

Macromedia Flash is the de facto standard used today for publishing multimedia on the Web. It has evolved from its beginnings as an “eye candy” animation machine to a powerful scripting application that can easily handle interactive forms and database interconnectivity through Action Scripting. Consequently, it is important to understand when to use Flash, especially because you might be able to use Dreamweaver or PowerPoint as the tool to deliver your Web content rather than Flash (which might be easier in the long run). Ask yourself:

“What type of project do I want to create? Is Flash the best program to use for this purpose?”

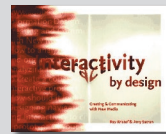
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[http://edweb.sdsu.edu/Courses/EDTEC470/sections/resources/job\\_aid\\_publishing/index.html](http://edweb.sdsu.edu/Courses/EDTEC470/sections/resources/job_aid_publishing/index.html)  
[http://edtech.guhsd.net/ps\\_suser.html](http://edtech.guhsd.net/ps_suser.html)

What is the best use of Flash for teachers? Perhaps to make your presentations available on the Web for your students?

Once you decide Flash is the best application for your project, plan accordingly:

Goal, Target Audience, Treatment (“Look & Feel”)  
 Script Content  
 Storyboard  
 Flowchart Action  
 Organize Files (Images, Data, Artwork, Music, Narration, etc.)

*Tip: A simple, concise and visually appealing book on multimedia design including project management is Kristof and Satran’s “Interactivity By Design.”*

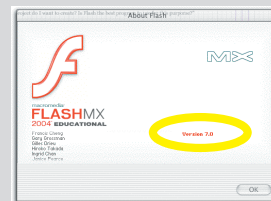


Concepts discussed in this training handout can also be explored in “Macromedia Flash MX” by James Lindsay, Piyush Patel, and Jim Shuman!

Atomic Learning’s *Macromedia Flash MX 2004* online tutorial (Quicktime 6 recommended) is also an excellent resource for learning Flash.

You can easily determine the version of Flash on your computer by selecting “Flash > About Flash...” from the file menu. There are considerable differences between versions 6, 7 and 8, including differences between the Educational and Professional versions!

[http://www.atomiclearning.com/flash\\_mx\\_2004pc](http://www.atomiclearning.com/flash_mx_2004pc)



## Introductory Terms:

.swf (shockwave file~ Need Flash Player): \_\_\_\_\_  
 .fla (flash document~ Need Authoring Tool) : \_\_\_\_\_  
 stage: \_\_\_\_\_  
 timeline: \_\_\_\_\_  
 frame: \_\_\_\_\_  
 keyframe: \_\_\_\_\_  
 layer: \_\_\_\_\_  
 tweening (motion and shape): \_\_\_\_\_  
 object: \_\_\_\_\_  
 stroke: \_\_\_\_\_  
 fill: \_\_\_\_\_

## Part I: Learning the Interface

In this first exercise you will learn the very basics of the flash workspace including:

