Supporting Effective and Meaningful Access to Rare Book Collections:

A Digital Prototype in Omeka

http://qcarchives.com/books

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Abstract

Rare books, like archival materials, possess qualities which offer users unique opportunities for research. While metadata standards have been developed to allow rare books to be included in library OPACs, access to these materials is often limited to users because it lacks sufficient contextual information to determine usefulness. Attempts to provide digital access to the contents of rare books can only yield so much research value if additional contextual information about the volumes is not made available. The strategies and tools used by archivists to provide contextual information and access points to their collections can provide the same benefits to rare book collections. Providing users with this kind of access to rare books collections, coupled with meaningful context and metadata will expand the user base of these materials as well as their potential as educational and research tools. Towards this aim, a digital prototype was created to provide this meaningful access to the Don Quixote Rare Book Collection at Queens College. Following the implementation of the prototype, a case study analyzed its effectiveness in providing meaningful access to rare books. Based on the conclusions reached by this analysis, further recommendations for site improvement were proposed, including a help system, user feedback modules and the use of Google Analytics to monitor traffic to this website.

Keywords: rare books, digitization, archival description and access, context, Omeka, print history
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CHAPTER ONE: THE PROBLEM

Introduction

Like archives and other special collections, rare book collections have the potential to be an important source of unique research materials for a wide range of inquiries. The contents of rare books in the form of the original text are perhaps the most obvious source of intellectual information that they contain. Yet contextual information that speaks to the time and place in which a volume was made can be another important resource. Researchers often study the physical characteristics of a book such as its paper composition, binding, and manufacture. Other areas of interest include marginalia and annotations, the provenance of a collection, or the publishing history of a particular edition (Alvarez, 2006, p.26). The content which can be found within each rare book, together with the context gleaned from its artifactual characteristics, may allow for unique opportunities for investigation.

This potential, however, is useless without access. Users must be able to discover, locate, and retrieve items within rare book collections if those collections are to contribute to either research or education. Because rare books are bibliographic resources the traditional access tool used for their retrieval has been the library Online Public Access Catalog (OPAC). The most important contribution of the OPAC to access is that it enables users to discover rare books remotely. In the modern communications world the absence of an online access tool is tantamount to invisibility.

But online access alone is insufficient. Despite the use of the OPAC many rare book collections remain hidden and underutilized (Hubbard & Myers, 2010, p.134). Meaningful access must entail sufficient information and description to assist users in determining if a rare book will be a useful resource for their needs.
The Example of Archival Description

In terms of contextual description, rare book professionals can learn much from the tools used with archival collections. Both types of holdings contain unique materials whose use and meaning depend largely upon contextual information in addition to strict content (Roe, 2005, p. 75). Archivists have devised many methods and instruments designed to provide users with access to their collections, most notably in the form of finding aids. These tools use hierarchical description and content standards that provide an extensive informational background for a given collection. This context is crucial to user understanding of the materials that they are working with (Roe, 2005, p. 6). The traditional finding aid used by archivists is constructed to deal with the challenges associated with the nature of their varied and unique materials, which a standardized catalog simply cannot address (Thayer, 2011).

Many archives have now also worked on creating digital environments designed to provide researchers with online access to a portion of their materials. This allows the content of an institution’s holdings to be accessed remotely by a wide variety of users. The presence of context is still essential and can take the form of searchable metadata for individual items, electronic finding aids, online scope and content notes, and visual representations of items within a collection. These increase the potential access points available to all users. Such websites can also act as a lens through which users can gain insight into the time period in which pieces of the collection were created and collected. This has the dual benefits of use as an educational tool about the period as well as a backdrop for providing increased contextual information about the collection itself.

While these types of digital environments for archival collections are becoming increasingly common, their use in providing access to rare book collections is limited. In many
cases, rare book metadata is confined to the library’s OPAC with little useable contextual information made available. Well-known digitization projects involving rare books also have a tendency to focus on content with little representation of context online – “leav[ing] the user as a mere consumer of content” (Landon, Landon, & Snodgrass, 2010, p. 43).

**Problem Statement**

The library OPAC is the traditional point of access for rare book collections. Most library OPACs, while offering beneficial access to traditional research materials, were not specifically designed to offer access to special collections materials. The metadata standards used to populate these catalogs were not created with an eye towards describing rare materials with varied and unique characteristics. In addition to this, OPACs are not designed to display the relationships between items in a collection, or provide crucial contextual information about the collection itself. These shortcomings make them inadequate for use as a primary access point for special materials, including rare books (Thayer, 2010).

The question is then: how do we free rare books collections from the confines of the OPAC and provide meaningful access? How can we apply archival methods of contextual description to rare book collections? What online methods and tools will provide the greatest amount of contextual information about these collections while simultaneously increasing points of entry into the collection itself? In essence, how can we use digital environments to increase opportunities for access, provide supporting contextual information about the collection and broaden the value of these collections as research and educational materials? In addition, how can we take advantage of the digital environment to expand the types of users accessing rare book collections?
**Justification**

The OPAC is not designed to adequately describe either individual items or entire collections of rare books, link individual items to their larger collections, link related collections together or provide substantial contextual information related to the collection. Also, without specialized knowledge, many users find it difficult to browse OPACs for rare materials. Without a new approach to processing these materials, rare books will remain an under-utilized asset with limited value for research and a restricted user base. We believe that creating a digital access tool using an archival descriptive approach that provides context accomplishes the goal of increasing meaningful access to rare book collections, thus enabling them to achieve their potential use in a manner similar to archives and other special collections.

We attempted to create a digital environment which exhaustively explores the production history and materiality of one rare book, while simultaneously highlighting its place within a collection. By supplying users with information about an individual item as well as the historical circumstances which produced it, we believe that the research and educational value of these materials may be expanded. This approach accomplishes the goals of providing useful information about the individual item and supporting contextual information, as well as acting as a gateway into the cultural and temporal environments which created the material artifact. Offering multiple avenues of access to the collection as well as relevant background information in a user-friendly, browsable environment will ultimately attract a wider range of users to this collection than would be possible if left solely in the library’s OPAC.

**The Collection**

The focus of this study has been to create a digital environment which meets these goals for the Don Quixote Collection at Queens College, CUNY. This collection, consisting of 14
separate editions of Cervantes’ magnum opus, spans over 300 years of literary history. We focused on illuminating the oldest edition in this collection, a 1620 English translation by Thomas Shelton which was published by Edward Blount and printed by William Stansby in London.

