Improving Public Record Access

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Abstract

Nantucket's public and historic records are maintained by many different institutions and are kept in various forms. The project's goal was to address this fragmentation and find a way to improve access to public and historic records on Nantucket. The team researched other collaborative digitization projects and interviewed record-holding organizations on the island to create an inventory of existing records and to gauge interest in the creation of a single website to provide access to Nantucket's records. The team identified the key steps for a successful digital collaborative project, developed a prototype records database and web interface, and recommended how Nantucket should move this effort forward.

Executive Summary

Introduction

As in most towns, records on Nantucket are spread out between many organizations and are kept in a variety of forms, such as in hardcopy, microfilm, a digital database, or online. Many organizations across the country are trending towards the digitization of their records. Putting records in a database makes it much faster to find them and deliver those records to the clientele; putting this database online makes it possible for the clientele to find the document for themselves without taking the time of someone working at the organization which holds the record. While it is easiest to access online records, the process of digitizing records and making them available online is a time consuming and expensive project.

Because of the fragmented nature of information between different departments and organizations in any town, the information that someone is searching for may be spread out between various institutions. Some towns have created online collaborative repositories, which provide users with a "one-stop shopping" experience for the records of multiple institutions. Our project evaluates the current state of record access on the island, in order to identify where it can be improved.

T he project team identified five objectives necessary to achieve this goal. We: (1) characterized the state of the art in providing public access to historical and public records; (2) assessed the nature and status of access to public and historical records on Nantucket (3) identified a perceived need and potential strategies for improved public access; (4) developed and evaluated a range of potential strategies to improve public access; and (5) made recommendations about the way forward based on what we had learned. We characterized the cutting edge techniques in record accessibility by reviewing journal articles, case studies, and other forms of literature, as well as by conducting interviews with organizations that we discovered which had cutting edge record access systems. We reviewed the approaches of other towns and organizations to improve accessibility of records, as well as digitization technologies available. We assessed the status of record access on Nantucket by conducting interviews with key staff at organizations on the island to gain an updated understanding of the information contained in their archives. Through these interviews, we also determined the staff's

opinions and the level of interest in coming together to create an integrated strategy to promote public access. We took what we learned through the research and interviews to develop and evaluate a range of potential strategies to improve public access, stemming from the notion of a collaborative online repository. Finally we proposed an approach to improve the accessibility of records on Nantucket.

Findings:

After interviewing with organizations both on and off the island and reviewing many case studies, we have identified a number of trends both in the needs of the organizations on the island and in successful digitization collaboratives.

Trends in Organization Needs:

- **Financial Concerns:** Many of the organizations which we contacted were private organizations, which are funded by fees for record access and use, or membership fees. These organizations cannot make their records freely available within the collaborative, without a drastic change in financial plans.
- **Fragmented Digitization Databases:** Many organizations on the island have begun digitization initiatives which have not been completed; this has lead to fragmented and incomplete databases.
- **Acceptance of the Collaborative:** Most organizations with whom we spoke were very receptive to the idea of a collaborative, and believe that it could benefit their organization as well as their clientele.
- **Management Concerns:** There is trepidation about who can or should manage the collaborative, but most agree that it is best if the collaborative either remains independent or in the hands of an organization such as the Atheneum, which provides free service to the public.
- **Digital Catalog of Holdings:** Many of the organizations which cannot make their records freely available online were interested in the idea of simply creating an online catalog or index, listing their holdings. An interested user would still need to go to those organizations in person, in order to access the records.

Trends in Successful Collaboratives:

1. **Start Small:** Successful collaboratives started out with a small group of three to four organizations, and slowly brought more into the fold as the techniques and standards used were proven to work with this small sample group.
2. **Create a Dedicated Management Position:** The collaboratives that we researched which were successful also had a dedicated manager, who was in charge of maintaining and planning the collaborative, as well as making sure that the organizations involved all received the support which they needed. This manager was also in charge of making sure that the digitization plans were running smoothly, and that the organizations were following it properly.
3. **Decide Upon Metadata Standards:** It is important that every organization in the collaborative use the same method of cataloging metadata, and use the same tone to describe it, so that when the end user is browsing the archives, it is as cohesive as possible, which will make the collaborative more easily accessible.

Conclusion

Nantucket's public and historic records are scattered across a variety of organizations, and these records are all kept in different forms. Some have been digitized and made available online, some have been digitized but are not yet available online, and some are only available in hardcopy or on microfilm. There is no framework in place to aid organizations on the island with their digitization efforts; each organization has developed their own digitization procedures, and these procedures are mostly incompatible.

Most of the organizations on the island see value in digitization of their records and in a digital collaborative of institutions on the island to promote access to those records. Unfortunately, there is no consensus as to what form this collaborative could take.

Additionally, to best fulfill the needs of Nantucket's organizations, this collaborative database should include both public and historic records, which poses an interesting set of problems. All of the digitization initiatives that we have read about were either for historic *or* public records, Nantucket's collaborative is to involve both historic *and* public records.

There are many restrictions on how accessible public records can be, and there are similar limitations on how accessible the records of some private institutions on the island can be. Many private institutions are able to make their records freely available to the public, like the Atheneum, but others rely on control of their records to continue operation.

Finally, none of the participating organizations currently have the resources to completely oversee the development of a collaborative venture.

Before any work is begun on the collaborative, we suggest a feasibility study is undertaken, to ensure that the proposed collaborative could be successful for Nantucket. If the feasibility study shows that such an undertaking could be successful, the project team recommends a six step approach to the creation of a collaborative on Nantucket, each step of which is a concrete, achievable milestone:

1. Pick two to four pilot organizations with which to begin the collaborative. We recommend a diverse group such as the Atheneum, the Town & County Clerk's Office, and the NHA.
2. Apply for a grant and create a funded Project Organizer position, as well as a funded webmaster position. The Project Organizer will be in charge of managing the collaborative, while the webmaster will be in charge of maintaining the website.
3. Decide upon a common set of terms and language that should be used, so that it is consistent in metadata descriptions across all of the organizations in the collaborative. We recommend using the Dublin Core metadata standards.
4. Continued inventory of the organizations on Nantucket, fleshing out the prototype website into a more complete index of the records which the pilot organizations would like to contribute to the collaborative. These items should be cataloged with the metadata standards established in step 3, and no digitization should yet be underway. During this process, organizations should establish priorities for digitization of their collections.
5. Form a committee to evaluate database management options. If they choose to outsource the digitization, they should evaluate the companies available, and if they choose to perform the digitization on-island, they should evaluate various platforms. If the committee has decided not to outsource the digitization program, the project coordinator should then set up a server and a number of databases for the pilot organizations, and put selected collections

of already-digital records into these new databases. Acquire scanning hardware, or use a contracted organization's existing scanning hardware, and begin digitization of files of the pilot group, putting them into the database established in part 5.

6. Continue folding in other organizations, at a manageable pace, after the digitization strategy has been proven effective.

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1 Introduction

Across the country, many organizations are charged with the job of providing citizens with access to public and historical records. Numerous digitization projects are being undertaken by diverse organizations ranging from large organizations such as Google and the Library of Congress to local towns and libraries in Massachusetts. As increasingly more material becomes available online, the public expects that *all* records will be easily accessible on the web. However, due to lack of funding and manpower, many of the organizations holding these records have yet to make them available online. The situation on Nantucket is similar to that in many other towns in New England. Different historical and public records are maintained by many different institutions, such as the Nantucket Town & County Clerk's Office, the Nantucket Atheneum, the Nantucket Historical Association, and the Maria Mitchell Science Library. These records are kept in various forms including computer files, photographs, audio recordings, letters, paper ledgers, and the like. Some of these records have been digitized and some organizations have plans to digitize the rest of their holdings, but it is a slow, painstaking process. By sponsoring this project the Nantucket Town & County Clerk's Office and the Nantucket Atheneum are spearheading an effort to explore how to make the historic and public records of Nantucket more accessible to researchers and the general public. Our project evaluates the current state of record access on the island, in order to identify where it can be improved.

The project team identified five objectives necessary to achieve this goal. We: (1) characterized the state of the art in providing public access to historical and public records; (2) assessed the nature and status of access to public and historical records on Nantucket (3) identified a perceived need and potential strategies for improved public access; (4) developed and evaluated a range of potential strategies to improve public access; and (5) made recommendations about the way forward based on what we had learned. We characterized the cutting edge techniques in record accessibility by reviewing journal articles, case studies, and other forms of literature, as well as by conducting interviews with organizations that we discovered which had cutting edge record access systems. We reviewed the approaches of other towns and organizations to improve accessibility of records, as well as digitization technologies available. We assessed the status of record access on Nantucket by conducting interviews

with key staff at organizations on the island to gain an updated understanding of the information contained in their archives. Through these interviews, we also determined the staff's opinions and the level of interest in coming together to create an integrated strategy to promote public access. We took what we learned through the research and interviews to develop and evaluate a range of potential strategies to improve public access, stemming from the notion of a single web portal. Finally we proposed an approach to improve the accessibility of records on Nantucket.

2 Background

Recently many organizations and institutions have begun to transform their records management systems to include digital forms of their holdings. This trend is evident internationally, in large-scale efforts at the national level, and at smaller, more local levels such as collaborative ventures among town offices and other organizations. Though more digitization initiatives are underway than ever before, they are plagued by continuing problems, ranging from issues with reproduction rights to insufficient resources. In 1999, the Nantucket Historical Association compiled a comprehensive guidebook of the cultural and historical records held by various organizations on Nantucket. Since this time, the leading institutions have gone "digital" in that they maintain a website, but digital access to most of the records remains a distant goal. A portion of documents, newspaper editions, photographs and various historic records can be found through the Atheneum and NHA sites, but access to the majority of items is limited to physical viewing on site.

2.1 Trends in Digitization

The way by which a public or historic record of any sort may be accessed can significantly affect organization reputation and user satisfaction. Records that are digitized can be organized into a database for employee use or publicly disseminated online to be accessed worldwide. They are easily accessible and allow information to be efficiently retrieved; implementation of the "digital world" even promotes records awareness in that data turned up in a search may otherwise not have been known to the user. Digitized records are incidentally better preserved than their physical counterparts, as they can be accessed without causing damage to the orignals (DeGracia, 2009). "Digitization of cultural heritage brings new practices, tools and arenas that reconfigure and reinterpret not only the collections, but the memory institutions themselves as well as the roles they respectively play on a societal level" (Dahlstrom, Hansson, Kjellman, 2012). For these reasons, digitization has become a dominant trend both internationally and within the United States.

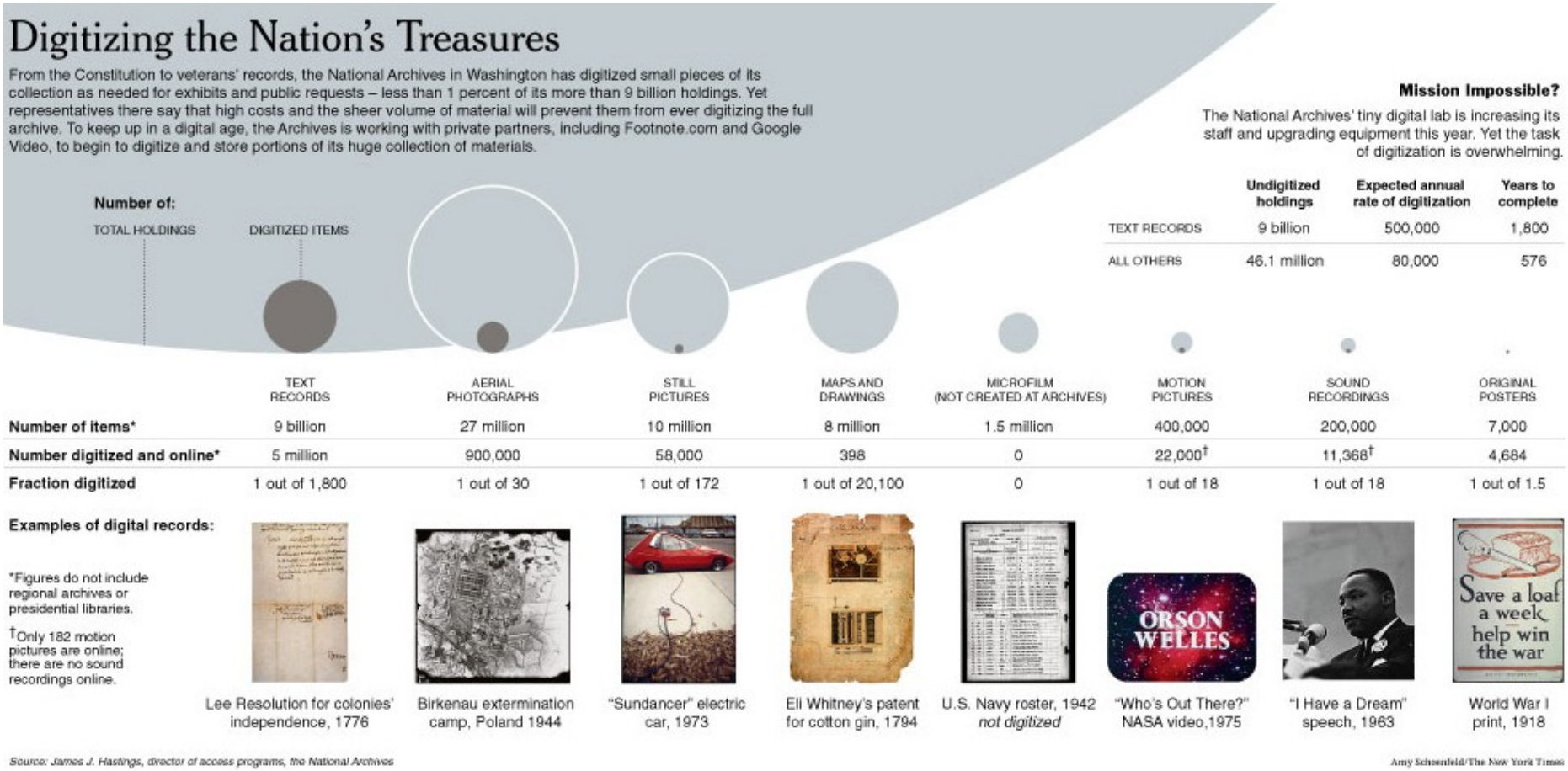
There are two main reasons to digitize a collection: Digitization helps to preserve rare and fragile documents, while also allowing much greater public access. Digitization efforts are often intended to achieve both these goals. Digitization in itself does not enhance access, unless the records

are made available to key audiences. Many organizations restrict access to digitized records for legal or proprietary reasons. For example, some town records must remain confidential by law, while other records may be made more generally accessible (Scriven. 2012)

The trend of digitization can be seen across the world. For example, the National Library of Norway has digitized hundreds of thousands of documents and the National Library of the Netherlands has announced their plan to digitize all Dutch books, newspapers, and periodicals published since 1470. A cooperative approach to record access is being used by the libraries of the members of the Council of Europe. They joined forces to create one search engine providing access to the collections of almost fifty libraries (Singer 2011).

