

Talking Kiosk Interface

You were hired to create an animated introduction for a shopping mall information kiosk. The Animate-based animation must feature a character who offers shoppers assistance in finding various facilities. Each button should also offer audio instructions that explain the link's purpose. As part of the Animate development team, your job is to prepare the interface artwork that will be handed off to the programmer, who will script the interactivity.

This project incorporates the following skills:

- Importing and managing artwork from Adobe Illustrator
- Using the Library panel to manage a complex file
- Building a frame-by-frame animation
- Editing various button states
- Importing sound files into Animate
- Adding event and stream sounds to the Animate timeline
- Controlling volume and duration of sound
- Applying built-in sound effects
- Synchronizing sound to animation
- Defining sound compression settings



Project Meeting

client comments

Throughout the facility grounds, we are replacing all of the static "You Are Here" maps with interactive kiosks that will help users more quickly find the shops they are looking for.

I'd like the interface to be personal — a person actually talking to the user. We thought about the video route, but I'm convinced an animated character would be better (plus we won't have to pay an actor to use her image).

The interface should provide a link to four different categories of shops: Shoes & Apparel, Home Furnishings, Music & Electronics, and Casual & Fine Dining. We might break it down into more specific categories later, but the important point for now is to get the first version of this thing into use quickly.

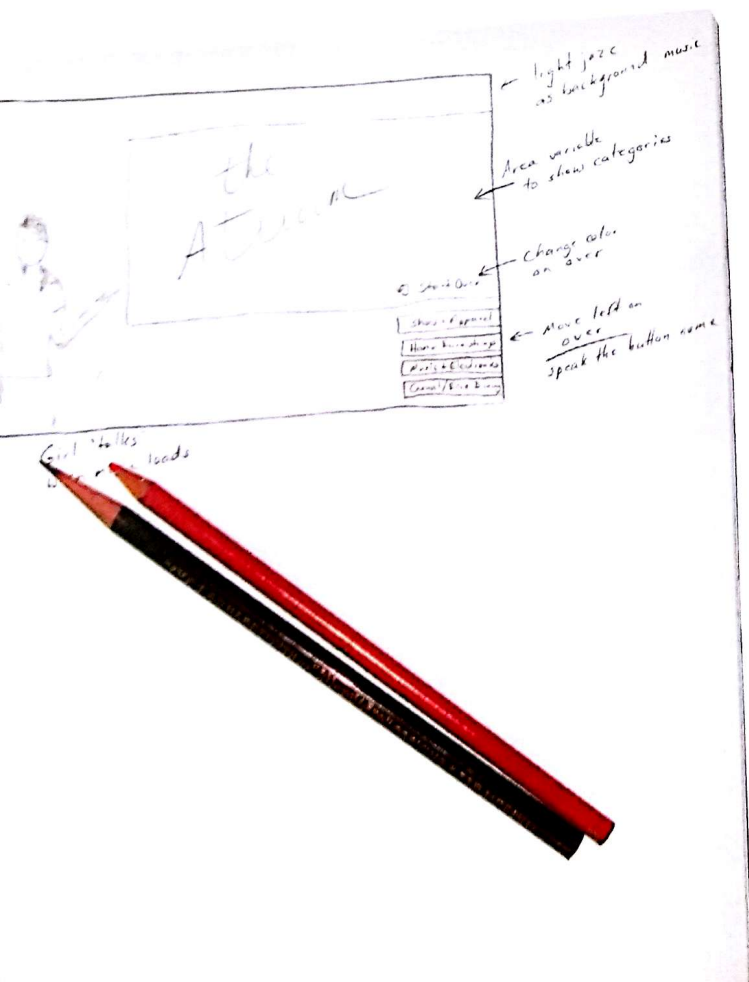
art director comments

I already had all of the kiosk components created. I need you to assemble everything in Animate and prepare the various elements for the programmer, who will create all of the necessary code and links.

The artwork was created in Adobe Illustrator. Our illustrator is fairly knowledgeable about Animate requirements, so you should be able to import the artwork without too many problems. He even created the basic appearance of the navigation buttons, so you'll just need to modify those rather than create them from scratch.

When I reviewed the sound files, it seemed like the background music was very loud compared to the spoken intro. You should fix the music so that the talking is audible above the background.

The lip-syncing part of the interface requires some careful attention to detail, but overall, it isn't a difficult job. Just take your time and try to make the mouths follow the words.



project objectives

To complete this project, you will:

- Create symbols from imported Illustrator files
- Place and manage instances of symbols on the Stage
- Control timing using keyframes
- Add visual interactivity to button symbols
- Import sound files into Animate
- Add event and stream sounds to a movie
- Use the start and stop sync methods for button sounds
- Edit a sound envelope to control volume and duration
- Swap graphics at precise moments in time
- Define sound compression settings

Stage 1 Working with Symbols

Although Animate can be used to create extraordinary interactive content, the program can also create extremely large files that take a very long time to download. (The size of a file is often referred to as a file's **weight**.) Users will not wait for more than a few seconds to download a file, so you should always try to keep file weight to a minimum — and that's where symbols come into play.

Symbols are objects that can be used repeatedly without increasing file size.

The original symbol resides in the Library panel; **symbol instances** are copies of the symbol that you place onto the Stage. Although a regular graphic object adds to the overall file weight every time you use it on the Stage, a symbol counts only once no matter how many times you use it — which can mean dramatically smaller file sizes.

As another benefit, changes made to the content of an original symbol reflect in every placed instance of that symbol. For example, if you have placed 40 instances of a bird symbol, you can simultaneously change all 40 birds from blue jays to cardinals by changing the primary symbol in the Library panel.

A third benefit of symbols is that you can name placed instances, which means those instances can be targeted and affected by programming — one of the keys to animation and interactive development.

Note:

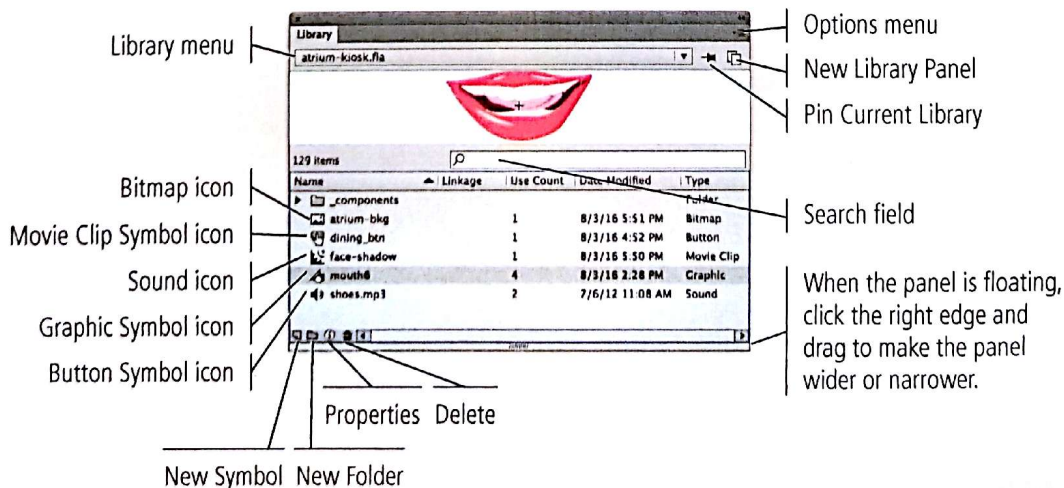
There are three primary types of symbols — graphic, movie clip, and button — and a number of other types of assets, such as audio and video files. In Animate, all of these assets are automatically stored in the Library panel.

The Library Panel in Depth

ANIMATE FOUNDATIONS

Assets in Animate are stored in the Library panel. Additional information about each asset is listed on the right side of the panel, including the name by which an asset can be called using a script (Linkage), the number of instances in the current file (Use Count), the date the asset was last modified (Date Modified), and the type of asset (Type). To show the additional information, you can either make the panel wider or use the scroll bar at the bottom of the panel. In addition to storing and organizing assets, the Library panel has a number of other uses:

- Each type of asset is identified by a unique icon. Double-clicking a symbol icon enters into Symbol-Editing mode, where you can modify the symbol on its own Stage. Double-clicking a non-symbol icon (sounds, bitmaps, etc.) opens the Properties dialog box for that file.
- You can use the Library menu to switch between the libraries of currently open files.
- The Preview pane shows the selected asset. If the asset includes animation, video, or sound, you can use the Play and Stop buttons to preview the file in the panel. (The Stage background color appears in the Preview pane; if you can't see the Play button, move your mouse over the area of the button to reveal it.)
- If a file has a large number of assets (which is common), you can use the Search field to find assets by name.
- Clicking the Pin button to the right of the Library menu attaches the current library to the open Animate file.
- Clicking the New Library Panel button opens a new version of the Library panel, which allows you to view multiple libraries at one time.
- Clicking the New Symbol button opens the Create New Symbol dialog box, where you can define the name and type of the new symbol you want to create.
- Clicking the New Folder button adds a new folder in the current file's library.
- Clicking the Properties button opens a dialog box that shows information about the selected library asset.
- Clicking Delete removes an asset from the library. Placed instances of that symbol are deleted from the file.



CREATE A NEW ANIMATE FILE

When you begin a new Animate project, the first step (obviously) is to create a new file. You can use the options in Welcome Screen to create new files using the default settings, or choose File>New to define a new file using the New Document dialog box.

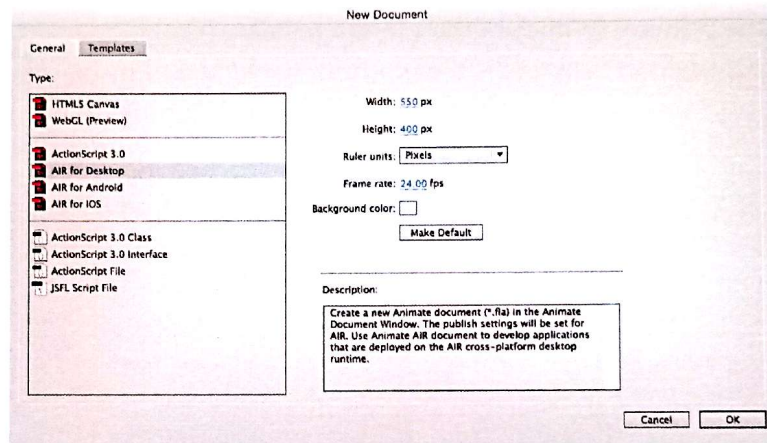
1. Download **Atrium_ANCC17_RF.zip** from the **Student Files Web page**.
2. Expand the ZIP archive in your **WIP folder (Macintosh)** or copy the archive contents into your **WIP folder (Windows)**.

This results in a folder named **Atrium**, which contains the files you need for this project. You should also use this folder to save the files you create in this project.

3. In Animate, choose **File>New**. Choose the **AIR for Desktop** option in the **Type list**.

The Type pane lists the types of documents you can create in Animate. You are creating this file to be a standalone app on a self-contained computer system.

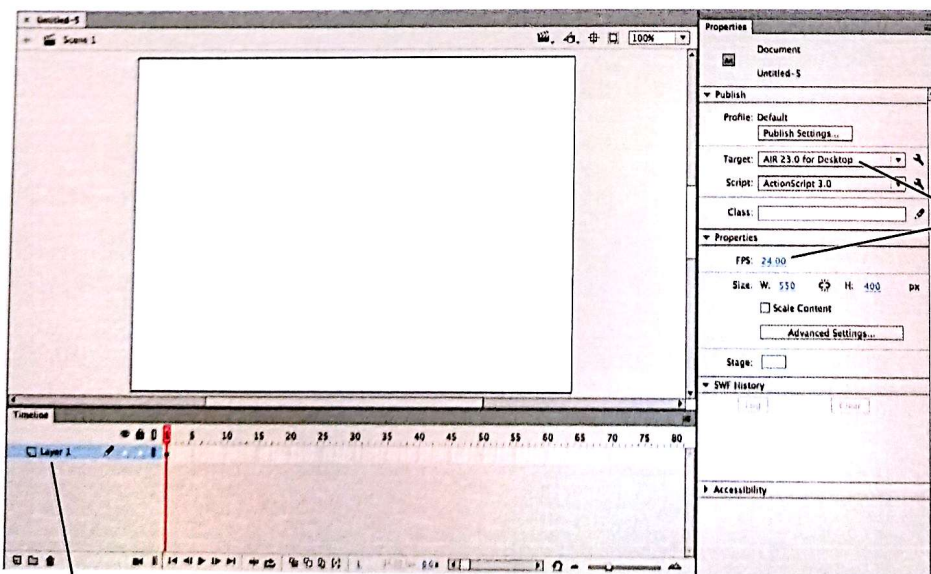
You can use the options on the right side of the dialog box to define the Stage size, units of measurement, frame rate, and background color of the Stage.



4. Click **OK** to create the new file.

When you create a new file, the new Stage appears in the document window. The Stage color is determined by the Background color defined in the New Document dialog box (white by default). Every file includes one default layer, named "Layer 1," in the timeline.

When nothing is selected on the Stage, the Properties panel shows a number of file-specific options, including the target device, type of script being used, and frame rate.



File-specific options are available in the Properties panel when nothing is selected on the Stage.

The new file has a single layer, named Layer 1 by default.

5. Choose **File>Save**. Navigate to your **WIP>Atrium** folder as the target location, then change the **Save As** field to **atrium-kiosk fla**. Click **Save** to save the file.

The File Format menu defaults to Animate Document (*.fla). This option creates a native Animate file, which you can open and edit in Animate as necessary. When you have finished your work, you can export the Animate file to another format that will present the animation on digital media.



Note:

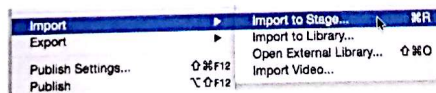
In this project, you will use the Tools, Properties, Library, Align, and Timeline panels. You should arrange your workspace to best suit your personal preferences.

6. Continue to the next exercise.

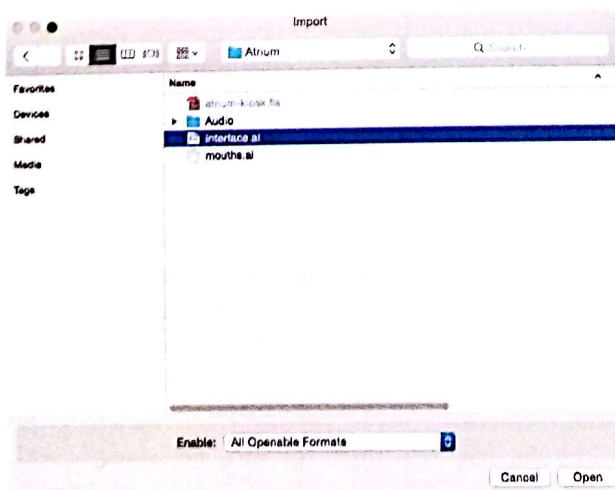
IMPORT ADOBE ILLUSTRATOR ARTWORK

You can use the built-in Animate tools to draw complex custom artwork. In many cases, however, your work in Animate will incorporate files that were created in other applications. For example, illustrations and other vector graphics for animation are typically created in Adobe Illustrator. This project incorporates a number of external files, which you need to import into your Animate file.

