Using Technology in Family History Research

Section 2: Best Practices for Digitizing Family Papers and Photographs

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Module 1: Planning, Formats, and Key Terms

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Planning

Käsebier, Gertrude, Stieglitz, Alfred, Blessed Art Thou Among Women, um 1899, Museum for Kunst and Gewerbe Hamburg, Public Domain, Online: https://www.mkg-hamburg.de/en/object/mkg-e00128735
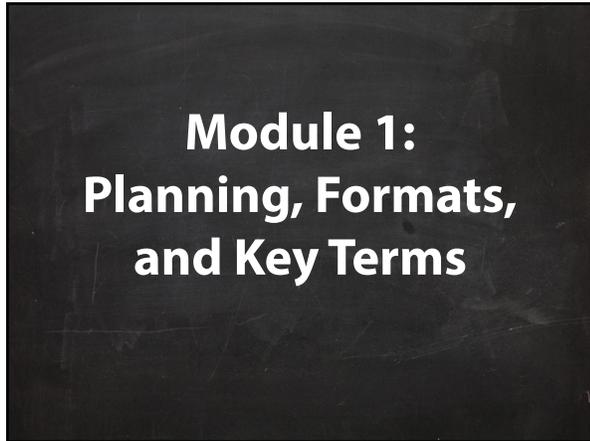
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Planning Your Project

1. Review your collection
2. Choose hardware: Scanners, cameras, and other accessories
3. Become familiar with file formats and image properties
4. Plan for metadata
5. Preserve your digital files

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Review Your Photographs

- What do you want to digitize and why?
- What do you plan to do with the images?
- How many documents do you have?
- What condition are they in?

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Selecting Hardware

- Choose equipment that won't damage your documents
- The best options for home collections:
  - Flatbed scanner
  - Camera with a tripod or copy stand

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Choosing Scanners and Cameras

- Scanners
  - 600 dpi optical resolution or higher
  - 2000-3000 dpi optical resolution for film
- Cameras
  - At least 10 megapixels (3872 x 2592 px)
  - need to be able to control image settings, like ISO, white balance, and shutter speed
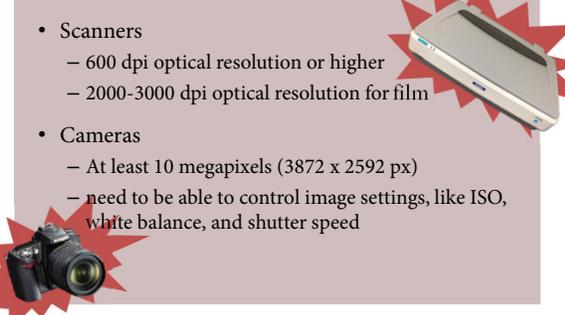
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Selecting Accessories

- Tripod
- Weights
- Pillows or book cradles
- Lightbox and/or lights

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Formats

Prints
Albums
Negatives
Framed

Käsebier, Gertrude, Stieglitz, Alfred, Happy Days, um 1903, Museum for Kunst and Gewerbe Hamburg, Public Domain, Online: https://www.mkg-hamburg.de/en/object/mkg-e00128736

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Digitizing Photographic Prints

- A flatbed scanner is a good choice, depending on the size and condition of original document or photograph.

- A camera with a tripod or copy stand is another option, especially for large items.

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Digitizing Photo Albums

- If the album opens flat, it can be digitized on a flatbed scanner.

- Albums with tight bindings should be digitized with a camera.

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Negatives and Transparencies

- Some flatbed scanners have transparency adapters for 35 mm film and slides, medium format, and 4 x 5 film.

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Negatives and Transparencies

- Cameras can also photograph film.
  - Use a lightbox to illuminate negatives and transparencies
- Specialized slide and negative scanners are also available.

