

Project Management Plan

William Cox Cochran Digital Photograph Collection

**Prepared for
Dr. Suzie Allard
IS 565 Final Course Requirement
&
University of Tennessee Digital Library Center
&
The Great Smoky Mountains Regional Project**



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Acronyms and Abbreviations

DLC	Digital Library Center
Cochran	William Cox Cochran Great Smoky Mountains Photograph Collection
PMP	Project Management Plan
METS	Metadata Encoding Technology Standard
IT	IT Administrator / Computer Programmer
PC	Project Coordinator
TS	Technical Support & Metadata
Admin	UT Libraries' Administration
Dev	UT Libraries' Development
PL	Preservation Librarian
GSMRP	Great Smoky Mountains Regional Project
SLA	Student Library Assistant
CDM	Collection Development & Management
CDMAG	Collection Development & Management Advisory Group
TIF	Tagged Image File Format
JPG	Joint Photograph Experts Group
Cochran DPC	William Cox Cochran Digital Photograph Collection
OAI	Open Archives Initiative

1. Introduction

This document is the Project Management Plan (PMP) for the William Cox Cochran Great Smoky Mountains Photograph Collection (Cochran) digitization project. The PMP provides an overview of how the project will be managed along with a description of the project plans that have been or will be developed to manage and execute the work. It describes the project organization, duties and responsibilities of key project personnel, roles of oversight personnel, and organizational reporting relationships, provides cost estimates for staff and equipment, and details the time schedule for project completion from the proposal stage to the publicity stage.

Authors note: This PMP is an exercise to meet partial requirements for the completion of Information Sciences 565: Electronic Publishing and Digital Libraries, taught by Dr. Suzie Allard, at the University of Tennessee School of Information Sciences. This document shall be shared with Dr. Allard- as the author's instructor, Anthony Smith- as the author's mentor, and Anne Bridges and Kenneth Wise- as the author's supervisors. The author grants explicit permission for any of these individuals to share this information, in whole or in part, with interested parties, including, but not limited to the Digital Library Center staff and the UT Libraries' Administration. The author maintains copyright privileges and may share this document, less any personal information, including salaries, benefits, and equipment costs, with other interested parties outside the University of Tennessee Libraries. This is the sole work of the author and appropriate citation is expected and appreciated. -Tiffani R. Conner, 4/22/2004

1.1 History

The William Cox Cochran Great Smoky Mountains Photograph Collection contains 92 photographic images taken in late 1886. "The photographs are of East Tennessee people and landmarks, [in] the Great Smoky Mountains National Park." (MS 552, <http://www.lib.utk.edu/spcoll/manuscripts/ms552fa.html>) The collection includes images of the Chilhowee Range, Nebo Mountain, and Miller's Cove.

According to his granddaughter, Mrs. Ellen Speers, "[Mr. Cochran] was an enthusiastic photographer. [He owned a] fine camera and installed a complete darkroom in his cellar. Twice he spent vacations with other men in the mountains of West Virginia and Tennessee, traveling by horse and wagon because they had tripods and heavy plates to carry. The men who went on those photographing expeditions included [Mrs. Speers'] great uncle, George Allen (a physician), Reuben Holden, Mr. Collier and another physician. Some of his pictures went to the [Rutherford B.] Hayes [Presidential Center] Library in Ohio ('a very small collection of Cochran's that includes a series of images of Ballast Island (Lake Erie) taken in 1888. There are 4 letters written during 1876 and 1877 having to do with Hayes' Disputed Election', Nan Card, personal communication), others to Oberlin [College]. In a letter to her family dated December 17, 1958, [Mrs. Speers'] Aunt Mary [Rudd Cochran] writes about the possible disposition of the photographs: "...the West Virginia and Tennessee pictures ought to be shipped to historical libraries in those states, if such libraries exist." This letter probably prompted

her to identify the University of Tennessee as a suitable repository. " (Ellen Speers, personal communication)

Additional images taken by Cochran, of the University of Tennessee, are located in the University of Tennessee Archives Photograph Collection, AR-18, housed in the Hoskins Library, 1401 Cumberland Avenue, Knoxville, Tennessee 37996-4000.

- The Cochran collection was given to the University of Tennessee Libraries in 1959 by Miss Mary Rudd Cochran, daughter of W.C. Cochran. "William Cox Cochran (1848-1936) was an Ohio lawyer, scholar, and trustee of Oberlin College. He served in the Department of Interior in Washington under his stepfather, Jacob D. Cox. In 1872, after a European tour, Cochran studied law and opened a law office in Cincinnati later serving as clerk of the U.S. Circuit Court of Appeals in Cincinnati. Oberlin College has a collection of the William C. Cochran Family papers, RG 30/8, (<http://www.oberlin.edu/archive/holdings/finding/RG30/SG8/>) that contain other photographs taken by William C. Cochran." (MS 552, <http://www.lib.utk.edu/spcoll/manuscripts/ms552fa.html>)

2. Management Overview

The William Cox Cochran Great Smoky Mountains Photograph Collection digitization project will be managed and executed through implementation of the plans detailed in this document. Review and approval of these plans and of subsequent documents are the sole responsibility of the Digital Library Center (DLC). These plans have been developed to effectively map and control the digitization activities to make certain that applicable standards and innovations are incorporated into project documents, to ensure that the project is executed in a cost-effective and efficient manner, and to serve as a model for the future digitization projects.

