

Digitizing on a Dime: Digitization Basics for Individuals and Small Genealogical Societies

Kristin Britanik
Kristin@deepgenes.com

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This presentation demonstrates the basics of digitization for your family or society's historic photos and documents. Learn best practices for creating and keeping digital image files with limited resources.

Image Capture Techniques

The digital image capture system you will choose is largely based on the scope of your project as well as your budget. Below are the pros and cons of two well-known methods used to digitize historic photographs and documents.

Flatbed Scanner

Flatbed scanners are the easiest way to create high-quality digital surrogates of two-dimensional photographs and documents. Scanning individual images can be time-consuming; however, multiple pictures can be placed on the scanner glass at once to streamline the process. The biggest benefit of the flatbed scanner is that it can create very high-resolution images with consistent results.

Overhead Camera

Using a copy stand with an overhead mounted DSLR camera is another common way to digitize documents and photographs. The biggest benefit of this method is that it is a quick way to create many images. Another added benefit of an overhead camera is that it gives you the ability to digitize smaller 3D objects, such as medals and family heirlooms. The biggest drawback to capturing with an overhead camera is that you can have inconsistent results if you are not carefully monitoring the light source and focus of each photograph. Furthermore, copy stands and lighting kits can be expensive, but there are ways to reduce these costs at home (see additional resources below).

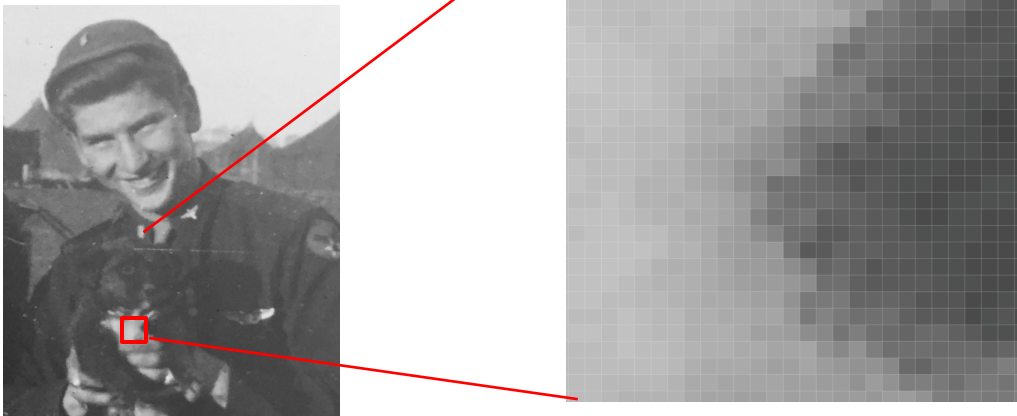
Creating Quality Digital Images

Below are recommendations for various digital image capture settings to ensure you are creating quality images.

Image Resolution

Digital images are made up of small squares of color. The number of squares (or dots) present in one inch of the digital image determines the image resolution. Generally, images should be captured at a resolution of 300 dpi (dots per inch). You may decide to capture the image at a higher resolution if you would like to print the picture out at a

larger size. The higher the resolution, the larger the file size will be. Images shared on the web are typically downsampled to 72 dpi, so the files are smaller and easily transferred.



Color Space: When creating images, you will have several color space options in your camera or scanner settings. Here is a summary of the most common options:

RGB	All pixels are composed of various shades of Red, Green, and Blue. This is the most common color space for color images.
Grayscale	Pixels are black, white, and shades of gray. This is good for black and white photographs.
Bit Map	Pixels can only be black or white resulting in a smaller file size. This is most common for images created from scanned microfilm or plain text documents.

File Types: You must also select which file type you would like to save your image as. Here are the two most commonly used options:

TIFF	This is the preferred file type for saving your scanned files since there is no image compression. This will result in a higher quality image and a larger file size.
JPEG	With JPEG there is some image compression, meaning that some of the pixel data is lost. This is the preferred way to save images that will be posted on the web.

Other file types: When you are saving images you will see options for other image file types such as PNG, GIF, SGV, & EPS. These file types all have different uses, but you will almost always use TIFF & JPEG to save your scanned files.

The best practice for capturing and storing image files is to save a “master” TIFF file and then from that file make derivative JPEG copies for sharing and posting on the web.

Image Metadata

The basic definition of metadata is that it is data describes data. Metadata can tell you more about image files, such as when the image itself was created, how large the file is, who is depicted in the photos, and when the original photograph was taken. A good way to think of metadata is comparing it to the writing on the back of the photograph that tells you more about what is going on in the picture. Most metadata follows standard formats (see additional resources to learn more). There are several ways that metadata can be recorded for digital images.

