New York City College of Technology
The City University of New York
COMD 1162 • Raster/Vector Graphics

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VECTOR/ILLUSTRATOR

- composed of separate distinct objects (mathematically defined paths)
- Scalable:
  recoloring, resizing, reshaping an object will effect the entire object selected without diminishing its sharpness or smoothness
- no background
  not restricted to a rectangular shape like raster
  Vector objects can be placed over other objects and the objects below will show through
- objects look sharp regardless of the size displayed or printed
- Generally small file sizes
- Resolution independent;
  the higher the resolution of the printer, the sharper the printed image
- Primarily originate from software
  Can't directly scan an image and save it as a vector file
  Easily converted to raster - rasterizing
- Ideal for creating logos, graphic images, and illustrations
  Made up of solid areas of color or gradients
  Cannot easily depict continuous subtle tones
- Common vector formats include:
  AI (Adobe Illustrator), CDR (CorelDRAW), CGM (Computer Graphics Metafile), SWF (Shockwave Flash), and DXF (AutoCAD and other CAD software)

RASTER/PHOTOSHOP

- Pixels in a grid composed of tiny squares on a grid (pixels)
- each pixel in the image contains information about the color to be displayed
  recoloring, resizing, reshaping a part of an image will only effect the pixels selected in that image, not the entire object
- restricted to rectangle
  minimal support for transparency - GIF & PNG
  Photoshop support transparency, but only in native format
- Fixed resolution - cannot be resized without losing image quality
- Files can be quite large often compressed to reduce their size
- Resolution dependent
  Print quality is dependent on the resolution of the image
- Easily converted
  all scanned images are raster
  All images from digital cameras are raster
  converting between raster formats is simple.
- Ideal for creating subtle tones and gradients, digital paintings and photorealistic images
- Common Raster-based formats include:
  JPEG, GIF, TIFF, PNG, PICT, & BMP