1. Stage
2. Tools & Properties
3. Layers & Libraries
4. Timeline, Frames and Playhead

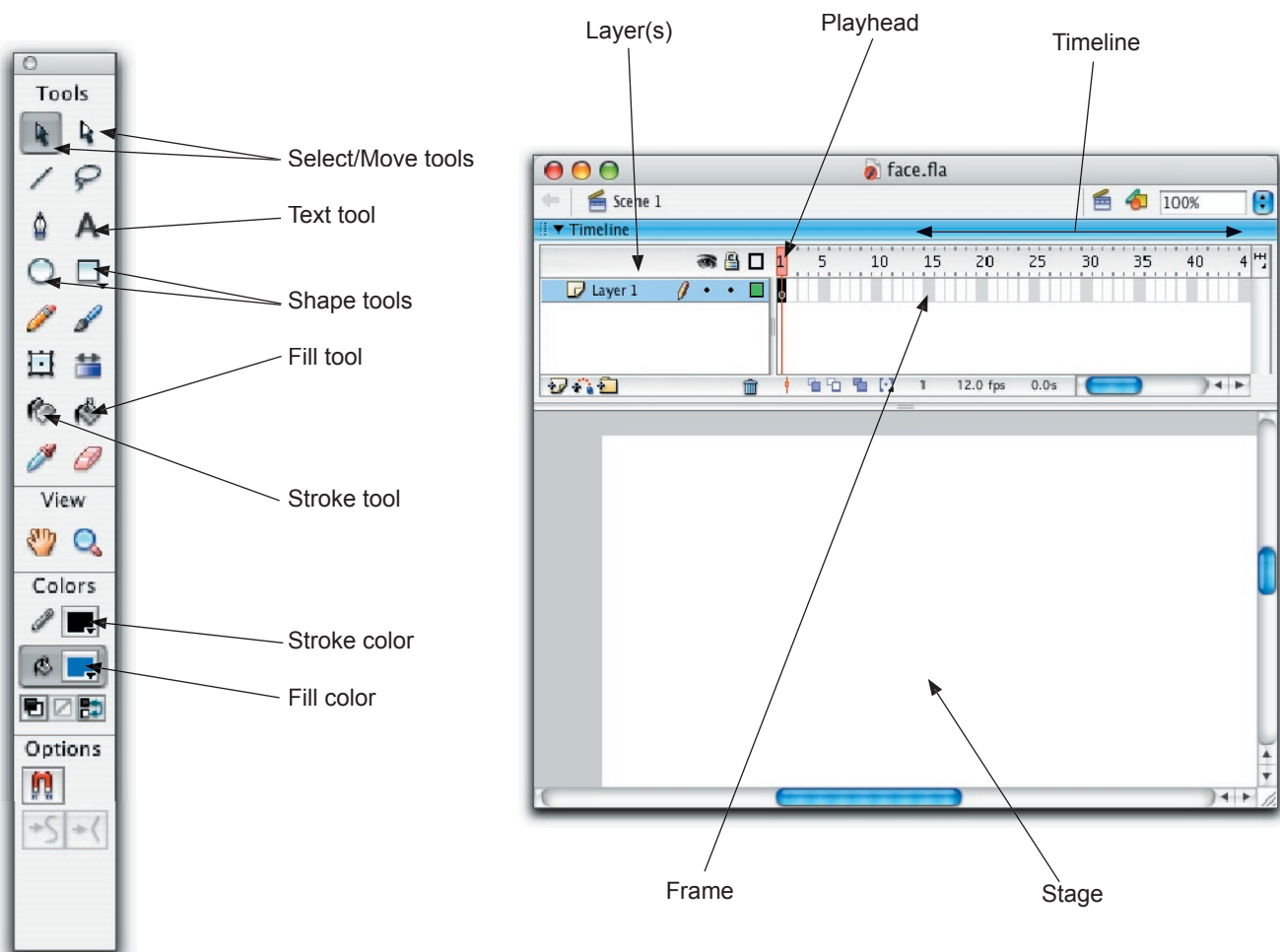
### Step 1: Create a New Document

You can set the document properties from **Modify > Document**. The dimensions in pixels determine the size of your stage and eventually how it will be seen on the Web. It is recommended that you maintain the standard 550 pixel X 400 px dimensions.

### Step 2: Save Your File

Go to **File > Save As** and save your work as “face fla” on the Desktop. Notice the .fla extension which indicates this is a working Flash document.

### Step 3: Review The Interface



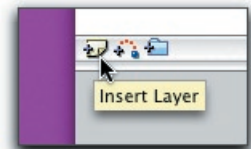
## Part II: The “Talking Face!”

We will now draw a face with layers for the head, hair, ears, eyes, and pupils. Additionally, we will animate the mouth and add a bit of audio. You will learn the concepts of fills, strokes, layers, shapes, transform, and grouping through this exercise.



### Step 1: Insert Layers

Insert a new Layer for each of the following: face, ears, mouth, nose, eyes and hair using the “Insert Layer” icon at the bottom of the timeline. Name the layers accordingly. Layers are like transparent sheets of acetate that are stacked on top of one another on the Stage.



### Step 2: Drawing and Filling

On the corresponding layer, use the Pencil (Y) or Pen (P) tool to draw each attribute of the face. For the mouth, draw an oval and fill it with black.

You can modify the stroke color by using the Ink Bottle Tool (S) and the fill color using the Paint Bucket (K) tool.



