

Photoshop: Web Graphics



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Introduction

Photoshop offers many graphics tools for Web developers. This workshop's focus is to demonstrate Adobe's companion product for creating Web ready images; ImageReady. ImageReady offers powerful Web features for optimizing, slicing, creating rollovers as well as GIF animation.

Objectives

Maximize productivity producing graphics for the World Wide Web using the following:

- Optimize your image file type and file size.
- Use slicing tools to increase image/Web page load times.
- Create interactive navigation buttons using image rollovers.
- Animate GIF images to use on a Web page.

Prerequisites

Photoshop Introduction or equivalent skills.

Related Training Available from ACS

All workshops offered by Instructional Services are free to KU students, staff, faculty, and [approved affiliates](#).

To learn more about or register for workshops, receive automatic announcements of upcoming workshops, and track workshops you've registered for and have attended, visit www.lib.ku.edu/instruction/workshops. For further workshop related questions, please email training@ku.edu.

Web Graphic File Types

There are three main file types for image files standardized by the World Wide Web Consortium (W3C): GIF, JPEG and PNG. Each is unique and each has distinct advantages and disadvantages.

GIF Image File Format

GIF images are a compact way of delivering graphic data over a network. Because of the limited pallet (256 colors) the GIF format is better suited for simple text logos, buttons, bullets and graphic lines.

Indexed Color

GIF images are essentially a matrix of index values pointing at a table of colors which can contain up to 256 values, allowing each color in a bitmap (the matrix) to be represented in at most 1 byte.

GIF (and JPEG) is "lossy," meaning that the decompressed image isn't quite the same as the one you started with. The millions of colors available in a typical real world image

need to be redefined to conform to the much reduced color set available in an indexed representation. This reduction of the number of colors contributes to the compression achieved with GIF.

JPEG Image File Format

JPEG (pronounced "jay-peg") is a standardized image compression mechanism.

JPEG is designed to compress full-color or gray-scale images of natural, real-world scenes. It works well on photographs, naturalistic artwork, and similar material; not so well on lettering, simple cartoons, or line drawings. JPEG handles only still images, but there is a related standard called MPEG for motion pictures.

JPEG is designed to exploit known limitations of the human eye, notably the fact that small color changes are perceived less accurately than small changes in brightness. Thus, JPEG is intended for compressing images that will be looked at by humans. If you plan to machine-analyze your images, the small errors introduced by JPEG may be a problem for you, even if they are invisible to the eye.

JPEG images have a 16-bit color palette allowing up to 16.7 million colors in one image. This format is highly compressible (ie. large images can be squeezed into small amounts of memory) which makes it ideal for use on the Internet. The amount of compression can be adjusted to achieve the desired trade-off between file size and visual quality.

Progressive JPEG is a means of reordering the information so that, after only a small part has been downloaded, a hazy view of the entire image is presented rather than a crisp view of just a small part. Progressive JPEG is now widely supported.

PNG Image File Format

The initial motivation for developing PNG graphics was to replace GIF with something better. The design of PNG goes further than GIF and adds many new features. PNG is a loss less format, which means that when the image is decompressed, the exact original pixel values are preserved. PNG graphics also support true color in addition to indexed color, whereas only the latter is supported by GIF (so GIF is lossy for True Color images). In True Color, RGB (and optionally, alpha) values for each pixel are specified directly, while indexed color represents each pixel as an entry in a palette. Using True color greatly enhances graphical quality, dispenses the need for palettes, and is also invaluable when an image has variable levels of transparency.