File Naming Conventions

One of the simplest ways to organize your images for future retrieval is by naming them in a way that quickly identifies what they are. When naming files, it is best to avoid using characters such as spaces, commas, and periods, as these can cause issues in file transfers. When possible, include known names, dates, and places. However you choose to name your files, it is best to remain consistent, so that you can quickly sort them to locate the images when needed.

Name	Date Modified	Size	Kind
Britanik_Family_1962_Reunion.jpg	Oct 15, 2016, 11:13 AM	1.4 MB	JPEG image
Britanik_Richard_1939_238_Bausman_Street.jpg	Feb 18, 2017, 10:47 AM	162 KB	JPEG image
Britanik_Thelma_1952_1255_Gallup_Drive.jpg	Feb 18, 2017, 4:26 PM	1.9 MB	JPEG image
Leobig_Lena_1928_Pittsburgh_PA.jpg	Feb 17, 2017, 10:04 PM	2.3 MB	JPEG image

Metadata in a Separate Spreadsheet

If you would like to add more detail to an image than just what is in the filename you can also keep track of information about your images in a separate spreadsheet that can be as detailed as you would like. The important part of recording data this way is to have a “key value” lookup that connects the image files to the spreadsheet. Most often this will be the file name. Here is an example:

	A	B	C	D	E	F
1	File Name	Description	Location of Photo	Date of Photo	Date Scanned	Scanner
2	IMG_0125.jpg	Richard and Dorothy Britanik around a Christmas Tree	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik
3	IMG_0126.jpg	Britanik children opening presents	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik
4	IMG_0127.jpg	Britanik family eating Christmas dinner	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik
5	IMG_0128.jpg	Franklin Britanik sitting at dinner table	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik
6	IMG_0129.jpg	Dorothy Britanik with James Smith	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik
7	IMG_0130.jpg	Britanik family around Christmas Tree	Pittsburgh, Pennsylvania	25-Dec-52	20-May-17	Kristin Britanik

This method is particularly useful if you want to share the collection of digitized documents on the web and need an associated index.

Embedded Metadata

Embedded metadata is stored within the original image file, meaning that no matter where you send the file the small bits of descriptive data will also be with the file. Adobe Photoshop and Adobe Bridge are two common programs used to embed metadata.

Storing Your Images

There are several options for storing your digitized files. Here are some of the more affordable options:

CDs/DVDs	Burning CDs or DVDs is an easy and cost effective way to store your image files. It's important to note that these mediums are not the most permanent as the disks can degrade over time.
Stand-Alone Hard Drive	This is another easy and cost effective way to store your files. If you choose this method, be sure your files are well organized and that you have duplicate copies in different geographic locations.
Cloud Based Services	Depending on how much storage space you require, this could be a more expensive option. The biggest benefit is that backups are typically taken care of automatically, and you can access your files from just about anywhere with an internet connection.
Networked Attached Storage	Networked attached storage devices are inexpensive options for setting up at simple networked file system at home. It is like a stand-alone hard drive that is attached to your router, so that it can be accessed by multiple devices on your local network. Some devices have option cloud backups for added protection.

Whatever method you choose to store your images remember to regularly **backup your files**. Ideally, when you are backing up your files, you will have at least one copy stored in a different geographic location in case physical damage happens at one location. Backups always work best when they happen automatically so that you do not have to remember to do them.

Sharing Your Images

Here are a few examples of simple and affordable ways of sharing your images on-line:

Basic Image Sharing Sites – Flickr, Shutterfly, Photobucket, etc.	These sites provide a quick and easy way to share a large number of images with family and other genealogists. You typically get a certain amount of space for sharing images for free, and you can upgrade to store more images as needed.
Wordpress	Wordpress is powerful blogging software that can be used to share collections of images using certain plug-ins. It can be setup to run on your own webserver, or you can use their hosting services.
Omeka	Omeka is an open source tool that can be installed a server to share images and various media. This may be a better option if you would like to make larger records sets with indexes available online.

Additional Resources

Guidelines: Technical Guidelines for Digitizing Cultural Heritage Materials

<http://www.digitizationguidelines.gov/guidelines/digitize-technical.html>

How to Digitally Archive and Share Historical Photographs, Documents, and Audio Recordings: Appendix D. Using Copy Stands with Cameras

<http://archivehistory.jeksite.org/chapters/appendixd.htm>

Metadata for Cultural Heritage Materials

<http://sustainableheritagenetwork.org/digital-heritage/metadata-cultural-heritage-materials>

Library of Congress Cataloging & Digitizing Toolbox

<https://www.loc.gov/rr/print/cataloging.html>