

Introduction to Flash

Joe Struss

Oct. 22, 2010



Visit the IT Learning Pod's
Online Web Site at:
<http://css.ait.iastate.edu/>

Copyright © 2010 by Creative Services/ITS

Permission to reproduce all or part of this document for noncommercial purposes is granted, provided the author and Iowa State University are given credit. To copy otherwise requires specific permission. The author's contact information is available at the IT Learning Pods web site.

Using Acropolis to create a Web Folder

This topic is optional and will probably not be covered in class. The easiest way to create a Web folder on the Homepage server so you can publish pages to the internet is to login to Acropolis. So open a Web browser and go to the following URL: <http://asw.iastate.edu/>

Next enter your *ISU NetID* and *password* then click on the **LOGIN button**.

To create a Web (WWW) folder and a default web page (homepage.html) for your ISU Netid:

1. Click on **Manage NetID**
2. Click on **View/Edit your personal Web Page Settings**.
3. Click on **Register Web Page** then click on the **Register button**.
4. Click on the **Homepage link** near the top which is within the *ASW > User > Homepage > Register* bookmarks.
5. Click on **Create Default Web Page**.
6. Since that's all we need to do, click the **Logout** button to get out of Acropolis. You can then upload and download files to your **WWW** folder by using ISU Webfile: <http://webfile.iastate.edu/>

General Flash Information

Adobe Flash is a software authoring tool for creating scalable, interactive animated graphics and navigation controls for the Web. Flash is also one of the most popular add-on tools for internet browsers and is currently available on most browsers throughout the Web. Flash is known for creating Web graphics that are small in size but dynamic in sound, motion and graphics.

