

Using the Digital Preservation Toolkit Mini - Workshop



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Learning Objectives of this Workshop

In this mini-workshop you will:

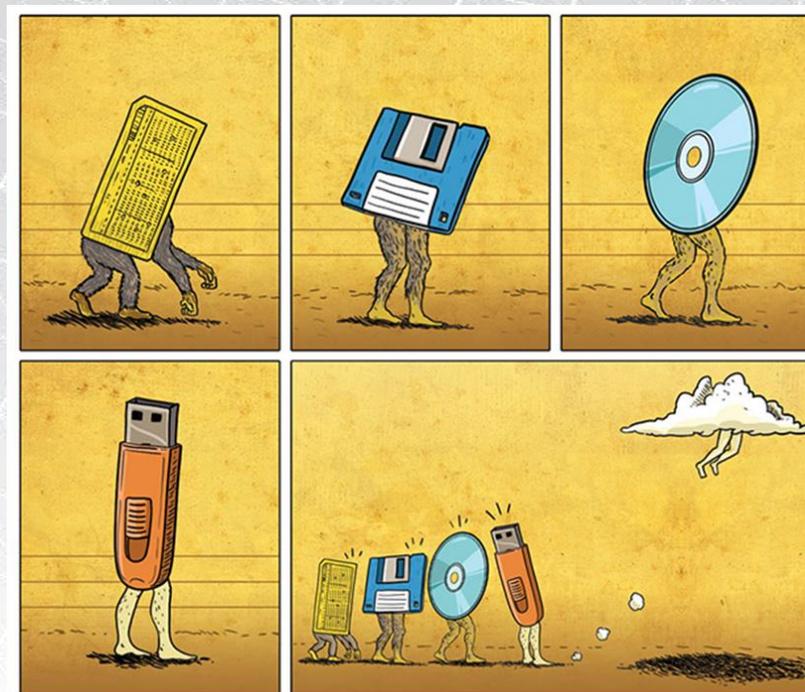
- Learn how to apply the tools in CHIN's Digital Preservation Toolkit (this will be a bit of review for some)
- See an example of a storage policy, plan, and procedures developed for a small-to-medium sized museum
- Learn advantages to various:
 - Hardware storage solutions
 - Software storage applications

Introduction to Digital Preservation

- What is Digital Preservation?

Digital preservation refers to all guidelines and actions required to insure long term preservation and access to existing “trustworthy digital resources”.

SO... storage considerations are important but... it is not the end of it.

