



02. VECTOR AND BITMAP IMAGES

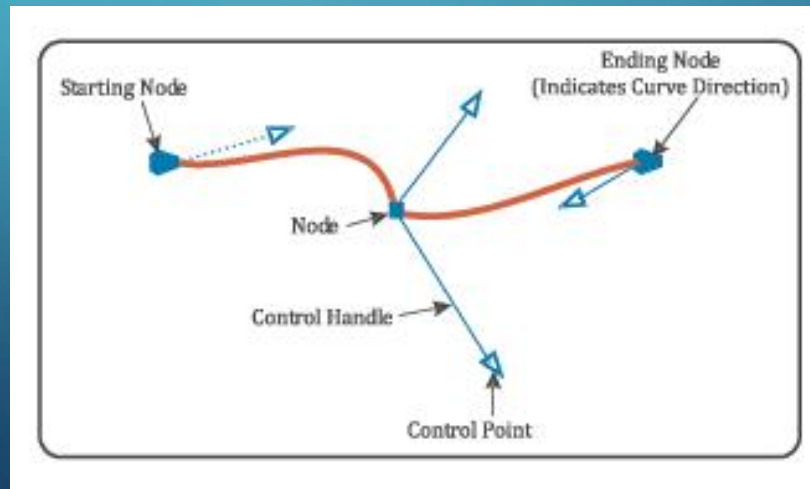
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VECTOR IMAGES

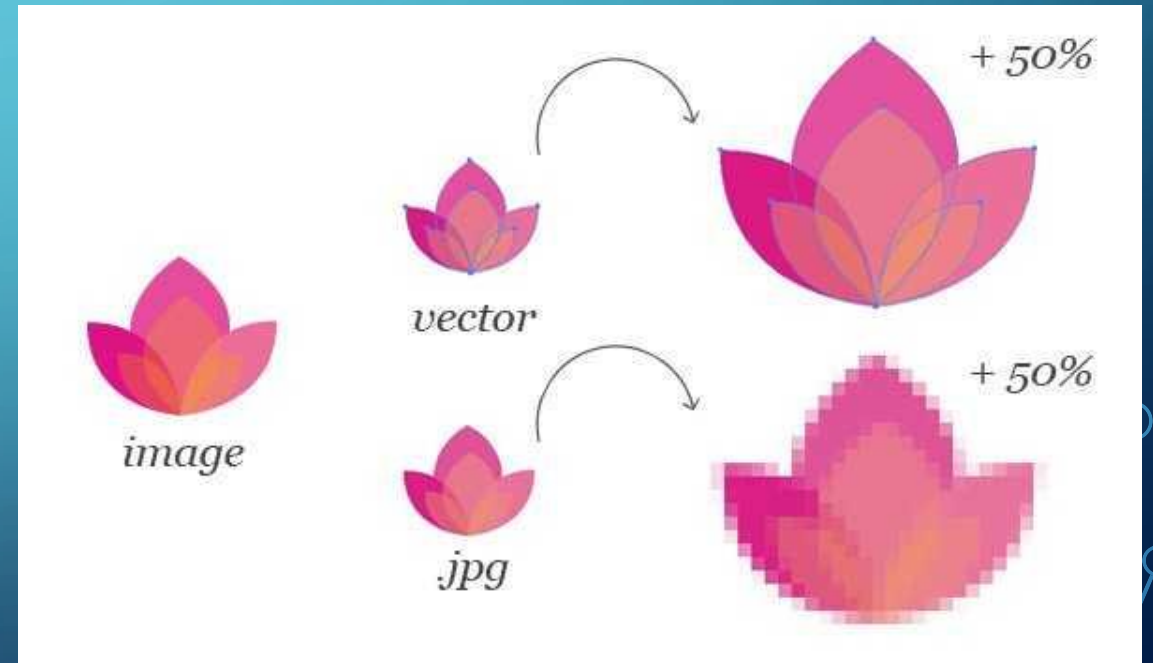
VECTOR GRAPHICS

- Vector graphics are created from mathematical formulas and are used to define lines, shapes and curves
- Edited in drawing programs such as Adobe Illustrator, Corel Draw, Sketch
- Shapes can be edited by moving points called nodes