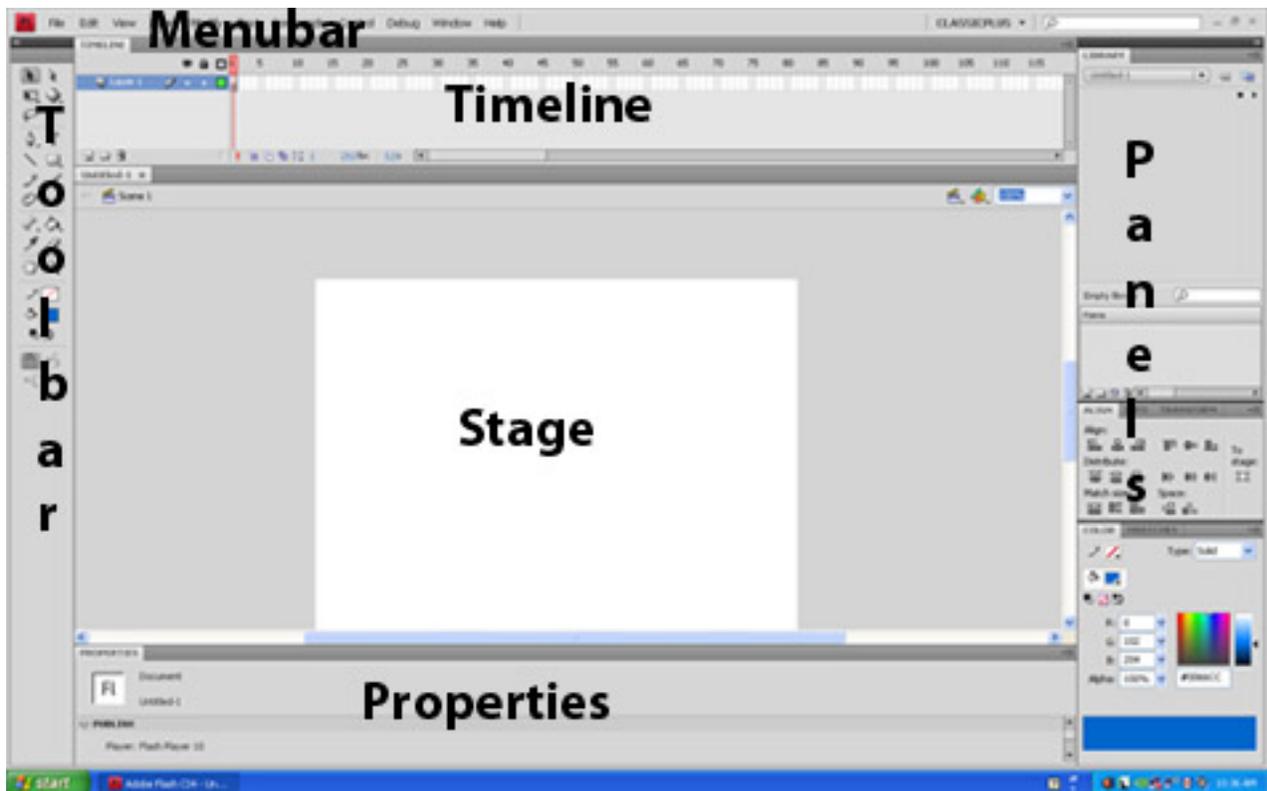
Starting Flash

To begin Flash on a Macintosh, look on the Macintosh lower toolbar inside the **Applications** folder and double-click on the **Flash** application. On a Windows system to startup Flash, click under the **Start icon** then select **All Programs, Adobe Design, then Adobe Flash.**

From the Flash starting screen— press **Flash File (Actionscript 2.0)** under **Create New**; this will start a Flash project for you and allow you to see the distinct areas within Flash. For the Flash layout for today's class, pull down in the upper right to **Designer** then pull the **Properties** panel under the main **Stage** and pull the dividing line on the left to be **two columns** wide. Next pull down under the layouts on the upper right and select **New Workspace** then **save** this setting as **Classicplus.**

Flash Layout

There are five distinct areas within Flash: the Drawing **Toolbar**, **Menubar**, **Timeline**, the **Stage/Work Area**, and the Floating **Panels** which includes the special **Properties** Panel.

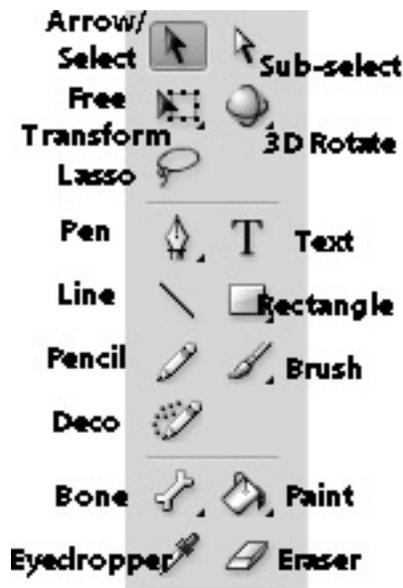


You work in the Stage area using tools from the Toolbar. You must select the image frame on which you are working from the Timeline and the Floating Panels give you information on the currently selected Stage item and allow you to alter that item.

Drawing Toolbar Area

Toolbar Tools

The Drawing Toolbar has four distinct sections which include the **tools** area and the **view, color and options** areas. The Tools area has all the drawing tools that you can use on the Stage:



More of these tools are very similar to the ones used in Photoshop and are self-explanatory. The **White Arrow** or Subselection tool is a unique tool for Flash that allows you to view and modify anchor points. Any tool with a lower right arrow means that the tool in question has additional related tools underneath. For instance, if you pull down under the **Free Transform** tool then you will find the **Gradient Tool**.

Drawing Toolbar Sections

The three lower sections on the drawing Toolbar are the View, Colors and Options areas.

The View area includes the Hand tool to move around the stage and the Zoom tool to zoom in or out on your work. The Colors area allows you to choose line/pencil and brush/bucket/text colors as well as defaulting, swapping or turning off colors. The Options area changes to show the options on the currently selected tool.



Try clicking then selecting a different stroke and fill color in order to examine the full color grid. You can also select the spectrum ball in the upper right corner of the color grid for even more color options or select the *Alpha* level of your color also in the upper right. Click the **Default** button when you are done to return to the standard color set.

