

Digital Preservation Plan

Wheaton College Library and Archives

Adopted June 14, 2019

Digital Preservation Team Members:

Sarah Stanley (chair), *Special Collections, Buswell Library*

Katherine Graber, *Billy Graham Center Archives*

Jeffrey Mudge, *Buswell Library*

Laura Schmidt, *Marion E. Wade Center*

Contents:

Introduction.....	2
1. Goals and Objectives.....	2-3
2. Scope	3
3. Challenges	3-5
4. Criteria for Prioritizing Projects	5-6
5. Projects to Prioritize	6-7
6. Institutional Commitments	8
7. Roles and Responsibilities	8-9
8. Preservation and Quality Control	9-12
9. Training and Education	12
10. Evaluation and Updating	13
Appendices	
A: OAIS Reference Model	13
B: NDSA Levels of Preservation	14
C: Glossary of Terms	15-16
D: Sources Consulted	17-18

Digital Preservation Plan

This plan was developed to preserve the digital resources of the library and archives of Wheaton College. Due to the rapid growth and significance of digital resources, it is imperative that a framework be established to ensure the authenticity, reliability and long-term availability of these materials. Participating Wheaton College repositories include the Billy Graham Center Archives (BGC Archives), the Marion E. Wade Center (Wade Center), and Buswell Library.

Digital preservation ensures that current and future students, faculty, and scholars may access the library and archives' digital resources for the long-term. Thus, this plan will provide strategies and action steps that comprise digital preservation in accordance with established best practices, and will also articulate a common understanding of such activities across campus repositories. The plan also describes the need for digital preservation, which requires more active management than traditional physical preservation. Digital objects are fragile in nature as continually evolving hardware, software, standards, and file formats increase the risk that they become corrupted, inaccessible, obsolete, or lost.

Digital preservation comprises a crucial part of the respective missions of the three repositories in making their materials available for the long-term. This plan also supports the 2018 Digital Resources Plan of the three repositories, and the Buswell Library Preservation Plan recently adopted in 2019.

The primary audience for this plan are those directly responsible for caring for digital materials within the library and the archives. Other audience members include colleagues within the library and archives, and the Wheaton College community -- including campus leadership.

1. Goals and Objectives

The primary purpose of digital preservation is to preserve and make accessible digital resources for the long-term. The below objectives define a framework for the library and archives of Wheaton College to:

- collaborate with each other and other campus partners in order to meet their digital preservation goals.
- adhere to relevant standards, best practices, and regulatory requirements including but not limited to the Open Archival Information System (OAIS) Reference Model. For more information see Section 8.2 and Appendix A.
- commit to ongoing training with digital preservation strategies and tools, and developing staff and institutional knowledge and expertise.
- establish processes and procedures to support digital preservation activities in ways that best manage current resources and can be sustained into the future.
- identify, through systematic selection, physical and digital materials to be digitally preserved across formats, and apply appropriate strategies.

- provide access to digital materials while respecting and upholding intellectual property rights.
- review and assess digital preservation policies and procedures on a regular basis, accounting for changes in available technology, resources, and needs.

2. Scope

Digital resources comprise a broad range of content, including subscription or purchased materials, and locally hosted and created digital content (digitized materials and born digital resources). Types of digital materials include textual documents, images, audio recordings, and video recordings. The library and archives will likely acquire materials in additional formats in the future, and preservation strategies will be developed to accommodate new formats as needed.

3. Challenges

Due to the fragile nature of digital materials along with continually evolving hardware, software, standards, and file formats, there are recognized challenges in implementing an effective digital preservation plan.

3.1 Various material formats

Archives contain a wide variety of materials, and digitization standards and methods can vary widely and change depending on the item format. Each material format will require its own set of digitization guidelines and resources.

Examples: digitizing an *audio cassette tape* requires different equipment (cassette player, connection cords, computer), editing software (open source or proprietary editing tools), file formats (wav, mp3), and metadata (length of recording time, distributor, performers, etc.) than digitizing a *book* (flatbed or overhead scanner or camera, scanning workstation, scanner software, photo editing software, JPEG, TIFF, and PDF file types, metadata such as author, editor, publisher, number of pages, etc.).

