



*California*  
**STATE LIBRARY**

F O U N D E D 1 8 5 0

PRESERVING OUR HERITAGE, SHAPING OUR FUTURE

**California State Library  
Digital Preservation  
Strategy**

**April 2021**



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## Purpose

The California State Library's Digital Preservation Strategy is a framework to guide long-term preservation and sustainable access to our digital collections.

This strategy governs the operation, management, and scope of the California State Library's digital preservation program and provides guidance on the preservation of digital materials to ensure their reliability, authenticity, and long-term accessibility. This strategy also describes the general principles and rules for digital preservation that the library follows and guides the implementation of these policies. Steps to implement the digitization and preservation program must be in accord with this strategy to guarantee their coherence.

This strategy is intended to be a living document and may be updated at any time to reflect changes in technology, infrastructure, and operational developments in the digital preservation program.

## Mandate

Established in 1850, the California State Library is the oldest continuously operated public library in the American West and is the central reference and research library for state government and the Legislature. The library collection includes more than 4 million titles, 6,000 maps, and 250,000 photographs. It has an extensive collection of documents from and about the state's rich history and is one of the major genealogical reference libraries on the West Coast. It also holds significant collections from Mexico, the United Kingdom and Europe, with manuscripts dating back to the 13th and 14th centuries.

The State Library is both a State and Federal Depository Library, providing free and open access to government information, and is a U.S. Patent and Trademark Resource Center. It is home to the Bernard E. Witkin State Law Library, the Sutro Library, and the Braille and Talking Book Library. It also directs state and federal funds to support local public libraries and statewide library programs and services.

The California State Library reports directly to the Governor's Office and has a legal mandate to collect, preserve, and provide access to collections and material related to California history and culture. A well-defined digital preservation strategy is essential for the library to carry out its mission to enrich lives and connect people, libraries, and government to information and resources.

## Objectives

The California State Library recognizes our responsibility for preserving both print and digital collections in support of research, scholarship, and learning. To ensure the continued use of these collections, the library will follow a strategy of active preservation with the aim of safeguarding the authenticity and utility of all resources and collections entrusted to its care.

The specific objectives of the library's digital preservation strategy are to:

- Follow digital preservation standards and practices recommended by the Open Archival Information System (OAIS) Reference Model (ISO 14721:201) and those recommended by the National Digital Stewardship Alliance (NDSA) and Library of Congress (LOC).
- Adopt preservation strategies that allow for the incorporation of new and emerging technologies in cost-effective and responsible ways.
- Foster staff expertise in digital preservation practices, procedures, and technologies by providing ongoing training and development opportunities.



- Preserve California State Library digital assets that are either born digital or turned digital.
- Increase the number and range of digital materials available to researchers and the public.
- Identify collections to digitize that are unique to the California State Library and have regional, state, national and international interest.
- Provide context for digital materials by creating the metadata necessary to understand and preserve them.
- When necessary, migrate records into formats that are acceptable for long-term preservation and access.

## Scope

The library's Digital Preservation Strategy applies to all digital materials held by the library and includes both born-digital and turned-digital. Born-digital refers to materials that originated in a digital form, such as websites and electronic records, while turned-digital refers to analog material that has been digitized. Currently, the majority of the library's digital material consists of photograph and print collections that have been digitized in order to increase access through the library's online catalog.

Digital materials are subject to the same selection and preservation criteria as other resources at the library. Decisions regarding digital preservation are made jointly by the Preservation Unit in consultation with the State Library Services Bureau Chief, librarians, and information technology experts. Digital preservation decisions are made based on this Strategy, the library's Strategic Plan, collection development plans, the significance of the digital materials, and the feasibility of preserving digital resources. When possible, preservation decisions will be made at the time of creation or acquisition of the digital material.

## Selection Criteria

Staff librarians, working with Preservation staff, will identify digital preservation priorities for their bureaus. The following factors will be evaluated when establishing priorities:

- Resources unlikely to be preserved and made available anywhere else.
- Material that is in danger of loss due to deterioration or obsolescence.
- Material related to under-represented peoples or cultures in California.
- Material with high research and/or scholarly appeal.
- Material for which there is a large public demand or interest.

As priorities are identified based on the above criteria, each library bureau or section will submit a priority list to Preservation.

