job responsibilities for someone outside of the Archives itself, a landmark achievement.¹¹

Outreach is a critical tool for demonstrating the value of an archival repository's mission. Outreach often starts from a positive, e.g., a new acquisition or service for researchers, but it can also be successful even when it is rooted in conflict or if the archives is on the defensive. In this instance, the University Archives had the opportunity to show the Memorial Chapel and the university community all that the Archives could do to make a valuable and unique artifact more accessible than ever before, while still allowing it to remain in a secure environment. Instead of taking a territorial approach, the University Archives offered to help the Memorial Chapel achieve what it really desired all along—an immediate connection to a vital part of its history. Ultimately this outreach effort helped place the focus where it really belonged—on the veterans who gave their lives in the service of their country—giving voice to just a few of the myriad life stories contained in the University Archives.

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NOTES

1. Remarks of Wilson Elkins, 19 November 1961. Office of the President, University of Maryland records, Special Collections, University of Maryland Libraries.
2. Ibid.
3. Roll of Honor. Memorial Chapel records, Special Collections, University of Maryland Libraries.
4. "American Memorial Chapel," The Dean and Chapter of St. Paul's Cathedral, www.stpauls.co.uk/Cathedral-History/The-Chapels/American-Memorial-Chapel.
5. William P. Cole to William Leffland, 10 November 1955. Board of Regents records, Special Collections, University of Maryland Libraries.
6. Memorandum by Albin O. Kuhn to Wilson Elkins, 9 October 1961. Office of the President, University of Maryland records, Special Collections, University of Maryland Libraries.
7. Ibid.
8. Finding aid for Memorial Chapel records, Special Collections, University of Maryland Libraries, <http://hdl.handle.net/1903.1/9350>.
9. Letter, Anne Turkos to Chaplain Elizabeth Platz, 14 October 2008.

10. Memorial Book, University of Maryland, 1961.
<http://hdl.handle.net/1903.1/5024>.
11. A new coordinator was hired and started in September 2011, and the internship is scheduled to be offered in the spring 2012 semester. However, only three of the original five students still had time in their schedules for the course, and no other students expressed interest. The delay in finding a new coordinator was therefore a costly one.

2012 Gene J. Williams Award Winner

The Gene J. Williams Award, presented annually by the Society of North Carolina Archivists, recognizes excellence for a paper on an archival topic written by a North Carolina graduate student for a graduate-level course. This award honors the late Gene J. Williams, archivist at the North Carolina Division of Archives and History and at East Carolina University, and charter member of the Society of North Carolina Archivists.

I Want To See It: A Usability Study of Digital Content Integrated into Finding Aids

by Tracy M. Jackson

This article is a condensed version of Jackson's master's paper, which is available in full at <http://bit.ly/yUhrMz>.

Abstract

This paper presents the findings of a usability study conducted on finding aids from the North Carolina Collection Photographic Archives at UNC-Chapel Hill. The study focused on digital content from archival collections that is made available through these finding aids using CONTENTdm (CDM); sought to explore how users accessed and understood this digital content; and followed up on several aspects of a similar usability study conducted at the Southern Historical Collection in 2009. Findings indicated that the digital content integrated into finding aids was largely intuitive but that it could be made more consistently usable; advanced users and users with archival

experience found the finding aids easy to use; novice users may need additional assistance to understand the finding aid and would prefer to access digital content through the CDM interface; and the search capabilities in CDM are very important to users but could be improved for usability.

Introduction

Users of primary source materials are increasingly expecting that such materials are available or at least findable on the web. Many internet users, regardless of situation or intent, subscribe to the axiom that “if it’s not online, it doesn’t exist.” As part of the archival response to the technological changes that have both caused and accompanied these changing expectations, institutions are digitizing materials and collections as well as making finding aids available online. By presenting digitized content and descriptions of archival collections on the internet, archives and special collections institutions seek to connect users or potential users with relevant holdings, making archival materials more accessible.

At the same time that institutions are being pushed to present more material more accessibly, most need to operate with limited resources of staff, technology, and budget. While projects that highlighted specific collections with special digital exhibits were a way for many repositories to begin digitization practices, these projects do not scale well and require more time and money than would be feasible for digitization of large amounts of materials. Thus, many archives and special collections have begun to explore how digital content might be made available online in ways that are efficient, effective, and reasonably priced. Several writers have proposed using the finding aid as the

most logical vehicle for presenting digitized content, and some archival institutions are following suit.¹ At the University of North Carolina at Chapel Hill (UNC-CH), the Louis Round Wilson Special Collections Library (WSCL) has been presenting digital content linked directly from the finding aid since January of 2010.

The traditional finding aid was a printed document available in the archive that described a particular set of materials, including topical and physical descriptions, and was made available to researchers in some fashion so that they could make sense of a collection or find relevant material. As finding aids have moved online, they have undergone various levels of conversion from paper to electronic format, from static reproduction of a scanned print document to marked-up text on websites with commenting features, and everything in between. In recent years, a shift in focus within the archival profession from the materials themselves to what the user wants and what the user finds has become paramount to the continued progress of the archive. Usability studies, in particular, have allowed archivists to determine what users think of the way both description and content are presented. Recent usability studies of online finding aids and digital collections have brought to light both user and professional concerns with the utility of both the traditional method of description (using archival language and organizing materials according to their physical status) and the newer model of representation (a static HTML or even PDF format). The finding aid, a formerly specialized document that may have required the assistance of an archivist or the experience of many years to interpret, is now available to large numbers of users, having various levels of familiarity with archives, without the

assistance of an archivist. Studies of this unmediated interaction tend to raise several issues time and again: unfamiliar terminology, too much unnecessary information, too little pertinent information, confusion over what information is where in the document, and a desire to see the contents of a collection right away. Many users express frustration and a lack of desire to use the finding aid or the archive. Similarly, usability studies of digital collections have indicated that users have difficulty navigating to and within collections as well as searching for materials, but are appreciative of the accessibility of digital content as well as information on background and usage. These studies suggest that users are interested in immediate access and intuitive tools to get it.

The Southern Historical Collection and Digital Content at UNC-CH

Special collections at UNC-CH are housed in the Louis Round Wilson Special Collections Library. The Southern Historical Collection (SHC) is the largest archival collection at UNC-CH, including over 4,600 individual collections. The North Carolina Collection Photographic Archives (NCCPA), University Archives, and Southern Folklife Collection are also housed in WSCL and contain hundreds of additional collections described by finding aids or collection guides.

In 2007 the SHC was awarded a Mellon Foundation grant to explore options for the large-scale digitization of its many collections. According to Laura Clark Brown, coordinator of the Digital SHC, the goal was to implement programmatic procedures flexible enough to expand or narrow as resources allowed.² SHC staff talked to scholars

and colleagues, investigating options for delivery of digital materials being developed and utilized at other archival institutions and taking into account current professional thinking about how best to make materials available to researchers. Numerous considerations such as technical, financial, legal, privacy, processing, and conservation concerns were taken into account during the process. Ultimately, the SHC sought to make large amounts of digitized material available online in a way that would mirror the researcher experience in the reading room and be both cost-effective and efficient. It was decided that delivery through the finding aid would be the best method for making digital content available: in this way, contextual and hierarchical information would be available to the researcher without requiring extra metadata input or additional curation.³

In 2008, the SHC also began a project to redesign its finding aid template. The redesign was intended to improve usability, with goals “to improve display, add useful navigation features, lower terminology barriers, and include new help features for both novice and advanced users.”⁴ An additional benefit to the new design was that it allowed other special collections housed in WSCL to later adopt a standardized finding aid template with a uniform look and brand.⁵ While there was no usability test conducted on the finding aids before the redesign, a study conducted post-redesign indicated that the new design rated as highly useable compared to the results of published studies from other institutions.⁶ As a result of this study, the finding aid template was modified slightly to include language advising users to use the browser’s Ctrl+F search feature within the finding aid to assist in searching for specific elements, a brief

explanation of the purpose and function of subject headings, and additional small changes to terminology and help features.⁷

These two separate projects, the finding aid redesign and exploration of mass digitization, began to overlap in early 2009. Library Systems staff, in collaboration with the team redesigning the finding aids, began developing methods to present digitized content within the new finding aid template.⁸ In early 2010, as part of their 80th anniversary celebration, the SHC debuted the first finding aids that incorporated links to digitized content. Other special collections in WSCL, particularly the NCCPA, soon followed suit. The unique needs of the NCCPA and its multiple special format materials led to further development and revision of the procedures that allow digital content to be linked to the finding aid.⁹ Since the NCCPA has been scanning images for a variety of purposes over the last ten years, the adoption of the standardized finding aid template and digital collection functionality established by the SHC has allowed a great deal of digitized content to become available through the finding aids.

The basic process that allows a user to look at a finding aid and get to digitized content starts with finding aids encoded in EAD, an XML DTD, then transformed into HTML files with an XSLT stylesheet before being uploaded to the web. As part of this transformation, a JavaScript function is included in the final HTML version of the finding aid that will perform a search for digital content in CONTENTdm (CDM) each time the finding aid is loaded.¹⁰

If digital content is present for that collection (identified by the unique collection number), CDM returns the names of the digital files, which the script then uses to

create links within the finding aid directly to that content.¹¹ The stylesheet used for the finding aids renders these links purple and adds the text “(digitized)” to the identifier. A purple box is also added just below the collection number and title at the top of the finding aid, indicating that the collection includes digitized content. The box at the top of the page, as shown in Figure 1, contains a link which takes the user to all of the digitized content available for that collection in the CDM interface, while the link created for each item or container with digital content will take the user to just that digitized item.

Fig. 1: A finding aid with purple box for digitized content



The screenshot shows the top of a finding aid page. At the top left is the UNC University Libraries logo. To the right, it says "The North Carolina Collection Photographic Archives at the LOUIS ROLIND WILSON SPECIAL COLLECTIONS LIBRARY". Below this are navigation links: "NCCPA Home", "Browse Collections", "How to View Materials", "Contact", "FAQ", and "Duplication Policy". On the left side, there is a "Navigate this page" section with links for "Collection Overview", "Information for Users", "Subject Headings", "Related Collections", "Biographical Info", "Scope and Content", and "Contents List". The main content area displays "Collection Number: P0032" and "Collection Title: Frank Clodfelter Photographic Collection, 1952-1981". A purple box with the text "Digitized Content" is positioned below the title. To the right of this box is a text box containing the text: "Some materials in this collection have been digitized. In the description below, look for links to the content or search (Control + F) for the word digitized. Or go directly to all the digitized content for this collection." Below this is a link for "restrictions". At the bottom, there is a small disclaimer: "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 FAQ section for more information."

This process allows newly digitized content to be automatically linked to the finding aid without processors needing to change the finding aid each time. The redesigned finding aid template and XSLT transformation process mean that every single finding aid can include this function regardless of its level of processing, and the XSLT generation of metadata is a simple workflow that can be used to get digitized materials into the CDM collection. No separate sites of digital content need to be maintained, and all online digital items can be managed within CDM.