While many European nations have begun creating national digital libraries, organizations in the United States have mostly been focused on digitizing special collections. Due to the size, number, and variety of holdings in the United States, it is arguably more difficult for America to create a national digital library than it is for other smaller countries, and as such, despite digitization efforts, a large number of records remain only available in physical form. In the 1990s, The Library of Congress digitized a collection containing scans of 16 million documents. However, over 100 million non-digitized items are still held by The Library of Congress. The National Archives also began an effort to digitize their records, but much like the Library of Congress, they only digitized a small portion of their holdings. The National Archives holds many different types of media which can be digitized; from text documents, to photographs, to sound recordings. A very small percentage of these various categories of media have been digitized so far, and Figure 1 claims that it would take about 1800 years to accomplish complete digitization of just the text records at the current rate of progress. Parallel efforts in the private sector are being made by both Google and Harvard University, which both are in the middle of endeavors to create large, public, digitized libraries (Singer 2011).

Figure 1 Digitized Collections in National Archives *Taken from* http://www.nytimes.com/imagepages/2007/03/10/business/11archive.chart.ready.html



To promote the systematic and ordered digitization of records, the Federal Agencies Digitalization Guidelines Initiative (FADGI) was started in 19XX. FADGI's goals are to "...define common guidelines, methods, and practices to digitize historical content in a sustainable manner" (Federal Agencies Digitalization Guidelines Initiative date or n.d.).

The Federal Agencies Digitalization Guidelines Initiative includes two working groups. The Still Image Working Group "is involved in a cooperative effort to develop common digitization guidelines for historical and cultural materials that can be reproduced as still images, such as textual content, maps, photographic prints and negatives" (Federal Agencies Digitalization Guidelines Initiative. *Still Image*). The goal of the Audio-Visual Working Group "is to identify, establish, and disseminate information about standards and practices for the digital reformatting of historical and cultural audio-visual materials by federal agencies. The effort will cover sound recordings, video recordings, motion picture film, and born-digital content" (Federal Agencies Digitalization Guidelines Initiative. *Audio-Visual)*. These guidelines provide vital information to anyone looking to digitize archives.

2.2 Regional, State, and Local Digitization Efforts

In addition to these large endeavors, many historic organizations and government offices at the state and local level are engaged in digitization efforts to preserve holdings and make materials more accessible to the public. These smaller-scale efforts are taking place across the country, including Massachusetts.

2.2.1 Outside of MA

Several collaborative ventures outside Massachusetts have sought to improve the organization of and access to historical and other records through digitization. For example, the Northfield History Collaborative in Northfield, MN was formed to address the problem that, "as in most communities, responsibility for collecting and curating local history is scattered among multiple institutions – libraries, historical societies, governmental agencies, cultural organizations, churches, etc. – without established mechanisms for sustained coordination and cooperation in making these records accessible" (Northfield History Collaborative). The Collaborative sought to address this issue of scattered history "by developing a set of relationships, policies and practices, and an infrastructure to provide a single portal for access to Northfield area history" (Northfield History Collaborative).

The Southeastern New York Library Resources Council (SENYLRC) recently undertook a collaborative digitization effort called the Hudson River Valley Heritage, and a case study was published on it, which "documents the journey of a network of small organizations with limited resources and limited digitization experience in developing an online digital repository of historical materials housed in libraries and cultural heritage organizations in an eight country[sic] region in New York" (Kucsma, & Ng. 2010). The collaborative's goals are to, "provide a variety of services to their members including continuing education, access to electronic resources, services to the health care community, consulting, information technologies, advocacy, and more recently digitization" (Kucsma, & Ng. 2010). The collaborative was funded by grants from the State of New York and locally generated funds (Kucsma, & Ng. 2010). We will refer to this case study in greater detail below, in section 2.5 as the Hudson River Valley Heritage case study.

Another example of a collaborative digitization intiative is the Colorado Digitization Program, or CDP. The CDP's goal "is to provide access to the written and visual record of Colorado's history, culture, government, and industry" (Bailey-Hainer & Urban 2004). It started as a collaborative effort, "From the very beginning, the CDP was a collaborative organization that embraced membership and participation from all cultural heritage institutions – libraries, museums, historical societies and archives" (Bailey-Hainer & Urban 2004). The CDP was funded mostly by government grants, with each grant specifically going towards a particular project. This case study is again explored in greater detail below, in section 2.5.

In Connecticut, Connecticut History Online, or CHO, is an organization that has formed in order to digitize historic documents "that are part of the fabric of Connecticut and American social, business, political, educational, cultural, and civic life." The organization has an extensive collection of over 15,000 sources, which comprise mostly "photographs, maps, broadsides, oral histories, and manuscripts" (Connecticut History Online).

2.2.2 Within MA

There has been a recent surge of digitization efforts within Massachusetts; for example, The Mass. Memories Road Show "is a public scanning project based at the University of Massachusetts Boston which partners with local communities to digitize family photographs and stories at public events with the goal of creating a digital portrait of all the 351 cities and towns in the Commonwealth (Kucsma, & Ng. 2010)" Mass. Memories is in the process of

documenting and digitizing photographic material, videos, and historical keepsakes, and is funded by grants, with volunteer effort for the manpower.

Mansfield, Massachusetts recently unanimously voted to digitize their town bylaws, because as Patrick Smith of General Code, a digitization company, said, "The citizens are demanding 24/7 access to information from the town." Mansfield has sent their bylaws out to General Code, where they plan to "do a page-by-page editorial and legal review to correct inconsistencies, duplication and conflicts in existing bylaws; analyze fines and fees in comparison with state maximums to uncover areas where the town could potentially increase its revenue; and arrange Mansfield's bylaws alphabetically in chapters in a physical book and an online document accessible from the town website." This will not only improve access dramatically for the citizens of the town, but also provide Mansfield officials with a better working copy of the town bylaws, and could possibly increase town revenue. (Carter 2012).

The town of Sudbury, Mass is also looking into updating their record-keeping system. Their project aims to "restore, preserve, protect and conserve unique historic Town[sic] documents which are irreplaceable public resources that are seriously threatened" (Town of Sudbury Project Submission Form). The town clerk makes note that "It is important to preserve Sudbury's historic records, but just as important to provide the broadest access possible to the public and town departments through digitization" (Town of Sudbury Project Submission Form).

Much like Sudbury, Peabody, Massachusetts is in the process of digitizing their records, though their project is entirely grounded in preservation concerns, and they have no plans to put these records online. This is another approach that many Massachusetts towns are taking, as it allows them to preserve historic records, which may still be legally relevant, without concerns of deterioration with continued access. (Rice 2011).

Finally, "Reading is emerging as a role model for small towns statewide" (Brenda J. Buote). The town has taken up the task of digitizing hundreds of thousands of municipal documents, with life-changing results. The town is using the software Laserfiche, a "computer system that allows anyone with an Internet connection to plug into a much larger database" (Brenda J. Buote). The Laserfiche system has allowed the town to create an integrated web portal that "will allow citizens to access reams of documents while curled up on the couch" (Brena J. Buote). The software is being used by approximately 30,000 organizations worldwide and is

"very basic and intuitive" (Brena J. Buote); the records would be available to anyone from a broad range of ages, whoever is interested in the records.

All of these towns have one thing in common: They recognize the value of digitized record access, and how it will directly improve accessibility of their records. Reading and Sudbury are both taking steps toward putting their historic records online, so that anyone will be able to access the records more effectively. (Town of Sudbury Project Submission Form). (Brena J Buote).

2.3 Issues Associated with Digitization

When state agencies and other organizations make the choice to digitize a collection of works, there are many decisions that they must make, and many issues which must be addressed. Digitizing an archive is not just the process of scanning documents, but rather requires the creation and implementation of a digitization strategy, where key questions are addressed, such as how the documents will be sorted, who the copyright holders on the documents are, how records which are degrading will be preserved, and what sort of software will be used to catalog the digitized records.

2.3.1 Mass Digitization versus Critical Digitization

Two extremes in the approach to digitization are mass digitization and critical digitization. These are compared in Table 1. Mass digitization is generally an automated process, where the focus is on quantity of documents digitized, whereas critical digitization is a manual process focused on digitizing the most important documents first, and creating connections between documents. (Dahlstrom, 2012)

"The current trend within national libraries and large research libraries is, no doubt, mass digitization, where huge amounts of documents are digitized by automated means during a relatively short period of time" (Dahlstrom, 2012). Mass digitization is about digitizing a large amount documents, avoiding labor-intensive work. It does not interpret or analyze the information, and as such it can be done quickly, and with less effort than critical digitization. The only labor involved in mass digitization is the act of actually digitizing documents, and much less effort is put into organizing and linking documents together.

"Critical digitization implements several of the links in the long digitization chain in a manual, intellectual, and critical way. At every step one can make choices, select, leave out, and

interpret. Mass digitization turns a blind eye to most of these choices, whereas critical digitization acknowledges and makes active use of them" (Dahlstrom, 2012). In this way, critical digitization is a much more intensive process, which requires documenting and in many cases reorganizing data.

In reality, a digitization effort does not sit squarely as critical or mass digitization. These categories are the two ends of a spectrum, and where any particular digitization effort sits on this spectrum must be decided before any digitization can take place (Dahlstrom, 2012).

Table 1: Critical Digitization vs. Mass Digitization. *(Based on Dahlström, 2010).*

Critical digitization	**Mass digitization**
Primarily manual	Primarily automated
Critically recognizes the distortion digitization brings about	In effect treats digitization as a cloning process
Undertakes a well-informed selective analysis of source copies	Normally picks whatever source copy that praxis or chance happen to present
Maximizes interpretation and metadata	Minimizes interpretation and metadata
Qualitative in its concentration on what makes a document (or set of documents) unique	Quantitative in its concentration on common, regular, foreseeable traits in large numbers of documents
Treats documents as graphical, spatial and material artefacts [sic]	Focuses on the linguistic texts of documents
Discrimination: selections/exhibitions	Exhaustiveness: complete holdings
Depth	Scale

2.3.2 Priorities

Aside from deciding where on the critical and mass digitization spectrum a project sits, there are a number of extenuating factors regarding digitization which must be considered. The Northeast Document Conservation Center suggests that anyone digitizing archives ought to ask themselves, in order, if a record *should* be digitized based on its importance, whether or not it *may* be digitized based on intellectual property laws, and whether it *can* be digitized based on the physical properties of the document (Preservation and Selection for Digitization. 2007).

In order for a document to pass the question of if it *should* be digitized, there needs to be significant demand for access to that document. In addition to this demand, there must also be a tangible benefit to digitizing the document, whether it be in terms of record access, or in terms of document preservation (Preservation and Selection for Digitization. 2007).

In order to pass the question of *may* the document be digitized, the one digitizing the

documents must have the rights to reproduce it. If these rights cannot be obtained, the document cannot be digitized, and as such, the digitization efforts on that document ought to cease (Preservation and Selection for Digitization. 2007).

The question of *can* a document be digitized is asking whether a document can physically be digitized, and whether or not the organization has the means to store and host the digital versions of the documents in an easily accessible database (Preservation and Selection for Digitization. 2007).

Another factor which must be considered is that records which are in a volatile state must be given precedence over records which are in a stable condition. There is a significant risk that delaying digitization may result in the entire loss of some records, or the preservation of some records in a much deteriorated state (Preservation and Selection for Digitization. 2007).

2.3.3 Copyright

In order to digitize a document, one must have reproduction rights to that document. "While locating authors is relatively straightforward in theory, it is quite difficult in practice, placing a significant burden on the archivist. It might not be feasible to determine the identity of the item's creator; even if this person is found, he or she might not be the copyright holder, who might be unknown or impossible to reach" (DeGracia, 2009).

Even after permission is granted by the copyright holder, efforts still must be made in order to ensure that no one redistributes the digitized documents after they are made available to the public. Digital documents are very easy to duplicate, and as such, one method of deterring unauthorized redistribution is to offer only low quality versions of documents placed online. Images and video can be given watermarks, or offered in lower resolution, while sound files can be offered at a lower bit rate, meaning the audio quality will be poorer. There are obvious downsides to offering low quality versions of digitized documents, the largest being that it could impede accessibility of those documents, but measures must be taken to ensure intellectual property rights are maintained (DeGracia, 2009).

2.3.4 Manpower and Funding

Digitization is a labor intensive project. The digitization process is not simply a choice between mass or critical digitization approaches. "Good selection decisions come through carefully assessing the physical nature and content of the original materials, the intellectual property rights connected with them, and the requirements for a technically sound, well-

described, and cost-effective product that serves both users' need for access to the content and the institution's need to preserve the materials" (Preservation and Selection for Digitization. 2007). Figure 1 shows that even an organization as large as the National Archives is only able to digitize a small percentage of its holdings, in large part due to lack of resources (time, money, and staff).

In addition to the issues of manpower, digitization can be an expensive venture. While volunteers can cheaply enter the metadata and digitized documents into a database, there is a significant start-up fee, in acquiring the digitization hardware, and there is are maintenance fees associated with the upkeep of the digitized database. Not only do you have to pay for a continued license to use many database managers, but you also must periodically update old files into a better supported file type, or risk losing access to them altogether as older file types become more obsolete (Kucsma, & Ng. 2010).

2.3.5 Handling Metadata

In addition to the creation of a digitization plan, the archivist must be aware of the metadata surrounding those items that he or she is digitizing. Metadata is the information about the items being digitized, and it is important to preserve this metadata, in order to maintain a complete understanding of the context surrounding the digitized records. The metadata includes information such as author, title of the object, and the role of the object. These data must be preserved, as well. For example, a photograph is more useful if it has been appropriately labeled with a date, location, the name of the photographer, and other pertinent information, such as a notation on the content.

According to the Dublin Core Metadata Best Practices, there are three categories of metadata: Descriptive Metadata, Structural Metadata, and Administrative Metadata. Descriptive metadata are the identifying information about a digitized item, which could help locate the item. Structural Metadata is the internal organization of a digitized work, such as chapter titles, or subheadings, which help the user navigate an item. Administrative metadata include the technical information about a digitized document, such as the resolution at which it was scanned, how the image was compressed, et cetera (CDP Metadata Working Group, 2006).

2.3.6 Issues of Interoperability

When working on a collaborative digitization initiative, especially amongst institutions which may already have some data in various digital forms, the issue of interoperability may be

perplexing. These different organizations all have their own cataloging systems, and handle metadata in their own way, and as such, you cannot simply consolidate multiple databases together into one collaborative database. You must first decide on a protocol for handling metadata, and the choice and structure of keywords, to best satisfy the needs of the collaborative. For example, an organization which specializes in a certain field of science may have their keywords refer to specific scientific terms, while an average user may just want to search for the name of a field of research, which would find nothing under the scientific database. For this reason, keywords and metadata must be handled in a uniform way. (Bailey-Hainer & Urban 2004).

2.3.7 Software

When one digitizes an archive, there are two types of software that they must use: Digitization software, and database management software. Digitization software is the program which interfaces with the scanners in order to provide a high resolution image file. In addition to the software which aids in scanning of documents, digitization software exists which can provide full text transcripts, by Optical Character Recognition, or OCR. These OCR transcripts may be much more valuable to most researchers than an image of the scanned document, as they can be searched and manipulated as text files, rather than simply viewed. (Scriven. 2012) Of course, OCR is less pertinent where the source items are photographs, maps, and other visual media, and some researchers will be interested in images of handwritten documents, rather than OCR transcripts.