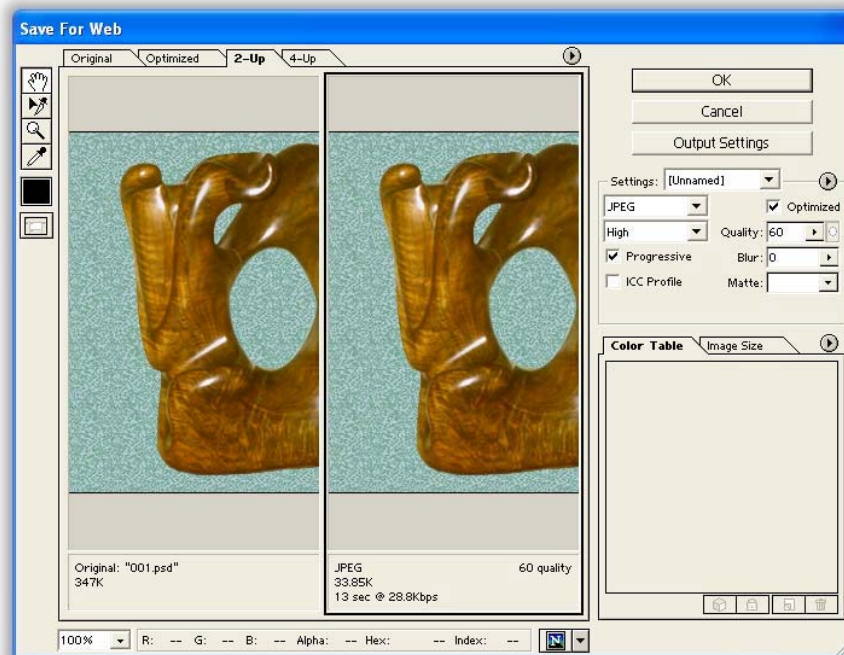
Optimizing Web Graphics

Optimization is the process of fine-tuning the display quality and file size of an image for use on the Web or other online media. There are many controls for compressing the file size of an image while optimizing its online display quality. You can optimize images in the three major graphic file formats used on the Web:

There are two methods of optimizing images:

For basic optimization, the **Save As** command lets you save an image as a GIF, JPEG, or PNG file. Depending on the file format, you can specify image quality, background transparency or matting, color display, and downloading method. However, any Web features--such as **slices**, **links**, **animations**, and **rollovers**--that you've added to a file are not preserved.

For precise optimization, you can use the **Save for Web** (Photoshop) or **Save Optimized** (ImageReady) command to preview optimized images in different file formats and with different file attributes. You can view multiple versions of an image simultaneously and modify optimization settings as you preview the image. In this manner you can select the best combination of settings for your needs. You can also specify background transparency and matting, select options to control dithering, and resize the image to specified pixel dimensions or a specified percentage of the original size.



When you save an optimized file using the command, you can choose to generate an HTML file for the image. This file contains all the necessary code to display your image as well as links, rollovers, and animations in a Web browser.

Using Graphical Slices






You use slices to divide a source image into functional areas. When you save the image as a Web page, each slice is saved as an independent file that contains its own settings, color palette, links, rollover effects, and animation effects. You can use slices to achieve faster download speeds. Slices are also advantageous when working with images that contain different types of data. For example, if one area of an image needs to be optimized in GIF format to support an animation, but the rest of the image is better optimized in JPEG format, you can isolate the animation using a slice.

Viewing Slices

Slice lines define the boundary of the slice. Solid lines indicate that the slice is a user-slice or layer-based slice; dotted lines indicate that the slice is an auto-slice.


Slice colors Differentiate user-slices and layer-based slices from auto-slices. By default, user-slices and layer-based slices have blue symbols, while auto-slices have gray symbols.

Slice numbers - Slices are numbered from left to right and top to bottom, beginning in the upper left corner of the image. If you change the arrangement or total number of slices, slice numbers are updated to reflect the new order.

Slice symbols - Indicate whether a user-slice is an Image  or No Image  slice; if the slice is a layer-based slice ; if the slice is linked ; or if the slice includes a rollover effect .

Show or Hide slices

In order for slices to be displayed you need to turn on display of slices in the **View > Show submenu**, and ensure the choose **View > Show Extras** option is checked.

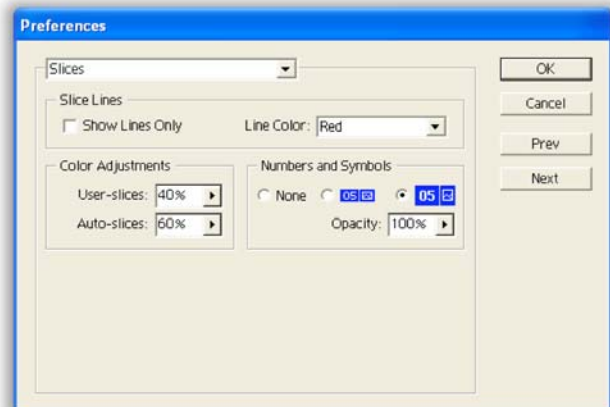
Click the Slices Visibility button  on the Tool Box.