About 18 months after the digitized content finding aid first debuted at the SHC, there has yet to be a formal evaluation of user reaction to or satisfaction with this functionality or interface. Anecdotal evidence from WSCL Research and Instructional Services (R&I) staff suggest that some users are thrilled to discover easily available content, some users have difficulty finding digitized content even when it is available through the finding aid, and some users may be disappointed that content is not fully transcribed or downloadable; general unsolicited feedback has been positive overall.¹² However, a formal evaluation of user interaction with the finding aids, including observation of users performing tasks and asking targeted questions about design, function, and satisfaction is clearly needed to inform future development of this aspect of the WSCL's online presence.

Literature Review

In recent years, the increasing number of usability studies of online archival finding aids has reflected the growing interest of many archivists and archival institutions in making their materials as accessible as possible to as many users as possible. This interest is certainly not limited to finding aids; it has been demonstrated and debated in articles on methods of processing, user studies, analyses of digital collections, and the evolving theoretical discussion on the role and impact of the archivist on collections and the historical record. While the number of usability studies has grown, the authors of these studies generally lament that the total number is still small, and the problems found are still persistent. Many of the usability studies of online finding aids, as well as the design and usability literature they cite,

point to what seem to be fundamental difficulties between archivists and users as successive filters on the path to the truly accessible archive. Nevertheless, finding aids and the opportunities they give for greater access to materials continue to evolve apace with the professional desire to connect with users, and a new segment of the literature is emerging to describe the integration of digital content with the descriptive information traditionally given in finding aids.

In the past twenty years, finding aids have gone online in increasing numbers and in a variety of forms. As early as 1997, institutions and archivists were beginning to question the effectiveness of simply uploading traditional finding aids to the internet. Dennis Meissner addressed the realization that traditional finding aids required extensive mediation by archival staff and a fundamental re-thinking of the structure, order, and presentation of information could vastly improve use.¹³ In 2004, Christina Hostetter conducted a survey of university archives and archivists, and found that most had ten percent or less of their finding aids online. Practices varied widely and there were problematic perceptions of the utility and function of online finding aids, from some who considered online finding aids a “luxury” to those who recognized the value of online finding aids as the access points by which our users will learn about, use, and evaluate both our resources and our institutions.¹⁴

As the presence of online finding aids began to be perceived as the norm for archivists and users alike, a shift in focus within the archival profession, from the materials themselves to the users and the uses that make them valuable, produced a core group of usability studies. A review of these studies reveals that most have compared

finding aids across institutions, and very few have compared designs within one institution; only one study conducted iterative testing. Many of the studies, particularly the earliest ones, emphasize user disappointment, confusion, and unmet expectations, particularly with the nature of the materials and the lack of immediate access to them. However, some later studies that have included extensive user analysis or close attention to design guidelines have had more positive user feedback.

The first major finding aid study to appear was conducted by Wendy Duff and Penka Stoyanova, published in 1998.¹⁵ Done in the very early days of online finding aids, this study used mock-ups of potential finding aid designs to get feedback from users. Important findings of the study included user complaints of too much information presented, difficulties with labels and terminology, and user preference for “an archival display created according to design guidelines” over traditional presentation.

In 2004 two major studies were published that conducted quantitative analysis of finding aid usability. The first was conducted by Christopher Prom and compared finding aids across eight institutions and included advanced and novice users. The results of this study directly relate to the design of the finding aids involved, and Prom made a number of concrete recommendations on design. Users had difficulties with extraneous information or search options, archival terminology, and overall design of the sites, prompting the researcher to advise that “self-apparent layout and visual clues are as important as using simple terminology” and “interfaces should not wittingly or unwittingly undermine context.”¹⁶

The second study from 2004, from Elizabeth Yakel, was similar to Prom's study, but also specifically addressed the interface used and included finding aids from one institution, with one design. The primary difficulties users identified in this study were with "archival jargon" and differentiating between "contextual information" and "content information."¹⁷ Yakel is also the first to suggest the use of expanding information as "something between the full text and outline view" such as a drop-down or explode-able view of finding aid contents.¹⁸

Wendy Scheir produced the first study to focus specifically on novice users, who are likely to have more difficulty using finding aids than archival experts. The study explicitly focused on terminology, navigation, display, and structure.¹⁹ The interesting results of this study included the "desire among participants to obtain immediate answers, with little patience" for either hierarchical/contextual information or "dense blocks of text" and the intermingling of navigation, display, and structure feedback, all having to do with the design of the site. Users here, as in other studies, had difficulty with archival terminology, and this study also suggests the importance of simple design with "drill down" capabilities. Perhaps the most important finding of this study was that "two users of equally minimal experience with archives, with equivalent educational backgrounds and facility with computers, had very different experiences with the same site," echoing the subjectivity of assessment found in the design literature.²⁰

Another study published in 2008, by Rita D. Johnson, a graduate student at UNC-CH, is very similar to Scheir's study in structure and results, building upon the previous study to further emphasize novice users' difficulties

with archival terminology and confusingly dense finding aid displays.²¹

These finding aid usability studies were summarized and analyzed, along with several others, in another UNC-CH master's paper, by Emily Walters, in 2008.²² Walters found persistent inconsistencies in both methods and reporting of usability tests within the archival literature, but also the common themes of user difficulties with display, terminology, and search capabilities of online finding aids. She points out that many of these studies reveal users performing what appear to be site workarounds (such as using browser search functions rather than site search functions) to complete the tasks of the studies, which seems to indicate problems with the presentation of finding aid contents. Walters further observes that users learn throughout study participation, such that archival expertise and computer expertise may actually indicate search expertise. If users develop search expertise, which effectively "relieves some of the onus on online finding aid creators and instead places that burden on users of the system," they can succeed even in "poorly designed systems."²³

Literature on user-centered design emphasizes design principles and how they are used to make a system that is efficient, effective, and satisfactory, but it also emphasizes that usability is "context dependent."²⁴ While it is easy to fixate on the frustrations and failures of online finding aids, it is useful to keep in mind some issues of system design and evaluation when assessing the purpose of the online finding aid and how this purpose is realized.

The design of any web page matters because it determines how we use an interface to complete a task, but design literature emphasizes that usability is context

dependent.²⁵ Usability testing is an evaluation of the site rather than the user, conducted in a controlled environment with the goal of deciding “whether the product being developed is usable by the intended user population to achieve the tasks for which it was designed.”²⁶ The scale for usability testing can vary widely, but current thinking suggests that even small, informal tests with as few as five people of any level of domain experience are valuable for informing design decisions.²⁷ However, scholarly research into usability testing suggests that problems exist with many usability studies, and while any amount of usability testing may be useful in informing design decisions, attempts must be made to ensure the validity of results for the specific user community.²⁸

This concentration on the user and how they might best be served is reflected in the archival literature by an increasing number of studies focusing on particular groups.²⁹ These studies examine a particular subset of users, their characteristics, expectations, expertise, and search habits, and taken together, they reveal that archives and finding aids are not understood or accessed in a universal way.

Two recent usability studies of finding aids have found positive reactions to some problem areas specified in previous studies. These studies address the design process and user input, as well as hint at future possibilities addressed in successor articles on digital content and streamlined processes for making materials available.

Cory Nimer and J. Gordon Daines produced the first usability study discussed here to display some form of iterative testing.³⁰ As part of a project to redesign finding aids at a single institution, the authors engaged in a multi-step process of attempting to analyze user needs through the

creation of user profiles, analysis of other institutions' finding aids, gathering user preferences through usability testing of other institutions' finding aids, and through usability testing of a design informed by the first three stages. While the project was still in progress, initial tests indicated that users appreciated a display that indicated location in a collection's hierarchy and that both more experienced and less experienced users were able to understand terminology used. In addition, the authors were excited to address the possibility of incorporating Web 2.0 technologies such as commenting and RSS feeds, based on positive feedback from users questioned.

The second study was conducted at the SHC by a UNC School of Information and Library Science (SILS) master's student, Joyce Chapman, who in 2009 presented the results in her master's paper.³¹ Chapman's study tested a new design of the SHC's finding aid display, a design that was created with specific goals "to improve display, add useful navigation features, lower terminology barriers, and include new help features for both novice and advanced users," with new features including hyperlinks to different parts of the finding aid, expandable/collapsible sections, a FAQ page, and hover captions to inform a user of their location in the collection hierarchy.³² Participants of the study included novice and advanced users who were asked to locate materials and navigate the finding aids through a series of eight tasks; time taken, ability to locate items, search strategies, and qualitative feedback were measured. Results indicate that novice users were able to self-educate, and users as a whole reported much less confusion and frustration with location and understanding than in previous studies. Chapman discovered, as in previous studies, the tendency of

advanced searchers to utilize browser functions for keyword searching, which led to greater rates of success in study tasks for those users who were aware of this possible avenue of search. Interestingly, in a post-test questionnaire intended to gauge interest in further development of the finding aids, participants in this study revealed a distinct lack of desire for Web 2.0 technologies such as commenting or tagging, although there was some interest in the ability to share or bookmark finding aids.

These studies are just a small part of a rising tide of publications describing innovative uses of the finding aid, theoretical and practical. Many suggest various possible additions to the finding aid to create richer context, from post-modern assessments of the impact of the archivist to Web commenting, bookmarking, and collaborative filtering features.³³ Another discussion centers around streamlining arrangement and description, best embodied in the pivotal 2005 article by Mark Greene and Dennis Meissner, “More Product, Less Process” (MPLP).³⁴

The need for archivists to restructure their processing to incorporate more collections and a broader range of activities has been more recently, and for the purpose of this paper more pointedly, addressed by Max Evans in 2007. Evans was one of the first to suggest that the finding aid be used to provide access to digitized items. He was particularly addressing this need as the result of movements towards mass digitization motivated by user demand. He envisions that “a finding aid entry for a file unit will open a virtual folder, beginning with the first page of the first item. Navigation buttons and menus allow movement among pages and items. There is no description of each item; like researching among the originals in the reading room,

what you see, in the context of the whole, is what you get.”³⁵ Mark Greene similarly proposes mimicking the physical context of materials in the digital world in his discussion of applying MPLP to mass digitization. Greene argues that although many institutions may be reluctant to rush headlong into making every collection digital, “we must acknowledge that these expectations will be an increasing reality” and suggests that the most direct way to organize digital content is “by linking folders of material to their place in online finding aids; [which] provides the most and best context for the material.”³⁶

Several institutions are exploring this method of making digital content accessible, but as yet there is little published material detailing the experiences of incorporating or linking digital or digitized material to online finding aids.