3.2 File format migration

As digital formats continue to change, a digitization preservation plan must include provisions to convert existing file formats into formats that avoid obsolescence and promote continued accessibility.

Example: an older Word Perfect document from the 1990s is a digital file (wp), but needs to be converted to a newer Microsoft Word file format (docx) to be accessed and viewed by today's computers.

3.3 Long-term file integrity

The content of digital files must also be protected for long-term preservation. Digital data can become easily corrupted, erased, contain errors, or become infected with malware which would compromise their accessibility. A digital preservation strategy should outline methods for regular file integrity monitoring, and replacement or correction of any detected file errors or degradation over time.

Example: A digitized sound recording file becomes corrupted due to a disc error on the server where it was stored. Bits of digital data in the file are changed or deleted. An error message appears when the user attempts to listen to the recording, stating that it is not accessible. The lost and changed bits of data are not recoverable.

3.4 Making digital content publicly accessible

Delivering digital content to users is also of prime importance. A digital preservation plan must outline the storage, delivery method, and security aspects of providing public access to the wealth of archival digital materials. Public audience access may be limited to the campus community, or may include the global community. Some materials may also be under restriction until a later date determined by donor directives, copyright, or legislative mandates. These kinds of materials require different curatorial considerations than the publicly accessible content.

Example: A donor donates his manuscripts, of which he holds the copyright, but specifies they may only be used on-site by researchers at the archival reading room, and not made available online. Should the manuscripts be digitized, the archives staff would need to ensure the digital scans are only accessible on a secure computer without risk of having them uploaded to the internet by staff or other patrons. The scans would ensure preservation of the manuscript content if any loss of the physical documents occurs, and would also allow the staff to send copies digitally to patrons off-site that are approved by the donor as exceptions to the general rule of on-site use.

3.5 Consistent digitization standards

A digital preservation program must be in accordance with the best practices and standards established by the professional archival community, outlined later in this document. These standards have been developed by leading experts in the field of digital preservation, and will provide guidance for the due diligence of preserving the digital archival collections of Wheaton College. A digital preservation plan must clearly outline these standards, bringing the practices of all campus archives into alignment with one another. This consistency will maximize resources and efficiency.

Example: All master archived sound recordings will be digitized as wav files at x quality marker, and stored in 3 secure server locations in a designated folder structure. All access copy archival sound recordings will be digitized as mp3 files

at x quality marker and stored in y location accessible to the user interface and patrons searching through the z web platform.

3.6 Large scale of materials and storage space

Due to the expansive nature of archival collections, archivists face the dual challenges of digitizing vast amounts of analog materials, as well as securing long-term digital storage space for digitized and born digital materials. Storage space needs will increase as the digitization program grows and develops over future years.

Example: For the first year of digitization, we intend to digitize X GB worth of materials for permanent preservation and retention. The following year we will add Y GB more digitized material, and the next year Z GB amount of material. Designated server space needs to accommodate the growth for each year.

3.7 Loss of contextual information

There is often minimal metadata for digital files, which results in the loss of information about its content. (Metadata is structured information about digital content.) The lack of metadata also results in the loss of background information about the files, and decreases the ability to understand the significance of the material. A digital preservation plan should include methods by which digitized materials can maintain their associated metadata.

Example: A digitized physical photograph with no writing on the back features three people standing in front of a building. The metadata package that is digitally attached to that picture includes the names of the three people, the photographer's name, the building location, and the date the photograph was taken.

4. Criteria for Prioritizing Projects

Given the breadth and complexity of materials within a repository, it is essential to prioritize digital preservation activities of collection materials. The following criteria have been developed to determine priorities.

4.1 Original or unique quality of materials

Those materials that are one-of-a-kind, or would be very difficult to replace, will receive a higher digital preservation priority status. This may not include materials already available digitally elsewhere.

