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FLORIDA MEMORY PROJECT LONG-RANGE PLAN: FINAL REPORT

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For

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Introduction

In December 2009, the School of Library & Information Studies (SLIS) and the Information Use Management & Policy Institute (Information Institute) of Florida State University began work on the *Florida Memory Project Long-Range Plan,* to be completed on or before June 15, 2010. The purpose of the project is to produce a written report describing a long-range plan for the Florida Memory Project and detailing the necessary steps and potential strategies for its continued growth and success over the next three years.

Project Description

The Florida Memory Project[1] provides online access to historical resources housed in the State Library and Archives of Florida. At the present time, more than 550,000 digitized records in the form of audio files, video clips, textual material, and photographs are available to website visitors. Looking toward the future, the project faces a number of issues that will make it increasingly difficult to continue to provide high quality service at the level necessary to fulfill its mandate. Collections are housed in a variety of different databases with software configurations that are dated, pose security issues, and have significant search limitations. In addition, there is a need to develop a more robust plan for the long-term storage of digitized master files. This three-year plan will recommend solutions that will allow the Florida Memory Project to continue to grow and operate successfully, including recommendations for improving the project's information architecture, interface design, and technology infrastructure.

The goal of the project (as detailed in the Statement of Work) was to produce a written report describing the necessary steps and potential solutions for the continued growth and success of the Florida Memory Project over the next three years. This report would address all the needs of the program as identified in the Request for Quote, including system growth and data migration plans, recommended software for current and planned system features, and recommended technology solutions for the long-term storage and hosting of project data and systems.

The project team conducted a series of evaluations and assessments to determine the products, technologies, standards, and services that will best meet the needs of the State Library and Archives of Florida as they work to develop the Florida Memory Project over the next three years. These activities comprised four specific tasks: needs assessment, systems analysis, comparative evaluations, and solutions identification. Drawing upon the outcomes of each of these activities, the project team has prepared this final report providing recommendations for strategic issues including growth, storage, software selection, hosting, and data migration.

Project Methodology

The project team's assignment was to determine the products, technologies, standards, and services that will best meet the needs of the State Library and Archives of Florida as it works to

[1] http://www.floridamemory.com/

develop the Florida Memory Project over the next three years. The solutions presented in this document were identified through a series of evaluations and assessments including:

1. *Needs Assessment*. The project team conducted a needs assessment to determine the technology (hardware and software), information (including current and planned data storage, organization, and access needs), and personnel needs for the successful growth of the Florida Memory Project over the next three years. Conducted in consultation with State Library and Archives personnel through interviews, focus groups, and onsite visits, the goal of this assessment was to document the current situation and describe specific needs for future growth and long-range planning.

2. *Systems Analysis*. The project team performed an analysis of the systems and technologies currently in place at the Florida Memory Project, and documented the State Library and Archives' current plans and expectations for the future growth, expansion, and use of these systems, including relevant hardware, software, and data records. This assessment included evaluation of the Florida Memory Project website and onsite visits to assess hardware and storage issues behind the scenes. The project team documented the current volume of data stored in these systems and the expected growth of these data over the next three years, as well as current levels of data use and expected usage changes during this time period.

3. *Comparative Evaluation*s. The project team performed a comparative evaluation of several different projects—similar in scope, content, and technology to the Florida Memory Project—that may be able to serve as exemplars for the current project. The goal was to evaluate similar systems with comparable hardware and software needs that might offer valuable examples of relevant models and practices in other organizations in order to provide guidance for the future development of the Florida Memory Project.

4. *Solutions Identification*. The project team identified, reviewed, and evaluated the products, technologies, standards, and services necessary to support the projected growth and increased demand on the Florida Memory Project over the next three years including such services as data storage and preservation, networking and infrastructure requirements, and online hosting capabilities. The long-term durability, sustainability, and usability of these services and their capability to maintain and support the expected growth of the Florida Memory Project over the next three years was emphasized in this work.

