ADVANCED FLASH

TEACHUCOMP, INC.

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ADVANCED FLASH

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Introduction and Overview

Welcome to Teachucomp, Inc.'s Advanced Flash course. This class is designed to give the owner of Macromedia Flash a thorough training in how to use the application.

Macromedia Flash is a versatile desktop animation and application development program with an extensive array of capabilities and tools for drawing, animating and applying impressive effects to content for web or print deployment. It is a bitmap handler, a vector-based drawing tool, a sound handler, an animation tool, a text editor and a project manager.

This tutorial is designed for those users with some experience who wish to create movies, animations and simple forms using Macromedia Flash and integrate them into web pages.

Though expert computer knowledge is not necessary for use of this tutorial, some basic knowledge of file system structures, navigation and execution, as well as command and function execution, is necessary and this tutorial assumes the user understands and possesses these skills.

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Importing Video in MX:

Video files can be imported to the Document Library or directly to the Stage. When you import a movie, if it is a .mov file, you are first prompted to select to either "Embed video in Macromedia Flash document" or "Link to external video file." For now, we will look at the options for embedding the video in the Flash document.

After you have selected to embed the video, you will see the "Import Video Settings" dialog box. Here, you can set the level of quality for the video to be imported. In the top section of the dialog box you will see a preview pane at the left and the current properties of the video file at the right. Then, in the lower section of the dialog box, the video and audio settings can be applied.

The "Quality:" slider can be used to set a value from 0-100 to control how much the video will be compressed in quality. A lower number here will produce a smaller file size, but will also produce a video with lower picture quality. A setting of 100 will apply minimal compression.

The "Keyframe interval:" slider can be used to set the rate at which keyframes are inserted in the video file, ranging from each 0-48 frames. These are used when the processor of the computer being used to view the file is too slow to process each frame of the movie. When some of the frames cannot be processed, they can be dropped from the video to ensure that the speed of the video stays synchronized with the rest of the Timeline. When frames need to be dropped, the keyframes are displayed to keep the picture moving, though this may cause a jumpy or choppy display. With this setting, lower numbers will insert more keyframes more often, allowing for fewer possible frames dropped. However, if you set this to zero, one keyframe is inserted at the beginning of the video. In this case, if frames must be dropped, a still image will display until the processor can catch up and display the next frame.

The "Scale:" slider can be used to change the size of the video. This slider ranges from 0-100 and is a percentage of the original size. Setting the size of the video to smaller than 100% can help reduce file size if you have room to spare with the dimensions of the picture. Reducing the size of the picture on the Stage with the Free Transform Tool will not reduce the size of the file, just the display.

The "Synchronize video to Macromedia Flash document frame rate" checkbox, when selected will cause the imported video and the Timeline to playback at synchronized frame rates. If the video has a much faster frame rate than you have set for your Timeline, however, frames will be cut or dropped from the video in order to keep it synchronized with the Timeline. This can cause the video to look choppy if too many frames are dropped. If this checkbox is deselected, each frame of the video will occupy one frame on the Timeline. Depending on the frame rate of the video and that of the Timeline, this can create a slow motion or fast motion effect. To create slow motion, set the frame rate of the Timeline slower than the frame rate of the video. You can reverse these settings to create a fast motion effect.

The "Number of video frames to encode per number of Macromedia Flash frames" drop-down allows you to manually set the number of frames to be dropped from the imported video to save file size or to create an effect of choppiness or still images. For example, if your Timeline and video ran at 12 frames per second and you selected a setting of "1:8" in this drop-down, your video would change images every eight frames in the Main Timeline. Generally, selecting "1:1" here will work for you until you become more comfortable and familiar with the way Flash compresses and encodes video. You should, however, experiment with the different settings, testing the Flash document along the way to see how the video is affected by this setting.

The "Import audio" checkbox simply allows you to remove the audio track from the video. To remove the audio, deselect this checkbox.

While you change settings, you will notice that the details for the video are displayed in the lower-right corner of the dialog box. When you are finished selecting the compression options you want for your video, click the "OK" button and the compression process will begin. This can take a few minutes

Importing Video in MX (cont):

depending on the size and compression of the video and the speed of your computer.