Change the display of slices

1. Choose **Edit > Preferences > Slices**.

2. Under Numbers and Symbols, select a size for display symbols:

- None to display no numbers or symbols.
- The small icon to display small numbers and symbols.
- The large icon to display large numbers and symbols.




3. For Opacity, enter a value, or choose a value from the pop-up slider to change the opacity of the numbers and symbols display.

4. Enter a value, or choose a value from the Color Adjustments pop-up slider for User-slices, Auto-slices, or both. (The User-slices option controls color adjustments for both user-slices and layer-based slices.)
 - The value determines by how much the brightness and contrast of unselected slices are dimmed.

Working with Slices

To select a slice:

1. Select the **slice select** tool .
2. Click on a slice in the image. When working with overlapping slices, click the visible section of an underlying slice to select it.

Note: To toggle between the slice tool and the slice select tool, hold down **Ctrl** (Windows) or **Command** (Mac OS).

To select multiple slices

With the **slice select** tool , do one of the following:

1. Shift-click to add slices to the selection.
2. You can save, load, and delete slice selections. Using slice selections lets you reselect specific slices quickly and accurately.

To save a slice selection


1. Select one or more slices.
2. Choose **Slices > Save Slice Selection**.
3. Enter a name in the Selection Name text box, and click **OK**.

To load a slice selection

Choose **Slices > Load Slice Selection**, and select the name of the slice selection you want to load from the submenu.


To delete a slice selection

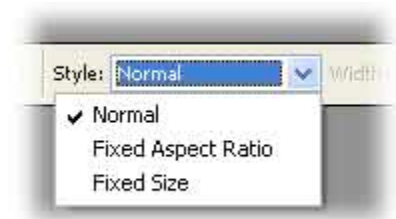
Choose **Slices > Delete Slice Selection**, and select the name of the slice selection you want to delete from the submenu. Deleting a slice selection does not delete the slices themselves.

You can create user-slices with the **slice tool** , and in ImageReady, from a selection or from guides.




To create a slice with the slice tool

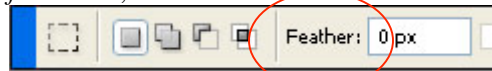
1. Select the **slice tool** . Any existing slices automatically display in the document window.
2. Choose a style setting in the options bar:
 - **Normal** to determine slice proportions by dragging.
 - **Constrained Aspect Ratio** to set a height-to-width ratio. Enter whole numbers or decimals for the aspect ratio. For example, to create a slice twice as wide as it is high, enter 2 for the width and 1 for the height.
 - **Fixed Size** to specify the slice's height and width. Enter pixel values in whole numbers.
3. Drag over the area where you want to create a slice. **Shift-drag** to constrain the slice to a square. Use **snap** to align a new slice to a guide or another slice in the image.



To create a slice from a selection

1. Select a portion of the image using an option from the marquis tool such as 
2. Choose **Select > Create Slice from Selection**.

Note: User-slices are created based on the **Selection marquee**. If the selection is *feathered*, the slice covers the full selection (including the feathered edges).



If the selection is nonrectangular, the slice covers a rectangular area large enough to cover the full selection.

Optimizing Slices

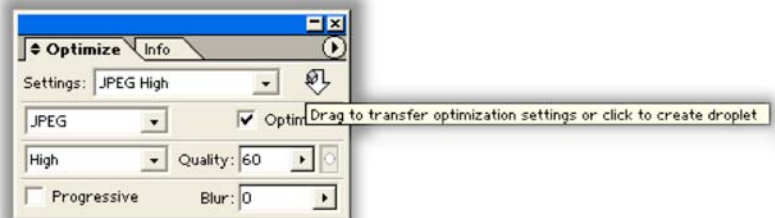
All Image slices use the optimization settings of the entire image until you apply new settings. If you select multiple slices with different optimization settings, only the controls that are relevant to all of the selected slices are visible. If settings for a control differ among slices, the control is blank. Any settings you choose are applied to all selected slices.