In 2009 the Northwest Digital Archives conducted a user study of a variety of user groups aimed at answering the question “Why digitize, and for whom?”³⁷ The study conducted interviews with nineteen users of archival materials (including those digitized) and came to several interesting conclusions. On the whole, users “vastly preferred keywords as a search entry method over browsing” and “wanted contextual material for digitized objects and collections and expressed some preference for the type of information presented in finding aids over that presented in digital asset management systems even though they disliked the presentation of finding aids.”³⁸

A 2011 article by Jody L. DeRidder fully illustrates efforts at the University of Alabama (UA) Libraries to link digital material to finding aids, describing a National Historical Publications and Records Commission grant-funded project to devise the technologies and workflow

capable of “recreat[ing] the patron experience in the reading room via the Web.”³⁹ DeRidder outlines the methods, including file-naming conventions and software applications, by which the UA Libraries began integrating digitized content into their finding aids, starting with one particular collection and moving to include all collections with digital content.

A usability study of the new finding aid interface with digital content was conducted by Jody DeRidder, who kindly forwarded to the author a copy of the article describing the results prior to its publication in *The American Archivist*. This study uncovered some fascinating differences between use of the finding aid to discover digital content and use of the searchable “item-level described collection.”⁴⁰ Generally, the study concluded, participants found the item-interface more efficient in performing known-item searches and were also more satisfied with that than with the finding aid interface. Users with greater levels of special collections experience performed significantly better on the finding aid interface than other participants, and novice users with no experience in either special collections or digital library interfaces also performed slightly better on the finding aid interface than did users who primarily had digital library interface experience. These results led the authors to suggest that the finding aid “method of web delivery may currently be more suitable for scholars than for students.” However, in their conclusion the authors make some extremely salient points about the advisability of continuing to pursue the finding aid as the primary delivery method for digitized content. They point out that this method “is extremely cost-effective” and “provides a solution to digitization of large manuscript collections that may never otherwise see the light

of day online.” Their conclusion eloquently sums up this entire approach:

Although it is apparent that it takes more time and steps to use the finding aid interface, this must be weighed against savings in cost. Does more time and effort necessarily hamper usability? The finding aid provides much more context, which requires time to peruse. For this reason, perhaps interface efficiency is not a useful comparison. By increasing the ease of use and verifying the learnability of the finding aid interface, we will be better positioned to leverage this low-cost digitization method to provide online access to large manuscript collections.⁴¹

Methodology

This study sought to explore how users of archives navigate finding aids that have links to digitized content, how users access that content, and how satisfied users are with the experience of using a finding aid to locate and view archival content, analog and digital. The study examined the finding aid design currently in use by UNC-CH’s WSCL, which includes links to any content that may be digitized and uploaded into the archival digital collection. This was designed as a usability study to provide quantitative data on participants’ ability to use and satisfaction with the finding aids, and qualitative data on user perception of and satisfaction with the finding aids.

Study participants, or users, were solicited via e-mail. Several potential study participants were identified by staff members of the SHC’s R&I department and received an e-mail describing the study and requesting their participation. An e-mail was also sent to graduate and undergraduate

students in the history department at UNC-CH via their departmental e-mail discussion list. Two additional participants were invited to participate in the study through their association with SILS. Participants were offered monetary compensation (ten dollars in cash) for their participation in the study. Eight participants were sought, and nine people ultimately participated in the study.

The study was conducted on the UNC-CH campus, at Davis Library. Seven sessions were conducted in a computer lab on a desktop computer equipped with Morae screen-capture software.⁴² The other two sessions were conducted in a conference room on a laptop computer also equipped with Morae. The primary researcher attended all nine sessions, observing the study and conducting the post-test interview; for two of the sessions, Jackie Dean, faculty advisor, was also present and participated in the post-test interview.

Users were first given a short questionnaire to determine their age, gender, level of education, affiliation with the University, experience with archives and finding aids, experience with using the internet, and experience specifically using finding aids and archival materials from WSCL. After completing this questionnaire, users' answers to questions about archival finding aid experience at WSCL were analyzed to determine their status as novice or advanced users. Users who indicated they had used these finding aids more than five times were classified as advanced users and instructed to skip the first task. All other users were instructed to begin with the first task. This was intended to find out how users acclimated to this finding aid design.

The written part of the study included eight tasks, some of which had several sub-tasks. The computer being used for the study had the web browser Mozilla Firefox open to a page with the list of NCCPA finding aids listed in order by collection number; task questions then directed users to a specific collection finding aid or asked them to choose one they had previously used during the study. Study tasks presented participants with a general scenario and asked them to answer questions about a collection or find a group of items or a specific item. Participants were given space on the study paper to write answers such as what they found, where, and why they answered as they did. Participants were encouraged at the beginning of the study to think aloud and indicate verbally when they were beginning a new task, so that researchers could calculate the time taken for each task. Six of the participants spoke their thought processes to some extent.

After completing these tasks, users were asked to fill out a post-test questionnaire asking them about their experience and perception of the finding aids and digital content pages. These questions used Likert scales to determine each user's level of satisfaction with aspects of the finding aid and digital content design, as well as their overall experience. Participants were also asked if they would be interested in the availability of some Web 2.0 features on finding aids, in order to compare current results to these answers with results Joyce Chapman found in her 2009 study. After completing this questionnaire, users were verbally asked several questions about their experience using the finding aids, and these conversations were recorded as part of the study session. The total time required for the study varied from 40 minutes to just over an hour.

Results

The study pointed to three different groups of users instead of the anticipated two groups (novice and advanced, as shown in some of the previous studies described in the literature review), and indicated that some aspects of the digital content inclusion in the finding aid were intuitive, while others were not. Novice users of archives and finding aids demonstrated some confusion over the nature of the finding aid and the difference between it and the digital content interface, although they were able to complete the tasks of the study. Interestingly, users who claimed familiarity with archives and finding aids fell into two distinct groups in their search behaviors, and this depended on their level of familiarity with using online finding aids in general and using this institution's finding aids in particular. Those users who were nominally familiar with online finding aids clearly preferred to use the digital content interface to find items and had some difficulties navigating the finding aid, although they showed more willingness to use the finding aid page to search for items and a greater understanding of its nature than the novice users. Users who indicated advanced experience with finding aids in general and WSCL finding aids in particular navigated the finding aid pages quickly using the Control Find (Ctrl+F) function, but also relied on the search box function in the CDM interface from time to time.

One study participant was never able to access the digital content due to technical difficulties, which was not fully realized until partway through the study. The researcher decided to have this user go ahead and finish the study, and her feedback on the finding aid design and navigability is

included, but this session was excluded from the discussion of the integration of digital content.

Usability results showed that many people did not find the purple box at the top of the page, which indicates that a finding aid includes digital content, unless they knew about it or specifically looked for it. Many people did not see or notice the purple box even after it appeared; others noticed it but did not think it was important. All participants noticed the links at the container level, however, and used them with no hesitation. All users noticed the red text describing access and use restrictions and indicated understanding what these restrictions meant. Overall reaction to the finding aid design was positive, while reaction to the digital content display was mixed. Most participants mentioned that the order of information in the finding aid was good, giving them necessary information for using the finding aid and materials at the top of the page. Novice participants reacted to the CDM interface more positively than advanced archival users, with the intermediate archival user group demonstrating mixed reactions. All users who were able to access the digital content tried the “advanced search” feature in CDM and most users expressed some dissatisfaction with it. This dissatisfaction primarily related to the list of collections available for search, which confused users by not listing all collections used in this study by name and will be discussed in greater depth below.

This study also brought to light some probable differences between research in photographic collections and research in manuscript collections. Researchers were intrigued by questions raised in this study about conceptualizations of the finding aid and archival collections, as well as the responsibility of the finding aid to educate

users about itself. These issues and questions will also be discussed further below.

Participant Characteristics

The nine participants in this study were mostly students at UNC-CH. Two were undergraduate students, six were graduate students, and one was a recent graduate of a master's program. Five participants listed History as their main area of study, with an additional person indicating a History minor. Other areas of study were American Studies, Latin American Studies, and Information Science. The recent graduate listed his area of work as Education. The average age of participants was thirty-one.

Four people described their level of archival experience as Advanced, two as Intermediate, two as Beginner, and one as None. A total of seven people indicated previous use of online finding aids, including five people who had used WSCL finding aids, while two people indicated no previous experience with finding aids. All participants rated themselves either Intermediate or Advanced on experience using computers and the internet. Five people rated themselves Intermediate and four people rated themselves Advanced.

Observation led the researcher to conclude that these characteristics provided incomplete predictors of how participants used the finding aid pages. The three participants who described themselves as Advanced users of archival materials *and* indicated extensive use of WSCL finding aids demonstrated the greatest ease with and understanding of the finding aid overall. They relied on that page as their main source of information, used Ctrl+F to search within the page for different combinations of keywords, and demonstrated an

understanding of the distinction between the finding aid as a description of the entire collection, and the CDM interface as a way to view the digitized portions of the collections. The researcher, therefore, describes just this group as the advanced archival users. The two people who had never used online finding aids before demonstrated some confusion over the nature of the finding aids, as well as the reasons for the differences between the finding aid pages and the CDM interface. These users displayed a distinct preference for the CDM interface and the ability to use a search box; they also displayed a general lack of interest in using the finding aid page. The researcher describes this group as the novice archival users.

The four people who did not clearly fall into either of these groups represent a portion of users who have some understanding of and experience with archives and finding aids, but display a wide range of preferences and search patterns. Their self-identification regarding level of archival experience did not reflect their apparent comfort with using these finding aids or digital content, and their search techniques varied widely. Three of these people were apparently unaware of the Ctrl+F function, as they never used it during their sessions, relying instead on scrolling or advanced search (all other participants used Ctrl+F at some point during the study). The researcher grouped these users together as intermediate users of archives for this study.

Tasks

Task 1

This task was specifically for novice users and was intended to check understanding of the purpose and function of the finding aid as a description of and guide to archival

materials. All participants who had used online finding aids from WSCL five times or fewer were directed to the Portrait Collection (P0002) finding aid and asked what kind of materials they thought the page described, where the materials were physically located, how they could view the materials in person, and if they could view any of the materials online. This question was largely the same as in Chapman's study, with slight changes to reflect focus on users' understanding of the inclusion of digital content.

- Five participants completed this task: two who had never used archival finding aids before and three who had used finding aids at other institutions.
- All participants indicated a fairly good understanding of the collection, its physical location, and how to physically access it; they appeared to find this information from the Abstract and the Information for Users sections.
- No user ever gave any indication that they read the small print under the collection number and title that describes the nature of the page.
- When asked if they could view materials online, three users gave the correct answer that they could, one by using the purple box at the top and the other two by using links to digitized content in the Contents List. Two said no, one who was experiencing technical difficulties, and one who later found digital material but did not change her answer.