**Research Questions**

- How can rare books best be presented in an online digital environment to provide meaningful access?
- How can archival strategies of contextual access best be applied to rare books?
  - In terms of access tools and strategies?
  - In terms of standards (content and/or metadata)?
- What should be the scope of the larger context used to provide meaning for a rare book volume?
- What combination of content and context should be presented for a rare book in a digital site?
- How can rare books in a digital environment be used to promote collections as research and educational tools for both professional and student researchers?
CHAPTER TWO: SURVEY OF RELATED LITERATURE

Digitization and Improving Access for Rare Books

In his article *Special Collections Libraries in the Digital Age: A Scholarly Perspective*, Cullen (2001) discusses the vast potential for increasing access to special collections materials offered by internet technology and digitization projects. Using the example of efforts by scholars to create microfilm collections of several historical figures, Cullen shows how embracing innovative technology not only improves access, but democratizes that access as well (p. 81). Cullen also argues that digitization projects have the potential for allowing collections which have been “unused for decades” to become a focus of scholars for “new interpretations and new insights” (p.86). Connecting special collections to the Web also allows for collaborative projects which have the benefit of allowing “institutions with related materials to collaborate” towards the creation of digital collections (p.87).

Further benefits of digitization projects for providing access to special collections are detailed by Prochaska (2003). In particular, her article *Special Collections in an International Perspective* focuses on connecting special collections to “an increasingly broad and diverse readership” throughout the world. Prochaska notes that digitization projects for rare materials expands their access to a vast audience while simultaneously leading to increased demand to see original materials (p. 148). Similarly, Potter and Holley (2010) reiterate the usefulness of digitization projects for special collections as they provide opportunities for collaborative initiatives and worldwide access while simultaneously helping maintain “preservation originals” (pp. 151-152).

Peter Hirtle, in his 2002 article *The Impact of Digitization on Special Collections in Libraries*, reiterates the powerful benefits digitization projects can have on special collection
departments. He highlights the “tremendous increase in the use of digitized material” that can result from digitization projects with an example from Cornell University, where the addition of searchable text associated with digital images has increased online viewing from 4,000 page views a month to over 5,000 views a day (p.43). Similar results from the University of Michigan and Cornell’s Making of America collection are also noted.

Hirtle goes on to illustrate how digitization of rare materials can lead to new areas of research. At Kentucky, Tufts and Johns Hopkins University, various projects have gone beyond “page-viewing” to promote “new and exciting research opportunities” (p.44). In addition to these new research opportunities, Hirtle also notes how digitization projects can also open special collections resources to new groups of users. For example, he describes how the Making of America collection, originally designed with American studies specialists in mind is now being used by researchers for the Oxford English Dictionary (p. 44). These examples merely scratch the surface of possibilities made possible by effective digitization projects of special collections.

Yet many special collections departments dealing specifically with rare books are attempting to increase accessibility to their collections, not through digital projects, but through modification of their cataloging practices. Bradshaw (2000) identifies several trends in rare book cataloging, including the use of standards such as Descriptive Cataloging of Rare Materials (Books) (DCRM(B)), outsourcing, and a focus on minimal cataloging. As noted by Hubbard and Myers (2010) some departments were even willing to accept incomplete records, use of alternate metadata standards (such as DACS), or collection level cataloging in order to reduce backlogs and increase access to a broader swath of their collections.

Despite their proven uses for archival collections, digitization and website projects for rare book collections are inconsistently embraced by their curators. Thayer (2011) evaluated the
strategies employed by academic libraries in New York State to describe their rare book collections on the web. His analysis concluded that “describing rare book materials on the Web is as varied a practice as the materials being described” and as a result “departments that rely on catalog records to provide access to users without providing any descriptive information about their collections are forcing users to conduct blind catalog searches” (p. 46). No matter how well these materials conform to rare book cataloging standards, users will often find themselves unable to access them through a library OPAC unless “they a) know that a particular book exists in Special Collections, or b) they get lucky and stumble across the book while browsing” (p. 7).

**Context**

Related to issues of access to special collections are the strategies employed to provide contextual information to those materials. Indeed, adequate description at both the item and collection level is intrinsically linked to potential for access to those same materials. As noted by Thayer (2011), adequate description of the scope of a collection can dramatically influence the effectiveness of a user’s search for materials in an OPAC.

As with archival collections, linking individual items with their greater context and provenance enhances their research value while simultaneously providing increased avenues and opportunities for access to collections. To this end, catalogers have proposed different methods to promote links between individual items and collection level descriptions. One method which could prove useful is the use of a Special Collections and Archives Code (SPAC) within MARC records for rare books. In her 2011 article, Sarah Buchanan argues for the inclusion of SPACs within bibliographic records in hopes of aiding both staff and researchers in comprehending the scope and context of items within a collection. She argues that through the use of SPACs “catalog records for individual books can be uniformly linked back to a collection-level record or
description page which provides further contextual information on the book copy as member of a larger collection body” (Buchanan, 2011, p. 350). Buchanan also shows that “insertion of collection codes across hundreds of individual bibliographic records can allow patrons to then retrieve a collection set and browse an entire collection’s listed contents”, a sort of “macro-level cataloging” which can help increase alleviate the blind OPAC searches noted in Thayer’s paper (p. 357). Due to the fact that many rare book collections are mainly accessed through OPACs which rely on MARC records, the inclusion of SPACs within those records is a convenient way of broadening access to those collections within their existing access framework. At the same time, contextual information often lacking in MARC records could be made accessible, thereby increasing each item’s research value.

Ideally, SPAC codes would be just one of many tools used to increase contextual information about and access to rare book collections. Searchable online finding aids with an array of contextual information such as scope/content notes, relevant provenance and historical/biographical information that can be connected to each of the items in a collection will allow a fuller description of each item than is possible in a MARC record. This “thick description” approach, as pioneered by Geertz (1973) in his ethnographic work, can give researchers the richest insight into a particular volume, or collection of books, differentiating it from standard items retrieved in a catalog search. Geertz asserted that culture was the context within which actions must be described in order for them to have true meaning. This assertion can easily be extrapolated to the world of special collections materials. Without context to bind them together and give them meaning, disparate items in a collection can never reach their full potential as entry points into the culture and time that created them.
**Scholarly Users**

Archival and rare book collections offer users unique opportunities for research. Very often these users are involved in scholarly or academic research and it is imperative that special collections departments understand the information seeking behaviors of those who seek access to their materials. With this knowledge, special collection departments can design websites that best serve these scholars’ needs. Several recent articles concerning the information seeking behaviors of scholars in the social sciences and humanities as they pertain to archival and rare book collections can provide just such insight.

In order to better understand the information seeking behaviors of scholars working with archival materials, Wendy Duff and Catherine Johnson conducted interviews with several historians with experience in primary source materials research. Duff and Johnson (2002) “identified four types of information-seeking activities” common to these scholars which included a process of familiarizing oneself with the collection, “seeking known material”, “building contextual knowledge” and “identifying relevant material” (p. 472). Several of the historians interviewed also noted that “online systems” which could facilitate keyword searches of finding aids or collection catalogs would be greatly beneficial to their research (p. 486). By understanding these research behaviors, archivists can design physical and digital access tools which will better serve the needs of users.

