Learning

Photoshop 6.0

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Table of Contents

CHAPTER 1: Introduction to Photoshop 1
Objectives 1
What is Photoshop 2
The RGB Color Space 2
Image Resolution, Dimensions, and Color Depth 2
Digital Image Types 4
Internet Image Standards 7
Review Questions 9
Summary 10

CHAPTER 2: The Photoshop Workspace 11
Objectives 11
The Photoshop Workspace 12
The Toolbox 13
The Options Bar 14
Palettes 15
Preferences 18
ImageReady 25
Review Questions 26
Summary 27

CHAPTER 3: Creating and Using Images 28
Objectives 28
Creating New Images 29
Scanning Images into Photoshop 32
Importing Existing Images into Photoshop 32
Review Questions 39
Summary 40

CHAPTER 4: Using Selections and Channels 41
Objectives 41
Selections and Channels 42
The Selection Tools 42
Selection Tool Options 47
Creating Selections in Quick Mask Mode 49
Creating a Selection with Color Range 50
Saving Selections with the Channels Palette 52
Exercises 56
Review Questions 57
Summary 58

CHAPTER 5: Using Layers 59
Objectives 59
Layers 60
Using Layers 63
Managing Layers 71
Exercises 74
Review Questions 75
Summary 77

CHAPTER 6: Editing Images 78
Objectives 78
Using the Painting and Drawing Tools 79
Brushes 79
Gradient Editor 94
Typographic Terminology 96

Using Filters 101
Adjusting Images 103
Using Guides and the Grid for Alignment 116
Exercises 117
Review Questions 119
Summary 121

CHAPTER 7: Working with Vectors 122
Objectives 122
Working with Vector Content 123
The Pen Tool 123
The Shape Tools 126
Generic Shape Tool Options 130
Creating and Applying Layer Styles 131
Review Questions 135
Summary 137

CHAPTER 8: Creating Static Images for the Internet 138
Objectives 138
Creating a Logo in Photoshop 139
Preparing the Logo for the Internet 141
Save for Web 142
Creating a Custom Logo 147
Review Questions 150
Summary 151

CHAPTER 9: Creating Banners and Animated GIFs 152
Objectives 152
Banner Dimensions and Restrictions 153
Creating a Static Banner 153
Creating an Animated Banner 156
The ImageReady Environment 156
Animating in ImageReady 158
Review Questions 161
Summary 162

CHAPTER 10: Creating Buttons and Rollovers 163
Objectives 163
Creating Buttons with ImageReady 164
Creating Rollovers 168
HTML Options 171
Saving File Options 173
Review Questions 175
Summary 176

CHAPTER 11: Creating Navigation Bars 177
Objectives 177
Tables and HTML Layout 178
Creating a Navigation Bar 178
Slices 181
Optimizing Slices 182
Image Maps 183
Review Questions 186
Summary 187

CHAPTER 12: Creating Web Pages with ImageReady 188
Objectives 188

Creating a Web Page with ImageReady 189
Web Page Dimensions 189
Navigation Bar 190
The Logo 192
Using Slices for Layout 194
Review Questions 198
Summary 199

CHAPTER 13: Photoshop Extras 200

Objectives 200
Photoshop Extras 201
The Liquify Function 201
Grouping Layers 204
Summary 205

CHAPTER 14: Answers Appendix 206

About the Authors

Robert Ross is an instructor, designer, and writer at XtraNet (an authorized Macromedia Training Provider) in Toronto. He also teaches Dreamweaver, Flash, Photoshop, and HTML. He's written training manuals for TrainingTools.com, including this manual, Flash 4 and 5, Dreamweaver 2,3, and 4 and Photoshop 5.5 for the Web. Robert is also involved in consulting and production for web and new media products.

Charles Walker is an instructor, designer, and writer at XtraNet (an authorized Macromedia Training Provider) in Toronto. When not writing, he teaches Dreamweaver, Photoshop, Fireworks, HTML, and Flash courses. Charles is also involved in consulting and production for web and new media products.

Irene Lee is an educator and freelance photographer. Irene courteously provided all the images for this manual.

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1

Introduction to Photoshop

In this chapter, you are introduced to Photoshop, what Photoshop is, and its place in Internet and new media development. In addition, some of the current limitations of new media environments are also discussed.

Objectives

Upon completing this section, you should be able to:

1. Understand Photoshop's Function in Web Development
2. Understand Digital Image standards
3. Understand common Internet limitations

What is Photoshop?

Photoshop is the leading digital image editing application for the Internet, print, and other new media disciplines. It has become a "killer app", embraced by a wide spectrum of developers.

Traditionally, Photoshop has been and continues to be a print industry standard. There is a very strong chance that almost every photographic image you've seen in print (posters, books, magazines, flyers, etc.) has been prepared in Photoshop. The powerful features that make Photoshop the standard for print images are also just as useful for Internet and display-based images (video and computer presentations for example). Photoshop has evolved, expanding its print capabilities and adding Internet specific features essential to current and future web developers.