Database management software links together all of the files in a collection, in one unified source. Databases of files generally hold metadata, in addition to the information contained within the files themselves, and link all of this data together with a human-readable interface. Additionally, many pieces of database management software provide easy tools with which one can publish the database to a website, in order to better provide access to the files that it contains. (Bailey-Hainer & Urban 2004).

2.3.8 Public Records Specific Issues

In digitizing public records in order to improve access, government agencies face most of the same issues that historical organizations face, but there are additional factors for consideration. Public records often hold information relating to an individual's life, and there are

many laws governing how public records must be made accessible. Any digitization efforts must be made with full knowledge of these restrictions.

Despite the obvious benefits of easily accessible records, public records can hold personal information relating to members of the public. These people may find themselves losing their right to privacy if too much personal information becomes publicly available, as various "bots" – programs designed to automatically compile public information into data banks – become better able to mine personal data. There are methods of combating bots, such as a verification system that requires human intervention, but bots are a problem which will not go away, and as such need to be addressed whenever one puts a record online (Byrne, 2010).

It is important that however one digitizes public records, public record law must be upheld. Massachusetts law says that anyone requesting a public record can go to the office where the records are kept and submit an informal request for access to that record, and after a request has been made, an employee has ten days to retrieve the record. Because of this law, any digitized record system in Massachusetts can only augment the system currently in place, and cannot be seen as a replacement. Individual establishments must still track their own records and be prepared to present them on request, even if records are consolidated and digitally linked across multiple establishments (Galvin, May 2012).

Additionally, internal records of public organizations may still need to be kept in a physical form, even if they are not documents which are readily available to the public. If a document is to have a lifespan of over ten years, it must be kept in a physical form. Because acid-free paper and microfilm are able to last up to 350 years if handled properly, these mediums are still the standard for Massachusetts legal documents and records. This means that digitized records must act as use-copies only, or backups from which one can recreate a missing physical document (McCormack 2012).

2.4 Accessibility of Public and Historic Records in Nantucket

Though at the height of its whaling years Nantucket was the epitome of progress, it faces the current problem of keeping up with the ever-changing progress of technology. As technology advances more and more, so do expectations for society; the problem on Nantucket is not dissimilar. Public and historic records are commonly among the items being held to higher standards, whether at the national level, as discussed, or in a small county such as Nantucket.

With such a long and complex history that is preserved in artifacts, documents, and ephemera held by a variety of organizations, the adoption of a more advanced access system is especially important.

The problem of preservation and access is complicated by the fact that these artifacts, documents, and ephemera are scattered among numerous public, semi-public, and private organizations. In 1999, the NHA spearheaded an effort to catalog the types of public and historic records held by various organizations on the island. Table 2 summarizes this catalog and shows there are many different kinds of historic and public records scattered among a large number of organizations Notably, the Atheneum, NHA, and Town Clerk's Office house the largest number of records. Each of these institutions has a website, where lists can be found of the available records; however, navigation to these items is a daunting task for the average curious researcher. Multiple clicks and links precede any findings of the desired information. Besides ships' logs, newspapers, journals and other historical documents, basic public records, such as marriage and death certificates, crime reports and police logs, appear to have no access link at all. Sites do exist that will bring these records up, but they are not accessible through links on Nantucket websites. The guide (Table 2) lists 15 additional institutions that maintain their records in hardcopy form. These organizations are scattered throughout the island; there is no communal location where an individual may locate, for example, documents from both the District Court and the Shipwreck and Lifesaving Museum.

The Nantucket Atheneum and Nantucket Historical Association the two most prominent organizations promoting the preservation of and continued education about the island's history. With the largest collections of cultural and historical records, including books, letters, newspapers, ships' logs, genealogies, photographs, and more, the NHA and Atheneum have a public duty to maintain these records and make them accessible to the public. These duties are enshrined in their mission statements. The Atheneum holds that it "serves as a cultural center for the Nantucket community by sponsoring educational programming and maintaining special collections related to the history and culture of the island;" maintaining records for the future requires adopting up-to-date methods of storage and access, which currently entails digitization. To serve as a cultural center, materials must be accessible, and digitizing and creating computer databases ensures this. Steps like this also ensure that if a disaster were to occur, the original data would be stored somewhere. Additionally, the Town and County Clerk's Office is responsible for

maintaining a wide array of public records, along with the Courts and several other town offices, departments, and committees. Local government has a legal obligation to maintain these records and to make them accessible to the public in a reasonable fashion.

As evidenced by perusing the Nantucket sites and by Table 2, the records on the island exist in a range of form from audio recording to digital scans on computers. Some documents have been digitized and made accessible, some are poorly accessible, and some are not digital at all. Records that are in hardcopy format are generally associated with a complicated viewing process. Photocopies at the NHA and Town Clerk's Office, for example, are available for a fee; practically all others must be viewed upon arranging an appointment with staff in charge. Microfilm is another commonly seen method on the island and a bit more advanced, but this still requires the presence of an individual at the institution of interest. According to the guide, the NHA, Atheneum and Town Clerk's Office are the only institutions with record information available online, and therefore the only three with easily accessible records.

The non-profit organizations and town offices are keen to find better ways to digitize all their records and make them more accessible to Nantucket residents and the wider public for a variety of reasons, from practical concerns such as building permissions and record frailty to personal research on genealogy.

2.5 Case Studies

2.5.1 Colorado Digitization Program

The Colorado Digitization Program (CDP) briefly discussed above is a collaborative effort, in which a number of different organizations within Colorado came together to improve public access to "the written and visual record of Colorado's history, culture, government, and industry" (Bailey-Hainer & Urban 2004).

In the case study written about the CDP, the challenges that the collaborative faced were very similar to the issues associated with digitization that we outlined above, in Section 2.2.1. For one, the different organizations all had their own methods of cataloging metadata, which lead to a large problem of interoperability between the databases. Because many of the organizations did not have the budget to re-catalog all of their metadata under a new system, and because it was considered unfair to force some organizations to change their metadata schema and not others, the CDP decided to create a union catalog, which would combine the information of all of

the organizations into one location (Bailey-Hainer & Urban 2004).

Ultimately, the Dublin Core standards for metadata were chosen for use in this union catalog, because "Dublin Core was most hospitable for loading of records from multiple systems." Not only that, but the Colorado State Library, a member of the CDP, was currently using Dublin Core standards, and they offered the use of software which they were using, as well as technical support for the collaborative (Bailey-Hainer & Urban 2004).

Another issue which arose, which was both a technical issue and an issue of management, was that the CDP trained people on the technology too far in advance of the actual digitization projects. Those who were trained often forgot much of their training by the time the digitization got underway, and there was a lot of re-training. Not only did some staff forget their training by the time that the digitization began, but some staff members left after being trained, which meant that entirely new staff members had to be brought in and trained, often in the middle of the digitization process. These two factors lead to a lot of redundancy in the system, which caused the projects to draw out longer than expected (Bailey-Hainer & Urban 2004).

2.5.2 Hudson River Valley Heritage

The Hudson River Valley Heritage (HRVH) is "a decentralized collaborative digitization effort coordinated by the Southeastern New York Library Resources Council (SENYLRC)." (Kucsma, & Ng. 2010, 518). HRVH provides free online access to materials relating to the local history of New York's Mid-Hudson Valley region. Though the digitization of records was the responsibility of the contributing organizations., the HRVH team from SENYLRC provided them with much help and support, in the form of "the technical infrastructure, access to CONTENTdm digital collection software, equipment, documentation, and training" (Kucsma, & Ng. 2010, 520).

SENYLRC began their planning process by forming a digitization task force to develop a plan, hiring Liz Bishoff, then Director of the Colorado Digitization Project as a consultant. This step was funded with a Library Services Technology Act (LSTA) grant. (Kucsma, & Ng. 2010).

The task force identified five goals to be accomplished during the planning process:

1. Identify collaborative partners
2. Identify potential challenges

3. Identify collections which could be included
4. Develop a funding strategy
5. Train participants in digitization techniques

They began by interviewing possible collaborative partners. The interviews revealed that smaller organizations often had limited resources and would benefit from collaborations with larger organizations. They also found that there was not much interest in having the digitization handled by a central organization. "The interview process revealed the roles that SENYLRC might play in a regional digitization effort. SENYLRC could develop and maintain expertise in digitization, foster communication, provide training and consultation, help select equipment, identify funding sources, and provide standards to organizations that wanted to digitize their own collections." (Kucsma, & Ng. 2010, 522).

Understanding their role in the project as a consultant position, SENYLRC issued *The Digitization Program Plan for the Southeastern Region of New York* which identified six goals:

1. Create a steering committee of representatives from key institutions to guide implementation initiatives
2. Create selection criteria for institutions, and identify collections to be digitized
3. Decide on metadata and scanning standards
4. Identify related legal issues, and potential solutions
5. Create local collection of contributed digital material "which is open, distributed, and easily accessible by the public."
6. Provide training and consulting for staff

A digital advisory committee (DAC) was formed to help in the executing of *The Digitization Program Plan.* Taking from standards and practices already in use, the committee identified how the collaborative would approach selection, digital imaging, and handling of metadata. (Kucsma, & Ng. 2010).

Selection criteria for prospective partners were adapted from papers by the Research Libraries Group. Digital imaging guidelines were adapted from the *Western States Digital Imaging Best Practice*. The Digital Advisory Committee selected Dublin Core as the metadata standard because its straightforwardness would make it easier for organizations with different

practices to contribute to a shared repository. (Kucsma, & Ng. 2010).

The DAC looked at available platforms including Greenstone, Luna Insight, and CONTENTdm. They selected CONTENTdm because "it was reasonably priced, came pre-packaged with the Dublin Core element set, and did not require a lot of technical expertise to implement. Additionally, server software, a user interface, client software for importing, describing, and uploading items, and a web-based administrative interface for managing and editing collections were all included with the license. The client software could be installed in different locations making it an appropriate choice for a decentralized regional project. SENYLRC would host the server and the web site, yet any interested organization could have access to the client software and web-based administrative site providing them with full control of the metadata creation and management process" (Kucsma, & Ng. 2010, 524-525).

The DAC chose three different types of organizations to be initial contributors, in order to see alternate ways to approach the process. They chose a college library, a public library, and a historic house museum. The college library had a collection already digitized and accessible on their website. In order to be included in the collaborative, this collection was transferred to CONTENTdm which offered the chance to identify the steps needed to migrate a collection into CONTENTdm and "how to 'map' or 'crosswalk' AACR2/MARC metadata to Dublin Core metadata elements" (Kucsma, & Ng. 2010, 526).

Several lessons were learned from this initial testing step. CONTENTdm provides a web-based user interface for browsing the collections, so the original website created for the project quickly was discarded, and they redesigned the website using the CONTENTdm interface as a foundation. Another issue was the "lack of individual organizational identity in CONTENTdm" (Kucsma, & Ng. 2010, 528). This issue was solved by creating home pages for each organization where they could describe the collections they brought to the collaborative, link to their own site, and limit a search to the specific organization's records. (Kucsma, & Ng. 2010).

There was also a need to change metadata guidelines to "meet the needs of a range of contributors" (Kucsma, & Ng. 2010, 527). In revising the metadata guidelines, they largely took from Western States Dublin Core Metadata Best Practices. The latest version of this is CDP Metadata Working Group Dublin
Core Metadata Best Practices, mentioned in 2.5.1. (Kucsma, & Ng. 2010).

Table 2: Summary of the Status of Holdings of Records in 1999 (based on NHA 1999)

Organization	Holdings	Hard Copy	Microfilm	Digitized	Online
The Egan Maritime Institute at the Coffin School	Records pertaining to the Coffin School	(1)			
Maria Mitchell Science Library	Records pertaining to science, natural history, astronomy	x	x		
	Personal papers of Maria Mitchell and Mitchell Family	x	x		
	Mitchell family genealogy	x	x		
Nantucket Atheneum	Cemetery records		x		
	Census records		x		
	Genealogies	x	x		
	Nantucket reports and directories	x			
	Historic Newspapers	x	x		
	Special collections	(1)	x		
	Vital Records	x			
	People File	(1)			
Nantucket Conservation Foundation	Wetland versus upland properties			x	(1)
Nantucket Historical Association (NHA)	Architectural reports	x			
	Bibles			(2)	
	Census records	x	x		
	Church records & cemeteries	x			
	City directories			(2)	
	Fire insurance maps		x		
	Genealogies	x		(3)	
	Manuscript collections	x		(4)	
	Maritime documents		x		
	Marriage Certificates	x			
	Military and Marine Records	x			
	Newspapers		x		
	Oral Histories	x			
	NHS Yearbooks	x			
	Photographs	x		x	x
	School Records	x			
	Scrapbooks	x			
	Telephone directories	x			
	Town & County records	x			
	Town Histories	x			
	Vital records	x			
Nantucket Shipwreck and Lifesaving Museum	Life-saving service reports	x			
	Logs from Nantucket life-saving stations	(5)			
	Annual reports for US LSS	x			
	History of the Mass Humane Society	x			
	Manuscript materials	x			
	Photographs	x			

Organization	Holdings	Hard Copy	Microfilm	Digitized	Online
Building Department	Historic District Commission actions	x			
	Building Plans	x			
Conservation Commission	Notice of Intent application	x		x	
	Commission's response to aforementioned applications	x		x	
Fire Department	Scrapbooks	x			
Historic District Commission	Proposed construction or demolition records	(6)			
Courts (Superior, Probate, Family)	Inventories	x			
	Certificates	x			
	Court of Common Pleas	x			
	General Court of Sessions	x			
	Superior Court Records	x	(7)		
	County Records	x	(8)		
	Supreme Judicial Court Records	x			
	Selectmen's Journals	X	(9)		
	Petitions	x			
	Divorce Records	x			
	Docket books	x			
	Wills	x			
	Bonds	x			
	Vital Records	x	x		
Town & County Clerk's Office	Town election minutes	x	x		
	Town meeting records	x	x		
	Birth Records	x	x		
	Death Records	x	x		
	Marriage Certificates	x	x		
	Town reports	x			
	Selectmen's journals	x			
	Early records	x			
	List of voters	x			
	Poll tax books	x			
	Register of voters	x			
	Plans and maps	x			
	Censuses	x	x		
	Street lists	x			
	Financial documents	x			
	Affidavits of correction	x			
	Wharf Rat Club Logs	x			

Organization	Holdings	Hard Copy	Microfilm	Digitized	Online
Municipal Finance Department	Financial Operations	(10)	(11)		
	Financial Transactions	(10)	(11)		
	Assessment Records	(10)	(11)		
Police Department	Records relating to public safety and law enforcement.	(1)			
Shellfish and Marine Department	Records relating to the responsibilities of the Shellfish and Marine Department	(1)			
Union Lodge of Free and Accepted Masons	Mason Degree Certificates	(1)			
	Business Documents	(1)			
	Accounts	(1)			
	Annual Returns for 1806-1809	(1)			
	Minutes, secretary reports, 1911-1993	(1)			
	Photographs	(1)			
	Misc. Materials	(1)			
Wharf Rat Club	Logbooks 1932-1959	x			
Nantucket Shipwreck and Lifesaving Museum	Life-saving service reports	x			
	Logs from Nantucket life-saving stations	(5)			
	Annual reports for US LSS	x			
	History of the Mass Humane Society	x			
	Manuscript materials	x			
	Photographs	x			

Notes:

(1) Available by request only.

