Digits Fugit … or

… Preserving Digital Materials Long Term

Tawnya Mosier – University of Utah

Chris Erickson - Brigham Young University
Our Presentation

1. The need for digital preservation.
2. What can we do now?
4. Questions.
1. Digital Preservation

The Need . . .
Digital Preservation Definition:

- Digital preservation combines policies, strategies and actions to ensure access to reformatted and born digital content....

- The goal of digital preservation is the accurate rendering of authenticated content over time.

ALA – Digital Preservation Medium Definition
Preservation Timeframe

- A document that cannot be accessed, read and used in 20 years from now is a lost document.

What is the Problem?

- Longevity
- Obsolescence
  - Hardware
  - Software
  - Formats
- Media aging / Media failure
- Storage and Handling
- Organizational challenges
Hardware / Software Obsolescence
Media / Format Obsolescence
Media Storage / Handling

Care and Handling of CDs and DVDs: A Guide for Librarians and Archivists

by Fred R. Byers

October 2003

Store upright in cases
Avoid heat, humidity, light, fingerprints, dust, solvents, scratches, moisture, labels
Check regularly
Migrate as needed
What are the Solutions?

- Currently no simple solution
- Technical
- Procedural / Organizational
What are the Solutions?

- Technical
  - Manage the Technology
  - Use Open formats and Standards
  - Use the Best Media Available
  - Preservation Metadata
  - Security / Authenticity
What are the Solutions?

- Procedural / Organizational
  - Develop internal processes & strategies
  - Monitor and Migrate
  - Follow best practices / guidelines
  - Lots Of Copies
  - Organizational support
  - Collaborate with others
Digital Preservation Standards

- OAIS Reference Model
- Attributes of a Trusted Repository
- PREMIS – metadata guidelines
Open Archival Information System

- OAIS Reference Model
- ISO Standard
- Archival Framework
- Designated Community
- Long-Term Preservation
  - Concern about impact of changing technologies
- Framework of concepts
- Common Terminology
- Organization responsibility
- Digital and Analog items
- Allows Comparisons

http://nost.gsfc.nasa.gov/isoas/
OAIS Reference Model

http://nust.gsfc.nasa.gov/isoas/
Attributes of a Trusted Repository

- RLG & OCLC
- Digital Repository
- Long-Term Access
- Organization responsibility
- Managed Resources
- Property Rights
- Technical Strategies
- Define Metadata Needed
- Certify Repositories
  - Audit Checklist (TRAC)
  - Authenticity

PREMIS: Preservation Metadata

- Preservation Metadata
- Define Metadata Needed
  - Intellectual Objects
  - Property Rights
  - Data Objects
  - Entities
  - Agents
- Data Dictionary
- XML Schema

http://www.loc.gov/standards/premis/v2/premis-2-0.pdf
For More Information - Handout

Organizations:
- Library of Congress Digital Preservation Program
- LC Digital Preservation Resources
- National Archives: Strategy for Digitizing Archival Materials
- Blue Ribbon Task Force

Tutorial:
- Digital Preservation Management: Implementing Short-term Strategies for Long-term Problems

Where to read more:
- D-Lib Magazine
- ALA Digital Preservation Definitions
- Establishing a Digital Preservation Policy
- PADI: gateway to international digital preservation resources
- Digital Preservation Matters

- Digits Fugit, or Preserving Digital Materials Long Term is available at:
2. Digital Preservation

What can we do NOW?
What can we do NOW?

- Assess & organize collections
- Policy and Procedures
- Preservation Metadata
- Backup and Redundancy
Assess Collections

- Where are the master files held?
- How to prioritize archival collections
- Basic organization of archival files (CONTENTdm, etc.)
CONTENTdm Archival Files

- CDM v. 4.3 Full Resolution Manager
  - Creates path between display & archival image
  - Accessible by collection manager only OR viewer

- CDM v. 5 Archival Files Manager
  - Separate from display image generation
  - Disabled for new collections by default
  - When enabled, all files are added to a volume when imported from project client
  - Digital Archive compatibility
Collection configuration

View and edit the collection profile and settings, including full resolution and PDF conversion. To view and configure the metadata fields for this collection (and to enable full text searching), see fields.

### Profile & permissions

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collection name</td>
<td>Utah State Historical Society - Full Res Project</td>
</tr>
<tr>
<td>Collection alias</td>
<td>/ushs_fullRes</td>
</tr>
<tr>
<td>Directory name</td>
<td>/ushs_fullRes</td>
</tr>
<tr>
<td>Collection status</td>
<td>Published</td>
</tr>
</tbody>
</table>

### Permissions

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>User name</td>
<td></td>
</tr>
<tr>
<td>IP address</td>
<td></td>
</tr>
<tr>
<td>Require permissions</td>
<td>For metadata and items</td>
</tr>
</tbody>
</table>

### Collection description

Collection description undefined.

