Working with Digital Images

There are many ways to digitize light and information. There are many input devices and processes available to you. Try these:

- Digitize light using a digital camera.
- Digitize images, photos, sketches, collages, your hands, etc. using a scanner.
- Copy from the Web (beware copyright violation, we'll talk about this in class) - simply drag an image with the mouse from the web page to the Desktop, or click and hold the mouse on the image and choose "Save As…" from the pop-up menu, or use "command-option-4" in order to create a "screen shot" of the selected area of the screen. (Note that on the Macintoshes in the DMC Lab, security software renders command-option-4 inoperable because the screen shot image file would be created on the main hard drive, which is write-protected.)
- Shoot your own photos using a disposable camera (if you don't have your own), then take the film to a photo development shop and develop onto a digital CD format (CVS does this for 10 bucks or so).
- Use stock photography and clip art (beware copyright violation, we'll talk about this in class).

Image Size and Monitor Resolution

As you work with digital images, you'll find that an important issue is the resolution of the image and the monitor, and the size of the image file. You might want to explore Photoshop's "Image Size" dialog box (in the "Image" menu), and take note of the following:

- The standard Macintosh monitor resolution is based on 72 dots (pixels) per inch (dpi). Note that Windows uses a 96 dpi standard.
- Monitor resolution can range from 640x480 pixels to 800x600 to 1024x768 (and even higher). Nearly all monitors use a 4:3 *aspect ratio* (width:height).
- A non-compressed, full-color (RGB) 640x480 pixel image is approximately 900K in size.

File Size

The greater the resolution and dimensions of your image, the greater the file size. Here are some standard storage media and their capacities:

- A "high-density" floppy disk = 1.4 Megabytes
- Zip disk = either approximately 94 Megabytes (100MB Zip) or 235 Megabytes (250MB Zip)
- CD-ROM = 650 Megabytes (a little-used type of CD-ROM has 580 Megabyte capacity)
- Jaz disk = either approximately 1 Gigabyte (1GB Jaz) or 2 Gigabytes (2GB Jaz)
- DVD = 2.5 Gigabytes up to 18.5 Gigabytes (theoretical)