1. With **atrium-kiosk fla** open, choose **File>Import>Import to Stage**.



2. At the bottom of the dialog box, choose **All Openable Formats** in the **Enable** menu. Navigate to **interface.ai** in the **WIP>Atrium** folder, and click **Open**.



Note:

*Learn more about Adobe Illustrator in the companion book of this series, **Adobe Illustrator CC: The Professional Portfolio**.*

3. If the button at the bottom of the Import to Stage dialog box shows “Hide Advanced Options,” click that button to show only the basic import options.

When advanced options are visible, you can review the individual layers (and their contents) that will be imported in the Illustrator file. You are importing the entire file in this project, so you don't need to examine each layer and sublayer.

The **Artboard** menu lists all artboards that exist in the Illustrator file you are importing. (An Illustrator artboard is the equivalent of the Animate Stage; it defines the visible area in the final artwork.)

The **Layer Conversion** options determine whether Illustrator objects will be editable after being imported into Animate.

- Maintain Editable Paths and Effects option means you can use the Animate Subselection tool to manipulate the anchor points and handles on the imported paths.
- If you select the Single Flattened Bitmap option, you will not be able to edit the vector paths within Animate.

The **Text Conversion** options determine whether text objects in Illustrator will be editable with the Animate Text tool.

- Editable Text, selected by default, imports text objects that you can edit using the Animate Text tool.
- If you choose Vector Outlines, text objects import as a group of vector shapes; you can't edit the text in these objects (other than manipulating the vector paths).
- If you choose Flattened Bitmap Image, text objects import as raster objects that cannot be edited with either the Text tool or the Subselection tool.

The **Convert Layers To** options determine how layers in the Illustrator file are managed in the Animate timeline.

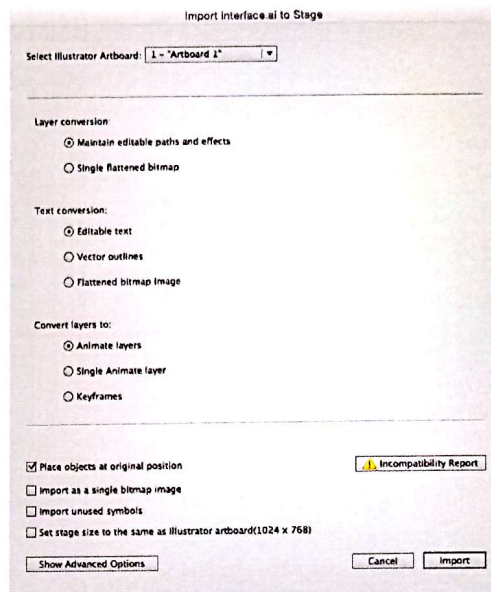
- The Animate Layers option maintains the existing layers from the original artwork; each Illustrator layer becomes a layer in the Animate file. This is useful if you aren't sure about what you're importing; you can always change or delete imported layers if you don't need them.
- If you choose Single Animate Layer, all layers in the original artwork are flattened into one layer (named with the imported file name) on the Animate timeline.
- If you choose Keyframes, each layer in the artwork is added as a keyframe on the default Layer 1. (You will learn about keyframes in Stage 2 of this project.)

Many objects created in Illustrator are fully compatible with Animate drawing capabilities, so they are imported as regular drawing objects. Any objects that don't fit the Animate drawing model (primarily, ones with some type of applied transparency) are imported in a way that allows Animate to maintain the overall artwork integrity. If an **Incompatibility Report** button appears in the Import to Stage dialog box, you can click it to see what effects are causing the problem.

When **Place Objects at Original Position** is checked, the objects imported onto the Animate Stage have the same position relative to one another as they did in the original Illustrator file.

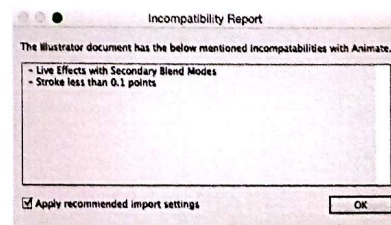
If you check **Import as a Single Bitmap Image**, the entire file is flattened into a raster image; you are not able to access the individual elements that made up the original artwork in Illustrator.

The Illustrator artboard is the area that defines the physical dimensions of the file, just as the Stage defines the physical size of an Animate file. The **Set Stage Size...** option shows the dimensions of the imported file's artboard; if you know the Illustrator file was



Note:

The Incompatibility Report button tends to disappear and reappear when you make changes in other areas of the dialog box. This is a minor bug in the software.

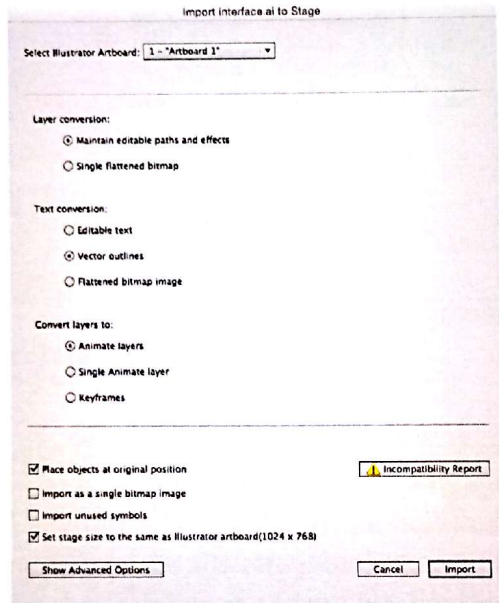


created to the correct dimensions, you can use this option to automatically change the Stage size to match the imported artwork.

Illustrator can be used to create graphic and movie clip symbols (but not buttons), which are stored in a file's Symbols panel. This can include symbols that are not placed in the file, but which might be necessary for the overall project. If you don't know what a file contains, you can check the **Import Unused Symbols** option to be sure all of the necessary bits are imported; you can always delete unwanted symbols once they have been imported. For this project, we are telling you that all required symbols in the imported artwork are placed on the artboard.

4. Make the following changes to the default import settings:

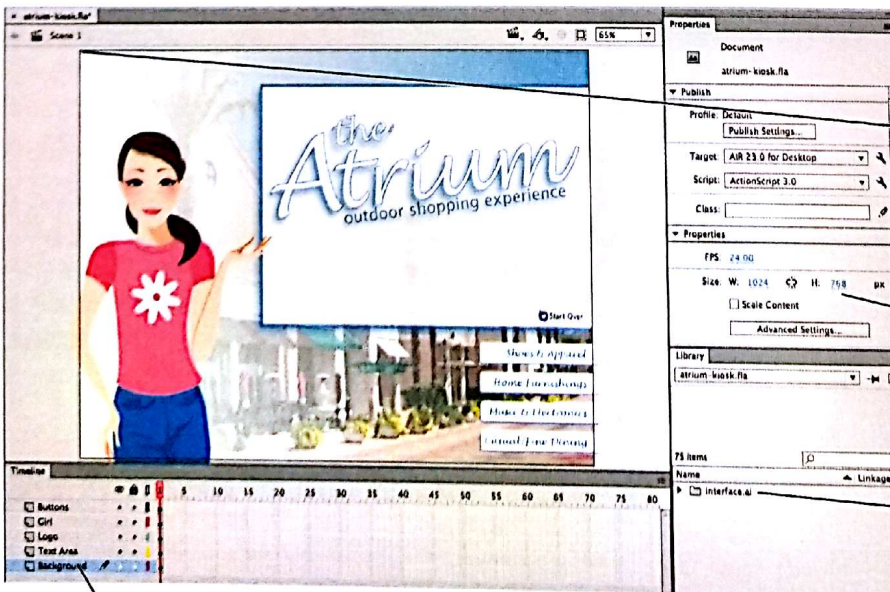
- Choose the **Vector Outline** option in the **Text Conversion** section.
- Check the **Set Stage Size** option.



5. Click **Import** to import the Illustrator artwork.

6. Fit the Stage in the document window, then click away from all objects on the Stage to deselect them.

All objects are automatically selected after being imported to the Stage. Deselecting them allows you to review the Animate file's properties.



The imported artwork is aligned to the top-left corner of the Stage, matching its relative position on the original Illustrator artboard.

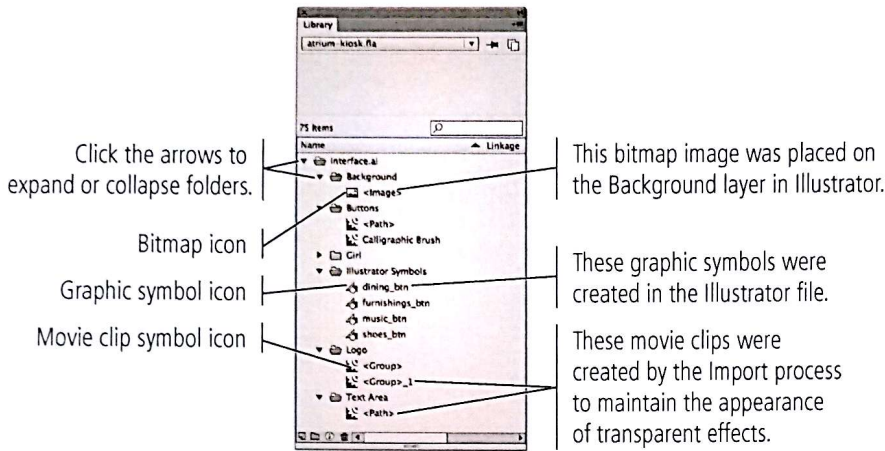
With nothing selected, the Properties panel shows the adjusted Stage size.

A folder (named the same as the imported file) is added to the library, containing all the pieces necessary for the imported artwork.

Five layers are added to the Timeline panel.

- In the Library panel, click the arrow to the left of the **interface.ai** folder to expand it, and then click the arrows to expand all but the **Girl** folder.

Imported assets are sorted by layer; folder names match the imported layer names to help you understand where different pieces are required. A separate folder for Illustrator Symbols is included.



Note:

The **Girl** folder includes a long list of paths and groups that were imported as movie clips to preserve transparency effects that were applied in the Illustrator file. We did not include that folder in this instruction simply because the list is so long.

- In the Library panel, collapse the subfolders in the **interface.ai** folder.

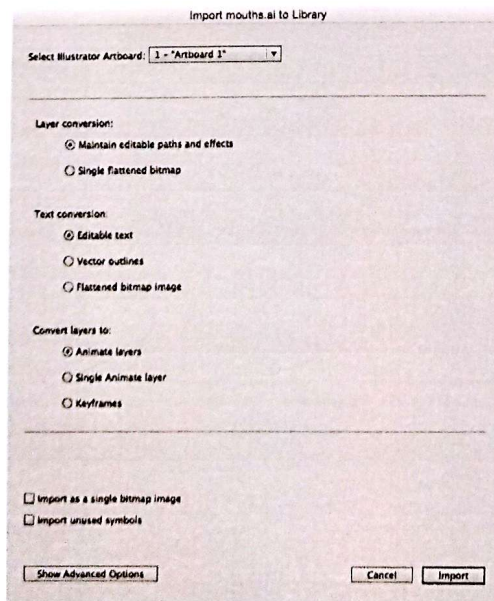
- Save the file and continue to the next exercise.

IMPORT FILES TO THE LIBRARY

In addition to importing files to the Animate Stage, you can also import external files directly into the Animate file's Library panel. This option is particularly useful when certain objects aren't going to be placed on the main Stage, or if you don't yet know how you will use a particular object.

- With **atrium-kiosk.fla** open, choose **File>Import>Import to Library**. Navigate to the file **mouths.ai** in the **WIP>Atrium** folder and click **Open**.

When you import an Illustrator file directly to the Library panel, most of the options are the same as for importing to the Stage. The **Set Stage Size...** option is not available because it does not apply to files that only exist (for now) in the file's library.



Note:

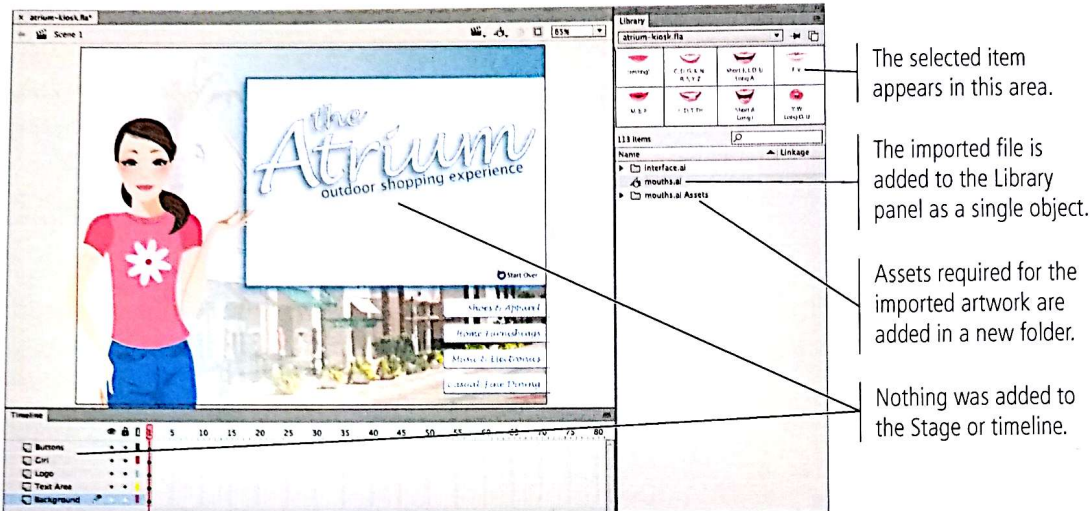
Animate defaults to the last-used folder, so you might not have to navigate to the folder you used in the previous exercise.

2. Click Import to import the artwork to the library.

The Library panel shows that the resulting object was imported as a graphic symbol. Nothing is added to the Stage or the timeline.

3. In the Library panel, click the mouths.ai item to select it.

The top portion of the panel shows a preview of the selected item.



4. Save the file and continue to the next exercise.

CONVERT OBJECTS TO SYMBOLS

You now have a number of assets in your file's Library panel. The mouths.ai graphic contains eight groups of graphics — the different mouth shapes that you will use later in this project to synchronize the character to a sound file. For the process to work, you need to separate each mouth shape into a distinct symbol so the correct artwork can be placed at the appropriate point in the file.

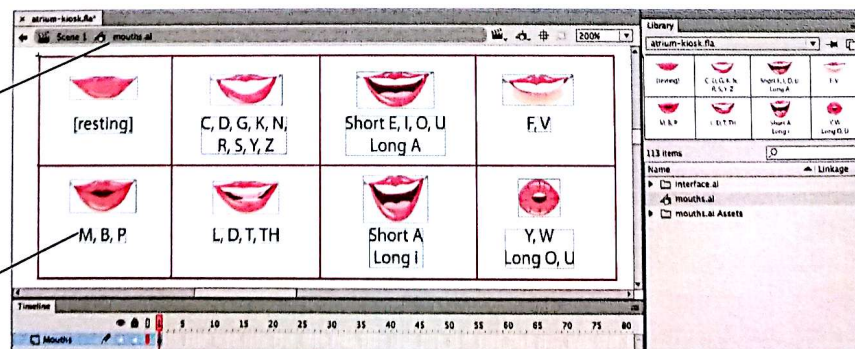
1. With atrium-kiosk.fla open, choose the Selection tool. Double-click the mouths.ai symbol icon to enter into the symbol.