      If you import to the Stage or try to place the video on the Stage and there are not enough frames in the current Timeline or the selected span in the Timeline, Flash will tell you how many frames are need for the movie. You will then have the option for Flash to insert the necessary number of frames or to ignore the suggestion.
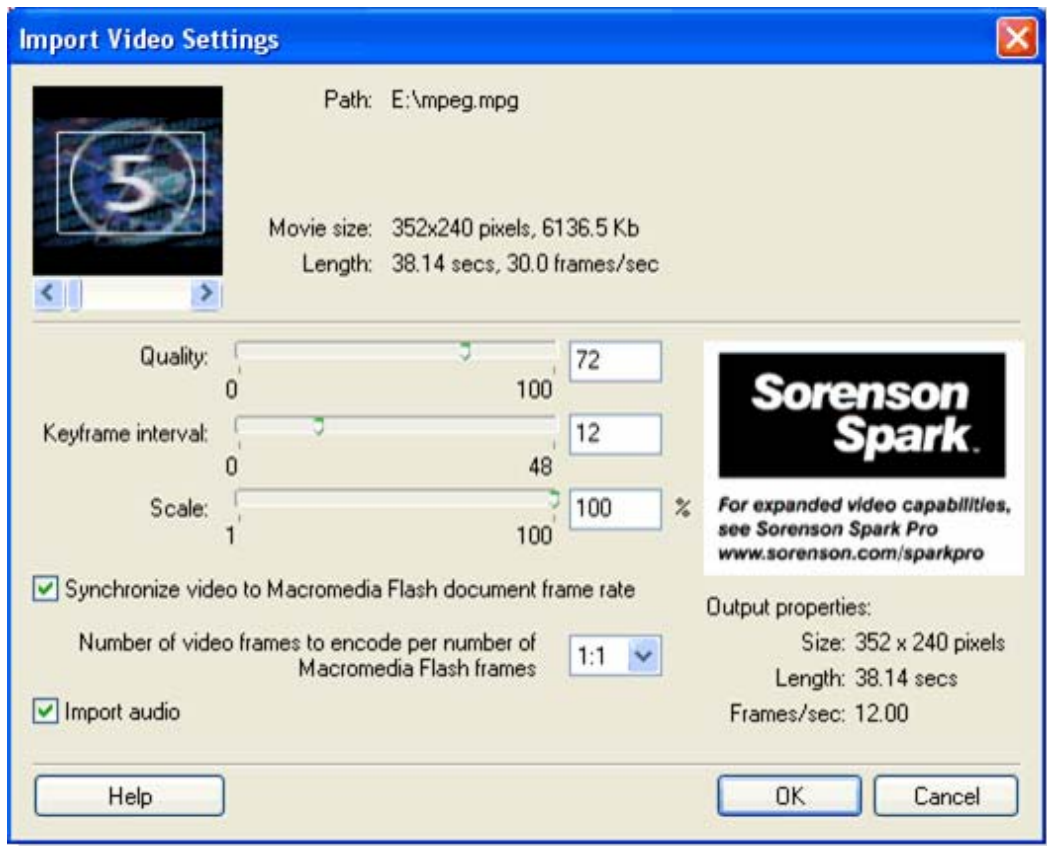
Importing Video in MX 2004:

Video files can be imported to the Document Library or directly to the Stage. When you import a movie, the first thing you see is the "Video Import Wizard." If you import a .mov file, the first screen of the wizard asks if you plan to embed the video or link to it so it will be played in QuickTime player. We will look at examining embedding the video in this lesson.

The first screen of the Wizard allows you to select whether you want to "Import the entire video" or "Edit the video first." The "Video Import Wizard" has the capabilities to perform minor video editing, such as creating and ordering clips from a video file, or removing part of the video and importing only the sections you want. If you select "Import the entire video," you will skip the editing page. If you select "Edit video first," you will be taken to the screen where you can edit the movie.

On the editing screen, you will notice that there is a preview pane with the video clip paused inside of it and an editing bar below that. On the editing bar there are "in point," "out point" and "current position" markers. The in and out point markers are gray and the position marker is yellow. Each of these can be dragged to create new clips from the movie file. Below the editing bar you will notice six small buttons and three large buttons. The smaller buttons are for movie control and editing. From the left, you can use these buttons to set an in point at the current position, reverse the movie one frame, play the movie, stop playback, advance the movie one frame, and set an out point at the current position. Once you have your in and out points set in the positions you want them, the three larger buttons come into play. You can click the "Preview clip" button to view the clip with the in and out points you have set, you can click the "Create clip" button to put the clip in the list at the left of the screen, and you can click the "Update clip" button if you have selected a clip from the list on the left and changed the in and out points.

Once you have created clips and they are in the list to the left of the screen, you can click any of them and use the down and up arrows to change the order in which they will play. Oddly, these buttons have been mislabeled. The down arrow says "Move clip up" and the up arrow says "Move clip down." At the lower-left corner of the wizard, you can select the "Combine list of clips into a single library item after import" checkbox if you want the video to remain as a single item in the Library panel.
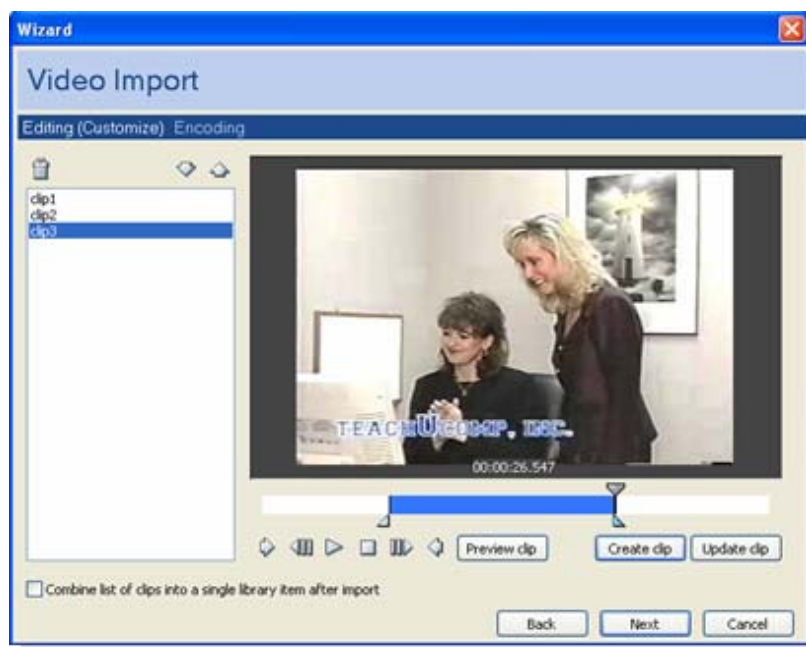
Importing Video in MX 2004 (cont):

The next screen of the Wizard offers options for the level of compression you want to apply as well as options for color and dimension modification. The "Compression profile" drop-down has several preset profiles to choose from, each based on expected connection speeds. In addition, you can select "Create new profile…" to set your own compression details. When this is selected, or when you select any of the other preset options and click the "Edit…" button, you are automatically taken to the next screen where you can control the amount of compression for the video based on expected bandwidth or desired quality.