(2) In Books Database.

(3) Descriptions Only

(4) *Eliza Starbuck Barney Genealogical Record*

(5) Kept at the New England Branch of the National Archives, in Waltham.

(6) Print/Hardcopy kept of previous three years, the other records are stored.

(7) Records from 1721-1847

(8) Records from 1807-1915

(9) Records from 1784-1853

(10) Records from 1992-1998

(11) Records from 1900-1991

(12) Contact to discuss specific requests.

3 Methodology

The goal of this project was to explore ways to improve the access to public and historic records on Nantucket. These records are currently maintained by multiple organizations, in different mediums, and are in varying states of accessibility (see Table 2). Some records have been digitized, some have not been, and the nature of the records is quite varied, including birth and death records, photographs, maps, letters, newspapers, as well as ships logs. We dealt both with public records, which Massachusetts law says must be made accessible, and historical records that organizations feel a duty to make accessible. In order to achieve the project goal, the project team has: (1) characterized the state of the art in providing public access to historical and public records, (2) assessed the nature and status of access to public and historic records on Nantucket, (3) identified a perceived need and potential strategies for improved public access, (4) developed and evaluated a range of potential strategies to improve public access, and (5) provided final recommendations.

3.1 Characterizing the State of the Art in Historical and Public Record Access

Building on the literature review above, we conducted a series of interviews with key informants at some of the institutions off-island that are leading the effort to digitize and enhance access to public and historical records, in order to ensure that we had a complete understanding of the issues associated with digitization, before speaking with institutions on-island. We identified the pertinent town offices and institutions through further reviews of newspaper articles and other literature, as well as recommendations by those whom we interviewed.

Once we contacted staff at these organizations, we conducted a number of phone interviews. We communicated that the interview was confidential unless the interviewees give us permission to quote them. There are several things that we learned by speaking to these organizations, including their digitization strategies, what worked and what didn't work, and suggestions that they would make for a town implementing its own digitization strategy. Most importantly, we wanted to know what lessons they had learned in the process; what the advantages and disadvantages were of their approach and what they would like to have done differently or known beforehand. We also asked that they direct us to other organizations or literature that may assist us in our project, and we followed up with many of these leads that we were given. In order to discover this information, we spoke to key informants from the town of Reading, MA, the Northfield History Collaborative in Minnesota, North Andover, MA, the

WPI Archives, and the Burlington, MA archivist. Additionally, we discovered a number of helpful case studies, which outlined their own digitization strategies, and the lessons learned therein.

3.2 Assess the Nature and Status of Access to Historical and Public Records on Nantucket.

In 1999, the NHA conducted a thorough inventory of the records held on Nantucket. Some of these records are now accessible online, as is evident by perusing some of the organizations' websites, but one of the primary tasks we undertook was updating the information in Table 2 above, which is a summary of the information contained in the NHA Guide. A comprehensive review of which institutions maintain records, which records these are, and the availability status of these records was necessary in order to provide our final recommendation.

We contacted a number of record-keeping organizations on Nantucket, starting with the organizations outlined in the NHA guide, as well as organizations which our sponsors requested that we include. Our goal in contacting these organizations was take an inventory of the records that they held, as well as to gauge interest in a collaborative web portal, hosting information from many institutions in one convenient location. For a small number of the organizations, we had them complete a short survey before the interview, to serve as a jumping-off point for the conversation. We eventually stopped using this survey, since it required too much time and effort to tailor the questions to each institution in advance of the interview. Instead, we merely tailored our interview questions as necessary to elicit the appropriate information.

In our interviews, we identified the nature of the records held by the institutions with which we spoke, and we asked what, if any, digitization efforts had been made. We inquired about the outcomes of those digitization efforts, and how accessible the digitized documents were. We asked who the organizations served, and whether their records were publicly accessible, available for a nominal fee, available to all members of their institution, or if the records could not be made public.

Our interviews were conducted in person with all three members of our group present. One member of the team conducted the interview, while the other two took notes on participant responses and occasionally contributed supplemental questions to ensure that we captured all the information that we needed from each interview. Each interview concluded with a request to follow up with additional questions as they arise. Originally, we had planned to have only two members of the group at each of

our interviews, but we felt that it was better that we were all there, in order to best educate our entire group on the nature of the issues that we were dealing with.

In total, we interviewed staff members at 14 organizations across the island, out of the 18 organizations that we contacted. While we originally planned to interview a staff member from every organization that was listed in the NHA guide, this proved difficult because the organizations did not have the staff or time to spare to speak with us in many cases, and in some cases, we did not get any response, despite our best efforts at making contact. Additionally, the NHA guide was no longer accurate, and we spoke to a number of organizations not counted in the above numbers, who told us that they did not keep the records that they were listed as holding, anymore.

3.3 Identify Perceived Need and Potential Strategies for Improved Public Access

We spoke with staff members of various organizations, who have experience with the current systems of record access. Perhaps most importantly, however, is the fact that these staff members knew the needs and interests of the public at large. They knew which records are most often requested and which are the most fragile, two of the most important issues to look at in a digitization project. Through our interviews, we determined this information, and the organizations' level of interest in coming together to create a web interface mapping the records of these separate organizations into one unified place.

We approached key staff at the Atheneum, and the Town and County Clerk's Office to discuss the nature and range of topics to be covered in the interviews, to ensure coverage of all the major issues and for feedback on anything that we may have missed.

Our data analysis entailed reviewing transcripts of these interviews to identify commonalities and differences of opinion about how to move forward. We also analyzed the extent to which records for these organizations can be digitized, or at least made more accessible, while still allowing the organizations to have the money to continue operation. Many of the organizations can only continue operation because of the money made off of their membership fees or record access fees, and we needed to take this into account, as it was something that we had not expected in our original proposal.

3.4 Develop Potential Strategies to Improve Public Access

After we gathered all of this information, we identified a number of potential strategies to

suggest to our sponsors. These strategies were brought forward to our sponsors at the Atheneum and Town and County Clerk's Office, and eventually we refined our approach, to something best suited for Nantucket's unique situation.

This is in contrast to our original plan: Before coming to the island, we had in mind that we would convene a focus group with which to test our ideas, of staff members with whom we had spoken. We had intended to select 4-8 key staff members from our interviews to comprise our focus group to test the strategies that we had come up with. We would have chosen these staff members depending on the level of interest they showed during our interview process. The purpose of this focus group was to gain qualitative information about the different strategies that we developed, in order to discover which strategies these staff members think show promise, and would be interested in pursuing. We wanted to know the opinions of these staff members; if they were reluctant to adopt a digitization strategy, or were unhappy with a proposal, it is unlikely that it will be a successful solution to the issue of record accessibility on Nantucket.

Instead, we discovered that the information that we had gathered in our interviews, and the input of our sponsors, lead to a very clear idea of what the collaborative could ultimately become, and how it could get there. The first step that we had determined for the collaborative would be to create a web portal which simply acted as a searchable index, which cataloged the records held by each organization, and told the user how to could gain access to them. As we had such a clear idea of what the integrated web portal could become, and our interviews had given us the information that we needed in order to create a good portion of that catalog, we decided that our time would be well spent creating a prototype version of it. Over the period of time during which our focus group would have convened, we instead developed a raw prototype website, which would act as a catalog of the records on the island, called the Nantucket Network, and demonstrated the functionality to our sponsors.

We received positive feedback from our sponsors, so we continued refining the catalog, providing links to digitized documents where available, and made numerous other alterations to the way the search results were presented, with the goal of increasing its usability, and providing the Atheneum with a tool which they could put on their website at the end of the project. Additionally, the creation of this website helped us broaden the base of organizations with which we spoke: Once we had created the website, we had another organization, the Nantucket Shellfish Association, approach us with information that they wanted to be available through the Nantucket Network.

3.5 Final Recommendation

After determining the strategy which made the most sense, we made a formal recommendation to the staff at the Atheneum and Town and County Clerk's Office as to how they might go about improving record access across the island. This recommendation included information such as how digitized collections might be managed, and what shape the interface to access these collections will look like. It also included information on which records shouldn't be digitized, and how organizations who make their money off of membership fees could join the collaborative without giving up all of their records to the public for free.

4 Findings

Based on our research, we have identified a number of important lessons learned through the actions of other organizations which have attempted a large-scale digitization initiative and have developed an updated inventory of the records held by the different organizations on the island. We also discovered which organizations would be interested in becoming involved in a collaborative effort, what they would be interested in contributing, and what form they would like to see the final 'product' take.

4.1 The State of the Art in Historical and Public Record Access

When we spoke to representatives of a number of organizations on the mainland that had implemented large scale digitization programs in the past, we learned much that would shape our approach to the idea of a collaborative digitization initiative on Nantucket. We spoke with representatives of the Northfield History Collaborative and the WPI Archives. At the urging of Catherine Stover, we interviewed the Archivist in the town of Burlington, Massachusetts, because Burlington is one of the few towns in New England that has hired an archivist specifically to coordinate the maintenance of and access to various town records. We also spoke with the town clerk of North Andover, which has developed a ground breaking digitization program. In addition to these interviews, we also reviewed case studies on the Colorado and Hudson Valley digitization projects.

4.1.1 The Northfield History Collaborative

The Northfield History Collaborative is an effort spearheaded by the Northfield Historical Society, whereby a number of institutions in Minnesota came together to digitize their holdings, and make them available online in one database.

In our conversation with Hayes Scriven, Executive Director of The Northfield Historical Society and webmaster of the Northfield History Collaborative, about the collaborative, we determined that starting with a small group of around three to four organizations is essential to the success of a collaborative. A dedicated position to managing the collaborative would be necessary, and funding for this position and the general undertakings of the project would be provided through one or more grants. Each organization would ultimately determine independently what they would like to contribute to the

site. (Scriven, personal communication, 2012)

4.1.2 The WPI Archives

The WPI Archives are currently in the middle of their own digitization initiative, and as such, we decided to speak with them about how they went about creating their digitization plan, and to ask them what suggestions they would make for those undertaking a similar digitization initiative.

When we spoke with Jessica Colati, the Digital Initiatives Librarian of the WPI Archives, we found that a project must have a unified, standardized plan of approach before the digitization can be started. If a project manager gets stuck with many fragmented approaches, the project will not be able to successfully move forward. Their approach to prioritization included creating a value matrix, and weighing records against this matrix to decide which items ought to take what priority. The items on their matrix were concerns such as demand, informational value, financial concerns, et cetera (Colati, personal communication, 2012).

4.1.3 The Burlington Archivist

Catherine Stover encouraged us to speak to the town archivist of Burlington, MA, as Burlington is a town on the cutting edge of record accessibility, in part due to their dedicated town archivist position.

Daniel McCormack is Burlington's archivist. We spoke with him about the significance of his independent position within the town, and discovered that, ultimately, his position allows him to focus on organizational tasks that others do not have time for, yet are still important. If there are second-priority jobs in a town department that are pushed aside due to lack of time or manpower, it is his job to make these his first priority. An important point that he stressed was that if a job is everybody's second priority, it may not be completed, or may be completed inefficiently, and if that job is important, there ought to be a dedicated person to do it (McCormack, personal communication, 2012).

4.1.1 North Andover Town Clerk

We spoke to the Town Clerk of North Andover, as the town recently completed a notable digitization effort, of all of their records back to the 1800s, and they implemented a system where new records can be easily digitized and put online.

From speaking with the Town Clerk of North Andover, Joyce Bradshaw, we concluded that a platform must be found that works for everyone. In projects such as collaboratives, where many organizations with previously established records management systems are involved, there will have to be compromises, and the organizations must understand that going into the collaborative (Bradshaw, personal communication, 2012).

Another thing that we learned was that once the system is in place, continued upkeep is very simple. All that you have to do is create a set of protocols for the creation of new records, which includes scanning them into the database (Bradshaw, personal communication, 2012).

In addition to the information that we learned from those with whom we spoke, we learned an equally important amount of information about other collaborative digitization efforts, through reading case studies. These case studies outlined their biggest lessons learned, during the digitization process, and the lessons learned here ought to be applied to our final recommendation, in order to avoid the same pitfalls made before us.

4.1.5 The Colorado Digitization Program

As stated above, the Colorado Digitization Program was a collaborative effort, where a number of organizations in Colorado came together to improve access to "the written and visual record of Colorado's history, culture, government, and industry" (Bailey-Hainer & Urban 2004).

The case study on the Colorado Digitization Program identified several points to be aware of to encourage the success of a collaboration effort. The first was the fact that communication is important. It takes time to set things up, so time should be scheduled to establish communication between the organizations. Another lesson that they shared was that you should not train people on the technology too far in advance. People may forget how to use the scanners and software before they actually get around to applying the knowledge. A third point that the case study made was that there needs to be an agreed-upon list of topics and terms between the organizations for cataloging metadata. This is extremely important, because the metadata should have one tone, to make it easiest on the end user. If some metadata is written in a very scholarly tone, and some more conversationally, it may be hard for the end user to understand all of the information given to him or her (Bailey-Hainer & Urban 2004).

4.1.6 Hudson River Valley Heritage

As discussed in our background research, the Hudson River Valley Heritage is a decentralized digitization collaborative that took place in New York. The case of the Hudson River Valley Heritage collaboration offers several valuable lessons regarding the development of a collaborative digitization project. First, they suggest creating a task force to determine the digitization approach, ahead of time. The case study recommends only bringing more organizations into the project after that approach has been developed.

In terms of that digitization approach, Hudson River Valley Heritage used a decentralized

hosting method; the server and website was hosted by one organization, but any interested group could "have access to the client software and web-based administrative site providing them with full control of the metadata creation and management process" (Kucsma, & Ng. 2010). Any collaborative attempt on Nantucket should discuss whether decentralized or centralized data management is the right approach for the collaborative.

Much like the CDP, the case study on the Hudson River Valley Heritage also stated that there needs to be agreed upon metadata guidelines, as these standards help the organizations within the collaborative document their records more easily, and also help the end user more easily access the records. (Kucsma & Ng. 2010).

4.1.5 Case Studies at Panjab Digital Library

In addition to the two case studies of digitization collaboratives that we discovered, we also found a number of case studies by the Panjab Digital Library relating to the digitization of a number of different types of physical documents. The findings from these case studies are summarized in Appendix A.

4.2 The Nature and Status of Access to Historical and Public Records on Nantucket.

One of the major goals of this project was to conduct a comprehensive inventory of the current status of historical and public records on Nantucket (in essence updating the information contained in the NHA guide to records on Nantucket as summarized in Table 2). Unfortunately, in the time available on island, we were not able to contact all of the organizations listed in the NHA guide, so Table 3 is not as comprehensive in coverage at Table 2. Nevertheless, it is a much more accurate reflection of the current status of access to historical and public records held by the key organizations on Nantucket.

