Outline for

UCLAE Flash 1: Session #5

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| TITLE | Advanced Animation |
| DATE | Thursday 7pm – 10pm, July 24th, 2008 |
| INSPRIRATION | Desktop Defense Tower (Game) - <http://www.handdrawngames.com/DesktopTD/Game.asp>  MudBubble (Animation) - <http://www.mudbubble.com/>  Stick Fighter (Animation) - <http://www.stickpage.com/xiao.shtml>  Unpredictable Shape Tween (Tutorial) - <http://www.truveo.com/flash-tutorialAdvance-shape-tween/id/4154256177>  Scale 9 Demo - <http://www.ifbin.com/news/2005/08/flash-8-scale9-example.html> |

1. INTRODUCTION

Administrative issues

* Go over blackboard
  + Basic overview
  + Print new session outlines each week. Available 24 hours before class.
  + Session #2 FLA files now available. See Session #2 outline for websites shown.
* Introduce ‘Teachbacks’. Two will be offered today. I’m thinking to offer this 20 times (once per student), but even better – perhaps multiple students can attempt the same one.
* Everyone check your grades at the mid-class break. They will be finalized after class so let me know of any discrepancies tonight.
* Take the quiz for session #5

1. OUTLINE

Chapter 10. Animation with Shape Tweening

* Key Concept: Motion Tweens vs. Shape Tweens
  + Motion Tweens – Requires visual content to be inside a ‘container’ (Symbols, drawing-object, primitive-shapes, groups, and text fields)
  + Shape Tweens – Requires visual content to NOT be inside a ‘container’. Shape tweens cannot follow a motion guide.
* Key Concept: Shape tweens attempted on complex shapes can easily have unpredictable results
* Key Concept: Reactions to Shape Tweens include ‘Wow, that’s so cool it’s like magic’, and ‘This doesn’t do what I want at all!’ are both common.
* Creating a Bouncing Ball with Shape Tweening
  + To define shape tweens via the Frame Properties tab of the Property inspector
    - Create a new layer
    - Set the stroke to no stroke for now. This will simplify the drawing. Later try again with stroke enabled. Both setups will work with Shape Tweening.
    - Draw a shape on frame 1 of the new layer. Draw a circle atop the Stage.
    - Select protoframe 10
    - Insert -> Timeline -> Keyframe
    - Add-to/Edit the shape on frame 10. Move the circle to the bottom of the stage. Deform the circle to a teardrop shape
    - Select frame 1
    - Set the Properties panel’s ‘Tween:’ dropdown to ‘Shape’
    - Set the preview to Loop (Control ->Loop Playback). This is a one-time per document setting
    - Preview the animation (Control ->Play)
    - Continue the animation with one more keyframe so the ball bounces back up to the starting position atop the Stage.
* Trial – Now Try Creating the bouncing ball
* Morphing Simple Lines and Fills
  + Hide your current layer
  + Create a new layer
  + Morph a square on frame 1 to a circle on frame 10
  + Set Properties panel ‘Blend’ to help Flash morph
    - **Blend - Distributive:** Creates more smooth but irregular shapes in the animation.
    - **Blend - Angular:** Preserves angles and straight lines during the animation. If there are no angles or straight lines, Flash will revert back to Distributive without asking!
  + Set Properties panel ‘Ease’ to vary speed of morphing.
* Trial – Now Try Creating morph
* Key Concept: Flash compares the starting shapes curves to ending shapes curves. The more similar the shapes are in number of curves and position of curves the more predictable the results
* Common Shape Tweens with Unpredictable results
  + Shape-Tweening Multiple Shapes (on the same layer)
    - See Flash Shape Tweening behave unpredictably here…
    - Hide your current layer
    - Create a new layer
    - Morph TWO squares on frame 1 to ONE circle on frame 10
    - See any unpredictable results?
  + Trial – Now Try that!
  + Transforming a Simple Shape into a Complex Shape
    - Hide your current layer
    - Create a new layer
    - Draw a circle about 100 pixels in diameter.
    - Hold Command (Cntrl on PC) and mouse drag the top most part of the shape toward the shape’s center by about 30 pixels.
    - Do the same to the right, bottom, and left so four ‘corners’ are pinched in creating a clover silhouette shape
    - Morph that clover silhouette shape into a carrot with leaves silhouette shape by extending the shape downward to have a carrot shape below the clover shape
    - See any unpredictable results?
  + Trial – Now Try that!
  + Creating Shapes That Move As They Change
    - Hide your current layer
    - Create a new layer
    - With 5 keyframe morph a shape from upper-left of stage, to upper-right, to lower-right, to lower-left, and back to the start. Choose a different shape in each corner
    - See any unpredictable results?
  + Trial – Now Try that!
* Fixing unpredictable results with Shape Tweens
  + Start with a misbehaving Shape Tween
  + Select the first keyframe of the Shape Tween
  + Modify -> Shape -> Add Shape Hint (Command-Shift-H or Cntrl-Shift-H on PC)
  + Move Shape hint ‘a’ to edge of shape
  + Select last keyframe of the Shape Tween
  + Move Shape hint ‘a’ to the edge of shape
  + Preview animation
  + Add new Shape Hints as needed. Add them one at a time like above, positioning them before moving on.
  + To clear hints and start again use Modify> Transform> Remove All Hints
* Trial – Now Try Shape Hints as you morph your first initial into your last
  + Hide your current layer
  + Create a new layer
  + Use the text to draw your first initial
  + Modify ->Break apart
  + Morph that to your last initial
  + Submit FLA through class folder as (lastname\_firstname\_session5\_initials\_v1.fla)