To set the compression based on bandwidth, use the "Bandwidth:" slider bar. The range is from 0-750, with larger numbers creating higher quality video and larger file sizes.

To set the compression based on quality, use the "Quality:" slider bar. The range here is from 0-100, again with larger numbers creating higher quality video and larger file sizes.

Whether you use bandwidth or quality as your gauge, you can also set the keyframe interval with the "Keyframes:" slider bar. This setting defines how many frames in the Timeline will pass before a keyframe is inserted in the video. These keyframes are displayed when the processor of the computer being used to view the video cannot process all of the frames. A lower number here may provide for less choppy playback on slower computers, but setting it too low could cause slower computers to lock up while they try to process the video.

The "High quality keyframes" checkbox can be checked to make Flash create keyframes with consistent, high quality images. This setting works best when coupled with the "Bandwidth:" setting, as opposed to the "Quality:" setting and may result in slightly larger file size, but will improve the image quality.

The "Quick compress" checkbox can be checked to create a quick, rough draft, so to speak, of the video for use when creating mock layouts of Flash movies. This option should not be selected for video that will be part of the final product.

The "Synchronize to Macromedia Flash document frame rate" checkbox, when selected will cause the imported video and the Timeline to playback at synchronized frame rates. If the video has a much faster frame rate than you have set for your Timeline, however, frames will be cut or dropped from the video in order to keep it synchronized with the Timeline. This can cause the video to look choppy if too many frames are dropped. If this checkbox is deselected, each frame of the video will occupy one frame on the Timeline. Depending on the frame rate of the video and that of the Timeline, this can create a slow motion or fast motion effect. To create slow motion, set the frame rate of the Timeline slower than the frame rate of the video. You can reverse these settings to create a fast motion effect.

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You can use the preview and progress slider to the right of these options at any time while changing settings to see how the picture may look if those settings are applied. When you have finished with the settings on this screen, click the "Next" button to move on to the next screen. The "Save Settings" screen allows you to give this profile a new name and description for future use. If you change any of the default settings for one of the preset profiles, you should give it a new name so you can keep the preset profiles intact. When you have finished, click the "Next" button to go back to the "Encoding" options screen.

Importing Video in MX 2004 (cont):

        Below the "Compression profile" section there is an "Advanced settings" drop-down. This drop-down has no preset profiles by default, but you can create your own by selecting "Create new profile…." This will take you to the next screen where you can change the color, dimension and sound track settings.

        In the "Color" section, you can use the "Hue:," "Saturation:," "Brightness:," "Contrast:" and "Gamma:" slider bars to change the way the colors in the video display. Each of these sliders start in the middle and can go up or down. You can feel free to experiment with the settings because there is a "Reset" button in this section to put all of the sliders back to their default settings.

        In the "Dimensions" section you can change the height and width of the video display with the "Scale:" slider bar and use the four "Crop:" slider bars to trim the edges of the video.

        The "Track options" section has two drop-downs to define how the movie is stored in the Flash document. First, the "Import" drop-down has three options for how the video is held in the document: "Current timeline," "Movie clip" and "Graphic symbol." Selecting "Current timeline" will place the video in the active frame or symbol on the Stage. If you started the import process by selecting "Import to Library…," this option will simply be disregarded, as it will not have any impact on the video. Selecting "Movie clip" or "Graphic symbol" will create a new symbol of the selected type in the Document Library with the same name as the video file. When the video is imported as one of these symbol types, you can apply color changes, such as Alpha levels or Tints. The "Audio track:" drop-down has three options for how the sound will be imported and stored in the Document Library: "Separate," "Integrated" and "None." Selecting "Separate" will remove the sound from the video and create a new sound asset in the Library for it. Selecting "Integrated" will leave the sound track embedded within the video file. Selecting "None" will simply remove the sound track from the video and exclude it from the import process.
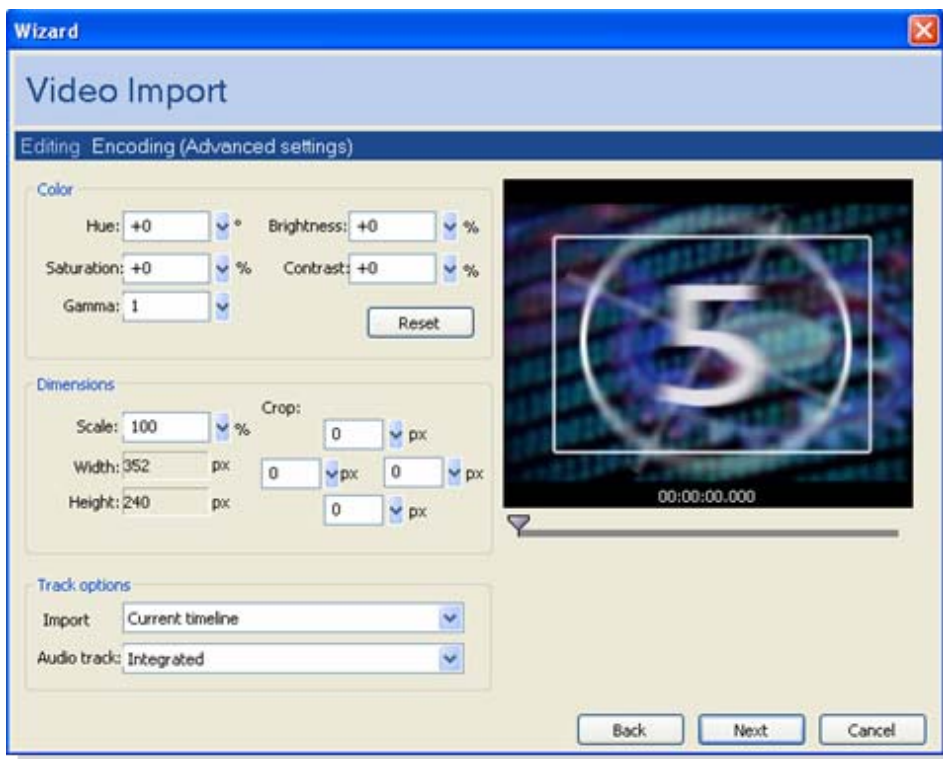
WORKING WITH VIDEO