An interim report[2] was delivered on March 8, 2010. The report provided a preliminary needs assessment and set of recommendations for the project's information architecture, interface design, and technical infrastructure. It included an overview of four database solution options that ranged from designing in house to purchasing an off-the-shelf solution; discussed the tradeoffs in flexibility, time, and cost related to each option; suggested issues to be addressed in the planning for data migration to a new database; and detailed the advantages and disadvantages related to interface design for the four database solutions. Finally, the report recommended that an improved, and extremely stable, underlying technical infrastructure was necessary for the

[2] http://ii.fsu.edu/Research/Projects/All/Projects-from-2009-to-1999/2009-Project-Details

development of a new information architecture and interface design. A list of decision areas (such as the number of new records that will be digitized over the next three years) was provided, and it discussed the ways in which these decision areas affect the production, storage, and migration of data.

All activities have now been completed with the delivery of this final report.

The Florida Memory Project: Opportunities and Challenges

The Florida Memory Project offers a broad range of exceptional resources for residents in the State of Florida and beyond. The State Library and Archives have assembled and prepared an outstanding collection of data documenting the history of Florida and providing valuable services for the citizens of the state. The project's value can be seen in its usage—for fiscal year (FY) 2009-2010 to date, the site has had over 63.4 million visits[3].

Over recent years the project has experienced tremendous growth; almost 50,000 items have been added to the site over the last three years (Table 1), the number of visits grew almost 400% from Fiscal Year 2007-2008 to Fiscal Year 2008-2009 (Table 2).

	Number of Items
Total	47,000
Photographs	40,000
Textual Documents	5,000
Sound Recordings	2,000
Full-length Films	60

Table 1. Number of Items Added in the Last Three Years

	FY 2007-2008	FY 2008-2009	Increase 08-09 vs. 07-08
Visits	18,268,447	86,169,546	378%

Table 2. Fiscal Year Site Visit Growth

Our expectation is that this growth will only increase, and that the project will continue to be a valuable resource for the State of Florida. The Florida Memory Project is an important investment for the State, serving as a principal venue for the people's access to the people's records.

This expected and desired growth exacerbates problems with the underlying data structure and technologies currently in place. Because of the tools available to the staff, systems were developed over the years in a piecemeal fashion. The result is that it is becoming more difficult

[3] A new web statistics software package was implemented in January 2010; comparisons with periods prior to FY 2009-2010 will be not be possible due to differences in the software packages' visit-counting methodologies.

for users to find what they want and for the State Library and Archives staff to meet user needs as the Florida Memory Project grows larger.

Project staff members face a number of challenges, many of which have prompted them to implement workarounds while developing the resource:

- Limited flexibility in working with the databases, such as
    - The ability to make changes to the database and create links;
    - The ability to repurpose material; or
    - The ability to build collections and exhibits on the fly;
- Inability to FTP files;
- Configuration files must be updated by an administrator and might conflict with other programs;
- Staff members must request administrators to create new databases;
- No search flexibility (e.g., view all results on one page, sort by terms, etc.);
- No single metadata standard, making it impossible to search across multiple collections;
- In the audio records, there wasn't a field available to create MP3 file links so they had to be added to the ID field (users can't search for files that have MP3s);
- Printable versions of items from a number of collections can't be created;
- Americans with Disabilities Act (ADA) accessibility is limited;
- The Flickr Commons photostream is not providing useful information because it can't be linked back to the database; and
- There are collection-specific problems that currently cannot be addressed, such as:
    - Spanish Land Grants
        - No thumbnails
    - Confederate Pensions
        - Usability issues
    - Photographic Collection
        - Was the first collection and it was built for the needs of the Library not for those of the Florida Memory project;
        - Less flexibility in making changes;
        - Can't bookmark or link search results; and
        - Video is buried in the collection.

A good example of challenges facing the staff is the problem of not having an available field in the Florida Folklife database to add MP3 links. The staff must be able to utilize new resources as they become available without enlisting IT specialists to rework the basic information architecture. In the current situation, the only way to add this new resource was to create a

workaround, but unfortunately, the only possible workaround was to add HTML links to an existing field (in this case, the Item ID Number field, see Figure 1). Because the MP3 files are only HTML links rather than separate items in a dedicated database field, it is impossible for users to search for records that contain MP3 files.