Included with Photoshop is a web-specific companion program, ImageReady (version 3). This manual covers the fundamental elements of both programs, concentrating entirely on the web-side of digital image production. Photoshop is a very deep program. It will take time to use it proficiently and explore its many features. There are often many ways or methods to accomplish particular tasks. We will be looking at common web-specific production objectives and the methods you can use to achieve your goals. Before we get into the program, it will be useful to detail the nature of digital images themselves.

The RGB Color Space

Computer displays are made up of individual dots or units called pixels placed in rows and columns, like a chart or grid. Each pixel can be one of up to 16 millions colors. Essentially your computer has a *Palette* that holds a swatch or blob of red paint, green paint, and blue paint. By mixing these colors together, other colors are created. Because Red, Green, and Blue are a computer's primary or fundamental colors, computer displays are said to operate in the RGB (Red, Green, Blue) color space or spectrum. Each primary color is made up of 256 individual values or shades (measured from 0 – 255.) By mixing Red at a value of 190, Green at a value of 81, and Blue at a value of 14 for instance, we get a dark orange color. Mixing all the colors together at a level of 0 produces black. Red, Green, and Blue all set to a value of 255 produces white.

Image Resolution, Dimensions, and Color Depth

Resolution in digital imagery refers to pixels per inch (ppi) or density, similar to how many square feet a particular room in a house might have. Currently, computer displays are limited to a range of 72 to 96 ppi. For the web, 72 ppi is the standard. Increasing the density is practical only for images intended for print and results in large file sizes which in turn result in longer download times.

Dimensions

The amount of pixels contained in the width and height of an image is referred to as an image's dimensions. For instance, an image might be 320 pixels wide by 200 pixels high (commonly expressed as 320x200.) Image dimension is a key element of web design. Currently computers have a common group of fixed desktop dimensions ranging from 640x480 to 1280x1024 or higher. Web sites are usually designed "resolution-safe" meaning to the lowest common denominator, a desktop display at 640 pixels wide by

480 pixels high (640x480). Within the browser itself a width of 600 pixels is the common limit. This ensures that everyone viewing web sites with image capable browsers will be able to view your site.

Dimensions	Dimensions in Browser
640 x 480	600 x 300
800 x 600	760 x 420
1024 x 768	955 x 600
1280 x 1024	
1600 x 1200	

Color Depth (Bit-Depth)
Color depth describes the maximum amount of colors an image can contain. The number of colors an image contains is dependent on the image's bit-depth. Confused? When users describe an image's color depth, they might also describe it in terms of bit-depth. The higher the bit value the more colors the image can contain.

Images are made up of one of four standard bit depths: 1 bit, 8-bit, 24-bit, and 32-bit. A 1-bit image consists of either black or white, or two colors. 8-bit images contain a maximum of 256 colors or 256 shades of gray. 24-bit images contain a maximum of 16.7 million colors. A 24-bit image is made up of three 8-bit channels, a Red channel (256 shades of Red), a Blue channel (256) shades of Blue), and a Green channel (256 shades of Green). 32-bit images would contain over a billion colors; however, the final 8 bits of the image are commonly reserved for alpha channel information rather than color. Alpha channels are covered later.

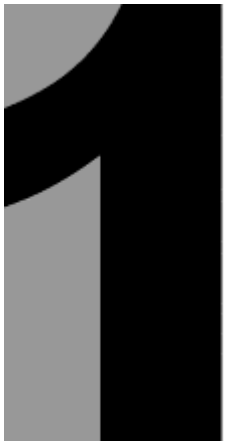
Bit-Depth	Colors
1-bit	2
8-bit	256
24-bit	16.7 Million
32-bit	16.7 Million

A 24-bit image consists of three (3) 8-bit channels (256 x 256 x 256), which make up a potential of 16.7 million colors.

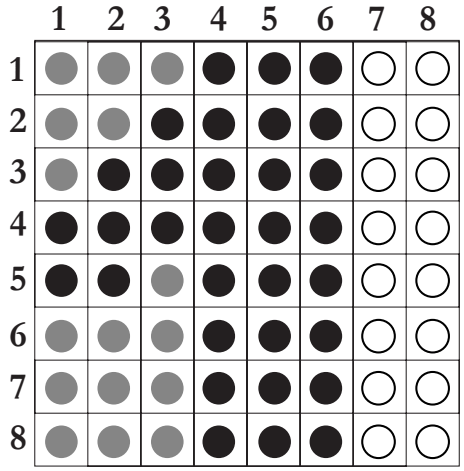
Digital Image Types: Vectors and Bitmaps

There are two digital image types: bitmaps and vectors. Bitmap images are the most common type of image file outside the professional print world. Bitmap files map out or plot the image on a pixel-by-pixel basis. Computer displays are made up of a collection of individual points or dots, called pixels, organized in columns and rows (similar to a table or a grid) where each cell represents each pixel in the image. The bitmap image file basically plots each pixel, such as pixel 300 wide by 250 high is red. Pixel 301 wide by 250 high is also red. Pixel 302 wide by 250 high is yellow and so on. Because bandwidth is a major concern when developing web sites, keeping the size of images to a minimum is very important. The main benefit of bitmap images is photographic color, tone, and texture is accurately produced.