Importing Video in 8:

The method of importing video in Flash 8 is very similar to importing video in Flash MX 2004. To import a video into the Library in Flash 8, you can simply select "File| Import| Import Video…" from the Menu Bar to begin the "Import Video" wizard. This will lead you the step-by-step process of importing linked or embedded video of various types.

The first screen of the wizard prompts you to select where your video file is located. You can either select "On your computer:" and then use the "Browse…" button to select the movie file, or you can select the "Already deployed to a web server, Flash Video Streaming Service, or Flash Communication Server:" option and then enter the URL address of the video. You then click the "Next>" button to continue.

In the "Deployment" screen, you select the option that you want for deployment of the video file that you have selected. If you select any of the first three streaming or progressive download options, then the next two screens that appear when you click the "Next>" button will ask you to select an interface (skin) for the playback component, and then show you a screen that tells you what steps you should take to finish. If you select the "Embed video in SWF and play in timeline" option, then when you click the "Next>" button to continue, you will be presented with the embedding options. Note that if you do choose to embed the movie file, which is generally not the recommended method, you will need to ensure that the embedded video has the same fps (frames per second) rate as the Flash application into which it will be embedded. If you select the "Linked QuickTime video for publishing to QuickTime option," then you will need to set those options when you click the "Next>" button. Once you have finished, just click the "Finish" button to import the video.

Controlling Video Playback:

As advanced and as high tech as embedded video may make your Flash movie look, the ability to control the playback with buttons will greatly enhance the effects of video and of your amazing ability to create rich, interactive content for your visitors and viewers. You might initially think that controlling the playback of a video or loading different videos would be a difficult and confusing task, but it is actually relatively simple. You can use Button symbols that you create or Button components from the components panel to control movies. Once you have the buttons placed on the Stage, simple ActionScript does the rest.

First, we are going to look at how to control video playback with Button symbols you create. Since the process of creating and customizing Button symbols was covered in an earlier lesson, that knowledge will be assumed here. We will also assume, for this example, that you want to have a button to pause the video and another to resume playback. Once your two buttons are created, you must add the ActionScript to them that will control the video. To cause the video to pause during playback, you would click the appropriate button on the Stage to select it and enter the following code into the Actions panel:

```
• on (release) {
      stop();
  }
```

To cause the video to resume playback, you would click the appropriate button on the Stage to select it and enter the following code into the Actions panel:

```
• on (release) {
      play();
  }
```

WORKING WITH VIDEO

Controlling Video Playback (cont):

The Button components use slightly different ActionScript to control the movie playback. Instead of selecting the button first and then inserting code into the Actions panel, you must give each of the buttons a unique instance name and apply the ActionScript to the frame in which they reside, rather than to the buttons themselves. In addition, the code must first reference the instance name of the component, then tell that instance what to do. For example, you could name the buttons "play_btn" and "pause_btn" and insert the following code into the Actions panel for the frame in which they reside;

```
• play_btn.onRelease = function() {
      play();
  }
  pause_btn.onRelease = function() {
      stop();
  }
```

You can see how this code is somewhat different than the code used for Button symbols. Try to keep this in mind when working with ActionScript to save yourself some headaches.

Using the Loader Component:

Flash 8 and MX 2004 have a component you can use to display video. This is the "Loader" component. The Loader component can load external SWF and JPEG files the same way you load an SWF file into a Movie Clip symbol. With the Loader component, however, you set the size of the content to be displayed with the size of the Loader itself, where as Movie Clip symbols are simply replaced by the SWF as we learned in an earlier lesson. To use the Loader component, first place an instance of it on the Stage. Then, in the Properties inspector, on the "Parameters" tab, you have three settings.

The "autoLoad" setting is a Boolean setting that controls whether the SWF should load automatically (true) or wait for ActionScript to call the movie to load (false). The default setting is "true."

The "contentPath" field is a string field where you enter the URL of the SWF to be loaded. This can be a relative or absolute URL.

The "scaleContent" setting is a Boolean setting that controls whether the content in the Loader should scale to fit the size of the Loader on the Stage (true) or retain its original size (false). The default setting is "true."

Once you have the parameters set for the component, you can insert buttons to load other SWFs using ActionScript. If you want to do something like this, each button must have its own ActionScript and each must load a different SWF but they can all use the same Loader instance. The ActionScript to add to the buttons is as follows, with "loaderInstanceName" and "filename" replaced with your own information:

```
• on (release) {
      loaderInstanceName.loadMovie("filename.swf", 0);
  }
```

Unfortunately, the movie control techniques discussed earlier in this lesson cannot be applied to Loader components. Once an SWF loads into this component, it plays all of the way through until it is finished, another SWF is loaded into it, or the it is unloaded with ActionScript.

Using Video Components- 8 Pro and MX Pro 2004 Only:

Flash 8 and MX Pro 2004 have a group of Media Components that make displaying video and playing music and other sounds not only easy, but very sharp looking. These are the "MediaPlayback," "MediaDisplay" and "MediaController" components. Each of these components has the new "Halo" theme and design applied to them to give your movie a very modern look, and each of them is configured using the Component Inspector.

