

# Texas Woman’s University

## Library Policy Manual

<b>Policy Name:</b>	<b>Digital Preservation Policy</b>
<b>Last Library Review:</b>	<b>February 2023</b>
<b>Next Library Review:</b>	<b>February 2024</b>

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**Purpose:** The purpose of this document is to address the preservation of digital collections and resources for which the Texas Woman's University (TWU) Libraries (Dallas, Denton, and Houston) is the primary custodian. It formalizes the TWU Libraries' continued commitment to the long-term stewardship for, preservation of, and sustainable access to its diverse and extensive range of digital assets. This policy recognizes the Libraries' long-term commitment as the TWU digital repository. Stewardship efforts contribute to the TWU mission.

**Note:** *Access, availability, usage, and occupancy limits may be changed in accordance with University guidelines regarding health and safety.*

**Definitions:**

**Access** - *The process for the retrieval of data and information from storage media, through the use of catalogs, indexes, and/or other tools.*

**Acquire** - *To take physical and legal custody of data and information.*

**Analog** - *Data and information in a format that must be digitized to make it digitally accessible.*

**Bit-Level Preservation** - *Minimum digital preservation standard; the goal is to maintain the integrity of the original bit-stream of a digital object. It is accomplished by maintaining backup copies (onsite and/or offsite), the periodic refreshing of those copies to new storage media, and conducting fixity checking.*

**Born-Digital** - *Data and information created and maintained in a digital format.*

**Collection** - *A group of materials assembled by a person and/or organization, with one or more unifying characteristics.*

**Curation** - *Activities related to managing data and information throughout its lifecycle, ensuring that data are properly appraised, selected, and securely stored, while appropriately maintaining logical and physical integrity and authenticity. Further, the data is made and remains accessible and viable in subsequent technology environments.*

**Data Sets** - *Collections of data. The data formats include, but are not limited to, flat file tabular data, relational databases, text corpora, qualitative data in field notes, scholarly editions, and thematic research collections.*

**Digital Assets** - *Digital objects (e.g., text, image, audio-visual files) owned or managed by an institution (or person).*

**Digital Collections** - *The collective digital library interfaces operated by the TWU Libraries including the Repository@TWU and the Gateway to Women's History.*

**Digital Preservation** - *Comprehensive set of managed activities that are necessary to provide continued access to digital objects, beyond the limits of media failure or technology change. At minimum it should include bit-level preservation.*

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

**Institutional Records** - *Data or information in a fixed form, regardless of medium, that is created or received in the course of institutional activities and maintained as evidence of that activity for future reference.*

**Object Fixity** - *The quality of a digital asset to be stable and resist change.*

**On-Campus** - *Physical TWU locations in Denton including the main campus.*

**Open Archival Information System (OAIS) Reference Model** - *A theoretical framework that describes the components and processes necessary for a digital archive, including six distinct functional areas: ingest, archival storage, data management, administration, preservation planning, and access (A Glossary of Archival Records Terminology, Society of American Archivists 2005). Full reference model and specifications: Reference Model for an Open Archival Information System (OAIS), Recommended Practice, CCSDS 650.0-M-2, Magenta Book, Space Communications and Navigation Office, NASA, June 2012.*

**Provenance** - *Information regarding the origins, custody, and ownership of an item or collection (Richard Pearce-Moses, A Glossary of Archival and Records Terminology, Society of American Archivists 2005).*

**Reformatting** - *The process of creating a copy with a format or structure different from the original, for preservation and/or access; this may be accomplished via transcription, xerography, microfilming, and/or digitization.*

**Scholarship** - *Use of intellectual resources, such as those managed by the TWU Libraries, for research, teaching, and learning.*

**Stewardship** - *The responsibility for overseeing and protecting materials and assets.*

**Sustainable Access** - *The process of providing long-term resources (fiscal, human, and technological) necessary to maintain access to information and digital objects in a repository.*

**Texas Woman's University Libraries** - *The library managing the digital collections discussed throughout the Digital Preservation Policy documentation.*