If you were to plot a bitmap on a grid, each pixel is detailed. Essentially, this is what your computer does when it displays bitmaps.



Bitmap



Pixel by Pixel Approximation (Reduced Scale)

Vector images do not plot images on a pixel-by-pixel basis. Instead, vector files contain a description of the image expressed mathematically. Essentially, the file tells the computer about the image and the computer draws it. For instance, the image of a circle in vector format, written in plain English, might look something like this:

- Circle (200px)
- Fill Color: Gradient
- Gradient Type: Radial
- Colors: White, Black
- Line Color: None

One of the benefits of vector images is file size, particularly relative to the file size of bitmap images. The same circle as a bitmap file, at a resolution of 320x200, might look something like this in English:

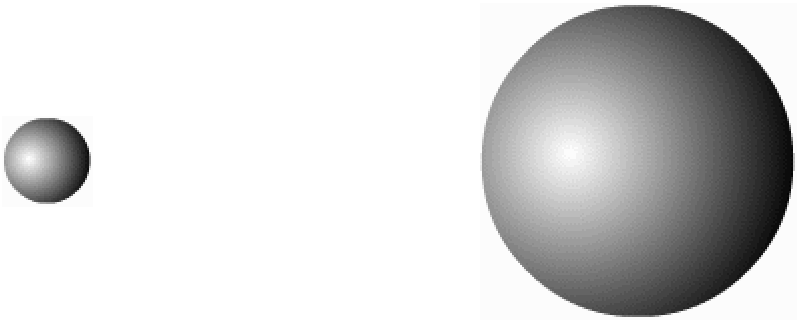
Row 1

- Pixel 1x1 is white
- Pixel 2x1 is white
- Pixel 3x1 is white
- Pixel 4x1 is white, etc. until we reach Pixel 320x1

Row 2

- Pixel 1x2 is white
- Pixel 2x2 is white, etc.

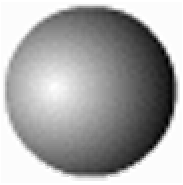
Describing the circle (and the color surrounding it) on a pixel-by-pixel basis is a much more lengthy process than telling the computer to draw the circle itself. Another major benefit of vector graphics is scalability. Because the computer effectively draws the image for us, vector graphics are also scalable; meaning the size of the image can be increased or decreased without degradation. Because the file is an equation, placing different numbers into the equation results in the computer rendering the image correctly, but if you only modify the scale, the file size remains the same.

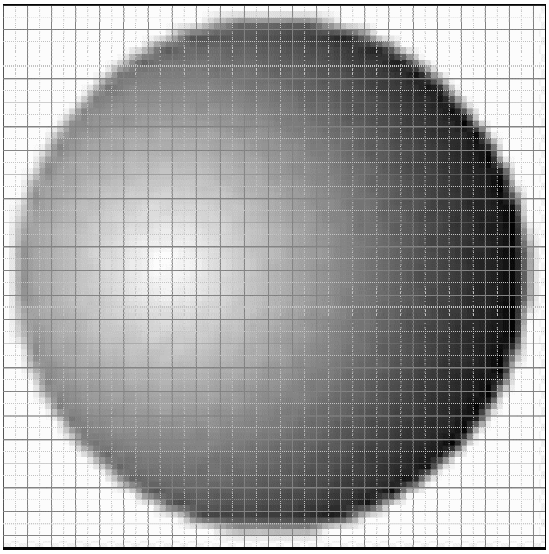


Scaling vectors results in perfectly rendered images. The image on the left is the ball in its original size. The image on the right is the same ball with an increase in scale. The file size is the same.

Bitmaps can be scaled, but an increase in scale degrades the image because the computer does not have enough information to create the new image. The computer merely takes the existing pixel information and translates one pixel into multiple pixels.

