How to make Flash content accessible

You can make Adobe Flash Professional content accessible to people with disabilities. Here are some steps you can take to make your web content more accessible to those with visual, motor, or hearing impairments:

- *Expose the information to screen readers*. People with visual impairments use screen-reader software that provides a spoken description of what is on the screen. In Flash movies, you can decide which objects in your movie will be read by screen readers.

- *Make text or images resizable*. Some visitors might have difficulty reading small text or seeing small graphics. Allow users to zoom in on these elements, taking advantage of scalable vector graphics in SWF files.

- *Provide audio narration*. Consider providing an audio narration for visitors without a screen reader, or where screen readers might not work, such as with video content.

- *Provide captions for audio narrations*. Some visitors might not be able to hear an audio narration for your site or a video. Consider providing captions for these visitors.

- *Do not rely solely on color to communicate information*. Many visitors might be color blind. If you rely on color to communicate information, provide text or speech equivalents.

Historically, many online presentations (such as videos) provide alternative ways for visually impaired visitors to access the content, for instance, a textual description of a video. However, Flash provides textual information directly to the screen reader. Although this usually means you need to make additional settings or ActionScript in a FLA file, you do not have to create a completely separate version.

The following objects are accessible by default in Flash movies and are included in the information Flash Player provides to screen-reader software:

- Text

- Input text fields

- Buttons

- Movie clips

- Entire movies

Turning accessibility on and off

By default, your Flash movie is accessible to screen readers. Static text is automatically read. Other objects, such as buttons and movie clips, are announced by using a label that is applied to the object by Flash. Default labels are general terms such as button, but you can provide more specific terms.

Using the Accessibility panel, you can turn accessibility on or off for the entire movie or for selected objects. The following are some best practices when making objects accessible:

- Provide your own name and description for each accessible object except text. (Because text is read by screen readers, you don't need to provide descriptions.)

- Add descriptive labels to buttons, such as next or previous.

- Add labels and descriptions to movie clips if they depict an animation that is not explained in text on the page.

- Turn accessibility off for an object, such as an animation, that does not add new information to the explanatory text on a page. In particular, if you use audio, turn off accessibility for any text that duplicates the audio content.

- Try to let visitors control their movement through a website by using buttons, such as next or previous.

This document requires Adobe Flash Professional CS6. Technical instructions may differ depending on your version.

• Make sure visitors can move through your site by using the keyboard.
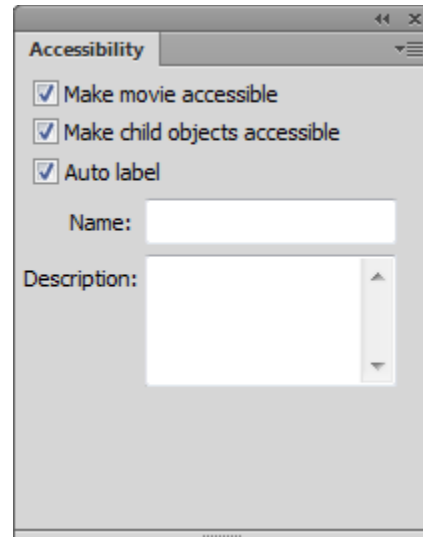
To turn accessibility on and off:

1. Select Window > Other Panels > Accessibility.

   The Accessibility panel appears (**Figure 1**).

   By default, the entire movie is accessible, and automatic labeling is turned on.

2. Deselect the Make Movie Accessible option to turn accessibility off. Select that option again to turn accessibility on.
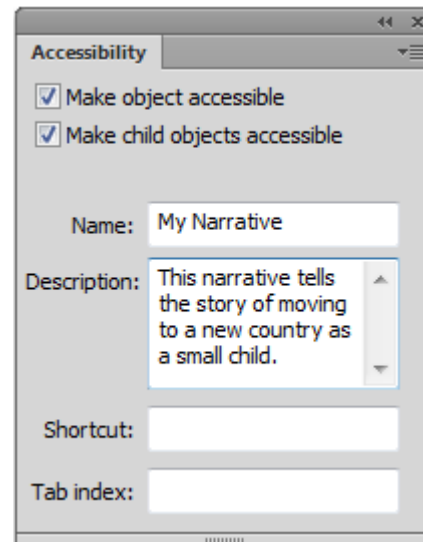
Figure 1 Accessibility panel

Flash sites can have complex layouts, structure, and navigation. This complexity can make navigation difficult for visitors with screen readers. A good idea is to provide a general description of the entire website to help orient screen-reader users to the structure of the site. You can add such a description through the Accessibility panel.

