Tools for the Fellows of Tasveer Ghar

Worksheet 1.2: Digitization Basics

Since we are primarily dealing with the **digital archiving** of images and their **contextualization**, it would be a good idea to start with some basics of digitization. Even if you are not scanning the images by yourself, and are sending them to us, it would help to familiarize with the fundamentals of scanning or digitization. You could start by acquiring and learning to use an image editing software such as Adobe Photoshop which allows you see, edit or digitally improve an image that has been scanned/ digitized.

Electronic Image Master:
Although the images we archive would be used in a variety of sizes and specifications depending on the requirement, our primary goal is to have in our archive at least one unedited master electronic file of each image with the maximum possible resolution and size. This master file would act like the original specimen of a museum – even if the original (hard copy) gets damaged or lost, one can always refer to the electronic image master (EIM). The backups of EIM could be stored in more than one servers or hard-discs for safety.

An electronic image can be created (or brought into a computer) through a variety of ways: scanning, shooting through a digital camera, a video grab and so on. There is a wide variety of scanners and cameras available for digitization, each having its pros and cons. Different users have different preferences depending on the job. The scanning probably gives the best results for flat or two-dimensional art work since the object is kept closest to the machine and the colour of the light is controlled. A camera on the other hand can shoot larger objects but its lens may distort the corners of a flat image. A light reflection on the shiny surface or the accuracy of colour could also be a problem while shooting a flat art work with a video-based camera. Hence, flat-bed or drum-based scanning is preferred more for digitization. Sometimes we even shoot the large images on celluloid transparencies using conventional SLR cameras and then scan the transparencies through a slide scanner. (See more information at the links mentioned below.)

Resolution/Size:
We expect every digitized image to be of a size that can easily be printed in its original size. The golden rule for scanning an image for printing is to scan it at 100% size and a resolution of 300 dots per inch (dpi). The format to save an original scanned image should be the one which does not compress or reduce image quality. For instance JPEG, the most popular format used on the internet, is actually a compression format that should be avoided for saving high resolution, archiveable files. It is better to save in RAW, TIFF or other non-compressed formats. It should be possible to select these formats before scanning. However, if your digital camera allows you to shoot only in JPEG format it should be acceptable as long as the size of the image is large enough to print in its original size. (See links below). It would be better to send us a couple of samples of what you scanned so that we can comment upon its quality.

For showcasing it to public on the internet, we recommend a medium or low-quality, medium-sized jpeg version (with 72 dpi) that can easily be downloaded on an average-speed Internet connection. One can also provide a thumbnail for the larger image. Please refer to the Virtual galleries featured on tasveerghar.net for the image

sizes used. Software such as Photoshop can optimize the file size and quality of an image for Web. But for showcasing on our website, we would prefer to get the original images optimized (and cut to size) by our in-house web designer, although you (as contributor) can suggest your preference of size or other creative parameters for your virtual gallery or feature.

Meta Data:
For archiving purposes, we expect to note down extensive details in plain text format for each image. This text, generally referred to as "Meta Data" should have some of the vital information about an image, such as the following:
Title, Short caption, Long caption, Subject/topic, Keywords, Credit/copyright, Person who photographed/created, Person who collected/sourced, Date of creation/collection, Place of creation/collection, Original format of the image (digital photograph/photo print/transparency/original painting/published photo/poster/3 dimensional art),
Digitized format: flat-bed scan/drum scan/digital photo/video grab/digitally produced), Original image size, scanned image size (Is it original size, high-resolution printable, optimized for web, thumbnail, or special size?) Is this image available elsewhere? Current state or quality of the hard-copy? Email/phone of the owner of image, etc. Any related internet link? (Any other information or remarks)

The electronic database of Tasveer Ghar website will ultimately have the above fields to fill in for each image, which the user/contributor will need to submit while uploading or submitting an image online. These Meta data will allow the users to search for a specific image easily. Thus, the captions or keywords may even mention specific objects or icons depicted within an image (such as nose, eye, or hair, in case of a portrait, for instance) for better search-ability. While processing or submitting many images, it would be a good idea to prepare a Microsoft Excel file (or similar spreadsheet document) with the above details of your entire inventory of images.

Many images may need digital restoration or correction after scanning. It is advisable to edit/alter only a copy of the original, and keep the unedited, raw version intact. If edited or altered, the Meta data of the image should specify the details.

Shipping of Art work:
If you are sending the images in hard copy (via courier/post) for Tasveer Ghar to digitize, make sure that they are packed safely without a chance of bending, tearing or any getting damaged. You may put padding of hard card board, thermocol sheets, or bubble wrap (as maybe required) on both sides of the art work. It is advisable to insure your art work in case it is very precious or rare. Tasveer Ghar will not be responsible for any damage to the art work on the way from your side. If you acquiring an art work that is available in the market (at a reasonable price, such as a mass produced poster), it is advisable to buy two or more copies of the same.

Further Links and Resources:
Below, we are giving some Internet links where you could get some basic as well as advance information on digitization and archiving:

Resolution Basics for Beginners - Understanding Resolution for Scanning Printing
http://desktoppub.about.com/od/resolution/a/resolutiondots.htm

Scan Resolution Guidelines (Adobe)
http://kb.adobe.com/selfservice/viewContent.do?externalId=316720&sliceId=1

Scanning resolution calculator for printing digital images from scanner or digital camera
http://www.scantips.com/calc.html

Scanning Basics (Adobe)
http://kb.adobe.com/selfservice/viewContent.do?externalId=311216&sliceId=1

Harvard University Library Guide to Image Digitization
http://hul.harvard.edu/ois/services/digproj/guide_images.html

Reformatting
http://hul.harvard.edu/ldi/html/reformatting.html

Metadata for Digital Still Images (Highly technical information)
http://preserve.harvard.edu/specs/imagemetadata.pdf

A Guide for Managers Planning and Implementing Digitization Projects
http://www.chin.gc.ca/English/Digital_Content/Capture_Collections/Publication/capture.html

Besides the above, you could even search for further resources by giving keywords such as "scanning resolution", "image digitization", "image archiving", "art restoration", and so on.

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