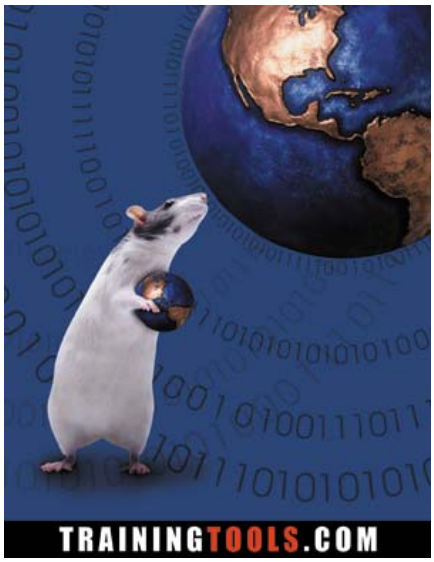
For example, if we scale a 45x45 image to 90x90, each individual pixel in the image in its original state becomes four (4) pixels in its scaled state. This results in jagged edges that appear fuzzy on screen.





Doubling the size of the bitmap causes the computer to replace each original pixel with four. As a result, the image becomes fuzzy or jagged. The file size also increases.

Unfortunately, vector images, because they describe images in terms of shapes, lines, curves, points, colors, length, etc., do not accurately reproduce photographic images. In general, bitmaps are suitable for photographic images, and vectors for illustrations.



Bitmap Image

Vector Image

The bitmap image does a much better job with photographic images then the vector image, which tends to use patterns of solid colors resembling traditional illustrations.

The core image technology in Photoshop is bitmap based, but with version 6, Photoshop does use vectors for a variety of editing tasks.

Internet Image Standards

In addition to two types of digital images (bitmaps and vectors), there are also a variety of bitmap and vector file types. Bitmap files, at the most basic level, are just as described - a map or plot of each individual pixel. However, image files can (and often do) contain other information - depending on their use. For instance, the author or creator of the image might be included, as well as the date and copyright information. In addition, because bitmaps tend to be large, various methods of compression or methods to reduce file size have been developed.

To designate extra information and compression methods, different file types have been developed. File types designate a particular variety of bitmap or vector. Windows and Unix operating systems idenpsdy the file type by adding a period followed by three letters to the end of the filename, as in “circle.gif” or “circle.jpg.” This is called a file extension. On the Macintosh (before OS X) file extensions are not used to designate file types. A file designating the file type and the application that created it is attached to the image file instead. However, Web servers and browsers also use file type extensions, so it’s advisable that Macintosh users do the same for image files generated for the web.

Web browsers currently support three image file types. They are .gif, or Graphics Interchange Format (GIF), .jpg or Joint Photographic Experts Group (JPEG), and .png or Portable Network Graphics (PNG). Each of these formats is a bitmap file. Currently, browsers do not support the display of vector-based images without a plugin.

Each of the file types for the Internet, and the appropriate use, are discussed in a later chapter.

Photoshop can import a variety of bitmap and vector formats. Importing external image files is covered later in the book. Photoshop's native file format is called Photoshop Document. The extension is .psd.

Review Questions

1. What are the primary colors computers mix to create other colors?

2. What are the primary image types and how do they differ?

3. Color depth is also referred to as?

4. What file types are currently supported by Netscape Navigator and Microsoft Internet Explorer?

Summary

As a result of this chapter, you should be able to:

- Define Photoshop
- Understand Digital Image standards
- Understand common Internet limitations

2

The Photoshop Workspace

This chapter details the Photoshop workspace. Tools, menus, *Palettes* and accessing *Preferences* are summarized. Each aspect of the Photoshop interface is examined in depth in later chapters as you learn to use the application. At this point, it's essential that you familiarize yourself with the workspace so you can begin to learn Photoshop.