2. Zoom as necessary so you can clearly see all the objects on the symbol Stage.

Every symbol technically has its own Stage, which is theoretically infinite and separate from the main Stage of the base file. When you double-click the symbol icon in the Library panel, you enter **Symbol-Editing mode** for that symbol; other elements of the base file are not visible on the Stage.

The Edit bar shows that you are now working on the mouths.ai Stage (called **Symbol-Editing mode**).

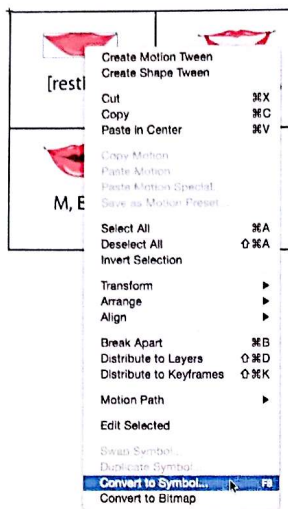
When you first enter into the symbol, all artwork in the symbol is selected.



3. Click away from the artwork to deselect everything, then click the top-left mouth shape to select that group (but not the word "resting").

Grouping in the original artwork is maintained in the imported artwork.

4. Control/right-click the selected artwork and choose Convert to Symbol from the contextual menu.



Note:

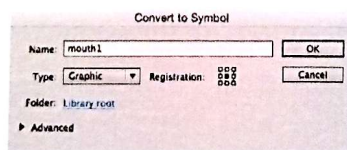
You can also drag an object onto the Library panel to open the Convert to Symbol dialog box for that object.

5. In the resulting dialog box, type **mouth1** in the Name field and choose **Graphic** in the Type menu.

A graphic symbol is the most basic type of symbol. It is typically used for objects that will simply be placed on the Stage. (A graphic symbol can include animation; you will explore these options in Project 4: Ocean Animation.) The type of animation you create in the third stage of this project — simply swapping one symbol with another at various points in time — is ideally suited to graphic symbols.

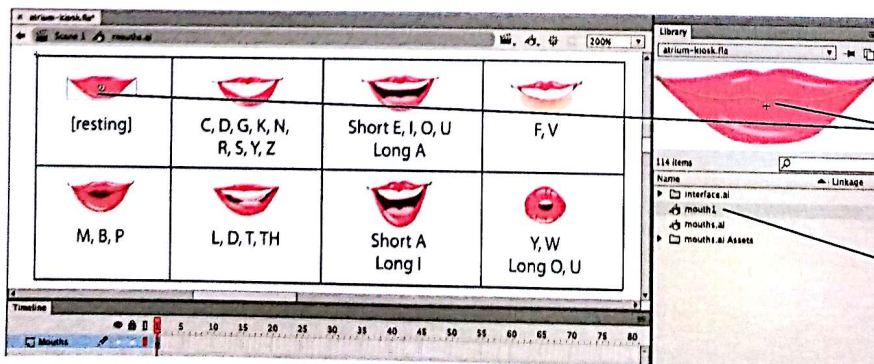
6. Select the center point in the registration proxy icon.

The registration grid affects the placement of the symbol's registration point, which is the 0,0 point for the symbol. (This will make more sense shortly when you begin editing symbols on their own Stages.)



7. Click OK to create the new symbol.

The Properties panel now shows that the selected object is an instance of the mouth1 symbol, which has been added to the Library panel.



The Properties panel shows that the selected artwork is now an instance of the mouth1 symbol.

The new symbol is added to the file's Library panel.

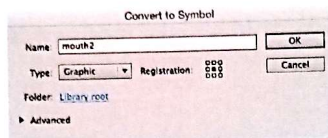
8. Click the second mouth shape (to the right) to select it, then press the F8 key.

If you are using a laptop or an abbreviated keyboard, you have to press the FN key while you also press the F8 key.

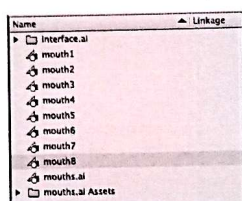
If you don't have access to function keys, simply Control/right-click the group and choose Convert to Symbol.

9. Type **mouth2** in the Name field and click OK.

The Convert to Symbol dialog box remembers the last-used settings. The Type menu is already set to Graphic, and the center registration point is already selected.



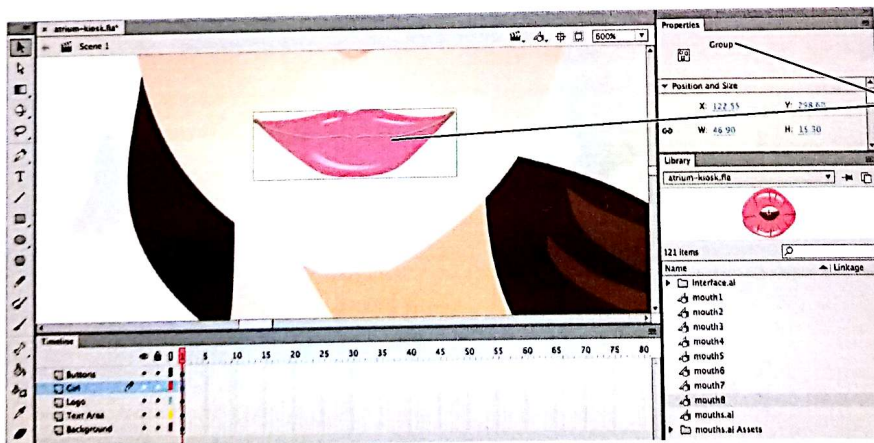
10. Repeat Steps 8–9 to convert the rest of the mouth shapes into symbols, working from left to right across the top row and then left to right across the bottom row.



11. Click Scene 1 in the Edit bar to return to the main Stage.

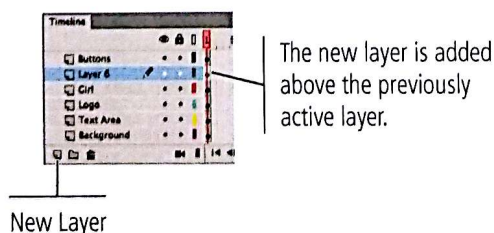
12. Using the Selection tool, click the mouth shape on the Stage to select it.

When you select the mouth shape, the layer containing the object (Girl) automatically becomes the active layer.



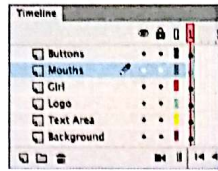
13. In the Timeline panel, click the New Layer button to add a new layer.

When you click the New Layer button, the new layer is automatically added above the previously selected layer. The new layer is also automatically selected as the active layer.

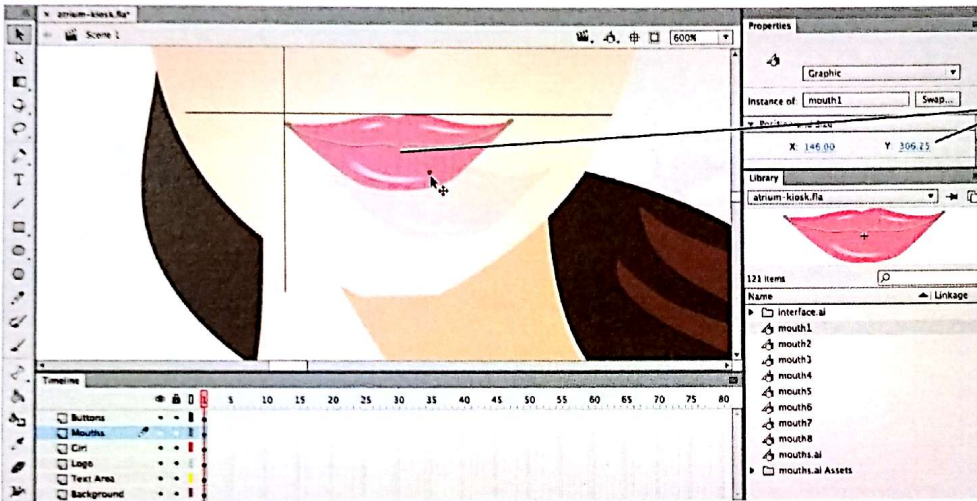


New Layer

14. Double-click the new layer name to highlight it. Type **Mouths**, then press Return/Enter to finalize the new layer name.



15. Click mouth1 in the Library panel and drag an instance onto the Stage.
16. Use the Selection tool to drag the placed instance to the same position as the mouth group on the underlying Girl layer.

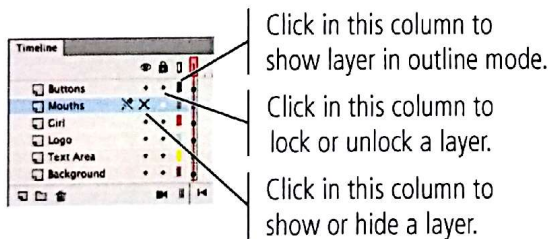


The X and Y fields show the position of the instance's registration point.

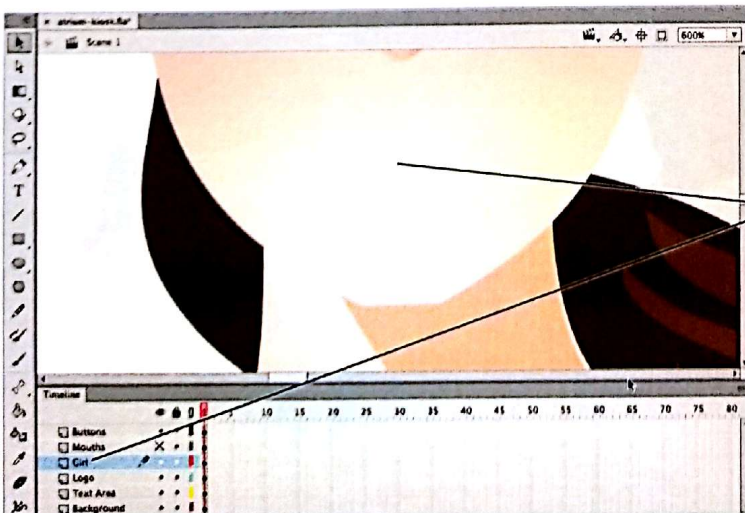
Note:

Don't confuse the symbol registration point (the crosshairs) with the transformation point (the hollow circle).

17. In the Timeline panel, click in the Eye column to the right of the Mouths layer name to hide that layer.



18. Select the mouth group on the Girl layer and delete it.



Because the Mouths layer is hidden, you can select and delete the underlying group from the Girl layer.

19. Show the Mouths layer again, then save the file and continue to the next exercise.

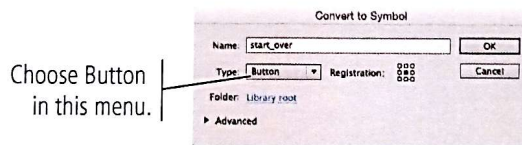
CREATE A BUTTON SYMBOL

Buttons, one of the three main symbol types in Animate, are interactive assets that change when a user interacts with them. A button symbol has four “states”:

- A button’s **Up state** (also referred to as the idle or default state) is the basic appearance of a button when a user first loads a file.
- The **Over state** occurs when a mouse pointer rolls over a button. (When a user places a mouse cursor over a rollover area, the cursor often turns into a pointing finger or some other custom shape.)
- The **Down state** occurs when a user clicks a button.
- The **Hit state** defines the size of a rollover area (**hot spot**) of a button.

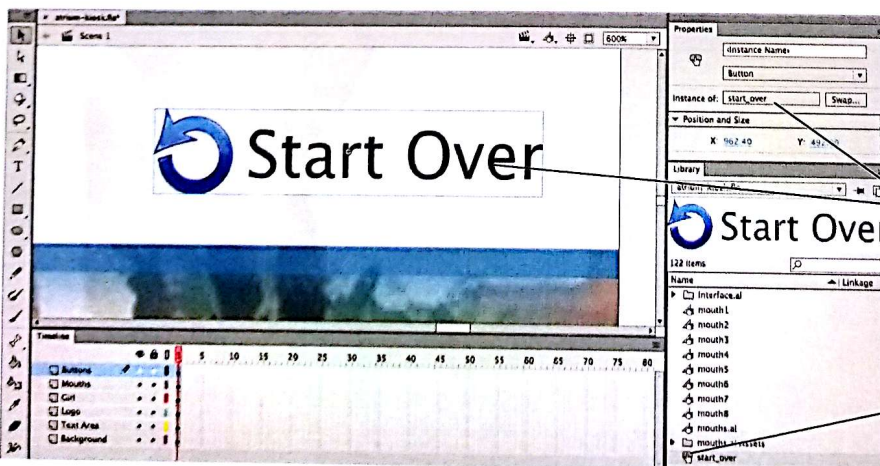
This file includes five buttons. Four were created as symbols in the Illustrator artwork, and one was imported onto the Stage as a group.

1. With **atrium-kiosk.fla** open, use the Selection tool to select the group containing the words “Start Over”.
2. Press F8, or Control/right-click the selected group and choose **Convert to Symbol** in the contextual menu.
3. In the resulting dialog box, type **start_over** in the name field. Choose **Button** in the Type menu and choose the center registration point (if it is not already selected).



4. Click **OK** to create the new symbol.

Because you created the symbol from objects on the Stage, the Properties panel shows that the selection is automatically an instance of the new symbol.



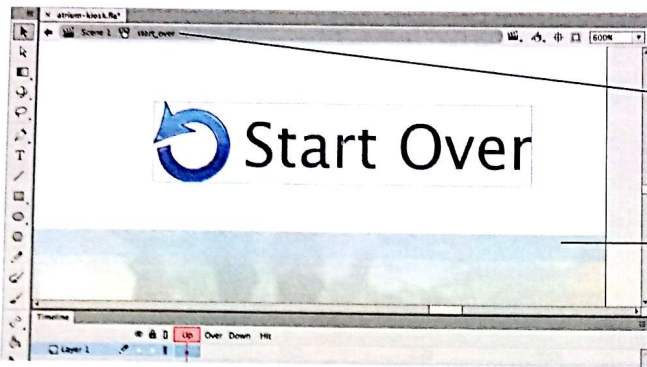
Note:

Buttons can be both animated and idle at the same time; idle simply means that no one has passed over or clicked the button with the mouse pointer.

5. Double-click the Start Over button on the Stage to enter into the symbol.

This method of editing a symbol is called **editing in place**. Other objects on the Stage are still visible, but they are screened back and cannot be accessed.

As we explained earlier, a button is a special type of symbol with four distinct states. Each possible state is represented as a frame in the special Button symbol timeline.



The Edit bar shows that you are editing on the start_over button symbol Stage.

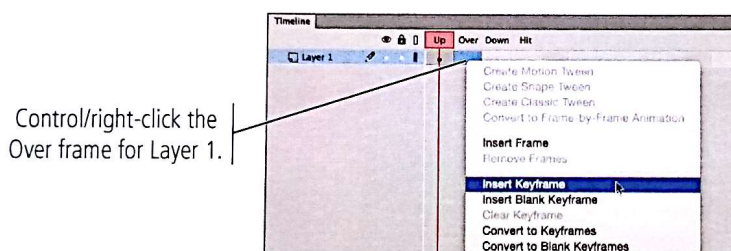
Editing a symbol in place means you can see — but not access — the other objects on the Stage.

6. In the Timeline panel, Control/right-click the Over frame of Layer 1 and choose Insert Keyframe from the contextual menu.