The authorization for this project was approved by the DLC on August 19, 2003. The DLC will appoint a Project Coordinator and a project team. The Project Coordinator will have ultimate responsibility for oversight of the project and any subsequent changes and/or reassignment of duties for team members. The Project Coordinator will communicate progress reports and production problems to the DLC on a monthly basis.

2.1 Project Elements

1. Remove photographs from encapsulation and flatten
2. Scan images, TIF and JPG formats
3. Match metadata to scanned images
4. Resize, create derivatives, archive TIF files
5. Make images searchable by all metadata elements
6. Design web service describing collection, search tools integrated

3. Project Organization

The Project Coordinator, acting as designee from the DLC, is responsible for overall management and execution of the Cochran digitization project, as well as project support and oversight. The oversight functions include preservation of the Cochran photographs- both pre- and post-scanning, digitization of the 92 images, digital archival storage, metadata development and decision-making, website development, deployment of the digital collection, user testing, and long-term technological migration of the Cochran collection.

The IT Administrator/Computer Programmer facilitates the integration of the Cochran collection with other Digital Library collections. She reports directly to the DLC and informs the Project Coordinator of issues or problems related to collection implementation.

The Great Smoky Mountains Regional Project is responsible for the content and quality control of data associated with the collection. These functions include verification of content metadata for each image, input on controlled vocabulary as needed, and initial interaction with users of the collection.

The Collection Development and Management Team is responsible for copyright and reproduction permissions statements and decisions.

The UT Libraries' Administration is responsible for monetary support, personnel and training, hardware and software procurement, and publicity for the collection.

4. Integration Management Plan

The William Cox Cochran Digital Photograph Collection is the second in a series of Great Smoky Mountains Regional Project (GSMRP) digital collections to be integrated into the University of Tennessee Libraries Digital Library Center. This collection will be searchable as part of a large, cross-collection, will have a digital library front-end webpage, and will act as a discrete standalone collection. The GSMRP staff, in collaboration with the Project Coordinator, will develop a separate webpage for this collection, describing the contents and providing a link to the GSMRP web site.

The hyperlink for the appropriate collection webpage should be included with each individual photograph to ensure that the user always has the information necessary to place the photograph in context as part of a larger collection.

5. Scope Statement

The William Cox Cochran Digital Photograph Collection will be digitized by the Digital Library Center staff. The DLC will appoint a Project Coordinator who will appoint a team consisting of a Metadata Librarian, IT Administrator, Preservation Librarian, and support staff. The Cochran collection will serve as a test-bed for current metadata schemas, the results of which shall be communicated to the DLC for purposes of future encoding standards relative to digital image collections.

The images will undergo pre-scanning and post-scanning preservation tasks including removal from current encapsulation, flattening via a micro-environment and weight, re-encapsulation, and proper archival storage. The images will be scanned using a UMAX 2100XL Scanner at 1200 dpi resolution and saved in the TIF format. During scanning the appropriate metadata, utilizing the Metadata Encoding and Transmission Standard, will be recorded and archival copies will be stored on the DLC Archival server. Derivatives and thumbnail images, in a JPG format, will be created from the TIF files.

A database will be created using the DLXS software, and translations for OAI and indexing will be conducted. The collection will be integrated into the DLC collections and usability tests will be run. Preservation and conversions of the images, along with metrics gathering, will be completed by the DLC routinely.

A front-end webpage, including a collection description and search interface, will be developed with content provided by the GSMRP staff. UT Libraries' Administration will ensure monetary support for the continued sustainability of the digital collections, will publicize and promote the collection, and will seek sponsors for the collection.

6. Time Management Plan

The Cochran project will have a time management plan consisting of 11 primary steps, ranging from the proposal stage to the publicity stage. The production phases are outlined below with the associated responsible party designated in parentheses. The overall time projection for completion of this digitization project is 8 months. Contingency plans in the event that time estimates are not met are discussed in the Risk Management Plan.

6.1 Production Phases

1. Project Proposal to DLC
 - a. Scope and content proposed (GSMRP)
 - b. Rough condition of collection (GSMRP)
 - c. Identify potential donors to support collection (Dev)
 - d. Copyright and provenance (CDM)
2. Project Evaluation by DLC
 - a. Evaluate proposed collection (DLC)
 - b. Number of images for public display (DLC)
 - c. Estimates of time involved (DLC)
 - d. Approve or deny collection (DLC)
3. Project Team appointed by DLC
 - a. Project Coordinator (PC)
 - b. Metadata/Scanning (TS)
 - c. Preservation (PL)
 - d. IT Development/Support (IT)
4. Preservation, pre-scanning (PL)
 - a. Evaluate pre-scanning preservation needs
 - b. Communicate needs and time estimate to PC
 - c. Flatten images
 - d. Remove encapsulation material
 - e. Micro environment
 - f. Weight
5. Metadata & Scanning (TS)
 - a. Metadata decisions
 - i. Schema choices, considerations
 - ii. Fields viewable, searchable, hidden
 - iii. Archival need
 - iv. Time requirement

- b. Images/scanning
 - i. Resolution decisions
 - ii. Scanning
 - iii. Storage needs
 - iv. Server space
 - v. Time requirement

- 6. Preservation, post-scanning (PL)
 - a. Re-encapsulation of images
 - b. Proper storage

- 7. Metadata conversion & IT Development (TS & IT)
 - a. Translation for DLXS and indexing
 - b. Translation for OAI and indexing
 - c. Search interface

