

Digitization Best Practices

Improving Long-Term Access to Digitized Collections

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About the State Library

- Digital Information Management Program:

<http://statelibrary.dcr.state.nc.us/dimp/index.html>

- Digital Collections:

statelibrary.dcr.state.nc.us/dimp/digital/index.html

- Access to State Government Information
- Digital Repository Management

- North Carolina ECHO (Exploring Cultural Heritage Online)

www.ncecho.org/

- State-wide Digitization Initiative
- Digitization Grants
- Training/Workshops
- Setting Standards for Digitization



Introduction

Print Resources

- Age: 500+ years
- Life cycle: estimated 1,000+ years
- Access: No special machines or devices required
- Maintenance: Environmental controls maximize longevity (i.e. temperature, humidity)
- Preservation: “Just in Time” strategy. Can wait until item is near the end of its useful lifecycle before preserving.



Digital Resources

- Age: 50+ years
- Life cycle: estimated 5 years
- Access: specific hardware and software required to access information
- Maintenance: to stay accessible, requires “migration” or upgrading to latest software/hardware specifications.
- Preservation: “Just in time” strategy is often too late. By the time the digital resource comes to the end of its life cycle, the software/hardware necessary to access it is no longer available.



Lack of Awareness

Photograph Digital Converter

Hammacher Schlemmer 74597



MAGNIFY PICTURE +

Price: \$149.95
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- This item will be delivered in 7 business days with Standard Delivery.
- Rush Delivery in 2 - 4 business days is available for this item. Additional charges may apply.

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Delivery Information

SkyMail Guarantee

The Photograph To Digital Picture Converter

This device quickly and easily converts photographs into digital images, allowing you to confidently preserve your memories for generations to come. Faster and easier than a conventional scanner, this device instantly captures the whole image using a 5 MP CMOS sensor, the same found in digital cameras. With up to 1,800 dpi resolution, 10 bits per color channel, automatic exposure control and color balance, clear, accurate digital images are assured. Photographs are placed into a tray that slides into the converter; the touch of a button records the image instantly.

For photo transfers and power, it has a USB cable that plugs into a PC running Windows XP (requires USB 2.0) and includes software that allows you to edit, crop, and resize your pictures. Accepts 3-1/2" x 5", 4" x 6", and 5" x 7" photographs.

6-3/4" H x 10-1/2" W x 8-3/4" D. (1 lb.)

YOU MIGHT ALSO LIKE...



**Laptop HDTV
Receiver**
Price:
\$199.95



**Tabletop
Photo Studio**
Price:
\$79.95



**Slide / Film
Digital
Converter**
Price:
\$99.95

Digital files last
"for generations"!

CD-ROMs last
"for centuries"!