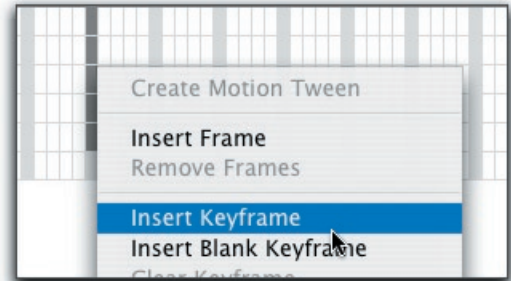
S K

You can use the padlock to lock editing on individual layers.



### Step 3: Insert Keyframes

Next, insert a keyframe in all active layers (multiple select by holding shift key) in frame 40. At each point in the animation where the asset “moves,” a keyframe will need to be inserted. Practice this concept on the mouth. Your instructor will show you how to create an animation keyframe sequence that opens and closes the mouth every 10 frames. The same principle can be applied to the pupils in the in the eyeballs, too.



### Step 4: Add Audio

Import the file “audio.aiff” into your library. This audio file can be used to enhance your animated sequence. If you’d prefer to record your own audio, open iMovie and record your voice. Then, File > Share > Quicktime > Expert Settings > Share > Expert Settings > Sound to AIFF (or File > Export in older versions of iMovie) and save this file to your desktop. You can now import this audio file into Flash as a library object. Then, open up your library (Window > Library) and drag your sound to a new layer!

### Step 5: Preview The Movie

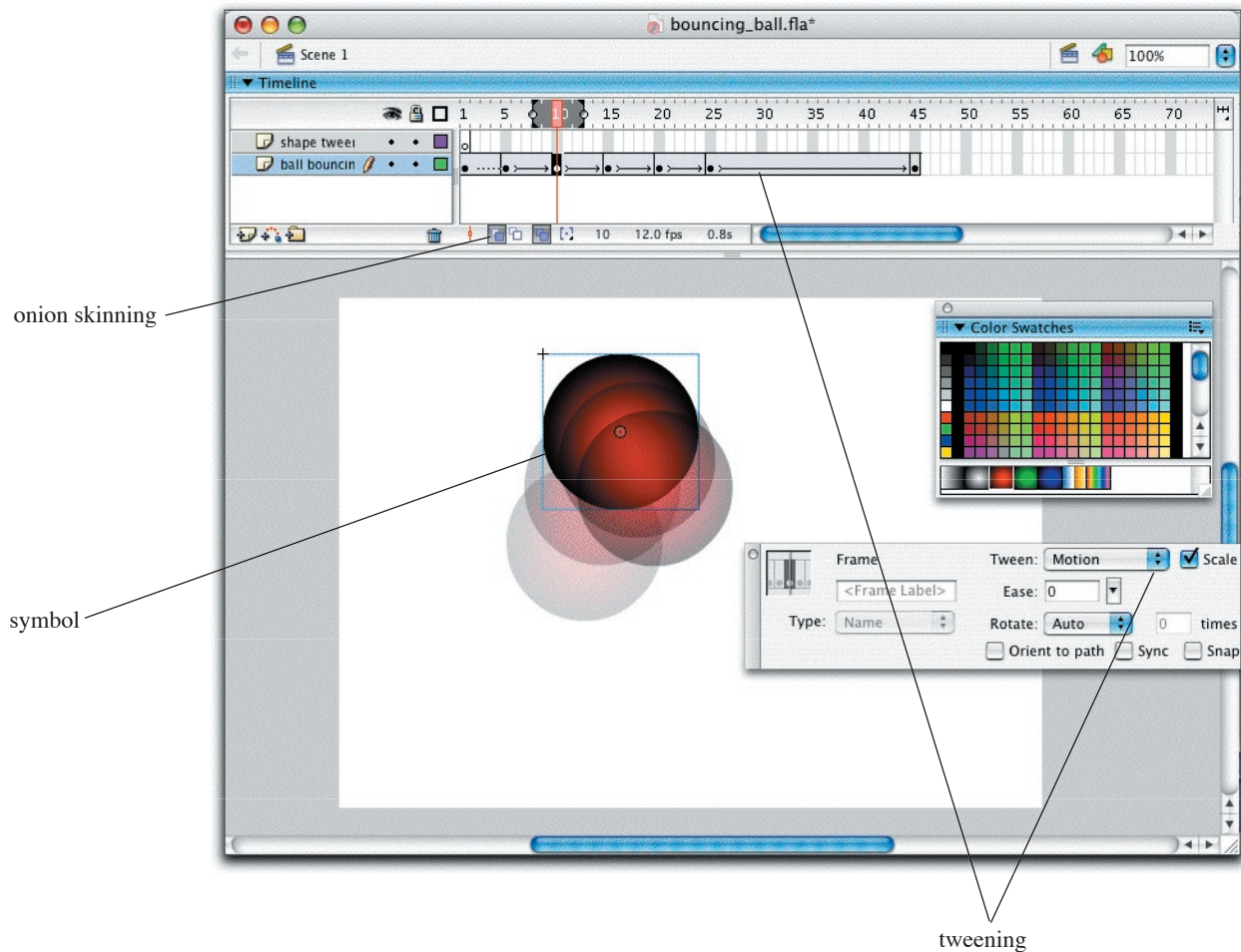
You can test your flash file by going to Control > Test Movie. You can also do a “Publish Preview” by hitting the F12 key which will open your movie in the default browser.