A **keyframe** defines a point where something changes. If you want to make something appear different from one frame to the next — whether inside a symbol or on the main Stage — you need to place a keyframe at the point where the change should occur.

Note:

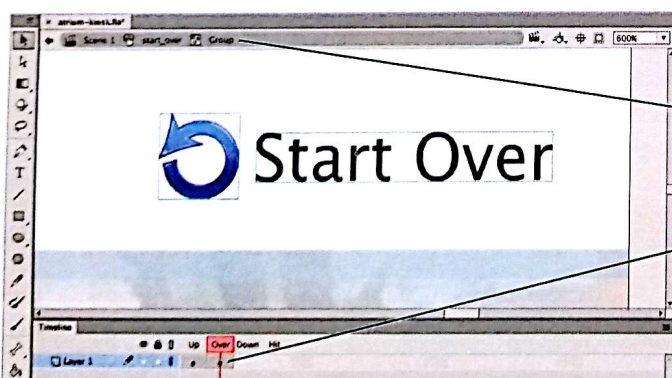
You can also insert a keyframe by choosing Insert>Timeline>Keyframe, or pressing F6.



Control/right-click the Over frame for Layer 1.

7. Make sure the Over frame is selected in the Timeline panel, then double-click the words “Start Over” in the graphic to enter into that group.

The contents of the Over frame will appear when the user’s mouse moves over the button area. You are going to change the color of the letters in this button.



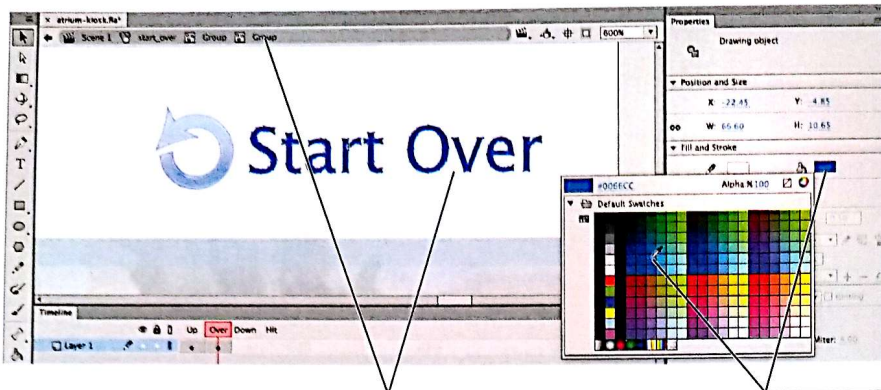
Double-clicking “enters into” the group of objects, so you can access individual members of the group.

You are editing only the Over frame.

8. Double-click any letter in the group to access the individual letters that make up the group.

Remember, Animate remembers the groupings from the original Illustrator file. Depending on how a file was created, you might have to enter into a number of nested groups before you get to the level you need.

- With the individual letter shapes selected, click the Fill Color swatch in the Properties panel. Click a medium blue swatch in the color palette to change the fill color of the selected objects.

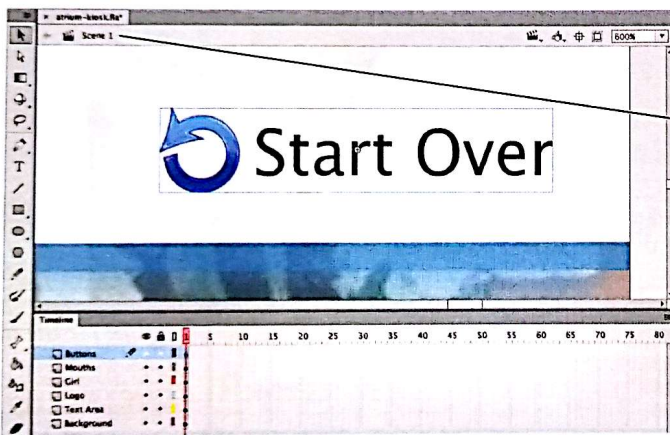


You have to enter into the primary group to access the lettershapes.

Use the Fill swatch to choose a new color for the selected drawing objects.

- Click Scene 1 in the Edit bar to return to the main Stage.

Even if you have drilled into multiple levels of Symbol-Editing mode, you can return to the main Stage with a single click on the Edit bar. You can also return to any particular nesting level by clicking a specific item (called “breadcrumbs”) in the Edit bar.



Click Scene 1 in the Edit bar to return to the main Stage.

Note:

You will test the button's functionality in the next exercise.

- Save the file and continue to the next exercise.

DEFINE A HIT FRAME

A button symbol mimics a four-frame Animate animation; it is the basic concept behind all Animate buttons. You add keyframes and modify the content of each frame; the movie displays the appropriate frame when a user hovers over or clicks the object.

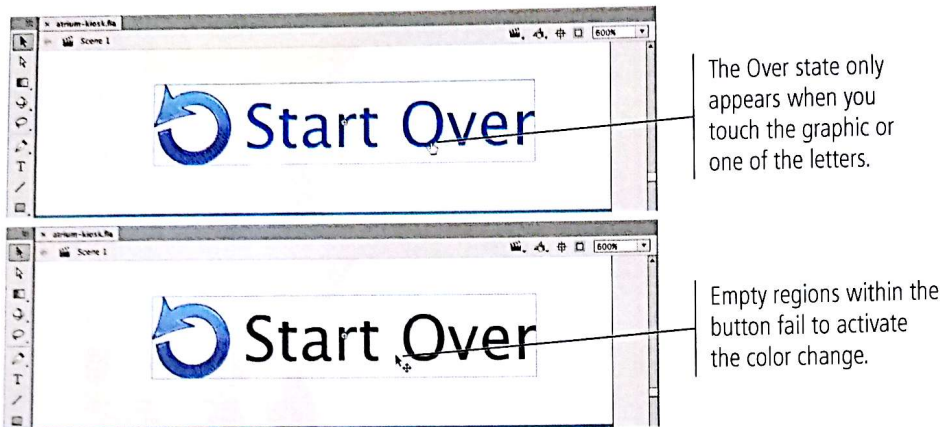
In the previous exercise, you changed the color of button text in the Over frame. However, there is still a problem — the button currently works only if the mouse pointer touches the icon or one of the letter shapes. If the pointer lies between two letters, for example, the button fails to activate. All spaces within the button should be active. Moving the pointer close to or on top of the button should trigger the desired action. To resolve the problem, you need to define the Hit frame, which determines where a user can click to activate the button.

- With `atrium-kiosk.fla` open, choose **Control>Enable Simple Buttons** to toggle that option on.

This command allows you to test button states directly on the Animate Stage.

2. Check the current condition of the Start Over button by positioning the pointer between the two words in the button.

There are “dead” areas within the button that don’t cause the color change to occur. (You might need to zoom in to verify this problem.)



3. Choose Control>Enable Simple Buttons to toggle that option off.

When this option is active, you can’t select a button instance on the Stage — which means you can’t double-click the button to edit the symbol in place.

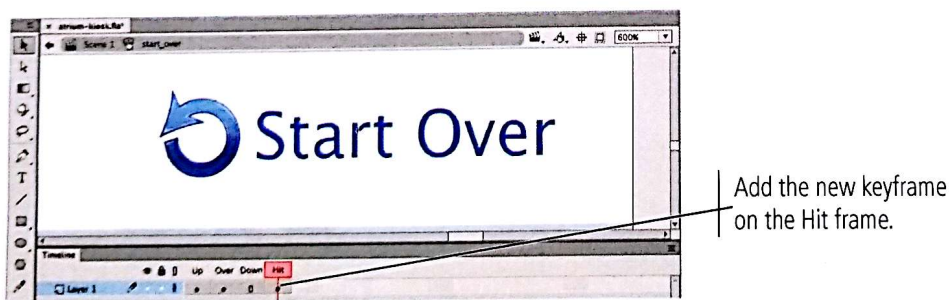
4. Double-click the Start Over button on the Stage to edit the symbol in place.

5. Select the Hit frame in the Timeline and then press the F6 key to insert a new keyframe on the selected frame.

If you can’t use the function keys, Control/right-click the Hit frame and choose Insert Keyframe from the contextual menu.

The **Hit frame** defines the live area of the button, or the area where a user can click to activate the button. Objects on this state do not appear in the movie; you only need to define the general shapes.

Note:
You can use the Insert Blank Keyframe command to add a blank keyframe to the timeline that (as the name suggests) has no content.



6. Choose the Rectangle tool from the Tools panel.

7. In the Properties panel, turn off the Object Drawing toggle.

When this option is turned off (not highlighted), new drawing shapes drop to the back of the stacking order on the active layer.

Because merge-drawing shapes drop to the back of the stacking order, this method allows you to still see the button artwork in front of the “hit” shape.

8. Set the Stroke color to None, and choose a contrasting color as the Fill color.

9. Draw a rectangle that covers the entire contents of the button.

We used a red color that contrasted with the blue text, but any color will work because the Hit frame content doesn't appear on the Stage when you play the movie.



Choose a Stroke of None and an easily visible Fill color.

Make sure the Object Drawing mode is turned off.

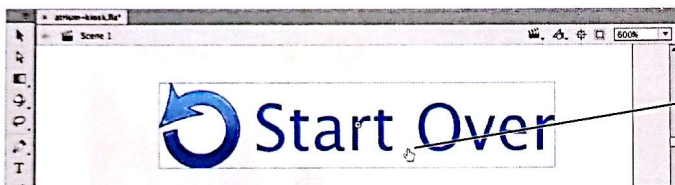
You are drawing on the Hit frame.

The shape appears behind other objects on the active layer.

10. Click Scene 1 in the Edit bar to return to the main Stage.

11. Choose Control>Enable Simple Buttons to toggle the option back on, then move the mouse cursor between the words in the button.

The button now works even if you hover over the white areas or between the letters. The Hit frame rectangle determines the live (hit) area of the button.



The button now works even if you hover between the words.

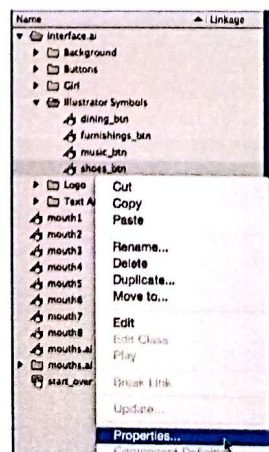
12. Choose Control>Enable Simple Buttons to toggle off that option.

13. Save the file and continue to the next exercise.

EDIT SYMBOL PROPERTIES

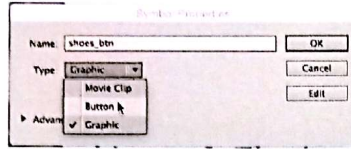
The control buttons, which you imported as graphic symbols, are the final pieces of artwork for this movie. Illustrator, does not create button symbols; you need to convert the imported graphic symbols into the necessary button symbols.

1. With atrium-kiosk.fla open, expand the interface.ai>Illustrator Symbols folder in the Library panel (if necessary).
2. Control/right-click the shoes_btn symbol icon in the Library panel and choose Properties from the contextual menu.



3. In the Symbol Properties dialog box, choose **Button** in the **Type** menu, and then click **OK**.

The Symbol Properties dialog box is nearly the same as the Create New Symbol dialog box; it does not have registration options because that has already been defined for the symbol. To move symbol artwork relative to the registration point, edit the symbol on its Stage.



4. Using the Selection tool, select the **Shoes & Apparel** button on the Stage.
5. In the Properties panel, open the top menu and choose **Button**.

Unlike changing the content of a symbol, changes to the symbol type do not reflect in placed instances. When you change the type of a symbol that has already been placed on the Stage, you also have to change the instance type in the Properties panel.



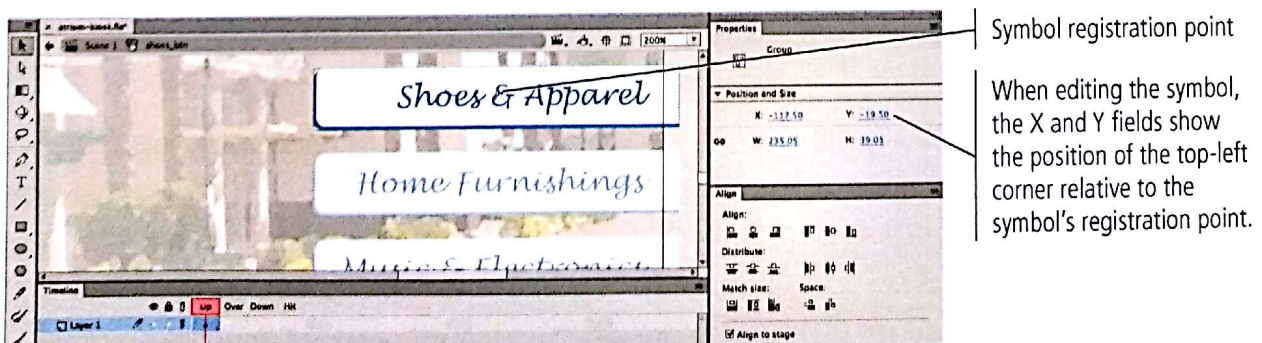
6. Repeat Steps 2–5 to convert the remaining three graphic symbols to buttons.
7. Save the file and continue to the next exercise.

EXPLORE THE SYMBOL REGISTRATION POINT

Now that the buttons are symbols rather than graphics, you can define the various states of the buttons. You are going to edit the artwork so that the buttons seem to move when the mouse cursor rolls over the hit area.

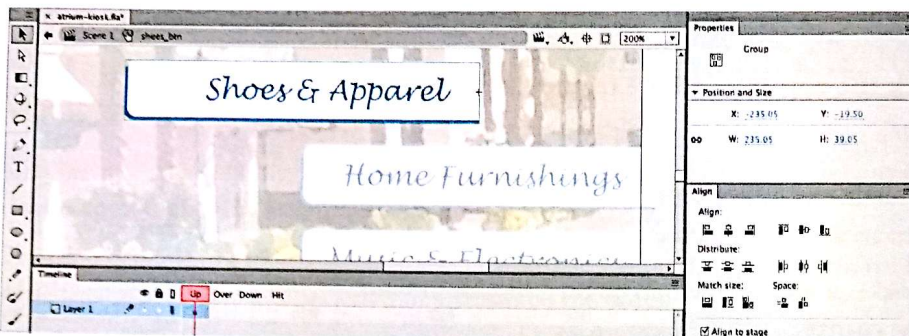
1. With **atrium-kiosk.fla** open, open the **Align** panel (**Window>Align**).
2. Double-click the **Shoes & Apparel** button instance to edit the symbol in place. Click the button artwork to select it if necessary.

The crosshairs in the middle of the symbol artwork identify the **symbol registration point**; all measurements for placed instances begin at this location.



3. In the Align panel, make sure the Align To Stage option is active and then click the Align Right Edge button.

The right edge of the symbol artwork is now aligned to the symbol registration point. Because you are editing the symbol in place, you can see the effect of the new alignment relative to the overall file artwork. This illustrates that the registration point is fixed, and the artwork is the thing that moves — not the other way around.



Note:

Use the Align panel with the Align To Stage option active to align the placed object to the symbol's registration point.

4. Click Scene 1 in the Edit bar to return to the main Stage.
5. With the Shoes & Apparel button selected, click the current X value in the Properties panel to access the field.



6. Type **1034** in the highlighted X field and press Return/Enter to apply the change.

As we explained earlier, the symbol registration point is the origin of measurements for placed instances. When you change the X position, you are defining the horizontal location of the symbol registration point for the selected instance.