You can also copy optimization settings from one slice to another within a document, or from a slice in one view to a slice in another view in 2-Up or 4-Up view.

To optimize a slice

Select one or more Image slices, and specify options in the Optimize panel/palette.

To copy optimization settings between slices:



Select the slice that uses the optimization settings you want to copy.


Drag the Droplet icon  from the **Optimize** palette onto the slice to which you want to apply the optimization settings.

Image Rollovers

A rollover is a Web effect in which different states of an image appear when a viewer performs a mouse action, such as rolling or clicking over an area of the Web page. A state is defined by a specific configuration of the **Layers** palette, including layer location, styles, and other formatting options.

You use a slice or image map area to define the active area for a rollover. By default, every slice or image map area has one state; the Normal state. (The Normal state corresponds to the appearance of an image when it is first loaded into a Web browser and no rollover effects have occurred.) When you add a new state to the rollover, you capture a snapshot of the slice or image map area in the previous state. You can then use the **Layers** palette to make changes to the image in the new state.


Create Image Rollovers

When you create a rollover state, you select a mouse action that activates the state (except for the first state in a rollover, which is always the Normal state).

To create a rollover state

1. Select the slice or image map area to which you want to add the rollover.

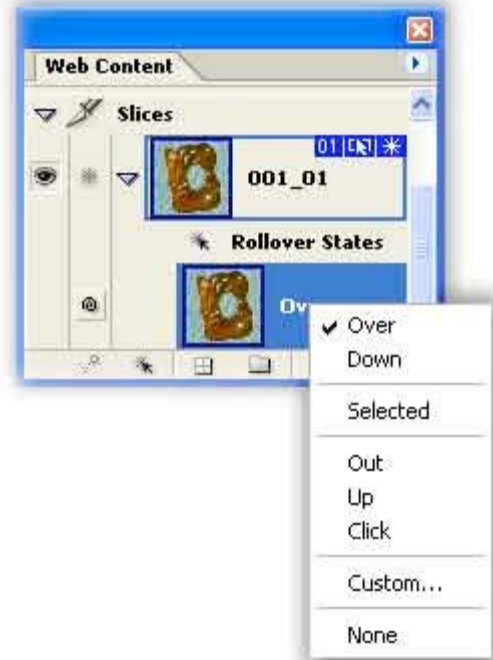
<p>Note: When creating a slice or image map area for a rollover, use a layer-based slice or a layer-based image map area. This is recommended because the dimensions of a layer's content may change in the course of creating a rollover.</p>

2. In the **Web Content** palette (**Window>Web Content**), create a new state:
 - Click the **Create Rollover State** button  at the bottom of the palette.

The new rollover state is identical to the state immediately preceding it, until you make modifications to the image using the **Layers** palette.

3. Use the default rollover state, or to select a rollover state, in the Web Content window **right click** on the image visible under the **Rollover State** label:

- **Over** defines the rollover state when the Web viewer rolls over the slice or image map area with the mouse while the mouse button is not pressed. (Over is automatically selected for the second rollover state.)
- **Down** to define the rollover state when the Web viewer presses the mouse button on the slice or image map area. (This state appears as long as the viewer keeps the mouse button pressed down on the area.)
- **Out** to define the rollover state when the Web viewer rolls the mouse out of the slice or image map area. (The Normal state usually serves this purpose.)
- **Up** to define the rollover state when the Web viewer releases the mouse button over the slice or image map area. (The Over state usually serves this purpose.)
- **Click** to define the rollover state when the Web viewer clicks the mouse on the slice or image map area. (This state appears after the viewer clicks the mouse and remains until the viewer activates another rollover state.)




Note: Note: Different Web browsers, or different versions of a browser, may process clicks and double-clicks differently. For example, some browsers leave the slice in the Click state after a click, and in the Up state after a double-click; other browsers use the Up state only as a transition into the Click state, regardless of single- or double-clicking. To ensure your Web page will function correctly, be sure to preview rollovers in various Web browsers.

- **Custom** to define a new rollover state. (You must create JavaScript code and add it to the HTML file for the Web page in order for the Custom rollover option to function. See a JavaScript manual for more information.)
- **None** to preserve the current state of the image for later use as a rollover state. (A state designated as None will not be displayed on the Web page.)