Useful Life

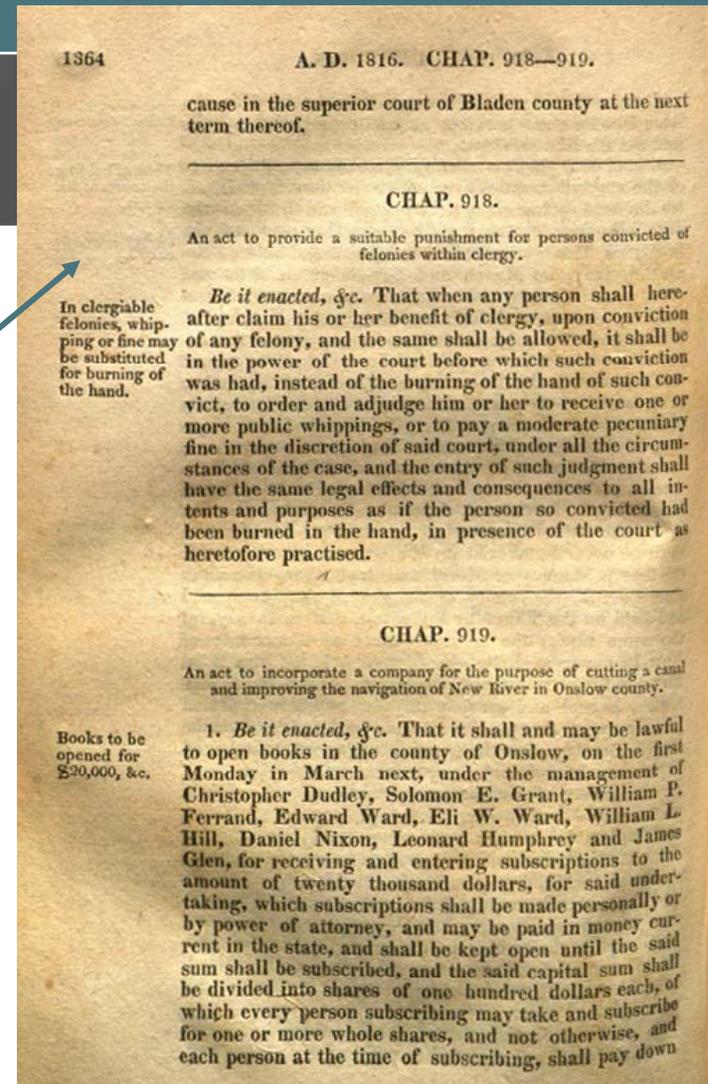
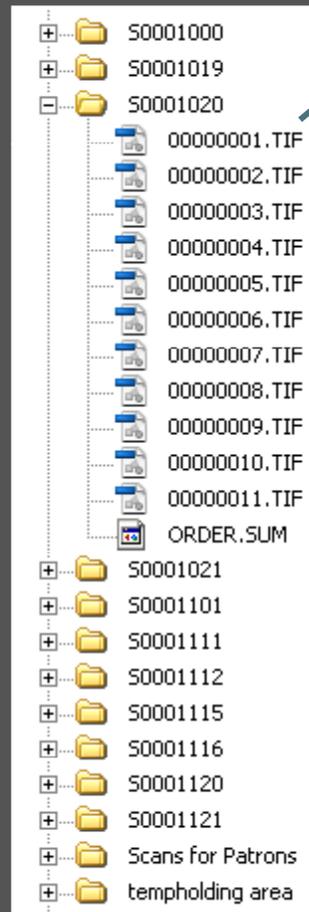
CDs and DVDs are created with materials that are extremely stable. If properly stored and handled, most discs will last for decades—and probably centuries. Certain conditions, such as high humidity, or extended periods of high

temperatures, rapid temperature changes, and exposure to certain types of light, can damage discs and shorten their useful life. Taking care of your discs by keeping them out of direct sunlight and away from heat and water will help them last longer. Not only will you save money, but you will also reduce the discs' environmental impacts by preventing waste.



File Management

- Poor File Name Choices
- Versions of Files
- Files saved in numerous locations and on numerous media
- No file back ups



Technological Changes

Hardware



File Formats

A
.aac | .ai | .aif | .app | .asf | .asp | .asx | .avi | .a | .a2m | More...

B
.bak | .bat | .bin | .bmp | .b5i | .b5t | .bac | .backupdb | .bak | .band | More...

C
.c | .cab | .cfg | .cgi | .com | .cpl | .cpp | .css | .csv | .c00 | More...

D
.dat | .db | .dll | .dmg | .dmp | .doc | .drv | .drw | .dxf | .d | More...

E
.eps | .exe | .e00 | .eap | .ear | .ebm | .ebn | .ebuild | .ece | .ecf | More...

F
.fnt | .fon | .f | .f2r | .f32 | .f3r | .f64 | .f90 | .fa | .fac | More...

G
.gam | .gho | .gif | .gz | .g721 | .g723 | .g726 | .gadget | .gau | .gb1 | More...

H
.hqx | .htm | .html | .h | .ha | .ham | .has | .hcx | .hdf | .hdl | More...