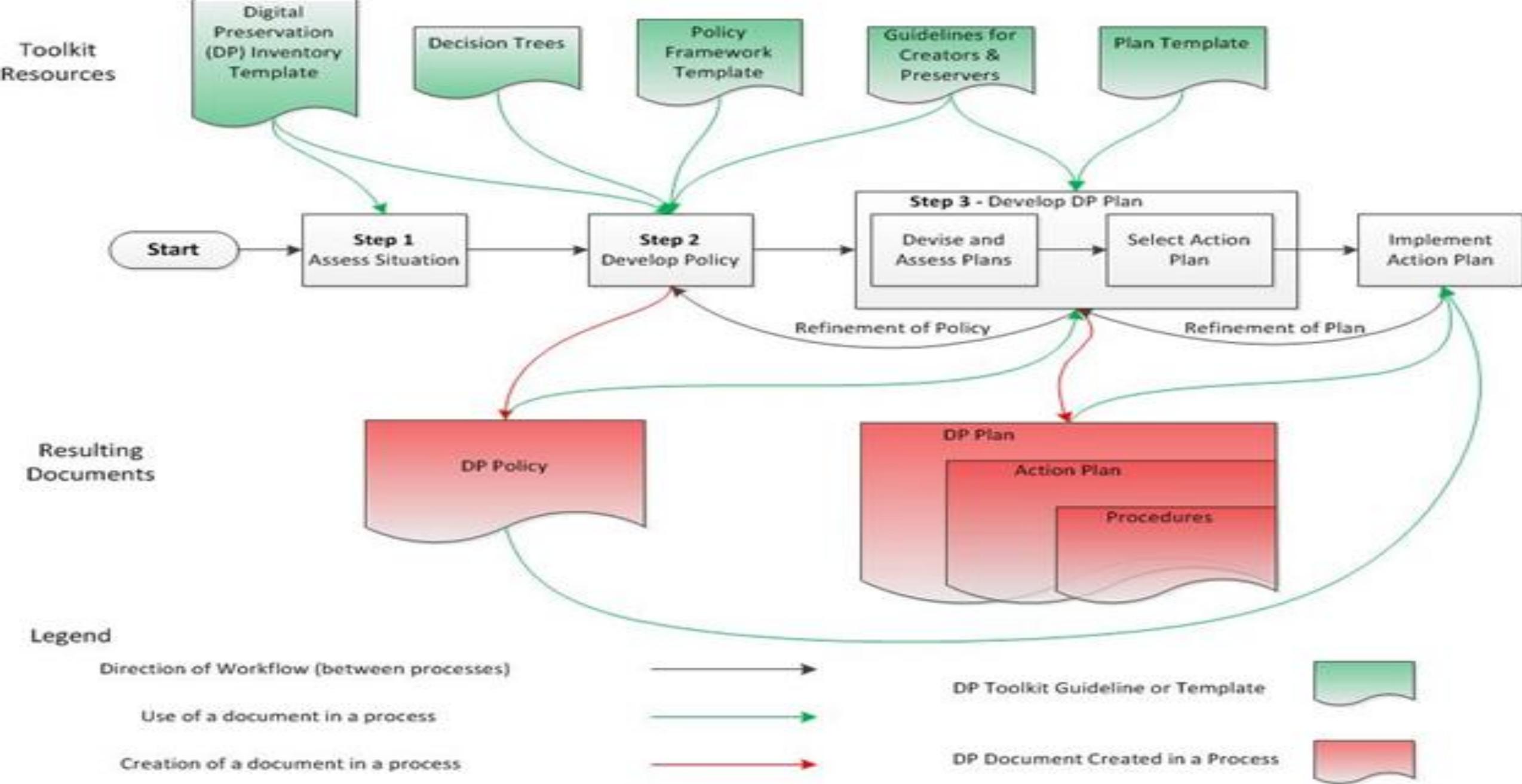


gusmorais.com

Why is Digital Preservation Important to Museums?

Digital Preservation Mitigates the Following Problems:

- Changes to File Format
- Operating System Obsolescence
- Software Obsolescence
- Hardware Obsolescence
- Media Degradation
- Threats to Storage Location
- Timely Access to Stored Assets
- Control of Access to Stored Assets
- Provenance & Copyright
- Usage Policies



Note: other data (listed in the templates) is used in the development of the Policy and Plan.

Example – 8th Hussars Museum & Archives

- A volunteer-run, seasonally operated museum in Sussex NB.
- Space & utilities paid for by the municipality
- All other funding by grants
- Summer students through YCW
- Thousands of images digitized
- Virtual Collections (Filemaker Pro) CMS
- Military Archive also running on a Filemaker Pro database (Girl Guides of Canada)
- One computer for the military archive (kept offline), and another (online) for everything else

CHIN Digital Preservation Inventory Template

- **Contents of Section A of the Template (see handout)**
- **Contents of Section B of the Template (see handout)**