- 8. Usability feedback (PC)
 - a. Audience/client evaluation
 - b. Navigation testing
 - c. Features desired noted
 - d. Alterations to performance

- 9. Feedback rework (IT)
 - a. Translation for DLXS and indexing
 - b. Translation for OAI and indexing
 - c. Search interface

- 10. Web page (PC)
 - a. Web page design
 - b. Consider audience and collection coverage
 - c. Create web page

- 11. Press release/graphics/publications (Admin)
 - a. Press release/ advertising
 - b. Monetary support for collection advertising
 - c. Publications for advertising

6.2 Time Schedule

Task	Duration (working days)	Start Date	End Date
Project Proposal to DLC	0d	Tue 8/12/03	Tue 8/12/03
Project Approval by DLC	5d	Wed 8/13/03	Wed 8/20/03
Project Team assigned	5d	Wed 8/20/03	Wed 8/27/03
Team Meeting- Initial Planning	1d	Wed 9/16/03	Wed 9/16/03
Initial Preservation	70d	Mon 10/6/03	Mon 1/22/04
Metadata-Schema Planning	25d	Mon 9/8/03	Mon 10/13/03
Scanning	30d	Mon 2/9/04	Fri 3/19/04
Metadata Quality Control Verification	14d	Mon 3/22/04	Tue 3/30/04
Deliver metadata to IT	0d	Wed 3/31/04	Wed 3/31/04
Programming	11d	Thu 4/1/04	Thu 4/15/04
Post-scan preservation	14d	Wed 3/31/04	Tue 4/20/04
Usability testing database	7d	Mon 5/3/04	Tue 5/11/04
Feedback rework	7d	Wed 5/19/04	Thu 5/27/04
Develop web service	14d	Thu 6/3/04	Mon 6/21/04
News release	6d	Mon 6/28/04	Mon 7/5/04
Graphic Design/Press support	14d	Wed 6/16/04	Mon 7/5/04
Totals	44.6 weeks (5-day week)		
Release to Public	7/5/2004		

7. Cost Management Plan

The cost schedule appears below. It details the cost estimates for the project including personnel, equipment, and supplies.

Table 2: Cost Schedule			
Equipment	Cost	Percentage Use	Adjusted Cost (Cost/Percentage Use)
Digital Library Servers			
Digital Library Public Server Dell PowerEdge 6400 (DPY4R01)	Suppressed	0.5%	Suppressed
Digital Library Pre-Production Server Dell Precision Workstation 530 (90MJL21)	Suppressed	1%	Suppressed
Digital Library Archival Storage Server Dell PowerEdge 6600 (JWP4K21) 1.4 Terabyte capacity	Suppressed	0.004225TB (0.3% used)	Suppressed
Additional Digital Library Service Equipment			
Sun StoreEdge Robotic Tape backup library	Suppressed	1% + \$50 (tape)	Suppressed
Workstation Equipment			
Programmer's Workstation Dell Precision Workstation 530 (3Q0R321)	Suppressed	2%	Suppressed
GSA Workstation Dell OptiPlex GX150 (79ZJT01)	Suppressed	2%	Suppressed
Coordinator Workstation Dell OptiPlex GS270 (HXHXX21)	Suppressed	2%	Suppressed
Digitization Equipment			
UMAX 2100XL Scanner	Suppressed	2%	Suppressed
Dell OptiPlex Workstation	Suppressed	2%	Suppressed

Computer Software			
XPAT Toolset (cost / # total projects)	Suppressed	5%	Suppressed
DLXS License Fee (license fee/# images put online * # images per collection)	Suppressed	48¢ per image	Suppressed
Adobe Photoshop 7.0 License (cost / # images completed per year * # images in collection)	Suppressed	.02¢ per image	Suppressed
Estimated Equipment Costs			\$ Suppressed
Preservation Supplies			
55061 Underbed Storage Box - 32 Quart 6 3/8"H x 11 1/8"W x 17"L (sets of 2)	Suppressed	1	Suppressed
P810B Paper Interleaving 100% Cotton Buffered 8x10 Pkg 25 Sheets	Suppressed	4	Suppressed
LEFNB18133 Box Newspaper Deep Lid Laminated E Flute 13W x 18 1/2L x 3"H from Gaylordmart.com	Suppressed	2	Suppressed
402004 Archival Polyester Film Melinex 4 Mil 40" x 200' from Gaylordmart.com	Suppressed	1	Suppressed
6263A 3M Double Sided Tape 1/2" x 36 Yds from Gaylordmart.com	Suppressed	3	Suppressed
Estimated Supply Costs			\$ Suppressed
Human Resources			
Project Coordinator	Salary	10%	Suppressed
Metadata Librarian	Salary	2.9%	Suppressed
Preservation Librarian	Salary	1.7%	Suppressed
IT Administrator	Salary	2.6%	Suppressed
SLA 1 Metadata	Wage	69 hours	Suppressed
SLA 2 Preservation	Wage	46 hours	Suppressed
Estimated Human Resources Costs			\$ Suppressed
Estimated Project Costs			\$ Suppressed

Equipment items are those pieces of equipment that may be repaired when parts break, whereas supply items are those items that shall be replaced if they break or are used up during the project. Equipment items in the Cochran project are servers, computers, hard drives, scanner, and software. Equipment costs are estimated, except where total space used could be figured, and using the formula (% of use * total cost). The servers are estimated at various percentages of use. The Digital Library Public Server provides access to the collection and may have varying rates of use over time; the estimated use for this server is 0.5%. The Pre-Production Server again has variable usage and is estimated at 1%. The actual amount of space consumed by the Cochran project can be established for the Archival Storage Server. The Cochran project will take up 4.3GB, or 0.004225TB (0.3%), of the total space available on the Archival Storage Server. The archival images will be backed up using the Sun StoreEdge Robotic Tape backup library, and the estimated use is 1% + the cost of one tape (\$___).