How’s it looking?!? :-)

### Part III: The “Bouncing Ball!”

We will now use both motion and shape tweening effects to a new project. You will also see how “onion skinning” can help you when using the motion tween effect.

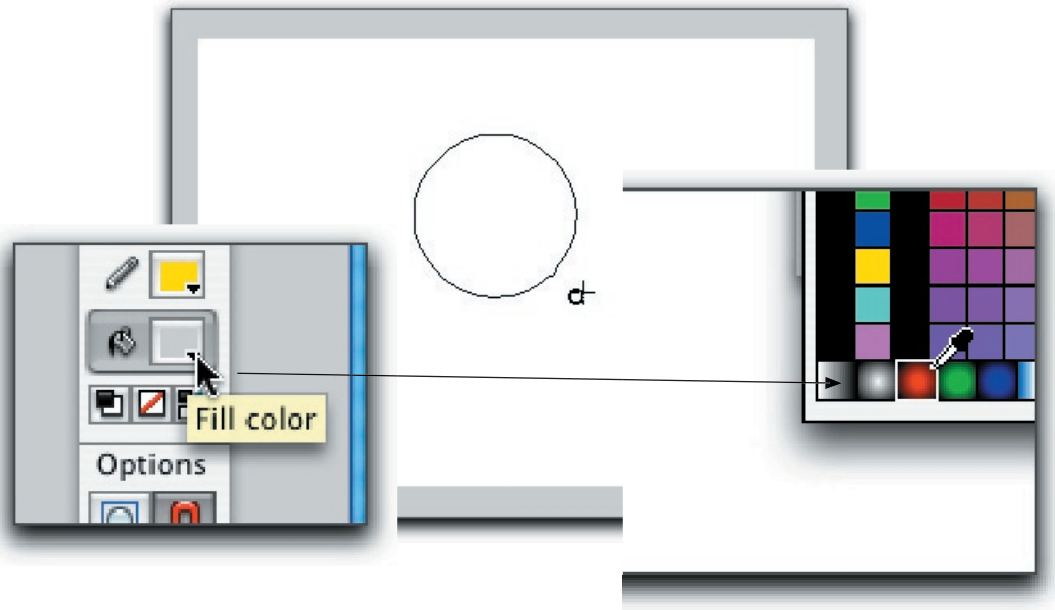
NOTE! Imported graphic objects such as .jpgs and .gifs need to be converted to symbols before they can be animated using the motion tweening effect!





### Step 1: Draw The Ball

Create a new file and draw a shape in the form of a circle. Choose to fill the “ball” with a solid color or gradient. You can choose the gradient pattern from the bottom of the color palette after clicking on the “Fill color” drop-down arrow.