4.2 Materials with high research interest or usefulness

Items that are of prime interest to either the Wheaton College community, or other constituents such as research communities, will receive a higher digital

preservation priority. Their importance is measured by the institutional memory they hold, or their significance in a larger cultural or scholarly context.

4.3 Physical condition of materials

The condition of physical items requires consideration for how and when they are digitally preserved. Items that are deteriorating, or very fragile, have a higher need of digitization to prolong their life and accessibility, but they are also more difficult to digitize as they may suffer further damage during the digitization process. Outside vendors may need to be consulted or used for digitizing objects that cannot be safely digitized by campus archival staff.

4.4 Obsolescence

Those materials at greatest risk for obsolescence, due to their condition or the nature of their media format, will receive higher priority for digital preservation.

4.5 Restricted and copyrighted materials

Any items that are under restriction or contain copyrighted content may be digitized, but their accessibility to the public will depend upon the nature of their limited access stipulations.

4.6 In-house vs. vendor digitization

Upon the development of digital preservation workflows and resources, we expect campus to support the digitizing needs of some materials, but not all. Those items that do not have the needed resources for on-campus digitization will require outsourcing to a vendor specializing in such work. Outsourcing necessitates additional funding, and may delay digitization work until such funding is secured.

4.7 Resource availability

Progress of digital preservation projects depend upon the available resources necessary to do the work. This includes personnel to oversee and execute digitization projects, the tools (hardware, software, media players, scanners, etc.) needed to digitize various material formats, and the financial means to support these efforts, or for outsourcing digitization work to a suitable vendor.

5. Projects to Prioritize

Of the many potential projects that could be undertaken, each campus repository has identified the following digital preservation projects as leading digital priorities in the next year. This list will be updated as progress is evaluated and priorities are reviewed over time.

5.1 BGC Archives

- Create inventory of photo files and assessment of on-site scanning equipment; identify top 50 photo files for near future initial digitization.
- Create inventory of film/video collections to determine current state of deterioration and prioritize items for digitization through off-site vendor; identify top 50 films for near future digitization.
- Create inventory of audio collections to determine current state of deterioration and prioritize items for digitization on-site using on-site migration equipment; identify top 200 audio recordings for near future digitization.

5.2 Wade Center

- Digitizing original photographs of the Wade Center's seven authors, including photos of the authors themselves, their families, locations they frequented, and related period photographs dating back to the late 1800s. Also: making these photos available for viewing via a secure public interface with low-resolution watermarked surrogates. This will aid both publishers and scholars.
- Digitization of audiocassette and VHS tapes before these two media formats deteriorate and become inaccessible. Analog tape formats are susceptible to significant loss over time, and will eventually be unreadable. The Wade Center owns hundreds of tapes containing oral history interviews, public programming, lectures, and dramatizations, dating as early as the 1960s. We wish to preserve this content long-term, and make it available for easy on-site access by our patrons.
- Digitization of all original paper-based documents created by the Wade Center's seven authors. This would include letters, manuscripts, artwork, and annotated books, and would be mainly for preservation purposes or on-site patron use. The project would have multiple phases and would take dedicated work over a period of many years to complete.

5.3 Special Collections, Buswell Library

- Digitization of original Jonathan Blanchard materials, including journals and correspondence.
- Digitization of college publications, including The Record, as the older materials are in fragile condition.
- Inventory high-priority College Archives materials on various media formats, and digitize them. Materials would include oral history interviews and official college records.

6. Institutional Commitments

In order to implement and sustain a robust digital preservation plan, the three repositories and Buswell Library will require additional support and resources from Wheaton College staff and administration. The following resources are needed to successfully implement a digital preservation plan.

6.1 Dedicated staff time

Dedicating time of specific staff to the practical work of digital preservation is necessary for the digital preservation plan to succeed for the long-term. This may include hiring additional staff or re-allocating staff time. This also includes time for training, and adapting current workflows to incorporate digital preservation standards.