The workstations are all estimated at 2% calculating the transient nature of the files and the life span of the workstations. Likewise, the digitization equipment is calculated using an estimate of 2% accounting for wear & tear and the lifespan of the equipment.

The software used for the Cochran project, and other Digital Library projects, has a fixed cost that is calculated in various ways since the size of the collection does not affect the cost. The XPAT Toolset, part of the DLXS system has a one time cost of \$_____. The Cochran project is estimated to cost 5% of that fee using the formula (cost ÷ # total projects by DLC). This percentage will change for all digital library projects as more projects are completed. The DLXS License Fee is an annual charge of \$___/yr. The formula used here is (license fee ÷ # images put online annually × # images in collection). The cost per image is variable and depends on the number of images completed within a given year. The estimated number of images to be posted online for 2004 is 10,312, making each image come in at a cost of __¢. Adobe Photoshop 7.0 is used to manipulate the digital images and has a license fee of \$_____ (institutional cost) + \$___ per CD. The formula used is (total cost ÷ # images completed per year × # images in collection) the cost per image is .02¢. The total estimated equipment cost is \$1650.00 (rounded).

The supply items are plastic bins, cotton sheets, adhesive tape and encapsulation film. Supply costs are fixed costs that are written into this cost management plan. The Cochran collection requires flattening of the images in a micro-environment. This micro-environment is created in small plastic bins with a secure lid. The cost for a set of 2 bins, from GaylordMart.com, a preservation supply company, is \$_____. Each image, once removed from the micro-environment, is then stacked on top of each other with 100% cotton interleaving and then weights are set atop the stack to further flatten the images. Since there are 92 images in the Cochran collection, and a new sheet of interleaving paper will be used between each image, 4 packages (25 sheets per package) will be needed for this collection. The packages cost \$_____ each, with a total cost of \$_____ for the project. Preservation following scanning requires re-encapsulation in heavy archival film with an adhesive rim on all 4 sides. The cost of the film is \$_____ per roll (200' roll); there are 92 images each approximately 8"×10". Calculating the estimated feet

used to encapsulate each image equals 2' per image; therefore, 92 images will consume approximately 184'. 3M double-sided tape will be used as the adhesive. Each roll is 39 yards (108'), used on 4 sides of each image. Each image will consume approximately 36" of tape, consuming a total of 276' or 2.5 rolls. Each roll costs \$_____, with a total cost of \$_____ to the project. The total estimated supply cost is \$_____.

Human Resources costs for key personnel plus 2 SLAs (SLA1 for Metadata, SLA2 for Preservation) equals a total of \$_____. Human resources cost was figured using the following formulas: S (Salary) \times B (estimated benefits % of salary) = GC (Gross Cost); $Gross\ Cost \div 2080$ (work hours per year) = (HR) hourly rate; $HR \times time$ (172 hours per month- PC only) = (AC) actual cost. The project is scheduled for an 11 month period, and costs are adjusted to account for this. The breakdown for each key personnel and 2 SLAs is below:

Table 3 : Human Resources Costs	
$PC = S \times B = GC$	$PL = S \times B = GC$
$PC = GC \div 2080 = HR$	$PL = GC \div 2080 = HR$
$PC = HR \times 378.4 \text{ hours (10\% for 11 months)} = AC$	$PL = HR \times 36 \text{ hours} = AC$
$TS = S \times B = GC$	$IT = S \times B = GC$
$TS = GC \div 2080 = HR$	$IT = GC \div 2080 = HR$
$TS = HR \times 60 \text{ hours} = AC$	$IT = HR \times 56 \text{ hours} = AC$
$SLA1 = 69 \text{ hours} \times HR = AC$	$SLA2 = 46 \text{ hours} \times HR = AC$

Estimated Total Project Costs (less incidental overhead costs) = \$_____

8. Quality Management Plan

Quality Management will be conducted at all stages of production. Overall quality management will be maintained and overseen by the Project Coordinator and the Digital Library Center. Each team member will ensure proper quality control measures are followed at their respective times in the project.

Checks and balances will be conducted in a systematic manner. The team member who receives the materials (either physical or digital) will ensure that the materials are in good condition and that the information is not corrupted.

Routine checks will be run on the archival images to verify purity of the data files. An MD5 check sum will be in place to verify that data is not corrupted. Tape backups for the files will be run on a daily basis to ensure efficient correction is possible.

Content quality management will be the responsibility of the Great Smoky Mountains Regional Project (GSMRP) staff. Discrepancies of content, brought to the attention of the Project Coordinator by an outside party, upon public release of the collection, will be directed to the GSMRP staff for investigation and resolution.

9. Human Resources Management Plan

The Cochran collection project team consists of a small group of experts who investigate, evaluate, recommend, and carry out procedures and practices for successful completion of the William Cox Cochran Digital Photograph Collection (Cochran DPC) into the University of Tennessee Libraries' Digital Library Center (DLC) collections. The following are the key positions and their responsibilities relative to processing the Cochran DPC collection.