These results differ somewhat from Chapman's results, which can be attributed to two main differences: the

significant change in size of the explanatory statement at the top of the page and the addition of the purple box and red restriction text. Changing the size of the text explaining the nature of the page clearly made it much less likely that users would read it, and adding two additional features in color just above it seems to have distracted users. In addition, novice users in both studies clicked on the FAQs or How to View Materials links at some point in the study, but participants in Chapman's study who used these tabs were taken to different explanatory pages (specifically for the SHC) than users in this study (pages describing the NCCPA).

Task 2

This task was intended to see how users would begin to navigate a finding aid and how well they understood cues regarding digital content. Participants were asked to use the Portrait Collection finding aid to see if someone named Thomas Wilson was included in the collection and if they could see a picture of him.

- All users answered this question correctly, finding at least one Thomas Wilson.
- Six users correctly answered the second part of this task by seeing and clicking on the link to the digitized content in the entry for Thomas Wilson directly below the folder title.

One user apparently did not see this link (although she saw others throughout the study), one user did not see the link because it never appeared, and one user found the digital content directly without using the finding aid.

Task 3

This task sought to test how users find basic information about what is included in a collection. Participants were directed to the Frank Clodfelter Photographic Collection (P0032) finding aid and asked what picture formats were in the collection, how many there were of each, where they found this information, and if the collection included images of steam engines.

- All participants correctly described the two photographic formats in the collection.
- Seven participants indicated that they found the answer to this question in the Abstract alone or the Abstract and another place (Scope and Content or Series Quick Links). The other two users indicated the Scope and Content as their primary source of this information, with one also citing the Series Quick Links.
- Participants all found steam engines within the collection, although search methods varied.

Task 4

This task was specifically designed to prompt users to find the link in the purple box at the top of the finding aid to all digital content for that collection in the CDM interface, by asking if there was a way for users to view all digital images for this collection. This task was also performed on the Frank Clodfelter finding aid.

- As previously mentioned, one participant never saw the purple box because it did not appear during her session.

- Five people answered this question correctly using the anticipated method.
- Three participants (two advanced and one novice) who had the purple box appear during their session never clicked on the link within it. One of the advanced users interpreted Task 4 to be still referring to steam engines and used advanced search within CDM, after having clicked on a link within the Contents List during Task 3. Of the two participants who did not click on the purple box, one wrote “I don’t see a way besides clicking each link individually,” while the other expressed frustration that he did not find what he was sure existed, saying “I would ask for help at this point.”

Task 5

This task was intended to learn more about how users understand and navigate the finding aid: how users understand the subject headings and how subject headings relate to the contents of the collection, how users will navigate a large finding aid, and how (or if) users will search within a digital collection. Participants were directed to the Edward J. McCauley Photographic Materials (P0082) finding aid, and were asked if they thought the collection would have images of former North Carolina governor Terry Sanford, why they thought so, and if they could view any such images.

The McCauley collection was partially digitized and presented as a special digital collection several years ago. This was done before the decision to include digitized material in the finding aid as it is now done at the NCCPA.

As a result, there is a separate CDM collection, the purple box does not rely on the JavaScript and is instead a permanent link that appears on the page as it is loaded, and links underneath container descriptions redirect the current page rather than opening a new tab. However, this finding aid uses the same template and stylesheet, and therefore still includes the script that searches for digital materials and takes time to fully load, even though the links to digital content are already present.

This task demonstrated the distinct advantage of using Ctrl+F to search a large finding aid. Every participant found Terry Sanford's name in this finding aid, but only those who used Ctrl+F actually found him within the Contents List; others mainly found him in the Subject Headings.

- When prompted to view these pictures and asked how many they could see, five users used the search function in the CDM collection to find 101 scanned images that have Terry Sanford's name in the description, which they wrote as their answer.
- The two intermediate users who did not use Ctrl+F never found Terry Sanford at all, despite searching for him several different ways, scrolling through or clicking on various subseries that seemed promising. After getting frustrated by searching within the Contents List, these participants clicked on the link within the subject headings list, sometimes more than once, to confirm that it did not take them to Sanford's appearances in the collection.

Task 6

This task was meant to see if users would find and understand the restriction information about a collection, and is a follow-up to Chapman's similar question. Participants were directed to continue using the McCauley finding aid and were asked if there were any restrictions on this collection, and if so, what they were.

Since Chapman's study was conducted in 2009, the "Information for Users" section has been revised due to her findings, since her participants displayed some hesitation and confusion regarding these statements. While the current study used a different collection with slightly different restrictions, the current results indicate a better understanding of restrictions that is likely due to the rearrangement of this information. Now, when restrictions are present in a collection, the template automatically adds red text to the top of the page under the collection title and purple box that indicates the presence of restrictions; the template also includes a link to the Information for Users section where the restrictions are spelled out.

Every participant answered this question correctly and demonstrated a good understanding of the restriction information. All participants then correctly identified the restrictions as allowing access but limiting use, with some users simply indicating that they could access materials and some also mentioning that they would need some staff assistance; all users indicated that they understood they would need permission to reproduce materials.

Task 7

This task was broken into four parts and was intended to see how users would navigate a very large

collection, which includes digitized content sporadically throughout, to find materials that are not easily keyword searchable. The last part of the question was specifically intended to see how users would navigate within the CDM interface. Participants were directed to the UNC-CH Photographic Laboratory Collection (P0031) finding aid and were asked if they thought the collection would have pictures of basketball teams or games, why they thought so, if there was a digital image of the 1947 men's basketball team, if there were any pictures of women's basketball, and how they could be viewed. In the last part of the task, participants were directed to a specific image, told to view the digital version, and asked how they might look for more digital images of basketball from that page.

Participants generally answered the first part very quickly, and seven used the Abstract and/or Subject Headings from the beginning.

The second part of this task asked users to find a digital image but used terms that differed slightly from item descriptions in how they were ordered. Search patterns were similar to Task 5, with the three advanced users and the same novice user engaging Ctrl+F from the beginning and the same intermediate user and novice users, who had success with searching the digital content immediately, using that approach here as well. The other three intermediate users began by scrolling through the collection, clicking on the subject headings, and trying various subseries in the Series Quick Links section, before the two who knew there was digital content available used the purple box at the top to access all digital content in the CDM interface.

Users then began searching for pictures of women's basketball, of which only two from 1960 are currently digitized.

- The three advanced and two novice users who had used Ctrl+F to answer the previous question about men's basketball continued with that method to find images of women's basketball, most often using the terms "women's basketball." Two of the advanced users experimented further after they noticed that titles varied slightly.
- When asked how to view these materials, four of these users did not see any digitized images and answered that they would need to view the materials in person, while one saw the link to a digitized image and included it in her answer.
- Two of the intermediate users, who had used the CDM interface to answer the previous question also used the CDM advanced search function for "women's basketball." Both of these users were searching only the Digital NCCPA collection, because it had been pre-selected by the person who performed in the study just before them. They found the only two images of women's basketball currently digitized, both of which happen to be from the Photographic Laboratory collection.
- The other two intermediate users continued looking in the finding aid without the use of Ctrl+F. Both eventually succeeded after extensive scrolling, with the user experiencing technical difficulties continuing to express frustration that she was not able to more easily find images.

The final part of this task was specifically intended to find out how users navigated the CDM interface. It had first been anticipated that users would spend most of their time during the study using the finding aid and that this question would gather the most information about how users navigated the CDM interface, but this assumption turned out to be quite wrong. The only user who was unable to complete this task was the user who could not access the digital content; while she did locate the item mentioned within the finding aid, the researcher stopped her at that point.

All users, after arriving at the correct item, clicked on the thumbnail or the title to look at the full-size image and then scrolled down to look at the metadata that appears under the image. The question asked them to decide from this point how they would search for additional images of basketball. Much of this metadata is hyperlinked, and two users indicated that they understood this. At this point, however, interpretation of the question varied.

- Two advanced and one novice user then selected “advanced search,” with one advanced user first selecting “browse” before changing her mind and then selecting “advanced search.”
- The three advanced users then began performing additional searches to find the best way of getting more digital images of basketball (although this was not asked).
- The other user who had clicked on advanced search, a novice user, did not attempt a search but indicated that he would use this method.

- An intermediate user also indicated that he would use advanced search without actually exploring it at this time.
- Another intermediate user noticed that the metadata was hyperlinked and wrote that she would “click on the link to the photo archives.”
- The other novice user found the link to the finding aid in the metadata and clicked on that, only realizing at that moment that he had been using the finding aid “all along.” He navigated back to the digital image metadata in CDM and then clicked on the collection number, which took him to all digitized content for the collection in CDM, just as the link in the purple box does. He listed this as his answer because “it does get the job done.”
- The other intermediate user also indicated that she would simply click on the link for all digital content in the collection, presumably by using the link in the purple box to CDM.

Task 8

This task was intended to assess how users might approach a collection with a general research need. Participants were asked to find a picture of former UNC-CH basketball coach Dean Smith using any of the collections they had used so far in the study.

The researcher had assumed that users would approach this task through the finding aids, but most users began this task from wherever they finished Task 7. Two users began searching the Photographic Laboratory Collection finding aid before switching to the Portrait

Collection finding aid, one using Ctrl+F while the other scrolled. One advanced user went first to the McCauley collection finding aid, navigated to CDM from the top of that page, and used the search box on that page without success. He then went to the Photographic Laboratory finding aid, then finally to the Portrait Collection finding aid, where he used Ctrl+F to find Dean Smith.

Six users began with the advanced search function in CDM. One of these users, a novice, gave up in frustration after attempting to limit his search there to only the Portrait Collection and getting no results, then went to the Portrait Collection finding aid directly and successfully used Ctrl+F. Two others also attempted to limit their search to collections previously used, but were not able to do so. Of the six users who attempted to use advanced search, five succeeded to some extent, although only one of these users did not attempt to limit or modify their search by collection (this user was also only searching the Digital NCCPA due to selections made in a previous session).

All users ultimately found images of Dean Smith, and eight of them found digital images of him. Four used the finding aid for the Portrait Collection directly and then tried to view the digitized images in that collection, while the other five eventually found the same digitized images in their result lists via the advanced search in CDM.

Participant Feedback

Users who were already familiar with finding aids, whether from WSCL or other institutions, were generally pleased with these finding aids. Novice users were much less positive about the finding aids overall, and both also expressed some lingering confusion about what the finding

aid actually was. Reaction to the digital content integrated into the finding aid was a little more even across user groups, with the intermediate user group giving the most positive feedback. All users indicated that it was easy to tell if images were available online.

Seven participants rated the finding aids as “well designed” and six thought they were “user-friendly.” When broken down by user group, the results are slightly less rosy, with only half of novice users rating the finding aids as “well designed” and none of them rating it “user-friendly.”

However, all intermediate users and two of the advanced users rated the finding aids as both well designed and user-friendly. Most users said in the post-test interview that the finding aid layout made sense, with several comments about the most useful information being placed at the top.