The Rollover States pop-up menu displays only the rollover states that have not yet been used for the selected slice or image map area (with the exception of the None and Custom states, which are always available and can be used repeatedly). You can redefine rollover states as you work (with the exception of the Normal state).

4. Modify the image for the rollover state using the **Layers** palette.

Previewing rollover states

You can preview rollover states directly in the document window by clicking on the **Preview Document**  tool in the **tool box**. This preview is consistent with Internet Explorer version 5.0 for Windows. To preview the rollover effect in your computer's default Web browser, click the Preview in Default Browser button in the toolbox.

To use rollover preview mode

1. Click the Rollover Preview button  in the toolbox.
2. In the document window, perform the action that activates the rollover state. For example, position the mouse over the rollover slice or image map area to preview the Over state. Then click the slice or image map area to preview the Click state.

To exit rollover preview mode

Select any tool in the toolbox (including the Rollover Preview button), or click the Play button in the Rollover palette.

Preview in Browser

You can open a browser and preview an optimized image. You can preview the image in any browser installed on your system. The browser displays the image with a caption listing the image's file type, pixel dimensions, file size, and compression specifications in the first paragraph, and filename and other HTML information in the second paragraph.

Upon installation, all browsers currently on your system are added to the Preview In menu. You can add additional browsers to the menu, and specify which browser will be launched when using a keyboard shortcut.

To preview an optimized image in a browser

Do one of the following:

In Photoshop choose **File > Save for Web**, then select a browser from the Preview In button at the bottom right area of the Save for Web window.

In ImageReady:

- Choose **File > Preview In**, then choose an option from the submenu. (Choose Other to select a browser not listed in the submenu.)
- Select a browser from the Preview in **Default Browser** tool in the toolbox.

To add a browser to the Preview In menu

1. Create a shortcut (Windows) or an alias (Mac OS) for the browser you want to add to the menu.
2. Drag the icon for the shortcut or alias into the Preview In folder, located in the Helpers folder in the Photoshop program folder.
3. Restart program to view the browser in the Preview In menu.


Web Animations

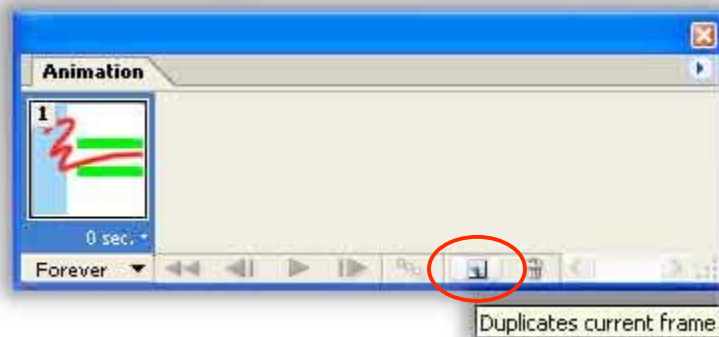
An animation is a sequence of images, or frames, that are displayed over time. Each frame varies slightly from the preceding frame, creating the illusion of movement when the frames are viewed in quick succession.

Working with layers is an essential part of creating animations. Placing each element of an animation on its own layer enables you to change the position and appearance of the element across a series of frames, using the **Layers** palette commands and options.

The **Animation** palette lets you create, view, and set options for the frames in an animation. You can change the thumbnail view of frames in the Animation palette--using smaller thumbnails reduces the space required by the palette and displays more frames in a given palette width.

To Insert a Second Frame

Select the  option in the lower right corner of the **Animation** palette. Use the **Layers** palette to change the appearance of the second frame to create the illusion of motion.



Tween Frames


You use the **Tween** command to automatically add or modify a series of frames between two existing frames--varying the layer attributes (position, opacity, or effect parameters) evenly between the new frames to create the appearance of movement. For example, if you want to fade out a layer, set the opacity of the layer in the starting frame to 100%; then set the opacity of the same layer in the ending frame to 0%. When you tween between the two frames, the opacity of the layer is reduced evenly across the new frames.

