
The Basics of Digitizing Photographs

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Nice to meet you!

Katy Egts



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WE ARE NOT EXPERTS!!

Today's agenda

- I. Introduction to photograph digitization – what is it?
- II. Why digitize?
- III. Initial Considerations
- IV. How to digitize photos
- V. Adding metadata
- VI. After digitization

What is photograph digitization?



DEFINING SOME KEY TERMS

What is photograph digitization?

Photograph digitization is when you use a scanner or digital camera to take a picture of a physical or analog photograph and turn it into a computer file, which can then be manipulated, converted, compressed, and potentially stored indefinitely.*

Key terminology

Digitization – Digitization, or sometimes “reformatting,” is the act of taking a physical, or analog, object and turning it into a computer file

Preservation – Preservation refers to a variety of acts that ensure an item, whether digital or analog, will remain intact and accessible for the future

Digital preservation - The act of ensuring that **born-digital** items are maintained and made accessible for the future

Born-digital – An item that was first captured, or created as a computer file and not in analog form

Analog item – An item that was first captured, or created, as a physical object

Digital surrogate - A digital item, or file, created from the digitization of an analog item

Why digitize?



THE BENEFITS OF PHOTO DIGITIZATION

The benefits of digitizing your library's photographs

- Mitigates the risk of total loss in the case of a physical disaster
- Reduces damage to the original photographs by decreasing the rate of harmful environmental exposure and handling
- Increases accessibility to your materials
- Relevancy





Does digitization remove context?

- Sort of
- A digital surrogate is not the same as a physical photograph
- Creating high-quality digital surrogates and adding high-quality metadata will ensure that the surrogate is as close to the original as possible
- Digital surrogacy doesn't diminish the value of the original photograph
- Don't throw out the originals!

Initial considerations



QUESTIONS TO ANSWER BEFORE STARTING A DIGITIZATION PROJECT



A few major questions

- What is the purpose of this digitization project?
- How do you intend to present the digital surrogates (what platform, software, repository)?
- What effect/harm will the digitization process have on the original, analog collection?
- What is your budget for this project?
- What is your timeframe for completion?
- What different material types, sizes, and conditions are present in the analog collection?
- Do you have a long-term plan for how to provide adequate stewardship of this collection for the future (both for the digital and analog collections)?

A few major questions, continued

Many, many more important questions to consider listed here:

Preservation Guidelines for Digitizing Library Materials | Collections Care – Library of Congress (n.d.). Retrieved July 21, 2022, from <https://www.loc.gov/preservation/care/scan.html>

How to digitize photos



BASIC RULES, METHODS, TIPS, AND TRICKS

Step 1: Condition assessment

A few conditions to look out for in your analog photographs:

- Cracked photographs that will need to be flattened
- Tears in paper and/or text longer than $\frac{1}{4}$ inch
- Folds and/or creases
- Acidic or damaging housing that needs to be replaced
- Restrictive (opens less than 90 degrees) or loose book joints

Step 2: Exclusions

Acidic, fragile, brittle,
torn, missing pieces,
sticky, or stuck paper

Leather books with
rot and/or missing
pages

Paper where iron gall
ink has eaten into the
page

Curled, bent, creased,
folded, cockled,
cracked, or wrinkled
photographs

Photographs
separating from their
mount or support

Step 3: Choosing equipment

- Digital Camera: Use ones with 100-150 MP sensors and a very high-quality lens
- Planetary Scanner
- Flatbed Scanner
- Drum Scanner
- Lenses: Apochromatic lenses, macro lenses, and lenses specifically designed for digital flat field imaging are generally better than other lenses



Flatbed scanner



Drum scanner



Planetary scanner



Step 4: Metadata collection

- Prior to digitizing, it is recommended to collect all desired metadata concerning the analog item
- More information about best metadata practices will soon be addressed

Step 5: Scanner settings de-coded

Bitonal

2-tone black & white scans

Palette

The range of gray tones or colors in an image

Grayscale

A palette of up to 256 gray tones

Color

A palette of 256 to thousands of color tones

Resolution

A measure of sharpness of an image (how finely spaced the details are)

Dots per inch (DPI)/Pixels per inch (PPI)

A measure of how many dots (or pixels) of color or shading are contained within one inch

Step 5: Scanner settings, continued...