Chapter 11. More-Complex Animation Tasks

* Key Concept: The entire timeline we’ve used is really just scene one. We can add, remove, and reorder scenes to help us organize our Flash movie.
* Key Concept: A Scene is really a convention of the authoring environment only. When published, the viewer views one uninterrupted series of frames combined from all Scenes. Scenes are no longer separate entities when published.
* Understanding Scenes
  + Viewing the Scene Panel: Window -> Other Panels -> Scene
  + Adding: Insert -> Scene
  + Edit: Click the ‘Edit Scene’ button in the Edit bar beneath the Timeline
  + Delete: Click the ‘Delete Scene’ button in the Flash Panel
* Tip: If you have 3 scenes in your movie and you are working in scene 3, temporarily reorder that to be first so when you publish your movie you don’t have to wait to see your latest work.
* Manipulating Frames in Multiple Layers. Use Edit -> Timeline submenu for the following operations
  + To select and cut frames in one or several layers
  + To select and copy frames in one or several layers
  + To paste frames into one layer
* Animating Multiple Motion Tweens
  + Create an animation of a game of pong with the following story
    - Two paddles and one ball
    - The ball moves toward goal 1, paddle 1 blocks
    - The ball moves toward goal 2, paddle 2 blocks
    - The ball moves toward goal 1, paddle 1 moves but fails to block, the ball moves into goal 1
  + Use the following techniques:
    - Create 3 graphic symbols and place each instance on its own named layer
    - Create a motion tween on all 3 layers at once (Hint: Select frames on all three layers at once)
  + Teach Back (1 point): Who wants to demonstrate this story and techniques for the class?
* Animating Shape Tweens in Multiple-Shape Graphics
  + Create a ‘Candle’ MovieClip with MovieClips inside
    - ‘CandleStick’
    - ‘CandleFlame’ – Use a shape tween
  + Use the following techniques:
    - Create a new document
    - Set the Movie properties (size and frame rate)
    - Use named 3 named symbols
  + Teach Back (1 point): Who wants to demonstrate this setup and the techniques listed for the class?
* Key Concept: Reversing frames is a fast way to reorder two or more frames. This is useful to save from repeating yourself unnecessarily in animating. To be efficient in your Flash work remember DRY (don’t repeat yourself).
* Reversing Frames
  + Create a new document
  + Morph a happy face (circle, two eyes, curved line mouth) on frame 1 to a sad face on frame 10
  + Select all frames
  + Edit -> Timeline -> Copy Frames
  + Select protoframe 11
  + Edit -> Timeline -> Paste Frames
  + Select frames 10 to 20
  + Modify -> Timeline -> Reverse Frames
* Saving Animations As Graphic Symbols Using Animated Graphic Symbols
  + Select all frames in Happy Face example above
  + Edit -> Timeline -> Copy Frames
  + Insert -> New Symbol (‘HappyFace’ as a Graphic Symbol)
  + Edit -> Timeline -> Paste Frames
  + Create a new layer on main timeline
  + Place an instance of ‘HappyFace’
  + Delete any other layers
  + Publish
* Combining Tweening with Frame-by-Frame Techniques
  + Now Motion Tween the ‘HappyFace’ graphic to move from the left of stage to the right. Apply any other property changes you like (size, color, effect, etc…)
* Saving Animations As Movie-Clip Symbols
  + Same Process as ‘Saving Animations As Graphic Symbols Using Animated Graphic Symbols’
* Using Movie-Clip Symbols vs. Graphics
  + Create one of each with an animation inside.
  + Place each on a new layer in a on framed movie
  + Publish
  + How do they behave differently?
  + Explore the Properties panel for a Graphic instance. See the ‘Loop’ Dropdown. Graphic symbol has extra options compare to MovieClip
  + Read more about Graphics vs. MovieClips (See textbook page 310 in the book. Read aloud)
* Using Animated Masks
  + Create a masked layer of content and a mask layer to mask the content.
  + Now animate the masked layer
  + Demonstrate use with animation of text appearing as if handwritten
* Using the Mystery of Nine-slice scaling
  + Create a new MovieClip Symbol (use the advanced tab and check ‘Enable guides for 9-slice scaling’. This technique is used to prevent distortion when scaling shapes, particular for user interface (UI) elements like borders on a panel.
  + See Scale-9 demo in ‘Inspiration’ Above
  + Demonstrate use with new example (see Page 316 if needed)
* Using Blendmodes
  + Change how a symbol instance’s pixels appears. See textbook page 326
* Using Filters
  + Add effects to a symbol instance. See textbook page 327
* Bitmap Caching
  + Vector graphic has many benefits including low k size and rescalability. One drawback however is that its CONTANTLY being redrawn to the stage and that requires processor power.
  + If you have a MovieClip that will not change (like a background) or will change only in position, use the Properties panel’s ‘Cache As Bitmap’ option to instruct the Flash player to not redraw the MovieClip. This will speed up performance of the Movie. You may not notice this in very simple Flash movies.
  + See Session #5 download for a demo

NOTES

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