### Step 2: Convert To Symbol

Select the ball object by switching to the Selection Tool (V) and by dragging over it with the mouse. After selecting, convert it to a symbol (F8) Modify > Convert to Symbol. Give it a name and choose the “Graphic” type. Move it to the top left corner of the Stage.

### Step 3: Insert Keyframes and Move The Object

Next, insert a keyframe (F6) for the active layer in frame 50 and move the ball to the top right corner of the stage (Figure 5).

**NOTE!** In the event you see TWO balls on the stage, be sure the Edit Multiple Frames option is set to OFF!

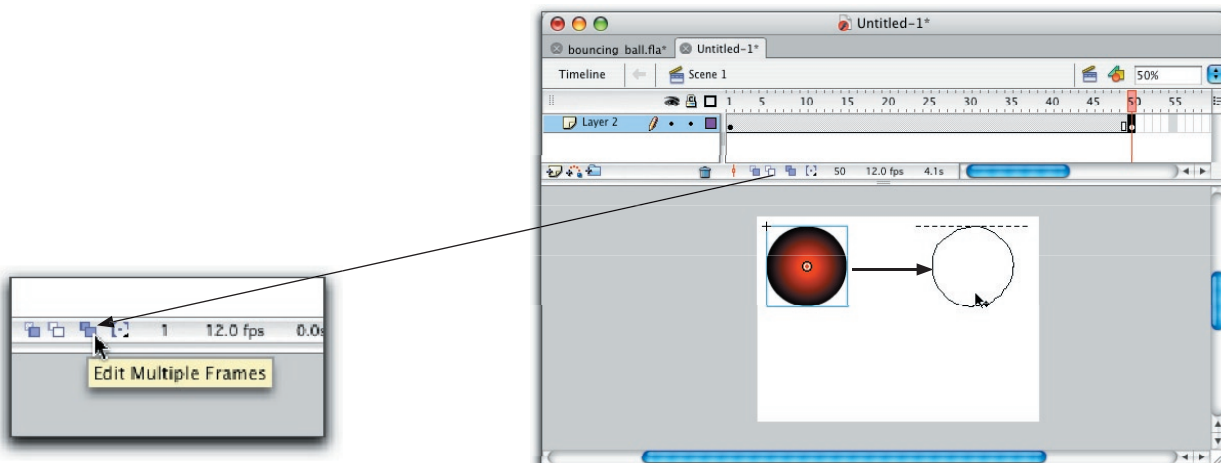


Figure 5: Moving the object to the right corner of the stage.

### Step 4: Motion Tweening

Click back to select the first frame. Then, right-click and select the “Create Motion Tween” option from the contextual menu; this will “fill in” all the frames between the two key frames to create the animated effect of the ball moving across the stage.

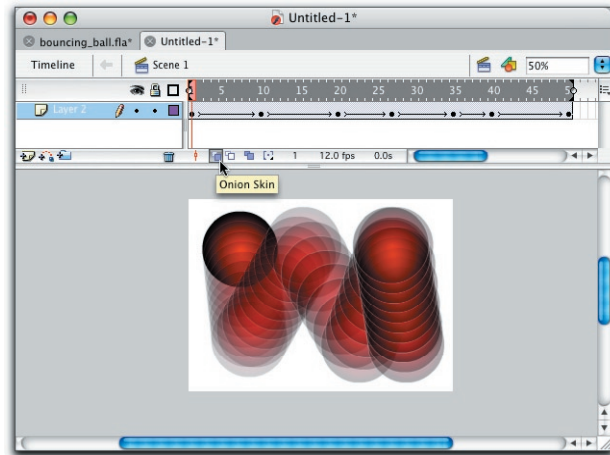
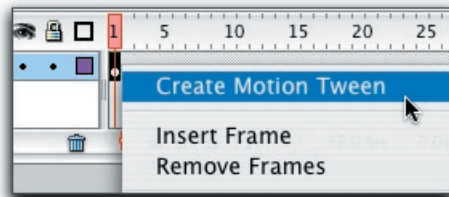


Figure 6

You can then add or remove frames to vary the speed at which the ball moves. Or, select a frame(s) along the chain of animation, move the ball to a different part of the stage to make it bounce! In a motion tween, you can resize, change the opacity (alpha channel) or skew the object too!