- For 4x6" and 5x7" photos & documents: Scan at 300 dpi/ppi
- To enlarge a 4x6" or 5x7" to 8x10" or greater, scan at 400 or 600 dpi
- **Slides:**
 - Slide trays that fit inside flatbed scanners, or standalone slide scanners
 - Scan slides at around 1,900 dpi
- To zoom in on an area/aspect of a photograph:
 - Scan the photograph at 1,800 dpi and crop to the area you want later

Step 6: End steps

Save

Save your photograph as either a TIFF or JPEG file

- TIFF - Uncompressed file (better quality, but much larger file)
- JPEG – Compressed file (lesser quality, but takes up less space)
 - JPEG2000 – Uncompressed JPEG file (better quality, but larger file & less compatibility)

Embed

Embed desired metadata into the digital surrogate image

- Can use software like Adobe Bridge, Adobe Photoshop, Microsoft Expression Media, Camera Bits Photo Mechanic

Upload

Upload into digital library/repository with any additional collected metadata to create the bibliographic record for the item

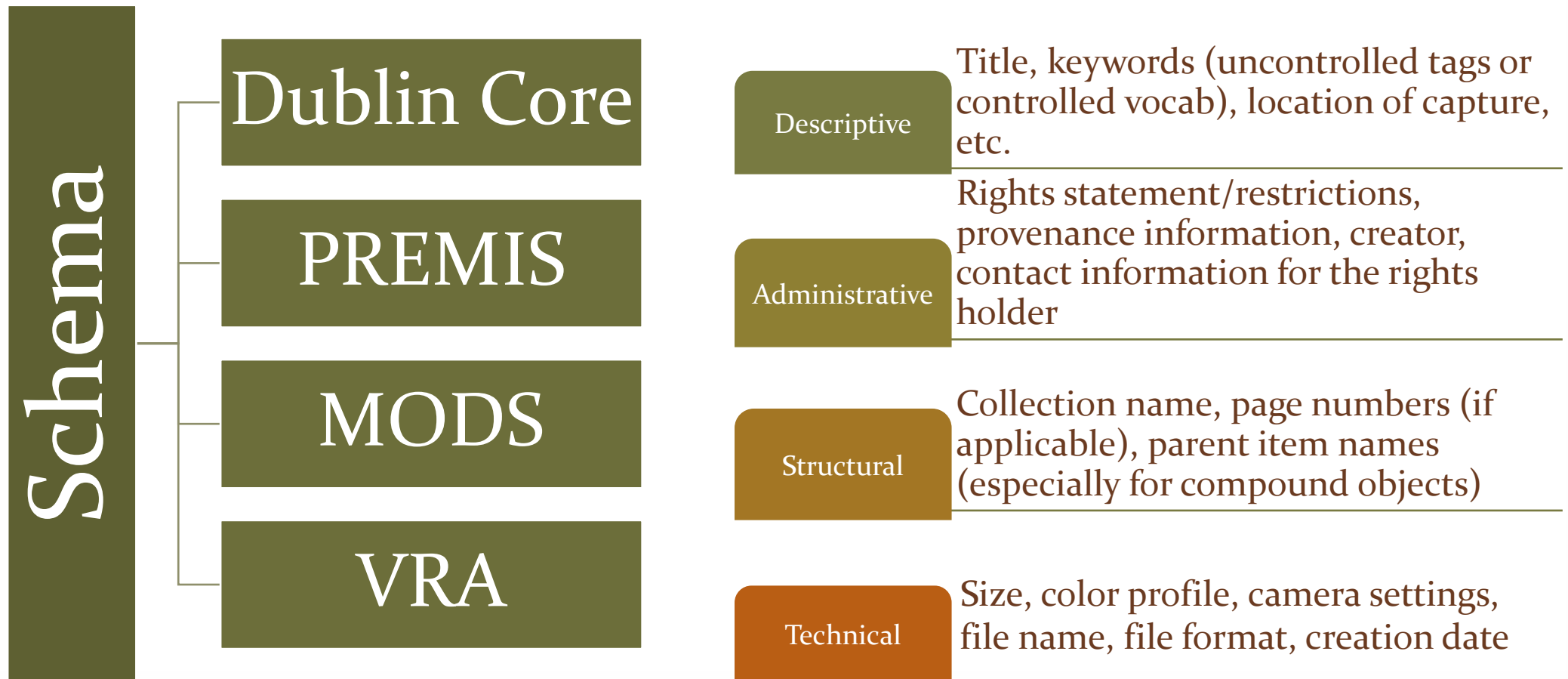


Adding metadata



CONTEXT AND PROVENANCE

Step 1: Choose a metadata schema & types of metadata





Choose your metadata elements

- Title
- Creator
- Date(s)
- Place of publication
- Publisher/producer/distributor
- File format
- File size
- Rights statement
- Contact information (for rights management)
- Collection name
- Identifiers (DOI, LCCN, unique file name)
- Keywords (uncontrolled or controlled vocab)
- Language of work (if applicable)
- Description
- Visual description