8th Hussars Museum – Inventory Section A

Name of Digital Asset Group	Brief Description of Group	Approximate Number of Digital Assets in the Group	Approximate Amount of File Space Required to Store Group	Minimum Number of Copies of Assets in this Group (if multiple copies are kept)
Group 1 - Digitized Images	TIFFs and accompanying descriptions in MS-Word	7665	179GB	2: (hard drive on machine & external Western Digital Hard Drive) - all onsite
Group 2 - Administrative Docs				2: (hard drive on machine & separate external admin HD). all onsite.
Group 3 - Virtual Collections CGI	Filemaker Pro records of museum objects.			3: (hard drive on machine, CD with provincial heritage branch, & uploads to Artefacts Canada) .
Group 4 - Archive Database - Girl Guide/Provincial Archives Application.	Filemaker Pro records of archival materials: papers, photos, maps.			3: Hard drive on machine & separate external, CD onsite & CD with provincial archives.
Group 5 - Interviews on CD	Only Copies of interviews regarding history of 8th Hussars			One copy only, onsite. Some on external hard drive.
Group 6 - Images on CD of Oversized Photos	Only copies of oversized photos.			One copy only, onsite.
Group 7 - Film converted to video on CD	Original film is now with provincial archives.			One copy only, onsite.
Group 8 - Non-digital assets: 35mm slides, 16mm 8mm Super 8 film, Newsreel cassettes, Audio cassette tape.	Plans being made to digitize 35. (Costco). These assets but will affect any long-term Digital Preservation Plan once they are digitized.	None - plans to digitize.	N/A	N/A

8th Hussars Inventory Summary of Findings

Major Issues Identified During the Inventory Process

- 1) CDs used are not Archival quality, and are sometimes the only copy
- 2) Where backups are made, they are not preservation copies
- 3) The 3-2-1 and LOCKSS rules need to be implemented
- 4) Refreshing media is currently not part of the existing process
- 5) Data migration is not part of the existing process
- 6) A regular backup policy should be put into place, complete with preservation metadata

Common Digital Preservation issues that are not of concern

- 1) Many file formats appear to be suitable for digital preservation
- 2) Security is reasonable for the material being managed
- 3) Storage environment is reasonable (although an offsite solution is required)
- 4) There is no formal access policy, but for such a small institution, this would not appear to be an issue



Digital Preservation Policy Framework: Development Guideline Version 2.1

See also: [Digital Preservation Toolkit](#)

Table of Contents and Overview

- [Framework Components](#)
 - [OAIS Compliance](#)
 - [Administrative Responsibility](#)
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 - [Financial Sustainability](#)
 - [Technological and Procedural Suitability](#)
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Overview

This document guides the development of a digital preservation policy framework and offers a step towards identifying core components of a digital preservation policy framework to encourage a community standard for digital preservation policy documents. The outline was developed to produce a digital preservation policy framework that:

- Addresses the seven attributes of a Trusted Digital Repository
- Presents the high-level perspective of an organization's digital preservation program
- Reflects current not future capabilities of the digital preservation program
- Provides links to documents containing more detailed and frequently-updated documents, e.g., lower level policies and procedures
- Points to the digital preservation plan for near-term priorities and timeframes
- Documents the policy approval and maintenance process

The framework includes one section for each of the seven attributes of a trusted digital repository: OAIS compliance, administrative responsibility, organizational viability, financial sustainability, technological and procedural accountability, system security, and procedural accountability. Some sections contain more than one component.

Framework Components

OAIS Compliance



8th Hussars Digital Preservation Policy

Example Handout

8th Hussars Retention and Disposition Schedule

Example Handout

CHIN Digital Preservation Toolkit:

3. Digital Preservation Plan Framework

A framework that helps museums and archives develop an action plan to implement its policy.

Examples of framework items include:

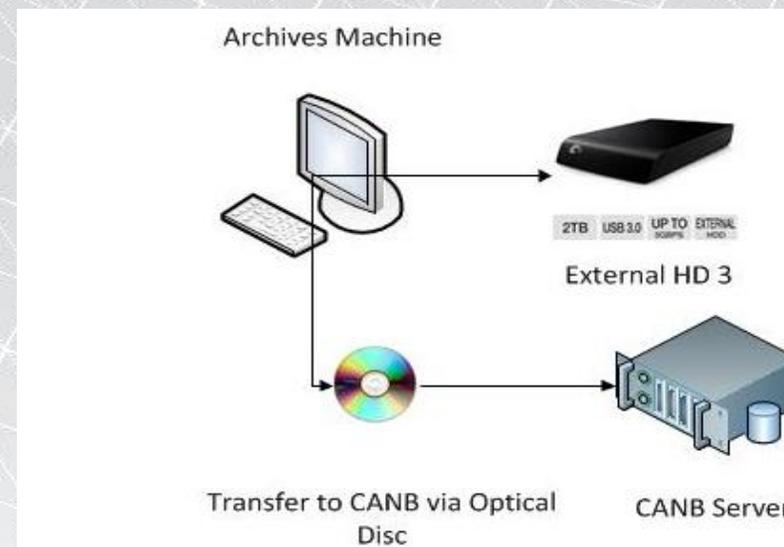
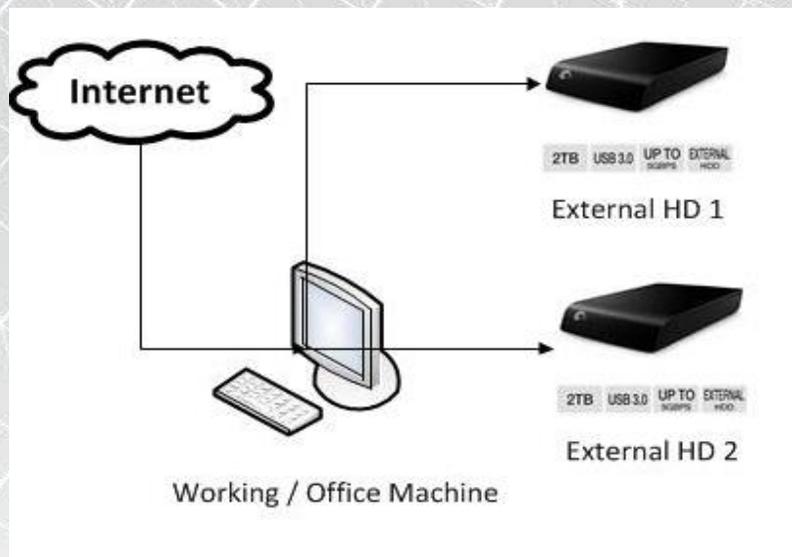
- Organizational Preparedness
- Cost Considerations
- Technical Considerations
- Preservation Standards

Proposed Action Plan for 8th Hussars

Probably Option 2...

Option 1	Option 2	Option 3	Option 4	Option 5
Multiple Backups.	Multiple Backups.	Multiple Backups.	Simple, but fully compliant OAIS model managed internally.	OAIS modal managed Externally.
No Formal Archive.	No Formal Archive.	No Formal Archive.		
	Checksum Generator	Checksum Generator.		
		Quarantine Machine.		

Proposed Hardware Configuration



Contents of External Drives 1 & 2

- “Mirrored” Multimedia & Admin Docs
(scheduled weekly using Bvckup2 software)
- Weekly copies of CMS Database (up to 5 copies)
(copied manually on a weekly basis)
- Monthly copies of CMS Database (up to 12 copies)
(copied manually on a monthly basis)
- Annual Preservation Copies of all the above (up to 5 copies).
(copied using MD5 checker)

External Hard Drive 2 is mirrored from Hard Drive 1 on a monthly basis using Bvckup 2.

Contents of External Drive 3

- Weekly backup of Archives Database (up to 5 copies)
(run manually).
- Monthly copies of Archives Database (up to 12 copies)
(run manually)
- Annual copies of Archives Database (up to 5 copies)
(Copied using MD5 Checker)

Details of Recommended Plan

To do immediately:

- Copy all contents of existing CDs to the hard drive on the office computer.
- Acquire three new 2TB external USB Hard Drives.
- Label these drives with their purpose and their replacement date.
- Establish a protocol with CANB to ensure 3rd (offsite) Archives copy remains current.
- Download a copy of Bvckup 2 backup software, and install this on the office (working) machine.
- Schedule a weekly backup on from the office machine to the first external hard drive.
- Download and install a copy of MD5 Checker, on the office machine.
- Finish Digitising from analog media (cassette, film, etc... reel to reel) as time and budget permit.
- After the first scheduled backup. Create an annual preservation copy as well using MD5 Checker.
- Use Bvckup 2 to mirror all folders on External Hard Drive 1 to External Hard Drive 2.