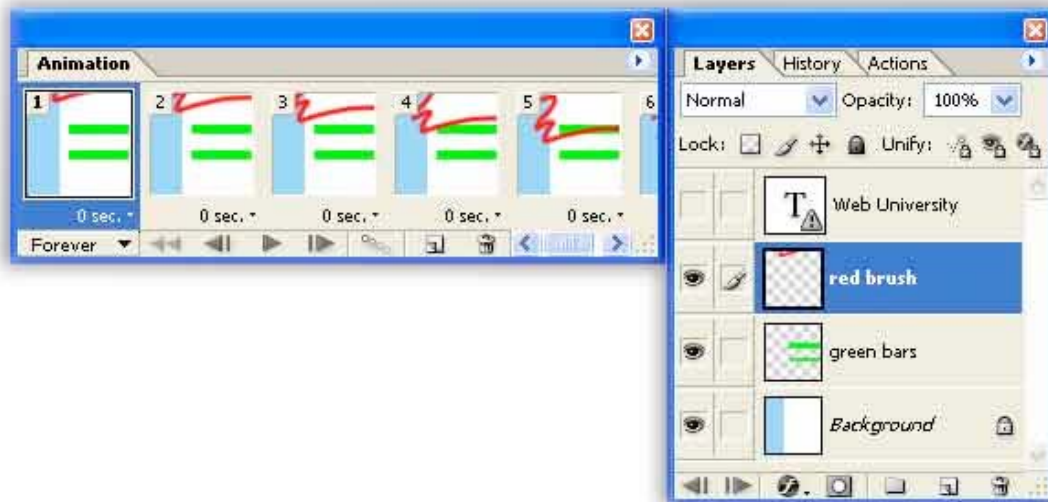
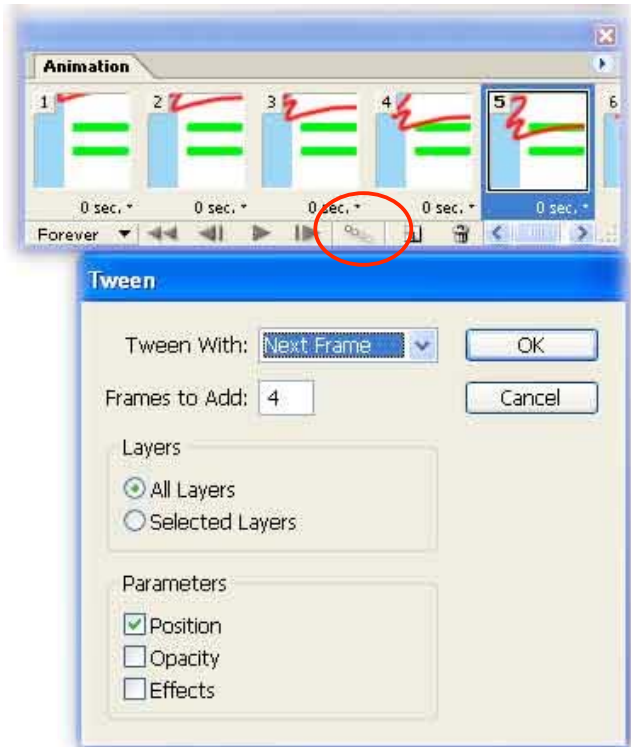
The term "tweening" is derived from "in betweening," the traditional animation term used to describe this process. Tweening significantly reduces the time required to create animation effects such as fading in or fading out, or moving an element across a frame. You can edit tweened frames individually after you create them.

Create frames with tweening

1. To apply tweening to a specific layer, select it in the **Layers** palette.
2. Select a single frame or multiple contiguous frames.

If you select a single frame, you choose whether to tween the frame with the *previous frame* or the *next frame*. If you select two contiguous frames, new frames are added between the frames. If you select more than two frames, existing frames between the first and last selected frames are altered by the tweening operation. If you select the first and last frames in an animation, these frames are treated as contiguous, and tweened frames are added after the last frame. (This tweening method is useful when the animation is set to loop multiple times.)

3. Do one of the following:
 - Click the **Tween** button  in the **Animation** palette.
 - Select **Tween** from the **Animation** palette menu.

