Don’t Get Stranded Alone...Join Us on Digital Preservation Island!

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Anne Stenzel, Archives Technician

Minnesota Alliance of Local History Museums Conference
Red Wing, MN
April 24, 2019
Session Outline:

• The Minnesota State University, Mankato Story
• Digital Preservation Plans
• Professional Development Tools
• Group Activity
Just sit right back
And you'll hear a tale...

- Minnesota Digital Library, 2000
- 1st Digitized Images in AY2004
  - In MDL
  - In MSU CONTENTdm
  - In-house scanning
Make us comfortable with our DAM nest

• ARCH
  • http://arch.lib.mnsu.edu
  • 133,000 digital items

• Cornerstone
  • http://cornerstone.lib.mnsu.edu
  • 4800 digital items
Four passengers set sail that day,  
For a three hour tour,  

- University Archivist  
- Digital Initiatives Librarian  
- Archives Technician (with Digitization emphasis)  
- Archives Technician  
- Digital Initiatives Technician (half time)  
- Graduate Assistant (sometimes)  
- Student Workers – 4-8  
- Interns (occasionally)
Lots of Materials—Lots of Digitization

- Books
- Audio & Moving Images
- Photos
- Negatives
- Newspapers
- Slides
- Microform
Will do their very best to make each other comfortable

• In-house Digitization
• External Funding
  • MCHF Grants

Male students sitting on comfortable chairs watching movie in a small room, Mankato State College, 1959-02-20
The Storage Started Getting Rough...

- Staff and Projects started to Accelerate
- Started running out of space – backups created but NOT safe nor manageable

Image courtesy of the University Archives at Minnesota State University, Mankato. Three females in a canoe in Highland Arena Pool at Mankato State College, 1968. https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A4631
Born Digital Accessions Set Ground on the Archives Desk!
Our First Commercial Break...

Source: Memorial Library @ Minnesota State University, Mankato (2019, April 16). Digital Storage Commercial Archives [Video file]. Retrieved from https://youtu.be/eR4gHYM25sc

Credit: Written, Directed, Edited, and Starring: Ben Siglin; Videographer: Shania Gilmore.
Our Bus Got Stuck in a Field of Muck of This Uncharted Preservation Plan.

The Great Collapse of 2016

Image courtesy of the University Archives at Minnesota State University, Mankato. Mankato State College inter-campus bus stuck in the mud, 1961. https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A4006
Are You Stranded on the Island?

DigiVengers to the Rescue?!

- Storage plan which led to a Digital Preservation plan
- Workshops
- Professional reading

Bitcurator Workstation
https://bitcurator.net/bitcurator/

Need a New Plan

Image courtesy of the University Archives at Minnesota State University, Mankato. Students waiting at the bus shelter at Mankato State University, 1988. https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A49002
Disclaimers

• We are not all-knowing experts in everything.
• We are still learning about digital preservation.
• Possible side effects from today may include:
  • A need to learn more about digital preservation.
  • A desire to create your own digital preservation plan.

Image courtesy of the University Archives at Minnesota State University, Mankato. The Reporter, Tuesday, September 26, 1989, page 10. https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A129775
SOS!
(AKA: Save Our Stuff with a Digital Preservation Plan)

Our Digital Preservation Plan is at
http://cornerstone.lib.mnsu.edu/lib_services_fac_pubs/53

• Draft (2016)
• Needs updates
• Needs content

Image courtesy of the University Archives at Minnesota State University, Mankato. Mankato State College, Father Halloran from Newman Club posing with boat in front of a house, May 26, 1958. https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A124575
Who’s On Your Island and How Many Coconuts Do you Have?

- Support?
- Stakeholders?
- Funding?
- What can you Afford?
  - Staff Time
  - Finances
  - Loss (Are you ready to lose everything?)
- Policies?
  - Local/Organizational
    [http://lib.mnsu.edu/archives/diglib/intro.html](http://lib.mnsu.edu/archives/diglib/intro.html)
  - State/County
    [http://lib.mnsu.edu/archives/rm/intro.html](http://lib.mnsu.edu/archives/rm/intro.html)

Image courtesy of the University Archives at Minnesota State University, Mankato. “The Patriots” Fall play 1960 Mankato State College October 31, 1960. [https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A57008](https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A57008)
Survey Your Surroundings

- Begin with a list
- Create a log that includes
  - Unique identifiers
  - Locations

Spreadsheets/Databases are your friends!
Our Second Commercial Break...

Organization (File/Folder Naming)

- Unique Names (version, date)
- Dates = YYYY_MM_DD or YYYYMMDD or YYYY or YYYY-MM or YYYY-YYYY
- Avoid special characters
- Use underscores or dashes to represent spaces
- Use Leading Zeros (001, 002, 003, etc.)
- Filename Extensions = Library of Congress’ Sustainability of Digital Formats Document
- Our Example: msu00072_SMHC_103_07_022_0006.tif
- Tools:
  - ReNamer Lite = http://www.den4b.com/?x=downloads&product=renamer
  - Bulk Rename Utility = http://www.bulkrenameutility.co.uk/Download.php
Metadata

• Standards and Best Practices
  • MODS, Dublin Core, VRA (Metadata Structure Standards)
  • Metadata Content Standards (Best Practices)
    • Describing Archives: A Content Standard (DACS)
    • Minnesota Digital Library (MDL) Standards & Best Practices
  • How much do you include?
  • More Product vs Less Process?

