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Digital Images for the Web

An overview

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Date: 4/16/08

Digital Images on the Web

- Pixels and Resolution
- File formats and compression
- File Size
- Color
- Image editing software
- Aesthetics
- Resources for learning more

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Pixels and Resolution

Pixel

A digital image is a small grid of “dots”, each with a particular color and shade. Each “dot” is called a **pixel**.

Pixel dimension

horizontal and vertical measurements of an image expressed in pixels.

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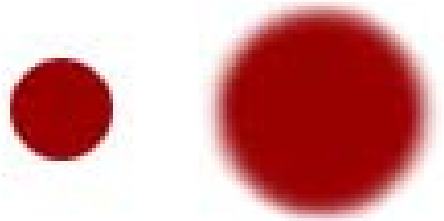
Pixels and Resolution

raster or rasterized image

Raster image formats (RIFs) breaks the image into a series of colored dots called pixels.



All web images are rasterized.

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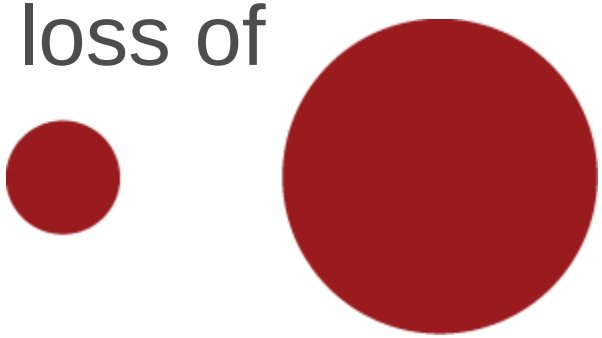
Pixels and Resolution

vector or vector image

Images that are defined mathematically that can be resized without any loss of information.



There are very few ways to display vector graphics on the web.

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Pixels and Resolution

Pixel dimension

the horizontal and vertical measurements of an image expressed in pixels.

This image is 250 pixels wide at a resolution of 72 dpi

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Pixels and Resolution

Image resolution (dpi or ppi)

dpi (dots per inch) or **ppi** (pixels per inch) tell you how much information a digital image has.

Higher number = more information

Print Design: 250 or 300 dpi

Web Design: 72 dpi

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Pixels and Resolution

Resample

When you “resample” an image, that means you are changing the resolution. You are adding or subtracting information from the image.

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Pixels and Resolution

- A computer screen can only display an image at **72 dpi**

If you upload an image with higher resolution (more dpi), then it will look gigantic on your screen.

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File Formats & Compression

File Format

The type of image, based on it's compression. The file extension will tell you the format.

You can only display JPG, GIF or PNG on the web.

- jpg (jpeg)
- gif
- png
- tiff
- bmp
- raw

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File Formats & Compression

Animation

- The GIF file format allows you to combine multiple GIF images into a single file to create animation.

ANIMATED GIFS ARE EVIL!

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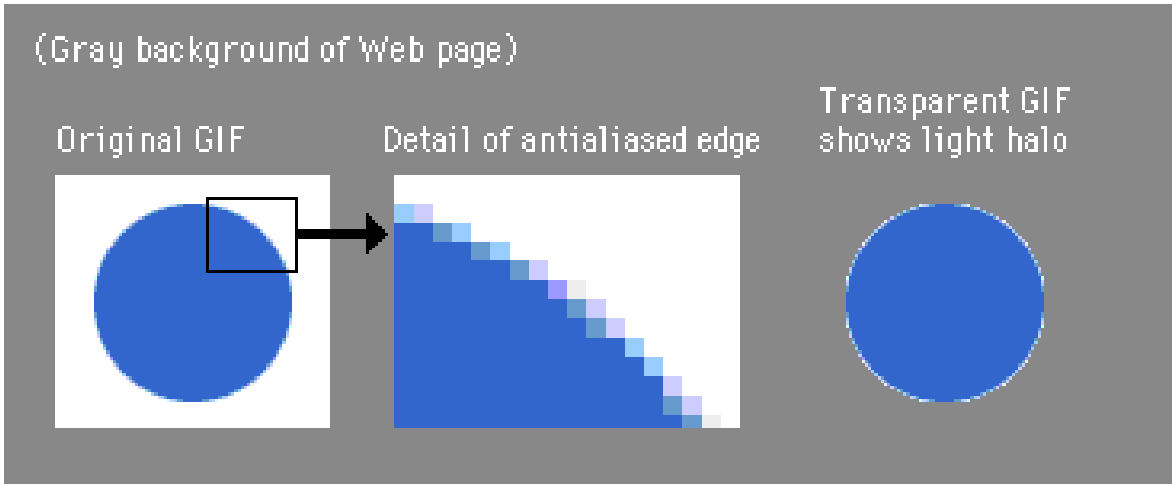
File Formats & Compression

Transparency

- Both gif and png files can be transparent, but beware of the “halo” effect



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File Formats & Compression

Compression

"Compression" is a computer term that represents a variety of mathematical formats used to compress an image's byte size.

There are two types of compression – **lossy** and **lossless**

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File Size

File size is how many bytes of memory the file takes to store. The more information an image has, the larger the file size.

Images on the web should never be larger than 250KB.

You compress an image to make a smaller file size.

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File Size

- You can change the file size of an image to work on the web with image editing software, such as Photoshop, Fireworks or Paintshop Pro.

- You can NOT change the file size of an image in the browser, even if you display at a smaller dimension!

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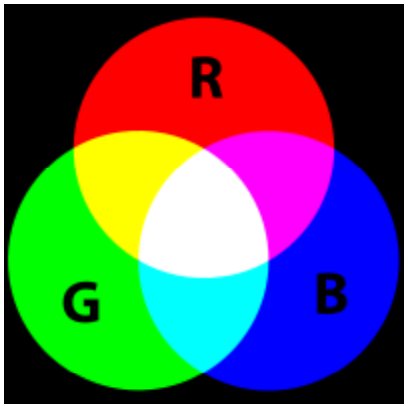
Color

- Computer screens use a color model called RGB – Red, Green, Blue
- If an image has a different color model (CMYK, HSB, LAB, etc) it will not display on the web.
- Use image editing software to change the model



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Color

- You can alter photos in an editor to create more or less saturation, brightness, etc.



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Image Editing Software

- Photoshop
- Paintshop Pro
- Gimp
- Fireworks
- Google Picasa
- iPhoto
- Many cameras come with basic editing software

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Aethetics

Four Major Rules:

- Don’t put bright colors on top of other bright colors - it is very hard to read!
- White space around photos allows the eye to rest – always have some
- Size really does matter! Huge images are bad.
- Images should complement, not intrude on text

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Aethetics

- http://www.unh.edu/NIS/Courses/Graphics/Bad/badeg.html
- http://www.ohsu.edu/food/
- http://www.ohsu.edu/cellbio/
- http://www.allgraphicdesign.com/articleweb28.html

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Online Resources

- www.lynda.com
- www.peachpit.com
- www.webmonkey.com

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