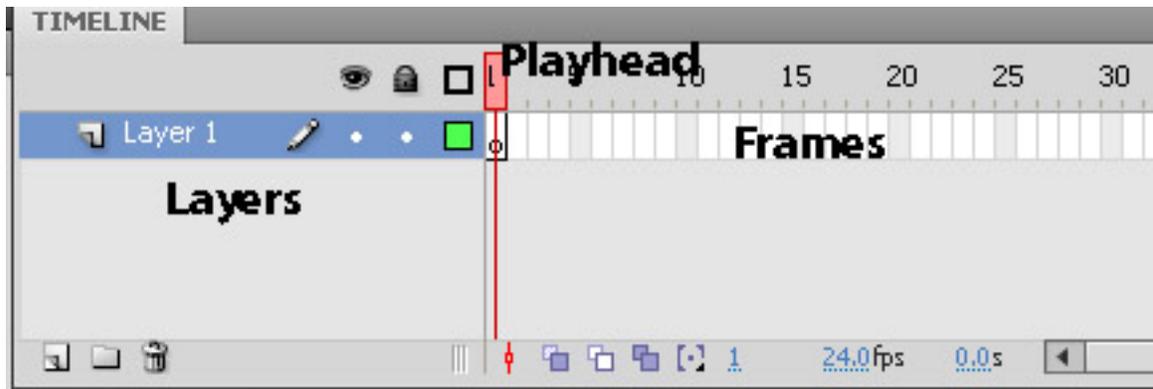
Menubar and Stage Areas

The Menubar area is typical of most software programs. Of particular interest in Flash under the **Control** menubar option is the ability to Test a particular Flash movie or scene to see how it looks. Also under the **Modify** menubar option is the ability to modify your Document/Movie to have a particular frame rate, size or background color. Just like in a film, you can have multiple scenes in one movie and the frame rate determines the speed.

If you move around the sliders in the stage area, there is a point where the background goes to gray. This distinguishes the On-Stage area that people can see from the Off-Stage area where you might have items waiting to move or spin onto the Stage. Remember that Off-Stage items are not seen in the final movie until they move onto the Stage.

Timeline Area

The Timeline area shows you what is happening at a particular time on the Stage.



The Frames section shows how many frames are in your Flash presentation and extends to the right. The Playhead within the Frames shows which Frame is currently showing on the Stage. Each Frame can have multiple Layers with each Layer containing the actual content of the Flash Movie. Movie elements that shouldn't be grouped together need to be on separate Layers. Like, for instance, you would probably create a separate Layer for your Flash Sounds or Buttons. You can even have Layer folders which are groups of Layers.

Floating Panels Area

The Panels area contains information or options for the currently selected stage item or tool. Panels float so that you can move them anywhere you want on your screen. The Panels that are most often used are Properties (object/tool information), Color (color mixer), Behaviors (Simple Scripts) and Components (specialized tools).



Project- Shape Tweening Blobs

The first project we are going to work on is a traditional Flash first project named tweening blobs. Pull down under **File** → **Save as** and name your project **blobs.fla** then **save** it to your desktop.

Inserting the Blobs

First make sure the Timeline **Playhead** is on frame one and click into **Frame 1, Layer1** with the pointer tool. After that choose the **Brush** icon from the Toolbar, then select an interesting brush size/color in the *Options/Fills* areas and make a blob somewhere on the upper left portion of the stage.

Press **F5** four times to make four new frames on the Timeline. Next select frame 5 and pull down under **Insert** to **Timeline** then over to **Blank Keyframe**. Make another blob with your brush just a little to the right and down from your previous blob.

Create five new frames with **F5** then **select frame 10** and pull down under **Insert** once again to **Blank Keyframe**. Continue to do this until you reach Frame 25 and remember to put a new blob in at Frame 25. You can always **Edit** then **Undo** if you make a mistake.

Tweening the Blobs

Select Frame 1 again with the Playhead by **clicking** in the Layer 1/Frame 1 box. Next pull down under **Insert** → **Shape tween**. You should see a green background and an arrow pointing to frame 5 in frames 2, 3 and 4. Flash is doing a shape tween within those frames. Do this for all your keyframes.