The *Project Coordinator* has the overall responsibility for successful completion of the project. His functions include but are not limited to overseeing and maintaining all aspects of planning and production, determining project staffing and organization, performance reporting, approving minor changes to the project plans and procedures, and oversight and coordination of the project team members. He reports directly to the DLC. He will maintain weekly and monthly reports concerning progress, problems and solutions and will provide these to the DLC.

The *Preservation Librarian* has the overall responsibility for preservation and conservation support of the project. Her functions include but are not limited to evaluation of the conservation needs of the project, repair and storage of the physical images prior to and following the scanning process, and coordination with the Metadata Librarian and the Project Coordinator regarding digital preservation practices. She will have one student assistant for whom she will assume responsibility relative to training and timely completion of the preservation and storage tasks. She reports to the Head of Collection Development & Management (CDM) and the DLC. She will maintain documentation of the preservation methods used on the Cochran collection and will provide these to the project team and the DLC.

The *Metadata Librarian* has the overall responsibility for making project decisions appropriate to scanning, creating collection metadata, and assigning appropriate metadata schemas to the Cochran DPC collection. Her functions include but are not limited to maintaining the integrity of the physical and digital condition of the images during the scanning phase, reviewing plans and procedures, recommending metadata schema, and providing technical support for the scanning and metadata activities. She will have one student assistant for whom she will assume responsibility relative to training and timely completion of the scanning and metadata input tasks. She reports to the Head of Technical Services and the DLC. She will maintain documentation of the metadata and scanning methods and evaluations used on the Cochran collection and will provide these to the project team and the DLC.

The *IT Administrator/Computer Programmer* has the overall responsibility for project decisions appropriate to the information architecture and functionality necessary to support the Cochran DPC collection within the DLC. Her functions include but are not limited to creating OAI records for each image based on the metadata provided, development and maintenance of the integrity of the records, design and building of the database and supporting scripts, and implementation of the project into the DLC

collections. She reports directly to the DLC. She will maintain documentation of the programming tasks used on the Cochran collection and will provide these to the project team and the DLC.

Section 9.1 contains a discussion of the project team structure, including the functions and responsibilities of project team and administrative personnel.

9.1 Project Personnel

A Project Coordinator will be in charge of project operations, has complete authority over all project resources, and is supported directly by staff resources, senior administration, and the Digital Library Center (DLC).

9.1.1 Project Coordinator

The Project Coordinator is responsible for managing day-to-day project activities such as planning, organizing, scheduling, directing, coordinating, and controlling project resources and budget. The Project Coordinator has complete authority over all project resources and is responsible for all project reporting requirements, both technical and cost, and will prepare and submit progress reports in accordance with established requirements and directives.

The Project Coordinator has ultimate responsibility for successful completion of the project. The Project Coordinator's responsibilities for completion include direction and collaboration with this team for planning and completion of all project activities. The Project Coordinator will perform informal and formal progress meetings, review production reports, prepare for upcoming work by communicating with the project team, attend/participate/give planning meetings, and attend planning/strategy meetings with all key and support personnel. The Project Coordinator reports to the DLC on project progress and technical issues. The Project Coordinator ensures implementation of the standards and best practices of the project to make certain that all work is done in a consistent and cost-effective manner. The Project Coordinator will ensure the accomplishment of the following:

- Respond to the team and the DLC on project-related matters, including schedule, cost, technical issues, and coordination of any required communications, meetings, or reports.
- Coordinate project staff to ensure that time, production, and cost plans are implemented and appropriate for project completion.
- Provide sufficient staffing to support the scheduled completion of project tasks.
- Continuously monitor project status and performance, and initiate any required corrective actions, renegotiations, or reassignment of duties.
- Report on a periodic basis the actual and projected costs and schedule status.
- Resolve any cost or project related discrepancies or questions.

9.1.2 Preservation Librarian

The Preservation Librarian reports to the Head of Collection Development & Management and the DLC and is responsible for conducting pre-scanning and post-scanning preservation/conservation measures. The Preservation Librarian informs the project team of the preservation and conservation needs for the collection and oversees all preservation tasks. She may employ one (1) Student Library Assistant (SLA) to help with the preservation tasks. She also works with the Metadata Librarian to coordinate timely completion of the scanning tasks. The Preservation Librarian's ultimate responsibility is the preparation and final encapsulation and storage of the physical collection. The Preservation Librarian has personal responsibility to deliver the physical images to the Metadata Librarian for scanning.

Duties and responsibilities of the Preservation Librarian include:

- Report routinely on preservation status and issues to the project team.
- Coordinate with the Metadata Librarian to circulate treated materials between them in order to complete pre- and post-scanning preservation techniques.
- Provide technical expertise on preservation strategy and needs.
- Monitor the preservation tasks in comparison to the project time schedule to ensure successful completion. Provide updates and revisions to the schedule as required.

9.1.3 Metadata Librarian

The Metadata Librarian reports to the Head of Technical Services and the DLC and is responsible for implementation of appropriate scanning methods and recording of metadata for the Cochran DPC. The Metadata Librarian will supervise at least one Student Library Assistant (SLA) and will have control over creation and manipulation of the collection's metadata records. The Metadata Librarian will communicate with the IT Administrator / Computer Programmer to ensure effective exchange of data necessary to complete the database development and overall deployment of the digital collection. The Metadata Librarian's ultimate responsibility is to create collection metadata in accordance with the most up-to-date technological standards and to provide this information, and the digital images, to the IT Administrator/Computer Programmer in order that she may complete the database and information architecture tasks.