USES OF VECTOR GRAPHICS

- Graphics that will be scaled (or resized)
 - Architectural drawings and CAD programs
 - Flow Charts
 - Logos that will be scaled
- Cartoon and clip art
- Graphics on websites
- Fonts and specialized text effects



ADVANTAGES

- Resolution Independent – regardless of how much the image is resized, the image definition and quality remains same
- Small file sizes – Easily transferred over internet



DISADVANTAGES

- Lower color quality than raster images
 - They do not support many colors
- Not good for photographic images



Raster Image



Vector Image

POPULAR VECTOR GRAPHICS SOFTWARE

- Adobe Illustrator
- CorelDraw
- Inkscape
- Xara Xtreme



CorelDRAW



COMMON VECTOR FILE FORMATS

- AI – Adobe Illustrator
 - Industry standard used by developers of vector graphics
- EPS – Encapsulated postscript
 - Graphics developers usually save a copy of the AI file in EPS format because it can be opened on other computers running other operating system
 - Preferred format for vendors/clients who use graphics in publications because its portability

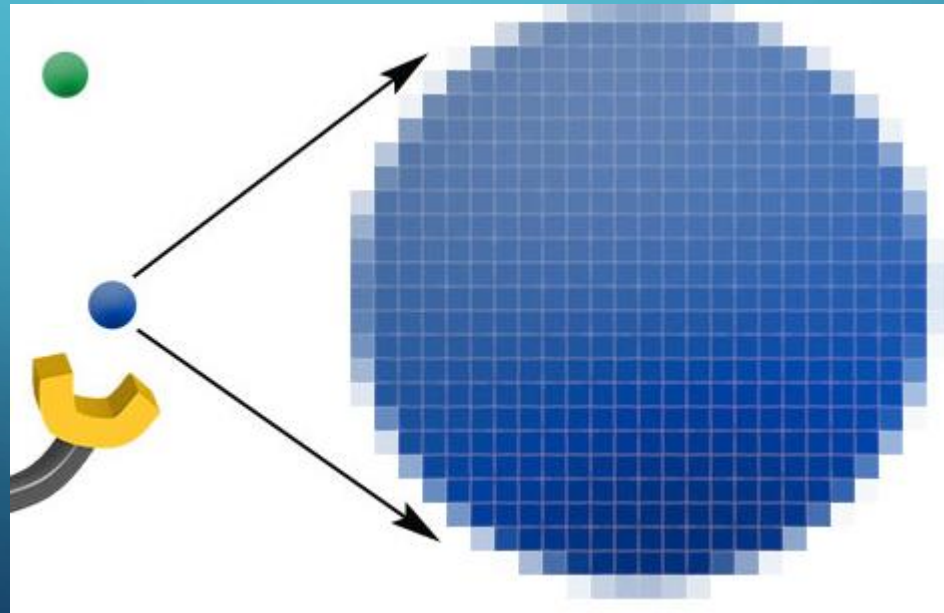
COMMON VECTOR FILE FORMATS

- SVG – Scalable Vector Graphics
- CDR – Corel Draw
- DXF – AutoCAD
- WMF – Windows Metafile

A decorative graphic on the left side of the slide, consisting of a network of light blue lines and circles that resemble a circuit board or a neural network. The lines are vertical and horizontal, with some diagonal connections, and the circles are small and white with blue outlines.

