IMAGE MANAGEMENT for Community Chest and Archangel

Before creating a digital image collection it is important to establish some fundamental principles based on your society's requirements.

Firstly you should create a MASTER from your source original, this should always be the highest quality image obtainable based on what type of archival material you are reformatting. This negates the need to re-capture at a later date. It is important that material on loan be copied at a high resolution as the opportunity may not arise again. The MASTER should be an uncompressed file saved either as TIFF or minimum compression JPEG. Apart from any necessary straightening, cropping, and titling, nothing should be done with this image except the production of a WORKING COPY. The MASTER is then backed up for the future. All further images whether for printing or web or catalogue are derived from the WORKING COPY (see WORKING COPY)

A bit of background on the resolution of digital images that may help.

In the normal course of digital camera photography the ppi (pixels per inch)capture resolution and dpi (dots per inch) print resolution are often interchangeable. there is a difference however and this is very important for us in the Archiving environment.
In the world of photography you are usually taking a picture of rolling hills in the setting sun, or your Red Setter rolling in the hills, the size of the original scene is incalculable and so the capture resolution can not be calculated and is therefore meaningless. All you can do is make sure that you have enough sensor pixels in the camera to print out the scene at the size that you want to print it at, So if you want to print out the image to an A1 size poster at 300 ppi you will need a higher resolution camera than if you want just a 5x4 photo or just to show it on a computer screen which is around 100 dpi these days. Either way the size of the sensor will dictate the size of the image that you can output to with clarity.

In our world, there is a vital difference. We need to ensure that we capture all of the information that is contained in the original document and so the capture resolution has meaning. You have to have a high enough capture resolution to ensure that you retain all of the detail from the original source.

Our advantage is that we invariably know the actual size of the object we are capturing. Whether it is a ledger book, a post card, a postage stamp. anything we put in front of the camera we can physically measure. By dividing the size of the sides of the sensor e.g. 4000 x 6000 or 2000 x 3000 (in pixels) by the size of the original object (in inches) e.g. 8 x 11 providing you fill the frame. We can give our images a capture resolution that is measured in ppi (Pixels per inch).
The target figures that will ensure that you do not lose any detail from the original and also allow you to print an excellent surrogate are as follows :-
For written originals at 300 ppi.
For photographs at 720 ppi
For 35 mm transparencies at around 2400 ppi
You should choose a camera and lens combination that allows you to do this. The good news is that cameras that can achieve these results are now readily available and affordable from large manufacturers such as Nikon and Canon.

This is a brief outline of the principle and there are subtleties but these can all be worked out once the above is understood.

WORKING COPY.

The Working Copy has a number of functions:

1) To protect the Master from inadvertent alterations, deletion, etc.
2) To provide a surrogate copy which can be adjusted to provide the best possible image by removing dust & scratches, colour and tonal improvements, etc.
3) To improve accessibility by altering file type, file size, etc. What is the purpose of the image to be produced from the WORKING COPY? - this will dictate the required resolution of your derived digital images e.g. a lowdefinition catalogue of subject or donation based images, or images for inclusion on a web-site may only require thumbnails, whereas preservation action to negate the need of accessing original material, or the production of hard copy images for exhibitions and sale, or surrogate copies of photographs loaned to the society will require high definition surrogates

With reference to 3 above, it may be desirable to change the file type from TIFF to JPEG or JPEG to PDF or other file types depending on the systems you are using. Reducing file size will improve the speed of access in a large digital collection. For example a collection of 50Mb images may be required for printing large, high quality images but if reduced to 500Kb images Public access either on a laptop or over the web will be vastly improved. You may therefore find that it is desirable to have a number of file sizes for a single image.

Creating a digital surrogate
Process

1 Scan or capture the image at a high resolution and save in uncompressed format. This is the MASTER IMAGE
2 From the Master image copy and save an image as an uncompressed JPEG This is the WORKING COPY
3 If desired - Improve the quality of this image by removing dust & scratches, adjusting colour balance, adjusting tonal balance, adjusting contrast, etc. Now save as WORKING COPY
4 You can now produce as many file variations as required from the WORKING COPY. Reduce file size by reducing image dimensions e.g. to 500Kb for using in an Archangel Package, to 100Kb for Web Site, etc. Convert to PDF or other format. Always return to the primary Working Copy for producing new files.

A useful tool for making these alterations is one of the Adobe Photoshop type programmes. Freeware software is also available for this sort of conversion.

Storing digital surrogates

As can be seen from the above a number of files of the same image may be produced. It is therefore important that a suitable titling system is introduced. Whilst images should be stored by their collection, or subject if that is the way collections are handled, it is very useful to have a folder,a "digital image store" that incorporates all images from all collections, with a single consecutive numbering system.
For example if DI 00001, DI 00002, DI 00003, etc. is used
a folder for MASTERS, will contain the images D1 00001m, D1 00002m, D1 00003m
a folder for WORKING COPIES, will contain the images D1 00001wc, D1 00002wc, D1 00003wc
a folder for ARCHANGEL IMAGES, will contain the images D1 00001aa, D1 00002aa, D1 00003aa
a folder for WEB IMAGES, will contain the images D1 00001wi, D1 00002wi, D1 00003wi.,

Each file will be the same image but in an altered file type or size and therefore can easily be identified. It is of course not necessary to create all forms initially but any additional image types will easily fit into the system.

Ensure you back-up at least Masters and Working Copy files.