Table 3: Current Status of Holdings at Selected Organizations on Nantucket

Organization	Holdings	Hard Copy	Microfilm	Digitized	Online
The Egan Maritime Institute at the Coffin School	Records pertaining to the Coffin School	x			
	Books published by Mill Hill Press	x			
	Maritime books	x			
Maria Mitchell Science Library	Records pertaining to science, natural history, astronomy	x			
	Personal papers of Maria Mitchell and Mitchell Family	x			
	Mitchell family genealogy	x			
Nantucket Atheneum	Cemetery records		x		
	Census records		x		
	Genealogies	x	x		
	Nantucket reports and directories	x			
	Historic Newspapers	x	x	most	most
	Special collections	x	x		
	Town histories	x			
	People File	x			
Nantucket Conservation Foundation	Wetland versus upland properties			x	(1)
Nantucket Historical Association (NHA)	Architectural reports	x			
	Bibles	x			
	Census records	x			
	Church records & cemeteries	x		some	
	City directories	x			
	Fire insurance maps	x			
	Genealogies	x		(2)	(2)
	Manuscript collections	x		most	most
	Maps	x		x	x
	Maritime documents	x			
	Marriage Certificates	x			
	Military and Marine Records	x			
	Newspapers	x	x	x	x
	Oral Histories/Home movies	x		some	
	Photographs	some		some	some
	School Records	x			
	Scrapbooks	x			
	Telephone directories	x			
	Town & County records	x			
	Vital records	x			
Nantucket Shipwreck and Lifesaving Museum	Life-saving service reports	x			
	Logs from Nantucket life-saving stations	x			
	Annual reports for US LSS	x			
	History of the Mass Humane Society	x			
	Manuscript materials	x			
	Photographs	x			

Organization	Holdings	Hard Copy	Microfilm	Digitized	Online
Building Department	Historic District Commission actions	x			
	Building plans	x			
	Plumbing & Gas permits	x			
	Electrical Permits	x			
	Zoning Documentation	x			
	Meeting Agendas			x	x
Cemetery Commission	Meeting Minutes			x	x
Conservation Commission	Notice of Intent application	x		x	
	Commission's response to aforementioned applications	x		x	
Fire Department	Information for when tanks were placed into the ground for home owners.	x			
Historic District Commission	NACR records	x		some	
	Proposed construction or demolition records	x			
Land Bank Commission	Meeting Minutes	x			
	Land Bank Maps	x			
	Meeting Agendas			x	x
	Property Transfer Filing Forms			x	x
	Land Bank Rules and Regulations			x	x
	Land Bank Public Forms (Form 1s)	x			
	Land Bank Acts			x	x
Probate Court	Inventories	x		some	
	Certificates	x		some	
	Petitions	x		some	
	Divorce Records	x		some	
	Docket books	x		some	
	Wills	x		some	
	Bonds	x		some	
	Vital Records	x	x		
Town & County Clerk's Office	Town election minutes	x	x		
	Town meeting records	x	x		
	Town reports	x			
	Selectmen's journals	x			
	Early records	x			
	List of voters	x			
	Poll tax books	x			
	Register of voters	x			
	Plans and maps	x			
	Censuses	x	x		
	Street lists	x			
	Financial documents	x			
	Affidavits of correction	x			
	Wharf Rat Club Logs	x			

Notes: (1) as completed; (2) Barney Genealogical Records

4.3 Perceived Need and Potential Strategies for Improved Public Access

In our conversations with the organizations on the island, we learned much about the issues involved with digitization on Nantucket, as well as a lot about the nature of the records held by these organizations. Briefly outlined below are the key findings which we gained through speaking with staff at various organizations on the island.

4.2.1 Nantucket Historical Association

In our interview with Georgen Charnes, Webmaster & Collections Access Specialist for the Nantucket Historical Association, we discovered that the NHA already has a system of inMagic databases in place, which are separated into categories for manuscripts, images, books, AV materials, and collections. Each of these categories is its own separate searchable database, and the NHA also has an interface to search through all of the databases together, and display results across each database (Charnes, personal communication, 2012).

Because of this inMagic database system which the NHA has in place, when we asked about the idea of a collaborative digitization group for Nantucket, Ms. Charnes said that they would be able to host the collaborative. Each organization could be given their own inMagic database to maintain, and a search interface would allow a user to search either by organization, or across all organizations, for the documents which they were looking for (Charnes, personal communication, 2012).

Though the NHA has the experience necessary to undertake such a project, Georgen noted that they would be unable to do so without additional funding. Their servers are not currently equipped to host the records of many organizations across the island, and as such would need to be upgraded with more storage space. In addition, the NHA believes that they would need to establish a funded position, to manage the databases and collaborative project, which would incur additional costs (Charnes, personal communication, 2012).

4.2.2 Atheneum

By speaking with Lincoln Thurber, Reference Department head from the Nantucket Atheneum, we discovered that while the information contained in the NHA guide was mostly accurate, they have recently undertaken a digitization intiative, where they digitized almost all of their newspapers collection. To do this, the Atheneum contracted Olive, an independent company, to handle the digitization initiative. Olive both digitized all of the newspapers which the Atheneum provided, and

also provides web hosting for those newspapers, which is very easy on the Atheneum's end to handle (Thurber, personal communication, 2012).

While the Atheneum is currently under contract to maintain a hosting plan with Olive, it is a short term contract. Going into the digitization process, they understood that something new might come along which could be a better solution, and as such were hesitant to tie themselves to one company's hosting indefinitely. This means that, when the contract's term is up, the Atheneum is able to explore other options, and if the collaborative recommended in this paper is put into place, may choose not to renew a hosting plan with Olive, and instead migrate their data to the collaborative's servers (Thurber, personal communication, 2012).

One thing that Mr. Thurber stressed was very important to remember when creating our recommendation is that the Atheneum is a public library, and has an obligation to provide members of the publicaccess to its records free of charge. While other organizations may need to charge money to access their records to continue operation, the Atheneum is a public establishment, and as such does not want any information that they provide to the collaborative to be locked away behind a membership fee (Thurber, personal communication, 2012).

4.2.3 Nantucket Town & County Clerk's Office

Our project has been unique, compared to those collaboratives that we have researched, in that we were working not only with historic organizations, but also public offices, who have a vastly different set of requirements that must be fulfilled by their record keeping. When we spoke to Catherine Stover, Town Clerk, we discovered that while the historical organizations all wanted to digitally capture images, in order to have a back-up of deteriorating physical copies, the Town & County Clerk's Office was not concerned with the physical appearance of the document, but rather solely the information contained within (Stover, personal communication, 2012).

To that end, the Town & County Clerk's Office on Nantucket has begun a digitization program, using the Laserfiche software, to capture OCR-only versions of the documents which they hold. These searchable-text documents are held within an internal-use database, and can generally be found much more easily than their paper counterparts (Stover, personal communication, 2012).

This OCR encoding process is not without its flaws, however. We were told that hand written, historic, records do not get transcribed with complete accuracy by the OCR software, and as such, any hand written records would have to be either partially or completely transcribed by hand, in order to

minimize errors by the OCR software. Additionally, OCR capture of documents does not work for items such as maps, photographs, and other graphically-based items, and as such is of limited use to many historical organizations. Despite these flaws, the process works well for the Town & County Clerk's Office, as most of the records which are most important to be accessible are current-day records, which have all been typed and printed, rather than written by hand (Stover, personal communication, 2012).

The records which the Town & County Clerk's Office hold are generally open to the public, with a fee associated with performing an exhaustive search, or when a new record must be created. The state government says that the records held by the Town & County Clerk's Office must be accessible in a certain way, partially outlined in section 2.3.8, and this has an impact on what our final recommendation must be. We must work within these state restrictions, if we are to include the Town & County Clerk's Office within the collaborative (Stover, personal communication, 2012).

4.2.4 Probate Court

In our discussion with Susan Beamish, Probate Court Register, we learned that the probate court is not a town-run organization, but instead an organization run by the state of Massachusetts, and as such, they would not necessarily be free to provide the collaborative with any records which they might hold. In addition, the probate court is staffed by only one person, so it is unlikely that they would have the time to undertake an effort such as the collaborative (Beamish, personal communication, 2012).

Nevertheless, Ms. Beamish indicated that the Massachusetts court system is currently in the process of digitizing their holdings, into a system called MassCourt. The goal of the MassCourt program is to have everything that the probate court holds, that can be made available to the public, put online within the next year or so, and the other court systems will soon follow. While the documents themselves may not be held within the collaborative's repository, the collaborative website could very easily link to the digitized court documents, for those who are interested (Beamish, personal communication, 2012).

4.2.5 Building Department

Speaking to Steve Butler, Building Commissioner for the Building Department, we learned that the Building Department holds a number of records relating to construction on the island of Nantucket,

including building plans, plumbing and gas permits, electrical permits, and zoning documentation, among others. The Building Department is a town department, and as such, their records are all publicly viewable, with only standard copying fees of $0.25 per page. The only files which they cannot allow the public to access are files which are under active investigation, for code violations (Butler, personal communication, 2012).

In our interview with staff from the Building Department, we learned that they have plans to put an e-Permitting system online by April, 2013, which will allow the permitting process to be done electronically, instead of in person as was previously required. We were told, however, that they would be interested in digitizing the rest of their holdings, not for organizational reasons or for preservation, but simply to improve the public accessibility of their records, but they do not have the resources to go back through their thousands of records and digitize them all (Butler, personal communication, 2012).

On the collaborative website, even if the Building Department was unable to secure funding to digitize their entire back log of records, one option would be to at least catalog the permits which they offer, and provide links to the e-Permitting system for those records, with the website acting as a sort of index with which to find the e-Permits (Butler, personal communication, 2012).

4.2.6 Conservation Commission

We spoke with Jeff Carlson, Natural Resources Coordinator at the Conservation Commission. The Conservation Commission is responsible for maintaining the Wetlands Protection Act, and as such, holds records relating to individuals planning on building near protected areas (Carlson, personal communication, 2012).

The records which the Conservation Commission holds have been partially digitized. From a certain point onwards, all of their records have been scanned in if possible, but those records which have been scanned have only been scanned for archival purposes: They are not hosted online for the public to access. Additionally, the Conservation Commission holds many large maps of parcel information, which cannot fit into a conventional scanner, and have not been digitized at all (Carlson, personal communication, 2012).

The Commission has a five year digitization plan partially in place, as they intend to continue scanning all of their documents into the computer moving forward, in order to have a back log of digitally archived material and ease into a more fully fledged digitization approach, but they have no concrete plans as to how to make those files more available. The biggest issue which the Conservation

Commission sees would be scanning their larger items, which would require dedicated hardware to handle. Though we did not speak about it during our interview, many other organizations would also benefit from specialized scanning hardware for irregular documents, and the collaborative might be a good way to provide a solution for this issue, for many organizations across the island (Carlson, personal communication, 2012).

4.2.7 Nantucket Fire Department

In speaking with Jeanette Hull, Office Administrator to the Fire Department, we learned that they do not often get inquiries for the historical items which they hold, and many of these are in boxes in the attic of the building and are not easily accessible. As such, they are interested in having an organization such as the NHA come in and take a look at the historical records which they hold, out of an interest in preservation (Hull, personal communication, 2012).

The Fire Department also holds a wealth of information which they are eager to make publicly accessible, relating to fire safety, and beach fires. The staff member with whom we spoke said that the fire department is always interested in promoting public awareness of fire safety, and would like to put that information onto the collaborative website, if they were able (Hull, personal communication, 2012).

4.2.8 Historic District Commission

The Nantucket Historic District Commission is mainly responsible for maintaining the historical character of Nantucket, by preservation of those buildings which contribute to a historic district. We spoke to Mark Voigt, administrator for the Nantucket Historic District Commission. The main records kept by the HDC are the Nantucket Cultural and Archival Research, or NACAR, surveys, which are essentially checklists which tell you how a building contributes to a historic district. The houses surveyed fall into three categories, *Individually Significant*, which means that a house is historic on its own, *Contributing*, which means that a house is part of a historically significant district, or *Non-contributing*, which means that a house is not historically relevant (Voigt, personal communication, 2012).

The HDC is currently sporadically digitizing their records; non-digitized records are scanned and digitized only as they are requested. One major downside to this approach is that this lack of a systematic approach may lead to difficulty digitizing their holdings en masse in the future, as it will be

difficult to know what has or has not yet been digitized without checking for each record. The HDC estimates that they have currently digitized around a third of their holdings, and would ultimately like all of the records to be digitized (Voigt, personal communication, 2012).

The records which have been digitized are not directly available online: An HDC staff member retrieves the records and sends them to the client requesting the item. The staff member with whom we spoke said that ultimately he would like to see the records put online so that clients can directly access them, without the added step of contacting the HDC (Voigt, personal communication, 2012).

4.2.9 The Egan Maritime Institute at the Coffin School, and the Shipwreck & Lifesaving Museum

We spoke with Lisa McCandless, Assistant Director and Curator for both the Egan Maritime Institute at the Coffin School, and the Shipwreck and Lifesaving Museum. The Egan Maritime Institute at the Coffin School is a private establishment, which charges membership and entry fees. The Egan Institute is the parent organization of the Lifesaving Museum, but the two are separate entities. The two hold mostly published works, though the Egan Maritime Institute also holds a number of photographs and historical artifacts. The historical photographs, photographs of historic artifacts, titles of the published works which they hold, and descriptions of these items have all been digitized into a PastPerfect database, but this database is not publicly accessible (McCandless, personal communication, 2012).

The Egan Institute would be happy to share their photographs, as part of the collaborative, but would not like to give away too much of their archive for free, as they need the revenues generated from membership and museum fees (McCandless, personal communication, 2012).

Ms. McCandless was very enthusiastic about the idea of indexing the museum, and putting that index of information online, so that a search on the collaborative's website would display the information which the museum could provide, but a user would have to come to the museum in person to see those items. This, she felt, was the best approach, as it allows all of the museums and private organizations to maintain their independence, while still contributing to the collaborative and gaining public awareness (McCandless, personal communication, 2012).

4.2.10 Maria Mitchell Association

The Maria Mitchell Association is a private, non-profit, with a mission to preserve the legacy of

Maria Mitchell, famed astronomer of the 19th century. As a private organization, The Maria Mitchell Association must find their own funding, and as such has a fee for record access. In contrast to the Atheneum, the Maria Mitchell Association said that their fee is absolutely necessary for the continued survival of the association, and that any information that they disclose must be tightly controlled (Finger, personal communication, 2012).

We spoke with Jascin Finger, Curator of the Mitchell House, who said that there was still information which could be put onto a collaborative website, such as finding aids for the materials which the association holds. As with the Egan Institute, we suggested that we could create a searchable catalog of the records which the MMA holds, and put that online. This catalog would allow the user to find a record held by the MMA, but the user would then have to view the record in person (Finger, personal communication, 2012).

4.2.11 Cemetery Commission

In speaking with Allen Reinhard, the Chairman of the Cemetery Commission, and Georgen Charnes, the commission's Secretary/Treasurer, we discovered that they themselves hold very few records. The Cemetery Commission meeting minutes and agendas are all online, but aside from those records, there is very little that they could provide the collaborative (Reinhard, personal communication, 2012) (Charnes, personal communication, 2012).