Intermediate and advanced users who were used to finding aids from other institutions thought that the organization and design were very good in comparison. An advanced user indicated appreciation for the left side navigation menu, comparing it favorably to other institutions where information “isn’t broken up like this at all.” One intermediate user who was most familiar with Russian archives said, “If this were my field, my life would be a whole lot easier.” Still another advanced user stated outright, “You guys have some of the better finding aids out there.”

Despite these positive assessments, most users had some suggestions for improvement. Novice users specifically mentioned wanting a search box or a way to search within a specific collection that was smarter than Ctrl+F, while an intermediate user who did not use Ctrl+F during this study indicated that he “relied heavily” on search boxes (when available) on other institutions’ finding aids. One advanced

user suggested breaking up the very long Contents Lists, and both an intermediate and a novice user suggested moving the subject headings to the bottom of the page. Interestingly, another intermediate user mentioned wanting the subject headings to be even more prominent.

All advanced and intermediate users thought that the finding aids were written in language easy to understand, while neither of the novice users thought so. This suggests that there is still a very steep learning curve for people who are brand-new to finding aids, but that those people who are familiar with finding aids find the ones at WSCL easy to understand. Both novice users mentioned wanting more help in figuring out what a finding aid was, in the form of some kind of introduction or more instructive FAQs and How to View Materials links.

All users responded that it was easy to tell if images were available online. Even the one participant who experienced technical difficulties with the digital content integration responded to this question and indicated that it was easy, based on a conversation with the researcher at the end of her test, in which she did finally get to see and immediately understand a link to digital content within the Contents List of a collection. It is interesting to note that although all users responded this way, several had suggestions for improvement. Several users discussed wanting the link to all digital content at the top of the page to be more obvious, with suggestions including making the text yellow, bigger, and bolder. One user also said that she wants an indication of when digital content is NOT available.

In giving feedback on the way digital content was available through the finding aid, it was not always clear whether users were responding to how links to digital

content were designed and placed in the finding aid or to the CDM interface. Given the decidedly mixed responses to this question, it seems possible that users interpreted this question differently. Novice users seemed to think the integration of digital content was decidedly average, while the intermediate group responded very positively. Since the novice users expressed a preference for the CDM interface over the finding aid but responded very poorly to the finding aid in general, and the intermediate users were very positive overall, it is difficult to interpret these results. Advanced users generally found the digital content through the finding aid very easily, but were not as positive about the CDM interface; it seems likely that this group interpreted this question as referring to the CDM interface, which they generally did not find as easy to use. One advanced user who responded enthusiastically to questions about the finding aids said, when asked about the display of digital content, “That one’s not as awesome.” Another advanced user expressed frustration with not being able to easily obtain a copy of digital files from the interface (by downloading), when “it doesn’t actually stop anyone” and “you’ll give it to anyone who e-mails anyway.” The third advanced user thought there should be greater “connectivity” between the pages, apparently referring to the difference in look and design between the finding aids and the CDM pages, and thought the CDM interface looked “sterile.”

Web 2.0

These questions were asked of users in order to follow up on Chapman’s 2009 study which sought to find out whether users of the SHC were as interested in Web 2.0 features as has been proposed in the archival literature.

Chapman did not find a great deal of interest in most of the features proposed, and none of these features have been implemented in WSCL finding aids. This study sought to find out if this was still true two years later, after the integration of digital content. Chapman's questions, which used a Likert scale to gauge level of interest in seven different Web 2.0 features, were reproduced for this study, but participants were not asked for additional feedback in the post-test interview.

It was found that users expressed the most interest in being able to save some finding aids to an online "bookbag" in order to revisit ones they used the most (eight users indicated strong interest in this feature, an increase from the time of Chapman's study) and in being able to export collection citations to a citation manager such as Refworks or Zotero (six users expressed strong interest). Other Web 2.0 features attracted some level of interest, but users were overall unenthusiastic about most features. In fact, this study found even less interest in many features than did Chapman's study, indicating that overall interest in Web 2.0 features for archival finding aids remains low. This study did not attempt to investigate users' reasons for these responses, only to gauge general level of interest.

Limitations

This usability study had a number of flaws and limitations that should be taken into account when considering the results.

The researcher intended to use time as a measure of usability for all tasks; however, during the course of the study it became apparent that the structure of the questions and the choice to ask users to write their answers (rather than

always speak them aloud) meant that there was too much variation in time taken for time to be a consistent indicator. Some users wrote more slowly or wrote longer answers than others, and many users did not speak all their thought processes aloud, so it was frequently difficult to determine when exactly they found or decided on the answer to a question. In addition, the structure and order of the questions meant that some users actually ended up answering more than one question at a time, or realizing immediately upon reading a task that they had already found the answer while working on an earlier task. Tasks and questions were not as discrete as they could have been, and the researcher did not encourage the users to think aloud strongly enough, although some users felt comfortable doing so anyway. Moreover, some results related to the CDM interface were skewed because of browser cookies, which pre-limited the advanced search parameters.

The number of participants, while large enough to give some information on usability according to current thinking regarding the study topic, was still small and not representative of the entire user population. Technical difficulties also limited the experiences of at least two participants.

In addition, this researcher knew of only one other usability study of digital content integrated into online finding aids before beginning this study (the one that was conducted by Jody DeRidder and her team at UA) and that study had not yet been published. While the researcher attempted to base these study tasks on previous finding aid and digital content usability studies, this was new territory at the time the study was being designed. As a result, the tasks that users were asked to perform are not likely to be the best

way of actually getting at the usability of these pages. The researcher did not intend to study the CDM interface to any great extent and anticipated, incorrectly as it turned out, that users would use the finding aids as the primary discovery tool for digital content. Instead, the study essentially had users perform searches on two distinct interfaces, but did not design the study with that in mind and consequently did not adequately explore these differences. This paper has attempted to address these differences as far as possible, but this discussion is incomplete.

This study may not have provided novice users with enough opportunity to learn what the finding aid was before they began rapidly trying to perform tasks. Chapman's study demonstrated learnability within the finding aid interface, but made different FAQs and How to View Materials pages available to users than this study did. These differences were not realized until the study was underway, and may have put these novice users at a disadvantage in comparison to the earlier study.

Discussion

This study attempted to follow up on some aspects of Joyce Chapman's 2009 usability study of finding aids at the SHC in WSCL. Since Chapman's study was conducted, a number of changes have been made to the WSCL finding aids, most obviously in the inclusion of digital content. Not every aspect of Chapman's study was included in the present research, and attempting to investigate the usability of the digital content necessitated some significant changes. The following sections discuss the major findings of this study and compare them, where appropriate, to the previous study.

Integration of Digital Content

This study primarily differs from Chapman's study in its attempt to test user understanding of the integration of digital content to the finding aids. The first and most important issue raised here is the obviousness and immediacy of indicating the existence of digital content, or specifying the *lack* of digital content availability. It appears that once users are familiar with the presence of digital content, they expect that it will be available, and may prefer a more obvious indication if it does not exist.

The way digital content currently is integrated into the finding aids gives two separate indications of its presence. The first is the purple box at the top of the finding aid containing a link to all digitized content for that collection; the second is a purple link at the record level for each container that has digitized content. These two methods showed drastically different rates of success. The second method of indicating the presence of digital content had an excellent success rate, with all users who had the record-level links available to them noticing and using these links. Users all clicked on these links without any hesitation, indicating that these links are completely intuitive. The purple box's success rate was not as positive.

It was anticipated that users would not notice this box immediately, but the number of participants who apparently never noticed this box or what it contained was surprising. Of the eight participants for whom the digital content integration worked properly, only five ever clicked on the link in the purple box. Of these users, one was an advanced user who indicated previous knowledge of the presence of this link, and commented that it was "only a purple link and it doesn't always come up right away . . . you

have to notice that there's a link there.” Another user said, “At first I did have the hesitation to skip this purple box, even though it says in big friendly letters ‘digitized content.’” Both novice users commented on the size of the text in the box as off-putting. One, who never clicked on the link, said when asked about it that he had “sort of” noticed it, but didn’t pay much attention or read what it said because “the text was smaller, so . . . it just seemed like something that wasn’t as important.” He also said “it seems like ‘the fine print’ that, you know, everybody skips.” The other said “my natural inclination is to not read little type, because you don’t put important things in little type.” He also said that he only noticed the purple box “out of the corner of my eye” when “something appeared on the screen,” making him first doubt his own perception.

Only one of the four collections used in this study included the purple box from the first moment the finding aid was loaded. The other three finding aid pages, including the first two where users were directed, rely on the JavaScript in the source code to generate the box, which takes time to display. The amount of time taken for the box to appear varied slightly by collection, with larger finding aids taking an average of forty-three seconds to load, and an overall average load time of just under thirty-seven seconds. The more records included in the finding aid, the more time it takes for the scripts working on the page and on the CDM collections to check for digitized items and create the dynamic links. Users, even those who knew about the purple box and its link to digital content, rarely waited for the page to finish loading.

It seems likely that while this purple box is visible and some users who were previously unaware of its

existence may find it eventually, it is not as obvious as it should be. While the box does contain the “big friendly letters” that says it has digital content and which made some users click on it, it also contains “the fine print” that told other users to skip it. This box and the link it contains need to be made more visible or the presence of digital content needs to be made obvious in some other portion of the finding aid. Three users who began searching for a link to all digital content during Task 4 spent some time looking in the Information for Users section, while others checked the left navigation menu or the How to View Materials link in the top banner. The user who was never able to view digital content (because of some unknown technical issue that prevented the content from loading to the page) searched in multiple places for an indication that digital content existed. The experience of this user demonstrates more clearly than anything else that the existence of digital content must be indicated on the finding aid page in some way that does not rely on a dynamic script. This user searched four different collections that have a combined total of 898 digitized items and did not find a single one, leading her to believe that no digital content existed. By the time she reached the finding aid for the Edward J. McCauley Materials, which does have a permanent purple box, her previous experience with two collections that did not have digital content visible appeared to have taught her that there was none to find.

Users indicated that knowing about the presence of digital content was extremely important to them, with one novice user saying “nothing on that page is so important to me as ‘here’s the link to the digital content,’” while one advanced user said “if you go to a page where nothing is digitized, it’s not always easy to tell, oh, nothing’s there. I’m

not missing something.” These statements demonstrate that in order for the integration of digital content to the finding aid to be fully successful, the presence or absence of digital content must be explicitly stated. A statement could be added to the Information for Users section from within the template that specifically says no digitized content exists, and individual collections that have digitized content can then replace this with a standard advisory containing a link to the CDM homepage. The restriction statements work in this way, and this extra step takes very little time, but communicates a great deal. While part of the advantage in the current set-up of digital integration is that it specifically does not require changing the finding aid each time digital content is added, adding this text when digital content for a collection is first uploaded will save a great deal of confusion for the users, making it absolutely worthwhile.