### Optional collection settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>PDF conversion</td>
<td>Do not convert multiple-page PDF files to compound objects</td>
</tr>
<tr>
<td>Full resolution enabled</td>
<td>Yes</td>
</tr>
</tbody>
</table>

#### Full resolution settings

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volume size</td>
<td>3,952B</td>
</tr>
<tr>
<td>Default display image size in pixels</td>
<td>600x600</td>
</tr>
<tr>
<td>Default archive image size in pixels</td>
<td>3200x2400</td>
</tr>
<tr>
<td>Volume name prefix</td>
<td>Volume</td>
</tr>
<tr>
<td>Display location in</td>
<td>Administration interface only</td>
</tr>
</tbody>
</table>
Policies and Procedures

- What to save, for how long and on which formats?
- Document an organization’s commitment to preservation
- Specify file formats to be preserved
- Ensure compliance with standards and best practices (OAIS, TRAC)
Preservation Metadata

Information that supports and documents the digital preservation process.
It stores technical details on format, structure and use of digital content, history of all actions performed on the resource...

Preservation Metadata

- Provenance
- Authenticity
- Preservation Activity
- Technical Environment
- Rights Environment

Preservation Metadata

- Dublin-Core Best Practices
  - Recommended vs. Strongly recommended

- Digitization Specifications
  - Creation hardware
  - Creation software
  - Operating system
  - Master file type
  - Master file size
  - Checksum value
  - And more...
Backup and Redundancy

- Develop backup strategies!
  - Document your strategies
- Perform trial restorations!
- Retain copies?
Backup and Redundancy at MLIB

- **Storage Area Network (SAN)**
  - Weekly backup
  - Incremental daily backup
  - Tapes sent to offsite vault once a month
What’s Next?

- OCLC Digital Archive
- MetaArchive
OCLC Digital Archive

Digital Archive
Secure, managed storage for digital preservation

AT A GLANCE
- Automated monitoring and reports
- Simple, straightforward workflows
- Optional integration with CONTENTdm for preservation and presentation

View complete at a glance

NEWS
- OCLC's new Webinar series on high content model for digital collections
- OCLC's Digital Archive Services Offers Long-Term Storage for Digital Collections
- OCLC Offers Digital Archive service for long-term storage of libraries' digital collections

Download the brochure

The Digital Archive provides a secure storage environment for you to easily manage and monitor the health of your master files and digital originals.

It provides a foundation for digital preservation of all your digital collections. It stores master files and digital originals in a secure, managed and separate environment whether you've built your digital collections using CONTENTdm or another local access repository.

Secure, managed storage
The Digital Archive is a specially designed system in a controlled operating environment dedicated to the ongoing managed storage of digital content. We have developed specific systems process and procedures for the Digital Archive tuned to the management of data for the long term.

Automated monitoring and reports
OCLC's new Webinar series on high content model for digital collections is an important step in ensuring that what you need is what you'll get back in the
OCLC Digital Archive

- Systems management
- Physical security
- Data security
- Data backups
- Disaster recovery
- ISO 9001 Certification
- Automated monitoring and reports
- No migration services
THE GREATEST THREAT

To digital assets is not fire, flood or theft. It’s the assumption that cultural heritage institutions have taken the steps needed to preserve them.

Most often, we haven’t. Which is why the MetaArchive Cooperative is leading a national effort to embrace distributed digital preservation, the future practice of digitally safeguarding the very items that define our culture and identity. More >
MetaArchive

- Cooperative Organization
- Distributed digital preservation
- Technical framework based on LOCKSS software
- Collections stored on secure file servers in multiple locations
- Servers check each file and repair when necessary
- BCR grant proposal for MetaArchiveWest
The mission of the Florida Digital Archive is to provide a cost-effective, long-term preservation repository for digital materials in support of teaching and learning, scholarship, and research in the state of Florida.

In support of this mission, the Florida Digital Archive guarantees that all files deposited by agreement with its affiliates remain available, unaltered, and readable from media. For those materials designated to receive full preservation treatment, the Florida Digital Archive will maintain a usable version using the best format migration tools available.

The Florida Digital Archive is based on DAITSS, a preservation repository management application, which is available as open source software under the GPL license. See http://daits.fcla.edu.
What’s Next at BYU?

- Portico – Digital Archive
  - eJournals
  - Local Content
- Millenniata - The Millennial Disc™
- OCLC Digital Archive
3. Digital Preservation

Utah Digital Preservation. . .
4. Questions?

Chris Erickson  
Brigham Young University  
chris_erickson@byu.edu  

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Tawnya Mosier  
University of Utah  
tawnya.mosier@utah.edu