## Content Types and Formats

The main content types in the library's collections are books, manuscripts, images, videos, and audio material. The library's primary focus has been on digitizing our historic stereograph card collection, and photograph and print collections. Currently, the library is focused on digitizing collections to increase accessibility online. When necessary, the library will migrate VHS, cassettes or other forms of magnetic tape recordings to a more accessible digital format. Images digitized via scanners are saved as TIFF files<sup>1</sup>, and function as the archival master copies. JPEG files, derived from the master copies, serve as access copies or for transmission over a network. Images digitized using cameras create proprietary RAW files, which are then converted to TIFF and JPEG files for ease of access.

<sup>1</sup> TIFF 6.0 has been in use since 1992, and is a relatively stable, unchanging format that does not compress image data.



As we move forward with digitizing books, diaries, and other text-based material, we will convert text files to PDF/A for ease of access and use.

Currently, the library has digital collections with a wide range of formats, some of which are proprietary and/or becoming obsolete, such as over 3,000 digital files with extension .fff, the Hasselblad digital camera's proprietary RAW image format. The library has converted the RAW files to TIFF for easy access, and will be preserving the RAW files themselves by converting them to the more open DNG format.

As the library moves forward with its digital preservation program, and to the extent that it is possible, we will follow the format recommendations of the Library of Congress (LOC) as described in their Recommended Formats Statement<sup>2</sup>.

## Life Cycle Management<sup>3</sup>

The library has digitally converted approximately 75,000 items of its analog collections using sophisticated, high quality equipment, and following recommended LOC standards. The preservation masters of all turned-digital materials are currently stored on secure, RAID-protected storage that is differentially backed up weekly to disk and then to tape, and geo-replicated asynchronously on a daily basis to offsite disk storage. Back-up tapes are stored at an off-site facility.

Disk and tape media is refreshed with newer technology on average every five years. Currently the library uses a storage area network (SAN) to store the data.

The storage systems are protected from unauthorized access using share restrictions and New Technology File System permissions. Only IT and a small group of library staff have access to the storage area, and file access can be restricted to read-only, preventing deletion or overwriting of the digital assets.

Data replication at the storage system level is used to move data offsite. Replication provides for additional archive copies and as well as for automated and manual file or digital-object-level recovery. Since replication is at the storage layer it is not under the control of any single application so there is no requirement for a backup application to access the replicated data. This has advantages from an archival and long-term accessibility perspective since the digital objects are accessible and workable.

Storing data by an archival function, in a file system view, means data is easily accessible by the librarians and the Information Technology team as well as through other applications. This is particularly useful for virus checking, fixity validation, etc., over the life of a digital asset.

The Recovery Point Objective is the maximum amount of data loss an organization can sustain due to a major incident or accidental deletion. For the library, the loss level is a little shy of 24 hours. Each evening, the library uses asynchronous replication to copy data to the offsite location. Only members of IT and the read-write group have delete permissions.

All actions are logged and there are physical security measures in place to prevent unauthorized actions such as key card access to servers and workstations.

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<sup>2</sup> <https://www.loc.gov/preservation/resources/rfs/> [accessed 5/01/2017]

<sup>3</sup> The California State Library is currently in the process of converting our backup infrastructure to a cloud-based system. It is anticipated that this conversion will take several months. This section of the Digital Preservation Strategy will be updated once the conversion to a cloud-based system is completed.



## Challenges

The California State Library is committed to preserving and providing access to its collections to researchers and the public. To honor this commitment, the library's preservation program must address a number of challenges. Among these challenges are:

- Growing volume of digital materials to be maintained.
- Cost of long-term accessible storage for digital material.
- Rapidly changing technologies used to capture, store, and represent digital materials.
- Continuous updating of staff expertise as technologies change.
- Intellectual property and other rights-based constraints on providing access.
- Sufficient ongoing financial resources to ensure long-term viability of a preservation program.
- Staff time necessary to create metadata to ensure items are discoverable.
- Staff time necessary to digitize collections.
- Development of policies and procedures to guide digitization practices.

The objective of the library's Digital Preservation Strategy is to address these and other challenges to the long-term preservation of our digital resources.

## Principles

The digital preservation community has been developing principles and standards for good practice for over 20 years, beginning in 1996 with the release of Preserving Digital Information, the report of the Task Force on Archiving of Digital Information commissioned by the Commission on Preservation and Access and the Research Libraries Group. Since then, the documents developed by the community have provided a comprehensive framework of good practices for managing data<sup>4</sup>.