Details of Recommended Plan

Perform the following as time permits:

For digitized images, audio, and film: Create a naming system that ensures each resource has a unique filename that allows the image to be associated with its related database record.

Details of Recommended Plan

To be performed routinely:

- Maintain existing password protection on both of the museum's computers.
- There is already an off-site copy of the archives records with CANB, but no such offsite storage for the working (office) machine. Store the second external hard drive for the working (office) machine offsite.
- Use version control (i.e. name files according to the sequence in which they were edited either with a version number or a modification date) on all documents that will be edited.
- Rename any file that is mistakenly overwritten so that the original file will be archived on the backup drives.
- Migrate to new file and software formats as required.

Details of Recommended Plan

To be performed on a weekly basis:

- Review and verify that all asset groups are within the scope of the weekly backup
- Archive a copy of the collections management database.
- Run the weekly backup on the working computer to the first external hard drive.
- Manually archive a copy of the archives database to the (third) external hard drive.

Details of Recommended Plan

To be performed on a monthly basis:

- Make a monthly copy of the most recent weekly backup of the collections management database, on external hard drive #1.
- Use Bvckup 2 to mirror external hard drive 1 onto external hard drive 2.
- On the third (“Preservation Copies Archives”) external hard drive, copy the most recent weekly backup of the Archives database to a monthly folder on the same drive.

Details of Recommended Plan

To be performed on an annual basis:

- Starting immediately after the first backup on the working machine, Use MD5 Checker to copy the “Current Backup” folder and all its subfolders located on the external hard drive labelled “Preservation Copies 1 Working Machine” to a new folder named “Preservation copy backed up YYYYMMDD” (where YYYYMMDD is the date the backup was made) on the same hard drive. Ensure that MD5 Checker creates and stores MD5 checksum data for all files in this new directory.
- Starting immediately after the first backup on the Archives machine, use MD5 Checker to copy (along with checksum data) the most recent weekly backup (located on the third external hard drive) of the archives database to an annual “Preservation Copy” on the same external drive.
- Test fixity of all preservation folders on all three external hard drives.

Details of Recommended Plan

To be performed once every five years:

Acquire three new external hard drives, test fixity of files in preservation copies of the current hard drives, copy all folders to the new hard drives, and dispose of old external hard drives, as per the “Refreshing Media” section of this document.

Second Example – Medalta Museum

- A mid-sized museum in Medicine Hat Alberta
- Recovering from a recent flood
- 7 acres of roof on 150 acres in the Historic Clay District
- Museum buildings in multiple locations
- The affiliated Shaw Centre houses an international ceramic artist's residency
- Core budget of \$1.4M
- Occasional technical support
- Funding in place to digitize museum holdings (none digitized so far)
- Nearly 30K artefacts accessioned so far (originally MS Access, now PastPerfect)
- Over 70K not-yet-accessioned objects rest in the Hycroft building alone.

Third Example – Canadian Museum of History

- Digital Archivist on-staff
- Inventory step has been completed
- Very likely a traditional OAIS solution or a hybridisation of this

Learning So Far - Practices

Learning *so far* that we can apply to small and medium-sized museums:

- OAIS and TDR are not realistic models for small or midsized museums.
- File-level (not record level) preservation is realistic.
- 3-2-1 & LOCKSS rules are applicable (but some violation may be merited).
- Archival CDs are fine, but refreshed external HD is preferable.
- Preservation to cloud for CMS is ok, but keep another copy elsewhere.
- Preservation to the cloud for other assets typically accessed on local drives may pose problems (bandwidth, security).
- Backup software if properly selected will do an “OK” job (but review its ability to detect file renames, as well as the way it stores checksum data).
- The museum’s operational content can be preserved with little marginal effort.
- Checksum software is free to obtain, and easy to apply.
- There are recommended preservation file formats (typically lossless), but using checksum information in conjunction with lossy formats may be more practical.

Developing your own Digital Preservation Policy, Plan, and Procedures

- We have a discussion group that can help
- We have online tools (web search “Digital Preservation Toolkit)
- Contact us – we are here to help

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