RASTER/BITMAP IMAGES

- Bitmap images are made up of pixels in a grid
- Many graphical user interfaces use bitmaps in their graphics subsystems
- When zoomed in the bitmap image you can see the individual pixels that make up the image

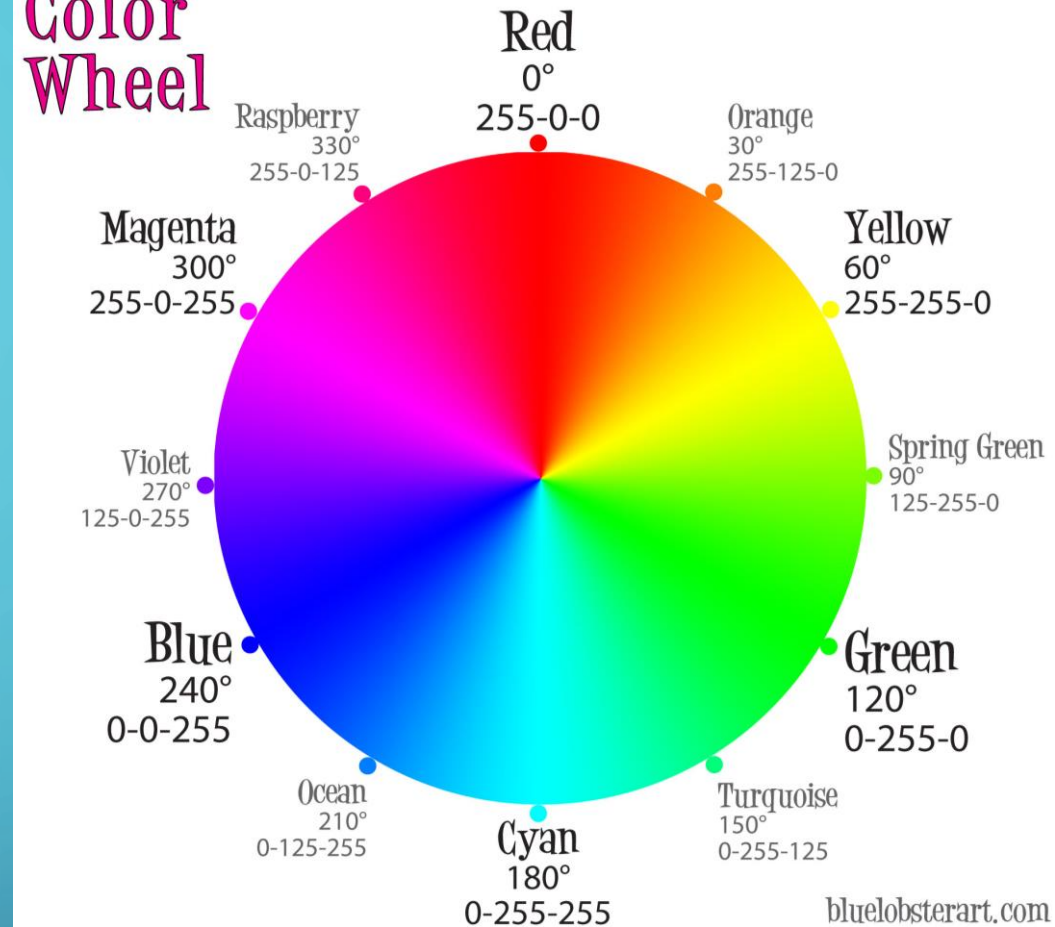


INTERPOLATION

- When we double the resolution of an image we add more pixels
- If we have two pixels next to each other (red and blue) and we double the resolution , we will be adding 2 more pixels
- The computer will decide on it's own what is the best.

COLOR OF PIXELS

- Color of pixel is determined by the RGB model
(255,255,255) → white
- 255 is lightest shade of color
- 0 is the darkest shade of color
- If RGB value is (0,0,0) that means that there is no intensity so that the pixel will be black



ADVANTAGES

- Bitmap files may be easily created from existing pixel data
- Pixel values may be modified individually or as large groups by altering a palette if present
- Bitmap files can be easily translated to dot-format output device such as CRT monitors and printers
- Great for complex photos

DISADVANTAGES

- They can be very large
- They don't scale well



POPULAR BITMAP GRAPHICS SOFTWARE

- Adobe Photoshop
- Gimp
- Paint
- Corel



CorelDRAW

POPULAR BITMAP FORMATS

- Jpeg- Compressed Bitmap
- Psd – Photoshop Exported Image
- Png – Portable Networks Graphics
- Tiff – Tagged Image Format
- Gif – Graphics Interchange Format



ANY QUESTIONS?



THE END