The following principles guide digital preservation activity at California State Library:

**Access:** We are committed to providing long-term access to our collections. Access to digital collections will be supported to the best of our ability given current available resources.

**Authenticity:** We will create digital objects with supporting metadata to establish authenticity and provenance. Digital objects will be managed to ensure that they are unaltered and the original data is preserved.

**Collaboration:** We will explore new opportunities for collaboration and will participate in agreements with other institutions and organization whenever they are a good use of the library's resources.

**Intellectual Property:** We are committed to providing access to digital materials while respecting and upholding the intellectual property rights, copyrights, and ownership rights of authors. Rights management actions will be documented and rights information will be preserved with digital content.

**Standards and Best Practices:** We will observe current standards and best practices related to the creation, maintenance, storage, and delivery of digital objects and metadata.

**Sustainability:** Digital preservation activities will be planned and implemented in ways that best manage current library resources and that are sustainable into the future.

<sup>4</sup> <http://www.ihsn.org/sites/default/files/resources/IHSN-WP003.pdf> [accessed 5/23/2017]



**Training:** We are committed to on-going training and development of staff in areas related to digital preservation.

**Technology:** We will fulfill digital preservation objectives by maintaining the hardware, software, expertise, and protocols necessary to ensure long-term access.

## Roles and Responsibilities

This section describes the California State Library bureaus and their respective roles in digital preservation.

### California History Section

Is responsible for books, photographs and other visual materials, maps, manuscripts, ephemera, and newspapers and periodicals related to California's history. Its holdings also include the Special Collections and the General Rare Collection. California History has been digitizing materials since 2003, primarily photographs and images. The Supervising Librarian works with the Digital Collections Librarian and other staff to identify digitization priorities in alignment with the needs of library patrons and Digital First initiatives.

### Government Publications Section

Is the official depository for documents related to California's government, such as legislative hearing transcripts and reports by state agencies, as well as a regional depository of federal government information that receives all publications distributed by the United States Superintendent of Documents to depository libraries, including records of patents and trademarks. Government Publications Sections staff prioritize and make recommendations for digitization, and protection of the growing number of reports distributed in e-format.

### Witkin State Law Library

Contains selected primary and secondary sources in American law. It is particularly strong in both California and older national primary and practice materials and contains a small of collection of rare historical legal texts and treatises. Law staff prioritize and make recommendations for digitizing analog materials.

### Sutro Library

Acquires, preserves, and makes accessible rare and unique resources for scholarship and education of students, faculty, and independent researchers. Sutro Library has over 90,000 volumes of rare books and 100,000 pamphlets, broadsides, photographs, and maps. They also hold one of the largest genealogy collections west of Salt Lake City. The Principal Librarian prioritize and makes recommendations for digitizing analog material.

### Braille and Talking Book Library

The Braille and Talking Book Library (BTBL) section provides accessible audio and braille books, magazines, and other materials on a wide variety of topics to eligible blind and otherwise print disabled members of the general public, as well as patrons of the National Library Service for the Blind and Print Disabled. BTBL section produces digital audio book titles for the California collection in its local recording studios. BTBL staff will prioritize and make recommendations for digitizing analog materials from the California collections.

### Information Services

The Information Services Section provides materials on a wide variety of topics of interest to both state government employees and the general public, including books, periodicals, electronic databases, and other electronic and print materials, some of which are rare. All subjects except California and the law are available here. Information Services staff prioritize and make recommendations for digitizing analog materials.

### Preservation

Is responsible for the conservation, protection, and digitization of the library's collections to ensure their continued access and use. Preservation staff works with bureau and section heads to prioritize collections for digitization and identify metadata.



## Collaboration

The California State Library recognizes that ensuring the long-term preservation of digital materials is a complex and costly undertaking, and it may be too expensive for every cultural heritage institution to build its own technological infrastructure for digital preservation. The California State Library is committed to preserving not only our own digital content, but also participating in other institutions efforts to preserve the digital scholarly record. For this reason, the library will seek to work collaboratively on digital preservation efforts where appropriate.

Current partnerships include Digital Concierge, California Revealed, California Newspaper Project and CA.GOV Web Archive.