The Media components are tools users can utilize to present quality media with a professional design while saving on file size and without having to design the playback utility themselves. Though these new components create versatility in Flash movies, they are still limited in their abilities and require that you take specific steps before you can use them. The "MediaDisplay" and "MediaPlayback" components can play either Flash Video (FLV) files or MP3 sound files. In addition, these components require that you link to the files rather than embed them in the FLA. Creating an FLV file to use with these components is quite simple, once you have imported the video to the Document Library.

To create an FLV to use with a video component, right-click the desired embedded video asset in the Library panel and select "Properties…" from the contextual menu. This will open the "Embedded Video Properties" dialog box. Here, simply click the "Export…" button. When you do this, you will see the "Export FLV" dialog box where you can name the FLV and select a location on your local or network hard drive. Make sure you are saving this file to the same folder as the rest of your Flash content for ease of linking and use.

Once you have an FLV to work with you can use one of the video components. The MediaDisplay and MediaPlayback components are both set up the same way, but the MediaPlayback component has visible movie controls. To use either of these, place an instance of the desired component on the Stage and open the Component Inspector. This can be found by selecting "Window| Component Inspector" from the Menu Bar in Flash 8 Pro or by selecting "Window| Development Panels| Component Inspector" from the Menu Bar in Flash MX 2004 Pro.

When this is open, select the "Parameters" tab, if it is not already selected. On this tab, you must first select whether the component will be used to load an FLV or an MP3. If you select to load an FLV, you can then specify the length of the video in the "Video Length" fields in terms of frames or milliseconds. By default, the fields are set to frames. When entering the length of the video in frames, you can set the frame rate by selecting an option from the "FPS" drop-down. To enter the video length in milliseconds, put a checkmark in the "Milliseconds" checkbox. If you select to load an MP3, these options are not available. Whether you select to load an FLV or an MP3, you must enter the URL of the media in the "URL" field as a relative or absolute reference. Below the "URL" field you can set the media to "Automatically Play" and if loading an FLV to "Use Preferred Media Size" and "Respect Aspect Ratio" by selecting or deselecting the respective checkboxes. Since every video is potentially different, the second two options should be experimented with to determine their effects on the video during playback. Then, if you are using the MediaPlayback component, you can select where the controls will be placed in the "Control Placement:" section and whether they are visible in the "Control Visibility:" section. Selecting "On" will cause the controls and progress bar to remain visible. Selecting "Off" will cause the controls to disappear but leave a progress bar. Selecting "Auto" will cause the controls to be invisible by default, but will appear when the visitor rolls over them with the mouse. At the bottom of the Parameters tab you can set cue points for the media to use with ActionScript. These cue points can cause events to be triggered or simply be used as a monitoring device. The ActionScript involved with using the cue points is beyond the scope of this lesson, as it can become quite extensive and requires a moderate level of previous knowledge to grasp the concepts. To add a cue point, click the "+" sign button, enter a name for the cue point, and then enter the time at which you want the point to be inserted.

Using Video Components- 8 Pro and MX Pro 2004 Only (cont):

The MediaController component can be used in conjunction with the MediaDisplay component to give more versatility as to where the display and controls are located. For example, you could place the MediaDisplay component in the upper-right corner of the Stage with the controls in the lower-left corner. When you want to use the MediaController with the MediaDisplay component, you must either enter ActionScript or use the Behaviors panel to tell the MediaController which MediaDisplay to control, or to tell which a MediaDisplay which MediaController to listen to. You can create this link in either direction, but it is not necessary to do both. To use ActionScript, place an instance of each of the components on the Stage and give them instance names. Then, deselect all objects on the Stage, open the Actions panel and enter the following script, replacing "controllerInstanceName" and "displayInstanceName" with your real instance names:

- controllerInstanceName.associateDisplay(displayInstanceName);
or
- displayInstanceName.associateController(controllerInstanceName);

To use the Behaviors panel to achieve the same results, select the MediaDisplay instance on the Stage after giving both components instance names. Then, click the "Add Behavior" button in the Behaviors panel and select "Media| Associate Controller" from the menu. Then, in the "Associate Controller" dialog box, select the MediaController with the instance name you want to associate with the selected MediaDisplay. When you are done, click the "OK" button. As always, test the movie to see if you have set the components up correctly.
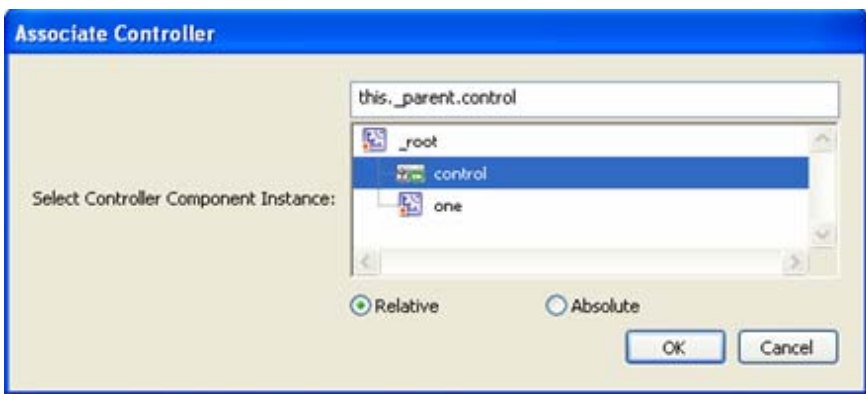
ACTIONS-
WORKING WITH VIDEO