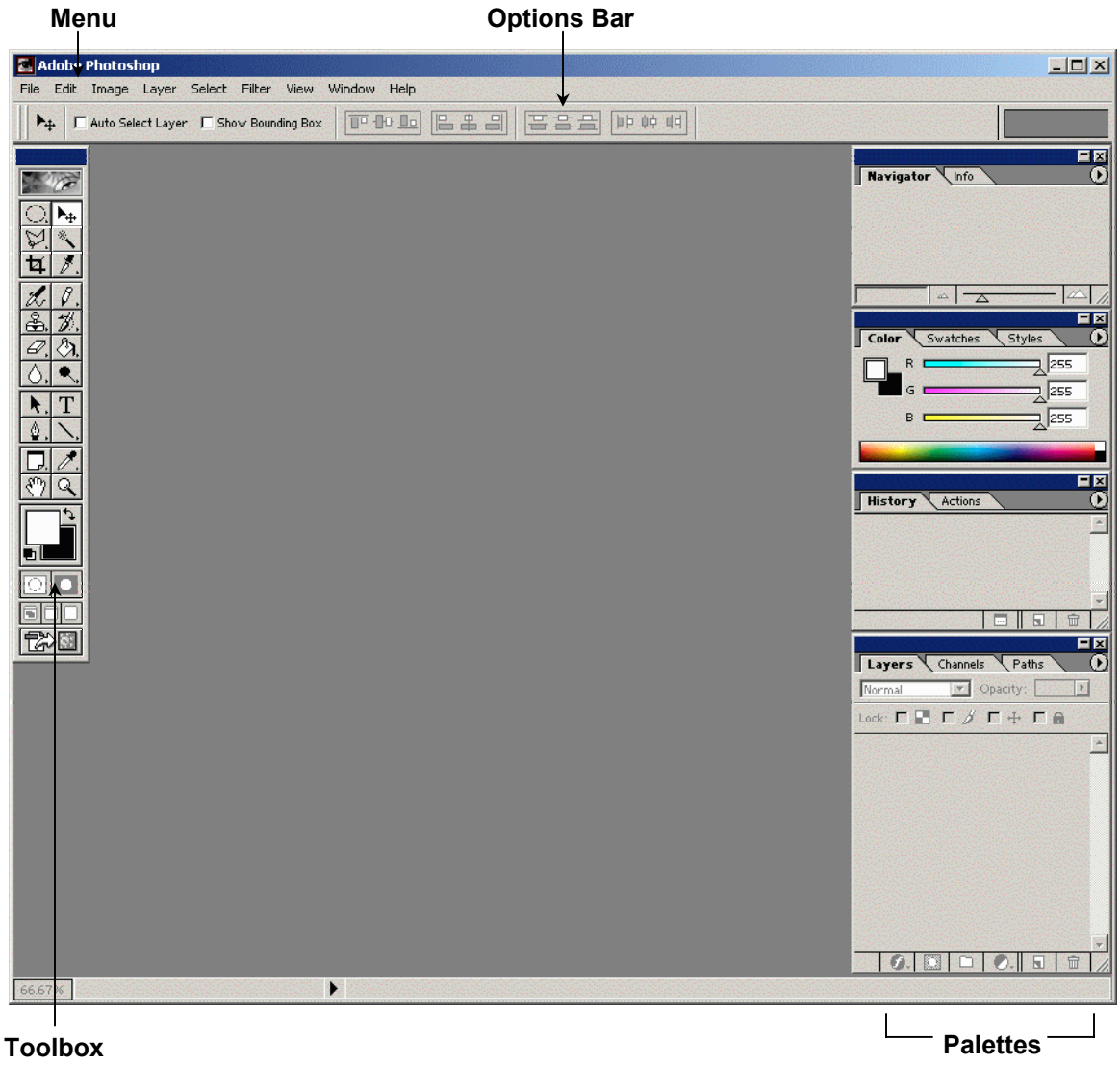
Objectives

Upon completing this section, you should be able to:

1. Understand the main elements of the Photoshop interface
2. Dock, resize, and customize the Photoshop workspace
3. Restore default Palette layouts
4. Access Preferences

The Photoshop Workspace

The Photoshop workspace consists of four main components: the *Menu*, the *Toolbox*, the *Options Bar*, and the *Palettes*.



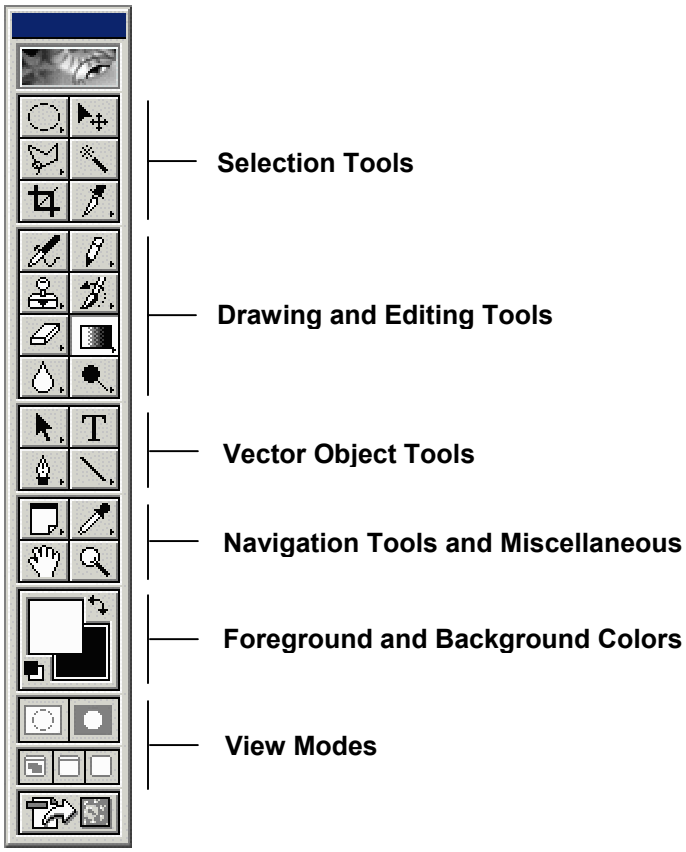
The Menu

The *Menu* contains controls for common functions such as opening and saving files, as well as specific functions, such as copying and pasting, calling up specific windows or *Palettes*, and controlling the Photoshop workspace. As you progress through each lesson, the *Menu* and *Menu Items* are detailed.