6.2 Dedicated funds and other resources

A financial commitment to support long-term digital preservation actions is necessary. This includes the maintenance, acquiring, and managing of technology to support digital preservation activities.

6.3 Digital storage capacity for archival best practices

Digital resources must be stored in a manner that is consistent with accepted best practices. This includes technical infrastructure such as hardware, software, network access, data backup, and facilities. Best practice in digital preservation requires duplicating digital objects in both local systems and geographically removed systems.

6.4 Support/cooperation/communication

The library and archives recognize the importance of collaboration between repositories and other campus stakeholders to successfully accomplish a digital preservation plan.

7. Roles and Responsibilities

A number of stakeholders have critical digital preservation responsibilities, including those who care for content, create it, use it, or administer it.

7.1 Digital Preservation Management Team

The team provides oversight of the digital preservation plan implementation. The team evaluates the plan on a regular basis, revising it as processes, standards and formats evolve. The team also oversees outreach and promotion efforts for digital preservation.

Membership includes a representative from each campus repository as well as a representative from Buswell Library's Digital Initiatives Group.

7.2 Curators

Curators determine digital preservation priorities, and are responsible for developing processes and workflows implementing digital preservation activities. Curators are responsible for assisting Producers with understanding and complying with established deposit requirements.

Examples of Curators include archivists and librarians.

7.3 Producers

Producers provide the digital material to be preserved, which includes the material and accompanying metadata. Producers are responsible for complying with deposit requirements of the archival repository to ensure a successful transfer.

Examples of Producers include collection donors, creators, faculty, students, staff, publishers, and others.

7.4 Users

Any individual or group who uses the services of the library and archives to discover and access digital materials. Sometimes referred to as consumers.

Users include students, researchers, visitors, and online patrons.

7.5 Technology Support

Technology Support manages the technical infrastructure needed to care for digital resources. They create, install and maintain software as needed, providing support for staff using the tools.

Examples include Digital Initiatives staff and AIT.

7.6 Administrators

Administrators support an environment in which digital preservation is recognized as a critical step in caring for materials. This includes providing adequate managerial, technological, and financial resources to establish and maintain the digital preservation plan.

Examples include the Dean of the Library and Archives, the Provost, and other members of Wheaton's leadership team.

8. Preservation and Quality Control

8.1 Preservation Actions

Specific preservation actions will depend on the source and type of digital content, existing technology, expertise, and ongoing support. Actions for material type can be broken down as follows:

8.1.1 Subscription-based resources

Buswell Library spends the majority of its acquisitions funds on purchasing and/or subscribing to commercially-provided e-resources such as e-journals, e-books, and databases. To ensure long-term access to these important digital resources, library staff work with vendors at the time of acquisition or renewal to ensure digital preservation plans are in place. Existence of a vendor's digital preservation plan(s) will also be an evaluative factor when selecting new e-resources for collections. In addition, the library and archives will investigate and participate in third party digital preservation initiatives to ensure long-term access to content in which we have invested. Examples include services like LOCKSS, CLOCKSS, Portico, and HathiTrust. In the case of a trigger event (e.g. a publisher ceases operations; or an e-journal, e-book, or database is discontinued), participation will guarantee long-term access for users. Note that participation may require significant investment such as annual archive support fees.

8.1.2 Resources created and hosted by Wheaton College

These resources will be managed using the model outlined in 8.2. The expectation is that digital content and associated metadata will be developed according to current standards and best practices, and stored in a long-term repository within the infrastructure of the library and archives.

8.2 OAIS Reference Model

Digital objects will be managed using the OAIS Reference Model, a conceptual framework for archiving digital material that is also an acknowledged international standard (see Appendix A). The below areas describe the planning and action needed for every stage of caring for digital material outlined by OAIS.

8.2.1 Preparation for Ingest

As producers prepare to transfer their digital material to a repository, they will accompany it with appropriate metadata that will facilitate long-term access to the material. Curators will already have appraised the material for its significance using their own criteria.