4.2.12 Conservation Foundation

The Conservation Foundation is an organization which manages Nantucket's natural resources, and holds a number of letters and personal correspondences between landowners, which cannot be put online. The only other documents which Jim Lentowski, Executive Director at the Conservation Foundation, thought might be of interest were the foundation's research findings. An example that was given is the data that is currently being taken, on what percentage of land is upland or downland, which is currently being put onto the Conservation Foundation's website. This data could be put onto the collaborative, once it has been finished, if the Conservation Foundation is interested in getting involved, but otherwise there does not seem to be much that the Conservation Foundation could provide to the collaborative (Lentowski, personal communication, 2012).

4.2.13 Land Bank Commission

The Nantucket Land Bank Commission is an organization which was established to ensure the

proper management and protection of certain land on Nantucket, for the use of the general public. It was established in 1983, and was the first commission of this type to be created anywhere in the United States (Bell, personal communication, 2012).

In speaking with Jesse Bell, Administrator/Fiscal Officer from the Nantucket Land Bank Commission, we learned that while they hold a number of records, they seldom receive requests for these records, as most of them are filed with the Town & County Clerk's Office, or online. The Land Bank Commission receives perhaps two or three requests for a specific record a year, and it is generally for a copy of their meeting minutes (Bell, personal communication, 2012).

This is not to say that the Land Bank Commission does not have records which they could contribute to the collaborative. Of all of the organizations on Nantucket, the Land Bank Commission may be the furthest ahead in terms of digitization of their records: While the meeting minutes have not been digitized or put online, the Land Bank Commission has made available all of their meeting agendas, the Land Bank Act which established the commission, the Rules and Regulations which the land bank must follow, and blank copies of all of the Property Transfer Forms which must be filled out in order to transfer a deed to someone else. As the records are all available online already, if the Land Bank Commission would like to join the collaborative, these items could easily be linked to from the collaborative's website (Bell, personal communication, 2012).

4.4 Trends

In our research, we identified a number of trends in the needs and desires of many organizations across the island. Many organizations on the island do not want to make their information freely available, because of financial concerns. Additionally, a number of organizations have begun digitization initiatives in the past, or are currently undergoing digitization initiatives, which have given them incomplete or fragmented databases of digitized files.

Another trend that we've discovered is that, given the resources, most organizations think that the idea of a town-wide collaborative is a good one, and shows promise. There is trepidation about who could or should manage the collaborative, but most agree that it is best if the collaborative either remains independent, or in the hands of a public organization such as the Atheneum.

A number of organizations are most interested in the idea of a digital catalog of their holdings, so that the interested researcher would be able to discover their holdings, but not necessarily access

them freely online.

4.5 Prototype Website

As stated in section 3, as part of our project, we designed a prototype website, meant to act as a stepping stone towards the development of the larger collaborative. This website is not meant to reflect the final form of the collaborative, but is instead meant to be a testing ground for the metadata standards which the collaborative will eventually decide upon. The prototype website allows the organizations which become involved to catalog their records and make them searchable in a way not unlike the final product, without going through expensive digitization processes.

This is beneficial to the collaborative as a whole as it will allow them to catch issues which would have otherwise arisen during the digitization process, where they would be expensive to fix, before they arise. In this way, corrections can be made quickly and inexpensively.

5 Conclusion & Final Recommendation

In our research into the viability of a collaborative record access portal on Nantucket, we have reached a number of conclusions, and have noticed a number of trends, both in the needs of organizations on the island, and in the procedures taken by successful digitization collaboratives.

Numerous historic and public records are scattered across a variety of organizations on Nantucket, and these records are all in different stages and forms of digitization. Some records have been digitized and made available online, some have been digitized but are not yet available online, and some have not been digitized at all. There is no framework in place to aid organizations across the island with their digitization programs, which means that each organization independently developed their own digitization procedures, and these procedures are mostly incompatible.

Most, if not all, of the organizations on the island that we reviewed see value in digitization of their records, and in the creation of a collaborative of institutions on the island, to promote access to those records. Unfortunately, there is no consensus yet as to what form this collaborative could take, who would participate, and how it might be funded.

At the outset of this project, the team and sponsors imagined that a collaborative database would include both public and historic records drawn from pubic, semi-public, and private organizations. Unfortunately, all of the digitization initiatives that we reviewed were either for historic *or* public records. The potential partners of the collaborative will need to decide whether or not a collaborative between public and private organizations is both feasible and desirable, when the collaborative begins looking for partners to join.

While many organizations see value in digitizing their holdings, for financial reasons, not all of the organizations on the island are able to. Some do not have the budget to pursue digitization, while others rely on the control of their documents for funding, and cannot freely distribute them online.

There are multiple options as to how one can go about attempting to digitize their files. Both the Town & County Clerk's Office and the Nantucket Historical Society digitize their files in-house, scanning and hosting the documents themselves, while the Atheneum outsources their digitization to Olive, a company which specializes in it.

In our research into other collaboratives, we discovered that it is best to start small, with an initial group size of two to four organizations, which provide a representative sample of the types of organizations that will become involved in the collaborative in the future. This small group should act

as a test run, and changes should be made to the digitization strategy as needed, and additional organizations should be folded into the collaborative slowly as the strategies have been proven effective.

Successful collaboratives in the past have had a dedicated project manager, who is able to make the management of the collaborative their first priority. The project manager is responsible for ensuring that all of the organizations involved in the collaborative have the support and aid that they need, as well making sure that the organizations in the collaborative are following the digitization strategy properly.

There are a number of possibilities as to how the collaborative could handle the metadata of documents which they are digitizing, but one set of standards which has proven particularly effective for the organizations that we have researched are the Dublin Core metadata standards. In particular, we suggest a set of standards which have been adapted by the Colorado Digitization Program to best suit the needs of a collaborative project. These standards are outlined in Appendix C.

While there are a number of software solutions for database management, nearly all of the collaboratives that we have researched have chosen to use CONTENTdm, for a number of reasons. CONTENTdm provides a searchable web interface for users who wish to browse documents, allows for up to 50 unique organizations to modify the database, and supports documents in the form of text, images, and multimedia such as audio and video.

Finally, none of the participating organizations currently has the resources to oversee the development of the collaborative venture. Likewise, most organizations that we have looked at have also found it necessary to seek additional funding and staff in order to expand their digitizing efforts.

5.1 Our Recommendation

Before any progress is made with the collaborative, we suggest that the interested parties undertake a feasibility study, to ensure that such a venture is, in fact, possible for Nantucket. This feasibility study should be grant-funded, and if it shows that the proposed collaborative would be successful on Nantucket, then this recommendation should be pursued.

We suggest a six step approach to the collaborative on Nantucket, each step of which is a concrete, achievable milestone. In this way, the organizations on Nantucket can move towards a fully digitized collaborative of documents at whatever pace is feasible.

The proposed collaborative *should*:

1. Choose a small number of core organizations with which to start the collaborative.
2. Apply for a grant, and create a funded Project Organizer position, as well as a funded webmaster position. The Project Organizer will be in charge of managing the collaborative, while the webmaster will be in charge of maintaining the website.
3. Decide upon a common set of terms and language that should be used, so that it is consistent in metadata descriptions across all of the organizations in the collaborative.
4. Continue to inventory the organizations on Nantucket, fleshing out the prototype website into a more complete index, with links to any digitized collections, where applicable.
5. Evaluate the costs and benefits of acquire scanning hardware and software or contracting out the digitization process, as well as the costs and benefits of various database management options.
6. Continue folding in other organizations after the digitization strategy has been proven effective.

Over the course of all of these steps, the collaborative should be convening to discuss what has and has not proven effective, in order to catch issues in the digitization strategy or metadata standards, and make corrections as appropriate.

5.1.1 Pick a number of core organizations to start the collaborative

Most, if not all, of the groups who have previously established a digitization collective said to start small, and then expand to a larger collaborative after your techniques have been proven to work. Our suggestion to Nantucket is much the same. To start, a number of core organizations who were interested in the collective should be contacted to become part of a first wave, which will help shape the nature of the collective moving forward.

We suggest that the core group be comprised of the Nantucket Atheneum, the Shellfish Association, and the NHA, if those organizations are able to become involved. These organizations were chosen because they create a diverse group to serve as a sample of the record holding organizations on the island.

We do not suggest that the collaborative start by integrating governmental records in with the records held by private organizations, because of the complications mentioned above. It would be easier to start the collaborative with only private organizations, to avoid the issues associated with joining governmental and nongovernmental organizations together. As the collaborative moves forward, it must identify whether or not it is feasible and desirable to fold in governmental

organizations, but we do suggest that there are many organizations, such as the HDC, which are governmental in nature, but would be a very good fit for the collaborative.

5.1.2 Apply for grant funding, create funded positions

Another key point of successful collaborations was that they had a single dedicated manager, who was able to make the management of the collaboration their number one priority. To that end, we suggest that the Nantucket collaboration ought to similarly have a funded manager or archivist, who is able to make the collaboration his or her number one priority.

An approach which could be taken to help the governmental organizations not involved in the collaborative would be to create a town-funded archivist position, as seen in Burlington. This manager would be able to help oversee the digitization and reorganization of the records of governmental organizations on Nantucket, so that when the collaborative is expanded to include them in the future, they will be better prepared to integrate their records with those of the collaborative.

In addition to this managerial position, it is important to have a technically savvy person to act as webmaster, maintaining the website for the collaborative. This person would be responsible for updating the layout of the website past its prototype stage, as well as any further technical work for the collaborative which might arise. This webmaster could be the same person as the project manager, assuming that the manager had the necessary technical experience to perform the job.

5.1.3 Decide upon a common set of terms and a metadata standard

The organizations involved in the collaborative must decide upon common set of terms and language that should be used so that there is consistency across the metadata. They must also establish a set of metadata standards for the collaborative database. We recommend adopting the Dublin Core metadata standards. These standards are easy to use, and are easy to fit other metadata standards into. The Dublin Core metadata standards were used in many successful collaborative ventures in the past, such as the Hudson River Valley Heritage, and the Colorado Digitization Program. We have outlined the Dublin Core metadata standards in Appendix C, with a few adaptations found helpful by the Colorado Digitization Program.

5.1.4 Continued catalog of the organizations on Nantucket

After deciding upon a common set of terms, the core organizations should put forth the records they would like to include in the collaborative. These organizations should determine which records they believe are a priority to make part of the collaborative. Records that are only available in hardcopy

or microfilm should be scanned so that they are in digital form. Records already in digital form should be uploaded into the database. Any records the collaborative receives should be put online. This step will serve as a test run. During this process, the organizations should identify any obstacles that they come across. After identifying any problems with the standards and approach, the metadata standards and the digitization approach/strategy can be adjusted to better serve the collaborative goal. These regulations will better fit this situation of a collaborative of public and historic records and will allow for easier incorporation of other organizations.

As stated in our findings, the Nantucket Network website can act as a testing ground for the metadata standards established in the previous step, and is a cost-efficient way to catch issues as they arise. We suggest that the organizations which become involved in the collaborative each first inventory their records, and write descriptive metadata for those records to place on the Nantucket Network website before any digitization is undertaken. This way, the collaborative can gauge the success of the metadata standards that they have established when they would be easiest to fix.

During this step, it is important that the contributing organizations all maintain open channels of communication, in order to best understand what information does or does not belong in the catalog, so that the catalog will be consistent across the different institutions. Once these guidelines have been decided upon, organizations will then be able to decide for themselves what their priorities are for record digitization.

5.1.5 Set up a database for the collaborative and acquire scanning hardware

The project coordinator should set up an independent server and a number of databases for the organizations that are included on the Nantucket Network website and enter the appropriate files that have already been digitized into these new databases.

The Nantucket Historical Association could potentially assist in this set-up, as they have multiple linked databases under the software inMagic which would provide suitable background knowledge for the collaborative. Shipping the information off-island with a contracted company would likely be the most cost-effective choice for comprehensive digitization of hardcopy documents. The new databases should be hosted online at an independent website for the Collaborative, and not simply as a link on a contributing organization's domain. The Northfield History Collaborative, as well as the Hudson River Valley Heritage, use a piece of software called CONTENTdm, which though on the steeper end financially, has proven efficient and satisfactory for the project. Whichever platform is

chosen should have the ability to support images and not just textual information; for example, an image of an original handwritten letter could be seen in addition to the transcribed text. Our suggestion is that the collaborative use CONTENTdm, as many similar collaboratives which we have looked at decided CONTENTdm would best fit their needs.

If the collaborative decides to do the scanning on-island rather than outsource the project, they will need to acquire scanning hardware, or use an organization's existing scanning hardware that will work with the agreed upon platform. This is a choice that has to be made by the collaborative, though the easiest option may be to outsource the digitization program to a company who specializes in such projects.

The field of digitization is constantly changing, so when the collaboration begins, the partnered organizations ought to reevaluate the recommendations made in this document to ensure that they are still relevant, and decide whether or not it is still an acceptable solution. It may be that in the future, scanning hardware and software becomes much more accessible, and it would make sense to do the scanning on-island, or it might make more sense to outsource the documents to a specialized company because of their experience in handling fragile items.

5.1.6 Continue folding in other organizations after the digitization strategy has been proven effective

Once the digitization approach has proven affective and the obstacles have been identified and dealt with, new organizations can begin to be incorporated. This should be done with only a few at a time so as not to overwhelm anyone and to ensure that the merging of each organization gets a sufficient amount of attention and focus.

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Appendix

Appendix A: Handling of Documents

In our background research, we came across a number of case studies, documenting proper digitization practices for a number of different types of materials. As part of our recommendation to those organizations on Nantucket which wish to digitize their materials, the case studies which we found have been summarized below. If an organization on Nantucket is partaking in any digitization initiative, we suggest that they match their document to a document type below, and follow these guidelines.

Text Heavy Documents: OCR

Documents which are heavily text based, especially those which are not hand written, are perfect subjects to be captured with Optical Character Recognition. The ASCII text that the OCR provides allows for full textual manipulation of a document, including search functions, copy and pasting, and more. Having an ASCII text version of a document is much more useful than having a simple image of the document, and if a document is eligible, it ought to be encoded with OCR (Fenton, n.d.).

Image Based Documents: Ruler and Standard Color Bars

Documents which have important detail held in images must be scanned such that the image can be accurately reproduced on a computer screen. To this end, one should include both a ruler and a standard color bar, which will allow someone to calibrate the image of the document to match the physical version, by adjusting the hue, contrast, levels, and saturation of the image. Included in Appendix B is an example of a standard color bar which could be used for digitization programs on Nantucket (Gertz. n.d.).

Maps and Oversized Documents

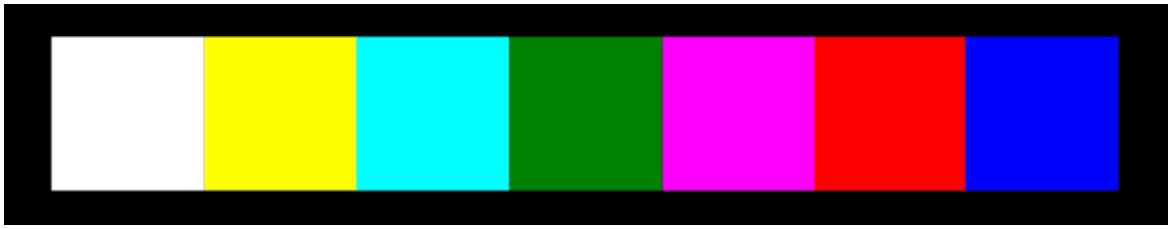
When scanning a map or an oversized document, many conventional scanners are unable to fit the document in it's entirety. To fit the document onto the scanning bed, the document can be captured on a 4x5 transparency, or on single-frame-microfiche. This will slightly degrade the quality of the

digitized document, as the captured version is no longer the original, but it will still produce legible results. (Gertz. n.d.).

