PHOTOSHOP CS WORKSHOP

Instructional Technology
Office for Information Technology

Enhancing Digital Photos

Image Correction
- Removing Dust and Scratches
- Hue/Saturation
- Levels
- Curves
- Adjustment Layers
- Shadow and Highlights
- Variations
- Sharpening
- Burning and Dodging
**Bitmap and Vector**

**BITMAP [RASTER]** images describe images using dots, called pixels, arranged in a grid. Each dot is assigned a color, and when viewed at the correct resolution, the dots go together like tiles in a mosaic to form the image.

**VECTOR** graphics describe images using lines and curves, called vectors, that also include color and position information.

You can move, resize, reshape, and change color of a vector graphic without changing the quality of its appearance. Vector graphics are resolution independent.

Images created by Adobe Photoshop are raster graphics. Objects in Photoshop are groups of many pixels, each of which can be a different color.

Because of the large amount of pixels necessary to create raster images, they require much more memory and storage to manipulate than vector graphics.

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**Memo**

**Definitions of Pixel**

An abbreviation of the term 'picture element.' A pixel is the smallest picture element of a digital image. Like the fibers of a fabric, individual pixels are too small to notice, but together they make up the whole.

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Removing Dust and Scratches
Filter --> Noise --> Dust & Scratches...

Hue/ Saturation
* To edit ranges of colors. Similar to Variations
Image --> Adjustments --> Hue/Saturation...

HUE RANGE - by default, the Hue/Saturation command modifies all colors. However, you can isolate a specific range of colors by choosing an option from the Edit pop-up menu.

RANGE CONTROLS - You can modify the metrics to better suit your needs by dragging the triangle controls.

HUE METRICS - The numbers that tell the positions on the color wheel. For example, Reds are 315°/345° and 15°

Variations
* One-stop color correction laboratory
* To fix a color cast
Image --> Adjustments --> Variations...

Levels
* To adjust brightness and contrast
Image --> Adjustments --> Levels...

Curves
* Non-linear color editor
* To enhance color

Changing the shape of the curve in the Curves dialog box alters the tonality and color of an image. Bowing the curve upward lightens an image, and bowing the curve downward darkens it. The steeper sections of the curve represent portions of an image with more contrast. Conversely, flatter sections of the curve represent areas of lower contrast in an image.

In the default state of the Curves dialog box, moving a point in the top portion of the curve primarily adjusts the highlights; moving a point in the center of the curve primarily adjusts the midtones, and moving a point in the bottom section of the curve primarily adjusts the shadows. Moving a point either down or to the right maps the Input value to a lower Output value, and the image darkens. Conversely, moving a point either up or to the left maps a lower Input value to a higher Output value, and the image lightens. So, if you want to lighten the shadows, move up a point near the bottom of the curve. And, if you want to darken highlights, move down a point near the top of the curve.

before after
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**Shadow and Highlight**

Image --> Adjustments --> Shadow/Highlights.
The SHADOW/HIGHLIGHT command is suitable for correcting photos with silhouetted images due to strong backlighting or correcting subjects that have been slightly washed out because they were too close to the camera flash.

**Sharpening**

* To create sharper focus
  * “Unsharp Mask” enhances edges in a photograph by offsetting a blurred negative over the original

Filter --> Sharpen --> Unsharp Mask.

The Unsharp Mask locates pixels that differ in value from surrounding pixels by the threshold you specify and increases the pixels’ contrast by the amount you specify. So the lighter pixels get even lighter and the darker pixels get even darker based on the specified amount.

**Burning and Dodging**

Used to lighten or darken areas of the image, the DODGE tool and the BURN tools are based on a traditional photographer’s technique for regulating exposure on specific areas of a print. Photographers hold back light to lighten an area on the print (dodging) or increase the exposure to darken areas on a print (burning).

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**References**