8.2.2 Ingest

Ingest is the process of taking the digital material and corresponding metadata (known as a Submission Information Package or SIP) from a producer into a repository. The repository then performs quality checks on the SIP, which includes verification of file types, validation of file content, and normalization of files as needed. The archive will then generate an Archive Information Package or AIP, which includes creating or enhancing metadata associated with the digital material, and transferring the AIP to a long-term storage system.

8.2.2.1 Metadata

Metadata is structured information about material (including digital content), and is fundamental to preserving and providing access to the digital resources of Wheaton College's library and archives. Digital resources should include essential preservation metadata, which comprises administrative metadata, technical metadata, structural metadata, provenance, and rights.

The PREMIS Data Dictionary is the international standard for preservation metadata. While campus repositories do not have the infrastructure needed to implement PREMIS at this time, it is a priority for the future.

8.2.3 Archival Storage

This step handles the storage, maintenance, and retrieval of the AIPs. Once AIPs are created, they are assigned to permanent storage according to different criteria (formats, expected use rates, etc.) Archival storage requires specialized technical infrastructure such as duplicating digital content in both local and geographically removed systems. The maintenance of AIPs includes migrating to new formats as necessary, checking for file errors, implementing disaster recovery strategies, and providing access copies of digital material to users.

8.2.4 Data Management

The Data Management function coordinates the Descriptive Information associated with a repository's AIPs. (This Descriptive Information is the metadata that allows a digital object to be located using the repository's search function.) It also coordinates system information that is necessary to support a repository's operation. In particular, Data Management maintains and administers database(s) containing Descriptive Information, and executes search requests received from users. It also performs updates on the databases, including adding new Descriptive Information.

8.2.5 Administration

The Administration function manages the regular operations of the repository. This includes negotiating donor agreements with producers, monitoring access control, and providing user services. The function develops policies and standards, and performs system engineering.

8.2.6 Access

The Access step helps users ("consumers" in the OAIS model) find relevant information about digital material in a repository and access the material. It involves the provision of a user interface to the archive's holdings, and generates a Dissemination Information Package (DIP) in response to a user request. A DIP comprises copies of the appropriate

AIP(s) from Archival Storage and relevant Descriptive Information from Data Management.

8.3 Preservation Standards

Digital content across the three repositories comes in a variety of digital formats and includes both born digital material and analog items digitized for preservation and access. These content types include moving image recordings, sound recordings, image files, and text files. Digital preservation standards for email files are currently being developed, and this plan will be updated to reflect evolving professional standards for preservation of email files.

To ensure long-term storage of and access to digital content, the three repositories will adopt consistent file format standards for preservation master copies of digital content in accordance with the Federal Agencies Digital Guidelines Initiative. A table of the most common digital content in the three repositories is listed below.

Digital Content	File Format (Preservation Master)	File Format (Access Copies)
Moving Image Files	AVI	MP4
Sound Recording Files	WAV	MP3
Image Files	TIFF	JPEG
Text Files	TIFF, JPEG, PDF/A	PDF

8.4 Levels of Preservation

The National Digital Stewardship Alliance (NDSA) has developed a table (see Appendix B) to provide basic digital preservation guidance on how repositories should prioritize resource allocations. Due to the large amount of digital content to preserve, defining preservation levels can aid repositories to more effectively and efficiently preserve a larger quantity of digital content over time. The NDSA Levels of Preservation also provide a framework for building preservation activities as resources become available.

9. Training and Education

The three repositories commit to ongoing training and development of staff in areas related to digital preservation, as well as outreach to inform faculty, students, and staff of the best practices for creating and maintaining digital objects.