When working with a film intermediary, make sure to include a ruler on the film, so that the original dimensions of the document can be maintained when the film is again scaled to full size. Additionally, it is important to scale the scanning resolution to the size of the film intermediary. As an example, suppose there is a map that is 36 inches wide, and you would like to scan it at 200 dpi. "For a map 36" wide, 200 dpi multiplies out to 7,200 dots across the surface of the map. If a film intermediary is used, then the effective resolution must be calculated as well. Effective resolution refers to resolution relative to the size of the original document. A transparency still requires 7,200 dots across the map to capture the same degree of detail. The map on the transparency is perhaps only 4" wide. It must be scanned at 1,800 dpi to get the same level of detail." (Gertz. n.d.).

Appendix B: Standard Color Bar

As discussed in Appendix A, a standard color bar allows a digitally captured image to have it's levels, hue, saturation, and contrast adjusted, in order to identically match the physical document. Included below is a standard color bar, created for use by the collaborative.



Appendix C: Dublin Core Metadata Standard

In our recommendations, we suggested that the collaborative make use of the Dublin Core metadata standard. This recommendation comes after reading case studies where the Dublin Core metadata standard was used to great success, and after reading the documentation on the standard itself, to gauge it's suitability for the proposed Nantucket collaborative. We found that the Dublin Core metadata standard was designed to be well suited for a digitization collaborative, and was meant to fulfill the following characteristics, above others:

> "• ***Simplicity of creation and maintenance*** The intention of the Dublin Core element set is to remain as simple and accessible as possible, in order to allow a nonspecialist to create descriptive records for online resources both easily and efficiently, while providing for optimum retrieval of those resources in an online environment.
>
> • ***Commonly understood terminology*** The Dublin Core was developed with the nonspecialist searcher in mind. By supporting a common set of elements, the semantics of which are universally understood and supported, resource discovery across different descriptive practices from one field of knowledge to another will increase. By using terminology that is generic yet applicable to a variety of disciplines, the visibility and accessibility of resources across these disciplines is enhanced.
>
> • ***International in scope*** The involvement of representatives from almost every continent in establishing Dublin Core specifications has ensured that the standard will address the multicultural and multilingual nature of digital resources.
>
> • ***Extensibility*** Although the Dublin Core element set was developed with simplicity in mind, the need for precise retrieval of resources has also been recognized. As the standard develops, the Dublin Core element set could serve as the core descriptive information that will be usable across the Internet, while also allowing other, additional elements to be added that make sense within a specific discipline. These additional element sets can be linked with the Dublin Core to meet the need for extensibility, to aid in additional resource discovery, and to accommodate the granularity (defined by Wikipedia as "the extent to which a system contains discrete components of ever-smaller size") needed for access" (CDP Working Group. 2006).

The Dublin Core metadata standard is comprised of fifteen standard metadata elements, but the research that we have made suggested three additional elements needed for digital resources. The suggestion of the three additional elements was made by the Colorado Digitization Program case study mentioned above, in section 2.5.1. The CDP Working Group divided those eighteen elements into ten

mandatory elements, specifically chosen to ensure success in a collaborative venture, and eight optional, but suggested, elements. We suggest that the Nantucket collaborative make use of all eighteen of the following elements in cataloging the metadata for their holdings.

The following are the mandatory elements of the Dublin Core metadata standard, as found by the CDP Working Group:

- **Title:** The title of the resource.
- **Creator (if available):** The original creator of the resource.
- **Subject:** Keywords describing the topic of the resource.
- **Description:** A brief description of the resource.
- **Date Digital* :** The date that the resource was digitized.
- **Date Original (if applicable):** The date of the physical resource's creation.
- **Format:** The format the digitized file is in, as well as the physical medium and dimensions of the object, if applicable.
- **Digitization Specifications*:** Information pertaining to the creation of the digital resource, such as dimensions, resolution, color management/correction done, and image manipulation performed on the resource (CDP Working Group. 2006).
- **Resource Identifier:** A string of text, unique to the resource, which can be used to identify it.
- **Rights Management:** Information pertaining to the rights associated with a resource, such as who owns the resource, who has reproduction rights for the resource, et cetera.

*Denotes an item suggested by the CDP Working Group. These items are not part of the Dublin Core metadata standard.

The following are the optional, but suggested, metadata elements of the Dublin Core metadata standard, as found by the CDP Working Group:

- **Publisher:** The publisher of a resource
- **Type:** The genre of the resource.

- **Source:** An original document from which the resource was derived.
- **Language:** The language a resource is written in.
- **Relation:** Any related resources.
- **Coverage:** The topic of a resource, both in geographic location and/or the time period that it is relevant to, as applicable.
- **Contributing Institution*:** Information about the organization or organizations from which the resource was received. Highly suggested for collaborative projects specifically, as it allows the collaborative to keep track of which organization has ownership over which files. (CDP Working Group. 2006).

*Denotes an item suggested by the CDP Working Group. These items are not part of the Dublin Core metadata standard.

Additional Resources:

The latest information regarding the Dublin Core metadata standards can be found at: http://dublincore.org/documents/dces/

The CDP Working Group's recommendations regarding the Dublin Core metadata standards can be found at: http://www.mndigital.org/digitizing/standards/metadata.pdf

Appendix D: Glossary of Terms

Accessibility - Availability to the public.

ASCII Text – Full text which can be searched, selected, and manipulated as a normal text file, as opposed to an image of text.

Collaborative Web Portal - A web portal which spans the organizations across Nantucket, in order to provide access to all of the documents held across the island, in one convenient location.

Digitization - To make a digital copy of a document, for archival or preservation reasons. Digitization does not necessarily mean that an item is available online.

Hard Copy – A physical version of the document.

Metadata - The information about the items being digitized, giving context to that item.

Microfiche - An archived version of a document produced on microfilm, which can preserve many pages in a much smaller form.

Nantucket Network – The prototype website developed by the project team, which acts as a searchable index into many of the records held on Nantucket.

Online Documents – Documents which have been hosted online, and are able to be accessed through a web interface.

Optical Character Recognition/OCR – A process by which an image of text can be converted to a full ASCII text version of a document.

Public Records - For the purposes of this project, the term Public Records refers to any nonconfidential document which is available to the public, held by a historical organization or public office.

Vital Records – Birth Certificates, Death Certificates, Marriage Licenses

Web Portal - A web site which offers access to a variety of sources in one complete interface.

Appendix E: Thoughts for the Future

There are a number of points which our group has identified, which should be addressed in the future. These ideas have been partially reflected in our final recommendations, but we identified a number of points which are simple suggestions, which did not belong as part of a formal recommendation.

The Nantucket Network Website:

Once the webmaster position has been established, the Nantucket Network website could be greatly expanded upon, to better fulfill the needs of the organizations involved with the site, and to better serve the public using the site. We have outlined a number of suggestions to improve the Nantucket Network website below:

- **Webmaster's Experience:** We suggest that whoever is chosen to act as webmaster for the Nantucket Network website be well acquainted with Javascript, in order to be able to make modifications to the search engine, such as the advanced search function suggested below. Additionally, we suggest that the webmaster have significant experience designing websites, including knowledge of HTML and CSS, so that he or she will be able to update the Nantucket Network's website to be much more visually appealing.
- **Calendar of Events:** To help increase the usefulness of the Nantucket Network website, we suggest that the contributing organizations each supply a calendar of events to the webmaster, who could then place this calendar online, when the website becomes ready for public use. Google provides a free Google Calendar tool, which could be embedded into the final website. The calendar could be shared with the heads of the various organizations in the collaborative, so that they would be able to add events and have those events automatically reflected on the website.
- **Directory of Organizations:** We suggest that the webmaster of the Nantucket Network website create a page to act as a directory of organizations, which would list each contributing organization, and the relevant contact information, in one location.

- **Daily/Weekly History Blog:** As part of an effort to drive the public to the Nantucket Network, and ensure that the public continues to return to the website, a daily or weekly history blog could be placed online. This blog would have short posts, informing the reader about interesting historical facts or events.
- **Advanced Search:** The search function of the website was designed with modification in mind, and as such the code is well documented. If the webmaster is at all familiar with Javascript, he or she could make a few modifications to the search function, and add an Advanced Search option.
- **Cross-Organizational Digital Exhibit:** In our research, we discovered that there are many records held by one organization, which relate closely to the records held by another which we spoke to. These records could be placed online together, as a digital exhibit, to give the user a full understanding of the history contained within.
- **Migrating the Nantucket Network Website to it's own domain:** Currently, we plan to hand the Nantucket Network files over to the Atheneum, which can then host it on their own web space. We suggest that, once funding is acquired, the Nantucket Network is given it's own web space, so that it can be seen as separate from any one organization.

Town Archivist Position:

While our recommendation for the collaborative did not include a dedicated town archivist position, we do think that Nantucket's public offices would benefit from a town archivist such as Burlington, MA has. The Burlington archivist stressed that he made the town's record keeping system more efficient, by taking over the record keeping duties that many offices held as a second priority, and making those his first priority. As Nantucket's public organizations each had their own approaches to digitization, we feel that the town of Nantucket would benefit from a single archivist, who could manage each system and ensure that they are run in a consistent manner, which would help when the collaborative folds in those organizations. This town archivist position would not be directly involved in the collaborative, but rather help the public offices on Nantucket manage their digitization projects outside of the collaborative, so that when those offices do become involved, the transition would be

much more smooth.

Listen to Public Demand:

The recommendations that we have given are recommendations which best fit the needs of the organizations who would become involved in the Nantucket collaborative, but we did not survey the public on their needs, due to lack of time. We suggest that once the webmaster position has become established, the Atheneum begins putting out information on the Nantucket Network website, and soliciting user feedback on it. This feedback should both shape the Nantucket Network, but also guide the collaborative when it becomes established, so that it can best serve the public's needs.

Appendix F: Choice of Software

As part of our recommendation, we suggested that CONTENTdm be used to manage the database of files which the collaborative would accrue. This suggestion comes mostly through a review of the literature that we have found; nearly every collaborative digitization initiative has used CONTENTdm because it so nicely provides solutions for the problems which arise in such a venture.

Despite our recommendation of CONTENTdm, there are many other software solutions available to be used as the framework of the collaborative, and we would like to provide a quick summery of a few of those solutions, as well as a list of resources where more information can be found about content management software.

CONTENTdm:

- Sold by the Online Computer Library Center (OCLC).
- Allows for up to 50 unique locations to catalog metadata and records into the main database.
- Collections can be shared through a global database, OCLC's WorldCat system.
- Supports text documents, images, and multimedia documents such as video and audio files.
- Supports automatic watermarking of images
- Integrated Optical Character Recognition technology to provide full text searches.
- Support for a set of controlled vocabulary to describe items.
- Allows for items to be cataloged without files yet associated with them.
- Allows for links to online document URLs.
- Allows for a web page to be created out of the database.
- More information can be found at http://www.oclc.org/contentdm/about/default.htm

Laserfiche:

- Integrated Optical Character Recognition technology to provide full text searches
- Supports searches by metadata or tags.
- Allows for a web page to be created out of the database.

- Supports automatic watermarking of images.
- Supports scanning and capture of image data
- More information can be found at http://www.laserfiche.com/en-us/Products/FeatureMatrix#Document_Imaging_Features

In addition to the above information on these two pieces of software, we found a few resources listing the features of many other pieces of database management software. Those links can be found below:

- **Archival Software Wiki:** A page of software comparisons, started from a report in 2009 by Lisa Spiro on Archival Management tools. http://archivalsoftware.pbworks.com/w/page/13600254/FrontPage
- **Archival Management Software:** The report on which the above wiki page was based, written by Lisa Spiro, comparing pieces of software, and meant as a guide to selecting archival management software. http://www.clir.org/pubs/reports/spiro/spiro_Jan13.pdf

Appendix G: Summary of Interviews

Organization	Contribution to the Collaborative	Most Common Clientele	Database System (if applicable)	Access (fees and restrictions)	Ideas about the collaborative
NHA	The NHA is willing to contribute anything in their online databases	The NHA's most common clientele are locals looking for geneological info, as well as those looking for house histories, academics, and intern.ational publishers	inMagic	Online records are free to the public, $5 fee, or a membership, required for use of the reading room.	
Atheneum	The Atheneum is willing to contribute anything they are able to digitize.	Researchers on the island.	Olive (An independent company) manages their newspaper database.	No fees.	The Atheneum used a CPC grant to fund their digitization program

Organization	Contribution to the Collaborative	Most Common Clientele	Database System (if applicable)	Access (fees and restrictions)	Ideas about the collaborative
Town Clerk's Office	All holdings that can legally be made accessible to the public	Attorneys, town departments	Laserfiche – Documents are captured with OCR, with no preservation of images.	N/A	They think it might be good to have a membership fee associated with website ($10 a month?), which allows for increased access to the organizations with fees. They also think you could have a screening process for some of the information, so that you'd have to be cleared for access. They would like to see a dedicated "archivist" position to manage the collaborative
Probate Court	They would need permission from administrative office to do anything. The probate court reports to the state not the town.	Title searchers	MassCourts	N/A	N/A
Building Department	N/A	General homeowners, builders, lawyers, and architects.	N/A	Standard fees for copying: $0.25 a page. Everything is accessible, except for files under active investigation for code violation	N/A

Organization	Contribution to the Collaborative	Most Common Clientele	Database System (if applicable)	Access (fees and restrictions)	Ideas about the collaborative
Conservation Commission		Industry professionals. Surveyers, engineers, attourneys. Not a lot of general public that come in	N/A		They would like to see some sort of record viewing software that would make it consistent and easy across the entire town.
Fire Department	No items to contribute.	No inquiries for the historic part of the fire department. Home-buyers request records on the tanks in their property.	N/A	N/A	
HDC	The HDC would be willing to contribute all of their holdings	Design professionals, realtors, and architects.	N/A	N/A	N/A
Egan Maritime Institute at Coffin School	The Egan Institute would be willing to provide a catalog of their holdings.	Museum members, or the public who pay the fee.	N/A	$5 day fee, unless they're a member.	N/A
MMA	The MMA would be willing to contribute finding aids/a catalog of their holdings.	Open to the public by appointment.	N/A	$5 fee per day for a museum staff member to sit with a researcher.	It's important that organizations can maintain control of their records and documents: The MMA can only continue operation because of the fees associated with the use and access of its materials.

Organization	Contribution to the Collaborative	Most Common Clientele	Database System (if applicable)	Access (fees and restrictions)	Ideas about the collaborative
Cemetery Commission	The Cemetery Commisson could contribute their meeting minutes, meeting agendas, and annual reports.	The residents of Nantucket	N/A	Their records are on the town website, free to access.	
Conservation Foundation	Everything relating to a land transaction is already online via the registry of deeds. The most interesting information that they could offer still needs to be compiled, and answers such questions as what percentage of the property is upland versus wetland, and what sort of habitats exist on the property.	Anyone who wants to support land protection.	N/A	No access fees.	They would like to have a page on the website that identifies land conservation activities on Nantucket.