In her 2005 article, Carole Palmer examined the results of several surveys of scholars concerning their information seeking strategies in a digital context. One of the patterns she observed concerned the use of primary source materials by humanities scholars, wherein these scholars tended to “prize their own personal collections of research materials as well as the library collections at the institutions where they work” (p. 1144). A key reason for this
preference was found to be that scholars often lack knowledge “of the provenance, surrounding collections, and cognitive authority of the materials” found on the internet (p. 1144). Despite this shortcoming, Palmer did note that “digital access tools ease the process of locating texts” through both digitization of materials themselves or by providing “traditional access resources… such as manuscript catalogs and archival finding aids” online (p. 1144).

Scholars are increasingly using digital tools to gain access to special collections materials. Tibbo (2003) described the results of “a survey that asked historians teaching American history at sixty-eight top-ranked institutions how they located primary resources for their research” (p. 9). Tibbo believes that “the clearest finding from this survey is that U.S. historians are using a wide array of primary resources and an equally wide array of methods to locate them, ranging all the way from the tried-and-true strategy of following leads in footnotes to searching the Web” (p. 28). As for the latter strategy, Tibbo offers a variety of suggestions for special collections departments to make their websites more useful to scholars. She asserts that “[a]rchivists profession-wide not only need to mount more finding aids and other instructive material so that their Web sites become reliable sources of extensive information, they also need to advertise the presence of this information to their user community” (p. 29). Tibbo states that the staff of special collections departments “should establish themselves as the campus experts on archival information retrieval” because “[t]his is the business of the archival enterprise in the digital age” (p. 29).

**Towards a Broader User-Base**

Increasing access points and contextual links to rare book collections holds the promise of not only aiding traditional scholarly researchers who seek out these unique research materials, but also expanding their use to a wider audience, especially undergraduate users. In recent years,
special collections departments have sought out new ways of introducing their primary source materials to undergraduate students in several universities.

In a 2002 panel address, Ronald Schuchard predicted a return of scholarly research to examining primary source materials and advocated for special collections outreach to both established scholars and undergraduates alike. Schuchard highlighted several such efforts at various universities to produce “a magical teaching moment” for undergraduates who will feel an “invitation to return for individual work or an honors thesis” (p. 62). Schuchard emphasizes the complementary nature of archival and digital projects as tools in higher education and research, especially among undergraduate students.

Similarly, in 2006, the University of Chicago’s Special Collections Research Center created an outreach program to dispel the oft held belief among undergraduates that rare books and manuscript collections are “for the use of faculty or other ‘serious’ scholars (Hammerman, Kern, Starkey, & Taylor, p. 145). This program, a “holiday study break”, would invite undergraduates to view a holiday themed exhibition of special collections materials and provide an informal environment where students could then discuss the materials they had seen (p. 145). Two such events, “Love in the Stacks” and “Things that Go Bump! in the Stacks” provided undergraduates with an introduction to the variety of materials open to them for research as well as educational handouts designed to instruct students in effective search strategies for special collection materials. Each event proved to be a success with high attendance (over 125 students) and at the time of the article, future events had already been planned.

Pablo Alvarez (2006), the curator of Rare Books and Special Collections at the University of Rochester, has approached outreach in a more traditional way. Alvarez attempts to “inspire undergraduates in their research endeavors” (p. 95) by partnering with faculty from
various departments and creating presentations which complement themes in the course syllabus. Topics such as the physicality of the book, impact of printing on Western civilization, censorship, and the transition from manuscript to print books are explored while providing students with hands on examples from the University’s collections. Alvarez notes that “students always seem to respond positively to this format of lecture and discussion, particularly as they learn that rare books can play a central role in their subsequent work on research papers” (p. 96). By connecting students with these materials in the context of their coursework, Alvarez reinforces the value of special collections materials as a source of research potential for an often unreached audience.

Echoing Schuchard’s emphasis on the inspirational potential of primary source materials, Badhe (2011) of San Diego State University notes that “working with authentic rare books, manuscripts, or archival documents produces a particularly stimulating educational environment, and physically handling original materials fuels lively discussion, generates uncommon ideas, and cultivates critical thinking” (p. 75). In particular, Badhe’s article addresses the issue of connecting large classes of students with special collections materials by bringing these materials out of the archive. Despite the preference of most institutions to provide special collections instruction within the confines of the library itself, Badhe, collaborating with Professor Schmitz-Weiss, designed a program which would allow 120 journalism students to interact with a collection of newspapers from the 18th and 19th centuries. A preliminary introduction to the database which houses digital surrogates of these materials set the stage for comparison with physical samples from the collection. After dividing the class into 30 groups of 4 and assigning one student from each group to handle the materials, Badhe gave careful and deliberate instructions on how to handle and care for these materials. She concludes by noting that “the
educational benefit of working with primary sources in this particular classroom was clear. By allowing comparison and contrast between the primary source and its online surrogate, this experience pushed these undergraduate journalism students to draw sensible and thoughtful conclusions on topics currently at issue in their field and in their world” (p. 86).

These examples of educational outreach to undergraduate students emphasize the value of providing increased avenues of access to special collections materials. By providing multiple avenues for entry into a collection, special collection departments can attract a diverse audience of users. The alternative is to exclude “large segments of the general user population that have no access” to the specialized knowledge required to effectively navigate an unmediated catalog (Thayer, 2011, p.46).

Case Studies

As noted earlier, digitization and website projects for rare book collections are inconsistently embraced by institutions. It is instructive to examine what forms existing projects have taken as a basis for comparison. Landon et al. (2010) mention the Turning the Pages project of the British Library in their literature review as an attempt at user graphical interaction with rare books. They also point out that such projects put an overemphasis on content instead of context (p. 43). In contrast, their own project focuses on the “geospatial narrative” and has chosen to juxtapose digitized texts with born-digital geotagged media to create a new digital experience for users. WikiTUI is another innovative project which takes advantage of the digital environment to create a unique tool for books (Wu, Robinson, & Mazalek, 2008). Wu et al. (2008) formed a concept to integrate wiki technology with physical books in such a way that a user could see and contribute to digital annotations that enhance the reading experience.
Other institutions have chosen to focus on some of the unique features of rare books for digitization instead of the development of new technologies. A Library of Congress project to digitize rare book bindings demonstrates the need to weigh carefully the impact of the scanning process on the volumes and potential damage concerns (De Simone, 2007). De Simone (2007) also points out that regardless of the preservation concerns there exists a high demand from users to digitize and provide online access to materials. Hu, Furuta, and Urbina (1999) worked on a project to use the digital environment to bring together the multiple early editions of a rare book volume in one place for researchers, in this case the first printing of Don Quixote. Their site was built with the goal “to produce a unified, electronic variorum edition” (p. 77).