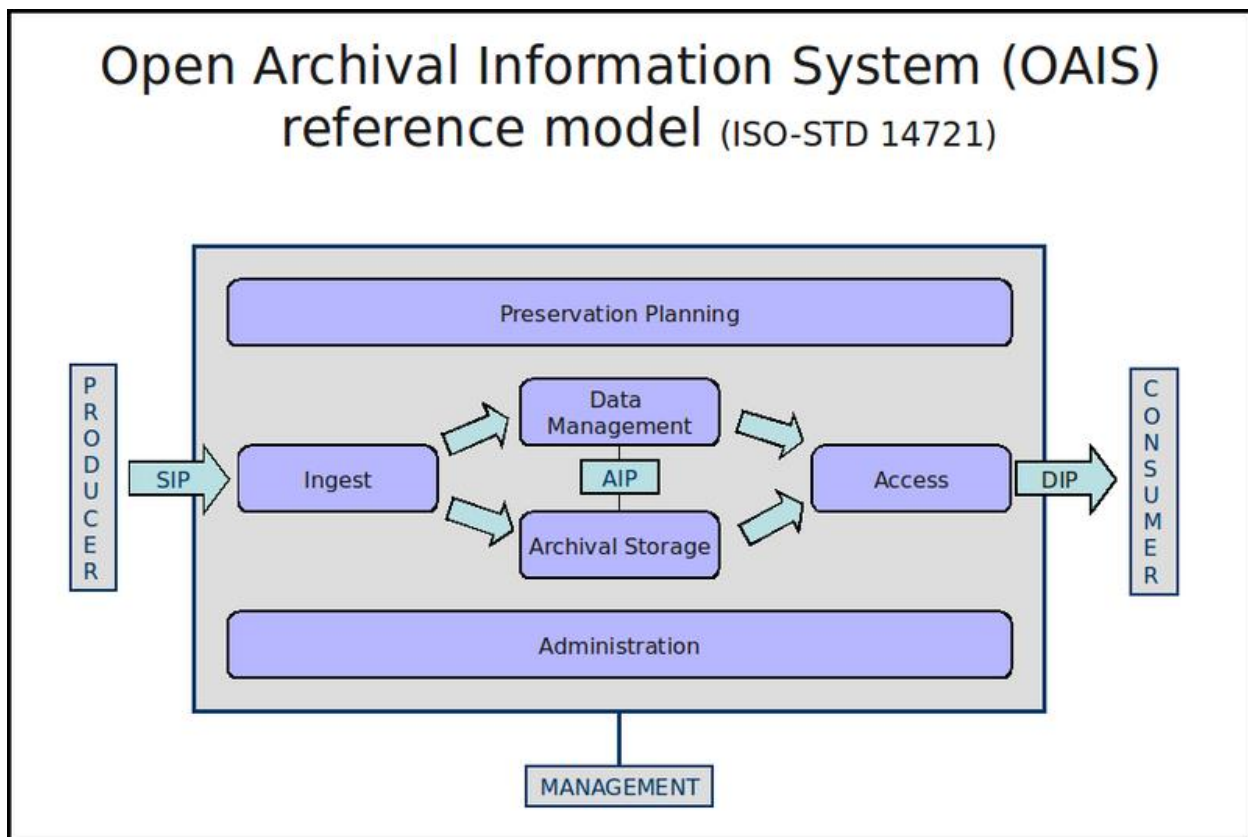
10. Evaluation and Updating

This plan will be reviewed annually by the Digital Preservation Management Team. Plan updates will occur as digital preservation needs of the library and archives evolve, and as standards continue to develop.

Appendices

Appendix A: OAIS Reference Model

The OAIS Reference Model provides a common framework for the conceptualization, planning, and implementation of digital preservation.



