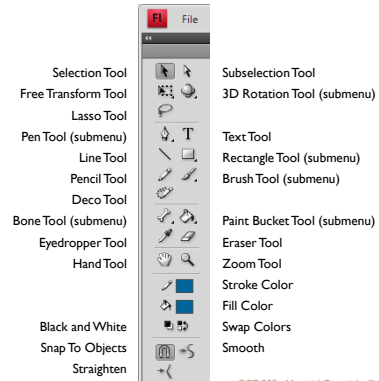


CGT 353 Lecture 3

Selections, Transforms, Drawing, Painting,
Graphics in Flash

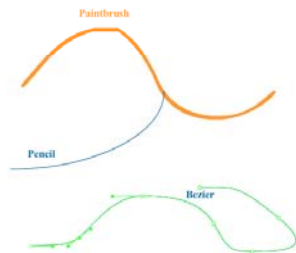
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Flash Drawing Elements: Point/Bezier v Natural Drawing

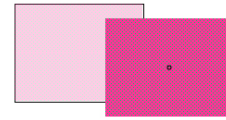
- In Flash, you can draw either freeform or using Bezier curves



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Detached Fills

- Fills are detached from their polygons and can be edited separately



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Interactions of Base Elements

- Stage elements will intersect and react to each other if they overlap

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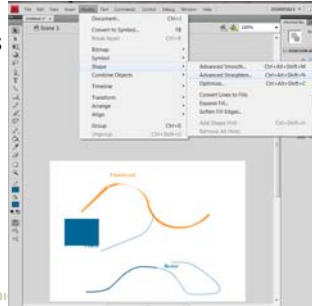
Selection Tools and Options

- Snap to Objects
- Smooth Tool
- Straighten Tool

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Shaping and Reshaping Objects

- Moving Endpoints
- Reshaping Lines



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Moving and Selecting Objects

- With the arrow keys
- Press Shift to nudge 8 pixels at once
- Hold Shift key down to select multiple objects

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Subselection Tool

- Allows you to work with individual points
- Can nudge points with arrow keys
- Holding Shift allows you to select multiple points
- Delete points by selecting and hitting "Delete"

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Viewing Modes

- Outlines
- Fast
- Antialias
- Antialias text

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Two Types of Objects: Overlay and Stage

- **Stage objects**
 - lines, arcs, polygons, and fills
- **Overlay**
 - symbols, groups, and text
- Overlay objects do not interact, whereas stage objects do

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Overlay vs Stage Objects

- You can do the following with **Overlay** objects:
 - Lock
 - Align / move forward and backward
 - Break Apart
 - Distribute to Layers
- You can do the following with **Stage** objects:
 - Distribute to Layers

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Transforming

- Info
- Free Transform Tool
- Transform Menu
- Copy and Apply Transform

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Remembering Transforms

- Transforms are not remembered for stage objects, only overlays
- Transformations for groups are only remembered until they are broken apart or ungrouped.....
- Transformations for symbols and text objects are always remembered

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Drawing and Painting

- Flash is less accurate than Illustrator, which is why it's better to do line drawings in Illustrator first.
- Be careful with complex fills, layers, etc. in Illustrator... Importing into Flash can be problematic...

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Object Drawing Model

- allows you to draw new shapes that are pre-grouped

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Color Swatches and Color Mixer

- Creating solid colors and fill colors
- Cannot apply gradients to lines
- Can save swatches and panel sets for later use

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Creating Lines and Arcs

- **Line**
- **Pencil**
 - straighten, smooth, ink
- **Pen**
 - creating Bezier lines, adding and subtracting points

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3D Tools

- **3D Rotation**
- **3D Translation**

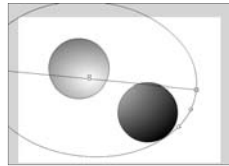
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Brush Tools and Modes

- Actually creates fills rather than lines
- Paint Normal, Fills, Behind, and Selection

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Fills



- **Ink Bottle Tool and Paint Bucket Tool**
 - Gap sizes can vary with the bucket
- **Locking Fills, the Dropper, and Transform Fill Tool**
 - Allows you to extend fills into another area

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Eraser Tool and Modes

- Eraser only works on stage objects
- Erase Normal, Fills, Lines, Selected Fills, and Inside
- Faucet tool clears in one sweep.

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Align Panel

- Can use this panel to align to stage or even resize multiple objects

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Lines and Curves

- **Convert Lines to Fills, Expand Fill, and Soften Fill Edges**
 - Create for effects work
- **Optimizing Curves**
 - Use multiple pass repeats optimization until it can go no farther

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Graphics in Flash

- 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.

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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

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Bit Depth

- the number of bits available to describe a color unit or pixel that represents color fidelity
- **File size:**
 - $$\text{file size (KB)} = \frac{[\text{resolution}^2 \times (\text{width} \times \text{height}) \times \text{Bit depth}]}{8192}$$

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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."

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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.)**

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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...

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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 convert 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