Digital Imaging

What is Digital Imaging?

In it's simplest terms, digital imaging is the process of altering images with a computer, digital camera or scanner, and printer.

What is Digital Imaging?

Color or black-and-white prints, film (negatives), and transparencies (slides), can be scanned with various scanners and transferred to digital files.

What is Digital Imaging?

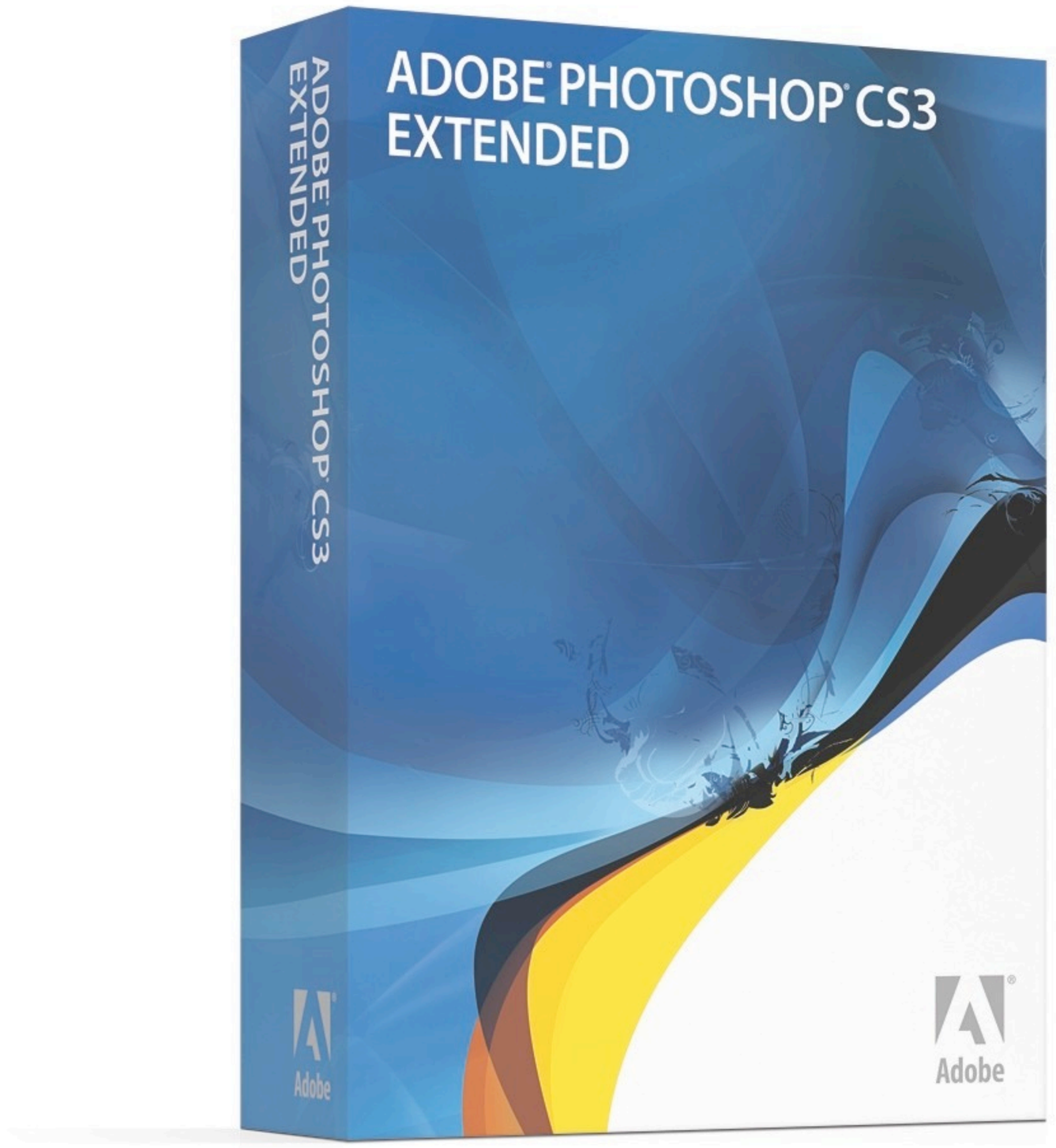
A digital camera can also be used to capture images, and then transfer them to the computer.

What is Digital Imaging?

Digital files can then be manipulated on the computer using the traditional methods of applying color correction, burning and dodging, and adjusting contrast and exposure.

What is Digital Imaging?

Adobe Photoshop is the most common application commercially used for digitally manipulating images.


ADOBE® PHOTOSHOP® CS3
EXTENDED
ADOBE® PHOTOSHOP® CS3
EXTENDED
Adobe
Adobe

Adobe Photoshop

File Edit Image Layer Select Filter View Window Help

Brush: 9 Mode: Normal Type: Proximity Match Create Texture Sample All Layers

Brushes Tool Presets Layer Comps

D2X_0699.psd @ 16.7% (Original, RGB/16)

16.67% Doc: 69.9M/211.8M

Navigator Info Histogram

16.67%

Color Swatches Styles

R 233

G 226

B 232

History Actions

D2X_0699_nikon_europe....

Open

Layers Channels Paths

Normal Opacity: 100%

Lock: Fill: 100%

Levels 1

Hue/Saturation 1

shadow_higlight

Distort + Barrel

Original

What is Digital Imaging?

Manipulation of the image can also be done by adding several layers of images together. Blending modes, filters and opacity changes can further enhance the look of montage images.

What is Digital Imaging?

This technique of combining several images together from different parts of photographs is called a photomontage.

Photomontage development

Two major exponents of the Dada movement in Berlin, John Heartfield and George Grosz, were instrumental in developing photomontage into a modern art-form.