File Edit Image Layer Select Filter View Window Help

The Toolbox

The *Toolbox* contains a collection of tools for creating, selecting, and manipulating images. Each tool is detailed as you progress through the manual.



The *Toolbox* functions by selecting a tool, and when appropriate, selecting a color or setting options for the tool. For example, when the *Move Tool* is selected, a set of particular options appear in the *Options Bar*. When the *Airbrush Tool* is selected, options for the *Airbrush Tool* appear.

The Move Tool

The Move Tool Options

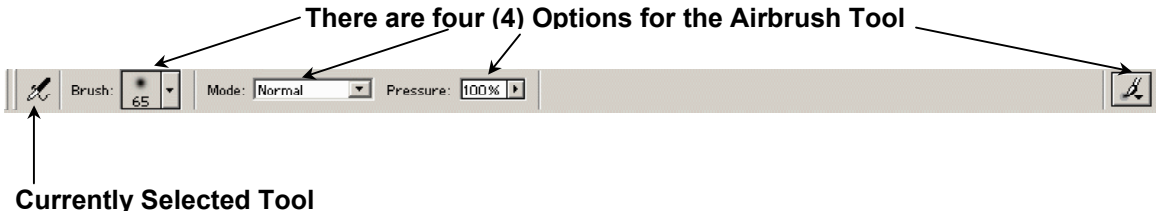
The Airbrush Tool

The Airbrush Tool Options appear in the *Options Bar*.

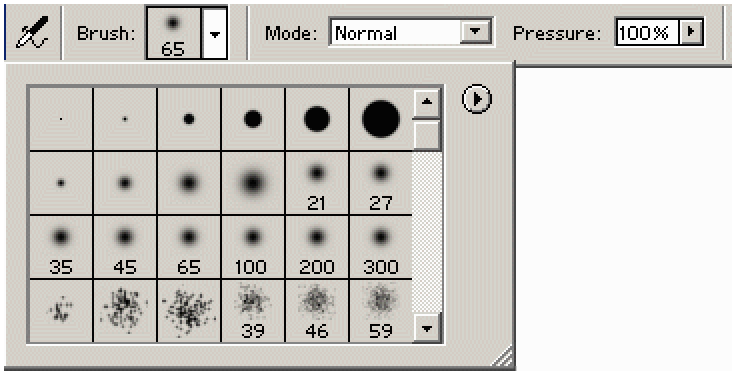
With options and possibly a color selected (depending on the Tool), you use the Tool to manipulate image data. Creating and using images is covered later.

The Options Bar

The *Options Bar,* by default, runs just below the *Menu Bar*. Whenever a Tool is selected in the *Toolbox*, the *Options Bar* displays the available options for the currently selected Tool (note, see example above).



Select an option by *{Clicking}* on the option. Some options are buttons; others include drop-down menus or input fields.



***{Clicking}* the *Brush* option for the *Airbrush Tool* presents the user with a drop-down menu from which a brush shape and size can be selected.**

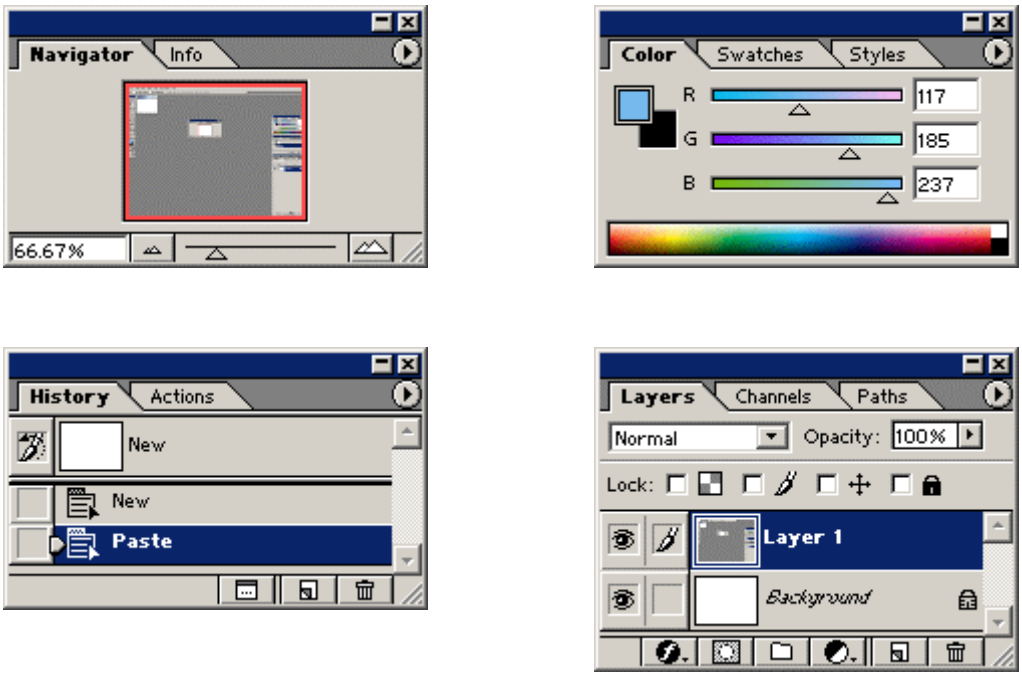
Options for the *Crop Tool* include input fields for *Width, Height*, and *Resolution*.