IMPORTING VIDEO IN MX:

1. Select "File| Import…" or "File| Import to Library…" from the Menu Bar.
2. If you import a .mov file, select "Embed video in Macromedia Flash document" from the dialog box that appears.
3. In the "Import Video Settings" dialog box, use the "Quality:" slider to set a value from 0-100 to control how much the video will be compressed in quality.
4. Use the "Keyframe interval:" slider set the rate at which keyframes are inserted in the video file, ranging from each 0-48 frames.
5. Use the "Scale:" slider to reduce the size of the video, if desired. This slider ranges from 0-100 and is a percentage of the original size.
6. Select or deselect the "Synchronize video to Macromedia Flash document frame rate" checkbox to control whether or not the imported video and the Timeline will have synchronized frame rates.
7. From the "Number of video frames to encode per number of Macromedia Flash frames" drop-down, set the number of frames of the original video to encode per frame of the Timeline.
8. Deselect the "Import audio" checkbox to remove the audio track from the video, if desired.
9. Click "OK."

IMPORTING AN ENTIRE VIDEO IN MX 2004:

1. Select "File| Import| Import to Stage…" or "File| Import| Import to Library…" from the Menu Bar.
2. If you import a .mov file, select "Embed video in Macromedia Flash document" from the first screen of the "Import Video" wizard and then click the "Next" button.
3. Select "Import the entire video" on the next screen of the Wizard and click the "Next" button.
4. Select a preset setting from the "Compression profile" drop-down or select "Create new profile…" from the drop-down.
5. If you select "Create new profile…," use the "Bandwidth:" slider to set the compression based on bandwidth. The range is from 0-750.
6. Use the "Quality:" slider bar to set the compression based on quality. The range here is from 0-100.
7. Set the keyframe interval with the "Keyframes:" slider bar.
8. Select the "High quality keyframes" checkbox to make Flash create keyframes with consistent, high quality images, if desired. This setting works best when coupled with the "Bandwidth:" setting
9. Select the "Quick compress" checkbox to create a quick rough draft of the video for use when creating mock layouts of Flash movies, if desired. This option should not be selected for video that will be part of the final product.
10. Check the "Synchronize to Macromedia Flash document frame rate" checkbox to cause the imported video and the Timeline to playback at synchronized frame rates, if desired.
11. From the "Number of video frames to encode per number of Macromedia Flash frames" drop-down, set the number of frames from the imported video to be processed per frame of the Timeline.
12. Click the "Next" button.
13. Enter a name and description for the new compression profile and click the "Next" button.
14. Select an option from the "Advanced settings" drop-down.
15. If you select "Create new profile…," use the sliders in the "Color" section to modify the "Hue:," "Saturation:," "Brightness:," "Contrast:" and "Gamma:" settings of the video, if desired.

(cont.)

<u>IMPORTING AN ENTIRE VIDEO IN MX 2004 (CONT.):</u>

16. Use the sliders in the "Dimensions" section to "Scale:" and "Crop:" the video, if desired.
17. In the "Track options" section, select an option from the "Import" drop-down: "Current timeline," "Movie clip" or "Graphic symbol."
18. Select an option from the "Audio track:" drop-down: "Separate," "Integrated" or "None."
19. Click the "Next" button.
20. Give the new profile a name and description and click the "Next" button.
21. Click "Finish" to begin importing the video.
22. When it has finished compressing the video, if you selected to import the video to the Stage, Flash may find that there are not enough frames on the Timeline or in the current symbol for the entire video to fit. If this is the case, it will tell you the total number needed and ask if you want frames automatically inserted in order to fit the video. Click "Yes" to insert the necessary frames. If you selected to import the video to the Document Library, you must place an instance of the video in the frame in which you want it to start. If there are not enough frames in the Timeline you will see the dialog box asking if you want frames inserted.

<u>EDITING VIDEO DURING IMPORT IN MX 2004:</u>

1. Select "File| Import| Import to Stage…" or "File| Import| Import to Library…" from the Menu Bar.
2. If you import a .mov file, select "Embed video in Macromedia Flash document" from the first screen of the "Import Video" wizard and click the "Next" button.
3. Select "Edit the video first" on the next screen of the wizard and click the "Next" button.
4. To use the gray in and out point markers, click and drag them to the points at which you want the clip to start and stop.
5. Click the "Preview Clip" button to preview the clip with the new in and out points, if desired.
6. Click the "Create Clip" button to add the clip to the list of clips at the left of the Wizard window.
7. Repeat Steps 5-6 as necessary to create the clips desired.
8. To use the current position marker, click and drag it to where you want the clip to start and then click the "Set in point to current position" button.
9. Click and drag the current position marker to the point at which you want the clip to end and then click the "Set out point to current position" button.
10. Repeat Steps 5-6.
11. Repeat Steps 8-10 as necessary to create the clips desired.
12. Select a clip in the window at the left of the wizard window and click the up and down arrow buttons as necessary to change the order of the clips, if desired.
13. To edit a clip's in and out points, select it in the list at the left, modify the in and out point markers and click the "Update clip" button.
14. To rearrange the order of the clips, click any of them in the list at the left of the window and click the down and up arrow buttons.
15. Select the "Combine list of clips into a single library item after import" checkbox if you want the video to remain as a single item in the Library panel.
16. Click the "Next" button.

(cont.)

