

Controlling Sound with the Sound Object

The Sound Object is perhaps the best way to control sound in your Flash movies. It gives you the flexibility of controlling a sound file in your Library without having to drag the file to the stage or have it present in any frames. It also allows for control of the volume and pan settings as well as play, stop, and rewind.

Setting up the Movie

1. Open the Movie sound_object.fla.
2. Open the Movie's Library (F11) or Window > Library. Examine the components.
3. Click on the sound file that has the speaker icon.
4. In the top right-hand corner of the Library Panel, click on the options button. From the menu that appears choose Linkage. Check the box that says Export for ActionScript. In the Identifier field type in the word song. Click OK. By exporting the sound for ActionScript you can call on this sound from scripts that you write.
5. Click inside frame 1 of the Actions Layer. In the ActionScript Panel (F9 or Window > Actions), enter the following script in the Expert Mode:

```
stop();  
s = new Sound();  
s.attachSound("song");
```

The Stop Action simply prevents the Timeline from moving forward. In the next line we create a variable **s** and set that to be our Sound Object by declaring new Sound(). Then we use the variable to attach the sound file from the library to the Sound Object: s.attachSound("song"). The attachSound command will actually get the sound file from the Library without us having to put it on the Timeline at all.



Adding the Buttons

1. Select the Buttons Layer and drag an Instance of the Play, Rewind, and Stop buttons onto the stage. Use the Properties Panel to position each element as follows:

| Button | X Position | Y Position |
|--------|------------|------------|
| Rewind | 6.5 | 375.1 |
| Stop | 32.4 | 375.1 |
| Play | 58.1 | 375.1 |

2. Click on the Stop button. In the Actions Panel enter the following Script:

```
on (release) {  
    s.stop();  
}
```

Here we just tell the Sound Object to Stop. The Sound in the Sound Object will stop playing.

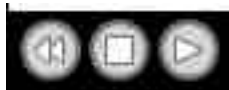
3. Click on the Play button. In the Actions Panel enter the following Script:

```
on (release) {  
    s.start();  
}
```

4. Click on the Rewind button. In the Actions Panel enter the following Script:

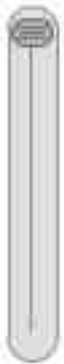
```
on (release) {  
    stopAllSounds ();  
    s.start();  
}
```

Here the start command is used to send the Sound Object back to its starting position `s.start()`. The `stopAllSounds()` command does just what it says it does. Stops all sounds in the movie. We want this command to be executed first to stop all sounds and then run the start command to bring the sound file back to its beginning.



The Volume Slider

1. Making sure that you are still in the buttons layer, drag an instance of the `v_slider` Graphic Symbol from the Library onto the stage. In the Properties Panel, set the X position to 3.9 and the Y position to 233.7. This graphic serves simply as the backdrop for a button that will be draggable along its Y axis.
2. Drag an Instance of the `mc_button` clip onto the stage. In the Properties Panel, set the X position to 5.7 and the Y position to 238.8.



3. Double click on the `mc_button` clip Movie Clip on the stage to enter the editing mode. The Movie Clip contains a button inside of it. Click on the button and in the Actions Panel, enter the following code:

```
on (press) {  
    startDrag ("", false, left, top, right, bottom);  
    dragging = true;
```

```

    }
    on (release, releaseOutside) {
        stopDrag ();
        dragging = false;
    }
}

```

The first thing to note here is the 2 sets of scripts associated with different Event Handlers. We are controlling the drag function of the button on the on (press) handler and stopping all dragging in the on (release, releaseOutside) handler. Lets take a closer look at the startDrag function. The empty quotation marks at the beginning of the parentheses is the Target for the drag function. The Target is empty because the dragging is happening to the Movie Clip itself. The false statement is in regards to an option to lock the mouse to the center of the Movie Clip when dragging. Then we are Constraining the motion of the dragging to the remaining items in the parentheses: left, top, right, and bottom. We're not actually using exact figures here, we are using Variable values that we'll set up later. The problem with using exact values is that if we decide to move our slider anywhere else, we will need to figure out new values. Finally, we set the dragging capability to true or enabling dragging.

In the next set of code, we are simply stopping the dragging from happening with the stopDrag command and by setting dragging to false.

4. Return to Scene 1 and make sure that the mc_button clip Movie Clip is still selected.
5. In the Actions Panel, add the following script:

```

onClipEvent (load) {
    top = _y;
    left = _x;
    right = _x;
    bottom = _y+100;
}
onClipEvent (enterFrame) {
    if (dragging == true) {
        _root.s.setVolume(100-(_y-top));
    }
}

```

Here, we are also using 2 sets of actions to control the sliders position by setting the top, left, right, and bottom variables. Note that the bottom variable has a setting of $y + 100$. Just imagine that the number 100 is in reference to 100% of the height of the v_slider bar on the stage. This all happens on the loading of the Movie Clip so that the variables are immediately ready and can be called upon by scripts elsewhere in the movie.

The enterFrame event is used to set the volume of the sound. There is a conditional statement here that checks if dragging is occurring. That's why we needed the dragging statements in the event handlers on the button inside the mc_button clip. If dragging is happening then set the volume of the Sound Object to 100 minus the _y property of the top variable. So the bottom variable and the top variable are really important here and they both have values within a hundred number range.

Finishing Up

6. Go to the Control Menu to Test Movie.

7. Click the Play button to start the sound. Drag the slider to change the volume. Click the stop button to Stop the sound. Click the Play button to start the sound again. Click the Rewind button to start the song over again.

Summary

As you can see, the Sound Object is the best way to control sound of this type in you Flash Movies. You also can control other aspects of sound such as Pan, duration, and others. Check the Flash ActionScript Dictionary to find out more.