Control Find (Ctrl+F)

In Chapman’s study, she found that users who utilized the Ctrl+F function had greater rates of success than those who did not. As a result of this finding, text was added to the finding aid template advising users about this function. Previous usability studies or content analyses have discussed instances of this function’s use as indicating some type of failure on the part of the finding aid design, but Chapman treated it as a recognized tool which the archivist could expect users to utilize.⁴³ The overall success of users who search this way demonstrates that it is a legitimate method of search and supports Chapman’s (and UNC-CH’s) view of the matter. Users who relied heavily on Ctrl+F performed most tasks better and more quickly than those who searched through the finding aid without this function; one

intermediate user who never used Ctrl+F actually performed several tasks much faster without it, by reading and interpreting before scrolling, but this method was completely ineffective in larger finding aids with very long container lists. In this study, four out of nine users began their session with no apparent knowledge of this avenue of search. Only one of these users actually read the text advisory and began using Ctrl+F to search the finding aids and this did allow him to perform more successful searches than the users who did not use Ctrl+F at all.

Subject Headings and Restrictions

Another persistent usability issue was the presence of the linked subject headings. In these finding aids, subject headings for topics included in the collection are hyperlinked as subject searches within the entire library catalog. Clicking on the Terry Sanford subject heading link takes users to a new tab displaying all instances of his name used as a subject heading throughout the UNC-CH Libraries, which looks entirely different from the finding aid page.

Users expect the hyperlinked subject headings near the top of the finding aid to take them to content within the collection that fits this topic, and while the language of the finding aid specifically disavows this, users are disappointed to be unable to search this way. Six participants in this study clicked on a linked subject heading at least once, expecting it to take them to another part of the finding aid or to the digital content relevant to that subject. Three users did this more than once. None of the users indicated that they found this feature useful, although several did mention the subject headings as the source of answers or assumptions about what was included in the collection. One of the advanced users

mentioned that since keyword searching is so easy, subject headings are most useful when searching in the library catalog.

Participants in Chapman's study also expressed confusion about the subject headings and their relationship to the contents of the finding aid. At the time of her study, however, the subject headings were not hyperlinked at all. The inclusion of this feature does not appear to have cleared up the confusion significantly, and users now express confusion about why the subject headings behave this way, instead of confusion about why the headings are there in the first place. Therefore, it may be advisable, as Chapman and two of the present participants suggest, to move the subject headings to the bottom of the finding aid. It is worth noting, however, that while users expressed some dissatisfaction with the subject headings as they are, task completion was not actually affected.

In her study, Chapman also addressed confusion over restriction information. Only 75% of her participants correctly interpreted restriction statements. Restriction information has since been modified and this study demonstrated that 100% of participants correctly interpreted restriction information. While the restrictions on the collections used in this study differed slightly from those in Chapman's study, this improved rate of success nevertheless suggests that the current arrangement and wording of restriction information is more intuitive to users. Users reacted positively to having this information appear in red, and the fact that all users noticed this red text at the top of the finding aid (while many failed to notice the purple text just above it) indicates that users recognize red as denoting important information, with one participant even specifically

mentioning that she liked how “things you need to know are in red.”

General Navigation Issues and the Finding Aid versus CDM

Two of the finding aids used in this study describe enormous collections. The Edward J. McCauley Photographic Materials include some 83,000 items, while the UNC-CH Photographic Laboratory Collection contains well over 100,000 items. Users, especially novice and some intermediate users, sometimes found the long lists of items/folders/containers overwhelming when trying to search for items. While some of this frustration may be unique to the NCCPA due to the nature of some of their collections, it is a problem that has arisen in usability studies of finding aids before, and it may be inherent to most finding aids for large archival collections.⁴⁴

One of the novice users wanted to make the pages more dynamic, suggesting “checkboxes” similar to the CDM interface or the library catalog as a way to gather relevant results for later review, “because once I scroll past something or hit next, you know, I don’t know what I’ve already looked at.” This intriguing suggestion resembles the Web 2.0 features users expressed the most interest in at the collection level of an online “bookbag” or account that allows them to save favorites. The UNC-CH Libraries catalog has an “add to folder” feature, as do many academic or serials databases (for example, those managed through the publisher EBSCOhost). It is possible that this could be explored with collection management software such as Aeon and it may make browsing much easier for users, especially within very large collections like these.

This study reiterates the findings of previous user and usability studies which claim that the finding aid is most suitable for browsing, but users want to search by keyword. The finding aid and CDM are two separate interfaces with separate usability issues, a distinction that was not clear to most participants. While this study was meant to focus on the finding aid interface, it also gathered a great deal of information on the usability of CDM. Unlike DeRidder et al.'s study, users were not asked to compare interfaces and were expected to use the finding aid as the primary discovery tool. However, the nature of how digital content is linked to UNC-CH's finding aids meant that users did, in fact, use two different interfaces; this was confusing to novice and some intermediate users, who noticed the differences without understanding why they existed. One novice user said of the CDM display, "It feels like I'm on a totally different page. . . like I left what I was originally doing." He clearly indicated that he preferred this interface, saying "this seems a lot more dynamic. . . . This feels more familiar to me." Advanced users more familiar with the finding aids appeared to understand the differences between these two interfaces more clearly, but expressed a desire for them to more closely match in appearance. The experience of all users pointed to usability issues with CDM, particularly with the Advanced Search function and distinguishing which collections were being searched. While interesting, these issues are largely outside the scope of this study.

Novice users also expressed lingering confusion over the nature of the finding aid. Both novice users were very experienced internet users who tended to explore and click on links, but had definite pre-conceived notions about usability. As previously mentioned in the limitations section,

this study may have inadvertently inhibited their orientation to finding aids, since both users were frustrated by their attempts to figure out the finding aid as they went along. Both indicated at the end of the study that they thought they had some understanding of the finding aid by that time, but they were still a bit uncertain.

While most users completed the majority of tasks correctly, advanced users showed the greatest ease with and willingness to use the finding aid to search for and find items. Intermediate and novice users showed a greater tendency to use CDM to find items and were less likely to draw any kind of distinction between what they found there and what was actually listed in the finding aid. In contrast, advanced users almost always made this distinction. As one novice user said, "Because there was so much stuff that was digitized, I expected everything to be digitized. So when I ran into this stuff that was like, yeah, this exists, I was like, well isn't that nice for it. I want to see it." The other novice user said, "I still came away from this not knowing if I saw everything I was trying to see."

On the other hand, the intermediate user who never used Ctrl+F, was unable to see the digital content, and had only used WSCL's finding aids three or four times, was able to perform many tasks quite rapidly due to her familiarity with finding aids from other institutions. She successfully completed tasks more often than not, in spite of being hampered by scrolling through extremely large collections, material arrangement that was not intuitive to her, and the inability to use the search feature within CDM. She said in the post-test interview, "In general, I'm usually able to find what I'm looking for . . . fairly quickly, albeit with some stops and starts. You know, sometimes you just

assume it's going to be one place, and then you click on the other place and are like, oh. But that's part of the fun and serendipity of it all.”

This reiterates DeRidder et al.'s findings and, coupled with the experience of novice users, begs the question of how much the finding aid is responsible for educating users about itself and its most effective use. While novice users were able to self-educate, it is unclear whether they would have done so had they not been motivated by their participation in the study, and it appears that experience is the best educator. So will novice users who are not required to use a finding aid ever use enough to become advanced users?

Walters, in her examination of finding aid usability studies, discussed the fact that participants were usually able to adapt to and learn how to use finding aids, and DeRidder suggests conducting a longitudinal study to test how users learn to use the finding aid over time.⁴⁵ The success of all users in the majority of tasks in this study also demonstrates that users can learn to use findings aids, but questions remain about how to improve their experience doing so. A user's conceptualization of archives and an archival collection has an impact on their experience with finding aids, demonstrated in this study by participants who did not appear to make a distinction between digital content and the archival collection described in the finding aid. Users claiming more experience with archives demonstrated better understanding and greater ease of use. So how much can the finding aid do to make a user quickly gain a conceptualization of an archival collection? Finding aids may not be intuitive things at all. As one processing archivist

mused to this researcher, “Because it’s on the web, does it *have* to be intuitive to everybody?”

Usability literature emphasizes that the usability of a particular object is determined by the users for whom it is intended; that usability is in fact “context dependent,” a concept with which archivists should be quite familiar. Alison Head discusses how usability involves the expectations users bring to a tool as well as how it allows them to use it, which means that the finding aid, in trying to be usable to user groups who use it for many different purposes and who approach it with many different expectations, is required to accomplish a great deal.⁴⁶

Chapman found two years ago that certain help features, well-designed and easily available, can assist novice users in learning what a finding aid is and how to use it. Recent studies have suggested that novice users are not particularly interested in learning about the finding aid.⁴⁷ Yet practical considerations have led archivists such as Evans, Greene, and the teams at UA and UNC-CH to realize that the best, most efficient, and most informative way to present the digitized materials (that everyone can agree are wanted), is via the finding aid. So how can these ideas be merged into a successful user experience?

These questions obviously cannot be answered here anymore than they have been definitively answered in the literature, but it is the opinion of this researcher that greater attempts must be made to make archival collections more accessible to novice users. If the finding aid is truly a document that exists to describe the contents of a collection in such a way that a researcher may find complex subject matter, the results of this study may indicate that it is not also the best vehicle to accomplish more universal accessibility.

UNC-CH appears to have found a finding aid design that works well for advanced users and allows intermediate users to get their work done. For inexperienced users of archives, however, perhaps the finding aid cannot be both a description of an archival collection and a completely intuitive tool of discovery. If this is the case, other methods must be explored for increased usability and access.

Conclusion

This study examined the integration of digital content to the finding aids in WSCL at UNC-CH, in an attempt to add to the growing body of literature suggesting this as desirable. This study also attempted to add to this institution's understanding of the usability of its finding aids as established by a usability study conducted two years ago. Results indicated that the presence of digital content was largely intuitive but could be improved upon by the use of a more immediately visible indication of its presence or absence that is not delayed by browser loading. It was found that users are able to understand the finding aid but may not always differentiate between it and the digitized content present in CDM. Those who are more familiar with finding aids and using archival collections indicated greater levels of comfort with using the finding aid and making use of the digital content within it, while users less or not at all familiar with finding aids demonstrated a preference for the CDM interface. Most users wanted to be able to use keyword searching, both within the finding aid and within the digital collection. The researcher concluded that novice users should either be presented with an introduction to finding aids, if they are expected to use them as sole access to digital content, or be provided with a quick way to directly navigate

to digital content, since that was top priority. As all users indicated and one novice user expressed: "I want to see it."

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REVIEWS

Ross Harvey. *Digital Curation: A How-To-Do-It Manual*. New York: Neal-Schuman. 2010. 225p. Appendixes, bibliography, illustrations, index, notes. \$75.