Pull down under **File** then **Save** your project. Next run your movie by pulling down under **Control** to **Test Movie** or by scrubbing the Timeline with the Playhead. You should see your blob move from the upper left to the lower right over and over again. If this is happening too fast, pull down under **Modify** → **Document** and set the frame rate down to **12**.

Keyframing and Tweening A **Keyframe** is a frame in a particular Layer where you want to alter the action of that Layer's items/objects. It works as a guidepost for Flash telling it where to be and what it needs to look like by that particular frame.

Tweening is the act of filling in between Keyframes. Flash can do this on its own or you can do it by creating all keyframes. There are two standard types of tweening: Motion and Shape. Shape produces a *morphing* type of effect.

Adding a Second Layer

Now to create a second blob to go with our first blob, we'll want to put in a second layer so they can be tweened separately and have separate paths.

Pull down under **Insert** to **Timeline** then over to **Layer**. Click on **Layer 2/Frame 1**, click on the **brush tool** and select a **new brush color**. Now do the same thing we did on the first layer creating and tweening 25 frames starting in the upper left and going to the lower right but this time you won't have to press F5 because your new Layer will start with 25 frames. Create at least one point where the two blobs overlap and end the two blobs across from one another. **Test** your movie and look at your results.

Overlapping Layers

On Layers that overlap items, the topmost Layer will be seen. Drag your Playhead to the point in your Movie where your blobs overlap. Now **click** in the area where it says 'Layer 2' and drag it down below Layer 1. Layer 1 should now be seen over Layer 2.

Getting Back to Start- Optional

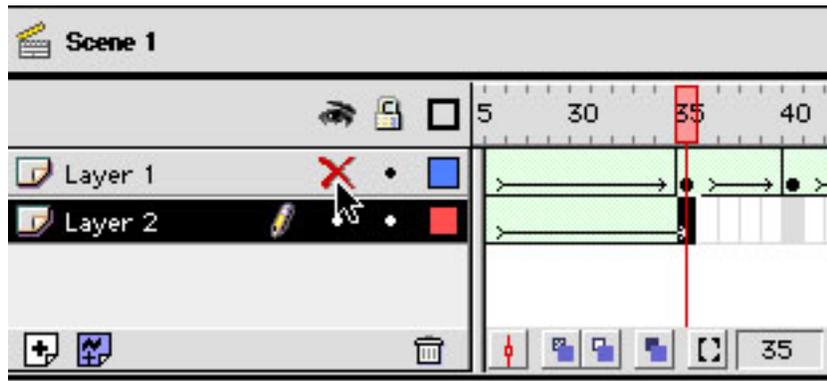
A lot of times in animation you want to end up back where you started. This is sometimes called the 'Ping-Pong' effect. Let's Pong our blobs back to their starting positions.

Select Frame 25 of Layer 1. Add five new frames with **F5**. On the 30th frame, select **Insert** then **Blank Keyframe**. Select the box in frame 20 on Layer 1. Select **Edit** then **Copy**. Go to Frame 30 and pull down under **Edit** to **Paste in Place**. Add five new frames and then do this again for frames 15, 10, 5 and 1. When you get to frame 50 put in 10 additional frames and a keyframe at 60. Test your Movie and then do the same thing for your other Layer.

You can also simply put in 25 new frames, put a new Blank keyframe in frame 50 and copy and paste in the frame from frame 1. Then just add 10 additional frames and a keyframe at frame 60. This doesn't look as good but is a lot faster.

Invisible Layers

If you're getting confused on the Stage, try hiding one or more of your Layers temporarily by clicking under the **Eyeball** icon next to the layer name. This will hide that Layer on the Stage. Click it again to reveal the Layer.



Adding a Name

Pull down under **Insert** then down to **Timeline** and over to **Layer** to add a new layer to this project. The name “Layer 3” isn’t too descriptive here so let’s change that by **double-clicking** on the **Layer 3** name then typing in *Text* and pressing **Return**. Now this layer has a more descriptive name.