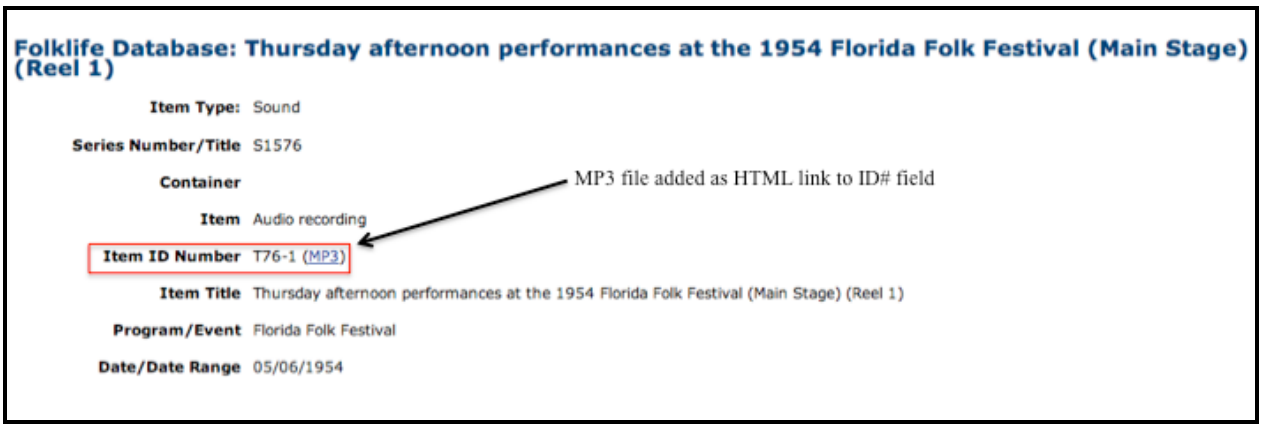

Figure 1. Florida Folklife database record containing an HTML link to an MP3 file

Overall staffing issues at the State Library and Archives magnify the technology challenges. The IT staff will not be able to aid the Florida Memory Project staff in the move to a new platform (e.g., implementing a new information architecture, developing the new database structure, and migrating files to the new platform).

As these challenges illustrate, the success of the project has led to a situation in which continued growth will be very difficult with the current system. This is especially the case in a context in which the State Library and Archives of Florida is not likely to be able to hire new permanent staff for the project, is not likely to get additional resources, and will be working within a new IT management environment that is more centralized.

Moving Forward: Supporting Future Development and Resource Expansion

To address these challenges, the underlying structure of the systems must be completely retooled to ensure increased user support and to enable continued growth. In order to achieve this vision, data must be migrated to a new standardized, structured environment that:

- Integrates the various collections using a common metadata structure;
- Has one search engine that works across collections;
- Allows the staff to develop and deploy collections and exhibits more quickly and efficiently;
- Is easily understood by users such that material can be easily found and accessed;
- Ensures file storage and preservation; and
- Minimizes operating and maintenance costs.

The ideal environment would optimize the user experience, unleash the staff's creativity, and upgrade data storage and asset preservation.

- The ideal website environment would:
    - Offer the staff increased flexibility when developing collections and exhibits;
    - Present users with a common set of tools across collections, while allowing for an individual "look and feel" for each collection;
    - Allow users to search across all collections with similar search techniques;
    - Allow for all formats and media types to be integrated into the collections; and
    - Create a framework in which future growth can be integrated into the current environment.
- The ideal data storage environment would:
    - Establish a redundant storage system that ensures long-term preservation of, and access to, both born digital and scanned analog resources;
    - Be dynamically scalable;
    - Utilize internal and external resources;
    - Minimize costs now and in the future; and
    - Adhere to emerging digital preservation standards (e.g., Conway, 2010 and Conway, 2000).[4]

Development of these ideal environments would bring a number of advantages for both the staff and users:

- Making it easier to keep current with changing technologies, features, and formats in the future;
- More effectively meeting the needs of users and other stakeholders (such as Florida residents, researchers, government officials, and the media);
- Optimizing staff expertise;
- Ensuring the preservation of materials;
- Creating economies of scale and reducing costs;
- Allowing the staff to harness volunteer experts in creating content and context for the collections;
- Optimizing use of State Library and Archives resources for education; and
- Enabling increased public outreach.

