Thank you for joining us for
Digital Preservation Planning.

We will begin promptly at 2:00 pm Eastern.

We will be on periodically to test your audio.

April 1, 2021

NEDCC
NORTHEAST DOCUMENT CONSERVATION CENTER

NORTHEAST DOCUMENT CONSERVATION CENTER

HOUSEKEEPING

- For best results:
  - Try closing other programs running on your computer, as needed.
  - Turn off or move your cell phone away from your computer.
- Recording will be available after today's presentation

BEGIN RECORDING

NEDCC | Northeast Document Conservation Center

Digital Preservation Planning

April 1, 2021

NEDCC
NORTHEAST DOCUMENT CONSERVATION CENTER

Stephanie Garafolo
Preservation Specialist

NEDCC | Northeast Document Conservation Center

Agenda

- Definitions
- Digital Preservation Risks – Overview
- Technological Risks
- Organizational Risks
- Digital Preservation & Assessment
- Preservation Planning
- Digital Preservation Policy
- Staff Training & Communities of Practice
- Further Resources
- Questions

NEDCC | Northeast Document Conservation Center

Definitions

NEDCC | Northeast Document Conservation Center

Digital Collections

Born digital
Digitized

Photo by Christina @ wocintechchat.com on Unsplash

https://bit.ly/3rGsMq8

NEDCC | Northeast Document Conservation Center
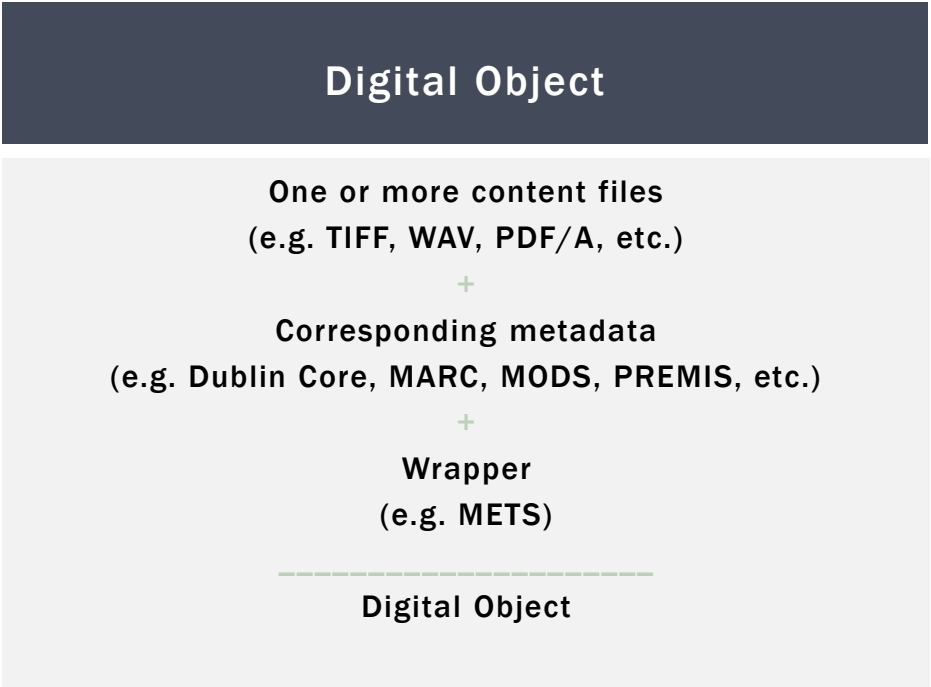
Digital Collections

Born digital
Digitized

Internally created
Acquired from external source

Formats include documents, images, audiovisual files, etc.

NEDCC | Northeast Document Conservation Center

Digital Object

One or more content files
(e.g. TIFF, WAV, PDF/A, etc.)

+

Corresponding metadata
(e.g. Dublin Core, MARC, MODS, PREMIS, etc.)