Select Frame 25 of the Text layer and **insert** a **Keyframe**. Click the **Text Tool** on the Toolbar and change the color to black. Then choose an appropriate size font from the **Properties Panel** and type the following center stage between the blobs: **From the Desk of Your Name**.

You may also want to click the **Bold** option in the Properties Panel or **Center** your text. You can use the **Arrow Tool** to move around your text once you are finished typing. **Move the Text Layer** so it is the bottom layer and **Test** your movie. On the **Text Layer** move to where the blobs have obscured part of the name and create a **blank keyframe**. Now it sort of looks like that your nameplate disappears into thin air.

At this point, select **Modify** on the menubar and pull down to **Document**. Choose an appropriate background color for your Movie and alter the Movie's height and width so that it can just barely play within the Movie's confines.

Publishing and Uploading

Save your Movie by pulling down under **File** on the menubar to **Save**. To **Publish** your Flash Movie for use on the Web, pull down under **File** to **Publish Settings**. By default, you will create a Flash file (.swf) and an HTML file (.html) when you publish. You will need to upload both of these files and use the .html file to view the .swf file.

Click the **Flash** folder tab and click the **Protect from import** checkbox. This will protect your Flash file from being borrowed by other people on the Web. There is also a JPEG quality setting there that you can set. Click the **Publish** button and Flash will create your .swf and .html files then click **OK**. Go to your desktop and Double-click the blobs.html file to view your creation.

You can upload your two files: blobs.swf and blobs.html to the Iowa State Homepage server by using ISU webfile which is available at: <http://webfile.iastate.edu/>. Simply upload these two files to your WWW folder.

Once you've uploaded, you can view your work at: <http://netid.public.iastate.edu/blobs.html> where *netid* is your ISU NetId and *blobs* is the name of your Flash project.

Project- A Mini-Bulletin Board

Putting a Button in Motion

Pull down under **File** to **New**, choose **Flash File, Actionscript 2.0** then click **OK**. Pull down under **File** to **Save** then save your file to the desktop and name it **bb fla**. Next pull down under **Window** to **Common Libraries** and finally to **Buttons**. The Common Libraries contain media materials that come with Flash. Click and drag any classic **Button** from the Library onto the upper left corner of the Stage.

Insert fourteen frames with **F5** then create a **Keyframe** at Frame 15 (**Insert** → **Timeline** → **Keyframe**) and move the button with the Arrow Tool to Stage right. Click the Layer 1/Frame 1 box, pull down under **Insert** to **Classic Tween**. The *Classic Tween* is a classic motion tween. You should see a blue-backed arrow area between frames 1 and 15 which shows that Flash is tweening. **Save** your project then test your movie. The button should glide across the stage.

Return to frame 15. Create fifteen more frames by pressing **F5** then make a keyframe at frame 30 and move the button to the lower right corner. After you put in a few frames, you can also ctrl-click and drag the tag at the end of a layer to create new frames.

Next make fifteen more frames then create a keyframe at frame 45 and move the button to the lower left corner. Finally create 15 more frames with **F5** then create a blank keyframe at Frame 60 and copy frame 1 to frame 60. Put in a classic motion tween at frames 15, 30 and 45 then save and test your movie.

Creating a New Style Motion Tween

CS4 introduced a new way to motion tween that is easier to use and doesn't use as much traditional keyframing. It is intended to be used more for casual animation where a whole layer is devoted to the animation itself. Let's try it out.

Hide the current layer and create a new layer by pulling down under **Insert** → **Timeline** → **Layer**. Next grab another classic button and put it into the upper right hand corner, name the button **btn1** in the **Properties area** then pull down under **Insert** → **Motion Tween**. Now the whole layer is tween ready.

Next simply click on frame 15 and pull the button to the upper left corner. Next go to frame 30 and pull the button to the lower left corner. After that, go to frame 45 and pull the button to the lower right corner and finally go to frame 60 and put the button back where you started. You should see small black diamonds on frames 15, 30, 45 and 60 called auto-keyframes where Flash is using the new style of keyframing for you. This style of motion tweening is a lot faster to setup but it does take away a certain amount of layer flexibility.