To see the path of your animated ball, turn onion skinning on (Figure 6)!

### Step 5: Shape Tweening

A shape tween is similar to a morph effect where an object changes into another, sometimes unrelated, object. Shape tweening, unlike motion tweening, can only be applied to editable graphics. Thus, you need to first use the “Break Apart” command on a symbol(s) if you want to use it in a shape tween (Figure 7). Position your first graphic on the stage in the first keyframe, and your second object on the last frame. Then, insert a Motion Tween from the “Properties” window (Figure 8). If you don’t see the properties window, select the graphic and choose Window > Properties > Properties.

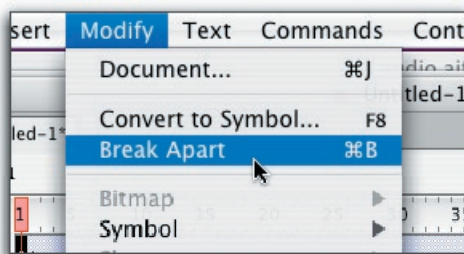


Figure 7

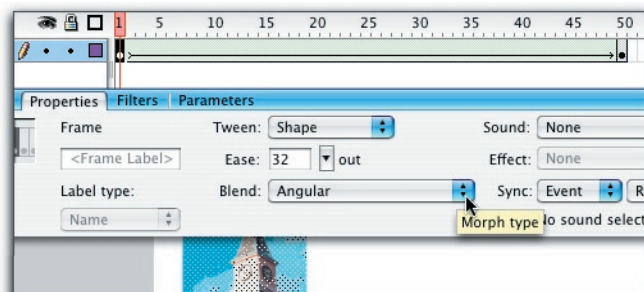
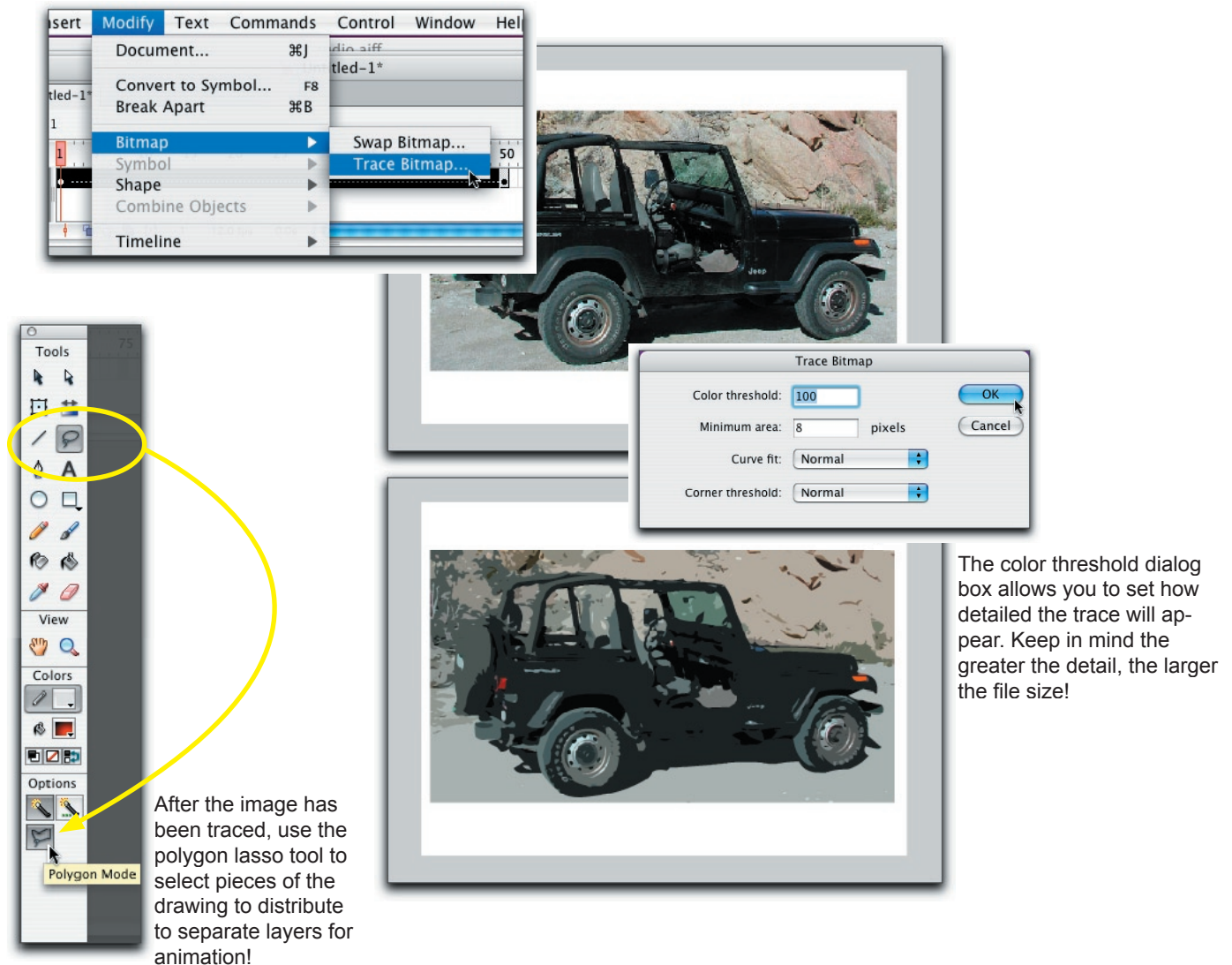