+

Wrapper
(e.g. METS)

_____

Digital Object

Digital Preservation

Digitization for Preservation   vs.   Digital Preservation

• <u>Digitization for preservation:</u> Activities that result in the creation of digital objects worthy of long-term preservation, including selection, image capture, description, and compilation for delivery

• <u>Digital preservation:</u> Tools, operations, standards, and policies that help ensure that this investment is not squandered

(Paul Conway, "Preservation in the Age of Google")

Digital Preservation Risks

NEDCC | Northeast Document Conservation Center

Digital Preservation Risks

Technological Risks

- Obsolete hardware
- Almost-obsolete hardware
- Obsolete software
- Hardware/Software failure
- Data corruption
- (In)authenticity
- Loss of context
- IP/Copyright restrictions

Organizational Risks

- Mandate
- Roles and responsibilities
- Selection/Creation policy
- Loss (simply doing nothing)
- Resources
- Succession planning
- Administration & Staff
- Collections

NEDCC | Northeast Document Conservation Center

Technological Risks

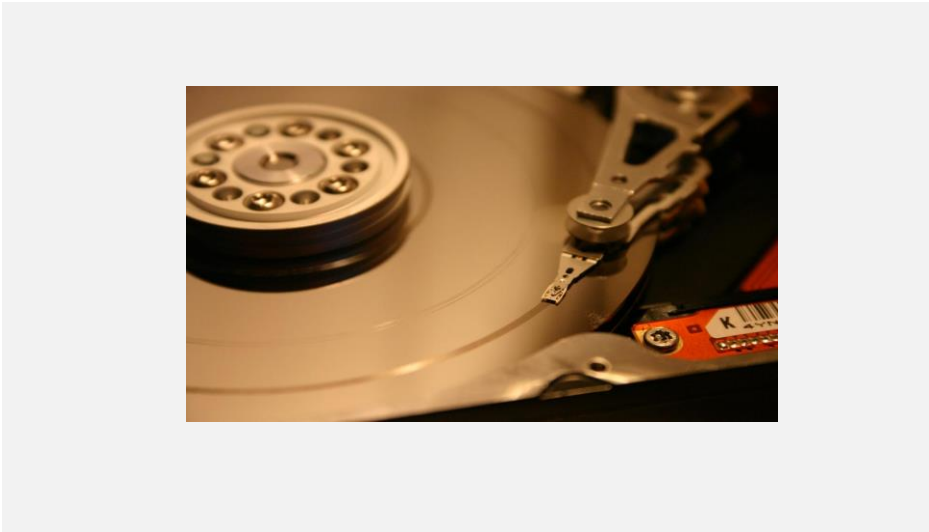NEDCC | Northeast Document Conservation Center

Obsolete Hardware

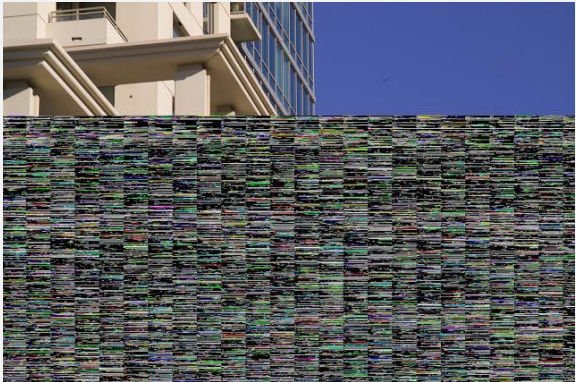NEDCC | Northeast Document Conservation Center

Obsolete Software

Hardware/Software Failure

Data Corruption

NEDCC | Northeast Document Conservation Center
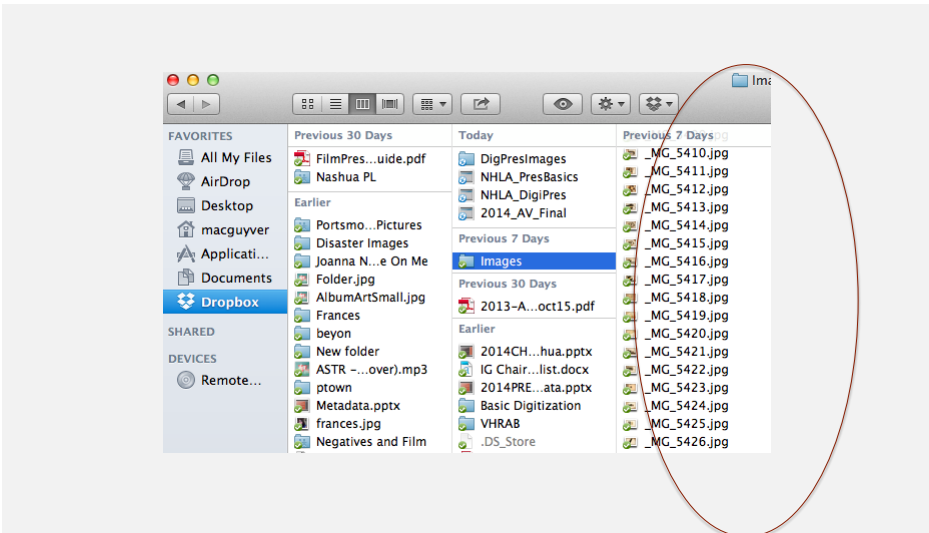
(In)Authenticity

