The Usability of On-line Archival Resources: The Polaris Project Finding Aid

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Abstract

This case study examines how the Florida State University Libraries’ Claude Pepper Library planned the first phase of the Pepper OnLine Archival Retrieval and Information System (POLARIS) Project—the development of an on-line finding aid and search engine—to provide electronic access to its unique resources. It also demonstrates how the project staff studied the research usability of the Pepper Collection finding aid in the on-line environment. The identification of potential users, creation of a focus group based on a sampling of these users, and the compilation and analysis of focus group responses were important factors in planning the first phase, evaluating usability of the finding aid, and influencing the changes that the POLARIS Project team made.

The explosion of computer and telecommunications technology in the closing decades of the twentieth century, and the expectations of researchers for immediate, efficient information retrieval have presented both a challenge and a fortuitous opportunity for archivists. Because of limited time and money, researchers want to examine original source materials in the most productive, efficient, and effective way possible before visiting an archival repository. As a result, archivists must be more innovative in publicizing their institution’s collections to fulfill their traditional mission of providing access to unique resources. The Internet offers archivists a powerful tool to reach their audiences in ways never before possible. Increasingly, archival repositories are designing projects to mount their finding aids on the World Wide Web.

The Claude Pepper Collection of the Florida State University Libraries, housed at the Claude Pepper Center, consists primarily of Pepper’s official correspondence, speech, legislative, committee, and campaign files. These papers are historically valuable not only because Pepper’s terms of service span more
than forty years of the twentieth century, but also because current policy makers can build upon Claude Pepper’s accomplishments as they continue to deal with the problems that were the focus of his unfinished work. The full impact of the collection can only be realized if it is made widely accessible and rapidly available to researchers studying his activities.

This article is a case study of the development and implementation of an online finding aid and search engine for the Pepper OnLine Archival Retrieval and Information System (POLARIS) Project. In late 1997 the Pepper archivist proposed that these materials be made more easily and widely accessible to researchers. In the first phase of the POLARIS Project, the Pepper Library website, online finding aid, and the POLARIS search engine were created, enabling researchers to examine the collection’s finding aid and retrieve information about the holdings. The POLARIS search engine <http://pepper.cpb.fsu.edu/polaris/search.htm> queries the online finding aid and returns results at the folder/container list level. During the second phase, which began in 2001, selected original source documents will be scanned, and made accessible and searchable at the document level. During subsequent phases, selected photographs and audiovisual recordings will be digitized.

**Literature Review**

In determining whether the POLARIS Project should be undertaken, the Pepper archivist first examined the professional literature to identify studies relating to usability of archival resources in the online environment. It became evident, however, that the professional literature contained very little on this topic. Based on this conclusion, the Pepper Library staff broadened the scope of the literature review to investigate several related issues that would influence the project: (1) designing effective user studies, (2) identifying potential users in order to create focus groups, (3) identifying and implementing user-based evaluation techniques, and (4) measuring user response. Several studies were found in the literature that addressed these issues.

Because of the need to improve information about actual users in archives, Paul Conway surveyed researchers in four presidential libraries during 1984.

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1 After a presentation to the Claude Pepper Foundation and the Florida State University Libraries, these organizations approved the POLARIS Project. The Foundation allocated $122,970.72 for the first phase of this 27-month project, which officially began in October 1998. Funding was provided for a project archivist, two student assistants, computer equipment, and software. The project team is using InMagic’s DB/TextWorks as the collection database, and InMagic’s dB WebPublisher, to make it accessible on the Internet.

2 The authors discovered that the literature primarily consists of academic library surveys, such as Cornell University’s Online Retrieval Experiment (CORE Project), in which user studies were conducted through the compilation of offhand comments (in-person or over the telephone) and by observations made by patrons while training or when visiting user sites.