Many of the remaining institutions have decided to use digital software to create full-fledged digital collections using content management systems or galleries. Watson and Graham (1998) discuss the lessons learned from creating the CSS Alabama Digital Collection. Their focus was to create a digital tool to “transcend physical boundaries” (p. 124) for materials and create a “highly interactive and flexible educational experience” (p. 134). The final site features an image gallery, documents page, and virtual journey image map which follows the course of the CSS Alabama. Saunders (2008) also describes the construction of an image gallery, however in this case the institution chose to use Flickr as their digital tool. While the basic Flickr host is a free application, ultimately this institution decided to purchase the Pro version to remove upload restrictions. Hunter, Legg, and Oehlerts (2010) also emphasize the benefits of collaboration in creating such large image gallery projects. Griffin and Lewis (2010) describe a project by the Special & Digital Collections at the University of South Florida which chose to use the LibGuides platform as a content management system for their collection. Their choice of LibGuides was based on considerations of ease of set up and user-friendly interface (p. 6). These
varied approaches to digitization in rare books and special collections indicate that there is currently no consensus in the field.

Special collections departments, regardless of the materials they house, must constantly evolve to meet the ever-changing needs of users. Digital environments, such as collection-level websites, act as both a means of advertising the existence of these materials as well as a critical access point for users. By understanding the needs and information-seeking behaviors of scholars and student researchers, archivists and curators can design effective access and educational tools which will better serve those user’s needs. The case studies of other projects aimed at creating digital environments for special collections indicate that there is currently no agreement on how this can best be accomplished. Despite this lack of consensus, it is vital that a variety of innovative approaches be proposed in order to uncover more effective methods.
CHAPTER THREE: METHODOLOGY

Prototype Phase One

In the fall semester of 2011 the researchers were involved in the development of a prototype website for the Don Quixote collection which implemented archival description. The site was initially created using Hyper Text Markup Language (HTML), Cascading Style Sheets (CSS), and Javascript, but was not published on the World Wide Web (see Figure 1). The purpose of this version of the prototype was to create a model for later implementation within a content management system. Without such a system the site could not provide a database with searchable, descriptive metadata for the items in the collection.

Figure 1. Screenshot of the initial HTML prototype home page

Omeka

Omeka was selected as the content management system for this project. It is an open-source content management system which is available to any institution for download at www.omeka.org. Selection was based on the following considerations: 1. It is free/open-source, 2. There is an extensive development community offering assistance to inexperienced developers
at the Omeka Forum website. Several other projects within the Queens College Department of Special Collections and Archives use Omeka. Because the server space available for this project was offered through the Department of Special Collections and Archives the latter consideration was ultimately the determining factor.

The full version of the Omeka software package requires a LAMP server configuration for the host, which means that it must include Linux, Apache, MySQL, and Php. These features are offered through Bluehost, a hosted web server to which the researchers gained access in January of 2012 through the Department of Special Collections and Archives. At that time Omeka was installed on the server and the initial HTML prototype was used as a template for creating the completed phase one prototype (see Figure 2).

![Figure 2. Screenshot of the phase one prototype home page](image)

**Description of Site Features**

The phase one prototype is a searchable database of the metadata for the entire Don Quixote rare book collection. For the collection as a whole, the home page features a text description of the collection, a link to the finding aid, and a collapsible list of the items within the collection. The Omeka theme for presentation is the Santa-Fe theme, which was chosen for its
clean look and easy customization. Individual items are capable of being searched through a simple search box in the top right of the screen or browsed by name, tag, or map location.

In addition to the features describing the collection as a whole, three specific volumes of Don Quixote were chosen to be highlighted: the 1620, 1864, and 1900 editions. Title pages and other selected pages of interest were scanned from these editions at 600dpi. These scans were saved as master TIFF files and converted to smaller JPEGs which were then uploaded to the Omeka database. The home page slide show features each title page. The Omeka Simple Pages plugin was installed and used to create a section entitled “Explore” with separate web pages for each of the editions. An interactive version of each title page was implemented using Javascript tooltips that appear when a user mouses over a selected area (see Figure 3). The selected digitized pages from each volume were grouped into a PDF file and uploaded to the free web publishing host Issuu.com (see Figure 4). A link to the Issuu pages for each edition is provided alongside its interactive title page. Finally, the free web tool Zoomify was used to create a zoom interface for each of the title pages (see Figure 5; see Appendix A for a complete list of web resources used in the prototype).

Figure 3. Screenshot of interactive title page  
Figure 4. Screenshot of Issuu viewer
Archival Description

Archival description and sensibility were implemented in several ways in the phase one prototype. A finding aid was created for the collection as a whole. This finding aid was added to the web site in the form of a closed wiki. Bluehost includes a pre-loaded installation of MediaWiki which was installed and used to create the finding aid. The easy browsability and searchability of this format was the reason for the initial choice of wiki technology. Software to create an Encoded Archival Description (EAD) finding aid was also not available at the time of implementation.

Individual item-level records were created in the finding aid for the 1620, 1864, and 1900 editions to correspond to their web pages within the Omeka prototype. Expanded scope and content notes were added to the records in the wiki and links within the interactive title page tooltips were created to tie this information together. Therefore a user exploring information of interest through an interactive title page could be directed to the larger finding aid with its contextual information for the collection as a whole.
Metadata

The metadata schema employed by Omeka is Dublin Core (DC). This is not alterable although administrators can choose to add additional custom fields to the DC element core. For this site the Dublin Core schema was deemed sufficient to allow interoperability with other repositories and compatibility with the OAI-PMH standard. However, in line with the archival sensibilities of the description, Describing Archives a Content Standard (DACS) was used for direct display to the user alongside the interactive title page, with a link provided to the Dublin Core fields. A custom field was added for manual transcription of the text of all scanned pages to enable users to search that text by simple search.

Case Study

Because the bulk of the phase one prototype was complete at the start of this research, it was deemed necessary to analyze the existing site within the framework of a case study. Following our problem statement we chose to analyze the features of the phase one prototype against the earlier stated research questions:

Research Question: How can rare books best be presented in an online digital environment to provide meaningful access?

Points for Analysis: The existing features of the site were examined in terms of if they contribute towards meaningful access – 1. Wiki finding aid, 2. Digitized pages, 3. Interactive title pages, 4. Collapsible list of volumes on the home page, 5. Map feature, 6. Database of Dublin Core metadata for all volumes in the collection, 7. Link to the CUNY catalog on the home page

Research Question: How can archival strategies of contextual access best be applied to rare books?
Part 1: In terms of access tools and strategies?

Points of Analysis: The existing site has a full finding aid that was examined for its compliance with archival standards of description and practice. It was also compared and contrasted with finding aids that describe strictly archival materials to see if its implementation with a rare book collection differs - and if so in what ways.