The Stage for this file is 1024 pixels wide (as defined by the imported Illustrator artboard); you are placing the right edge of the button 10 pixels past the Stage edge.

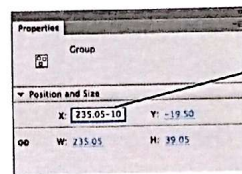


In the next few steps, you will use this position as the basis for changing the object's position when a user moves the cursor over the button (i.e., triggers the Over frame).

7. Double-click the Shoes & Apparel button again to enter back into the symbol Stage.
8. Insert a new keyframe on the button's Over frame. With the Over keyframe selected, click the button artwork to select it.
The object must be selected to change its properties. Selecting the frame in the timeline also selects the object on that frame.
9. In the Properties panel, click the current X value in the Properties panel to access the field.
10. Place the insertion point after the existing value and type **-10** after the existing value. Press Enter to move the selected object.

Using mathematical operators makes it easy to move an object a specific distance without manually calculating the change:

- Subtract from the X position to move an object left.
- Add to the X position to move an object right.
- Subtract from the Y position to move an object up.
- Add to the Y position to move an object down.



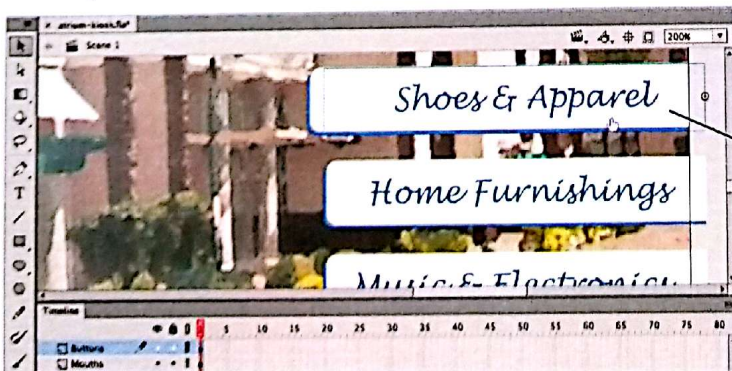
Type **-10** after the current value.



The new X value moves the artwork 10 pixels to the left.

You are editing the Over frame.

11. Click Scene 1 in the Edit bar to return to the main Stage.
12. Repeat Steps 2–11 for the three remaining buttons.
13. Choose Control>Enable Simple Buttons to toggle the option back on. Move your mouse cursor over the buttons to test the Over state functionality.



The buttons should move 10 pixels to the left when the mouse cursor enters the button area.

14. Save the file and continue to the next exercise.

Note:

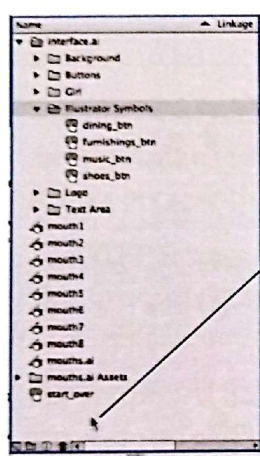
Because this button artwork includes a solid-filled white rectangle, you don't need to define a separate hit frame. The artwork itself is sufficient to trigger the button.

ORGANIZE YOUR LIBRARY WITH FOLDERS

Library folders work the same as layer folders; they help you organize and structure complex files. Movies often contain dozens or even hundreds of assets — and the more complex a movie becomes, the more useful it is to clearly organize those assets. Although this step isn't strictly necessary, it is always a good idea to organize your work so that you can more easily organize your thoughts and processes going forward.

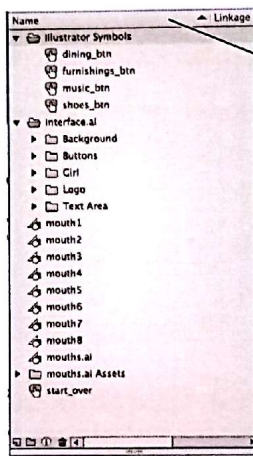
1. With `atrium-kiosk.fla` open, expand the `interface.ai` folder in the Library panel.
2. Click the **Illustrator Symbols** folder (inside the `interface.ai` folder) and drag down to the empty area at the bottom of the panel.

This moves the **Illustrator Symbols** folder to the first level of the library. The symbols, which are placed on the Stage, are not affected by the move.



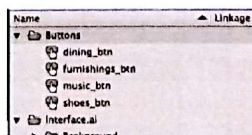
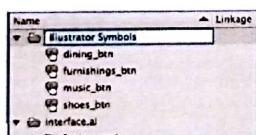
Drag the **Illustrator Symbols** folder to the empty area at the bottom of the panel to move it out of the `interface.ai` folder.

The highlight shows that the folder will be moved to the first level of the panel.

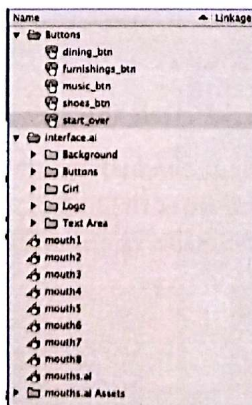
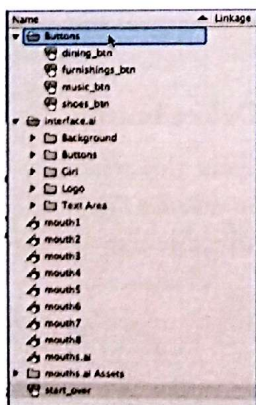


Click a column heading to sort library items by that category.

3. Double-click the **Illustrator Symbols** folder name to highlight the name. Type **Buttons** to change the folder name.



4. Click the `start_over` button symbol icon and drag it into the **Buttons** folder.

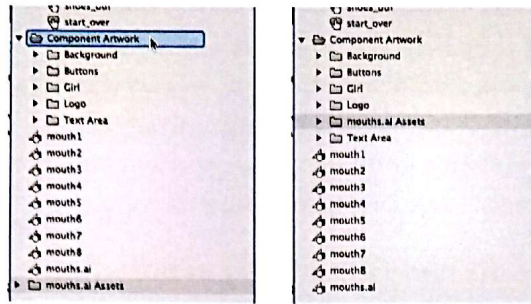


5. Double-click the `interface.ai` folder name to highlight the name. Type **Component Artwork** to change the folder name.

Note:

If your Library panel is too short to show an empty area below the current assets, **Control** right-click any of the existing first-level assets and choose **Paste**. The pasted symbols are pasted at the same level as the asset where you **Control** right-click.

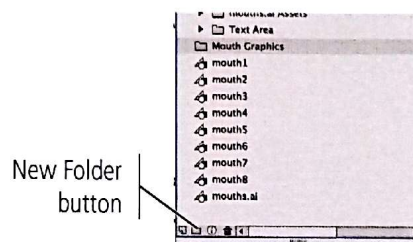
6. Click the mouths.ai Assets folder and drag it into the Component Artwork folder.



7. Click the empty area at the bottom of the panel to deselect all assets and folders.

8. Click the New Folder button at the bottom of the Library panel. Type **Mouth Graphics** as the new folder name.

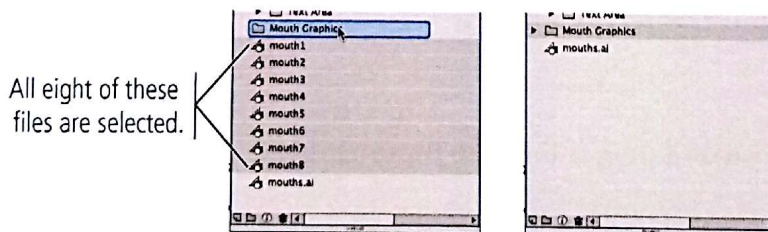
The new folder is added at the main level of the library, alphabetized with other items at the same level. If you didn't deselect in Step 7, the new folder would have been created at the same nesting level as the selected item.



9. Click the mouth1 symbol to select it, then Shift-click the mouth8 symbol to select it and all files in between.

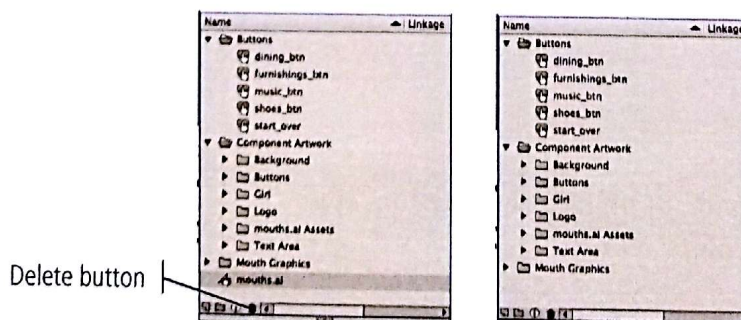
Press Shift to select multiple contiguous items in the panel, or press Command/Control to select multiple, non-contiguous items.

10. Click the icon of any selected file and drag into the Mouth Graphics folder.



11. Click the mouths.ai graphic symbol and click the panel's Delete button.

Although you used this artwork to create the individual mouth symbols, this symbol is not used in the file, so it can be safely deleted from the library. If you delete a symbol that is used in the file, the placed instances will also be deleted from the file.



12. Collapse all library folders, then save the file and continue to the next stage of the project.

Stage 2 Working with Sound

Sound files can be categorized into three basic types: uncompressed, compressed (lossless), and compressed (lossy). **Uncompressed sound files** encode all sounds with the same number of bits per unit of time. In an uncompressed format, two sound files of the same duration — whether a symphony or a simple beep — have the same size (which is typically very large). Such files are commonly used for archiving or other situations where file size is not an issue.

Lossless compression sound files lose no data during compression; these files are smaller than uncompressed files, but not as small as lossy compression file formats. **Lossy compression sound files** lose some data but retain good sound quality; a large number of these files can be stored in relatively small amounts of space.

Animate handles most major audio formats, including the ones most commonly used today:

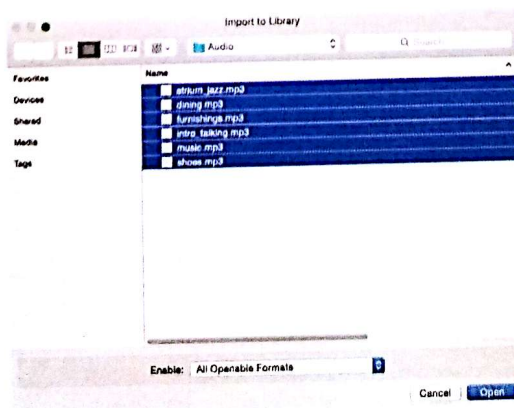
- The **MP3** format is the most commonly used audio format. This format compresses a music file in the most efficient manner, so file size is reduced without compromising quality. MP3 playback does require more processing power than other formats because the data has to be decoded every time the file plays.
- The **WAV** format is an uncompressed format with very high quality. This file type can be used in Animate animations for desktop applications, but should be avoided for Web-based movies because the files are huge and take a long time to download.
- The **AIFF** format (Audio Interchange File Format) is common on Macintosh computers. This format is generally uncompressed, so file sizes are large compared to the MP3 format. AIFF files are suitable for applications specifically targeted for Macintosh computers.
- The **Audio (AU)** file format, developed by Sun Microsystems, transmits sound files over the Internet and can be played in Java programs. These files are smaller than AIFF and WAV formats, but the quality of sound is not as good as regular WAV files.
- The **QuickTime (MOV)** format is technically a video format, but it can also include audio.

IMPORT SOUND FILES

In general, there are three methods for incorporating sound into an Animate movie. Sounds in a file's library can be placed directly on the timeline, or you can use code to call a library sound based on a particular event. You can also use code to load and play external sound files (those that don't exist in the Animate library).

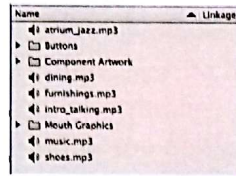
In this project, you will use the timeline method to add the various sounds that are needed for the kiosk to function properly. The first step is to import the necessary sound files into the Animate library.

1. With **atrium-kiosk.fla** open, choose **File>Import>Import to Library**. In the resulting dialog box, select all files in the **WIP>Atrium>Audio** folder, then click **Open**.



2. Open the Library panel and review the contents.

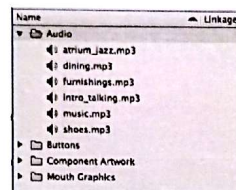
The selected sound files are imported into the file's Library panel.



3. Click the New Folder button at the bottom of the Library panel. Rename the new folder **Audio**.

4. Command/Control-click all six imported audio files and drag them into the Audio folder.

5. Expand the Audio folder so you can see the available files.



6. Save the file and continue to the next exercise.

Note:

It's always a good idea to keep your library well organized while developing a file with numerous assets.

ADD EVENT SOUND

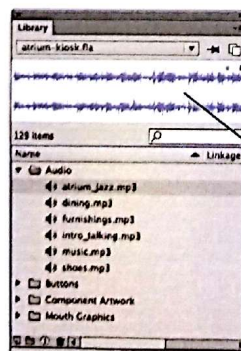
Event sounds are “timeline independent” — they play independently of the movie timeline. They are downloaded completely and stored in the user computer's memory; this means they can be played repeatedly (including continuously looping) without having to redownload the file.

1. With the file **atrium-kiosk fla** open, click to select the **atrium_jazz.mp3** file in the Library panel.

This file will be the background music for the entire file. It will play in an infinite loop as long as the kiosk file is open.

2. Click the **Play** button in the top-right corner of the **Preview** area.

You can use the Library panel to hear imported sounds before they are used on the Stage.

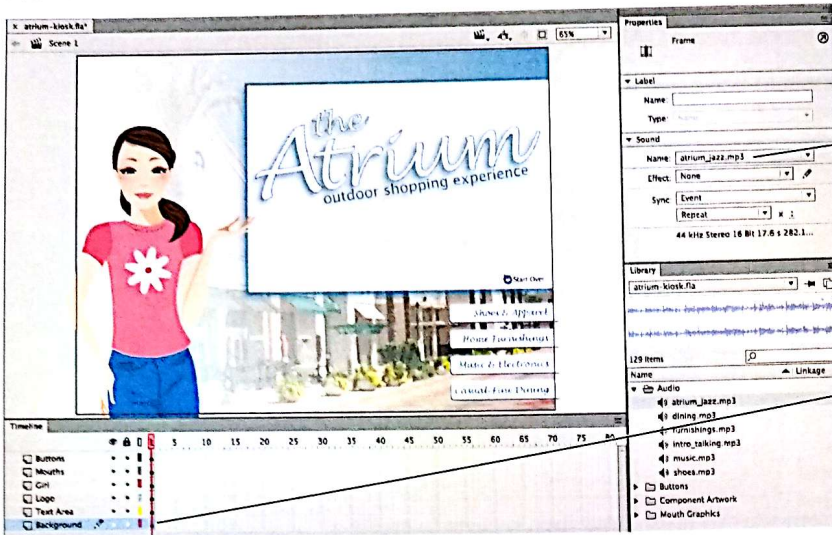


Note:

Because event sounds must be downloaded completely before they can play, they can cause buffering delays in playback.

