Scanning Various Hand Drawn Graphics
Besides making drawings in AutoCAD and other computer software, hand drawn graphics add to the quality of presentation. To integrate both computer and hand drawn graphics, the first step is to scan the hand drawn graphics. In this exercise we will learn how to scan hand drawn graphics.

There are two possible ways of going about scanning.
1. Scanning directly through the scanner.
2. Scanning using the scanner but through Photoshop.

The second method is recommended - Scanning using Photoshop, for of the following reasons:
Multiple images can be saved to Photoshop and be saved in any image format after finishing scanning all the images. Scanner software allows the images to be saved one at a time and only in a few image formats only. Therefore working with Photoshop becomes more efficient and there is more choice in selection of the image format to be saved.

**Note:** This tutorial is aimed at a quick and a basic understanding of the scanning process and focuses only on the specific tasks related to scanning hand drawn graphics.

**STEP I. Getting Ready to Scan:**

1. Open “Photoshop”.
2. In the “File” menu click on “Import” and more options will appear, select “DeskScan II Source..”. (We are selecting the scanner present in the LAEP lab. If you are scanning with some other scanner, look for the scanner name here)
3. “DeskScan II” Dialog box will appear along with a screen where the scanned image will appear. At this point the scanner will automatically preview the “Copyboard” once and will be ready to scan.
STEP II. Scanning the Drawing:

1. Place the hand drawn sketch face down in the corner of the scanner copy board with the document alignment mark.
2. Click on the “Preview” button on the “DeskScan II” dialog box. It starts a low-resolution scan of the scanner copyboard. The scanned image resulting from the Preview scan appears in the Preview Area.
STEP III. Selecting the “Type”:
1. Click on the “Type” tab, a pop-up will appear which lets you select how the image is to be scanned and processed.
2. Select “Black and White Drawing” from the available options for “Type”.

Understanding various related concepts:
There are two basic image types: drawings and photos. The other selections are provided for special purposes.

Drawing
Used for images with large areas of a single color. Line art, logos, and solid color images are examples of the kinds of images to be scanned with a Drawing image type. Files created with a Drawing image type can be edited easily in an image editor.

Photo
Used for images with many shades of gray or color. The color variation in an image is captured pixel-by-pixel when a photo image type is used. A photo image type is used to scan images that are to be printed or displayed on imagesetters or color screens. Also, use a photo image type to scan an image that is to be edited. Original photographs and pictures in books, magazines, and newspapers are examples of the kind of images to scan.

• For this tutorial select a hand drawn graphic which is made up of lines. We will use the “Drawing” type for scanning the graphic. Select “Black and White Drawing” from the available options.
STEP IV. Selecting the “Path”:

1. Click on the “Path” tab, a pop-up will appear which lets you select resolution of the image to be scanned.
2. Select “200 dpi” from the available options.

Understanding various related concepts:

**DPI:** Dots Per Inch. A measure of the resolution of a printer, scanner, or monitor. It refers to the number of dots in a one-inch line. The more dots per inch, the higher the resolution.

For the purpose of scanning hand drawn graphics 300 dpi resolution is usually sufficient. Increasing the DPI increases the resolution of the image and also increase the size of the image. It is advisable to avoid the redundancy of higher resolution for hand drawn graphics. Higher DPI is usually used to scan photo real images and 35 mm slides.

- **For the purpose of this tutorial as we are working with a line drawing, we will select 200 dpi as the scanning resolution.**

![Graphic Tutorial Image]

300 dpi resolution is good for line drawings and hand drawn sketches. If the photo is dirty or wrinkled, use a higher dpi, up to 600. Reduce the image back to 300 after cleaning is finished.

**Note:** If the graphic you want to scan is larger than the scanner copyboard, you will have to save the image in various parts as separate image files. It will be possible to bring together these parts (separate image files) into one image in Adobe Photoshop CS2 using Photomerge (File...Automate...Photomerge).
STEP V. Adjusting the Selection Area:

1. In the Preview area use the following tools to adjust and finalize the selection area.

   *Note:* You can select the whole image or part of the image using these tools on the Preview Area.
STEP VI. Zoom Scan:
Zoom Scans allow you to select a more precise area of the image for scanning. A button in the front panel that re-scans and enlarges the selected portion of an image to the maximum size allowed by the Preview Area. This is also helpful to remove the unnecessary areas in the graphic and getting better resolution.

1. Click Preview.
2. Create a selection area.
3. Click Zoom.

Note: To return to the normal view click “Preview”. The Zoom button is unavailable until a selection area is created.

STEP VII. Changing the Brightness and Contrast of the graphic:
The “DeskScan II” scanner dialog box has options to change the Brightness and Contrast of the graphic before saving it. However it is advisable to keep the graphic unchanged in terms of its brightness and contrast and scan the image in its raw form. The changes can be done better using Photoshop after finishing the process, this ensures that you have the original copy of the graphic at any time if you are not happy with the results after editing brightness and contrast of the graphic.
STEP VIII. Finalizing the Scan:

1. Click on the “Final” tab on the “DeskScan II” dialog box.
2. A message box showing the scanning process will appear on the screen.
3. The image will be saved into Photoshop.

STEP IX. Saving the Image in Photoshop:

**Note:** To save the image which is open in Photoshop the “DeskScan II” dialog box will need to be closed. However if you need to scan more than one graphic, continue scanning and after finishing will all the scans, you can close the scanner dialog box and save each image separately in Photoshop.

1. In the “File” menu click on “Save”.
2. A “Save As” dialog box will appear on the screen.
3. Give an appropriate name to the file and a location for it to be saved.

**Note:** Some applications that accept scanned images can do so only in a particular file format. Choose a file format that is accepted by the application you will use with the image file. One of the most widely accepted file formats is TIFF. If the application accepts TIFF, select it from the pop-up menu. You can also choose the file format based on the size of the image. The TIFF format is usually creates a bigger size image than if saved in a JPEG format. So if the image size is a concern or if the file is only going to be used on screen, such as in Power point or on the web, you can select the JPEG format to optimize the image size.

4. Select the file format by clicking on the “Format” tab from the available options. Select and Save the image in TIFF format from the options.

The graphic will be saved in the selected file format and in the specified location.