Part 2: In terms of standards (content and/or metadata)?

Points for Analysis: 1. The finding aid on the existing site is presented in the format of a wiki instead of the more typical PDF document or EAD. As a departure from usual archival standards of practice this was used as a point of analysis into the costs and benefits of such an implementation. 2. The software chosen for the site, Omeka, uses Dublin Core as its metadata schema. This was examined to determine if this schema provides contextual access comparable to archival description.

Research Question: What should be the scope of the larger context used to provide meaning for a rare book volume?

Points for Analysis: The existing site places the three interactive volumes in the collection within the larger context of the collection as a whole. This was analyzed to determine what this accomplishes for access to those volumes and how the meaning a user can determine from them is affected.

Research Question: What combination of content and context should be presented for a rare book in a digital site?

Points for Analysis: The existing site was designed based on the initial choice to focus on the development of context while limiting content for the three volumes chosen to be made
interactive. This implementation was analyzed to determine if this combination provides effective access.

**Research Question:** How can rare books in a digital environment be used to promote collections as research and educational tools for both professional and student researchers?

**Points for Analysis:** The existing site was analyzed in terms of whether its search and browse mechanisms are user-friendly for a wider audience beyond researchers and scholars.

**Prototype Phase Two**

In addition to a case study of the existing Omeka site this research project also implemented an expansion of the prototype to include a new exhibit-based layer which was deemed the second phase. The aim of this layer is to take a single edition from the collection - the 1620 volume translated by Thomas Shelton - and use both its content and context to create an exhibit about print history. While the book itself holds a great deal of research value on its own, we hypothesize that placing it in juxtaposition with the history of its manufacture creates a tool of meaningful access for both scholars and general users. This exhibit represents an expansion of the scope of context in which users can learn about the collection.

**Exhibit Builder Plugin**

In order to create this exhibit a new Omeka plugin, Exhibit Builder, needed to be installed. This plugin is easy to customize and has the advantage of being able to select a separate theme from the main site for a particular exhibit. This enabled the phase two prototype to have a separate look and feel from the original site. Exhibit Builder also allows for the organization of exhibits in sections and pages to create hierarchical relationships.
Exhibit Features

The home page for the 1620 edition within the phase two prototype has a similar organization to the main site in terms of a menu of options and a rotating slideshow for visual appeal in the center of the screen. However a custom theme was created and was initially planned to incorporate images from classic book covers or bindings for the background. The menu options link to five main areas or pages: 1. Book as artifact, 2. Inside the print shop, 3. Biographies, 4. Visual mapping, and 5. Geographic mapping. Each of these will be considered in turn:

Book as artifact: This page is a carryover from the Explore page for the 1620 volume of the existing site. Since the exhibit is in a separate navigational section from the main Omeka database we feel it is important that users have these exploration tools from within the exhibit. The purpose of this section is to provide the context of information from the physical book itself as translated into the digital environment.

Inside the print shop: This page features an image of the inside of a medieval print shop with all of the various workers that would be required for book production. This includes the master printer, the compositor, and other key roles. As users mouse over the image individual figures are highlighted and information is displayed about that person’s role, function, and duties within the print shop. This was achieved using Javascript. The purpose of this section is to provide the context of the manufacturing process for rare books during the time period of the 1620s.

Biographies: This page contains biographical information on the main personages connected with the 1620 edition, most notably Cervantes and Edward Blount. The purpose of
this section is to provide the context of the historical figures involved in the creation of the volume.

*Visual mapping:* This page uses an embedded nodemap from the free webtool Spicynodes. Using the 1620 edition as the central node, this map allows users to browse the relationships between this volume and others both within and outside the Don Quixote collection. For example, as Edward Blount was also the publisher of Shakespeare’s First Folio, users will be able to navigate from the 1620 edition, to Edward Blount, to the First Folio - thereby discovering that connection. The purpose of this section is to provide the context of relationships the 1620 edition has to other works, personages, and locations.

*Geographic mapping:* This page uses a Google Maps plugin to display a map of geographic points of interest in the history of the 1620 volume. Initial planning of points included but was not limited to the location of printing, source of the paper, source of the ink, home of the author, and markets in which it was sold. The purpose of this section is to provide a context of geographic locations that allow the user to discover the origin of the volume’s various components.

**Research Instrument**

The second phase of the prototype was also analyzed for its ability to answer the research questions posed in the problem statement:

*Research Question:* How can rare books best be presented in an online digital environment to provide meaningful access?

*Relevant Site Features:* The new features of the prototype layer were examined in terms of if they contribute towards meaningful access – 1. Interactive print shop, 2. Biographical context, 3. Visual mapping, 4. Geographic mapping (of multiple points for one volume)
Research Question: How can archival strategies of contextual access best be applied to rare books?

Part 1: In terms of access tools and strategies?

Relevant Site Features: The newer features of the prototype layer that provide additional context can in a sense be considered expanded scope and content notes for the 1620 edition that are presented in a non-traditional format (a website instead of a paper finding aid). The strategy of using the web site itself as archival description addresses this question.

Part 2: In terms of standards (content and/or metadata)?

Relevant Site Features: There are currently no known archival standards in terms of presenting materials online in an exhibit format. The new prototype layer may contribute towards the literature available to determine if such standards of practice should be developed.

Research Question: What should be the scope of the larger context used to provide meaning for a rare book volume?

Relevant Site Features: The new layer uses the larger context of print history as a whole in order to provide additional meaning for the 1620 edition. This was compared to the initial site which limited context to the collection as a whole.

Research Question: What combination of content and context should be presented for a rare book in a digital site?

Relevant Site Features: The new layer adds further context but no further content in terms of the text for the 1620 edition. This particular method of implementation provides data for determining if a large proportion of context over content is desirable and/or helpful for achieving meaningful access to rare book volumes.
Research Question: How can rare books in a digital environment be used to promote collections as research and educational tools for both professional and student researchers?

Relevant Site Features: The context of print history provides a direct educational resource for those interested in either the 1620 edition in particular or the history of print in general. The new layer was also designed to be user-friendly for non-academic users as well as traditional researchers.
CHAPTER FOUR: FINDINGS AND ANALYSIS OF DATA

Prototype Phase One: Case Study

In order to ensure that the prototype design accomplishes the intended goal of providing meaningful access to rare book materials, it is important to analyze key components of the website’s design in relation to the criteria previously mentioned in chapter three. Adopting the viewpoint of a user interacting with the website will allow for critical analysis which will inform the designers as to how useful the site may be to other users, as well as to what improvements may be needed.

Research Question: How can rare books best be presented in an online digital environment to provide meaningful access?