• Tools
  • Exiftool = http://www.sno.phy.queensu.ca/~phil/exiftool/
  • NARA File Analyzer and Metadata Harvester
    = https://github.com/usnationalarchives/File-Analyzer
Backup Copies and Storage

• How many copies do you keep?
• How are they arranged/organized?
• Where do you keep them?
• What do you keep?

• Born Digital = 3, Digitized = 2
• Mirror Digital Collections Structures
• Everywhere, On Site, Off Site, Cloud
• Master File (originals), uncompressed?, zipped?
Will We Ever Be Rescued?

- Organization and Proper file/folder naming
- Format Decisions
- Fixity Checking (Running Checksums)
  - Checksums = “Algorithmically-computed numeric value for a file or a set of files used to validate the state and content of the file for the purpose of detecting accidental errors that may have been introduced during its transmission or storage.”
  
- Tools
  - Fixity = https://www.weareavp.com/products/fixity/#fixity-download
  - HashMyFiles = http://www.nirsoft.net/utils/hash_my_files.html
  - ExactFile = https://www.exactfile.com/
Next Steps for Us

• Newly improved Digital Preservation Plan
• Lots of Re-organization, Re-naming & Re-structuring
• Run Checksums
• Born Digital Accession Plan 2.0
• Launched ArchivesSpace https://archivesspace.lib.mnsu.edu
• Microsoft Azure Cloud Storage

Image courtesy of the University Archives at Minnesota State University, Mankato. A picture of a Mankato State Teachers College student holding his two children in the MSTC barracks dormitory, 1950s.
https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A2086
Resources and Professional Development

• **Minitex**
  • Training sessions
  • Resources for digitization and digital preservation

• **Minnesota Digital Library**
  • Standards and Best Practices
  • Annual Meeting
Resources and Professional Development

- **University of Minnesota Libraries**
  - Digital Preservation Framework

- **University of Michigan Library**
  - Created for personal collections
  - Incremental Improvement
Table 1: Version 1 of the Levels of Digital Preservation

<table>
<thead>
<tr>
<th>Storage and Geographic Location</th>
<th>Level 1 (Protect your data)</th>
<th>Level 2 (Know your data)</th>
<th>Level 3 (Monitor your data)</th>
<th>Level 4 (Repair your data)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Two complete copies that are not collocated</td>
<td>At least three complete copies</td>
<td>At least one copy in a geographic location with a different disaster threat</td>
<td>At least three copies in geographic locations with different disaster threats</td>
</tr>
<tr>
<td></td>
<td>For data on heterogeneous media (optical discs, hard drives, etc.) get the content off the medium and into your storage system</td>
<td>At least one copy in a different geographic location</td>
<td>Obsolescence monitoring process for your storage systems and media</td>
<td>Have a comprehensive plan in place that will keep files and metadata on currently accessible media or systems</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>File Fixity and Data Integrity</th>
<th>Check fixity on ingest if it has been provided with the content</th>
<th>Check fixity on all ingests</th>
<th>Check fixity of content at fixed intervals</th>
<th>Check fixity of all content in response to specific events or activities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Create fixity into if it wasn’t provided with the content</td>
<td>Check fixity of content when working with original media</td>
<td>Maintain logs of fixity into; supply audit on demand</td>
<td>Ability to replace/repair corrupted data</td>
</tr>
<tr>
<td></td>
<td>- Virus-check high risk content</td>
<td>- Ability to detect corrupt data</td>
<td>- Ensure no one person has write access to all copies</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>Information Security</th>
<th>Identify who has read, write, move and delete authorization to individual files</th>
<th>Document access restrictions for content</th>
<th>Maintain logs of who performed what actions on files, including deletions and preservation actions</th>
<th>Perform audit of logs</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>- Restrict who has those authorizations to individual files</td>
<td>- Ensure backups and non-colocation of inventory</td>
<td>- Ensure backups and non-colocation of inventory</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>Metadata</th>
<th>Inventory of content and its storage location</th>
<th>Store administrative metadata</th>
<th>Store standard technical and descriptive metadata</th>
<th>Store standard preservation metadata</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ensure backup and non-colocation of inventory</td>
<td>- Store transformative metadata and log events</td>
<td>- Perform format migrations, emulation and similar activities as needed</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<th>File Formats</th>
<th>When you can give input into the creation of digital files encourage use of a limited set of known open formats and codecs</th>
<th>Inventory of file formats in use</th>
<th>Monitor file format obsolescence issues</th>
<th></th>
</tr>
</thead>
</table>

**Blogs**

- Library of Congress
  - “The Signal” Blog
- Digital Preservation Matters
  - Preservation, access, archiving, curation, repositories
- Digipres
  - Listserv focused on digital preservation issues
- The Archivation Line
Reach out!

- Talk to your colleagues
- MALHM
- MNHS Local History Services
- Other museums
- Ask questions
- Get advice
- See what others are up to

Image courtesy of the University Archives at Minnesota State University, Mankato. A professor helping a female student at Mankato State College, 1959-03-19
https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A61679
Interactive

• What should you do first? What are action steps?
  • Examples
    • Reachable
    • Incremental improvement

• Digital Preservation Plan worksheet

Image courtesy of the University Archives at Minnesota State University, Mankato. Ladies interact among one another at Mankato State College, 1958-11-11
https://arch.lib.mnsu.edu/islandora/object/MSUrepository%3A57164
Questions

Contact Us!
507-389-1029
archives@mnsu.edu

Presentation Slides Available at:
https://cornerstone.lib.mnsu.edu/lib_services_fac_pubs/167/