### Digital Concierge Program

The Digital Concierge program is a content-creation, digitization, and digital preservation center dedicated to protecting and sharing the collections hidden throughout California state government. The Digital Concierge team works with state departments to identify and showcase the most culturally significant, sought-after or at-risk parts of an agency's collections and records. The chief services offered by Digital Concierge are:

- Offering consultation and advice to state agencies regarding best practices and standards for digitization and digital preservation.
- Facilitating digitization projects on behalf of state agency partners and providing public online access to materials digitized through the program.
- Collaborating with state agency partners to highlight their work and share their stories with the public through online platforms such as Google Arts & Culture.

Consulting, advising, and partnering services are provided at no cost to state agencies, as the Digital Concierge Program receives some annual funding from the California State Library to facilitate digitization projects<sup>5</sup>.

### California Revealed

California Revealed is a California State Library initiative that helps public libraries, archives, museums, historical societies, and other local heritage groups digitize, preserve, and provide online access to materials documenting the state's history, art, and cultures. Free access and preservation services for existing digital collections, including technical advice and guidance, is also provided for partner organizations with in-house digitization programs.

Since first launching in 2010 as a digitization initiative focused on audiovisual recordings, California Revealed has increasingly worked to educate and empower regional organizations to make the most of their collections. To date, California Revealed includes more than 86,000 objects from over 300 partner organizations representing a diverse array of constituencies and collections. Many can be found at [californiarevealed.org](http://californiarevealed.org). The objects themselves are similarly eclectic: motion picture film, video tapes, audio recordings, newspapers, scrapbooks, photographs, microfilm and manuscripts.

California Revealed records are also accessible through the Internet Archives, the Digital Public Library of America, Calisphere, and the Home Movie Registry, affording multiple potential access points to the public, including teachers, librarians, genealogists, artists, scholars and journalists<sup>6</sup>.

### California Newspaper Project

The State Library supervises this long-running project which, among other things, is working to create digital copies of at least one newspaper for every county in the state. Its current output is in the hundreds of thousands of pages of newspapers per year but what makes it unique among such efforts is the increased searchability its software provides.

<sup>5</sup> <https://www.library.ca.gov/services/digital-concierge/> [accessed 3/11/2021]

<sup>6</sup> <https://californiarevealed.org/about> [accessed 3/11/2021]



## CA.GOV Web Archive

The CA.GOV Web Archive is a seven terabyte and growing repository that contains the digital content of all California state government agencies, commissions and departments as well as the Legislature and constitutional officers. The material is regularly refreshed by “crawling” state websites to develop a comprehensive series of digital information snapshots.

This collection is a collaborative effort of government information specialists and web curators across the University of California Libraries, Stanford University Libraries, the California State Archives and the California State Library.

## Access and Use

Preservation is pointless without access. The library is committed to providing meaningful access to users and patrons. The library has digitized historic photographs, prints, and manuscript materials and provides access to JPEG, TIFF, and PDF files through our online catalog. This provides patrons unmediated access to digital collections, increasing their use. The library has also begun a Digital First initiative to prioritize digital technology for information delivery. This initiative allows the California State Library to better connect with the public and offer them vastly more access to the library’s collections.

The library will ensure that digitized text-based material is accessible and readable using PDF/A software.

## Implementation

Each library bureau and section identify their top candidates for digitization as needed. From these lists Preservation staff and department heads select collections for digital preservation on an annual basis.

Selection will be based on the following:

**Rarity:** Priority is given to unique and high-value, at-risk materials of wide interest to the public. A digital surrogate is desirable for materials in this category because reducing the handling of originals will allow for increased longevity and security.

**Relevance:** Factors include the importance of the material’s contents, a demonstrable audience demand and the value added through digitization.

**Metadata:** Metadata is an important component for the long-term access of digital material. Priority will be given to collections that have already been cataloged and processed and have at least basic descriptive metadata available.

**Access and use:** Original materials that have high frequency of demand or high retrieval costs are strong candidates for digitization.

**Ownership:** The library has the intellectual property rights to permit legal creation and dissemination of a digital version.

**Privacy:** Priority is given to collections without donor imposed restrictions, collections that would not impinge on an individual’s rights to privacy, or culturally sensitive materials.

**Physical Condition:** Items that are not accessible to the public because of existing damage, fragility, or obsolete format are candidates for digital reformatting.

**Format:** Priority will be given to collections that are in a format Preservation has the equipment to digitize and make available through our catalog system. Preservation can accommodate textual materials, images, and prints.