The Metadata Librarian will also work with the Preservation Librarian to ensure sufficient storage and handling regulations are communicated and followed to reduce additional preservation/conservation actions for the images. The Metadata Librarian will have personal responsibility for returning the physical collection to the Preservation Librarian for post-scanning conservation and storage measures.

Duties and responsibilities of the Metadata Librarian include:

- Report routinely on scanning work status, progress, and issues to the project team.
- Coordinate with the project team to prepare scanning and authority control plans and procedures.
- Provide technical expertise in metadata schema and standards.
- Work with the IT Administrator / Computer Programmer to ensure uncorrupted delivery of metadata and digital images.
- Coordinate with the Preservation Librarian to schedule routine exchange of physical images within the collection to support efficient, cost-effective completion of the scanning and preservation activities.

9.1.4 IT Administrator/Computer Programmer

The IT Administrator / Computer Programmer reports to the project team and the DLC and is responsible for planning and developing all database elements and communicating hardware and software needs. Her primary responsibilities are to manage database development and integration, progress, and issues.

The IT Administrator / Computer Programmer's duties include:

- Routinely report to the project team and the DLC on database development and integration, progress, and issues.
- Transform metadata into preservation format and bibliographic format for OAI access and compatibility.
- Coordinate with the Metadata Librarian to prepare appropriate record elements and structures.
- Provide technical expertise in computer programming and database design, implementation, and management.
- Create an online display, search element, and integrate these with the web service.
- Make adjustments to the metrics gathering scripts.
- Track all files, assign persistent identifiers, and track all information about the digital collections.
- Write and maintain scripts and transfer data for storage.
- Transform data to work with software, add browsing capabilities and collection-specific search capabilities.
- Maintain quality control for missing JPGs, incorrect formats, etc.
- Software maintenance, improvements, and upgrades.

9.2 Administrative and Support Personnel

This section provides a description of the administrative and support personnel for the project team including their functions and responsibilities. The Administrative and Support Personnel are included to provide consultation and labor support for the Cochran Digital Photograph Collection (Cochran DPC) project. These groups will provide input and support to the project team, will verify collection metadata, and provide necessary content or advice as requested by the project team.

9.2.1 University of Tennessee Libraries Administration

The UT Libraries' Administration is responsible for monetary support, personnel and training, hardware and software procurement, and publicity for the collection. Prior to completion, the Project Coordinator will contact the UT Libraries Administration to request mobilization of the Public Relations / Development Officer and the Publications & Graphic Design team. The function and responsibilities of these project support offices are:

9.2.1.a Development Officer

The Development Officer is responsible for soliciting funds to support maintenance of the Cochran DPC within the DLC. Her functions include promoting the collection, soliciting donor support for the collection, and communicating with the DLC and the GSMRP regarding marketing strategies for the collection.

The responsibilities of the Development Officer in support of the Cochran Digital Photograph Collection include:

- Work with the Great Smoky Mountains Regional Project Coordinators and the DLC to promote the collection.
- Solicit monetary donations in support of the Cochran DPC.
- Solicit sponsorship of the Cochran DPC for future maintenance and conversions.
- Acquire funding for hardware and software support for the DLC and similar projects.

9.2.1.b Publications & Graphic Design Team

The Publications & Graphic Design Team, consisting of a press writer and a graphic designer, collaborate with the Project Coordinator and are responsible for public promotion of the Cochran DPC. The Press Writer will work with the Graphic Designer to create and discharge timely advertising of the collection's release to the public. The Press Writer will create press releases, public commentaries, and articles to inform the public and press of the new collection and will work with the Development Officer to create materials for distribution to donors.

The Graphic Designer will work with the Press Writer to complete library newsletters, website announcements, and promotional displays/brochures of the collection. She will work with the Development Officer to design effective promotional materials or provide her with additional materials as needed. The Graphic Designer may be called

upon, by the Project Coordinator, to consult on the user interface design or layout of the digital collection.

Responsibilities of the Publications & Graphic Design Team include:

- Manage communications related to the Cochran DPC with the press and the public.
- Advise the Project Coordinator on press release matters.
- Coordinate publications and news announcements of the collection.
- Prepare all print materials associated with promotion of the collection.
- Review user interface and layout and provide consultation as needed or requested.

9.2.2 Great Smoky Mountains Regional Project Coordinators

Anne Bridges and Kenneth Wise are the Great Smoky Mountains Regional Project (GSMRP) Coordinators. They will consult with the project team on user needs for the collection. As requested by the Project Coordinator, the GSMRP Coordinators may provide content or quality control measures for records and historical information related to the Cochran DPC. Additionally, they will work with the Publications & Graphic Design Team and the Development Officer to create public announcements and promotion of the Cochran collection as part of the Great Smoky Mountains Regional Collection.

The GSMRP staff will add the Cochran DPC to their web site and promote its use by including information in their bi-annual *Colloquy* publications, list the collection in their Digital Collections section of the web site, and work with the Project Coordinator to address discrepancies in content as needed.

The GSMRP staff will operate as a consultant to the Collection Development & Management Advisory Group (CDMAG) with regard to copyright permissions and reproduction requests, either for personal or commercial usage.