By designing a comprehensive questionnaire that queried users on such factors as their initial contact with the repository, orientation interviews, and in-person reference assistance, he determined patterns of behavior within specific groups of researchers. He concluded from his analysis of the questionnaire that “good reference service, like good business, means discovering patron needs, developing the means to meet these needs, and following up to measure the impact of services.” The POLARIS Project team followed these recommendations by conducting informal interviews of researchers to determine their needs, developing an information system based on those needs, and by creating a focus group and on-line survey forms to assess user satisfaction with the resource.

Conway’s 1986 article in the *American Archivist* offered for the first time a framework for archivists to use in designing a program of user studies, in which information was gathered on groups of users over time, utilizing accepted reference practices, such as reference logs, already in place in many repositories. This scheme was based on how users are defined, how individuals define particular information needs, the physical use of materials, and the “usefulness,” or use made of archival information beyond single repositories. Besides using simple reference logs, he suggested that archivists could design survey questionnaires, special studies, and ongoing user study programs to gather information, and the knowledge gained from these studies would be valuable to many repositories if widely shared. The POLARIS Project team established a focus group and designed a questionnaire to gather information and to modify the system prior to its public release. This technique proved so successful that the use of focus groups will be an ongoing part of each phase of the project.

Several additional studies were also relevant to measuring and evaluating use of the Pepper online finding aid after its public release. In 1994 Charles R. McClure, for example, stressed the importance of developing and implementing a range of user-based evaluation techniques to plan for future services. He cited such techniques as focus groups, observation, user logs, interviews, gathering of anecdotal evidence, and surveys, which the POLARIS Project team utilized in collecting information from POLARIS evaluators. In 1993 Martin Kurth indicated that transaction log data, as revealed in server logs, effectively described what searches patrons entered and when they entered them, but they did not show, except through inference, who entered the searches, why they entered them, and how satisfied they were with the results. The conclusions that could be drawn about use of on-line resources are limited when relying on

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log analysis alone. This finding was confirmed by the POLARIS Project team’s analysis of the log files for the Pepper Library on-line finding aid, which showed that requests for POLARIS web pages had either remained steady or increased since its public release in August 1999. The logs revealed very little, however, about the effectiveness of the searches and the level of user satisfaction. This data could only be gathered by using techniques identified by Conway and McClure.

Archival Experience in Gathering User Information

In addition to examining user study literature, the Pepper archivist canvassed members of the Archives and Archivists listserv to identify the types of responses they received from researchers after placing their finding aids online, and whether they observed any changes in use statistics. Although informal in nature, this survey was valuable as anecdotal evidence, indicating that researchers would use online archival resources. Most replies were from academic archivists, who indicated that their users found it a “great convenience” to have their institutions’ finding aids online. For example, one individual commented:

I have received a number of messages from researchers expressing appreciation for our putting finding aids on the web. They like to be able to do some quick-and-dirty research into our collections without having to travel, to order (and pay for photocopying and shipping of) a copy of the finding aid, or to play telephone tag with a reference librarian.

Furthermore, some respondents reported that they received more e-mail requests and a greater number of hits after their web site had been up for a period of time than when their site was first released:

I’m seeing a greater number of these “visits” than when we brought the site up two years ago. A greater percentage of patrons are coming to us via e-mail, as a result of seeing our site. In tracking our statistics, we’ve noticed a very slight, but steady increase in usage of our web site.

Usability Issues

In addition to seeking responses from archivists, the Pepper archivist in early 1999 corresponded with Jakob Nielsen, a noted web site design authority familiar with usability issues. Nielsen, a former engineer at Sun Microsystems, maintains a bi-monthly column, “Alertbox” <http://www.useit.com/alertbox> about how to make web sites more “usable”—that is, easy to navigate and clearly

organized so that visitors can find the information for which they are looking. Nielsen offered three ideas to keep in mind when doing basic user testing: (1) get real users who are representative of your audience, not colleagues or others who know too much about the project; (2) have the users perform real tasks with the site—not just play with the interface—to see if they can solve a specific problem; and (3) “let the users do the talking.” The goal of the test is to elicit comments from the users, and to see what they think as they proceed in solving the test task.\(^8\)