The Options have been input by the user.

The options for each Tool are discussed later in the manual.

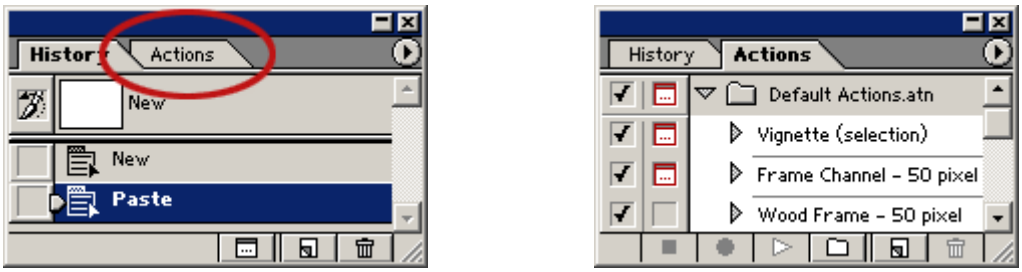
Palettes

Palettes contain additional controls for other features in Photoshop, such as the use of Layers, Colors, Styles, and other features that you will learn as you progress through the manual. As you learn Photoshop, you'll find that you can manipulate the content you create in many ways. By default, there are four *Palette* sets, each containing a collection of multiple *Palettes* in each set. There is one additional *Palette* set that can be accessed by way of the *Window Menu*.



The default Palette Set

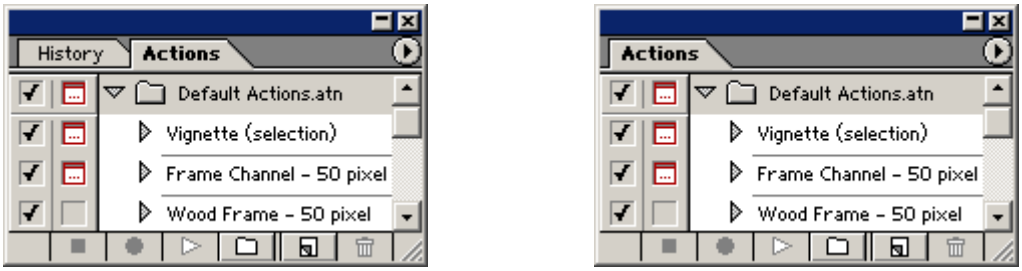
To select a different *Palette* in the *Palette* set, *{Click}* the *Palette* Tab to activate it. For example, by default the *History Palette* is displayed in the third *Palette* set; if you *{Click}* the *Actions* Tab, the *Actions Palette* is displayed.



***{Clicking}* the *Actions* Tab enables the *Actions* Palette in this Palette set.**

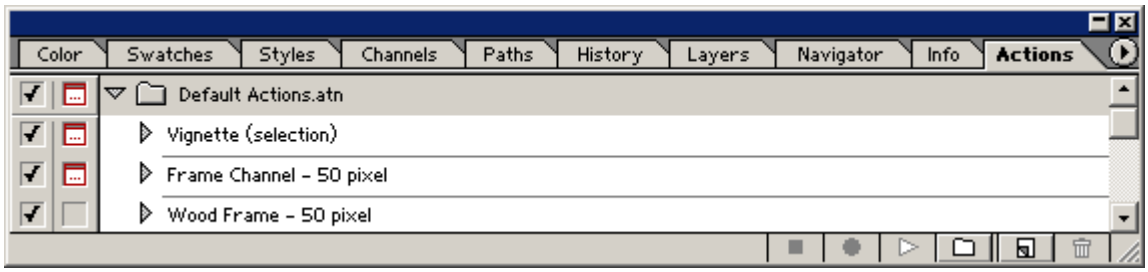
The function of each *Palette* is explained as you progress through the book and use each of Photoshop's tools to create content.

Palettes come in *Palette* sets, where multiple *Palette*s are docked together. To undock a *Palette* from a *Palette* set, *{Click}* the *Palette* Tab, hold, and drag the *Palette* away from the *Palette* set. For example, you could drag the *Stroke Palette* from the first *Palette* set.