9.2.3 Digital Library Center

The Digital Library Center (DLC) at the University of Tennessee Libraries acts in an advisory and oversight capacity for the project on a part-time basis. The DLC is responsible for reviewing and approving all project proposals, reviewing all preservation and digitization procedures, evaluating the Metadata Encoding and Transmission Standard (METS) as a tool for future DLC projects, and overseeing the application of current technological standards in planning and execution.

Responsibilities of the DLC include the following:

- Conduct periodic meetings with the Project Coordinator to ensure phase completions.
- Provide oversight and advice to ensure the team can perform their duties.
- Advise the project team on the status of technological changes in relation to digital library developments.

9.2.4 Collection Development & Management Advisory Group

The Collection Development & Management Advisory Group (CDMAG) has overall responsibility for copyright clearance and reproduction rights documentation.

Responsibilities of the CDMAG include the following:

- Verify copyright permissions are secured.
- Monitor and grant reproduction requests.
- Obtain necessary copyright and usage permissions.
- Secure and maintain a record of all copyright and use permission contracts.

9.3 Key Personnel Qualifications and Experience

The qualifications and experience of each key individual (indicated with an asterisk * below) assigned to the project are contained in their respective resumes. Support personnel qualifications and experiences are not included, but the individuals are named.

9.3.1 William Cox Cochran Digital Photograph Collection Project Personnel

Table 4: Personnel	
Position	Name
*Project Coordinator	Suppressed
*Preservation Librarian	Suppressed
*Metadata Librarian	Suppressed
*IT Administrator/Computer Programmer	Suppressed
Development Officer	Suppressed
Publications & Graphic Design Team	Suppressed
Great Smoky Mountains Regional Project Coordinators	Suppressed
Digital Library Center, Head	Suppressed
Collection Development & Management Advisory Group	Suppressed

* Key Personnel

9.3.2 Key Personnel Resumes

9.3.2.a Project Coordinator Resume

9.3.2.b Preservation Librarian Resume

9.3.2.c Metadata Librarian Resume

9.3.2.d IT Administrator/Computer Programmer Resume

10. Communications Management

Routine formal reporting requirements will be satisfied by the submission of a monthly project report to the Digital Library Center (DLC). The monthly report will describe, in general, the activities performed during the previous month. Specific statements of performance and quality assurance issues will be included. Work progress will be described and completion of performance milestones, such as completion of phases or implementations, will be acknowledged. Constraints and problems will be noted. These formal reports are quality records and will be retained for future planning.

The Production Schedule may be updated periodically. The DLC will provide recommendations for corrective actions for schedule slips.

Production reports, usability testing reports, and final project reports will be submitted as they are available and referenced in the monthly reports. These formally submitted documents, project reports, and products are project quality records.

Informal reporting of day-to-day activities is expected to be oral and by internal email. These discussions are considered to be informational in nature and do not constitute project quality records. Emails become project quality records in the event they are subsequently transmitted to the DLC or outside entity.

11. Risk Management

The Project Management Plan (PMP) calls for quality control and checks during each phase of the project. Contingency plans for risks associated with the development of the William Cox Cochran Digital Photograph Collection are described below:

- Loss or change of personnel

In the event that project personnel, either key, advisory, or student assistant, change during the duration of the project, the Project Coordinator will reconfigure the time management plan. Identification of qualified replacement personnel is the responsibility of the Project Manger, in consultation with the affected project area. All process documentation will be made available to the project team in order to continue the project.

- Server failure (email _____ about capacity of [public server] and [storage server] backup cycle)

The Project Coordinator and the IT Administrator / Computer Programmer have ultimate collective responsibility for the timely reload of the collection. If the production / public server fails then files from [backup server] will be copied to [public server] to restore access. If the backup server for [public server] fails and all derivatives of the images are lost, new service images will be made from the TIF files on the [storage] server. If STOR1 fails the tape backups will be used to restore the TIF files and derivatives will be made if necessary. Tape backup reload is the responsibility of the UT Libraries' Systems Department. If any server must be replaced, a back-up location for the collection will be arranged by the IT Administrator and she will be responsible for this conversion. The public will be informed of a system or server failure via the website, only in the event that the problem cannot be remedied in less than 24 hours.

- Corrupted data files

In the event that data files become corrupted, the IT Administrator will work with the UT Libraries' Systems Department to secure complete reload of the data files from the tape backups. She will work with the Metadata Librarian in the event that the data files must be rebuilt. An MD5 check sum will be in place to verify data purity. In the event a corrupt file is found, DLC staff will race to reload from the tape backup.

- Destruction of or damage to physical items

In the event that the physical items become damaged or destroyed during processing, _____.

- Set-backs relative to time

In the event that time set-backs occur, during any phase of the project, the responsible party will share this information with the Project Coordinator, who will then adjust the time schedule accordingly. It is the responsibility of the Project Coordinator to identify possible phases or processes that can make up for the lost time. If the time cannot be made up, the Project Coordinator must consult with the DLC to resolve the problem and renegotiate any cost changes.

- Scanning

A pilot group of images shall be scanned initially to gather data concerning computer and scanner settings for the images. A "cheat sheet" shall be created for mandatory use during scanning. Images not meeting these standards shall be rescanned.

- Mold growth

To control for the potential of mold growth while physical images are in the microenvironment, the Preservation Librarian will monitor the images at least once a day. In the event that mold is found the item(s) will be removed from the microenvironment and sent to the Etherington Conservation Center in North Carolina for conservation treatment.