https://moondisaster.org/

https://news.mit.edu/2020/mit-tackles-misinformation-in-event-of-moon-disaster-0720
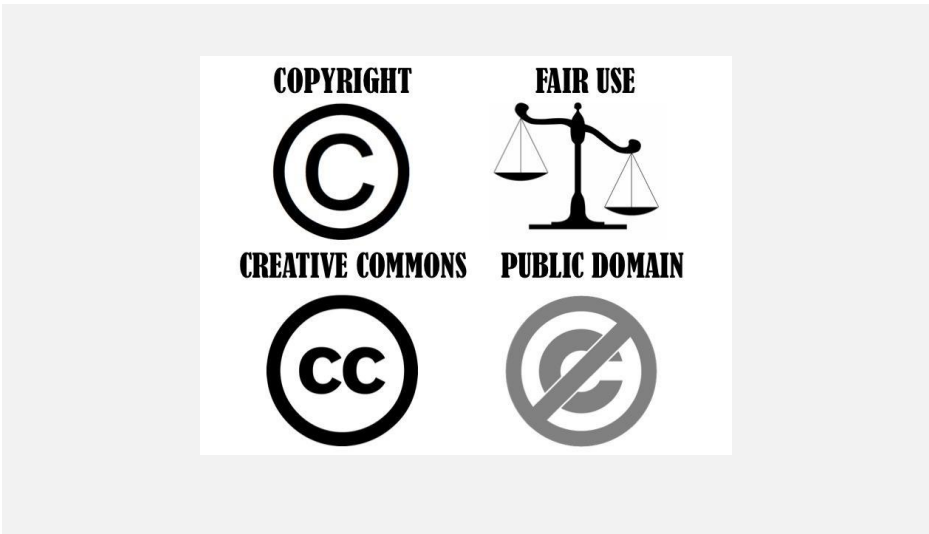
NEDCC | Northeast Document Conservation Center

Loss of Context

NEDCC | Northeast Document Conservation Center

IP/Copyright Restrictions

NEDCC | Northeast Document Conservation Center

Organizational Risks

Mandate

- Do you have a right to collect and care for these objects over time?
- Do you have an organizational commitment to these activities?

Roles and Responsibilities

- Are all stewardship tasks explicitly assigned?
- Is your staff trained to do these roles?

NEDCC | Northeast Document Conservation Center

Selection/Creation Policy

- Media types
- File formats
- File sizes
- Content types

NEDCC | Northeast Document Conservation Center

Loss (simply doing nothing)

NEDCC | Northeast Document Conservation Center

Resources

- Project-based spending
- Staff & training
- Equipment & maintenance
- Outsourcing & services

$$$$ $

$$$$ $

$$$$ $

NEDCC | Northeast Document Conservation Center

Succession Planning

- Administration & Staff
- Collections

NEDCC | Northeast Document Conservation Center

Digital Preservation & Assessment

NEDCC | Northeast Document Conservation Center

Preservation Planning

Assessment

Preservation Planning

Priorities for Action

Preservation Planning

Resources Required

Preservation Planning

Documentation + Advocacy

Community Documents and Standards

- Curation Lifecycle Models
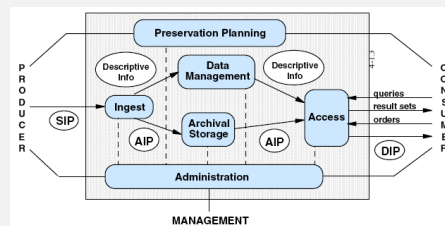- OAIS Open Archival Information System reference model
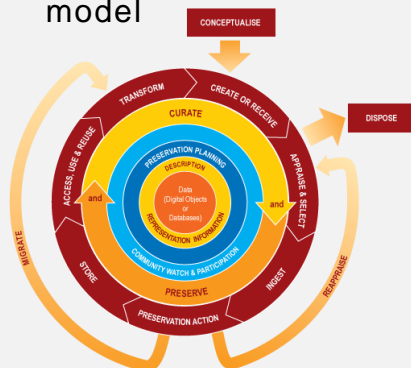
Image from DCC