Analysis: Central to the decisions made when designing the first phase of the prototype was a concern for providing users with meaningful access to rare book materials. As stated earlier, contextual information about individual items as well as their relationships to both other items and the collection as a whole is crucial to providing multiple avenues of access as well as greater points of departure for research. With this in mind, several features were included in the prototype to reach this goal.

The wiki finding aid provides historical and biographical information related to both the entire collection and individual editions. As opposed to a simple PDF finding aid, the wiki allows quick links to various points within the finding aid, as well as the opportunity to link users to pertinent information found in related wikis. These tools allow for the creation of hierarchies within a given page as well as linking outward to broader contextual information. The potential for finding aids with related information to be linked together through this wiki format is virtually limitless.
The digitized pages and interactive title pages offer graphical representations of specific editions within the collection alongside metadata for those volumes, as well as links to the aforementioned wiki finding aid. These links connect images from the physical item with contextual information that informs their presence. The interactive images emphasize the importance of examining the information and marginalia found within a rare book and they encourage exploration beyond the surface images provided.

The inclusion of a collapsible list of the items within the collection allows users the opportunity to browse materials at a glance with the option of connecting to specific items. This system also allows items to be viewed in relation to the whole collection. The interactive map feature allows users to view items within a collection in a geographical context with links to item level descriptions, providing additional metadata and search opportunities. The use of Dublin Core metadata within Omeka allows both basic and advanced search options of items housed within the database. By using this standard, opportunities for consortia with other special collections websites both within and outside Queens College are possible.

Finally, links to the college OPAC allow an alternate method of searching for collection items which may be preferred by those who are better acquainted with that method of search and/or the metadata standards used in the catalog. The prototype provides new methods of access but does not eliminate connections to traditional methods.

Research Question: How can archival strategies of contextual access best be applied to rare books?

Part 1: In terms of access tools and strategies?

Analysis: The wiki finding aid closely mirrors the format and content found in traditional finding aids for archival materials. This includes the standard fields of description defined for
finding aids by DACS. A summary of the collection including its title, languages represented, and physical and chronological extent provide a snapshot of the collection’s contents, while the historical and biographical notes offer more detailed contextual information. Scope and content fields are expanded for individual items to include specific information on personages and details of significance. Conventions used to describe strictly archival materials were adapted to represent rare book materials. While not adhering strictly to DACS fields, the wiki finding aid does possess equivalent information in a format which is familiar to those accustomed to DACS standards.

Part 2: In terms of standards (content and/or metadata)?

Analysis: While both EAD finding aids and the collection’s wiki finding aid allow for browse and search functions, the addition of hyperlinks within the wiki finding aid greatly increases opportunities for linking contextual data. This aids in serendipitous discovery and reinforces the link between items and contextual information within the finding aid.

Using the Dublin Core metadata standard for the Omeka site is sufficient for representing DACS fields or other metadata standards due to the simplicity and repeatability inherent to Dublin Core. This flexibility allows it to function equally well when describing a variety of objects, be they physical or digital in nature and regardless of content.

Research Question: What should be the scope of the larger context used to provide meaning for a rare book volume?

Analysis: When confined to an OPAC, records for rare books are often divorced from the contextual information associated with collection level description. The collapsible hierarchy provides a visual representation of how the website, individual collections, and items within those collections are organized. This model can easily be adapted to larger collections with a
more complicated hierarchy of materials. The site as it exists under prototype phase one leaves
the level of context at the collection level as a starting point for meaningful access to the
collection as a whole. The phase two prototype forms a basis for comparison with a larger scope
of context.

Research Question: What combination of content and context should be presented for a rare
book in a digital site?

Analysis: While each edition in the collection has a basic item level description, only
three editions have additional interactive features. These interactive features provide a variety of
access points, each of which has its own advantages and appeal. Providing textual and visual
representations of these materials offers greater options for exploration of these materials.
Ultimately, it will be important for each item within this collection to possess these same
interactive features, otherwise these less detailed and linked items may go unnoticed by users. It
will be important to balance the inclusion of contextual information against the need to process
as many items as possible within the entire collection.

Research Question: How can rare books in a digital environment be used to promote collections
as research and educational tools for both professional and student researchers?

Analysis: The overall design of the website uses many design conventions familiar to
both student and professional researchers. Users with experience using OPACs or online
databases will recognize options for both basic and advanced search, however a user guide for
advanced search fields would prove useful for those with less experience. The site overall is easy
to navigate as each page, regardless of its content, allows users to navigate between collections,
exhibits, and the site homepage. These options provide users with a familiar environment which
encourages both casual browsing and close examination of items, particularly those which possess interactive features.

**Prototype Phase Two**

The new exhibit layer that comprises the second phase of the prototype underwent modification and revision during implementation as problems were encountered and resolved. Most of the features that had been planned in the development of the methodology were able to be incorporated, but some of the original strategies needed adaptation to fit into the final design (see Appendix B for a complete site map).

**Challenges to Implementation**

One of the primary challenges in prototype development was the need to adjust elements of both the exhibit and the existing site to allow for future modifications and additions. Omeka uses a modular PHP code structure that applies the same set of instructions to multiple instances of a given class of page. For example, in Exhibit Builder each exhibit is designed to have a summary page that leads to further individual sections and pages. This is ideal if all exhibits for an Omeka installation require the same format for the summary page. In the case of this prototype, the goal was to design the new exhibit layer as a unique set of pages that had a distinct look and feel from the rest of the site, while retaining the ability to create other unique exhibits at a later date. A single format summary page would not have allowed this. This challenge was overcome by altering the Exhibit Builder plugin code to append a “/home” to the URL links of all exhibits. The first section of the prototype exhibit was given “home” as a slug, and the summary page was essentially omitted from display to the user.

The exhibit as a whole was also designed so that other Queens College rare books besides the 1620 edition of Don Quixote could be added in the future. The home page of the exhibit
focuses solely on the larger topic of print history so that additional subsections can be created to feature further volumes or topics. The timeline navigation was incorporated to meet the challenge of how to organize multiple exhibits in a logical way.

Another major challenge for the project was developing the site for multiple browsers and different levels of user restrictions on scripting. It was discovered early on that standards-compliant browsers such as Firefox and Safari were much easier to develop for than Internet Explorer (IE). Trouble-shooting typically took place when a feature would work correctly in all browsers except IE. Institutions using Internet Explorer 8 that block certain streams of content or scripting also block certain features of our site, including tooltips and mouseover events. The interactive title pages, for example, do not function correctly in these browsers and users will only see a static page. Unfortunately this problem is still under investigation and has not been resolved as of publication. Popup notifications were added to the interactive title pages and the interactive print shop to inform users to switch browsers if the pages function incorrectly. Yet it is imperative that a workable solution be found so that all users, especially in educational and institutional settings, are able to view the site content as it was meant to be seen.