Software

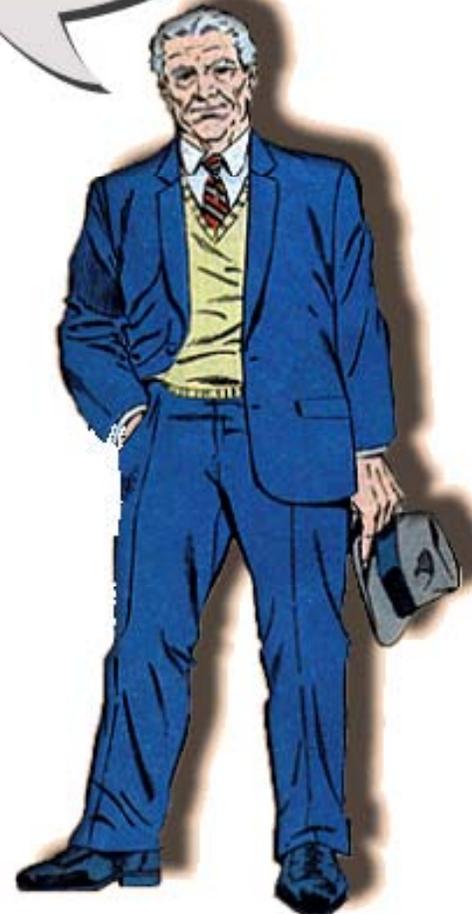


Media



Keep in mind...

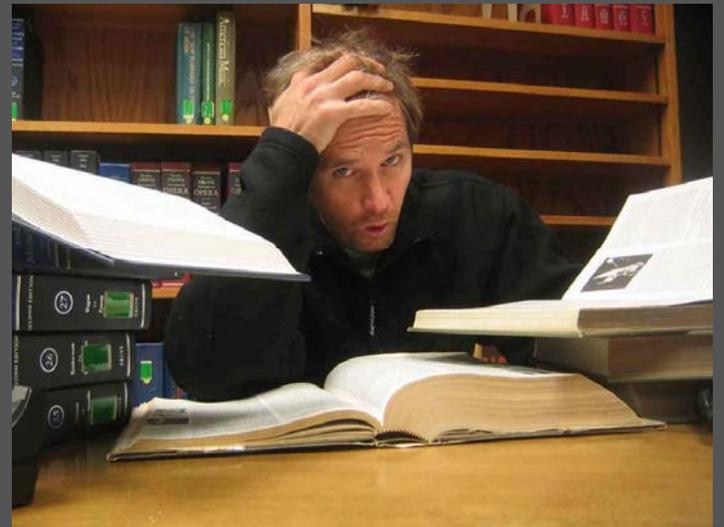
With Great Power
There Must Also Come
Great Responsibility!