At his suggestion, the Pepper archivist posted the usability query to Nielsen’s column. The respondents, who included web site designers, a software and hardware developer, and an on-line newsletter publisher, offered several recommendations. First, when creating a user survey, make it as short and simple as possible by including both multiple choice questions and an optional text box for the user to volunteer additional information. Second, ask what topic the users were looking for and whether or not they could find the desired information. Third, if much information is desired, users should be offered something in return for filling out the survey form, such as a copy of the usability study. Finally, ask the users to briefly describe the tasks they were trying to perform while accessing the collection. The POLARIS Project team used these recommendations and techniques in designing the focus group questionnaire and online evaluation surveys.

### Creating a Focus Group

When POLARIS was first proposed in 1996, the Pepper Library staff was already aware of the existing and potential user audience, based on Pepper Library use statistics and the Society of American Archivists’ survey of Congressional collections users.\(^9\) The staff designed a simple e-mail survey and sent it to researchers in the fields of history, gerontology, political science, and other social sciences to solicit their views on accessing archives through the Internet. These respondents, many of them teaching faculty, indicated that if the finding aids were made available online, they would encourage their students to use them for their research papers:

Locating and accessing primary sources is a continuing problem for students. Having access to finding aids and documents from the Claude Pepper Library would greatly facilitate their task. Using the Internet to access documents would probably be good training for them as well.

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Respondents to this survey also indicated that while they could access the finding aids without spending research money for travel, they could more effectively use research time at the archives. Typical remarks from political scientists and historians included the following:

As a historian of twentieth-century U.S. social welfare policy, I would make use of the digitized papers—particularly if the project is completed with a finding aid and search engine. What a terrific idea. Access through the web might also encourage me to travel to the archives for a research trip. Having examined the overall collection through the Web, I could more effectively use research time at the archive.

Encouraged by the results of this survey, the POLARIS Project team, with the assistance of a graduate student from the Florida State University Statistics Department, selected a “focus group” for user testing. The group represented typical Pepper Library researchers and professionals experienced in assisting users with their information needs, and included historians, archivists, library science faculty, professional researchers, and librarians. The graduate student designed a questionnaire requesting the group to evaluate the Pepper Collection’s finding aid and POLARIS search engine (see Appendix). Fourteen individuals agreed to participate in the study, and eleven responded to the questionnaire.10

Although only a few individuals were surveyed, the thoroughness of their responses more than compensated for the small number of participants. For purposes of making improvements to the system, the feedback was invaluable to the POLARIS team. Most respondents found that the finding aid was simple to navigate, the search interface was easy to use, and the help screens were extremely useful. They also indicated that they would use POLARIS in their own research or to assist other researchers. Furthermore, they appreciated the ability to search more efficiently than using traditional printed container lists, and felt that researchers would save research time at the Pepper Library by reviewing the content of the collection online before visiting.

The main concern expressed by the respondents was that users should know where they are in the collection at all times.11 In the POLARIS on-line environment, users may enter the finding aid through several access points. Respondents were concerned that users could become lost or simply confused as they browsed. This would not be a problem in those cases where a collection was small enough that the finding aid could be limited to one or two web pages. The Pepper Collection, however, is extensive and the finding aid would be thousands of lines in length if displayed as a single web page. Therefore, the

10 For purposes of completing the study, each participant was given the address of the Pepper Library website and a deadline of one month to complete the survey.

11 Users wanted to know the specific location of the item(s) in the collection, i.e., series location, box number, and folder number. They also wanted the ability to browse folders in the same series.
project team redesigned the on-line finding aid so that the user would be able to see the hierarchical arrangement of the entire collection no matter where they entered the finding aid.

