Outline for

UCLAE Flash 1: Session #4

|  |  |
| --- | --- |
| TITLE | Basic Animation |
| DATE | Thursday 7pm – 10pm, July 17th, 2008 |
| INSPRIRATION | Principles of Animation - <http://www.animationtoolworks.com/library/article9.html>  Example Animation: Ball Bouncing. Several techniques;   1. Frame by Frame - <http://animation.about.com/od/flashanimationtutorials/ss/flashdrawanim1_10.htm> 2. Motion Tween - <http://www.knowflash.com/screens/bouncingball/ballbounce.swf> 3. Penguin Pete’s Ball Bounce (Programmatic) -<http://penguinpetes.com/b2evo/index.php?p=456&more=1&c=1&tb=1&pb=1> |

1. INTRODUCTION

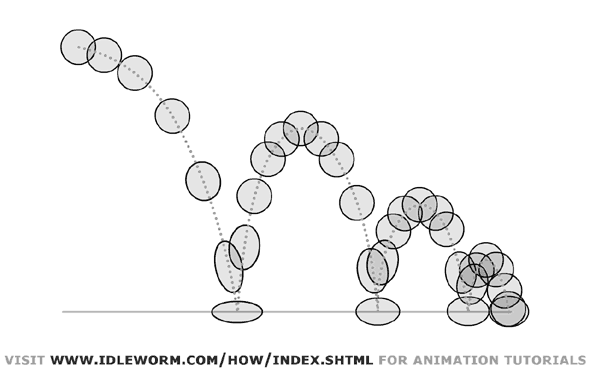
Administrative issues

* If you have suggestions / comments regarding our weekly outlines (typo’s or otherwise), please let me know. Thanks!
* Take The Quiz for session #1,3,4
* Everyone check your grades at the mid-class break (I’ll enter them by then)

Any questions from last session?

1. OUTLINE

* Chapter  8. Frame- by-Frame Animations
  + Introduction
  + Principles of animation (See ‘Inspiration’ above)
* Terms
  + Key Frames vs. In-betweening (tweening)
  + Cell (traditional) = frame (Flash)
* Parts of the Timeline
  + Gripper
  + Blank keyframe
  + Keyframe with content
  + Current frame
  + Protoframes. This is the area to the right of currently used frames. Note: I’ve never heard this term before the book used it. But its useful. Confusingly, I used to call this area ‘frames that don’t have a frame yet’.
  + Frame View pop-up menu
  + End of keyframe span ‘box’
  + Current frame (shown with ‘playhead’)
  + Frame rate
* Using the Timeline
  + To size the Timeline separately from the document:
    - Position the pointer over the gripper, click and drag away
  + To show/hide the Timeline (Click filmstrip button on Edit Bar)
  + To close/open the Timeline (Option-Command-T (Mac) or Ctrl-Alt-T(PC))
  + To view frames in the Timeline at various sizes
    - Normal
    - Tiny
    - Large
    - Preview
* Creating Keyframes
  + To add a blank keyframe to the end of your movie
  + To create a blank keyframe in the middle of your movie
  + To duplicate the contents of the preceding keyframe
  + Gotchas
    - Insert Keyframe vs. Convert Keyframe
* Creating In-Between Frames
  + Select a Keyframe
  + Insert -> Timeline -> Frame
* Selecting Frames
  + To choose a style selection (Flash –>Preferences (Mac) or Edit-> Preferences (PC))
  + To select undefined frames (Just click in Timeline)
  + To select defined frames individually (Just click in Timeline)
* Manipulating Frames in One Layer
  + To copy and paste a single frame (Use Edit Menu)
  + To move frames (drag and drop)
* Removing Frames
  + Clear Keyframe (Removes the contents of the Keyframe but keeps the Keyframe)
  + Remove Frames (Removes contents (if existing) and removes frame)
* When is using frame-by-frame animation ideal? When shape changes are constant and subtle, otherwise use motion-tweening and shape-tweening.
* Making a Simple Frame-by-Frame Animation
  1. Create a new layer
  2. Draw on frame 1
  3. Insert-> Timeline ->Keyframe
  4. Add to or change the drawing on the new frame
  5. Repeat from step 3
* Previewing the Action
  + Window -> Toolbars -> Controller (In Flash – An easy quick test)
  + File -> Publish Preview -> Default (In Browser – As your viewers will see it)
* Smoothing the Animation by Adding Keyframes
  + Select an existing frame
  + Insert -> Timeline -> Frame
  + Select the new frame
  + Modify -> Timeline -> Convert to Keyframe
  + Add to or change the drawing on the new frame
* Using Onion Skinning
  + To turn on onion skinning
  + To turn on outline onion skinning
  + To adjust the number of frames included in onion skinning