[4] Conway, P. (2010). Preservation in the age of Google: Digitization, digital preservation, and dilemmas. *Library Quarterly, 80*(1), 61-79. Conway, P. (2000). Overview: Rationale for digitization and preservation. In Sitts, M. (Ed.), *Handbook for digital projects: A management tool for preservation and access* (n.p.). http://www.nedcc.org/resources/digitalhandbook/ii.htm

The development of a platform that hews closely to the ideals described above would position the Library and Archives staff to solve the current challenges and create a new version of the Florida Memory Project that meets the vision for its future. The best approach for this project is to explore open source software solutions for the website frontend and backend and for storage and preservation. The open source philosophy calls for the software's source code to be open and public—the code can be copied, modified and redistributed and there are no royalties involved in this process. This allows open source code to evolve through the cooperation of communities of programmers, using the power of large-scale division of labor and peer review to create robust software platforms that are widely available.

Solutions: Open Source Website and Data Storage Platforms

Potential solutions were identified based on their ability to:

- Address the growth issues detailed above;
- Be based on a complete ground-up rebuild;
- Improve user access to Florida Memory resources;
- Allow the project staff access to the software and the ability to develop and design on their own; and
- Place a minimum demand on the Northwood Shared Resource Center (NSRC).

The major focus of these recommendations is on creating the highest possible amount of flexibility and self-reliance for the staff of the State Library and Archives.

Website Solutions

The available open source solutions for the website present a tradeoff between the highest level of flexibility/ease of use and scalability for large collection sizes. These were chosen with an eye toward usability, ease of use, costs, and maintenance issues.

- Omeka[5]

  Omeka is a web-based publishing platform for scholars, librarians, archivists, museum professionals, educators, and cultural enthusiasts developed by the Center for History & New Media at George Mason University.

  - Advantages
    - Designed for Non-IT specialists—simple setup;
    - Step-by-step tutorials;
    - Modifiable pre-packaged design themes--custom themes can be built using an Omeka API;
    - Built-in unqualified Dublin Core[6] metadata--element sets for institution-specific metadata may be added;

[5] http://omeka.org/

        - Content can be browsed by items, collections, tag clouds, Google maps, and exhibits;
        - Enter or import item metadata once, and use items and metadata in multiple instances across website--items may appear in multiple exhibits;
        - Items added individually or batch added using data migration tools;
        - Section 508 compliant for ADA;
        - Multiple plugins available, including geolocation and contribution/comment for user involvement;
        - Plugin API for development of plugins; and
        - Strong community (with user forums, developer discussion lists, and conferences) and full support documentation available.
    - Disadvantages
        - Possible scalability problems—tested to handle only 800,000 records; and
        - The native search user interface (UI) may be cumbersome for large collections.

    The main advantage to Omeka is that it would provide the staff with as close to a turnkey solution as possible while allowing them the highest level of autonomy in creating, revising, and updating collections and exhibits. The potential scalability and the search UI issues could be stumbling blocks, although Tom Scheinfeldt, Managing Director of the Center for History and New Media, reports that Omeka is working both of these issues:

    In terms of scalability, Scheinfeldt notes that Omeka has been tested "into the high six figures (700,000 or 800,000 items) without any noticeable slow down or performance drop." He "doesn't expect three times as many items would produce any different results. Though ten times that number could be another story."

    In terms of the search interface, Scheinfeldt reports that "folks at Berkeley's ischool and [the University of Virginia's] Scholar's Lab are both working on plugins that will swap out Omeka's native search and replace it with a more powerful search and faceted browsing interface using Solr[7]. . . If the State Library and Archives are just getting started, those search projects should be ready in plenty of time for them to use."[8]

- Fedora (Flexible Extensible Digital Object Repository Architecture) Commons[9]

    Fedora Commons is the community working with the Fedora Repository Project. The Fedora Repository is an integrated repository system that enables storage, access, and management for digital content. It was originally designed at Cornell University and was established as an open source project by Cornell and the University of Virginia.