Create a metadata template

Field Name	Description of data to be included
Title	Cory Briscoe Bryan Home
Creator	Macke, Eleanor Swain, 1933-
Library of Congress Subject Headings	Marshall (Ill.) -- History; Twentieth century ; Florists -- Illinois -- Marshall ; Housing, Single family -- Illinois -- Marshall
Genre Headings	Local History; Facsimiles
Local Subject Headings	Bryan, Cory Briscoe ; Strange, Joan Brosman ; Hershey, H. G. ; Zschau, Max, Sr. ; Zschau, Arthur ; Zschau, Max, Jr. ; Zschau, Curt
Description	The purpose of Marshall Public Library Digital Archive Collection is to gather and preserve historical pictures, events and memories of the Marshall, Illinois area residents through photographs. Photographs were collected by Friend of the Library volunteer Eleanor Macke, community volunteers, and library staff.
Description	This picture shows the Bryan home before it was torn down a few years ago. According to Joan [Brosman Strange], Cory Briscoe Bryan lived on the northeast corner of 5th and Pine Streets across from what is now the school district office. When her husband passed away, Cory's father helped build a greenhouse in the back yard, and Cory sold plants and hot house flowers there to make her living. H. G. Hershey moved to Marshall and bought the floral business from Mrs. Bryan. He moved the floral and greenhouse business to 9th and Walnut. In 1914 he sold the business to Max Zschau, Sr. who came with his parents to America from Dresden, Germany and started business in Chicago before moving to Marshall. He was followed in business by his sons, Arthur & Max Jr., and grandson, Curt Zschau.
Description	This picture is a color photograph taken from the street looking towards a house. In the foreground is the backside of a vehicle and two trees growing out of green grass. A sidewalk runs between the trees and the front lawn of the home. The home is two stories tall with white siding and white window trim. There is a covered porch with four white pillars, two benches (one suspended from the porch ceiling), and two green chairs. To the right of the home can be seen a brown, wooden set of stairs leading to the second floor and the side of the neighbor's house. To the left of the home is a tall green bush. Behind the green bush can be seen a red brick building in the distance.
Date Original	circa 2010-2022
Format	Digitized Image
Date Digital	2004-04-06
Identifier	20220315_MPLDigitalArchive-02

- Possible formats: Excel spreadsheet, Google Form, etc.
- Create a template for each individual photograph and record your metadata accordingly
- For compound objects: Create one metadata template for the object-level metadata and then individual templates for each item-level page scan

After digitization



STEWARDSHIP OF DIGITAL SURROGATES AND ORIGINAL PHOTOGRAPHS



Digital stewardship

- Risks of digital information loss:
 - Storage media hardware is susceptible to physical damage and deterioration with time
 - Technological obsolescence
 - Quality loss with transfers
 - File corruption
 - Loss of legacy information during staff turnover
 - Lost information with data merges/consolidations
- What's the solution?
 - Commit to **active** digital stewardship efforts

Active digital stewardship

Store information on multiple servers in multiple locations with multiple copies. Use the photographer's 3-2-1 rule



Make new copies and migrate the collection every 5-7 years. Hold onto the old copies just in case



Maintain accurate, high-quality metadata and record all access information



Keep the original photographs in case you need to re-digitize

Physical photograph preservation

- Identify your photographs
 - Cater the preservation environment to your photographs' unique chemistry
 - Graphics Atlas - *"a sophisticated resource that presents a unique, object-based approach for the identification and characterization of prints and photographs."*
- Store materials in archival quality storage boxes
- Active preservation efforts > trying to reverse damage

Watch out for:

Light levels 

Temperature 

Relative humidity 

Pollutants and pests 

In summary:

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Need metadata assistance?