Figure 8

## Step 6: Trace Bitmap Graphics

Vector-based artwork is the preferred format when creating Flash animations. JPEG, GIF, PNG and other images can be imported into Flash, but they are raster or “bitmapped,” not vector-based. So, sometimes you need to convert a raster image to vector to work with it in Flash-- which is when the “Trace Bitmap” feature comes in to play. It is important to note that you should always reduce the original file size OUTSIDE of Flash first, by cropping it and changing it to 72 dpi, before utilizing the trace command. This will speed the trace process and will greatly help your computer complete this complex task.





## IV: ActionScript Buttons

Button symbols are used to provide interactivity. When a user clicks a button, an action should occur such as starting an animation or jumping to another frame in the timeline. ANY object can be made into a button. Unlike a graphic symbol, buttons have four states: UP, OVER, DOWN, and HIT.

Up - Represents how the button appears when the mouse pointer is NOT over it.

Over- Represents how the button appears when the mouse pointer IS over it.

Down- Represents how the button appears AFTER the user clicks it.

Hit- Defines the area of the screen that will respond to the click (i.e. “hotspot”).

### Step 1: Draw Your New “Button”

Draw a rectangle on your stage with the Rectangle Tool (R) and set the “Set Corner Radius” option to 45 points (Figure 10). Then, convert this object to a button symbol by selecting it with the Selection Tool (V), and then using the Modify > Convert To Symbol... command (Figure 11). When you create a button symbol, Flash automatically creates a new timeline with four frames, one for each state Up, Over, Down, and Hit (Figure 12).