Strategies for Improving Long-term Access

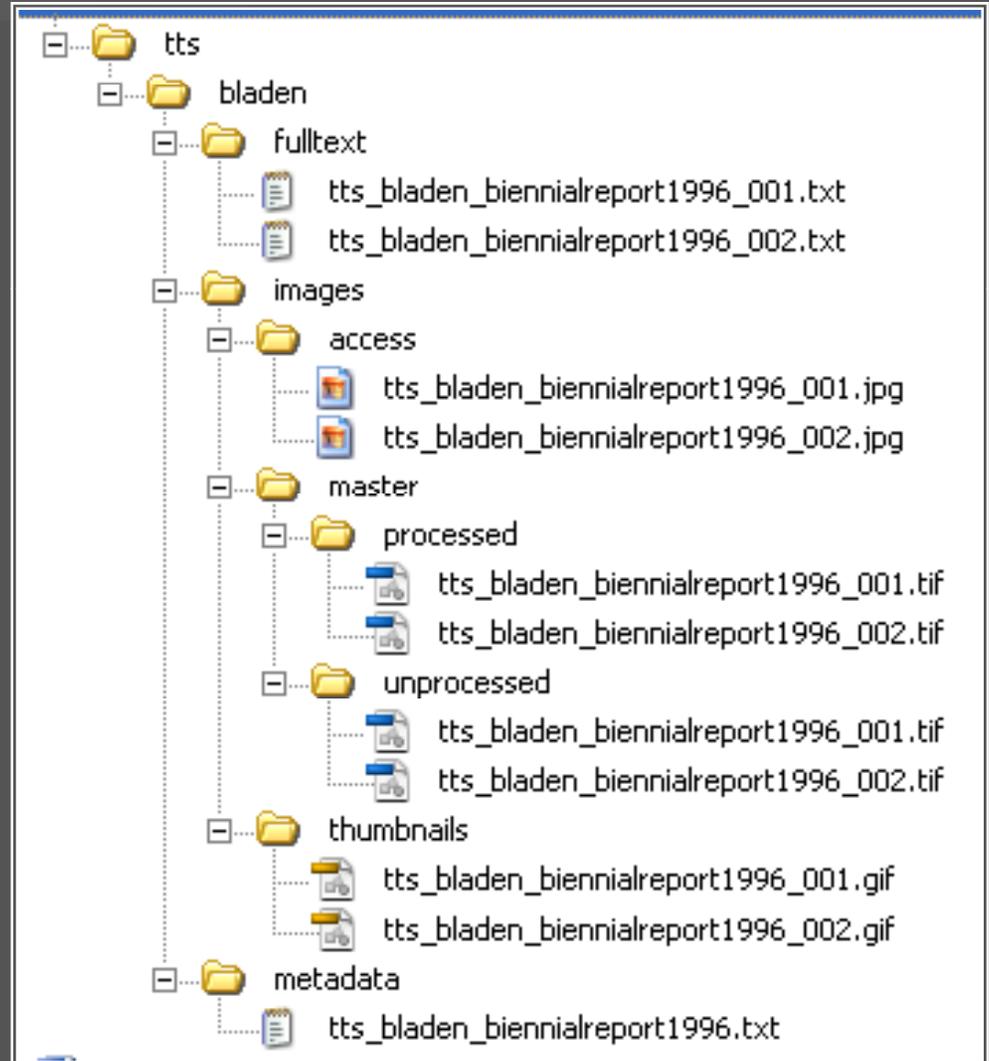
Do Your Research

- Read the literature
 - D-Lib Magazine: www.dlib.org/
 - RLG diginews (ceased 2007):
www.oclc.org/programs/publications/newsletters/diginews.htm
- Participate in the community
 - Digitization 101 blog:
hurstassociates.blogspot.com/
 - digiStates mail list:
lists.mdch.org/bin/listinfo/digistates
 - NC ECHOShare mail list:
lists.ncmail.net/mailman/listinfo/ncechoshare
 - WebWise Conference: webwise2008.fcla.edu
- Research standards and best practices
 - Digital Imaging Tutorial:
www.library.cornell.edu/preservation/tutorial/contents.html
 - NC ECHO Digitization Guidelines: www.ncecho.org/guide/toc.html



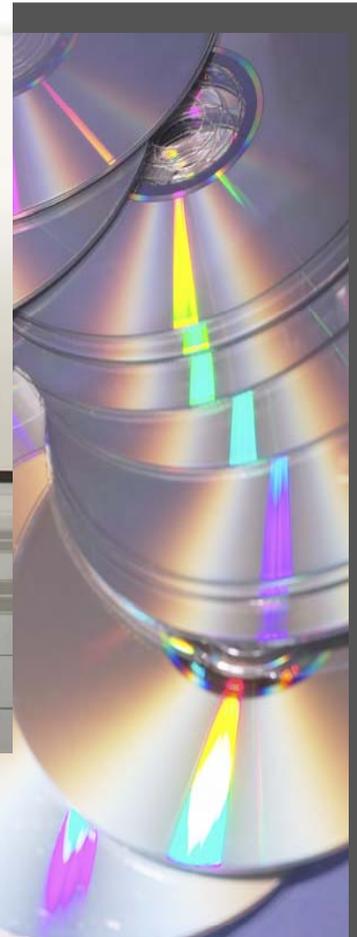
Determine File Naming Conventions

- Establish logical and consistent folder structures for file storage
- Establish consistent file naming conventions
- Document all decisions