**Size/volume:** Preservation can digitize oversized material but anything over 30"x 40" requires special planning and consideration. Volume is taken into consideration for establishing work flow and estimated completion dates.

## Preservation Workflow

A clearly defined and implemented workflow plan is necessary to ensure an efficient digitization process. The digitization workflow plan will include the following steps:

- Selection of materials (Types of materials that will be digitized and in what sequence)
- Condition evaluation (Assess condition of material to be digitized)
- Metadata selection (Ensure the necessary metadata is available)
- Production schedule and target completion date
- Digitization prep (preparing material, setting up cameras, lighting, etc.)
- Digitization
- Post processing (Adjusting image files, creating access copies, and preservation metadata)
- Quality check/review
- Ingest into Rosetta Digital Asset Management
- Publishing to Alma Primo, making the content available through the library's online catalog

The selected material/collection will be brought to Preservation where it will be held during the digitization process. Once digitization is complete, the material will be returned to the stacks.

## Rosetta Digital Asset Management

Digital preservation comes with several challenges, primary among them is the storage and preservation of large digital files, the management of these files over time, and providing public access to these digital collections.

To meet these challenges the California State Library began implementing Rosetta Digital Asset Management in 2020. Rosetta's scalable infrastructure allows the library's digital collection to grow over time without negatively impacting preservation. Rosetta also connects to the library's integrated library system, Alma, and its discovery tool, Primo, from the same vendor. Rosetta's open platform allows the library to extend Rosetta's core functions and integrate it with other digital and discovery systems, as desired. Rosetta also enables the library to preserve multiple types of digital file formats, ensure their integrity over time, and provide downloadable copies to the public through the library's online catalog.

Rosetta allows management of digital asset workflow, from deposit to delivery and preservation, and lets the library configure its workflows to meet its specific needs<sup>7</sup>.

**Deposit:** Supports manual and automatic workflows allowing any user to upload content for ingestion into the preservation repository. Automatic workflows enable continuous ingestion of data on a daily bases without human intervention.

**Ingest:** Provides a set of automatic and manual processes including virus checks, checksums generation and verification, format identification, technical metadata extraction, risk extraction, content validation, and curatorial and accession process.

<sup>7</sup> <https://exlibrisgroup.com/products/rosetta-digital-asset-management-and-preservation/> [accessed 1/22/2021]  
<https://campusguides.lib.utah.edu/c>.



**Manage:** Administrators can monitor and configure all workflows, processes, and content. They can generate audit trails, collect data and statistical information.

**Preserve:** A preservation planning module identifies risks, evaluates possible alternative solutions, selecting the best among them and activating the optimal preservation process.

**Publish:** Content that is uploaded to Rosetta is discoverable by external search engines, such as Alma, the library's online catalog.

**Delivery:** Content is more easily provided to end-users, while simultaneously checking the access rights defined for each item. Additional viewers can be added to the system to support any content type.

## Digitization Equipment

### 1. Epson

#### a. (1) 10000XL Flatbed Scanner

Scans up to 11" x 17" for flat reflective objects as well as transmissive materials such as film, transparencies and glass plate negatives. Film scanning requires changing the scanner's lid. Offers the ability to refocus the scanner so objects that are a few millimeters above the platen will still be sharp. Anything further than that will be blurry.

#### b. (2) 11000XL Flatbed Scanners

Same as above.

#### c. (3) V750 Pro Flatbed Scanners

Scans up to 8.5" x 11" for reflective or transmissive materials. Scans are slightly sharper than the larger 10000XL/11000XL models but this model does NOT offer an autofocus or refocusing ability. Sometimes this necessitates using a special film scanning platform to ensure optimum sharpness.

### 2. Hasselblad

#### a. (1) Flextight X1 Film Scanner

Digitizes only 35mm slides, 35mm strip negatives, 120 film, and 4x5 film. Except for mounted 35mm slides, this scanner can only accommodate flexible film.

#### b. (1) H4D-40 Digital Camera

This 40 megapixel camera is used for photographing objects but the two Digital Transitions systems below are far superior in image quality and usability.

### 3. Nextscan

#### a. (1) Flexscan Fiche Scanner

This large scanning system handles production scanning of microfiche or microfilm. Complicated to operate, its use is being expanded through more staff training.