ACTIONS-
WORKING WITH VIDEO

EDITING VIDEO DURING IMPORT IN MX 2004:

17. Select a preset setting from the "Compression profile" drop-down or select "Create new profile…" from the drop-down.
18. If you select "Create new profile…," use the "Bandwidth:" slider to set the compression based on bandwidth. The range is from 0-750.
19. Use the "Quality:" slider bar to set the compression based on quality. The range here is from 0-100.
20. Set the keyframe interval with the "Keyframes:" slider bar.
21. Select the "High quality keyframes" checkbox to make Flash create keyframes with consistent, high quality images, if desired. This setting works best when coupled with the "Bandwidth:" setting
22. Select the "Quick compress" checkbox to create a quick rough draft of the video for use when creating mock layouts of Flash movies, if desired. This option should not be selected for video that will be part of the final product.
23. Check the "Synchronize to Macromedia Flash document frame rate" checkbox to cause the imported video and the Timeline to playback at synchronized frame rates, if desired.
24. From the "Number of video frames to encode per number of Macromedia Flash frames" drop-down, set the number of frames from the imported video to be processed per frame of the Timeline.
25. Click the "Next" button.
26. Enter a name and description for the new compression profile and click the "Next" button.
27. Select an option from the "Advanced settings" drop-down.
28. If you select "Create new profile…," use the sliders in the "Color" section to modify the "Hue:," "Saturation:," "Brightness:," "Contrast:" and "Gamma:" settings of the video, if desired.
29. Use the sliders in the "Dimensions" section to "Scale:" and "Crop:" the video, if desired.
30. In the "Track options" section, select an option from the "Import" drop-down: "Current timeline," "Movie clip" or "Graphic symbol."
31. Select an option from the "Audio track:" drop-down: "Separate," "Integrated" or "None."
32. Click the "Next" button.
33. Give the new profile a name and description and click the "Next" button.
34. Click "Finish" to begin importing the video.
35. When it has finished compressing the video, if you selected to import the video to the Stage, Flash may find that there are not enough frames on the Timeline or in the current symbol for the entire video to fit. If this is the case, it will tell you the total number needed and ask if you want frames automatically inserted in order to fit the video. Click "Yes" to insert the necessary frames. If you selected to import the video to the Document Library, you must place an instance of the video in the frame in which you want it to start. If there are not enough frames in the Timeline you will see the dialog box asking if you want frames inserted.

ACTIONS-
WORKING WITH VIDEO

IMPORTING VIDEO IN FLASH 8:

1. Select "File| Import| Import Video…" from the Menu Bar.
2. In the "Import Video" wizard, select where your video file is located. You can either select "On your computer:" and then use the "Browse…" button to select the movie file, or you can select the "Already deployed to a web server, Flash Video Streaming Service, or Flash Communication Server:" option and then enter the URL address of the video.
3. Click the "Next>" button to continue.
4. In the "Deployment" screen, select the option that you want for deployment of the video file that you have selected. If you select any of the first three streaming or progressive download options, then the next two screens that appear when you click the "Next>" button will ask you to select an interface (skin) for the playback component, and then show you a screen that tells you what steps you should take to finish.

OR

4. If you select the "Embed video in SWF and play in timeline" option, then when you click the "Next>" button to continue, you will be presented with the embedding options. Note that if you do choose to embed the movie file, which is generally not the recommended method, you will need to ensure that the embedded video has the same fps (frames per second) rate as the Flash application into which it will be embedded.

OR

4. If you select the "Linked QuickTime video for publishing to QuickTime option," then you will need to ensure that you change your publish settings and other options when you click the "Next>" button.

5. Once you have finished, just click the "Finish" button to import the video.

PAUSING EMBEDDED VIDEO WITH BUTTON SYMBOLS:

1. Create a Button symbol to pause the video and place it on the Stage.
2. Select the button on the Stage and enter the following code into the Actions panel:

```
• on (release) {
    stop();
}
```

RESUMING PLAYBACK OF EMBEDDED VIDEO WITH BUTTON SYMBOLS:

1. Create a Button symbol to play the video and place it on the Stage.
2. Select the button on the Stage and enter the following code into the Actions panel:

```
• on (release) {
    play();
}
```

ACTIONS-
WORKING WITH VIDEO

CONTROLLING EMBEDDED VIDEO PLAYBACK WITH BUTTON COMPONENTS:

1. Place two instances of the Button component on the Stage.
2. Give them unique instance names.
3. Deselect them both and enter the following ActionScript into the Actions panel, replacing "play_btn" and "pause_btn" with the instance names of your buttons:

```
•  play_btn.onRelease = function() {
       play();
   }
   pause_btn.onRelease = function() {
       stop();
   }
```

LINKING TO EXTERNAL .MOV VIDEO FILES (MX AND MX 2004):

1. Import the .mov file and select "Link to external video file" in the "Import Video" wizard.
2. Click the "Next" button.
3. Place an instance of the video on the Stage just as you would if you were using an embedded video.
4. Select "File| Publish Settings…" from the Menu Bar.
5. On the "Formats" tab, select the "QuickTime (.mov)" checkbox and, if desired, enter a different name for the .mov file to be created.
6. Click the "Flash" tab and select "Flash Player 4" from the "Version:" drop-down.
7. Click the "QuickTime" tab to select options for how the movie should appear within the QuickTime Player.
8. Set the desired dimensions of the movie or leave the "Match movie" checkbox selected to make the player automatically match the size of your Stage.
9. To change the "Alpha:" and "Layer:" settings or the "Streaming sound:" setting, refer to the help section in your QuickTime authoring software, as these settings effect the way Flash media interacts with other content in the QuickTime movie.
10. From the "Controller:" drop-down, select a setting for how you want the movie control buttons to display: "None," "Standard" or "QuickTime VR."
11. Select a "Playback:" option for the movie if you want it to do something other than the default, which is to play as a normal movie as soon as it loads: "Loop:," "Paused at start:" and "Play every frame."
12. Select the "Flatten" checkbox to make all of the video and audio tracks in the movie compress to one track, keeping the file self-contained, as opposed to creating separate video and audio files, if desired.
13. Click "OK."