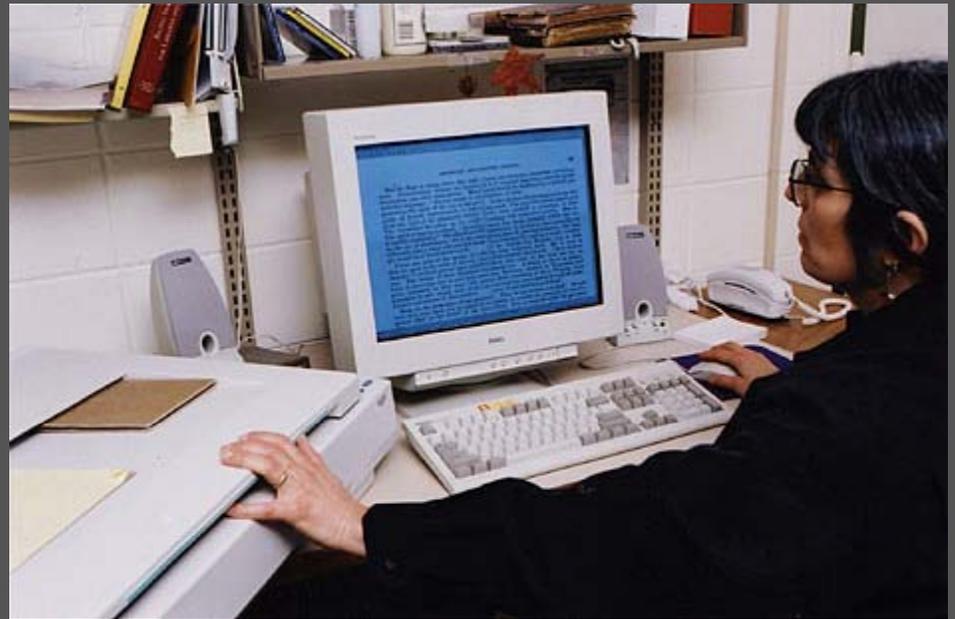
Determine Storage Capabilities

- Active Working Storage
 - Computer Workstation
 - External Hard Drives
 - Servers
- Permanent Storage
 - CD/DVD ROMs
 - External Hard Drives
 - Servers
- Document all decisions and justifications for them



Follow Scanning Best Practices

- Recommended Scanning Resolutions
 - 600 true dpi preferred
 - 300 true dpi minimum
- Recommended File Formats
 - master image: tif
 - access image: jpg or jp2
 - avoid proprietary formats



Follow Metadata Best Practices

- North Carolina Metadata Best Practices
 - NC ECHO Dublin Core:
www.ncecho.org/ncdc/
 - Online Dublin Core Tool:
www.ncecho.org/ncdc/template.html
 - NC ECHO Preservation Metadata for Digital Objects (PMDO):
www.ncecho.org/presmet/pmdo2007ed.htm
 - PMDO Access Database:
www.ncecho.org/presmet/NCECHO_PMDO.mdb

The screenshot shows the 'North Carolina Dublin Core Template' web application. At the top left is the logo for 'North Carolina ECHO Exploring Cultural Heritage Online'. Below the logo are three buttons: 'Generate Tags', 'Reset Form', and 'Help'. A sidebar on the left lists metadata elements: title, creator, subject, description, publisher, contributor, date, type, format, identifier, source, language, relation, coverage, and rights. The main content area is titled 'North Carolina Dublin Core Template' and includes a 'subject | add | remove' link. Below this is a 'Scheme:' dropdown menu with a list of options, including 'Library of Congress Name Authority File', 'Library of Congress Subject Headings', 'Art and Architecture Thesaurus', 'Religion indexes: Thesaurus', 'Thesaurus for Graphic Materials: TGM II', 'Index terms for Occupations in Archival and Manuscript Collections', 'Thesaurus for Graphic Materials: TGM I', 'Local', 'Medical Subject Headings', 'Moving Images Materials: Genre Terms', 'NAL Agricultural Thesaurus', 'NASA Thesaurus', 'NIMA Cartographic Subject Categories', 'North Carolina Gazetteer', 'Revised Nomenclature for Museum Cataloging', 'Political Science Thesaurus II', 'Binding Terms (ACRL)', 'Genre Terms (ACRL)', 'Paper Terms (ACRL)', and 'Printing Evidence (ACRL)'. The 'Library of Congress Name Authority File' option is currently selected.