In this day and age, just about everyone creates digital data. The challenges that face the long term preservation of digital data are enormous, especially for librarians and archivists who are not only data creators and users, but data curators. Ross Harvey has written an in-depth manual of best practices regarding digital curation. Harvey has over ten years of experience serving as a professor in graduate programs for library and information studies in the United States and abroad. He has published extensively in the fields of library education and bibliographic organization. Additionally, his research and teaching interests include the preservation of digital materials in libraries and archives and the history of the book.

Digital Curation is arranged into three parts, which include chapters within each part: “Digital Curation: Scope and Incentives,” “Key Requirements for Digital Curation,” and “The Digital Curation Lifecycle in Action.” The beginning of each chapter provides a basic checklist of topics covered and the end of each chapter includes a comprehensive reference list. Harvey includes a four page list of abbreviations that are used throughout the book. While this book can be read from cover to cover, it would be more useful to consult the table of contents and/or index to learn about a specific area of interest. There are four chapters that are particularly informative, especially when trying to understand the general concepts of digital curation.

Chapter one, Introduction, discusses “the reasons why digital curation is necessary, identifies what digital curation encompasses, suggests why one should be interested in digital curation, notes the main incentives for digital curation, and examines who does digital curation and what tasks they carry out” (xvii). This chapter also explains the differences between digital curation and digital preservation. Harvey does a nice job of outlining why anyone should be interested in digital curation and some threats to digital continuity. He makes it clear that if no one takes the steps to curate digital content, then we will face difficult challenges regarding capturing, storing, and accessing data now and in the future. Harvey states, “good digital curation practices benefit data creators in many ways: improved quality of data, improved access to data, increased visibility of the research, and improved visibility and citation rates of the creator” (12). The end of chapter one provides an excellent list of digital curation tasks and responsibilities, as well as a comprehensive list detailing the main characteristics of digital curation. Librarians and archivists, in addition to being good digital curators who ensure the longevity of important digital content, also have an obligation to the public to provide free and unrestricted online research results.

In chapter five, “Curation and Curators,” Harvey “examines in more detail what digital curation aims to do, what these management and administrative actions are, and who carries them out” (55). Harvey breaks down the definitions of digital preservation and digital curation even further than defined in chapter one, and explains in detail the three characteristics of digital curation: longevity, integrity, and accessibility. Describing the roles of digital curators, the

author places digital curators into five main groups: funding bodies, discipline groups, data creators, data users and reusers, and data curators. He discusses in detail what types of professions and disciplines make up each group, and outlines the crucial steps that need to be implemented in order to be successful digital curators.

Chapter seven, “Preservation Planning and Policy,” “notes the need for planning throughout the curation lifecycle of digital material. It also describes the importance of developing policy for all aspects of digital curation and refers to the findings of recent research into the costs of digital curation” (83). Harvey argues that beginning at their creation, digital objects and data need to be managed and maintained throughout their lifecycle. He addresses in a very succinct way the key steps that need to be taken in order to be proactive with the planning and preservation of digital objects. Harvey discusses in depth the benefits of creating policies, what they need to address, and offers references and examples of existing digital curation policies. The last section of this chapter outlines the costs associated with curation, and the difficulty Harvey sees in determining the true costs.

Chapter eleven, “Deciding What Data to Keep,” “investigates the processes of developing criteria for determining what data and digital objects should be kept for the long term and what should be discarded and then applying those criteria” (131). This chapter discusses in depth the process of appraising and selecting a digital object, what data needs to be kept for the future, necessary reasons for keeping data, how long to keep data, disposal and transfer of data, and who ultimately makes the decision. Harvey provides two useful examples (archiving websites and the

appraisal of scientific data sets) that illustrate possible concerns and procedures when appraising and selecting digital data to maintain and preserve. Throughout the chapter, the author poses several open-ended questions that need to be seriously considered and evaluated before making a firm decision about what data to keep and maintain.

Harvey illustrates in this how-to manual the necessary steps and processes to consider and implement when curating digital data. Overall, this manual is very comprehensive and would be used most efficiently by first consulting the table of contents and/or index. Anyone not familiar with the library and archives disciplines may find the language and terminology challenging to comprehend. *Digital Curation* would be a good publication to add to any library, especially if the organization creates, uses, and intends to preserve digital data.

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Peter J. Wosh, ed. *Waldo Gifford Leland and the Origins of the American Archival Profession*. Chicago: Society of American Archivists, 2011. 397p. Index. \$62.95 (non-member); \$44.95 (member).

Archivists, more than any other group, understand the importance of knowing something about one's past when charting one's future. They also understand how letters and essays can weave together the story of a community or, in this case, a profession. In *Waldo Gifford Leland and the Origins of the American Archival Profession*, Peter J. Wosh shares selected writings of Leland that, in essence, document

the emergence of the archival profession in the United States. Wosh adds Leland's voice to such other archival pioneers featured in the Society of American Archivists' *Archival Classics* series as Ernst Posner, Lester J. Cappon, Margaret Cross Norton, and Sir Hilary Jenkinson.

With both a background in American religious history and experience as an archivist and educator, Wosh proves to be a very able editor for Leland's writings. He provides detailed explanations of his selection rationale. Through his biography of Leland and introductory essays for each chapter, Wosh presents Leland's passion and dedication to the archival profession, yet does not shy away from his social and intellectual elitism.

Wosh opens with an introductory biographical essay describing Leland's life in New England from his childhood through his education and later career with the Carnegie Institution and American Council of Learned Societies. The remainder of the book is organized into eleven topical chapters composed of Leland's published articles, presentations, correspondence, and reminiscences, as well as the edited transcription of an oral history of Leland. The topical chapters, arranged chronologically, present Leland's work as it intersected with his interest in the establishment of archives and preservation of the historical record. Included are chapters on photographic copying of historical documents, early professional archival conferences, the National Archives, Catholic historical societies, the state archives building in Illinois, the role of archivists during the two world wars, and Leland's recollections and reminiscences in his later life.

Wosh devotes three chapters to early conferences of archivists: the First Conference of Archivists (1909), the

First International Congress of Archivists and Librarians (1910), and the Fourth Annual Conference of Archivists (1912). Leland planned the conferences in collaboration with a number of prominent individuals, including Herman Ames, professor at the University of Pennsylvania; Victor Paltsits, State Historian of New York; and J. Franklin Jameson, Leland's professor and mentor at Brown University and the Carnegie Institution. Their correspondence provides insight into what these men considered the most important issues relating to archives. In his own remarks, Leland spoke of the need for a national archives, continued development of state archives, and a standardized manual like the Dutch manual¹ developed in Europe. He spoke of the principles of provenance, the knowledge archivists would need, and issues regarding the public use of archives. These chapters offer insight into the introduction and adaptation of European archival concepts into the profession and also provide a sense of the times. In his remarks to the Fourth Annual Conference of Archivists, Leland noted that he concurred with the remarks of Gaillard Hunt, representing the Library of Congress, to the International Congress in 1910 about access to archives and reasons for withholding certain classes of information. He notes, however, that "Archives which relate to political events may be open to general inspection when danger of inflaming public opinion by their revelation has passed" (155). Much has changed in one hundred years since these conferences.

The following three chapters include both correspondence and articles reflecting Leland's experience with the Carnegie Institution's inventory of government records in Washington. Chapters five and six deal with advocacy for a national archives and a report for the state of

Illinois regarding the needs for a new building to include the state archives. His article in the *American Historical Review* in 1912 outlined the poor condition of government records, the issues and risks identified for preservation of the records, and advocacy for a national archives division and building. The state of Illinois also sought his advice on the construction of their building to house a state library, museum, historical society, Lincoln collection, and public archives. Wosh omits the first two detailed sections on building specifications, but the remaining sections provide insight into Leland's interpretation of building needs based upon archival functions. In chapter seven he gives advice on founding Catholic historical societies.

Leland's two presidential addresses to the Society of American Archivists, in 1940 and 1941, are the most compelling parts of the book. In 1940, Leland spoke in Montgomery, Alabama about issues of concern to archivists in "times of emergency"—meaning in times of war. He cautioned his colleagues "to expect the unexpected and to prepare ourselves against the impossible." Leland further advised "that archives of great sentimental value should be removed to places of undoubted security, that archives of which it is indispensable to keep an exact record should be micro-photographed, and that the balance of the archives be left to take their chances" (264, 267). In the following year, he focused his talk on the enormous quantity of records created during World War I and the stresses this imposed on archivists.

Wosh balances his approach in this book with a biographical look at Leland and the theories and ideas that helped to create our profession. He has contributed to our knowledge of our profession and has given us a new

perspective of its early years. Anyone reading this volume will better understand the pioneering characters that contributed to creation of the archival profession and how their worldviews shaped the profession for decades to come.

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NOTE

1. Samuel Muller, Johan Feith, and Robert Fruin.
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Translated into English, 1940: Samuel Muller, Johan Feith, and Robert Fruin. *Manual for the Arrangement and Description of Archives*, trans. Arthur H. Leavitt.

Kate Theimer, ed. *A Different Kind of Web: New Connections between Archives and our Users*. Chicago: Society of American Archivists, 2011. 338p. Bibliography and index. \$69.95 (nonmember); \$49.95 (member).

Kate Theimer has taken the bull by the horns with her book, *A Different Kind of Web: New Connections Between Archives and our Users*. Attempting to tackle the subject of Web 2.0 and archives in a holistic way is an unprecedented and herculean undertaking, but this is the book Theimer was destined to write. No stranger to Web 2.0 and the changing nature of archives in the digital age, Theimer has been an ardent supporter of Archives 2.0 through previous publications, talks, and her blog “ArchivesNext” (www.archivesnext.com). In 2010 she authored *Web 2.0 Tools for Archives and Local History*

Collections, which looked at individual Web 2.0 tools that had been successfully implemented in archives. *A Different Kind of Web* is an evolution of that book, establishing itself by looking at archives and what they are doing, rather than focusing just on the technology itself.

Theimer's argument is that archives are going through a period of change that uses Web 2.0 technology to create a more user-centered, participatory focus. She terms this Archives 2.0, stating: "Archives 2.0 is more than simply 'Archives + Web 2.0.' Archives 2.0 is an approach... in which archivists are user-centered and embrace opportunities to use technology to share collections, interact with users, and improve internal efficiency" (335). This concept gives direction to the use of Web 2.0 tools in archives so that they are not blindly adopted.