John Heartfield

Adolf the Superman: Swallows Gold and Spouts Junk

Father of Photomontage

Jerry Uelsmann is probably best known to the general public for his surrealistic film photographs within which 2 or more separate pictures are combined, in a darkroom with several enlargers to produce a single image.

Father of Photomontage

The end result is often a photograph of quite different subjects superimposed over each other, but in such a way as to avoid any overlap. Consequently, the images tend to be unusual, provocative, and very different from a typical photograph.

Jerry Uelsmann

Jerry Uelsmann

Computer Photomontage

Today photomontage work has become easier and is done mostly with the use of computer software like Photoshop. Programs make the changes digitally, allowing for faster workflow and more precise results.

Pixels

A digital image is composed of pixels (picture elements) of information arranged in columns and rows.

Pixels

Each pixel on the monitor is composed of varying amounts of the 3 additive colors - Red, Green, and Blue.

Pixels

The resolution of the digital photo or scan of a film based print determines the final print quality and file size.

Pixels

This resolution is measured in pixels per inch or ppi

Resolution

Digital images are measured by there resolution known as ppi or pixels per inch

Pixels

The higher the resolution (more pixels in the image) the better it will look when printed and determine how big it can be printed before the pixels can actually be seen when printed.

Resolution

200-300 ppi (pixels per inch)

Resolution

For screen

Resolution

72 ppi (pixels per inch)

Resolution

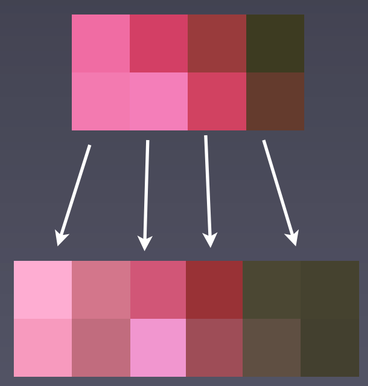
Changing the resolution!

Resolution

Resampling up or down

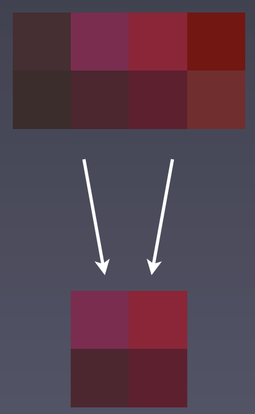
Changing the resolution

Sampling up an image adds pixels but does not add any further picture information. The original image becomes softer and blurred.



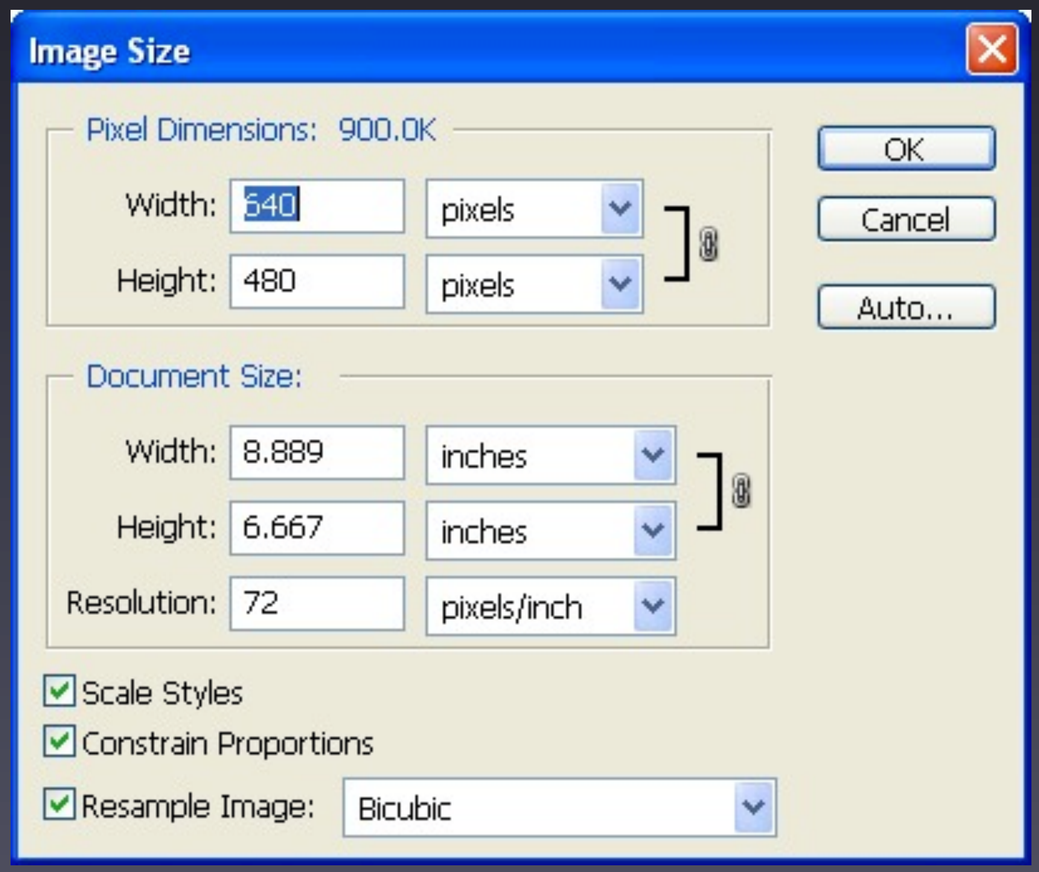
Changing the resolution

Sampling down is used when images are reduced in size, and does not affect the perceived image quality.



Enlarging & resampling

A dialog for resizing (resampling) the image
or its dimensions.



Enlarging & resampling

This can also be done by transforming the image and manually scaling the image larger.