Appendix B: NDSA Levels of Preservation

Table 1: Version 1 of the Levels of Digital Preservation

	Level 1 (Protect your data)	Level 2 (Know your data)	Level 3 (Monitor your data)	Level 4 (Repair your data)
Storage and Geographic Location	<ul style="list-style-type: none"> - Two complete copies that are not collocated - For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system 	<ul style="list-style-type: none"> - At least three complete copies - At least one copy in a different geographic location - Document your storage system(s) and storage media and what you need to use them 	<ul style="list-style-type: none"> - At least one copy in a geographic location with a different disaster threat - Obsolescence monitoring process for your storage system(s) and media 	<ul style="list-style-type: none"> - At least three copies in geographic locations with different disaster threats - Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems
File Fixity and Data Integrity	<ul style="list-style-type: none"> - Check file fixity on ingest if it has been provided with the content - Create fixity info if it wasn't provided with the content 	<ul style="list-style-type: none"> - Check fixity on all ingests - Use write-blockers when working with original media - Virus-check high risk content 	<ul style="list-style-type: none"> - Check fixity of content at fixed intervals - Maintain logs of fixity info; supply audit on demand - Ability to detect corrupt data - Virus-check all content 	<ul style="list-style-type: none"> - Check fixity of all content in response to specific events or activities - Ability to replace/repair corrupted data - Ensure no one person has write access to all copies
Information Security	<ul style="list-style-type: none"> - Identify who has read, write, move and delete authorization to individual files - Restrict who has those authorizations to individual files 	<ul style="list-style-type: none"> - Document access restrictions for content 	<ul style="list-style-type: none"> - Maintain logs of who performed what actions on files, including deletions and preservation actions 	<ul style="list-style-type: none"> - Perform audit of logs
Metadata	<ul style="list-style-type: none"> - Inventory of content and its storage location - Ensure backup and non-collocation of inventory 	<ul style="list-style-type: none"> - Store administrative metadata - Store transformative metadata and log events 	<ul style="list-style-type: none"> - Store standard technical and descriptive metadata 	<ul style="list-style-type: none"> - Store standard preservation metadata
File Formats	<ul style="list-style-type: none"> - When you can give input into the creation of digital files encourage use of a limited set of known open formats and codecs 	<ul style="list-style-type: none"> - Inventory of file formats in use 	<ul style="list-style-type: none"> - Monitor file format obsolescence issues 	<ul style="list-style-type: none"> - Perform format migrations, emulation and similar activities as needed

Appendix C: Glossary of Terms

AIP (Archival Information Package): The package to transfer and store digital objects and associated metadata to enable access and preservation for the long-term.

Analog: Data or information created and maintained in such a way as to require transference to a digital format to make it digitally available to users.

Authenticity: Assurance that the digital object is complete and unaltered since its creation. Authenticity is established through metadata.

Bit: The fundamental unit of digital information storage, featuring a binary value of either 1 or 0.

Bitstream: A sequence of bytes, which has meaningful common properties for the purposes of preservation. A bitstream may be comprised of a file or a component of a file.

Byte: A unit of digital information and measure of data volume, normally equivalent to eight bits.

Born Digital: Data and information created and maintained in a digital format and not intended to have an analog equivalent either before or after creation.

Chain of Custody: Documentation of the acquisition, transfer, ingest, and ongoing preservation of archival material.

Checksum: Typically expressed as a text string or hash value, checksums are outputs generated by an algorithm and compactly express the data in a file or other data block. Checksums can be used to detect errors or changes to digital files.

Digital Object: An entity in which one or more files and their corresponding metadata are combined, physically and/or logically by means of a digital wrapper.

Digital Wrapper: A system of encapsulation that combines administrative, preservation, technical, structural, or descriptive frames of data to be combined together into a single entity.

Digitized Materials: Analog materials that have been transformed into digital form, especially for storage, access and use in a computer environment.

DIP (Dissemination Information Package): the package of digital objects and metadata that is provided to the user for access.

File: A bitstream managed by a file system as a single, named entity.

File Format: An attribute of a file which describes its encoding and typically identified by the extension at the end of the file name.

Fixity: Refers to a digital file that has been unchanged. Archives want to ensure that files are not altered or corrupted, and will run fixity checks, usually through a checksum.

Ingest: The process of preparing digital material for transfer into a digital preservation environment.

Life Cycle: A series of stages through which digital information passes. The lifecycle for digital information includes creation, use and reuse, migration or emulation, and storage.