NEDCC | Northeast Document Conservation Center

Community Documents and Standards

- **Trustworthy Repositories Audit & Certification**
  - Published in 2007
  - Developed by NARA and OCLC
  - Currently maintained by Center for Research Libraries

- **Trusted Digital Repository Checklist**
  - Published in 2011
  - Updates and supersedes original TRAC
  - Adopted by the International Standards **Organization:** ISO 16363

NEDCC | Northeast Document Conservation Center

NDSA Levels of Digital Preservation 2018

Functional Area	Level			
	Level 1 (Know your content)	Level 2 (Protect your content)	Level 3 (Monitor your content)	Level 4 (Sustain your content)
Storage	Have two complete copies in separate locations Document all storage media where content is stored Put content into stable storage	Have three complete copies with at least one copy in a separate geographic location Document storage and storage media indicating the resources and dependencies they require to function	Have at least one copy in a geographic location with a different disaster threat than the other copies Have at least one copy on a different storage media type Track the obsolescence of storage and media	Have at least three copies in geographic locations, each with a different disaster threat Maximize storage diversification to avoid single points of failure Have a plan and execute actions to address obsolescence of storage hardware, software, and media
Integrity	Verify integrity information if it has been provided with the content Generate integrity information if not provided with the content Virus check all content; isolate content for quarantine as needed	Verify integrity information when moving or copying content Use write-blockers when working with original media Back up integrity information and store copy in a separate location from the content	Verify integrity information of content at fixed intervals Document integrity information verification processes and outcomes Perform audit of integrity information on demand	Verify integrity information in response to specific events or activities Replace or repair corrupted content as necessary
Control	Determine the human and software agents that should be authorized to read, write, move, and delete content	Document the human and software agents authorized to read, write, move, and delete content and apply these	Maintain logs and identify the human and software agents that performed actions on content	Perform periodic review of actions/access logs
Metadata	Create inventory of content, also documenting current storage locations Backup inventory and store at least one copy separately from content	Store enough metadata to know what the content is (this might include some combination of administrative, technical, descriptive, preservation, and structural)	Determine what metadata standards to apply Find and fill gaps in your metadata to meet those standards	Record preservation actions associated with content and when those actions occur Implement metadata standards chosen
Content	Document file formats and other essential content characteristics including how and when these were identified	Verify file formats and other essential content characteristics Build relationships with content creators to encourage sustainable file choices	Monitor for obsolescence, and changes in technologies on which content is dependent	Perform migrations, normalizations, emulation, and similar activities that ensure content can be accessed

https://ndsa.org/publications/levels-of-digital-preservation/

Digital Preservation Assessment Handbook

Digital Preservation Assessment Handbook

- **Intended for cultural heritage consultants and professionals**

- **Provides framework and templates for all components of digital preservation assessment**

https://www.nedcc.org/free-resources/nedcc-publications

Digital Preservation Peer Assessment

Digital Preservation Peer Assessment

- A workbook that guides two or more institutions in conversation about digital preservation
- Can be used at any phase in digital preservation effort
- Provides framework for discussing successes, obstacles to growth, and next steps for improved long-term access to digital collections

https://www.nedcc.org/free-resources/nedcc-publications
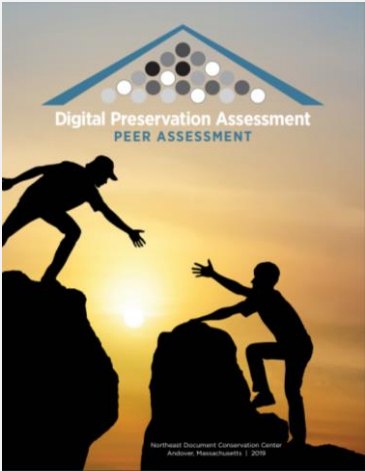
NEDCC | Northeast Document Conservation Center

Preservation Planning

NEDCC | Northeast Document Conservation Center

Preservation Planning

https://bit.ly/3duMD6V

Discussion prompts:

- What are the different types of digital items that exist in your collections?
- What is the current preservation practice for each type of item?
- What items are most at risk for loss with the current procedures?
- What potential collections items are not accounted for in current preservation practices?

