GCOM255 BEGINNING COMPUTER GRAPHICS

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Office Hours:
Mon.Wed. 3:30 -6:30
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Department: CADT
Program: GCOM
Section: 01
Meeting Dates: Monday/Wednesday
Meeting Time: 1:30 - 2:45
Location: Hagen Hall 0205
Prerequisite: None

File Types

COMMON FILE TYPES IN DIGITAL IMAGING

1. File Extension: .bmp File Type: Raster Image

Bitmap files have some confusion associated with them. Some refer to any pixel-based image as a bitmap file. However, a true bitmap image file refers to the standard Windows image format. This type of file is mostly used on DOS- and Windows-based machines. A bitmap file is a raster- (or pixel) based format thatonly supports the RGB color space and bit depths of 1, 4, 8, or 24 bits per channel. These attributes makebitmap images unsuitable for use in a high-end print production workflow. Even though bitmap images arein the RGB color space, they are not supported by any Web browsers or Web coding languages. Therefore, they are not suitable for use as images in a Web application. You would be able to use such a graphic in an HTML export from InDesign by having the automatic conversion to a GIF or JPEG file occur. Bitmap images are best used for their intended purpose, as a system support on a PC Windows-based computer. Do not use the placement of a bitmap image when designing for a high-end print production job.

2. File Extension: .eps File Type: Raster Image and Vector

An Encapsulated PostScript file is an image file that can contain either vector or bitmap information. An EPS file can be created using any color space and any image bit depth. An EPS is really a collection of several other image files all in one. EPS files are generated from several sources and are structured to publish code constraints. An EPS file has two main parts, the preview and the high-resolution image data. The preview of an EPS file is necessary to display the image in a page layout application, and the high resolution portions of the file are necessary for imaging to a particular output device. An EPS file is a variation of a PostScript language file. The two file types contain the same PostScript code, but an EPS file does not include the "show page" command. Leaving this code out of the file allows an EPS to be placed into a page layout application. EPS files have been built specifically for the print production world, and are not supported by Web browsers.

3. File Extension : .gif File Type: Raster Image

The Graphic Interchange Format (GIF) is a standard and recognized file format used in online and Web applications. GIF files can either be in grayscale or RGB color spaces. This works to keep the GIF files used very small and quickly accepted in an HTML Web page. GIF files are created by using a limited color gamut that supports transparency. Transparency is the GIF file formats strong point. Using this attribute of the file format increases its appeal to Web designers. To further the uses of the file, a pseudo animation can be created by using an animation feature found in flipbook style cartoons. This "flipping" of images can be used to create the illusion of true animation. GIF files can only store and display 256 colors in the RGB or indexed color gamut. In addition, the GIF file can be "interlaced," where as every other row of information can be displayed at one time. As soon as that initial row of information is received, the next rows of data are downloaded. These attributes make GIF files unsuitable for use in a print production workflow, but highly desirable in a Web design situation. GIFS are a great choice for high contrast images that contain line art and text.

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4. File Extension: .jpg File Type: Raster Image

Uses of the JPEG (Joint Photographic Experts Group) file format are far and wide. Initially, the file format was intended for use in Web applications, but has found a home in the highend print production markets, as well. The JPEG file format can be your best friend if used properly, or your worst enemy if implemented incorrectly. A JPEG file is encoded by using an adjustable lossy compression approach. This means that to achieve smaller file sizes, image data is actually thrown away. In small doses, the JPEG compression The JPEG format will support the RGB, CMYK, and grayscale color spaces. The use of JPEG images is supported in HTML and Web applications. However, unlike a GIF file, all of the color information is stored in the file. There is no support for transparency in a JPEG file.

5. File Extension: .psd File Type: Raster & Vector Image

Adobe Photoshop files are generally written and read by Photoshop, however, there are several other applications that will read this format. Most page layout applications (except Adobe InDesign and Illustrator), do not allow native Photoshop images to be placed. A Photoshop file will retain all of the original file's attributes. Saved file characteristics include the following:
• Resolution
• Color space (CMYK, RGB, grayscale)
• Spot color channels
• Image bit depth
• Layers

6. File Extension: .png File Type: Raster Image

A Portable Network graphic (PNG) file is a pixel-based image that can be used to display images on the Web (some older browsers may not support the use of this format). The start of the PNG file was in an alternative to the proprietary CompuServe GIF file format. It will support 24-bit color, using a lossless compression approach. The PNG file settings that can be controlled are:
• Transparency information
• File defined background color
• Adobe Gamma correction
Use of a PNG file in a Web project is a good fit. However, because of the lack of support for the CMYK color space, and the fact that there can be no color separations, the PNG file is not a good fit in a print production cycle.

7. File Extension: tiff File Type: Raster Image

A Tagged Image File Format (TIFF) file is the most widely used file format in desktop publishing today. It is a raster-based file that supports RGB, CMYK, Grayscale, Lab and Indexed color. TIFF files can be compressed by using an LZW loss less compression approach or JPEG lossy compression. For high-end print production, it is the best practice to use either LZW compression or a very small amount of JPEG compression. The JPEG compression approach is a lossy compression that will degrade image quality when used in large amounts. When placing a TIFF file on a page, any clipping path that has been defined can be retained and applied. However, Photoshop's Alpha channel information will not be translated when placing a TIFF.

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8. File Extension: .ai File Type: Vector

This is the Adobe Illustrator filetype. Similar to the Photoshop filetype, Illustrator files maintain the complete image information including color space, bit depth and layers.

9. File Extension: .pdf File Type: Raster and Vector

This is a Portable Document Format commonly used with Adobe Acrobat and Acrobat reader. PDF represents documents in a manner that is independent of the original application software. A PDF file can describe documents containing any combination of text, graphics, and images in a resolution independent format. PDF documents are easily viewed but difficult to modify. This makes them great for resumes and designs that you do not want people to modify. PDF's can be consistently printed as well.

Information compiled from:
http://dx.sheridan.com/tech/main.html
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