* Editing Multiple Frames
  + To relocate (multiple frames of) animated graphics on the Stage
* Setting the Frame Rate
  + You can only choose one framerate for your entire movie, but you can change it at any time.
  + Modify -> Document or Double-click framerate (’12.0 fps’) in the Timeline’s Status bar
* Understanding framerate
  + Benefits of high framerate: smoother perceived action
  + Benefits of slower framerate: smaller file size (because it takes less frames to describe the animation), and faster production (because there is less frames to draw)
  + Film is 24, TV is about 30, and the Flash default is 12. Using a framerate from 10 to 30 is common; using a framerate of 0.1 to 120 is possible.
* Varying the Speed of Animations
  + Since framerate is constant, add/remove frames to certain portions of animation adjust perceived speed of those portions.
    - Use more keyframes to describe slower action (a yawn)
    - User less keyframes to describe faster action (an eye blink)

Chapter  9. Animation with Motion Tweening

* Key Concept: Flash requires that shapes being used in motion tweens be inside some form of ‘container’ (graphic symbol instance or MovieClip symbols instance for example). Note: ‘Container’ is not an official term.
* Key Concept: Flash wants ONLY ONE ‘container’ on a frame that is tweened. Otherwise it may ‘freak out’. Try and see.
* Key Concept: A colored arrow in the timeline signifies a tween between two keyframes Blue is used for a motion tween and green is used for a shape tween (we’ll learn that later).
* Creating a Bouncing Ball with Motion Tweening
  1. Create a new layer
  2. Select the layer
  3. Draw a circle on frame 1
  4. Select the circle
  5. Modify -> Convert to Symbol (Choose MovieClip for now. Other symbol types work too)
  6. Select protoframe# 30 on the same layer
  7. Modify -> Timeline -> Convert to Keyframe
  8. On the new frame, Move the circle to a new location
  9. Right-click between the two keyframes (So... frame 2,3, or 4) -> Create Motion Tween
  10. Select frame 1
  11. Preview the results. Note: Use the menu of Control -> Play
* What symbol instance properties will tween with a motion tween?
  + Position (we just saw that)
  + Size
  + Rotation
  + Color effects
  + Effects
  + What won’t tween with shape tween? The shape within the symbol instance will not tween.
* Adding Keyframes to Motion Tweens
  + To add keyframes by repositioning a tweened graphic
    - Select a frame (not keyframe) within a tween
    - Move the symbol instance or Insert -> Timeline -> Keyframe
* Animating Color Effects
* Select a keyframe
* Select the symbol instance
* Open the Properties tab of the Property inspector, Choose a new setting from the Color menu
* Preview the results
* Animating Graphics That Change Size
  + Select a keyframe
  + Select the symbol instance
  + Change the size of instance
  + Preview the results
* Rotating and Spinning Graphics
  + Select a keyframe
  + Select the symbol instance
  + Change the rotation of the instance
  + Preview the results
* Moving Graphics in Straight Lines
  + Flash will do this automatically when you move an instance with a motion tween.
* Re-creating Motion Tweens
  + Right-click a frame
  + Copy Motion
  + Paste Motion (Pastes all copied tween properties)
  + Paste Motion Special (Pastes some copied tween properties)
* Moving Graphics Along a Path
  + Select the layer with the motion tween
  + Insert -> Timeline -> Motion guide
  + Draw a line with the line tool
  + On each keyframe of the symbol instance, drag its transformation point onto the line. It should snap on easily.
  + Preview the results
* Orienting Graphics to a Motion Path
  + Select a frame within the tween to see the Properties panel show the tween properties.
  + Check ‘Orient to Path’
  + Preview the results. Note: Sometimes this doesn’t’ work for me. Let’s find out why.
* Changing Tween Speed (Also known as ‘easing’)
  + Select a frame within the tween to see the Properties panel show the tween properties.
  + Change ‘Ease’ value to ‘+100’ to Ease Out or ‘-100’ to Ease In. Experiment with different values or click the ‘Edit’ button next to ‘Ease’ to fine tune the values.
* Gotchas (Things that may confuse you while working with Flash)
  + Creating a motion tween on a layer with a shape (non-symbol instance) creates wacky results
  + Creating a motion tween on a layer with multiple symbol instances creates wacky results

NOTES

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_