[6] http://dublincore.org/
[7] See http://scholarslab.org/project/omeka-plugins/ and http://opencontext.org/about/technology
[8] T. Scheinfeldt, personal communication, May 6, 2010
[9] http://www.fedora-commons.org/

- Advantages
  - Store all types of content with metadata;
  - Scales to millions of objects;
  - Access data via Web APIs (REST/SOAP);
  - Rebuilder Utility (for disaster recovery and data migration);
  - Repository can be rebuilt from the digital object and content files;
  - Content Model Architecture (define "types" of objects by their content);
  - Many storage options (database and file systems);
  - Web-based Administrator GUI (low-level object editing);
  - OAI-PMH Provider Service;
  - GSearch (fulltext) Search Service;
  - Large user community and multiple support resources; and
  - Multiple front-ends.
- Disadvantages
  - Not designed to be implemented by non-IT specialists—less flexibility for staff to design collections and make changes; and
  - There isn't a default front end for Fedora[10].

Fedora Commons is a robust and scalable solution with a large open source community for support. The tradeoff involved in using it, however, is a loss of self-sufficiency for the staff, as IT specialists would need to be involved in the development and revision of collections and exhibits.

- Omeka Frontend / Fedora Backend

  One potential solution to the Omeka/Fedora Commons tradeoffs would be to use a combination of the two platforms. The Scholars' Lab at the University of Virginia is currently developing an Omeka plugin to connect an Omeka frontend to a Fedora repository backend.[11]

  - Advantage
    - Combines Omeka usability and flexibility with Fedora scalability.

[10] Front end solutions for Fedora are listed at http://fedora-commons.org/confluence/display/DEV/Fedora+Tools

[11] http://www.foundhistory.org/2009/10/09/uva-scholars-lab-working-to-connect-omeka-and-fedora/

- Disadvantages
  - Plugin is an early version; and
  - The user community is not yet large.

The work being done on the user interface at UC Berkeley and the Scholar's Lab and the Scholar's Lab project to create an Fedora Repository plugin for Omeka are illustrative of the power of open source communities to come together to solve problems rather than having to wait for a supplier to revise a piece of software.

Open source software is generally highly flexible. The main concern that must be addressed is whether Florida Memory Project team members will be able to develop collections and exhibits on their own and on the fly, or whether they will need the aid of IT specialists. This discussion must take place in the context of the current and future sizes of the Florida Memory Project collections. The tradeoff is between flexibility/ease of use (Omeka) and scalability for large collection sizes (Fedora Commons). The advantages and disadvantages of Omeka and Fedora Commons mirror each other almost exactly. In the best case scenario, either Omeka would be able to handle the scalability and search needs for the Florida Memory Project or the Fedora plugin for Omeka would be workable, as Omeka is most advanced open source platform currently available that would allow the Archives staff the greatest flexibility in creating and modifying collections and exhibits.

Storage Solutions

A list of potential storage solutions has been identified based on the need for redundancy, scalability, and ease of use and with an eye toward usability, ease of use, and cost considerations.

- LOCKSS (Lots of Copies Keep Stuff Safe)[12]

  LOCKSS is an open source, peer-to-peer, decentralized digital preservation infrastructure.

  - Advantages
    - Based at Stanford University Libraries with large international community;
    - Preserves all formats and genres of web-published content;
    - Technical support available from LOCKSS team at Stanford; and
    - LOCKSS boxes (servers) installed and maintained locally.
  - Disadvantage
    - Created for libraries; focuses on preserving web-published materials; and
    - Florida Memory Project must be part of a Private LOCKSS Network (PLN) to participate.

