

week::two

Paths

About Bézier Curves

- Developed by Pierre Bézier in the 1970's for CAD/CAM operations.
- They are the basis for Adobe's PostScript page description language.

Components

- A path is made up of one or more **straight** or **curved** segments.
- The beginning and end of each segment is marked by **anchor points**, which work like pins holding wire in place.
- You change the shape of a path by editing its anchor points. You can control curves by dragging the **direction points** at the end of **direction lines** that appear at anchor points.
- A path is either **open**, like an arc, or **closed**, like a circle. For an open path, the starting and ending anchor points for the path are called endpoints.
- Paths can have two kinds of anchor points—**corner points** and **smooth points**.
 - At a **corner point**, a path abruptly changes direction.
 - At a **smooth point**, path segments are connected as a continuous curve.
 - You can draw a path using any combination of corner and smooth points.



Selection

Appearance

- Solid anchor points are selected
- Hollow anchor points are not selected.

Tools

- Selection (V)
 - Solid arrow
 - Can transform object as a whole
- Direct Selection (A)
 - Hollow arrow
 - Can transform individual anchor points (alter handles, length, position, etc.)
- Magic Wand (Y)
 - Allows you to select objects with the same fill color, stroke color, stroke weight, or opacity.
- Selection Lasso
 - Allows you to lasso only a part of an object to select the entire object
- Direct Selection Lasso (Q)
 - Lasso anchor points of just part of an object

Pen Tool

Usage

- Click and release: Straight line
- Click and hold: Curved line
- Add point
- Delete point
- Convert direction point
 - Converts between a corner point and a smooth point
 - This behavior is different than the Direct Selection tool
 - Option key allow selection of just one handle



Rules to Remember about Bézier Curves

- The length of handles "anticipate" the curves that will follow.
- The length of the handles are approximately one third of the length of the curve if it were straightened.
- Place anchor points on either side of an arch, not in between.
- The fewer the anchor points, the smoother the curve will be, and the quicker the image will print.
- Adjust a curve's height and angle by dragging the direction points, or grab the curve itself to adjust just its' height.

Drawing Tips

- Shift constrains an object's proportions while you draw.
- Option-click to create the shape numerically.
- Spacebar-drag allows you to reposition your object while drawing.
- Holding down the Option key while drawing causes the object to be drawn around the point of origin.
- The Up Arrow increases points on a star, sides on a polygon, and coils on a spiral; The Down Arrow removes points from a star, sides from a polygon, and coils on a spiral.
- Option increases the angle of points on a star
- Command-drag changes the inside and outside radius of a star, or increases and decreases the decay of a spiral.

Transformation

Tools

- Selection (V)
 - Transform size, proportions and rotation
- Direct Selection (A)
 - Transform individual points only
- Rotate (R)
- Reflect (O)
 - Creates a mirror image of an object
- Scale (S)
- Shear
 - Allows for dramatic distortions of an object



Hints

- The Rotate, Reflect, Scale and Shear tool allow for the altering of the point of origin; The Selection tool does not.
- Holding down the Option key while transforming causes the object to transform around the point of origin.
- Holding down the Shift key while transforming causes the object to maintain its proportions.
- Transforms can also be accomplished numerically using the Object > Transform > *tool_name* menu.

Color**Palettes**

- Window > Color
- Window > Swatches

Overview

- CMYK – Subtractive color
- RGB – Additive color
- Grayscale — 256 shades of gray
- HSB – Hue/Saturation/Brightness
- Web-safe RGB – 216 colors geared for web usage

Working With

- Add
- Remove & Remove All
- Naming
- Color Types
- Global Colors
 - Will change all occurrences of that color when altered
- Color Modes

Layers**Palette**

- Window > Layers

Overview

- Provides an excellent way to organize and manage content and objects in a document.

Working With

- Create
- Show
- Hide
- Lock
- Manipulate Order
- Name
- Color
- Move across layers