*To add a description of the Flash website:*

1. Select Edit > Deselect All to make sure nothing on the Stage is selected and ensure that the Accessibility panel is setting properties for the entire movie.

2. In the Description text box, enter a description of the movie (**Figure 2**).

Figure 2 Website description in Accessibility panel

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To add a name and description to an object:

1. On the Stage, click a button or movie clip.

   The Accessibility panel changes to show the options for the selected object.

2. Enter a name and description for the object (**Figure 3**).

   Screen readers will read the entered information when the playhead reaches the frame in which the object first appears.
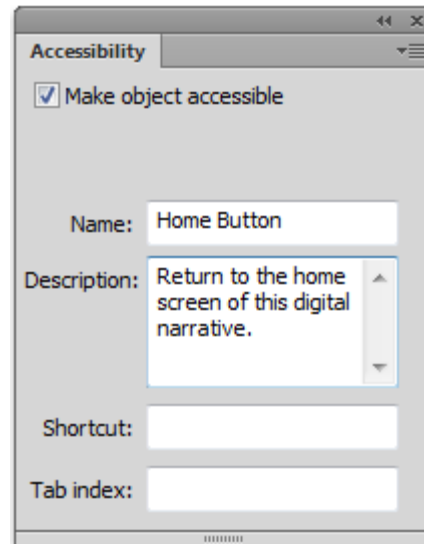
Figure 3 Name and description of object

To turn accessibility off for an object:

1. On the Stage, click an object that does not add information to the page, such as an animation.

   It is especially important to turn off accessibility for looping objects so screen readers do not read the same information over and over again.

2. In the Accessibility panel, deselect Make Object Accessible.

   Screen readers will skip the object.

Often there are situations when a movie clip contains other movie clips that do not require separate text descriptions. In these cases, create a description for the parent movie clip and turn off Make Child Objects Accessible (**Figure 2**) so that only necessary information is sent to the screen reader.

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Controlling the tab order of Flash content

To maintain accessibility for visitors with motor impairments, it is important to provide keyboard access to all objects in your Flash website. You can do so by setting a tab index for each object. The tab index determines the order in which visitors move through elements of your site--buttons, links, and other interactive content--when they press the Tab key.

To set tab order:

1. Make sure the Accessibility panel is open (select Window > Other Panels > Accessibility).

2. Select the object or text where you want visitors to begin.

3. In the Tab Index box, enter **1** (**Figure 4**).

4. Repeat steps 2 and 3 for all other objects on the Stage, incrementing the tab index number for each object.

5. Select View > Show Tab Order.

   The tab index number you entered appears next to the instance on the Stage.

   Note: Tab index order also controls the order in which many screen readers read Flash content. However, to control reading order for all screen readers, you need to set a Tab index through ActionScript. See Flash Help for more details.
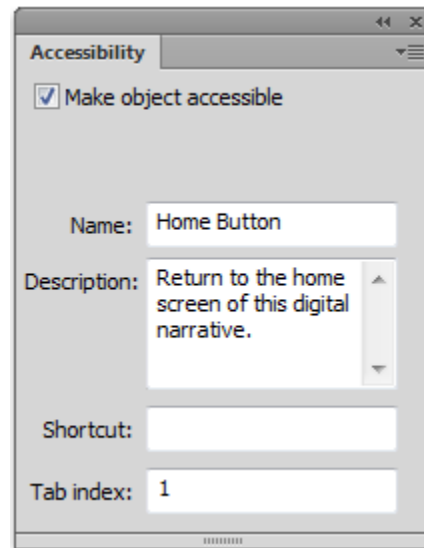

Figure 4 Accessibility panel

Testing Flash content for accessibility

As with other content, you should test your Flash content for accessibility before publishing it.

Here are some recommendations for accessibility testing:

• Download several screen readers and test your movie by playing it in a browser with the screen reader enabled. Make sure text read by the screen reader is not duplicated by audio you provide.

• Verify that visitors can navigate your content effectively when using only the keyboard. You should test keyboard navigation both with a screen reader and without a screen reader, because keyboard access can differ when a screen reader is present.

• Test the movie with actual visitors. If it is important that your content is accessible, have it tested by people with disabilities.

• Check tab index number by looking at the numbers that appear next to the instances on the Stage.

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