3. Select the **Frame 1** keyframe on the **Background** layer.

4. In the Sound section of the Properties panel, choose atrium_jazz.mp3 in the Name menu.

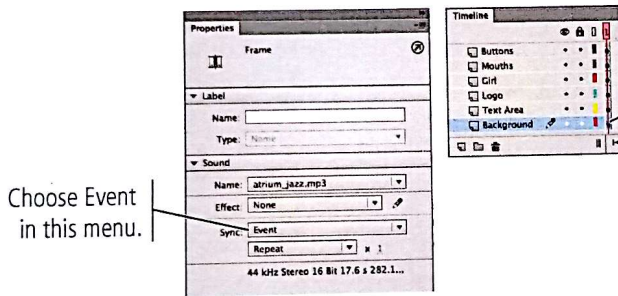


This menu lists all sound files that are available in the library.

Click Frame 1 of the Background layer to select it.

5. In the Sync menu, choose Event.

Event sounds default to the Repeat 1 method, which means the sound plays one time. You can change the number in the Repeat field to play the sound a specific number of times.



A small line, which is actually part of the sound waveform, crosses the selected frame.

Note:

Press Command-Return/
Control-Enter to test the
movie in an Animate
Player window.

6. Choose Control>Test.

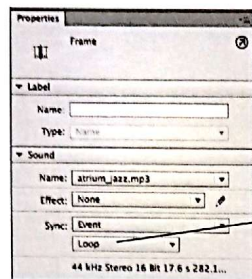
Because you created this file targeting AIR for Desktop, this command opens the file in a separate AIR Debug Launcher window. This shows you what the exported file will look and sound like. Although the sound waveform only appears on Frame 1 of the Background layer, the entire sound plays from start to finish when you test the file.



7. Close the Player window and return to Animate.

8. With Frame 1 of the Background layer selected, choose Loop in the menu under the Sync menu (in the Sound area of the Properties panel).

Using the Loop method, the event sound plays continuously as long as the movie remains open.



Choose Loop in this menu.

9. Press Command-Return/Control-Enter to test the movie again.

The background sound now plays from start to finish, and then repeats to create a continuous background sound track.

10. Close the Player window and return to Animate.

11. Save the file and continue to the next exercise.



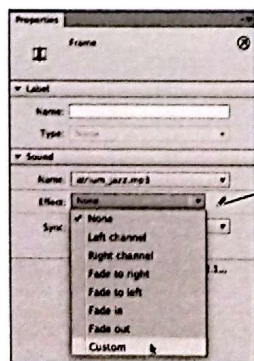
EDIT A SOUND ENVELOPE TO CONTROL VOLUME

Although Animate is not intended to be a sound-editing application, you can apply a limited number of effects to control the volume and length of sounds on the Animate timeline. These options are available in the Effect menu of the Properties panel when a sound is attached to a keyframe.

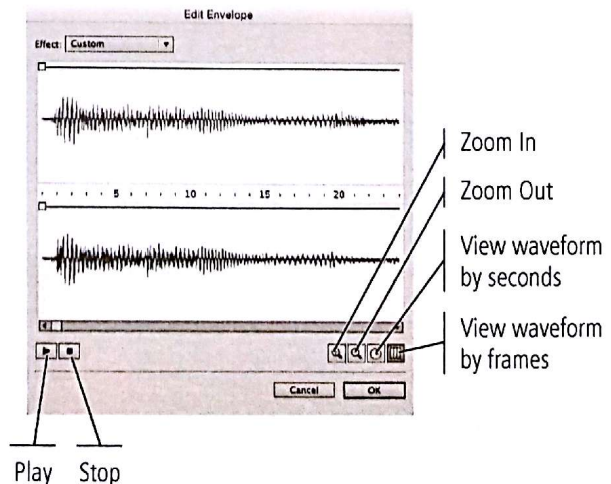
1. With atrium-kiosk.fla open, click Frame 1 of the Background layer to select the frame where you attached the sound in the previous exercise.

2. In the Properties panel, open the Effect menu and choose Custom to open the Edit Envelope dialog box.

The Edit Envelope dialog box shows the waveforms for each channel in a sound file. (In many cases, both channels have the same waveform.) You can view the sound waves by seconds or frames, and you can zoom in or out to show various portions of the sound. The left and right channels refer to sound output systems that have more than one speaker — one on the left and one on the right.



Clicking the Edit Sound Envelope button has the same result as choosing Custom in the Effect menu.



Zoom In

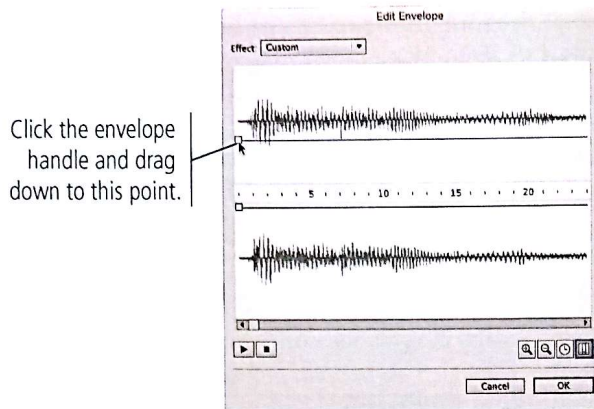
Zoom Out

View waveform by seconds

View waveform by frames

Play Stop

3. Click the **Frames** button to show the sound based on frames (if this isn't already active).
4. In the left channel area (the top waveform), click the handle on the left end of the waveform, and drag down to below the existing waveform.

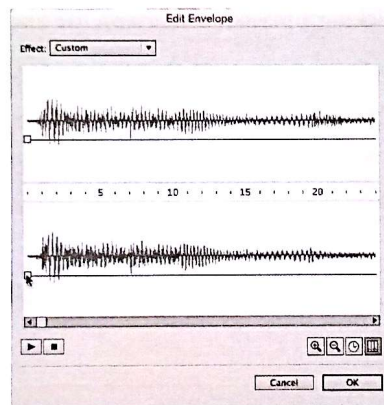


Note:

Click the envelope line to add a new handle to the envelope. Click an existing handle and drag it away from the window to remove a point from the envelope.

5. Repeat Step 4 for the right channel (the bottom waveform).

By lowering the envelope handles, you reduced the volume of the sound file.



6. Click **OK** to close the **Edit Envelope** dialog box and apply the change.
7. Save the file and continue to the next exercise.

More about Editing Sound Files

ANIMATE FOUNDATIONS

The Effect menu in the Properties panel lists a number of common sound envelope effects built into Animate. These sound effects do not alter the sound in the files; they simply control how the sound data plays.

- **Left Channel** plays only the left channel of the sound.
- **Right Channel** plays only the right channel of the sound.
- **Fade to Right** gradually lowers the sound level of the left channel, and then gradually raises the sound level of the right channel.
- **Fade to Left** gradually lowers the sound level of the right channel, and then gradually raises the sound level of the left channel.
- **Fade In** gradually raises the sound level at the beginning of the sound file.
- **Fade Out** gradually lowers the sound level at the end of the sound file.
- **Custom** opens the Edit Envelope dialog box, where you can define your own sound effects.



USE THE START AND STOP SYNC METHODS FOR BUTTONS

The four category buttons will link to different screens in the kiosk. Each button needs to trigger a sound that plays when the user's mouse rolls over the button. To achieve this result, you can attach the relevant sound to each button using the same technique you applied in the previous exercise. Because of the four-frame nature of button symbols, however, a few extra steps are required to make the sounds play only when you want them to play.

1. With **atrium-kiosk.fla** open, choose **Control>Enable Simple Buttons** to make sure that option is toggled on.
2. In the Library panel, double-click the **shoes_btn** symbol icon to enter Symbol-Editing mode for that symbol.

Remember, you can edit a symbol by double-clicking the symbol icon. This is especially useful when the Enable Simple Buttons feature is toggled on because you can't select buttons on the Stage in that mode.

In Symbol-Editing mode, a discrete Stage appears when you double-click a symbol icon in the Library panel; the name of the symbol appears to the right of the Scene name in the Edit bar, indicating that you're working on the symbol instead of the main scene. You can also access this option by Control/right-clicking a placed instance on the Stage and choosing Edit.

3. Select the **Over** frame of **Layer 1**. In the Properties panel, choose **shoes.mp3** in the Sound Name menu and set the Sync menu to **Event**.



You are attaching the sound to the button's Over frame.

4. Click **Scene 1** in the Edit bar to return to the main Stage.
5. Move your mouse cursor over the **Shoes & Apparel** button to hear the attached sound.



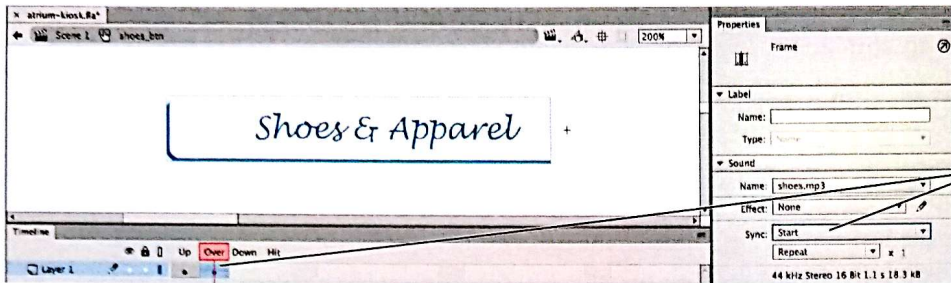
Moving the mouse over the button triggers the Over state, including the attached sound file.

6. Move your mouse cursor away, and then move back over the **Shoes & Apparel** button to trigger the sound again.

When the mouse re-enters the button area — triggering the Over frame — the message plays again. (Because the sound is very short, this might not be apparent unless you move the mouse back into the button area very quickly.)

7. Double-click the shoes_btn symbol icon in the Library panel to enter back into the button Stage. Select the Over frame, then change the Sound Sync menu to Start.

The Start sync option is similar to the Event method. The difference is that the Start method allows only one instance of the same sound to play at a time; this prevents the overlap problem caused by the Event method.

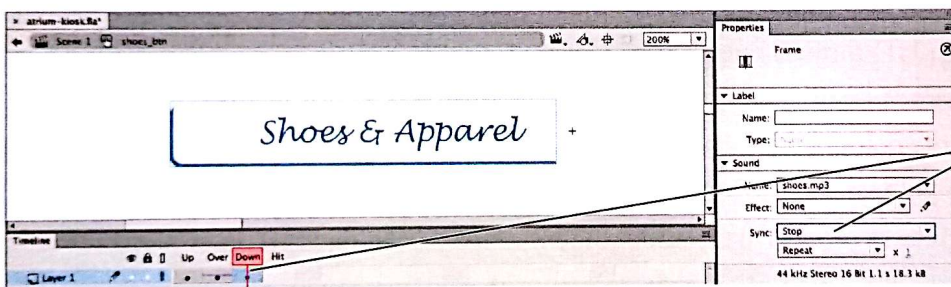


Apply the Start sync method to the Over frame.

8. Select the Down frame and press F6 to insert a new keyframe, or Control/right-click the Down frame and choose Insert Keyframe from the contextual menu.

9. In the Properties panel, choose shoes.mp3 in the Sound menu and choose Stop in the Sync menu.

The Stop option stops all instances of the selected sound from playing. When a user clicks the Shoes & Apparel button, the sound triggered on the Over frame will stop playing.



Apply the Stop sync method to a keyframe on the Down frame.

10. Click Scene 1 to return to the main Stage.

11. Repeat the same basic process to add the appropriate event sounds to the other three navigation buttons:

- Double-click the button symbol icon to enter the symbol's Stage.
- Select the Over frame and attach the appropriate sound file using the Start sync option.
 - For the Home Furnishings button, use the furnishings.mp3 sound file.
 - For the Music & Electronics button, use the music.mp3 sound file.
 - For the Casual/Fine Dining button, use the dining.mp3 sound file.
- Add a keyframe to the Down frame.
- Attach the same sound you used for the Over frame, and apply the Stop sync option.

12. If you haven't done so already, click Scene 1 in the Edit bar to return to the main Stage.

13. Roll your mouse cursor over the four buttons to test all four sounds. Click each to make sure the sounds stop when they're supposed to.

14. Save the file and continue to the next stage of the project.

Stage 3 Creating Frame Animations

The basic underlying premise of animation is that objects change over time — from complex transitions in color, shape, and opacity to moving a character to a new position. The most basic type of animation is to simply replace one object with another at specific points in time; you will create this type of animation in this stage of the kiosk project to make it seem like the girl is talking.

Repositioning or replacing objects on successive frames results in the appearance of movement when you watch an animation; in reality, your brain is being fooled — you're simply seeing a series of images animate before your eyes (hence the application's name). Your brain thinks it's seeing movement, when in fact it's simply processing a series of still images displayed in rapid succession.

To make an animation appear to run continuously, you can **loop** it so it starts over at Frame 1 after reaching the last frame. (In fact, as you will see, looping is the default state of an animation; you have to use code to prevent the timeline from automatically looping in the exported file.)

To create animation, you need to understand several terms and concepts:

- The Animate Timeline panel shows a visual depiction of the passage of time. Each fraction of a second is represented by a frame (the rectangles to the right of the layer names). The **playhead** indicates the current point in time, or the frame that is visible on the Stage.
- The number of frames in one second (called **frames per second, FPS**, or **frame rate**) determines the length and quality of the overall animation. New Animate files default to 24 fps, which is the standard frame rate of most film movies in the United States (although HD formats range as high as 120 fps). Animations only for the Web are commonly developed at 15 fps.
- A **keyframe** indicates the point in time at which something changes. If you want to change something, you need to insert a keyframe at the appropriate moment on the timeline.
- Regular frames between keyframes have the same content as the preceding keyframe.

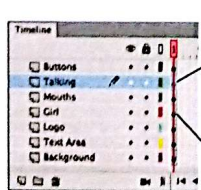
Note:

The term **playhead** is a throwback to the days when animation and video were shown on physical tape-reading machines. The playhead is the component under which the tape moves, and the tape is read by the player. By sliding the tape back and forth underneath the playhead, an animator could make a movie run forward and backward.

ADD STREAMING SOUND

Unlike the event sounds that you used in the previous exercises, **stream sounds** play as soon as enough data is downloaded (called **progressive downloading**) to the user's computer. Stream sounds cannot be saved on a user's computer; the sound file must be redownloaded every time it is played. Stream sounds are linked to the timeline, which means they stop playing if the timeline stops (i.e., they are "timeline dependent").

1. With **atrium-kiosk.fla** open, add a new layer named **Talking** immediately above the **Mouths** layer.



The empty circle indicates that no content currently resides on the keyframe.

The filled circle indicates that some content exists on the keyframe.

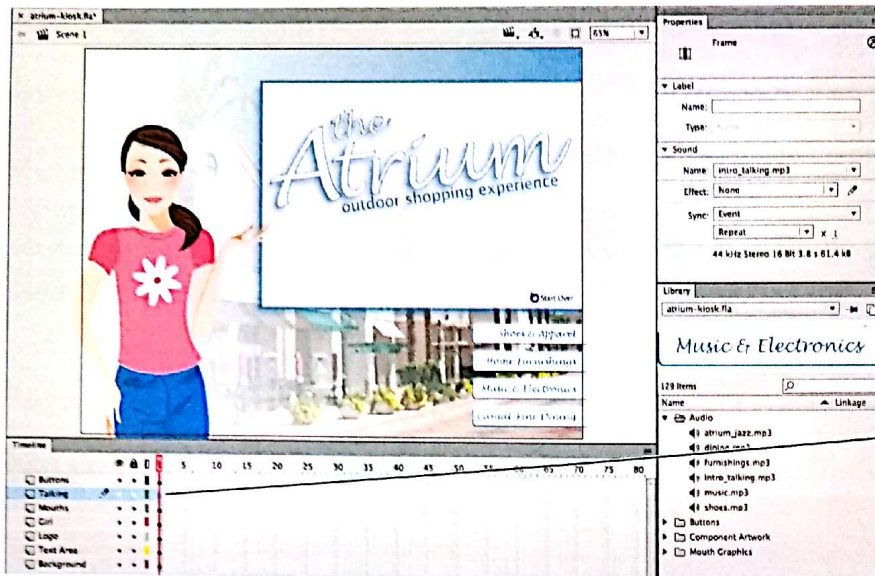
2. Select the **Frame 1** keyframe of the **Talking** layer.