[12] http://lockss.stanford.edu/lockss/Home

The large LOCKSS user community makes it an attractive solution. However, unlike a number of the other platforms presented here, it was developed for library collections rather than archives collections. Because the Florida Memory Project's content is not the type of duplicative material owned by libraries, it cannot participate in the public LOCKSS network used for libraries and research institutions. Instead, it would participate in a PLN, which "offers institutions with synergistic collections a means to ensure the survival of their highly specialized content."[13] Such institutions must be accepted to a PLN in order to participate. The project is already a member of a LOCKSS PLN—PeDALS[14] (see below)—and continuing participation would fulfill that requirement.

- PeDALS (Persistent Digital Archives & Library System)[15]

  PeDALS is a research project designed to develop a curatorial rationale to support an automated, integrated workflow to process collections of digital publications and record and to implement an inexpensive storage network that can preserve the authenticity and integrity of the collections. The lead institution is the Arizona State Library Archives and Public Records, with partners in Florida State Library and Archives and five other states.

  - Advantages
    - Current involvement in project leads to staff expertise
    - Secure and distributed network storage;
    - Equipment collocated at the NSRC;
    - Scalable;
    - Archival standards;
    - Workflow automates description; and
    - Technical metadata.
  - Disadvantage
    - Currently supported by grants funding.[16]

  Because the State Library and Archives of Florida staff is already working with the PeDALS project, it is one of the best available solutions. Further involvement would be contingent on the continued funding of the project, through grants or by a transition to self-support.

[13] Reich, V., & Rosenthal, D. (2009). Distributed digital preservation: Private LOCKSS networks as business, social, and technical frameworks. *Library Trends*, 57(3), 461-475.
[14] http://lockss.stanford.edu/lockss/Private_LOCKSS_Networks
[15] http://www.pedalspreservation.org/
[16] PeDALS support comes from the Library of Congress National Digital Information Infrastructure and Preservation Program and the Institute for Museum and Library Services.

- DAITSS (Dark Archive In The Sunshine State)[17]

  DAITSS is a digital preservation repository developed by the Florida Center for Library Automation (FCLA).

  - Advantages
    - Developed on OAIS model; and
    - Ongoing system run by the Florida Center for Library Automation.
  - Disadvantage
    - Out of control of the State Library and Archives.

  DAITSS is a stable, ongoing project. However, this solution affords the least possible control for the State Library and Archives staff as they would be turning their files over to the FCLA.

- DuraCloud[18]

  The DuraCloud project is a pilot program that is exploring the use of cloud computing technologies to test the perpetual access to digital content. The pilot will focus on a new cloud-based service developed and hosted by the DuraSpace[19] organization.

  - Advantages
    - Built upon commercial cloud infrastructure;
    - Highly scalable;
    - Do not need to maintain dedicated technical infrastructure;
    - Exploring strategies to help make content accessible in addition to providing preservation services;
    - Each user organization is assigned an individual account, through which to manage their content;
    - Content is accessed and viewed through a single DuraCloud user interface;
    - Replicate to multiple storage providers and multiple geographic areas; and
    - Pay for use.
  - Disadvantages
    - Pilot program scheduled for July 2009 through summer 2010; and
    - Cloud computing platform relatively new.

  Because the DuraCloud solution utilizes a cloud computing platform there is no need to maintain a dedicated technical infrastructure. However, cloud computing itself is a

[17] http://daitss.fcla.edu/
[18] http://duraspace.org/duracloud.php
[19] http://duraspace.org/index.php

relatively new technology, and the DuraCloud program is still in the pilot/beta-testing phase.

- Amazon S3 (Simple Storage Solution)[20]

  Amazon S3 provides a simple web services interface that can be used to store and retrieve any amount of data, at any time, from anywhere on the web.

  - Advantages
    - Backed by Amazon;
    - Automatic redundancy in at least three data centers;
    - Automatic backup and restores;
    - Automatic scaling and unlimited storage
    - No hardware purchases; and
    - Pay for space used
  - Disadvantages
    - Not open source; and
    - Out of control of the State Library and Archives staff, as they would be turning their files over to Amazon.

  Amazon S3 is backed by Amazon and users only pay for the space that they use. However, unlike the fully open source solutions, Amazon does not make the base code available to users so it is less transparent.