12. Procurement Management

All activities associated with the development and public release of the William Cox Cochran Digital Photograph Collection will be completed in-house. All equipment (hardware and software) is owned by the UT Libraries and all personnel work for the organization.

Where additional software, hardware, training, or personnel needs are identified, the Project Coordinator will communicate the need to the UT Libraries' Administration and Library Personnel and Procurement to request acquisition of the necessary equipment, offer of training, or hiring of staff. If conservation of molded materials is needed, the Preservation Librarian will solicit the services of the Etherington Conservation Center in North Carolina.

At no time shall the Cochran digitization project, or any part of the digitization and preservation processes, be completed by an outside entity, except when conservation beyond the abilities of the Preservation Librarian must be completed.

13. References

- Adobe Systems Incorporated, Adobe Photoshop Educational Price <http://www.adobe.com/education/main.html> accessed 4/2/04
- AHDS Visual Arts: Visual Arts Data Service: Catherine Grout, Phill Purdy, Janine Rymer. "Creating Digital Resources for the Visual Arts: Standards and Good Practices." http://vads.ahds.ac.uk/guides/creating_guide/contents.html, accessed 3/24/2004
- Booth, Andrew; Sutton, Anthea; Falzon, Louise. "Working Together: Supporting Projects Through Action Learning." *Health Information & Libraries Journal* 20(4): Dec 2003: 225-232.
- Card, Ms. Nan. Rutherford B. Hayes Presidential Center, Fremont, OH. Personal communication, April 22, 2004
- Cole, Timothy W. "Building Good Digital Library Collections: A Dynamic Framework." *Educause Review* 37(6): Nov/Dec 2002: 12-14.
- Cortez, Edwin M. & Dutta, Sanjay K. & Kazlauskas, Edward John. "What the Library and Information Professional Can Learn from the Information Technology and Project Management Knowledge Areas." *portal:Libraries & the Academy* 4(1): Jan 2004: 131-145.
- "Design Concepts to 'Complete in Your Mind'." *American Libraries* 8(8): Sept 1977: 426-429.
- Etherington Conservation Center, Greensboro, NC <http://www.donetherington.com/> accessed 4/16/04
- Gaylord: View Product **LEFNB18133 Boxes, Archival, Deep Lid, Buffered, Laminated Blue Corrugated E-Flute, Curator Series** <http://www.gaylordmart.com/adblock.asp?abid=6476&sid=9A78A8A5192241E7B7E262E5FED0B6> accessed 4/2/04
- Gaylord: View Product **6263A Tape, Double-Sided, 415 3M** <http://www.gaylordmart.com/adblock.asp?abid=49&sid=9A78A8A5192241E7B7E262E5FED0B6> accessed 4/2/04
- Gaylord: View Product **402004 Encapsulation Film, Polyester, Rolls, 4 Mil, Melinex 516** <http://www.gaylordmart.com/adblock.asp?abid=10189&sid=9A78A8A5192241E7B7E262E5FED0B6> accessed 4/2/04
- Gaylord: View Product **P810B Paper, Interleaving, Buffered, 100% Cotton Rag** <http://www.gaylordmart.com/adblock.asp?abid=11231&sid=9A78A8A5192241E7B7E262E5FED0B6> accessed 4/2/04

- Goldstein, Harry. "The Infinite Archive." *IEEE Spectrum* 41(1): Jan 2004: 74.
- Greenberg, Jane. "Metadata Generation: Processes, People and Tools." *Bulletin of the American Society for Information Science & Technology* 29(2): Dec/Jan 2003: 16-20.
- Guenther, Rebecca & McCallum, Sally. "New Metadata Standards for Digital Resources: MODS and METS." *Bulletin of the American Society for Information Science & Technology* 29(2): Dec/Jan 2003: 12-16.
- Lim, Adrienne. "Collaborative Digitization Projects: Opportunities to Enhance Teaching and Learning." *Information Technologies & Libraries* 22(2): Jun 2003: 75-79.
- Lorenzi, Nancy M. & Riley, Robert T. "Organizational Issues = Change." *International Journal of Medical Informatics* 69(2/3): Mar 2003: 197-204.
- Mathias, Eileen. "Anatomy of a Digitization Project." *Library Journal* 129: Winter 2004 Net Connect: 2-7.
- McDonough, Jerome. "METS." *Computers in Libraries* 24(2): Feb 2004: 20.
- Project Management Institute. "A Guide to the Project Management Body of Knowledge (PMBOK Guide)." Newtown Square, PA: Project Management Institute, 2000 ed.
- RG 30/8- William C. Cochran Family. Oberlin College Libraries, <http://www.oberlin.edu/archive/holdings/finding/RG30/SG8/> accessed 4/15/04
- Speers, Mrs. Ellen. Personal communication, April 22, 2004
- Stacks and Stacks Homewares 55061 Underbed Storage Box- 32 Quart (set of 2) http://www.stacksandstacks.com/html/55061_underbed-storage-box-32-quart.htm accessed 4/2/04
- Tennant, Roy. "Metadata as If Libraries Depended On It." *Library Journal* 127(7): Apr 15, 2002: 32-34.
- Umbach, Judith M. "Managing Project Expectations." *Feliciter* 48(2): 2002: 60.
- William Cox Cochran Great Smoky Mountains Photograph Collection, 1886. University of Tennessee Libraries, MS 552, <http://www.lib.utk.edu/spcoll/manuscripts/ms552fa.html> accessed 4/10/04