



Types of Digital Graphics

When talking graphics, the two types that we are interested in for PowerPoint or the Web are:

Vector Graphics

- A *Vector Graphic* is an image that is generated from mathematical descriptions. These descriptions determine the image's height, position and the direction of the lines in the image. The image is actually a collection of lines, not a pattern of dots (known as pixels).
- Programs used to generate:
 - Corel Draw
 - Ulead PhotoImpact
- File Formats:
 - .cdr ○ .cmx ○ .ufo
 - .wmf ○ .dxf ○ .dwg
- Uses:
 - Original art ○ Logos
 - Animations ○ Drafting

Raster Graphics

- A *Raster Graphic* is an image composed of dots or pixels, not lines. Raster images are difficult to alter without some loss of information. They can be created from digital photography, scanned images, or converting vector graphics to a bitmap (.bmp).
- Example: Photographs
- Programs used to generate:
 - Corel PhotoPaint
 - Ulead PhotoImpact
- File Formats:
 - .jpg ○ .png
 - .gif ○ .tif ○ .bmp
- Uses:
 - Original art ○ Logos
 - Photography ○ Web Pages

Graphic File Format Explanations

- **.jpg** or **.jpeg** – a standard format which compresses images, supports 8-bit grayscale up to 32+-bit CMYK color depths. Enables extension beyond a 256 color palette. When compressing, instead of decreasing colors, it loses pixels, therefore making it a “lossy” format. “jpeg” = Joint Photographic Experts Group.
- **.bmp** – Traditional standard for displaying raster or print graphics in Windows. Images are not “smooth” and can appear jagged or boxy. Uncompressed.
- **.gif** (still) – A bitmap-based format for use on the Web. Compresses images to maximize transfer (load) time, usually by reducing the number of colors. Supports images with 256 or fewer colors. “gif” = Graphic Interchange Format.
- **.gif** (motion) – A gif format with the ability to store multiple bitmap files in one. When displayed in rapid succession, it appears to be animated.

General Guidelines for Graphics in Web Pages

- Use only .gif, .jpg or .jpeg image files.
- Limit image file sizes to 50k or less.
- Always compress images to reduce file size and the time needed to load the image.
- Only use images from other sources if you have permission. Always read the fine print on “permission to use” and cite your sources. Best bet: create your own images. Copyrights are a serious issue!