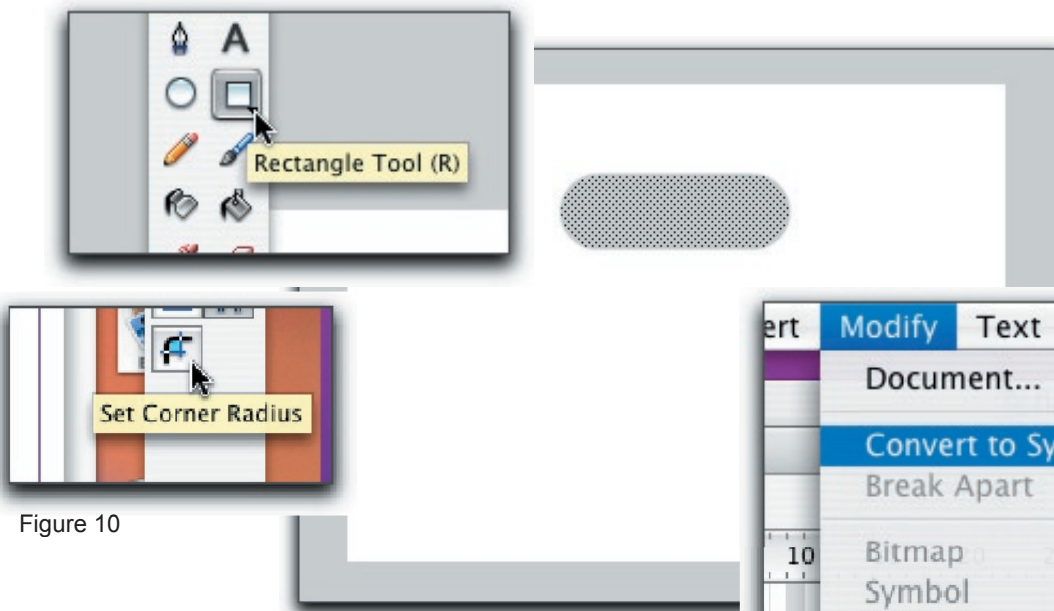


Figure 10

Figure 11

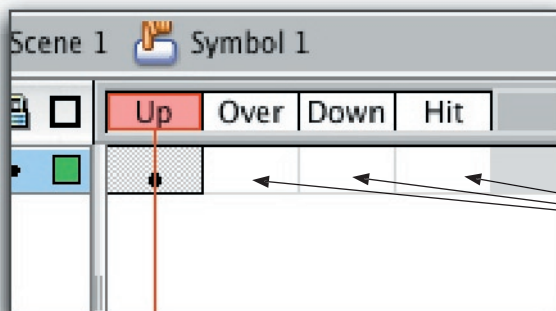


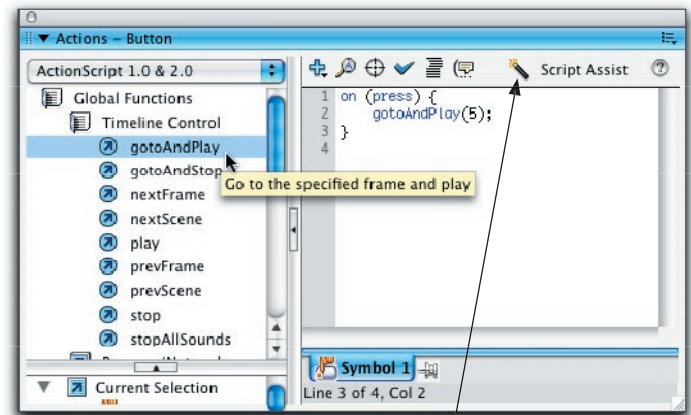
Figure 12

To modify the look of the button, insert a keyframe under each state and change the size and appearance accordingly.

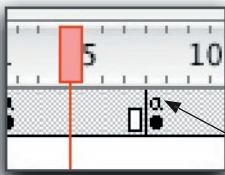
## Step 2: Assign An Action To Your Button

Flash provides a programming language called ActionScript that allows actions to be applied to frames and buttons within a movie. You can assign stop and start actions to frames that will pause a movie and restart it on command. The ActionScript is made up of both an “Event” and an “Action.” The “Event” is actually the mouse event: Press, Release, Release Outside, Key Press, Roll Over, Roll Out, Drag Over, and Drag Out. The process of assigning an action to a button is as follows:

1. Select the button on the stage.
2. Display the Actions panel F9 or Window > Actions (Window > Development Panels > Actions in v.7 MX2004).
3. Select the Movie Control category under Actions > Movie Control (Global Functions>Timeline Control in Flash 7 and 8).
4. Select the desired action.
5. Bracket the action around the desired mouse event.



Use the Script Assistant when needed.



The “a” indicates an action has been assigned in this frame.

Below you will find a typical Action Script for a button that requires an event (on release) that will go to frame 5 in the movie and start playing:

```
on (release) {
    gotoAndPlay(5);
}
```

## **Part V: Posting Using Dreamweaver and eBackpack**

Choose File> Publish (F12) to create an HTML page with the Flash .swf object embedded. The .html page will be in the same location as where you have been saving your .fla file.

Upload both of these files to your eBackpack sites folder and take a look at your work!

**<http://eportal.guhsd.net/~yourebackpackusername/nameflashfile.html>**