Recommendations and Implementation Plan

A number of steps must be executed for the Library and Archives of the State of Florida to approach the ideal platforms delineated above:

- Decide which aspects of the collections data will be migrated (e.g. records), and which will be left in separate systems (e.g., images);
- Document the metadata standards currently in use across multiple systems;
- Decide which collections and which records will be migrated to a common metadata standard;
- Select and/or develop metadata standards that meet user needs and can be applied to records across collections and determine how this standard can be extended to reflect unique collections;
- Prepare records to conform to chosen standards by identifying common fields in each database, and create new tables for the collections that currently do not connect to the database (Broadsides, Physicians Journals & WPA Stories) to create new tables;
- Prepare to migrate data by developing metadata crosswalks[21] for each database;

[20] http://aws.amazon.com/s3/

- Migrate existing collections data into a centralized system;
- Create a new interface/front end for users; and
- Make decisions on technical infrastructure
    - Document the number of master digital files currently being stored and their locations;
    - Estimate the number of new records or items that will be digitized over the next three years, and at what rate will they be created;
    - Identify the number of derivatives files, how they are stored, and how often are they backed up;
    - Identify where the project's databases are located, who maintains them, and whether/how changes to the current situation will change the cost structure; and
    - Develop and document data migration plans including how often data will be migrated to new storage systems and whether new file formats need to be supported.

Recommendations

Based on the advantages and disadvantages detailed above, we believe that the best option would be an Omeka frontend combined with LOCKSS (as a member of the PeDALS PLN) for storage.

These best address the five key issues identified above:

- Address growth issues;
- Be based on a complete ground-up rebuild;
- Improve user access to Florida Memory resources;
- Allow the project staff access to the software and the ability to develop and design on their own; and
- Place a minimum demand on the NSRC.

The plan for derivatives storage is to collocate servers at the NSRC. Web content will be stored in ten terabyte file servers and served from boxes running MS Server 2008 (Figure 2).

[21] Crosswalks map metadata elements from one metadata standard to another standard (http://libraries.mit.edu/guides/subjects/metadata/mappings.html)

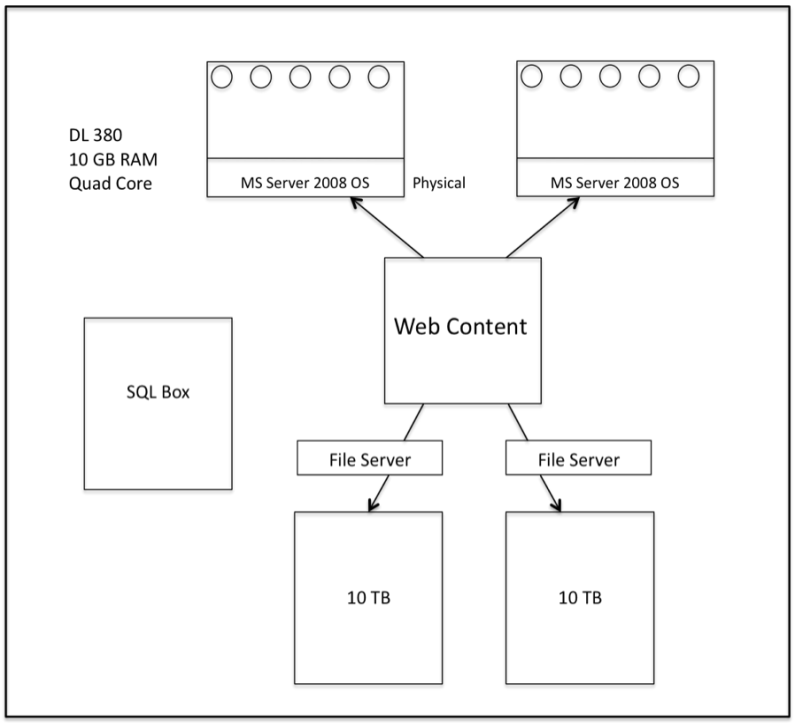

Figure 2. Derivatives Storage Plan

Because the State Library and Archives IT staff will be unavailable to implement this process, it is essential that a dedicated IT professional be added to the Florida Memory Project staff. The addition of technical expertise to the staff would solve a number of urgent problems. The move to the new platform will be impossible without technical support. And, although current staff members have acquired the basic technical knowledge needed to keep the project moving through workarounds, they are not IT experts and the time that they take in addressing technical issues impedes their ability to focus on their official duties.