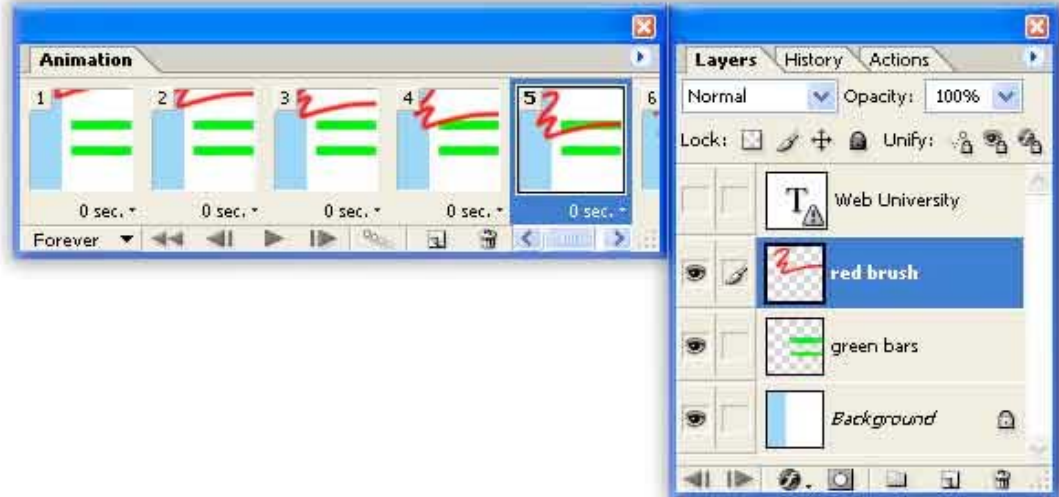


4. Specify the layer or layers to be varied in the added frames:
 - All Layers to vary all layers in the selected frame or frames.
 - Selected Layer to vary only the currently selected layer in the selected frame or frames.
5. Specify layer attributes to be varied:

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- Position to vary the position of the layer's content in the new frames evenly between the beginning and ending frames.
- Opacity to vary the opacity of the new frames evenly between the beginning and



ending frames.

- Effects to vary the parameter settings of layer effects evenly between the beginning and ending frames.
6. If you selected a single frame in step 2, choose where to add frames from the Tween With menu:
 - **Next Frame** to add frames between the selected frame and the following frame.
 - **First Frame** to add frames between the last frame and first frame. This option is only available if you select the last frame in the Animation palette.
 - **Previous Frame** to add frames between the selected frame and the preceding frame.
 - **Last Frame** to add frames between the first frame and last frame. This option is only available if you select the first frame in the Animation palette.
 7. Enter a value, or use the **Up** or **Down Arrow key** to choose the number of frames to add. (This option is not available if you selected more than two frames. In this case, the tweening operation alters the existing frames between the first and last frames in the selection.)
 8. Click OK.

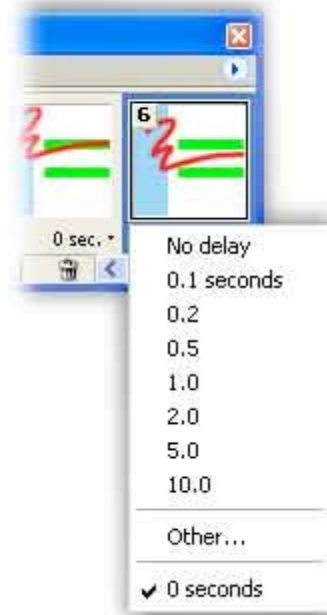
Delay for frames

You can specify a delay, the time that a frame is displayed, for single frames or for multiple frames in an animation. Delay time is displayed in seconds. Fractions of a second are displayed as decimal values. For example, one-quarter second is specified as .25.

To specify a delay time:

1. Select one or more frames.
2. In the Animation palette, click on the Delay value below the selected frame to view the Delay pop-up menu.
3. Specify the delay:
 - Choose a value from the pop-up menu. (The last value used appears at the bottom of the menu.)
 - Choose Other, enter a value in the Set Frame Delay dialog box, and click OK.

If you selected multiple frames, specifying a delay value for one frame applies the value to all frames.



Note: Delay time may not be accurate during an animation preview in ImageReady. For an accurate preview of delay time, preview animations in a browser.

Getting Additional Help

The Help Desk provides consulting and Q&A help in a variety of ways:

785/864-0200

question@ku.edu

www.ku.edu/~helpdesk

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