Creating a Message Symbol

Test out your movie and you may want to change the frame rate down to 12 or 18 by going under **Modify** → **Document**. Next up, let's create a message symbol that we can alter independently to create a message.

So create a New Layer in your project and name it **Text**. We are going to create a flying message that spins in by frame 30 to the middle of the stage. To spin the message, we'll have to create a *symbol* with our message inside of it.

Pull down under **Insert** to **New Symbol** and create a new symbol named **msg**. Choose a **Graphic** Type: for the symbol, name your symbol **msg** then click **OK**. When you are finished, you are put into the message symbol itself so you can create it. Use the **Text Tool** from the Toolbar Panel and put your message in the Center of the Stage. You can use the Arrow Tool to help center the name on the crosshairs or use the Align tool by pulling down under **Window** to **Align**. Remember to align items **to the Stage**. When you are done, click back to **Scene 1** at the top left of the stage below the timeline.

Symbols

Symbols are objects within Flash that Flash can manipulate. Symbols can be Buttons, Graphics or even Movie clips. You generally use symbols when you want to use a graphic more than once or when you want to flip or rotate a text item. A Movie clip symbol can contain an entire movie within itself.

Message Spinning

Move to the Text Layer/Frame 1 box on the Timeline and move the Stage sliders so that you are off the top portion of the Stage. Pull down under **Window** to **Library** and click and drag your **Message** symbol to the grey area just above the stage. The **Library** is your media library for the current project. You should also see your classic Button there.

Create a keyframe at Frame 30 and move your **Message** so that it sits in the center of the stage. Click to Frame 1 and insert a Classic Tween then go to the **Properties Panel** and alter the tween to have 4 Clockwise (CW) rotations. **Save** and **Test** your movie.

Create a keyframe at frame 45 and 60 of the Text Layer. At frame 45 do a Classic tween then go to frame 60 and click on your stage Message. Next go to the **Properties Panel** and under **Color Effects** choose the **Alpha** Setting then set the level to **0**. This will cause your message to fade away. **Save** and **Test** your movie.

Go to frame 60 on the Text layer then select the msg symbol on stage again. Pull down under **Modify** to **Transform** then over to **Scale**. Pull in on the square anchor point on a corner of your msg symbol and make it smaller. Save and test your movie and you will find that the message now gets smaller as it fades away. See if you can get it to rotate, get smaller and fade at the same time.

Instances- Optional

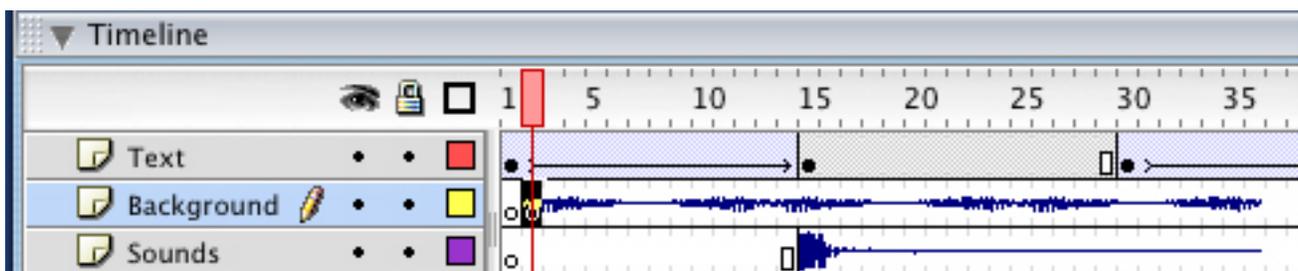
A symbol can have more than one occurrence. Each occurrence of a symbol is called an **Instance**. Go to Layer 1/Frame 1 and with the **Pointer** tool click on the **Button** instance on the Stage. Pull down under **Edit** to **Duplicate**. Now with very little extra space, you've added a second button to your Flash movie. Edit, cut and paste your new button to a new Layer and place it to start on the bottom right corner of the stage.