NEDCC | Northeast Document Conservation Center

Taking Action After an Assessment
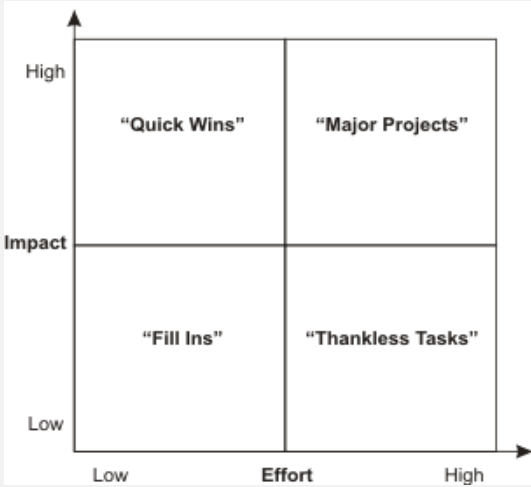
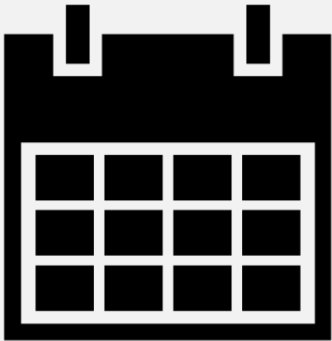NEDCC | Northeast Document Conservation Center

Funding

Created by Davo Sime
from Noun Project

Determine the costs for your actions

and likely sources of funding

NEDCC | Northeast Document Conservation Center

Write the Plan

Created by Adrien Coquet
from Noun Project

Map out actions over 3 – 5 years, by urgency and budget feasibility

Keep a project in mind in case unexpected funds become available

NEDCC | Northeast Document Conservation Center

Preservation Plan Example

Five-Year Preservation Plan: September 1, 2016 - August 31, 2021				
YEAR	ACTIVITY	STRATEGIES & STEPS	MEASURES OF PROGRESS	TARGET DATE
1	Policy development	Develop mission statement.	Completed mission statement and accompanying policies	March
1	Policy development	Begin collecting statistics to understand collection use and priority collections.	Establish statistics form and practices.	March
1	Develop an infrastructure for preservation	Assign responsibility and allocate staff time for preservation activities.	Responsibilities assigned, with job descriptions amended as necessary.	November
1	Develop an infrastructure for preservation	Add budget line for preservation.	Line item approved and instituted.	June
1	Improve back up procedures	Document existing back up activities, identify gaps and weaknesses, and suggest improvements.	Suggested improvements presented to Administration.	October
1	Evaluate current born-digital acquisition policies	Discuss born-digital acquisitions with collections staff, consider implementing immediate changes.	No longer acquiring files that the institution cannot preserve.	December

NEDCC | Northeast Document Conservation Center

Sample Plans

- Sustainable Heritage Network, Digital Stewardship Curriculum, Digital Preservation Plan
  https://sustainableheritagenetwork.org/system/files/atoms/file/3.27_DigitalPreservationPlan.pdf
- Wheaton College Library and Archives, Digital Preservation Plan
  https://library.wheaton.edu/sites/default/files/Digital_Preservation_Plan.pdf
- Royal College of Museum, Action Plan for Digital Preservation
  https://www.rcm.ac.uk/media/13.a.3%20App3_Digital%20preservation.pdf
- Princeton University Library, Digital Preservation Action Plan
  https://library.princeton.edu/sites/default/files/PUL-DP-Action-Plan_v4.pdf

NEDCC | Northeast Document Conservation Center

Digital Preservation Policy

NEDCC | Northeast Document Conservation Center

Policy Infrastructure
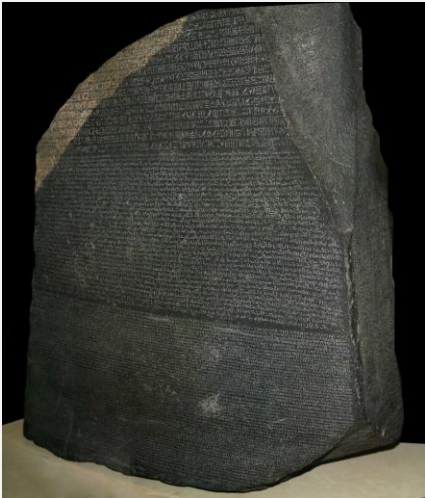
Good policies are:

- **written** and shared across an organization

- include the rationale behind policy development

- reviewed regularly and updated to reflect changes at the institution
  - These are living documents!

https://bit.ly/2PI4vTr

NEDCC | Northeast Document Conservation Center

Policy Infrastructure

- A few good ones:
  - Mission Statement
  - Designated Community
  - Collection Development (with Rights)

Consider integrating policies for physical and digital collections.