**TWU Campus Community** - *TWU students, faculty, staff, alumni, and administrators.*

**TWU Community** - *Individuals and entities currently affiliated with Texas Woman's University that have valid/active TWU credentials.*

**TWU Digital Strategies & Innovations** - *TWU Libraries' Unit that manages digital and web-based systems, digitization, and metadata.*

**TWU Special Collections & University Archives** - *TWU Libraries' Unit that collects and preserves rare and unique materials including rare books, oral histories, university archives, historical manuscripts, maps, microfilm, photographs, art, and artifacts.*

## **Scope**

Although this policy addresses preservation of digital collections and resources for which the TWU Libraries are the primary custodian, the TWU Libraries also has the responsibility for informing, consulting, and coordinating with other units, as appropriate, to ensure that the campus community has adequate ongoing access to administrative, scholarly, and other digital resources created at TWU outside of the Libraries. Library staff will work externally through consortia (e.g., the Texas Digital Library (TDL), Cross Timbers Library Collaborative (CTLC) and with licensing agreements to ensure that continuing access is available for all digital resources locally owned and managed. The TWU Libraries cannot guarantee preservation for materials that it does not own and manage.

## **Objectives**

The primary purpose of digital stewardship and preservation is to collect and maintain the intellectual and cultural heritage important to TWU, while making sure that it is accessible and held in trust for future use. This framework includes:

- Identify through systematic selection, digital assets to preserve across new generations of technology;
- Maintain continuous access to reliable data at the bitstream level, the digital assets encoded in the bitstreams, and to the intended contextual and intellectual meaning of the digital assets;
- Include materials that originated in digital form and those that were converted to digital form;
- Protect the Libraries' digital investments through a digital preservation program;
- Demonstrate commitment by identifying sustainable strategies;
- Develop a cost-effective program (system-wide integration, shared responsibilities, automating human-intensive efforts);
- Comply with prevailing industry standards for preservation and access;
- Seek, expand, and develop digital presentation methods appropriate for TWU;

### **Mandate**

The Libraries' mandate is three-fold:

- Scholarship
  - Support scholarship, teaching and learning
  - Maintain the TWU theses and dissertations
  - Expand the identification, stewardship, and preservation of digital content
- Institutional Records
  - Maintain the University Archives
  - Collect and preserve University records that document the history of TWU
- Historically Valuable Collections
  - Steward the historically valuable collections about the history of women, as the State of Texas official archive on women's history (Texas State Legislature, 1979)

### **Challenges**

Implementing an effective digital preservation program includes some challenges:

- Rapid Growth
  - Technology formats change rapidly
  - Different types of materials require different needs
- Sustainability
  - Preservation model needs to respond to technological and staffing changes
  - Requires sufficient funding for operations, improvements, and management
  - Cost-effective and timely action needed to implement strategies
- Management
  - Requires institutional effort, partnership development, and financial commitment
  - Needs balance between access and preservation
- Partnerships
  - Work with creators and providers of crucial content

- Employ appropriate maintenance prior to deposit
- Flexibility
  - Continually review response to evolving technologies
  - Change user expectations without jeopardizing ongoing care of content
- Expertise
  - Update staff expertise as technologies change
- Rights
  - Constraints on providing access (e.g., intellectual property rights) that impacts preservation efforts
- Privacy
  - Collections are more openly available
  - Personal information could violate privacy

## **Principles**

**Guiding Principles:** The TWU Libraries will use consistent criteria for selection and preservation of resources, and the materials selected will be maintained for as long as needed or desired.

- Commitment to long-term preservation
- Digital preservation is an integral part of the TWU Libraries' process
- Processes, policies, and institutional commitment are transparently documented
- Levels of preservation and time commitments are determined by selectors and curators, in consultation with technical experts
- Participant in the development of digital standards, practices, and solutions

**Operating Principles:** The TWU Libraries will strive to:

- Develop a scalable, reliable, sustainable, and auditable digital preservation infrastructure
- Manage the hardware, software, and storage media components of preservation in accordance with environmental standards, quality control specifications, and security requirements
- Comply with OAIS Reference Model and other standards and practices
- Ensure interoperability of digital archive through utilization of open source options
- Ensure data integrity
- Secure metadata for access and use of the digital assets
- Comply with copyright, intellectual property, and other legal rights related to copying, storage, modification, and use

## **Standards**

TWU is best served when distributed and disparate systems conform to standards and best practices that make communication between storage systems possible. The Libraries will utilize the OAIS Reference Model as the basis for developing and implementing strategies and tools for long-term digital information preservation and access.