Implementation

The installation of the Exhibit Builder plugin was successful but required an important modification. Several common Omeka plugins use the TinyMCE interface in the administrative panel to allow direct HTML coding on a given page. The purpose of having this interface as an option is to permit administrative users to embed code for non-text elements or objects simply by clicking “Use HTML” and filling in the dialog box that appears. However TinyMCE does not allow all possible HTML tags. If a tag is entered that TinyMCE does not allow it is stripped from the code that is entered. It implementation of the prototype, the TinyMCE interface in
Exhibit Builder stripped code that was necessary for particular site features. The following section of code was removed from the Exhibit Builder page-content-form.php file to disable the interface:

```javascript
jQuery(window).load(function() {
    Omeka.ExhibitBuilder.wysiwyg();
    Omeka.ExhibitBuilder.addNumbers();
});
jQuery(document).bind('exhibitbuilder:attachitem', function (event) {
    // Add tinyMCE to all textareas in the div where the item was attached.
    jQuery(event.target).find('textarea').each(function () {
        tinyMCE.execCommand('mceAddControl', false, this.id);
    });
});
```

Once this step was completed the exhibit was created as a series of four sections: 1. the print history home page, 2. Edward Blount, 3. Shakespeare’s First Folio, and 4. Don Quixote. Both sections three and four were nested as subsections of section two, Edward Blount. Section three is not actually part of this project but was created as a placeholder. The overall structure was designed both as a method of providing hierarchical context, and for the purpose of creating avenues for future site additions.

A custom theme was created for the print history exhibit. Prior to implementation the plan had been to use book bindings or covers as a thematic element in the site’s theme. However the use of large background images led to slow loading times and an undesirable look. It was decided instead to switch to a focus on simplicity and visual impact. Content was contained to fit the center of the screen, with large images or slideshows placed within plain, dark backgrounds. The majority of text was designed as dark lettering on light backgrounds for legibility. The main header was removed to emphasize the feeling that the user was now in a different area of the site, but a footer and links back to the main site home page were retained for navigation.
The section of the exhibit dedicated to the 1620 edition of Don Quixote retains the five major pages planned in the methodology: 1. Book as artifact, 2. Inside the print shop, 3. Biographies, 4. Visual mapping, and 5. Geographic mapping. Each page uses the pre-designed Text template from Exhibit Builder to allow for direct input of HTML and PHP code. The book as artifact page retains the interactive title page, DACS metadata display, and links to the Issuu digitized pages and Zoomify interface. An additional feature was added to create the illusion of highlighting when a hotspot on the title page is moused over. The rest of the page appears to go dark and the hotspot is emphasized. This was accomplished using Javascript to shift the background image of the title page to versions of the same page that had been selectively colored using the open-source image program GIMP. Inside the print shop was created using the same Javascript solution to emphasize different figures in a drawing of a print shop. Mousing over each figure causes that person to appear highlighted and changes the text that appears on the right-hand side of the screen. It was learned that due to screen-resizing differences between browsers, images on both the book as artifact and inside the print shop pages needed to be located on the left-hand side of the screen to allow browser windows to find the same location regardless of screen size.

The biographies page used basic coding to implement text and image sections. Both the visual mapping and geographic mapping pages required embedded code. For visual mapping the outside site Spicynodes was used to host a series of visually connected and navigable nodes. Free individual accounts allow people or institutions to create node maps in a flowchart formation that are hosted on the SpicyNodes site. Code to embed the node map within the prototype was provided in HTML object tags by SpicyNodes.
Originally the Omeka Geolocation plugin was explored as a platform for embedding a map of locations into the exhibit. Two problems prevented this from being a workable solution: 1. the Geolocation plugin was already in use by the main site for the georeferenced metadata of items within the entire collection, and 2. the Geolocation plugin produces maps only for those items within the database. The map for the exhibit was created using a customized Google Map that allowed for unlimited data points and a variety of customization options. Different color flags were incorporated to indicate themes or relationships between points. Captions were also customized and the final map was embedded through code provided in HTML iframe tags by Google Maps. Prior to implementation the points planned for the map had included source locations for the various physical components of the 1620 edition. This will require additional future research for which the time constraints of this project did not allow. Points that were included in the final map include a broader context of locations concerning the author, the publisher, and the publication history of Don Quixote.

Restatement of Research Questions

The goals behind the construction of the phase two prototype are reflected in the research questions and problem statement that were formulated at the onset of this project. Aside from describing how the site was implemented, it is perhaps even more important to analyze how well the final product appears to meet its original stated objectives.

Research Question: How can rare books best be presented in an online digital environment to provide meaningful access?

Analysis: The overall exhibit aims to place the 1620 edition of Don Quixote within the larger context of print history in order to expand meaningful access to that volume. If placing an item within a larger, relevant context increases meaningful access then the historical period in
which an edition was produced certainly adds a framework for understanding that item in greater depth. Interestingly, in the case of rare books it is the artifact itself that informs researchers as to its history through its printer’s marks or marginalia. The unique purpose of the prototype is then to package the historical information assembled from various research efforts, and to place it in juxtaposition with the original artifact. The online environment is especially suited for this purpose through tools such as hyperlinks that enable users to move directly from a title page to the historical information about which they want to know more.

Aside from the book as artifact page the other exhibit pages also each add context, and thus meaningful access, to the 1620 edition. The inside the print shop page gives a small summary of the role that various workers would have had in the production of a book printed around 1620. The graphic incorporates a number of printing jobs, and informs users about roles of which they may not have been aware such as the compositor. Future development should include an expansion of this page to include more than just a short description, adding links so that users can learn more. Some hyperlinks are currently being tested to connect users from the image figures to video demonstrations of their processes in action.

The visual mapping page provides a lateral context for the 1620 edition that can potentially cover any aspect of print history. Instead of a hierarchical layer of context, the node map provides a method for browsing contextual information that gives equal weight to all information and emphasizes relational models. It is comparable to the hyperlinks within a wiki structure if they were laid out in a visual interface. This feature of the exhibit encourages browsing, and has the potential to drastically expand meaningful access through a network of virtually unlimited contextual information.
The remaining pages – biographies and geographic mapping – focus on providing meaningful access through the familiar historical contexts of life history and historic locations. Biographies of the creators may or may not be of interest to all users. Yet in the same fashion as the inside the print shop page, the biographies page can aid users to understand more about the historical circumstances surrounding the production of the 1620 edition. Future development of the biographies page could include more multimedia and links to additional resources. The geographic mapping page fixes aspects of the edition in space as they are already fixed in time. This could likewise be expanded in the future to include a variety of geospatial information on sites relevant to the volume’s history and production.