By default, the first frame of every layer is a keyframe.

- In the Properties panel, choose `intro_talking.mp3` from the Sound menu and choose Stream in the Sync menu.

Note:

Because stream sounds are typically larger files (longer sounds equal more data and larger file size), the quality of these sounds might be poor for users who have slow Internet connections.



Frame 1 of the Talking layer is selected.

- Choose **Control > Test** to test the movie.

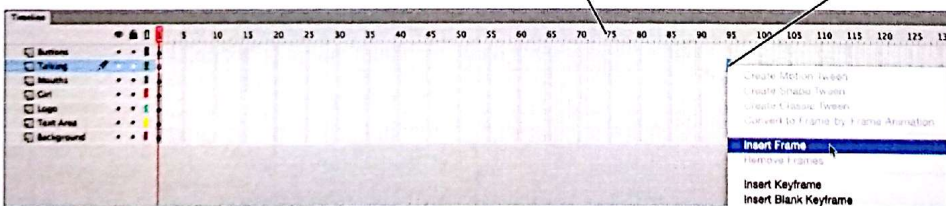
The background sound plays as expected, but the `intro_talking` sound does not. Remember, stream sounds are related to the position of the playhead on the timeline (they are timeline dependent). Because this file currently has only one frame, the playhead has nowhere to move, so the sound file does not play in the Player window.

- Close the external window and return to Animate.

- In the timeline, **Control/right-click Frame 95 of the Talking layer** and choose **Insert Frame** from the contextual menu.

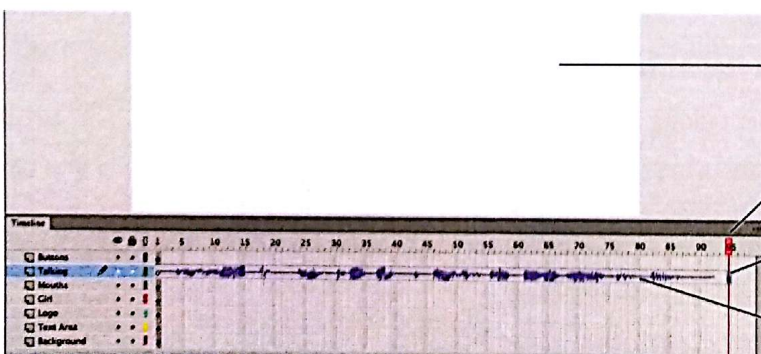
Frame numbers appear in the frame ruler at the top of the timeline.

Control/right-click Frame 95 of the Talking layer to open the contextual menu.



When you add a new frame, you extend the layer's timeline to the point where you place the new frame. The red playhead above the timeline shows the currently active frame.

You can now see the entire waveform of the sound that is attached to Frame 1 of the Talking layer. As you can see, however, none of the graphics are visible on the Stage because you have not added frames to the other layers. In other words, objects on those layers don't yet exist at Frame 95.



Other layers are not yet extended to Frame 95, so the graphics on those layers are not visible.

The playhead shows the currently active frame.

Adding a frame extends the layer's timeline.

The waveform on the Talking layer is now entirely visible.

7. Click Frame 95 of the Buttons layer to select it, then press F5.

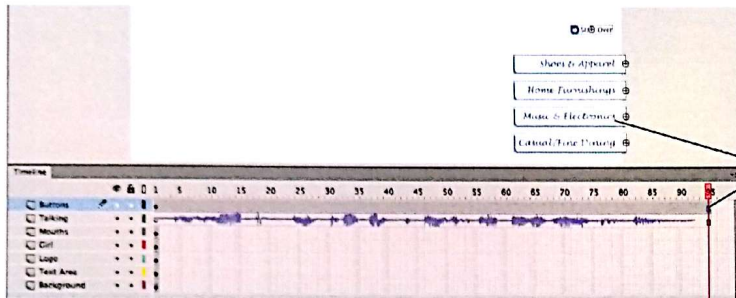
This keyboard shortcut inserts a new frame at the selected location on the timeline; it is the same as choosing Insert Frame from the contextual menu.

If you are using a laptop or keyboard that has system-specific functions assigned to the Function keys, you can either press FN plus the required function key, or use the Insert>Timeline menu commands to insert frames and keyframes.

After adding the new frame to the Buttons layer, objects on that layer are now visible at Frame 95. The other graphics are still not visible because those layers do not yet have frames at Frame 95.

Note:

You can also insert a frame, keyframe, or blank keyframe by Control/right-clicking a specific frame in the Timeline panel and choosing from the contextual menu.

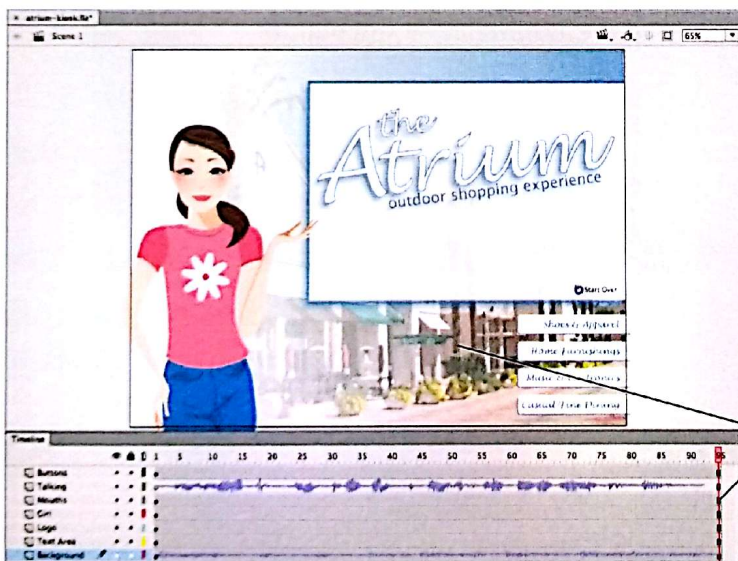


Objects on the Buttons layer are visible once that layer has been extended to Frame 95.

8. Click Frame 95 of the Mouths layer, then Shift-click Frame 95 of the Background layer.

9. Press F5 to add new frames to all five selected layers.

Because all of the layers now “exist” on Frame 95, all of the kiosk graphics are now visible on the Stage.



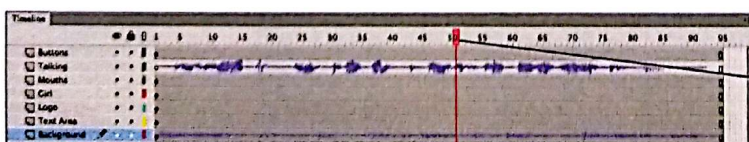
Because all layers now extend to Frame 95, all graphics in the interface are visible on the Stage.

10. Click Frame 1 of any layer to move the playhead to the beginning of the timeline.

The playhead identifies the current point in time on the Animate timeline. If you don't move the playhead back to Frame 1, the background sound will not play.

11. Press Return/Enter to test the movie on the Animate Stage.

You should now hear two sounds: the character talking and the background music.



Pressing Return/Enter causes the playhead to move, playing the movie directly on the Stage.

12. Choose Control>Test to test the movie in the external debugger window.

The movie plays entirely through and then starts over again (**loops**) — this is what would happen in the actual exported file.


To make the timeline play only once, you have to use code to intentionally stop the playhead from looping. This code will be implemented by your developer partner after you are finished creating the lip-syncing animation.

Note:

You can choose Control>Loop Playback to allow the playhead to loop on the Animate Stage.

13. Close the external window and return to Animate.

14. Save the file and continue to the next exercise.

 **PREPARE FOR LIP SYNCING**

If you have ever watched cartoons, you have probably seen the results of the time-consuming and painstaking work involved in synchronizing a character's movements to sounds. Realistic lip syncing is an extremely complex art that requires precise attention to detail, as well as in-depth study of behavioral movement. Other projects, such as this one, do not call for the precision and detail required for lifelike animation; rather, they use representative movements to create the effect of a character talking.

1. Sit or stand in front of a mirror. Say the following sentence slowly, paying careful attention to the shape of your mouth for each syllable:

Need help? Use the buttons to find exactly what you're looking for.









2. With atrium-kiosk.fla open in Animate, expand the mouth graphics folder in the Library panel.

3. Click each mouth symbol in the Library panel and review the shapes.

The illustrator for this project created eight different mouth shapes to represent the various "talking" sounds. Note that each symbol was created with the registration point at the center.

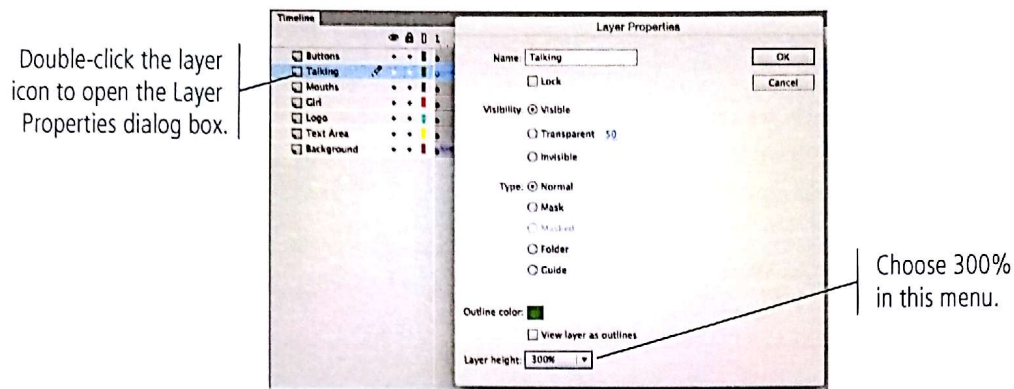
Note:

To better understand how to sync lip movements to sounds, you should study the different facial movements that are involved in spoken sound (called phonology).

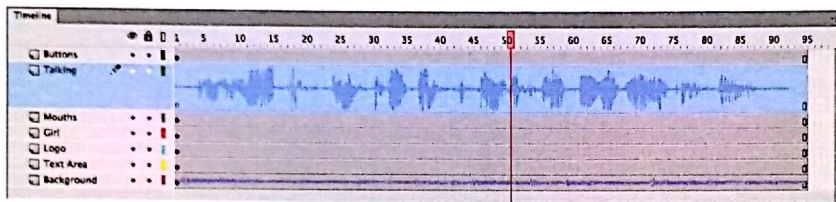
Symbol	Use for:	Symbol	Use for:	Symbol	Use for:	Symbol	Use for:
 mouth1	Silent, M, B, P	 mouth2	C, D, G, J, K, N, R, S, Y, Z	 mouth3	Short E, I, O, U Long A	 mouth4	F, V
 mouth5	M, B, P	 mouth6	L, D, T, Th	 mouth7	Short A, E Long I	 mouth8	Ch, Sh, Qu, W Long O, U

4. In the timeline layers area, double-click the icon to the left of the Talking layer name to open the Layer Properties dialog box.

5. Choose 300% in the Layer Height menu and click OK.



It's easier to sync movement to sound when you can see the variations in the sound file. By enlarging the layer height, you can see the peaks and valleys of the waveform directly on the timeline.



6. Continue to the next exercise.

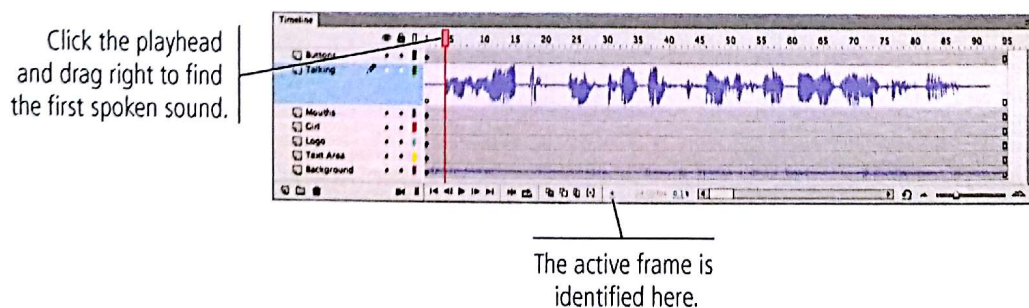
CREATE LIP SYNC ANIMATION

While lip syncing might seem complicated, it's actually quite simple — you show the graphic that supports the sound heard at a particular frame on the timeline. Because the different mouth shapes for this project have already been created, the most difficult part of the process is determining which shape to place at which point on the timeline.

1. Click **Frame 1** above the timeline to reset the playhead to the beginning of the movie.
2. Click the playhead and drag quickly to the right.

Dragging the playhead, a technique called **scrubbing the timeline**, allows you to manually preview portions of an animation. Because the sound on the Talking layer is a stream sound, you hear the sound as you drag the playhead. The background music — an event sound — is not related to the playhead, so scrubbing the playhead does not play the background music.

As you drag the playhead from Frame 1, you hear the first sound in the spoken message beginning at Frame 4 (also indicated by the rise in the waveform).



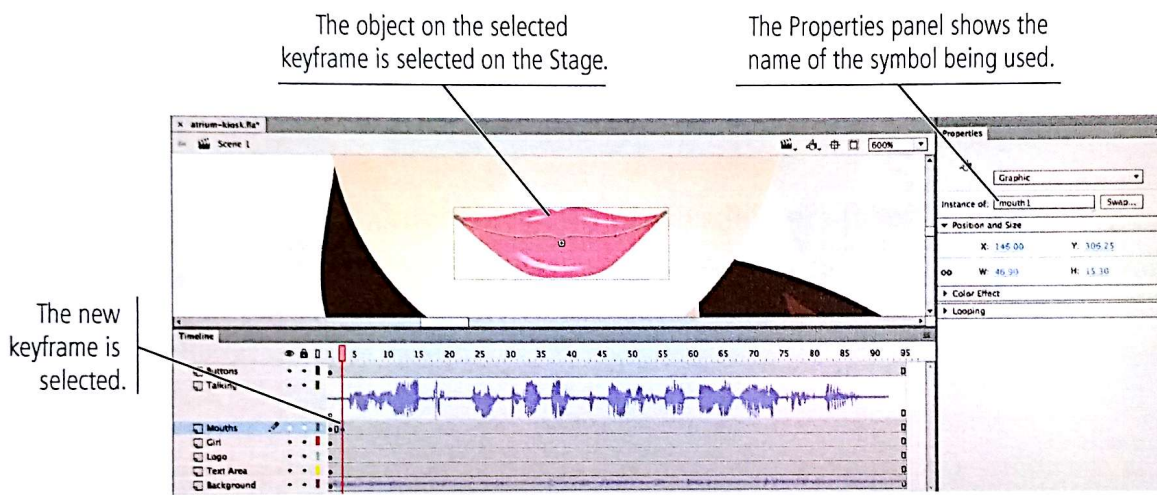
3. Select Frame 3 of the Mouths layer, then press F6 to insert a new keyframe.