- Email Katy at kegts@illinoisheartland.org
- The CMC provides metadata assistance to Illinois libraries **FOR FREE!**
- Examples of metadata work done by the CMC metadata cataloger:
 - Marshall Public Library Digital Archives:
<https://cdm16614.contentdm.oclc.org/digital/collection/p16614coll75/search/page/1>
 - Marshall Public Library Oral History Collection:
<https://cdm16614.contentdm.oclc.org/digital/collection/p16614coll50/search/>
 - New Lenox Public Library Digital Archive:
<https://cdm16614.contentdm.oclc.org/digital/collection/p16614coll84/id/29/rec/1>

Works cited

Ashenfelder, M. (2015). *Digital Preservation for Individuals and Small Groups – Preservation Week | Presented by Core: Leadership, Infrastructure, Futures*. <https://preservationweek.org/past-webinars/collecting-and-preserving-after-tragedy-2-2-3-7/>

Federal Agencies Digital Guidelines Initiative (FADGI). (2022, June). *Technical Guidelines for Digitizing Cultural Heritage Materials*. Third edition. <https://www.digitizationguidelines.gov/guidelines/digitize-technical.html>

LeFurgy, B. (2012, April 26). *Preserving your Personal Digital Photographs – Preservation Week | Presented by Core: Leadership, Infrastructure, Futures*. <https://preservationweek.org/past-webinars/collecting-and-preserving-after-tragedy-2-2-3-14-2/>

NEDCC Staff. (2019). 5.3 *Care of Photographs*. Northeast Document Conservation Center. <https://www.nedcc.org/free-resources/preservation-leaflets/5.-photographs/5.3-care-of-photographs>

Personal Digital Archiving | Digital Preservation—Library of Congress. (n.d.). Retrieved July 28, 2022, from <https://www.digitalpreservation.gov/personalarchiving/>

Preservation Guidelines for Digitizing Library Materials | Collections Care – Library of Congress (n.d.). Retrieved July 21, 2022, from <https://www.loc.gov/preservation/care/scan.html>

Scanning Your Personal Collections. (n.d.). Retrieved July 21, 2022, from <https://www.digitalpreservation.gov/personalarchiving/> (titled “How to Scan Your Personal Collection” on webpage)

Image sources

- *Balloon at courthouse.* (2006). *Marshall Public Library Digital Archive.*
<http://idaillinois.org/digital/collection/p16614coll75/id/124/rec/11>
- *Drum scanner photo:* <https://www.openpr.com/news/2097352/drum-scanners-market-2020-swot-analysis-by-major-eminent>
- *Flatbed scanner photo:* <https://www.conrad.com/p/plustek-plustek-0304-1x-04042485288869-2290728>
- *Planetary scanner photo:* <https://iguana-idm.com/metis-eds-gamma-planetary-book-scanner/>
- *Water trough.* (2004). *Marshall Public Library Digital Archive.*
<http://idaillinois.org/digital/collection/p16614coll75/id/115/rec/130>

Additional resources

- *Care, Handling, and Storage of Photographs | Preservation – Library of Congress* (n.d.). Retrieved July 21, 2022, from <https://www.loc.gov/preservation/care/photo.html>
- digpublib. (2015, September 29). *Digital Reformatting and File Management | Digital Public Library of America*. <https://www.youtube.com/watch?v=CiTbXHqws7A>
- DPLA. (2015, October 7). *New Self-Guided Curriculum for Digitization | Digital Public Library of America*. <https://dp.la/news/new-self-guided-curriculum-for-digitization/>
- Graphics Atlas: <http://www.graphicsatlas.org/>
- *Library of Congress Recommended Formats and Standards, 2022-2023 | Preservation – Library of Congress* (n.d.). Retrieved July 21, 2022, from <https://www.loc.gov/preservation/resources/rfs/index.html>
- PhotoMetadata: www.photometadata.org

Questions?

On the call today

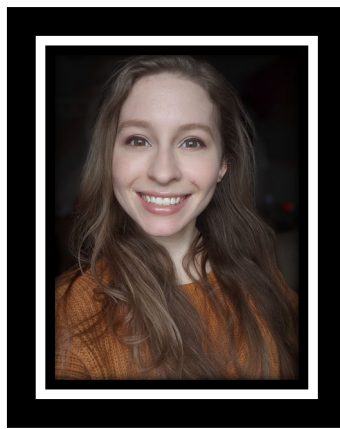
Questions? Contact the CMC:
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