Metadata and Documentation

- Document all metadata decisions
 - Create instructions
 - Save in a central location
 - System for updating documentation
- Examples of the State Library's metadata documentation:
 - For state documents (monographs): digitalstatelibnc.cdmhost.com/cdm4/images/Metadata_for_NCDOCS_General_Guidelines.pdf
 - For state documents (serials): digitalstatelibnc.cdmhost.com/cdm4/images/Metadata_Guidelines_for_Serial_Publications.pdf

Contributor

Element: Contributor
Mandatory: No
Repeatable: Yes

Crosswalk: 700?#a\$b\$c\$d\$g\$j\$q
710?#a\$b\$c\$d\$g\$n
711?#a\$c\$d\$e\$g\$n\$q
720?#a

Controlled vocabulary: LCNAF (with modifications)

Description: Persons or organizations who made significant intellectual contributions to the resource, but whose contribution is usually secondary to the person or organization specified in the Creator element. Examples include co-author, editor, transcriber, translator, illustrator, etc. Any names in 7xx fields in the MARC record will crosswalk to a Contributor field in DC.

Input Guidelines:

1. Separate multiple contributor names with semicolon-space.
2. Use the LCNAF authority form of the name (<http://authorities.loc.gov>) (but see #4 below).
3. If the name does not appear in the authorities file, establish a heading as instructed in the Creator element and in *Anglo American Cataloging Rules, 2nd Edition, 2002 Revision*. For personal names, this will usually be in the form "Last, First." For corporate names or state agency names, this would be described in Chapter 23 (corporate headings).
4. For state agencies (or other entities) that have changed name, *one* form will be chosen as the "authoritative" form (as CONTENTdm cannot accommodate complex cross-references). It may be necessary to edit the form of the name that was crosswalked from the MARC record to match the authoritative form in the CONTENTdm controlled vocabulary.

Examples:

Contributor: White, Julie

Contributor: Mulkey Engineers and Consultants

Metadata Examples

The screenshot shows a Mozilla Firefox browser window titled "Compound Object Viewer - Mozilla Firefox". The address bar contains the URL "http://digitalstatelibnc.cdmhost.com/cdm4/document.php?CISC". The page header features the "State Library of North Carolina Digital Repository" logo and navigation links. The main content area displays metadata for a document titled "Certified copy of Joel Lane deed for 1000 acres of land to Governor Alexander Martin and his successors in office".

Document Description (for other viewing/printing/saving options use the drop down menu on the left)

Title	Certified copy of Joel Lane deed for 1000 acres of land to Governor Alexander Martin and his successors in office
Date	1904
Subjects	Raleigh (N.C.)--History
Place	Raleigh (Wake County, N.C.)
Agency	N.C. Dept. of the Secretary of State
Rights	Public Domain see http://digitalstatelibnc.cdmhost.com/u/?p249901coll3,1;
Physical Characteristics	Typed land deed
Collection	North Carolina State Archives
Type	Text
Language	eng
Format	Documents
Digital Collection	From Crossroads to Capital: The Early History of Raleigh, North Carolina
Digital Format	image/jpeg
Audience	All

Search this object:
0 hit(s) :: [previous hit](#) : [next hit](#)

View:
[previous page](#) : [next page](#)

Certified copy of Joel Lane deed for 1000 acres of land to Governor Alexander Martin and his successors in office

- Page 1
- Page 2
- Page 3

Access Systems

- Information easily migrated
- System is stable/reliable
- Good user support
- Documentation freely available
- Test system before buying



Preserving Digital Content

- Migration
 - Software
 - Storage
 - File Formats
- Emulation
 - Software
 - Hardware



Questions? Comments?