Remember, a keyframe is the point at which something changes. In this case, you are going to change the mouth shape, so you need to add a keyframe at the appropriate point in time (when the mouth begins to move to make the spoken sound).

Content on the preceding frame is automatically duplicated on the new keyframe.

Although the sound begins at Frame 4, people's mouths usually start moving before actual words are spoken. You are adding a keyframe one frame earlier than the sound to accommodate for this behavior.

4. Click the mouth symbol on the Stage to show its properties in the Properties panel.

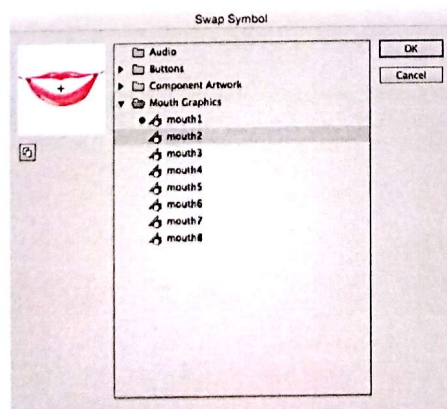


5. With the mouth shape on the Frame 3 keyframe selected, click the Swap button in the Properties panel.

Lip syncing requires one primary task: swapping symbols to show the graphics that correlate to the sound at that particular moment.

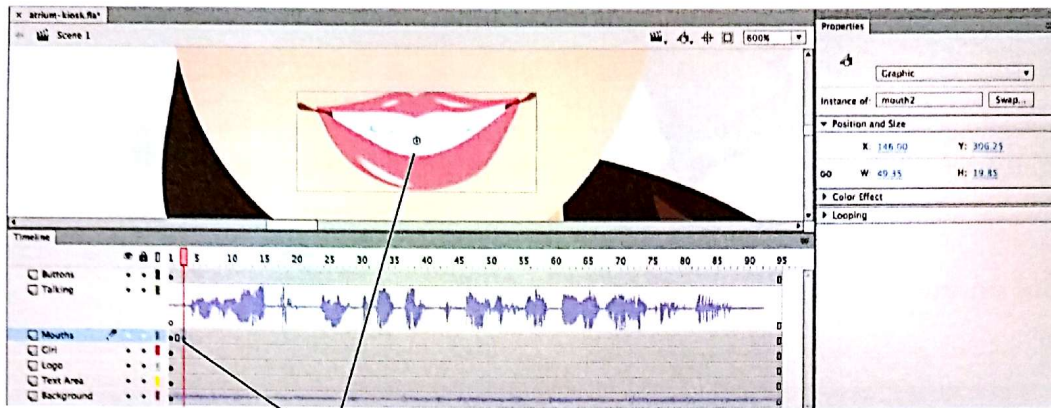
6. In the Swap Symbol dialog box, choose the mouth2 graphic symbol.

This is the mouth that correlates to the “N” sound at the beginning of the word “Need”.



7. Click OK to close the Swap Symbol dialog box.

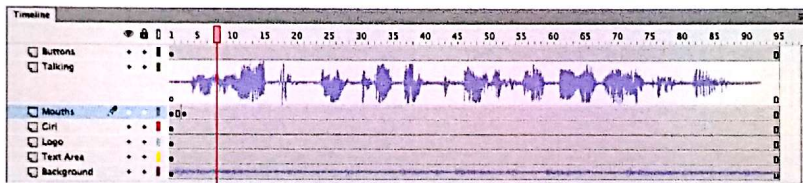
The new mouth now appears on Frame 3. The mouth symbol (mouth1) on the previous keyframe will remain visible until the playhead reaches Frame 3.



The new mouth shape appears, starting at Frame 3.

8. Drag the playhead right to find the next significant change in sound.

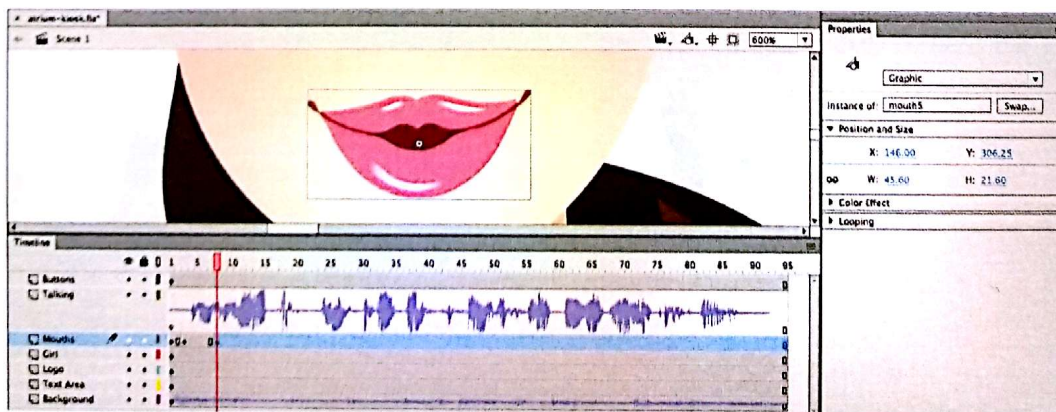
The brief pause between the words “need” and “help” suggests a change in the speaker’s mouth position at Frame 8.



9. Select Frame 8 on the Mouths layer, then add a new keyframe to the selected frame.

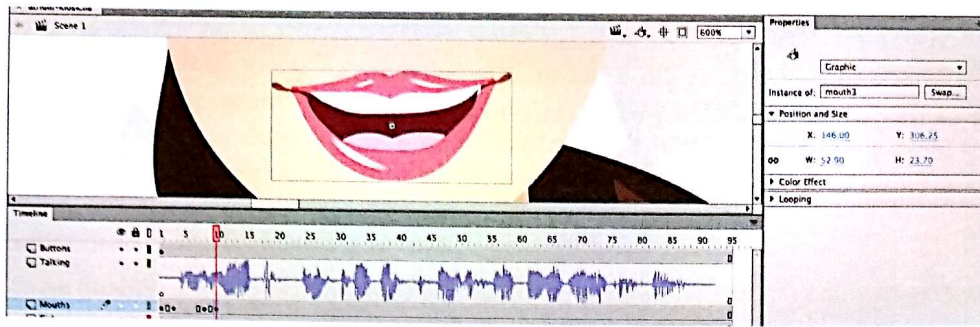
10. With the mouth on the Frame 8 keyframe selected, click to select the mouth shape on the Stage, then click the Swap button in the Properties panel. In the Swap Symbol dialog box, choose the mouth5 symbol and click OK.

This mouth shape is nearly closed, so it works well for the brief pause between words. It correlates to the short “I” sound, but it also works well as a good transition shape between a wide-open mouth and a closed mouth.



11. Insert a new keyframe at Frame 10 of the Mouths layer. Select the mouth shape on the Stage, open the Swap Symbol dialog box, and replace the mouth shape with the mouth3 symbol.

This shape correlates to the “short e” sound in “help”. (The “h” sound typically blends into the vowel sound.)

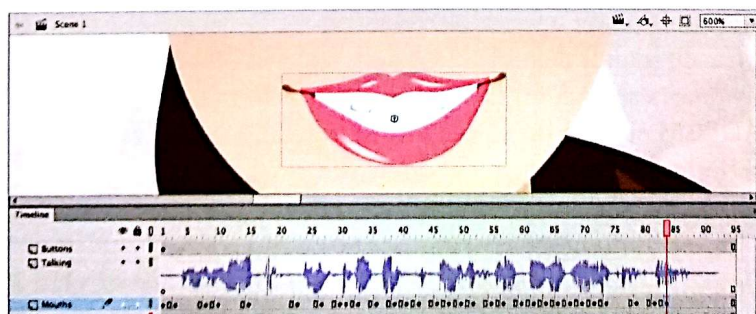


12. Return the playhead to Frame 1 and press Return/Enter to play the movie on the Stage.

So far you have only three changes in the character’s mouth, but you should begin to see how the different symbols appear at the appropriate points in the playback. In general, lip syncing in Animate is a relatively simple process. The hardest parts are determining when to change the graphics in relation to the sound, and deciding which shape best suits the animation at any given point.

13. Applying the same process you used to create the first three mouth changes, continue scrubbing the playhead to identify points of change. Insert keyframes and swap symbols on the Mouths layer at the appropriate locations. In our example, we used the following locations and symbols:

Frame	Symbol	Frame	Symbol	Frame	Symbol
15.	mouth1	43.	mouth4	64.	mouth3
23.	mouth8	46.	mouth3	66.	mouth2
27.	mouth2	48.	mouth2	68.	mouth8
30.	mouth6	50.	mouth3	70.	mouth2
31.	mouth1	52.	mouth2	72.	mouth6
33.	mouth3	55.	mouth7	74.	mouth2
36.	mouth6	57.	mouth2	79.	mouth4
39.	mouth2	60.	mouth6	82.	mouth8
41.	mouth8	62.	mouth2	84.	mouth2



14. Return the playhead to Frame 1, then press Return/Enter test the animation.

By swapping the mouth symbol at various points on the timeline in relation to the sounds on the Talking layer, you now have a character who appears to be talking.

15. Save the file and continue to the next exercise.

DEFINE SOUND COMPRESSION SETTINGS

Before you export the final movie file, you should optimize the sounds to produce the smallest possible files while still maintaining the best possible quality. You can define default export settings for all stream sounds and all event sounds, but you can also experiment with different compression settings for individual sound files in the library.

1. With `atrium-kiosk.fla` open, Control/right-click the `atrium_jazz.mp3` file in the Audio folder of the Library panel. Choose Properties from the contextual menu.



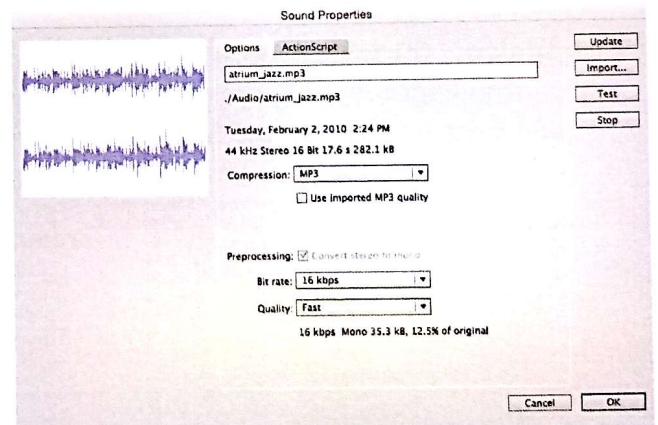
2. In the resulting Sound Properties dialog box, make sure the Options tab is active at the top of the dialog box.
3. Choose MP3 in the Compression menu. If available, uncheck the Use Imported MP3 Quality option.

Animate supports five sound compression options:

- **Default.** This option uses the global compression settings (mp3, 16kbps, mono) defined in the Publish Settings dialog box when you export your SWF file. If you select Default, no additional export settings are available.
- **ADPCM.** This option converts sounds into binary data. ADPCM encoding is not as efficient as MP3 compression, but it is useful if you need to export a file to be compatible with older versions of Animate.
- **MP3.** Over the past few years, this format has become a *de facto* standard for audio on the Web. MP3 compression produces small files with very good quality, but it can cause problems for older computers with limited processing power.
- **Raw.** This option does not compress the audio data, which results in very large file sizes. This option should only be used for files that will be delivered on the desktop instead of over the Internet.

ADPCM and Raw use less processing power on each playback than MP3. They are recommended for very short (small) sounds that are played back rapidly. A shooting game in which guns fire many times a second, for example, might benefit from encoding the gun sound in ADPCM or Raw; the cost in file size would probably be less than 1k, and processor performance would be significantly enhanced.

- **Speech.** This option uses a compression algorithm designed specifically for compressing spoken sounds. Sounds compressed with this option are converted to mono sounds (instead of stereo). Speech-compressed sounds require Animate Player 6 or higher.



Note:

The Preprocessing check box, enabled by default, converts stereo sounds to mono sounds.

4. Choose 48 kbps in the Bit Rate menu.

Depending on the selected compression option, you can also change the bit rate or the sample rate to affect the quality of the exported sound.

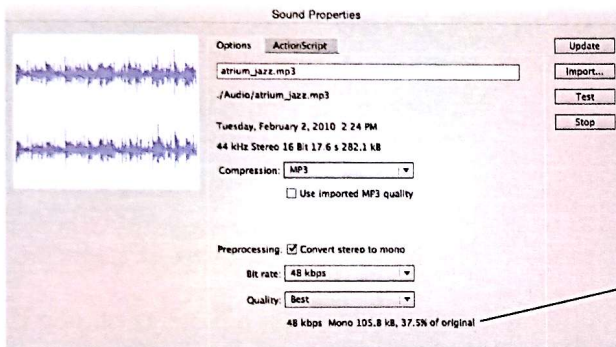
- The **Sample Rate** menu is available for ADPCM, Raw, and Speech compression; lower sample rates decrease file size, but can also decrease sound quality. The 22 kHz setting is recommended for reasonably good quality of most sounds.
- The **Bit Rate** menu is available for MP3 compression. This option determines the bits per second in the exported sound. Higher bit rates result in better sound quality. Most experts recommend at least 20 kbps for speech, and 48 kbps for reasonably good quality of complex sounds such as music.

Note:

Animate cannot increase the sample rate or bit rate of an imported sound above its original settings.

5. Choose Best in the Quality menu.

Three quality options — in order of file size (from small to large) and quality (from low to high) — are available for MP3 sounds: Fast, Medium, and Best.



The dialog box provides feedback regarding the size of the file using the selected settings.

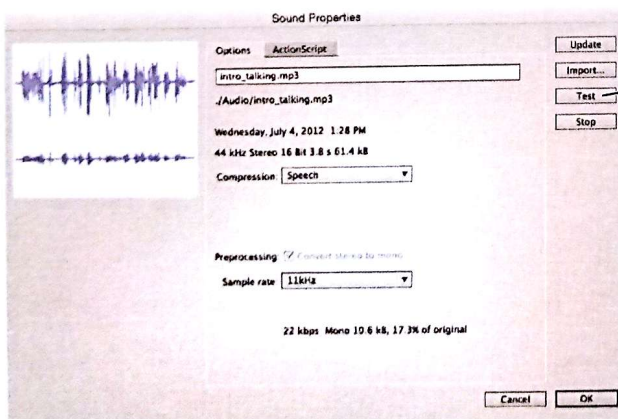
6. Click OK to change the export settings for the selected sound file.

7. Open the Sound Properties dialog box for the intro_talking sound file.

8. Choose Speech in the Compression menu.

9. Choose 11 kHz in the Sample Rate menu, and then click the Test button.

When the sound plays, you might notice some popping or hissing noises behind the spoken message.



Click here to test sound quality using the defined settings.

Note:

You can change the default sound export settings in the Publish Settings dialog box.

10. Choose 44 kHz in the Sample Rate menu, and then click the Test button.

This sample rate results in much better quality. Because this kiosk will not be downloaded over the Internet, the larger file size is not a problem.

11. Click OK to apply the new compression settings for this sound file.

12. Save the Animate file and close it.