Several other concerns were voiced by the evaluation participants. More than one evaluator indicated a need for both a basic and an advanced search interface. Following this suggestion, the POLARIS team designed a basic search form for those users wanting to do a quick-and-dirty keyword search, and a separate advanced interface for those users wanting to attempt more complicated queries combining several search commands. Several participants asked for the finding-aid help pages to be expanded because researchers will be utilizing the finding aid without the benefit of in-person staff assistance. The on-line instructions were also improved so that users would know that they were searching archival descriptions and not actual documents. A few evaluators also thought that users should be able to use one search interface to search the entire collection, regardless of media types. Currently, POLARIS has a separate search interface for each media type in the collection, but this feature will be added in a subsequent phase of the project.

Polaris Public Release and Feedback

The Pepper Library web site and POLARIS were released to the public in August 1999. Since that time, the staff has implemented many survey techniques and has analyzed the results. While POLARIS usage has been quantitatively measured through server transaction logs, it has also been evaluated through results from surveys and comments posted to the Library’s website; interviews with in-house researchers, students, and scholars participating in Pepper Foundation-sponsored research programs; and through student, faculty, and new staff orientation sessions held at the Pepper Library.

Analysis of the log files for the Pepper Library online finding aid has revealed that usage has remained steady during the months since the finding aid’s public release in August 1999. This analysis, of course, does not provide much qualitative information, but it does offer quantitative data that illustrates steady usage. In a one-year period, 1,027 finding-aid pages, on average, were browsed each month, peaking in February 2000 with 1,694 requests for pages from the finding aid. In addition, the log files showed an average of 147 searches conducted each month, using the on-line finding aid. These numbers reveal that researchers are searching and browsing the on-line finding aid, but the logs tell very little about the effectiveness of their searches.

The comments from the on-line survey form generally have been positive. Most users indicated that they found the search engine easy to navigate, and that information, such as the number of folders in a series, was very detailed. The majority were able to find the information for which they were searching.
Users noted that the help screens provided effective aids in performing basic and advanced searches, and stated that they would encourage any researcher to take full advantage of them. Some typical suggestions users made were (1) a short summary of individual documents would be very helpful, (2) tips on how to search and what terms to use would be very helpful to anyone doing serious research, and (3) the site would be much more useful when individual documents were digitized and made available on the site. Phase Two of the POLARIS Project, in which individual documents in the Pepper Collection will be digitized, should address most of these recommendations.

The Pepper Library staff informally interviews walk-in researchers to determine if they have used the on-line finding aid prior to visiting the Library. Many researchers indicated that they were able to save research time by using this resource. Several patrons felt that the on-line finding aid was a powerful tool to conduct research and a great improvement over traditional printed finding aids. A few students engaged in a sponsored research project were impressed by the ability to search the on-line version quickly and efficiently. Those who attempted to browse the collection using the Library’s printed finding aid quickly realized that their search efficiency was greatly enhanced by the on-line version. Only one completely negative reaction to the on-line finding aid has been received, and this individual declined to elaborate on his concerns.

Conclusions

Recently, members of the archival profession, such as Richard Cox, have questioned whether online finding aids would find an audience apart from other archivists.\(^{12}\) There was concern that the average researcher would be unable or unwilling to browse a finding aid without the assistance of an archivist to explain archival concepts or to guide the researcher through the occasionally complicated finding aids. In the short time that the finding aid has been available to the public via the Web, it has been the experience of the Pepper Library staff that a number of researchers are more than willing to use the finding aid online prior to visiting the Library. This has been especially true for those patrons who plan to dedicate much time and effort to their research projects. It also has been typical for these researchers to continue using the on-line finding aid, without assistance from the archival staff, while conducting research at the Pepper Library. Although there will always be some researchers who prefer using the printed finding aid, those who have used the on-line finding aid have commented that they will make use of those tools that make their tasks easier.