NOTE: For more information on options and settings for QuickTime, refer to the QuickTime documentation associated with the player or authoring software installed on your computer.

ACTIONS-
WORKING WITH VIDEO

USING THE LOADER COMPONENT TO DISPLAY SWFs:

1. Place an instance of the Loader component on the Stage.
2. Select the "Parameters" tab in the Properties inspector if it is not already selected.
3. Select an option from the "autoLoad" drop-down to define whether the component will load and play a video automatically, or if it will wait for ActionScript to call the command: "true" or "false."
4. Enter the URL to the SWF into the "contentPath" field. This can be a relative or absolute URL.
5. Select an option from the "scaleContent" drop-down to control whether the content in the Loader should scale to fit the size of the Loader on the Stage (true) or retain its original size (false).

USING BUTTONS TO SWAP VIDEOS IN A SINGLE LOADER COMPONENT:

1. Once you have the parameters set for the component, insert a button for each SWF you want to load and give each an instance name.
2. Select the first button and insert the following ActionScript into the Actions panel, with "loaderInstanceName" and "filename" replaced with your own information:

   - on (release) {
        loaderInstanceName.loadMovie("filename.swf", 0);
     }

3. Repeat Step 2 for each of the buttons, making sure to specify a different SWF for each button.

EXPORTING VIDEO AS AN FLV:

1. Right-click the video file in the Library panel you want to export as an FLV and select "Properties…" from the contextual menu.
2. Click the "Export…" button in the "Embedded Video Properties" dialog box.
3. Select a location to save the FLV, probably the folder where all of you Flash content is stored, and give the file a name.
4. Click "Save."

USING THE MEDIAPLAYBACK COMPONENT (FLASH 8 PRO AND MX PRO 2004 ONLY):

1. Place an instance of the MediaPlayback component on the Stage.
2. Open the Component Inspector by selecting "Window| Component Inspector" from the Menu Bar in Flash 8 Pro or by selecting "Window| Development Panels| Component Inspector" from the Menu Bar in Flash MX 2004 Pro.
3. Select the "Parameters" tab if it is not already selected.
4. Select whether the component will be used to load an FLV or an MP3.
5. If you select to load an FLV, you can then specify the length of the video in the "Video Length" fields in terms of frames or milliseconds. When entering the length of the video in frames, set the frame rate by selecting an option from the "FPS" drop-down. To enter the video length in milliseconds, put a checkmark in the "Milliseconds" checkbox.
(cont.)

ACTIONS-
WORKING WITH VIDEO

USING THE MEDIAPLAYBACK COMPONENT (FLASH 8 PRO AND MX PRO 2004 ONLY)- CONT.:

6. Enter the URL of the media in the "URL" field as a relative or absolute reference.
7. Select the desired playback options below the "URL" field: "Automatically Play" and if loading an FLV,
   "Use Preferred Media Size" and "Respect Aspect Ratio."
8. Select where the controls will be placed in the "Control Placement:" section.
9. Select an option for the controls in the "Control Visibility:" section.
10. To add a cue point, click the "+" sign button, enter a name for the cue point, and then enter the time at
    which you want the point to be inserted.

USING THE MEDIADISPLAY COMPONENT (FLASH 8 PRO AND MX PRO 2004 ONLY):

1. Place an instance of the MediaDisplay component on the Stage.
2. Open the Component Inspector by selecting "Window| Component Inspector" from the Menu Bar in Flash
   8 Pro or by selecting "Window| Development Panels| Component Inspector" from the Menu Bar in Flash
   MX 2004 Pro.
3. Select the "Parameters" tab if it is not already selected.
4. Select whether the component will be used to load an FLV or an MP3.
5. If you select to load an FLV, you can then specify the length of the video in the "Video Length" fields in
   terms of frames or milliseconds. When entering the length of the video in frames, set the frame rate by
   selecting an option from the "FPS" drop-down. To enter the video length in milliseconds, put a checkmark
   in the "Milliseconds" checkbox.
6. Enter the URL of the media in the "URL" field as a relative or absolute reference.
7. Select the desired playback options below the "URL" field: "Automatically Play" and if loading an FLV,
   "Use Preferred Media Size" and "Respect Aspect Ratio."
8. To add a cue point, click the "+" sign button, enter a name for the cue point, and then enter the time at
   which you want the point to be inserted.

USING THE MEDIACONTROLLER COMPONENT (FLASH 8 PRO AND MX PRO 2004 ONLY):

1. Place an instance of the MediaDisplay component on the Stage, give it an instance name and follow the
   directions for setting the parameters in the previous "Action" item.
2. Place an instance of the MediaController and give it an instance name.
3. Deselect all objects on the Stage, open the Actions panel and enter the following script, replacing
   "controllerInstanceName" and "displayInstanceName" with your real instance names:

   • controllerInstanceName.associateDisplay(displayInstanceName);
   or
   • displayInstanceName.associateController(controllerInstanceName);

OR

3. Select the MediaDisplay instance on the Stage and click the "Add Behavior" button in the Behaviors
   panel and select "Media| Associate Controller" from the menu.
4. In the "Associate Controller" dialog box, select the MediaController with the instance name you want to
   associate with the selected MediaDisplay.
5. Click "OK."

EXERCISES:
WORKING WITH VIDEO

Purpose:

1.	There are no exercises for this lesson.

Exercises:

1.	There are no exercises for this lesson.