**Research Question:** How can archival strategies of contextual access best be applied to rare books?

**Part 1:** In terms of access tools and strategies?

*Analysis:* Hierarchical context was included in the overall exhibit structure leading users from the print history home page, to the Edward Blount section, and finally to the Don Quixote section. Hierarchy as a contextual tool is an archival strategy that was discussed in Chapter One. It adds to the effectiveness of access to the 1620 edition by showing users where the single volume sits in relation to other works of that time period. This is a subtle, but potentially effective access strategy incorporated into the exhibit. The exhibit as a whole is also a greatly expanded case of contextual description, and thus functions as an archival access tool in itself.

**Part 2:** In terms of standards (content and/or metadata)?

*Analysis:* Since there are no existing standards for presenting archival or special collections materials online in an exhibit format this question will require future research beyond
this prototype. Future case studies on this exhibit should be compared alongside exhibits
developed by other repositories to determine if a content standard is indicated or needed.

Research Question: What should be the scope of the larger context used to provide meaning for a rare book volume?

Analysis: The larger context of print history in the exhibit greatly expands upon the contextual scope of the first phase of the prototype. While the archival description of the collection as a whole provides a horizontal framework of understanding, the context of print history in the exhibit supplies vertical detail for one specific volume. This can contribute to meaningful access for that particular edition over and above the access its metadata and finding aid can provide. In terms of access for specific items within a collection a larger scope of context is not only advantageous but necessary when an individual item is considered as separate from its collection. In the absence of series-level description the collection-level is the first available point of context, and all other contextual frameworks will by necessity be larger in scope. Future research and user studies may be needed to determine if the chosen scope of print history as a whole is overly broad.

Research Question: What combination of content and context should be presented for a rare book in a digital site?

Analysis: The exhibit layer of the prototype adds additional context for the 1620 edition, but does not include any further content from the book itself. No new pages were scanned for inclusion in the exhibit. In that respect the site can be said to be have a high level of context and a relatively low amount of content. In terms of whether this affects meaningful access, it should be noted that the content of the text for Don Quixote is widely available from other sources, although not necessarily as printed in the 1620 edition. Because of both this and limits on time
and resources, it makes sense to include digitized content only if it is especially unique or particular to the edition. The primary limitation to users in providing limited content is that users interested in the volume as a whole will not be able to access it remotely.

*Research Question:* How can rare books in a digital environment be used to promote collections as research and educational tools for both professional and student researchers?

*Analysis:* Exhibits have been known to museums for centuries as tools for engaging public interest in both artifacts and their history. The print history exhibit demonstrates how items in the collection can be used to create such exhibits in a visually-engaging, online learning environment. Users interested in professional research may become aware of the Don Quixote collection at Queens College through the exhibit and make an appointment for in person research. Yet the text and appearance, while designed to be familiar to academics, is meant to be welcoming to non-professionals as well. The potential advantage of this exhibit over a catalog is enormous in terms of exposure for the collection through search engines such as Google.
CHAPTER FIVE: SUMMARY, CONCLUSIONS, RECOMMENDATIONS

Rare books offer researchers from a variety of fields innumerable opportunities for study and exploration. While these resources have been described and accessed through catalogs, and later OPACs, traditional approaches to description and access have often proven inadequate, given the unique nature of rare books. Descriptive standards for rare books such as DCRM(B), offer detailed catalog records, but can often appear overwhelming for those unfamiliar to them. Simultaneously, the OPACs which house these records often require special knowledge if they are to be used effectively when searching for rare books. In addition to this, OPACs are not designed to provide users with extensive collection level description, thereby divorcing those users from critical contextual information. These limitations have marginalized rare book materials as research tools for all but a select group of scholars with specialized information-seeking strategies.

While some special collections departments have created websites to highlight and offer alternative access to rare materials, so far no standard exists for describing or accessing these materials in digital environments. Several areas of research concerning topics related to special collections are: the impact of digitization on access; the importance of providing contextual information at the item and collection level; the information-seeking behavior of humanities scholars who use primary source materials; the efforts by special collections departments to reach out to undergraduate students; and case studies of several attempts to create digital environments for special collections. All of these provide invaluable information which can help address the issue of increasing meaningful access to rare books.

Using this knowledge, a new digital prototype was designed to increase both effective and meaningful access to the Don Quixote rare book collection at Queens College. This
prototype was constructed using the open-source content management system Omeka and includes the use of interactive visual representations, searchable item records, a collection-level finding aid, and the creation of an exhibit designed to place a single edition within the larger context of print history. It is designed to showcase the breadth and depth of research opportunities in rare books for both students and scholars.

**Conclusion**

Case study analysis of the prototype and analysis of the new exhibit in light of the study’s research questions support the assertion that this digital prototype offers a viable approach for increasing meaningful access to rare book collections. Both the main site and exhibit layer offer users multiple avenues to explore rare materials in a digital environment and emphasize connecting those items with supporting contextual information. This approach will hopefully attract both traditional scholars who work with rare books and new student researchers. It is also hoped that by providing users with this specific tool, that they will ultimately be encouraged to visit the repository where they are held in order to interact with them in person. This prototype should also be used as a basis for discussion and further research into best practices for digital access tools in rare books and special collections.

**Recommendations**

Careful analysis of the design and systems used to create these prototypes has yielded valuable information that may inform future decisions regarding enhancement and modification of these sites. Since one of the major challenges in the implementation of the prototype was conflicts in browser compatibility, it is recommended that a help system or section be integrated into both the main site and the exhibit. This system should explain the potential differences that a user’s specific browser may encounter and assist them to change their browser’s settings if
necessary. The help system should also include guidance for users in understanding how to use the Omeka advanced search function. Explanation of how search filters and basic Boolean operators can assist users to achieve better search results.

It is also recommended to seek out user feedback regarding the usefulness of both the website as a whole and its specific tools. An optional user survey could be integrated into the website for this purpose. A structured survey which asks users to rate site features can provide useful quantitative data for analysis. This survey can include questions to identify the type of user accessing the site in order to determine if the goal of broadening access is being achieved. An unstructured feedback form option should also be provided in order to obtain qualitative data relating to individual user’s experiences.

Finally, the inclusion of a service such as Google Analytics would provide useful statistics regarding how frequently the website is being accessed and which browsers users tend use for that access.
References


Appendix A

Web Resources Used in the Prototype

Omeka Plugins

COinS, Exhibit Builder, Geolocation, Simple Contact Form, Simple Pages, Social Bookmarking

Non-Omeka Plugins/Resources

- Code Belly – Background Image-Change from Link:
  
  http://www.codebelly.com/javascript/backimagechange.html

- Collapsible Outline: http://www.boutell.com/newfaq/creating/outline.html

- Google Maps: https://maps.google.com/

- Issuu: http://issuu.com/

- Popup Balloon Demonstration: http://mckay.cshl.edu/balloons.html

- SpicyNodes: http://www.spicynodes.org/index.html

- WOW Slider: http://wowslider.com/

- Zoomify Express: http://www.zoomify.com/express.htm
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