Based on user response during the first two years that the Pepper Library web site has been available to the public, the on-line finding aid has proved to

be a useful tool. Comments from researchers indicate that they are extremely pleased with the improved level of access, and they appreciate the efforts of the Pepper Library to provide efficient information retrieval. They have said that they will be even more satisfied when they have the ability to search at the item level rather than the folder level. One on-line researcher’s remarks are typical of the feedback that the Pepper Library is receiving:

I would like to be able to search descriptions of the pages rather than the folders. More archives should consider such projects. Who knows what wealth of information is buried in a collection when you can’t see a list of the individual items. What you have now is a great start, but I think students and researchers will be happiest when you let them search the documents in the archives.

The on-line finding aid is a great improvement over the library’s traditional methods of providing intellectual access to its holdings, but it is clear that Pepper Library patrons desire the ability to conduct item-level searching within the collection.

The second phase of the POLARIS Project, which began in 2001, will respond to this need for more specific access. Documents in the collection will be digitized or indexed, and the POLARIS search engine will retrieve information at the item level. User response during the first phase of the Project proves that there is a demand for such an endeavor. As planning for Phase Two began in summer 2000, the Pepper Archivist realized that selecting documents for digitizing or indexing could not be driven solely by user desire for item-level on-line access. Additional factors, such as the cost, time, staffing, copyright, and technical issues should and will be considered as the Pepper Library strives to meet this need.

The methods used to determine potential users, to create a focus group based on the user profile, and to gather and measure user feedback have proved successful in planning the first phase of POLARIS. The Pepper Library will continue to rely on these methods in subsequent phases. It is hoped that this study can be a model for archivists planning similar projects for their collections.

Appendix

Pepper Library Focus Group Questionnaire

The following brief questionnaire consists of two sections. The first section is an evaluation of the POLARIS Project and the finding aid to the Claude Pepper Collection. The second section is an evaluation of the Pepper Library web site. There are a total of fifteen (15) questions, the majority of which are multiple choice. A small number of the questions ask the evaluation participant to provide short answers or to elaborate on responses given for the multiple choice questions.
PART I. Evaluate the POLARIS Project

1. How easy was it to use POLARIS?
   A. Extremely Easy
   B. Very Easy
   C. Easy
   D. Difficult
   E. Extremely Difficult

2. What would make the system easier to use?

3. Would you feel comfortable using the POLARIS system if you were preparing to conduct research in the Pepper Library? Check one.
   —Yes
   —No

If you answered No to the above question, why not?

4. How easy was it to navigate the finding aid?
   A. Extremely Easy
   B. Very Easy
   C. Easy
   D. Difficult
   E. Extremely Difficult

5. If you had any difficulties in navigating, please explain.

6. How useful were the POLARIS online help pages?
   A. Extremely Useful
   B. Very Useful
   C. Useful
   D. Not Very Useful
   E. Not Useful at All

7. What did you like most about POLARIS?

8. What did you like least about POLARIS?

9. Phase II of the POLARIS Project will involve the digitization of manuscripts, photographs, and audiovisual recordings in the collection. Which of the following topics would you most like to see digitized and made available online? For example, Social Security, WWII, Aging, etc. [Note: Topics not included in this appendix.]

10. Do you have any other comments or suggestions concerning POLARIS?

PART II. Evaluate the Pepper Library Web Site

1. How useful did you find the content of the web site?
   A. Extremely Useful
   B. Very Useful
   C. Useful
D. Not Very Useful  
E. Not Useful at All

2. How easy was it to navigate the web site?  
   A. Extremely Easy  
   B. Very Easy  
   C. Easy  
   D. Difficult  
   E. Extremely Difficult

3. How do you rate the design of the web site?  
   A. Extremely Good  
   B. Very Good  
   C. Fair  
   D. Poor  
   E. Extremely Poor

4. Was there anything that you tried to locate on the web site and were unable to find? (For example, were you unable to find directions to the library?)

5. Do you have any other comments or suggestions concerning the web site?