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Cased and Framed Photographs

- Generally, camera is best
  - Experiment with lighting and angles
- If a fairly flat object, you can use a flatbed scanner
  - Experiment with background

Unbekannt, Mädchen mit Kopftuch, 1855, Museum for Kunst and Gewerbe Hamburg
Public Domain, Online: https://www.mkg-hamburg.de/en/object/dc00044354

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File Management

The Department of Preparation: Thomas Smillie's Photographic Survey of the Smithsonian (1890–1913) https://publicdomainreview.org/collection/smillie-smithsonian/

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File Formats // Image Settings

- Save original images in a file format that uses little or no compression.
  - TIFF preferred

- If scanning:
  - 300 ppi or higher, in color, no masks or rendering

- If using a camera, select the highest image quality

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File Naming

- Should be relatively short

- Use alphanumeric characters, hyphens, and underscores

- Use meaningful names

- Write dates in yyyymmdd, so the filenames sort chronologically

- End with a 3-letter file extension (.tif, .jpg)

"Aunt With Our Puppy"

"Brown_Mary_189407.tif"

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File Organization

- Keep original images in a master folder

- Put another copy in a working folder
  - Only edit the images in the working folder

- Photographs
  - Brown_family
    - master-images
    - working-copies
  - Gibson_family

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Metadata

- Describes your documents, making them easier to find.
  - Description, Creator (if known), Date, and Keywords
  - Technical metadata: describes the image file (camera settings)

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Archival File Name	Archival File Format	Date of Digitization	Archival File Size	Archival File Location	Archival File Resolution	File Name
MssA4470-001.tif	image/tiff	2024-11-25	123294536 bytes	\\NEHGS-FS\NEHGS_Stoc	600 dpi	MssA4470-001.jpg

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Metadata

- Save your metadata…
  - Embedded metadata
  - Separate files, like a spreadsheet or text file
  - Software, like an image browser or digital asset manager

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Embedded Metadata

- Embedded metadata stays with the file.

- Compatible with many different programs.

TRY!

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Metadata Examples

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Digital Preservation

- Follow the 3-2-1 rule:
  - **3** copies
  - on at least **2** types of media
  - **1** copy stored in a different location
- Check your images at least once a year
- Copy your files to new media every 5 years

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Key Terms in Photography

The Language of Flowers: An Alphabet of Floral Emblems (London; New York: T. Nelson and Sons, 1857)

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Definitions: Resolution

The density of elements, such as **pixels**, within a specific distance, most commonly an inch. Affects the amount of detail you can see in a digital image.

LOWER RES

400 ppi
vs.
2400 ppi

HIGHER RES

Source: https://blogs.loc.gov/thesignal/2013/03/what-resolution-should-i-use-part-3/

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Definitions: Pixel Dimensions

1116 × 746 pixels	>	400 × 278 pixels
300 pixels	=	300 pixels

3.72 in. x 2.49 in.
maximum printable size

1.33 in. x 0.93 in.
maximum printable size

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Definitions: DPI and PPI

- ppi (pixels per inch)
- dpi (dots per inch)

Image Source:
http://www.ala.org/alcts/resources/
preserv/minimum-digitization-
capture-recommendations

200 PPI   -->   700 PPI

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Top: Red boxes indicate edge features used to calculate maximum image information content.

Bottom: Enlarged detail version extracted from the circled area in the top image showing no difference in image information at 3000 ppi, 1500 ppi, and 1500 ppi interpolated up to 3000 ppi. From an 8x10-inch glass plate dating from 1906, in the collections of the Bancroft Library, University of California, Berkeley.

Source: Information or Artifact: Digitizing Photographic Negatives and Transparencies, Part 2, https://blogs.loc.gov/thesignal/2011/10/information-or-artifact-digitizing-photographic-negatives-and-transparencies-part-2/

Resolution Example: *Higher is not always better*

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Definitions: Optical Resolution

The resolution at which a capture device, such as a scanner or digital camera, is capable of capturing pixel values based on actual samples taken from an original to construct an image.

Maximum optical resolution (300 ppi) Interpolated resolution (600 ppi)

Source: https://www.scantips.com/interpol.html

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Definitions: Bit Depth

The number of bits used to describe each pixel in an image.

1-bit = 2 shades   8-bit = 256 shades

Source: https://archivesoutside.records.nsw.gov.au/digitising-your-collection-part-3-technical-specifications/

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Definitions: RAW files

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- The unprocessed file that is produced by a digital camera.

- The highest quality image that a camera can produce, with the greatest amount of data.

- Requires additional editing before it can be used.

RAW

JPEG
(processed)

Source: *When to use raw vs. JPEG, Adobe, 2022 via https://helpx.adobe.com/ph_fil/lightroom-cc/how-to/raw-vs-jpeg.html)*

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