NEDCC | Northeast Document Conservation Center

Mission Statement

Discussion prompts

- What is your mission?

- How does digital preservation support your mission?

- Does the mission statement include the concept of preservation of collections?

https://bit.ly/39QtA63

NEDCC | Northeast Document Conservation Center

Designated Community

Prompts to consider:

- Who uses your digital collections
- How do they use your collections
- What additional groups would you like to use your collections
- What user statistics do you collect
- What outreach activities do you conduct?

Catherine Cordasco via unsplash https://unsplash.com/photos/gMPsl1ez-Ts

Collection Development Policy

Prompts to consider:

- What is your collection development policy?
- Does it guide digital collecting?
- How is your collection development policy documented?
- What is in your digital collections now?
- What would you like to have in your digital collections in the future?

https://nyti.ms/3doVGWN

Sample Policies

- Digital Preservation Policy from The Odum Institute Data Archive at University of North Carolina: https://odum.unc.edu/files/2017/05/Policy_DigitalPreservation_20170501.pdf
- Digital Preservation Policy from Purdue University Research Repository: https://purr.purdue.edu/legal/digitalpreservation
- Digital Preservation Policy from York University: https://digital.library.yorku.ca/tags/digital-preservation-policy
- Published Preservation Policies collected by SCAPE: http://wiki.opf-labs.org/display/SP/Published+Preservation+Policies

NEDCC | Northeast Document Conservation Center

Staff Training & Communities of Practice

NEDCC | Northeast Document Conservation Center

Staff Training

- National Digital Stewardship Alliance https://ndsa.org//
- Digital Preservation Coalition https://www.dpconline.org/
  - Lots of free resources and tools on website
- NEDCC, Digital Preservation https://www.nedcc.org/free-resources/digital-preservation

Photo by Campaign Creators on Unsplash

NEDCC | Northeast Document Conservation Center

Communities of Practice

- iPres annual conference: http://ipres2021.ac.cn/dct/page/1

- Preserving and Archiving Special Interest Group (PASIG): https://preservationandarchivingsig.org/
  - listserv and annual conference

- Digital Curation Google Group: https://groups.google.com/g/digital-curation

- Best Practices Exchange: https://bpexchange.wordpress.com/

- Core Collaborative Digitization Interest Group: https://connect.ala.org/core/communities/community-home?CommunityKey=d3de40b2-64a2-4aa6-a9f8-81553eac14f5

NEDCC | Northeast Document Conservation Center

Communities of Practice

- Core Digital Conversion Interest Group: https://connect.ala.org/core/communities/community-home?CommunityKey=3743e389-62c5-4860-b8d4-4a6f0864fd3e

- Core Preservation Administration Interest Group: https://connect.ala.org/core/communities/community-home?CommunityKey=aeb5b1e5-3c0e-418b-b228-bb203c7621f8

- Core Promoting Preservation Interest Group: https://connect.ala.org/core/communities/community-home?CommunityKey=691863a2-ff52-4f23-b9e5-6ed39d15d6ea

NEDCC | Northeast Document Conservation Center

Further Resources

- Digital Preservation Policy Template https://orbiscascadeulc.github.io/digprezsteps/policy.html
- Archivematica (the demo helps illustrate OAIS in practice)
  - https://www.archivematica.org/en/
- Digital Preservation Handbook (2015)
  - https://www.dpconline.org/handbook
- Federal Agencies Digital Guidelines Initiative
  - http://www.digitizationguidelines.gov/
- A Framework of Guidance for Building Good Digital Collections (2007) http://framework.niso.org
- NDSA Levels of Digital Preservation (2018)
  - https://ndsa.org/publications/levels-of-digital-preservation/
  - Assessment tool: https://osf.io/m2fek/

NEDCC | Northeast Document Conservation Center

THANK YOU!

Questions?

Preservation Services
info@nedcc.org
978-470-1010

NEDCC | Northeast Document Conservation Center