## 4. Digital Transitions' Division of Cultural Heritage

### a. (1) RGC180 Film, Book, and Oversize Flat Objects System

Capable of photographing up to 30" x 40" flat objects, books, as well as film scanning. It accommodates 35mm slides, negatives and 120 film. The light table is 12" x 18" in size, so any film up to that size is feasible to capture. Uses a pneumatic pump to flatten curled flat objects or books with a large glass plate.

### b. (1) BC100 Book Scanner

Able to photograph a book up to 17" x 24" in dimension. Also uses a pneumatic pump to press a v-shaped piece of glass down on the book to flatten it. This speeds digitization, but fragile books still must be scanned by hand without a glass overlay.

## 5. Nikon

### a. (1) D3s Digital Camera

A 12-megapixel camera used for documenting anything that doesn't require archival quality, like documenting the repair of an important object or documenting a new exhibit for the library's website.

## 6. Infonics

### a. (1) Reel-to-reel duplication machine

Converts Braille and Talking Library books on cassettes to digital audio file formats.

## Digitization Guidelines

### Preservation File Format

The State Library uses the following file type, bit-depth, and color space requirements for digital preservation:

- Preferred preservation file format: TIFFs<sup>8</sup>.
- Bit-depth of TIFF: 16-bit
- Color space: Adobe RGB 1998

### Quality Levels

The State Library adheres as closely as possible to the Federal Agencies Digitization Guidelines (FADGI). The FADGI uses a four-star ranking system to identify consistent image quality. The recommendations are based on ISO standards. The State Library's objective will be to consistently follow the recommended four-star ranking because this level "defines the best imaging practical today. Images created to a four-star level represent the state of the art in image capture and are suitable for almost any use."

Currently, Digital Preservation is scanning textual documents at 600 PPI (pixels per inch) or higher, depending on the size of the artifact. Smaller objects, such as a stamp, may require scanning at 2400 PPI in order to produce a quality archival file.

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<sup>8</sup> Material that is "born digital" in other formats (jpeg, PDF/A, etc.) will be preserved in its original file format when possible. For material being converted to a digital format, TIFFs will be the preferred file format.



Digital Preservation is using the following FADGI specifications:

Material	PPI (Pixels Per Inch)
Bound and unbound textual material	400
Prints and photographs	600
Painting and other artwork	12,000 pixels on long dimensions or 600 PPI at minimum

Prior to 2006, images were scanned at specific dpi -- 300, 600 and finally 720. Beginning in 2006, the library began using an item's dimensions rather than a specific dpi to set resolution. Resolution of TIFF files is determined based on obtaining approximately 5,000 pixels or higher on the long dimension and on the resultant file size. The general ranges for file size: 100-300 MB (48-bit).

General ranges for dpi include:

Format	DPI
35 mm slides	2200
2x3 in. images	1800
4x5 in. images	1000
4x5 in. negatives	1400-1800
stereo	1200
postcards	920
5x7 in. images	800
8x10 in. images	720
Larger than 8x10 in.	600

Note: the larger the original image, the smaller the dpi.



## References

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## Glossary

- Access:** The continued, ongoing usability of digital resources, retaining all qualities of authenticity, accuracy and functionality deemed to be essential for the purposes the digital material was created and/or acquired for.
- Born Digital:** Material created in a digital format, and not intended to have an analog equivalent, either as the originating source or as a result of conversion to an analog form.
- Digital First:** A California State Library initiative to prioritize digital technology for information delivery. This initiative allows the library to better connect with the public and offer more access to the library's collections.
- Digital Materials:** A broad term encompassing digital surrogates created as a result of converting analog materials to digital form (digitization), as well as "born digital" materials for which there has never been and is never intended to be an analog equivalent, and digital records.
- Digital Preservation:** Refers to the series of managed activities necessary to ensure continued access to digital materials for as long as necessary, and encompasses all action required to maintain access to digital materials beyond the limits of media failure or technological change.
- Descriptive Metadata:** Information identifying the content of a digital resource that aids in the item's discovery and identification. It can include elements such as title, abstract, author, and keywords.
- Preservation Metadata:** The technical details on the format, structure and use of digital content, including the history of all actions performed on the resource as well as authenticity information such as technical features or custody history, and the responsibilities and rights information applicable to preservation actions.
- Technical Metadata:** Descriptions of the technical processes used to produce, or required to use a digital object.
- Turned digital:** Material that has been digitized or copied into a digital format.