Click on your new button. Name this instance by typing in **btn2** in the *<Instance Name>* box of the Properties panel. Next go to the **Color Effect** area, change the *Style* to **Tint** and alter the tint colors. Now add a new style Motion Tween to this layer and move the btn2 around in a square adding auto-keyframes at 15, 30, 45 and ending up back where it started at 60. After all that, **Save** and **Test** your movie. You should now have three buttons of different colors that cross over one another. If you feel this is out of balance, you can add a fourth button in the lower right as well.

Adding Sounds- Optional

Go <http://css.ait.iastate.edu/Flash/>, left-click or ctrl-click on the Flash 1 class data links and download **banjo2.aif** and **lock.aif** to your desktop. Pull down under **File** to **Import** then over to **Import to Library** then select both of the sounds and click on **Import to Library**. Create a New Layer and name it *Sounds* then click to frame 15 and create a Keyframe. Select the **lock.aif** from your Library then click and drag it onto the stage. **Save** and **test** your movie. This is known as an *event* sound.

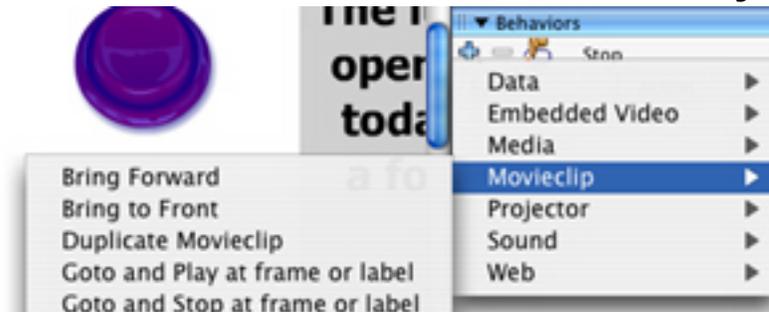
Let's create a background movie sound. Create a New Layer and name it *Background* then click to frame 2 and create a Keyframe. Select the *banjo2.aif* sound from the Library and drag it onto the stage. Select frame 2 then go to the Properties panel and look at the Sync/Repeat options there. You can modify the effect of a sound or loop it in this panel. Change sync to **stream** and repeat to **loop** then **save** and **test out** your movie. A stream sound has to be reloaded each time it is repeated but is more reliable in being played in sync with the movie than an event sound.



Adding an Interactive Button

Let's add another button to the Movie so that the user can stop the movie. Create a new Layer named **Buttons** and click to Frame 1. In the Classic Buttons Common Library, go under the **Circle Buttons** folder then click the **Stop button** and drag it onto the stage.

Make sure that the Stop button is selected thus surrounded in a blue rectangle then go over to the **Behavior Panel**. The Behavior panel is used to add interactive actions to symbols and objects within Flash. To add an action, click on the **Plus sign** then drag down to **Movieclip** and over to **Goto and Stop**. Take the default options and click on **OK**. Test out your movie.



See if you can add a **Play** button to your animation as well. **Test, save** and **upload** your Bulletin Board movie to the Web. The best part of this movie is that if you need to change the message then you just double-click on the msg symbol, make your change and publish again with Flash— everything else stays the same.

References

Flash CS4 Professional for Windows and Macintosh: Visual Quickstart Guide by Katherine Ulrich; Peachpit Press. Inexpensive quick start guide.

Flash CS4: The Missing Manual by Chris Grover; Pogue Press. Great series and this one seems to have everything in it.

How to Cheat in Flash CS4: The art of design and animation in Adobe Flash CS4 by Chris Georgenes; Focal Press. Interesting Flash book with a unique approach.

ActionScript 3.0 Game Programming University by Gary Rosenzweig; Que. Great book for creating Flash games if you already have a programming background.

Adobe Flash Resource Center:

Click under the **Help button** and then pull down to **Flash**. The Flash CS4 Resources in the upper right especially *Using Flash* are a good place to start.

My own Flash Series Examples and Projects:

<http://css.ait.iastate.edu/Flash/>