The book is organized into a series of essays detailing distinct aspects of Web 2.0: "Something Worth Sitting Still For? Some Implications of Web 2.0 for Outreach," discusses the challenges of adapting the traditional role of outreach to the world of Web 2.0. Media such as blogs, Facebook and Twitter have opened up new channels of communication between archives and their users while forcing archives to fit their goals to that medium. "Balancing Authority with Encouraging Authentic Voices to Engage with Records" focuses on maintaining credibility and authority in a web environment built on participation and engagement. "New Tools Equal New Opportunities: Using Social Media to Achieve Archival Management Goals" discusses how implementing and staying abreast of technological developments is important from a management perspective. The author mentions crowd sourcing and blogs about collections as ways to invite fuller descriptions from

users. “Old Divisions, New Opportunities: Historians and Other Users Working with and in Archives” focuses on how the relationship between archivists and their users can be revitalized and strengthened by using Web 2.0 technologies. “Going to See the Elephant: Archives, Diversity, and the Social Web” seeks to understand how Web 2.0 influences diversity and how archivists can piggyback off that technology to reach a broader audience and invite participation. Finally, “Archives 101 in a 2.0 World: The Continuing Need for Parallel Systems” makes the case for the relevance of traditional archival education and principles in a Web 2.0 world. Each essay is supplemented by a series of case studies. The essays are preceded by a foreword by David S. Ferriero and bookended with a preface and conclusion by Theimer.

The essays tend to overlap with the “past” versus “present” theme regarding management of archives and outreach policies, yet ultimately do a good job of building off of the preceding essay. Collectively, the essays successfully support Theimer’s call for a more user-centered archival practice. Indeed, the positives of increased outreach and applying current technology to advance our profession are easily grasped. But the significance of this work is in the discussion of issues and concerns that accompany such a shift.

Two essays in particular demonstrate such concerns: “Balancing Authority with Encouraging Authentic Voices to Engage with Records” and “Archives 101 in a 2.0 World: The Continuing Need for Parallel Systems.” In her essay on authority, Elizabeth Yakel suggests archivists shift their model of authority from a hierarchical one that discourages user participation to a more inclusive one that

recognizes the potential for individuals to share authority through contributions to description. As the only essay in the book that deals specifically with authority, this is a must-read for anyone considering Web 2.0 at their institution. Indeed, authenticity, credibility and trust are what archives are built on.

In “Archives 101 in a 2.0 World: The Continuing Need for Parallel Systems” Randall Jimerson cautions readers that “Ultimately, archives will be judged by how well they contribute to the fundamental purposes served by the archival record. Web 2.0 can be an effective tool in achieving these objectives as long as archivists do not confuse it for the goal itself” (328). This is sage advice for entering the Archives 2.0 world. Archivists must not lose sight of our missions and goals to serve both our users and the historical records we care for. The principles that archives students learn remain consistent and technology should be employed to serve those principles.

There is no doubt that Archives 2.0 is where the profession is headed, and for those in the case studies, it is already here. Theimer challenges the traditional image of archives by advocating for a more participatory and user-centered approach predicated on using Web 2.0 technologies. The wealth of knowledge provided, accessibility of material, and her foresight to include essays from both archivists and researchers speak to the thoroughness of this work. Further, the essays open the subject up to more questions: where will authority and control over the historical records in our collections rest? What will the impact of restructured outreach focus and processing methods be on the training of future archivists? These are questions that will only be

answered as time progresses. As it stands, this is a must-read for archives students and professionals alike.

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Christopher A. Lee, ed. *I, Digital: Personal Collections in the Digital Era*. Chicago: Society of American Archivists, 2011. 379p. Bibliography, illustrations, index, and notes. \$69.95 (nonmember); \$49.95 (member).

While much has been written regarding born-digital electronic records from the standpoint of businesses and organizations, the literature regarding personal digital collections has been virtually nonexistent until now. *I, Digital: Personal Collections in the Digital Era* focuses on the issues, challenges, and opportunities associated with born-digital materials created by individuals. Personal digital collections are becoming more prevalent in archival institutions and in order for archivists to be prepared to handle the personal papers of individuals in an age when “personal papers” are neither paper nor strictly personal, we must become more informed about the field of personal information management. According to Christopher A. Lee, personal information management, or PIM, can be broadly described as the study of the activities individuals engage in to obtain, organize, use, and preserve information (both paper-based and digital) for everyday use. PIM complements our work as archivists and these connections are threaded throughout Lee’s compilation.

The book is organized into three parts based on general themes with a total of nine separate chapters. The first theme, Conceptual Foundations and Motivations,

provides the background and theoretical fundamentals for personal digital collections. In “And Now the Twain Shall Meet: Exploring the Connections between PIM and Archives,” Lee and Robert Capra discuss how archives and the growing field of personal information management can benefit from one another. Adrian Cunningham proposes twelve guiding principles for dealing with digital recordkeeping as an alternative to developing practical solutions to specific technological issues in his chapter, “Ghosts in the Machine: Towards a Principles-Based Approach to Making and Keeping Digital Personal Records.” In “Challenges and Opportunities for Personal Digital Archiving,” Catherine C. Marshall examines the types of digital records kept by individuals and how these same people think about the deletion or loss of their digital materials. Marshall then discusses digital stewardship and how archivists can help people develop best practices for keeping their personal digital collections safe. Sue McKemish rounds out the first part of the book with her chapter, “Evidence of Me... in a Digital World,” which revisits her 1996 article concerning the broadest sense of personal archives as a form of witnessing, this time in the context of digital materials.

The second section of the book features two chapters focusing on the theme of Specific Genres and Document Types. Kristina M. Spurgin provides evidence of the current recordkeeping practices of photographers in “Three Backups Is a Minimum: A First Look at Norms and Practices in the Digital Photo Collections of Serious Photographers.” Then, in “Collecting the Externalized Me: Appraisal of Materials in the Social Web,” Christopher A. Lee explores the opportunities and challenges involved in

collecting personal materials in online environments where the boundaries of what is personal are becoming much less clear.

Finally, in the third part of the book, *Implications for Memory Institutions*, four authors offer suggestions and possible solutions for managing personal digital collections. In their chapter, “Taking It Personally: The Implications of Personal Records in Electronic Form,” Rachel Onuf and Thomas Hyry urge archivists to more vigorously engage with electronic records in personal collections by actively seeking such materials while also developing better means of access to digital records. Leslie Johnston describes the University of Virginia Library’s development of a User Collection Tool that led to better access to and increased use of the Library’s personal digital collections in her chapter, “Making It Usable: Developing Personal Collection Tools for Digital Collections.” Along a similar line, in her chapter, “Curating the I, Digital: Experiences at the Bodleian Library,” Susan Thomas discusses the role the University of Oxford’s Bodleian Library has taken in engaging with digital archiving.

As with any compilation, some chapters are more clearly articulated and well researched than others. In particular, the chapters featuring case studies lack the rigor necessary to provide broad conclusions about the use of personal digital collections. The more theoretical sections, on the other hand, offer strong support for their arguments, drawing upon available literature and previous studies. The pivotal issues of the book are the dual needs to develop standards for dealing with personal digital collections and to develop tools to increase the accessibility of such records.

Written for any archivist, manuscripts curator, or records manager who handles personal collections, the concepts in the book are presented in an accessible format. Each chapter can stand both on its own and in context with the larger themes presented in each section. All chapters are well referenced with an abundance of endnotes and the book features an extensive bibliography. By separating the chapters by theme and providing a manageable index, Lee has provided a straightforward method to pinpoint the sections most relevant to the reader.

I, Digital is an excellent resource for developing your institution's policies and procedures for dealing with electronic records created and used by individuals and offers ideas for access tools to implement such as Omeka, the open source web-based digital content management system. However, the book is less successful in its reflections of people's current practices in using and maintaining their own digital collections. For the archivist struggling to deal with the multitude of digital formats coming into her collections, though, this book presents both principles and solutions for effectively processing these materials in ways that promote the accessibility and use of these personal digital collections.

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Steven J. Miller. *Metadata for Digital Collections: A How-To-Do-It Manual*. New York: Neal-Schuman Publishers, 2011. 343p. Bibliography, illustrations, and index. \$75.

The rapidly increasing demand for archives, libraries, and museums to provide digital collections has

created a great need for practical guidance. Steven J. Miller's *Metadata for Digital Collections: A How-To-Do-It Manual* addresses this need by focusing on the basic concepts and principles of metadata creation. The book is a practical tool for library students with a focus in archives and digitization and professionals who wish to become more familiar with metadata creation.

Miller's book consists of eleven chapters, and begins with a focus on the basics of metadata: concepts, definitions, functions, and types. It then explores the kinds of information needed to create descriptive content and provide access to digital resources. Earlier chapters also introduce the Dublin Core Metadata Element Set and its practical application. Miller focuses primarily on three of the most commonly used metadata schemes: Dublin Core, MODS, and VRA, which allows him to relate to a broad audience of practitioners. He also covers "Resource Identification and Responsibility Elements," "Resource Content and Relationship Elements," "Controlled Vocabularies for Improved Resource Discovery," "XML-Encoded Metadata," "Metadata Interoperability, Share Ability, and Quality," "Designing and Documenting a Metadata Scheme," and "Metadata, Linked Data and the Semantic Web." Each chapter is structured with an introduction, overview, summary, and references.

Miller's two primary themes are the functionality of metadata and its interoperability. He speaks of the former thusly: "Metadata is data or information that enables people to perform certain functions in relation to the information resources that the metadata is about" (1). Miller uses multiple examples, such as the browsing and searching aspect of metadata usage, to explain the basic necessities of

these functions. Searching and browsing both support metadata retrieval. The search function serves as a tool for the information retriever to enter terms in a search engine to match the query. The browse function provides the information retriever with pre-determined search terms. Without these functions the user is left to examine the entirety of an information object. Miller quotes the definition of interoperability as “the ability of multiple systems with different hardware and software platforms, data structures, and interfaces to exchange data with minimal loss of content and functionality (NISO, 2004: 2)” (227). He encourages the reader to consider both the short- and long-term viability of the metadata, evoking such questions as “How will my metadata work in case of an upgrade? Will you always use the same system? Was your metadata created in a Dublin Core format? Will nonstandard local elements import to a new system?” Metadata projects clearly require both in-depth and long-term planning.

This book targets professionals and students who need to familiarize themselves with metadata and with using Dublin Core as part of metadata creation. It is intended for special collections departments and archives that are using software such as CONTENTdm, Luna, Archon, and Archivists’ Toolkit. Miller’s *Metadata for Digital Collections: A How-To-Do-It Manual* is an effective guide to the basics of metadata. It heightens the reader’s awareness of potential difficulties associated with creating metadata for digital collections and offers solutions to possible challenges. Its greatest strength is the amount of effort that was put into the description of metadata creation. Miller not only elucidates the steps to metadata creation, but also describes and defines what each element means and how it relates to

the overall themes of functionality and interoperability. He further engages his reader by providing a companion website that gives the reader an opportunity to apply the information through review questions, recommended readings, and exercises. Miller's writing style is straightforward and easy to understand. The concise and well-written text is complemented by the attractive layout and numerous effective illustrations. I recommend this manual for those who work with digital collections on a student, staff, or professional level.

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