## **Commitment Considerations**

Developing solutions for “born-digital” materials informs solutions for other levels; it does not imply that these assets are inherently more valuable or important than any of the other levels and/or traditional, analog materials.

- Born-digital Materials
  - Rigorous effort is made to ensure preservation in perpetuity
  - Includes library resources and institutional records
- Digitized Materials (not available analog)
  - Reasonable steps taken to preserve when re-digitizing is not possible or analog versions are located elsewhere
  - Also includes digitized materials with annotations or other value-added features that make it difficult or impossible to recreate
- Digitized Materials (available analog)
  - Reasonable measures taken to extend the life of the digital objects
  - Cost of re-digitizing will be weighed against the cost of preserving the object
- Other Items and Materials
  - No preservation steps are taken for materials requested for short-term use
  - Example: materials scanned for e-reserve and document delivery

### **Levels of Preservation**

The TWU Libraries adheres to the National Digital Stewardship Alliance (NDSA) Levels of Digital Preservation. This is a tiered set of recommendations on how organizations should begin to build or enhance digital preservation activities to ensure secure, long-term integrity to digital collections. Based on the current digital preservation standards, the TWU Libraries apply the NDSA levels as a way of identifying gaps and improving digital preservation infrastructure.

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

## **Stakeholders**

TWU Libraries have multiple stakeholders who contribute to the life cycle of records and administer the digital preservation program:

### **TWU Libraries**

Since its beginning, the TWU Libraries has been entrusted to preserve important scholarly and historical resources to fulfill the educational and administrative mission of the University. The Libraries continue this commitment with the digitized and born-digital assets it retains.

### **Administration**

Digital assets retained, managed, or owned by TWU Libraries need adequate resources and support to remain accessible into the future. Library Administration allocates appropriate resources to ensure that preservation activities are sustained and developed into the future.

### **Digital Strategies & Innovations**

The digital preservation program relies on Digital Strategies & Innovations to support technology, including key software applications, and to maintain local and remote storage to align with digitization preservation principles, standards, and best practices. Designated librarians and staff work with preservation on a day-to-day basis. Staff in the unit manage key portions of the digital preservation program as one part of a larger digital library workflow.

### **Special Collections & University Archives**

As the individuals who have specialized content knowledge and established relationships with content producers, librarians and archivists in Special Collections & University Archives play a key role in identifying, acquiring, and describing content for the digital preservation program. Designated archivists adhere to the program when managing born-digital workflows.

### **TWU Campus Community**

Campus units deposit materials of enduring value with the Libraries to be preserved.

### **Texas Digital Library**

TDL manages and supports long-term distributed storage for TWU Libraries' digital preservation program through DuraCloud, Chronopolis, and Amazon Glacier.

### **Content Producers and Donors**

Key stakeholders include the producers or creators of the digital content who donate/deposit digital assets with TWU Libraries, with the understanding that their gifts will be properly managed and preserved.



### **Access and Use**

At times, certain limitations may be placed on access to digital resources due to legal, donor, and/or other restrictions. To the extent possible, TWU Libraries endeavors to make its digital resources accessible to all users. Additional restrictions may apply to the usage of items.

### **Implementation**

Implementation of this policy framework is contingent upon the infrastructure (technical and human resources) provided by TWU and the TWU Libraries, the availability of cost-effective solutions, the adoption of standards, and the evolution of best practices and procedures.

### **Review:**

The Library's Policy Work Group will review this policy with recommendations forwarded through normal administrative channels to the Dean of Libraries.

### Resources Consulted:

University of North Texas [Digital Preservation Policy Framework](#) (January 2017)

University of Houston [Digital Preservation Policy](#) (February 2018)

Approved by Library Administrative Team 03-17-2022