Organization	Contribution to the Collaborative	Most Common Clientele	Database System (if applicable)	Access (fees and restrictions)	Ideas about the collaborative
Land Bank Commission	Their meeting agendas are online. The land bank act, land bank rules and regulations, and land bank public forms are online as well. The property folders for all of their acquisitions are held by the Land Bank Commission physically.	They do not receive a lot of requests.	N/A	No access fees.	They have their own website, but think that it would be useful to have all of the town documents on one central website would be nice.

Appendix H: Document Summaries

Below is a comprehensive summary of the information that we have gained from the interviews that we undertook as part of our project, given in raw form. There was some information that would not fit into our findings tables, as well as a number of definitions of records held by various organizations, that we thought would be relevant and useful for anyone following up on our research.

The Egan Maritime Institute at the Coffin School

All paintings and artifacts at either the Coffin School, the Shipwreck Museum or in their storage facility are in a PastPerfect database. Most have photos to accompany descriptions. All the books at the Coffin School have been categorized, but are not in our data base. However, the books at the museum have been put into the database with various information to accompany the titles, such as authors, publishing house, and date of publication, but only the cover of each has been scanned.

Records pertaining to the Coffin School

Books published by Mill Hill Press

Maritime books - Titles and covers scanned into database

Maria Mitchell Science Library

Records pertaining to science, natural history, astronomy

Personal papers of Maria Mitchell and Mitchell family

Mitchell family genealogy

Nantucket Atheneum

Cemetery records - names and location from ledgers; microfilm

Census records – records until 1910; microfilm of records census taker had

Genealogies - Nantucket families; books that have been written, some hand written; vital records to

1850; 99% of book copies of vital records of towns in ma

Nantucket reports and directories – directory: street list and phone directories 1929 forward; reports: anything reported to the town (school, shellfish commission, annual reports…)

Historic Newspapers - Inquirer & Mirror and some smaller historical newspapers; everything paper, everything microfilmed; selection mostly 19th century digitized and available online most 20th not digitized; Copyright began in 1923; microfilm everything to 2011; continue to collect hardcopy; 3yr delay to digitize; Inquirer & Mirror digitized and online through 2008

Special collections - books, manuscripts, whaling log, letters, diaries; hardcopy and older microfilm; microfilm not searchable - no indexing or notes or translation; might digitize next

Town histories - some early histories of MA towns; fragmented records; books on 1700's towns; hardcopy

Vital records - see genealogies

People File - clippings from newspaper obituaries 90%; 10% famous Nantucketers (Maria Mitchell, Nobel Prize winners, other biographical information) hardcopy

Nantucket Conservation Foundation

Details about property being wetland versus upland. This research is not complete yet, but is starting to appear on their website.

Nantucket Historical Association (NHA)

They scan things, between 3000-5000 DPI on one side, try not to go lower than 600 DPI. Save it twice, once as a tiff or a png, and once as a jpeg which is stored on the server. Later they write the hi-res version one to two DVDs, and store them off site, and here on site. ------ no fee for use of database, but for photos --- publishers who would make money off it -- go through here to use the website (watermark? and if use then go to place) -- no use of password

Ships logs will be summarized, if there's anything cool in it, and be scanned and put into the image database, whenever they come in. After that, they are not scanned again, generally.

Architectural reports - Hardcopy - The historic American building surveys is available online;

Bibles - Hardcopy - Transferred out of the building, but they cut out/scanned the genealogical info that

was in the bibles

Census records – Hardcopy

Church records & cemeteries – Church records are hardcopy. They are a comprehensive set of records of the old unitarian church, and a motley collection of sermon minutes; cemetery records are virtual, but the index file is hardcopy, Lewis Funeral documents are comprehensively scanned and indexed to 1965

City directories – Hardcopy

Fire insurance maps - Comprehensive collection in pdf format in black and white - no actual maps

Genealogies – There are copies with state. The Atheneum has copies on microfische, there is also a personal genealogy notebook that was put into a database (barney) and photos were added to it.

Manuscript collections - Personal papers, church records, holdings in the vault – Hardcopy

Maps – Hardcopy

Maritime documents - Ships papers and ships logs – Hardcopy

Marriage Certificates – Part of a manuscript collection – Hardcopy

Military and Marine Records – Part of a manuscript collection: Certificates and other records that were saved – Hardcopy

Historic Newspapers – Historic copies of the Nantucket Inquirer and Mirror, as well as a few other, smaller, newspapers. Digitized and online.

Oral Histories / home movies – There are both audio and video holdings. Much of the video is being digitized now, going back to as early as the 1930s.

Photographs - Some hardcopy, some digitized, some online

School Records – Hardcopy

Scrapbooks – Hardcopy

Telephone directories – Hardcopy

Town & County records – Hardcopy, copies are with Catherine.

Vital records – Birth/death records, marriage certificates - Microfiche

Nantucket Life-Saving Museum

Maritime books – Hardcopy

Coast Guard Reports – Hardcopy

Maritime Maps and Charts – Hardcopy

Logs from Nantucket life saving stations - Hardcopy; Kept at New England branch of the National Archives at Waltham

Life-saving service reports – Hardcopy

Annual reports for US LSS – Hardcopy

History of the Mass Humane Society – Hardcopy

Manuscript materials – Hardcopy

Photographs - Hardcopy

Building Department

All records are public and are viewable now, the long term goal is to have all records available for online viewing. A staff person retrieves the file from the rack and monitors the public just to try to make sure file order is kept. The only exception are files under active investigation for a code violation. Because violations can lead to criminal penalties we have the same public record access protection as the police.

Building plans - Actual drawings of the buildings (architectural plans)

Historic District Commission actions - Certificate of Appropriateness or approval document

Plumbing & Gas permits – hardcopy; E-permitting system starting in April

Electrical Permits - hardcopy; E-permitting system starting in April

Zoning Documentation - hardcopy; E-permitting system starting in April

Cemetery Commission

Meeting Minutes - Digitized and available online at http://www.nantucket-ma.gov/Pages/NantucketMA_CemeteryMin/

Conservation Commission

Notice of Intent application

Commission's response to aforementioned applications

Fire Department

Scrapbooks- held by Town Clerk

Historic District Commission

Proposed construction or demolition records – Hard Copy.

NACAR Records – Nantucket Cultural and Archival Research surveys. Sporadically digitized.

Land Bank Commission

Land Bank Acts - The set of acts which set up the Land Bank Commission. These are their most frequently requested records; Digitized and online at http://www.nantucketlandbank.org/Documents/LANDBANKACT2010_003.pdf

Meeting Minutes - The minutes from the meetings of the Land Bank Commission, these are also most frequently requested; Not online. Filed with the town and county clerk's office, but the Land Bank Commission is not sure what they do with them.

Land Bank Maps - Paper maps that they give out, with points of interest labeled; Land Bank maps are available at the Land Bank offices at 22 Broad Street, or you can call us at (508) 228-7240 or email us to have a copy mailed to you.

Meeting Agendas - Digitized and online at http://www.nantucketlandbank.org/AboutAgenda.php

Property Transfer Filing Forms (Form 1) - Every deed that goes through for property transfers, whether from a trust or selling a property, at least a form 1 has to go with it, in some cases other forms have to go with it. They need to authorize the transfers, and these are the forms that need to be filed for the transfer to be authorized; Digitized and online at http://www.nantucketlandbank.org/Filing.php

Land Bank Rules and Regulations - The rules and regulations applying to the Land Bank Commission; Digitized and online at http://www.nantucketlandbank.org/Documents/2012REGULATIONS.pdf

Land Bank Public Forms/transfer forms (Form 1s) - The actual forms which have been filed with the Land Bank Commission, for property transfers; Held in person at the Land Bank Commission. Hard Copy.

Probate Court

All old files are paper, but since 2000 any case that has come into the office also has been scanned.

Wills

Bonds

Inventories

Certificates

Petitions

Divorce records

Docket books

Town Clerk's Office

Birth Records – Hardcopy

Marriage Records – Hardcopy

Death Records – Hardcopy

Affidavits of correction – Hardcopy; A notice of correction to be made for a birth certificate.

Town election minutes – Hardcopy

Town meeting records – Hardcopy; Records pertaining to town meetings, not as comprehensive as meeting minutes.

Town reports – Hardcopy; Yearly reports of all of the different town departments and committees on the island.

Selectmen's journals – Hardcopy

Early records – Hardcopy; County commission records

List of voters – Hardcopy

Poll tax books – Hardcopy; It used to be that you had to pay a poll tax, these are just a list of people who paid the tax.

Register of voters – A list of all of the registered voters, eligable to vote in elections. Hardcopy

Plans and maps – Hardcopy; Plans and maps of submitted roads to be constructed.

Censuses – Hardcopy; Census reports from 1850 to 1995.

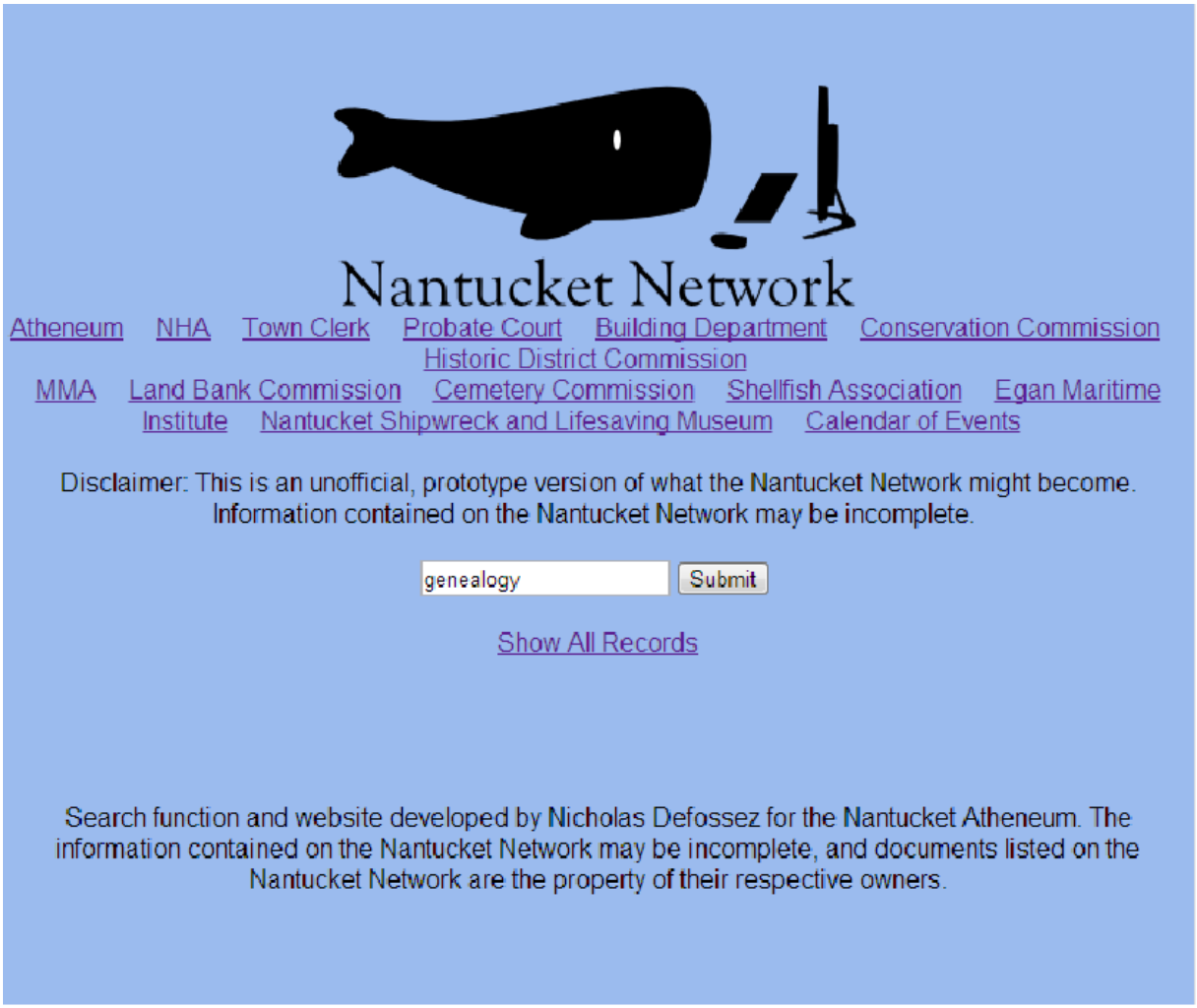
Street lists – Hardcopy

Financial documents – Hardcopy; For an example, the ledger books of the alms house/poor house/public asylum. Ledger books of town institutions

Appendix I: Nantucket Network Website

As discussed above, as part of our project we designed a prototype web interface, in order to demonstrate what the functionality of the final collaborative website could be similar to for advertising purposes, as well as to provide the collaborative with a location to test their metadata standards and cataloging strategy with, before moving to the expensive process of digitization. Briefly described below are the functions of that website.

Searchable interface:



The Nantucket Network website is searchable by keyword. Items on the website are tagged by various key words, and a user is able to find which organizations hold records relating to any terms that they searched, as well as what those records might be.

Nantucket Network

Atheneum NHA Town Clerk Probate Court Building Department Conservation Commission Historic District Commission
MMA Land Bank Commission Cemetery Commission Shellfish Association Egan Maritime Institute
Nantucket Shipwreck and Lifesaving Museum Calendar of Events

Disclaimer: This is an unofficial, prototype version of what the Nantucket Network might become. Information contained on the Nantucket Network may be incomplete.

Make a search! Submit

Show All Records

Town Clerk's Office

Contact Info
The Town and County Clerk's office on Nantucket
16 Broad St.
(508) 228-7216

Birth Certificates

Vital Record, showing when and where a person was born, and to whom.

Death Certificates

16 Broad St.
(508) 228-7216

Birth Certificates

Vital Record, showing when and where a person was born, and to whom.

Death Certificates

Vital Record, showing when and where a person died.

Atheneum

Contact Info
The Nantucket Atheneum
1 India St.
(508) 228-1110

Genealogical Records

Genealogical records of Nantucket families, such as the Coffins or Gardners, as well as book copies of vital records of MA towns through 1850. Held in hardcopy.

NHA

Contact Info
The Nantucket Historical Association
15 Broad St.
508-228-1894

Genealogogies

Personal genealogy of Barney family notebook with photos added. Held on Microfiche.

Vital Records

A collection of birth, death and marriage certificates of the state. Held on Microfiche.

Birth Certificates

A certificate stating that two persons were married, and when. Held in physical

Filterable:

In addition to being searchable, the Nantucket Network website is filterable. You are able to select an organization through clicking one of the top links, and you will be given a catalog of the records which that organization holds, as well as the contact information for the organization.

Links to online records:

Finally, many records which are already available online in a digital format can be found through the Nantucket Network website. Any item which is already available online is listed as a link, which will bring you to that document.