Hardware Dependency: The degree to which a specific piece of hardware is required in order for another object (hardware, software, file, etc.) to be accessed and used successfully.

Metadata: Structured information about content that enables long-term use. Metadata comes in multiple categories including administrative metadata, technical metadata, descriptive metadata, and structural metadata.

Migration: The process of converting data from an obsolete structure to a new structure to counter software obsolescence.

Provenance: The chronology of the ownership, custody, and location of archival materials.

SIP (Submission Information Package): The package of materials that is sent to digital storage for preservation, and then converted into an AIP through archival processes.

Software Dependency: The degree to which a specific piece of software is required in order for another object (software, hardware, file, etc.) to be accessed and used successfully.

Appendix D: Sources Consulted

Dartmouth College Library. "Dartmouth College Library Digital Preservation Policy." Accessed October 1, 2018.

https://www.dartmouth.edu/~library/preservation/docs/dartmouth_digital_preservation_policy.pdf

Digital Preservation Coalition. "Digital Preservation Handbook." Accessed October 1, 2018.

<https://dpconline.org/handbook>

Federal Agencies Digital Guidelines Initiative (FADGI). "Technical Guidelines for Digitizing Cultural Heritage Materials." Accessed October 24, 2018.

http://www.digitizationguidelines.gov/guidelines/FADGI%20Federal%20%20Agencies%20Digital%20Guidelines%20Initiative-2016%20Final_rev1.pdf

ICPSR Data Stewardship Policy Committee. "ICPSR Digital Preservation Policy Framework." Accessed June 3, 2019.

<https://www.icpsr.umich.edu/icpsrweb/content/datamanagement/preservation/policies/dp-p-framework.html>

Lavoie, Brian. "The Open Archival Information System (OAIS) Reference Model: Introductory Guide (2nd Edition)." Accessed September 4, 2018.

<https://www.dpconline.org/docs/technology-watch-reports/1359-dpctw14-02/file>

Library of Congress. "PREMIS Data Dictionary for Preservation metadata, Version 3.0."

Accessed June 3, 2019. <http://www.loc.gov/standards/premis/v3/>

National Digital Stewardship Alliance. "NDSA Levels of Preservation." Accessed April 11, 2019.

<https://ndsa.org//activities/levels-of-digital-preservation/>.

North Carolina Department of Cultural Resources. "North Carolina Digital Preservation Policy." Accessed April 5, 2019.

https://digitalpreservation.ncdcr.gov/digital_preservation_policy_dcr.pdf

Northeast Document Conservation Center (NEDCC). "NEDCC Digital Preservation Policy Template." Accessed August 31, 2018.

<https://www.nedcc.org/assets/media/documents/SoDAExerciseToolkit.pdf>

Rimkus, Kyle R, Erin O'Meara, and Kate Stratton. *Digital Preservation Essentials*. Edited by Christopher J Prom. Trends in Archives Practice, Modules 12-13. Chicago: Society of American Archivists, 2016.

The Ohio State University. "Digital Preservation Policy Framework." Accessed September 4, 2018.

https://library.osu.edu/documents/SDIWG/Digital_Preservation_Policy_Framework.pdf

University of Georgia Digital Curation Working Group. "UGA Libraries Digital Preservation Policy." Accessed September 4, 2018.

<https://www.libs.uga.edu/staff/digitalprespolicy2015july.pdf>

University of Illinois at Urbana-Champaign. "IDEALS Digital Preservation Policy." Accessed June 3, 2019.

https://www.ideals.illinois.edu/bitstream/handle/2142/2383/IDEALS_PreservationPolicy_Nov2009.pdf

University of Utah J. Willard Marriott Library. "Digital Preservation Program: Digital Preservation Policy." Accessed April 5, 2019.

www.lib.utah.edu/collections/digital/DigitalPreservationPolicy2012.docx

Yale University Library. "Yale University Library's Digital Preservation Policy Framework."

Accessed October 24, 2018. https://guides.library.yale.edu/ld.php?content_id=26251943