CGT 353: Principles of Interactive and Dynamic Media
Graphics in Flash

The Basics…

- Flash developers should always be mindful of imaging basics….

- Although these principles will not be reviewed thoroughly, students are expected to know and implement them.

- If you have any questions on the basics, please address them…..

- Topics discussed in class will primarily concern how image principles effect Flash authoring.

- Need to have a thorough understanding of these basics to understand how they work (or don't work) in Flash.

Terminology:

Resolution:

- Defined as the number of color units per unit of area that represents the visual quality of an image over a given area (ppi, dpi, etc)

- In Flash, resolution is not a concern if you only use vector graphics
- Once you start using raster graphics, that is another story

Bit Depth

- the number of bits available to describe a color unit or pixel that represents color fidelity

File size:

$$\text{file size (KB)} = [\text{resolution}^2 \text{ x (width x height) x Bit depth}]/8192$$

Raster Graphics in Flash

- Problem is that raster images aren't scalable.

- As such, when you import graphics into Flash, you

may want to make them a bit **larger and scale down in Flash.**

- If the developer does this and the user scales the Flash movie, the raster image quality will not be effected.

- How much is up to the developer and is a bit more "art than science."

Rules: What Kind of Graphics to Use?

- Use either GIF or PNG, but rarely (if ever), use JPEG.

- Flash applies JPEG (DCT) compression to the graphics files anyway.

- If you use a JPEG, you will be doubly compressing your files and the image will be poor.

- Colors of JPEGs are never the same anyway….

- JPEGS also use lossy compression, further detracting from the image quality.

- **PNGs, which are lossless, are the best to use for Flash (raw is second best.)**

Importing Images:

- Fairly intuitive…

- Note that Flash will import sequences of files if they are named appropriately.

- Will also import animated GIFs in a sequential frame order…

- Only reason to be importing animated GIFs is so that you can trace them out in order to have a completely vector animation…

Image Compression:

- Can set each individual image for either lossy or lossless compression in the Library.

- Can set JPEG compression quality in the "Publish settings"

Scaling Images:

- Can be good to downscale large images in Flash because people tend to resize swfs…

Tracing Bitmaps:

- Allow you to covert a bitmap into a vector image…

- **Color Threshold** determines the overall accuracy of the tracing…

- **Minimum Area** controls the number of adjacent pixels compared at one time…

- **Curve Fit** specifies how smooth lines are drawn…

- **Corner Threshold** affects whether sharp edges are retained or smoothed…

Breaking Bitmaps Apart

- Allows certain drawing tools to affect the raster image, such as the eraser…