Implementation Plan

The implementation plan addresses key aspects of the plan to move forward: the selection and installation of new website and data storage platforms, and the migration of data to the new platforms.

- June 1, 2010 – June 30, 2010

  In June the new website and storage solutions will be selected. The total cost of this activity will be $9,967.

Budget Item	Amount
Salaries and Benefits Total	*$9,967*
OPS Senior Archivist ($21.63/hour)	3,807
OPS Information Technology Specialist ($25.00/hour)	4,400
OPS Archives Assistant ($10.00/hour)	1,760
TOTAL FOR PERIOD	$9,967

- July 1, 2010 – February 28, 2011

  The next step will be to install the software system, configure the new databases, and develop a data migration plan, at a total cost of $89,658.

Budget Item	Amount
Salaries and Benefits Total	*$75,658*
OPS Senior Archivist ($21.63/hour)	28,898
OPS Information Technology Specialist ($25.00/hour)	33,400
OPS Archives Assistant ($10.00/hour)	13,360
Equipment Total	*$14,000*
2 Buffalo Terrastations (storage of master files) @$2,000 each	4,000
3 LOCKSS servers @ $3,333 each	10,000
TOTAL FOR PERIOD	**$89,658**

- March 1, 2011 – May 1, 2011

  Finally, the data will be migrated to the new platform and testing will be conducted. The total cost for this phase will be $109,934.

Budget Item	Amount
Salaries and Benefits Total	*$19,934*
OPS Senior Archivist ($21.63/hour)	7,614
OPS Information Technology Specialist ($25.00/hour)	8,800
OPS Archives Assistant ($10.00/hour)	3,520
Contractual Services Total	*$90,000*
Data Migration	80,000
CD Production (DiscMakers)	10,000
TOTAL FOR PERIOD	**$109,934**

The implementation process involves six activities overall:

- Selection of the new website and storage solutions;
- Installation of the software system;
- Configuration of the new databases;
- Development of a data migration plan;
- Data migration to the new platform; and
- Testing of the website, data delivery, and storage solutions.

The timeframe for implementation is estimated to be twelve months (June 2010 through May 2011), at a total cost of $209,559.

Summary and Conclusions

Over the course of five months the project team completed five tasks: an assessment of Florida Memory technology needs, an analysis of the systems and technology currently in place,

comparative evaluations of the Florida Memory Project to other similar projects, and the identification of potential solutions. Successful completion of these tasks would have been impossible without the assistance of Ms. Jody Norman, her staff, and others at the State Library and Archives of Florida.

The Florida Memory Project is an extremely valuable resource for the state of Florida, and is expected to continue growing. The main challenge identified through the needs assessment phase of the project is that underlying data structure and set of technologies have already made it difficult for the State Library and Archives staff to meet user needs; these problems will be exacerbated as the resource grows unless a number of changes—as outlined here and in the Interim Report—occur. The progress that the staff has made, however, is significant given the current circumstances.

To ready the Florida Memory Project for its next phase of development and to approach the visions for the ideal website and data storage environments, after identifying three potential website solutions and five potential data storage solutions, the project team has recommended implementing an Omeka front end with a LOCKSS/PeDALS PLN storage solution. The criteria for this recommendation were to provide a high level of flexibility and self-reliance for the staff while mitigating costs. Open source platforms are the ideal solutions for the website frontend and backend, and for storage and preservation of both master files and derivatives, because they use the power of large-scale division of labor and peer review to create robust software would. A twelve-month implementation plan costing $209,559 has been recommended.

Next steps to build on this work can ensure the continued viability of the project. Two potential such projects that can be developed by the Information Institute are an evaluation of the implementation process and an evaluation of web usage statistics.