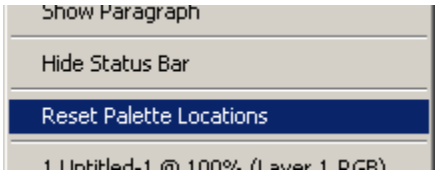
Dragging the *Actions* Palette by the Palette Tab out of the Palette causes the *Actions* Palette to become a Palette itself.

You can dock a *Palette* into a *Palette* set by dragging it into the *Palette* set. For example, if you wish, you could make a single *Palette* set with each of the standard *Palettes* inside it.

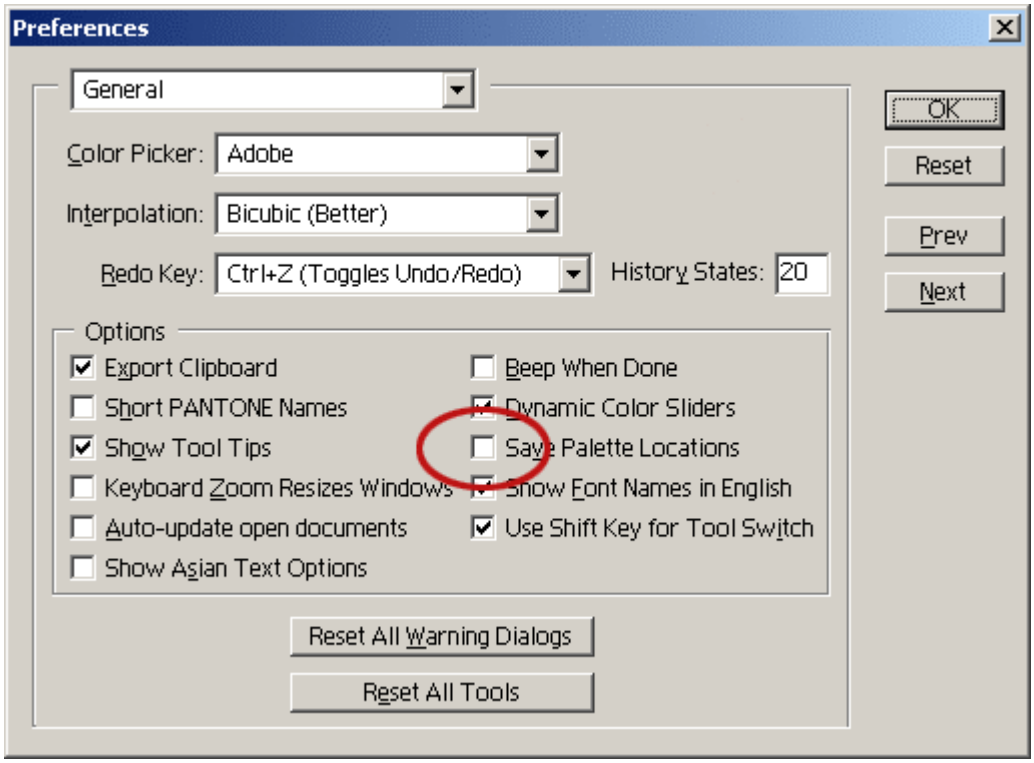


Each of the default Palettes is placed in a single Palette set. Currently, the *Actions* Palette is selected.

To restore the default *Palette* layout, select Window/Reset Palette Locations. The default layout of four *Palette* sets will be restored.

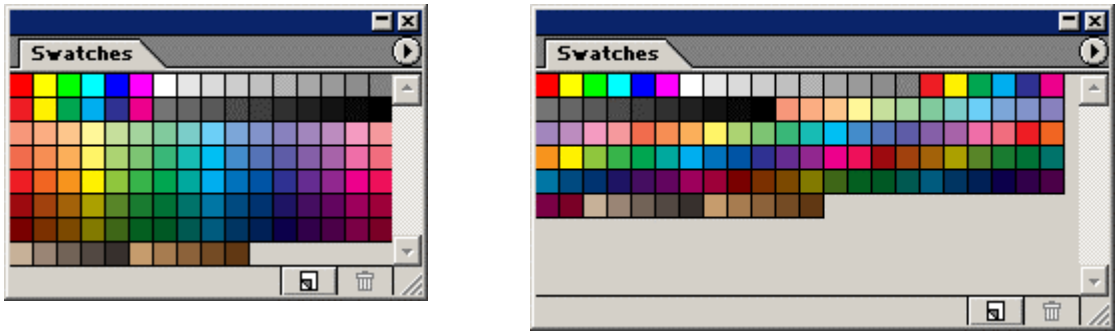


If you'd prefer to start each Photoshop session with the various *Palettes* in their default positions then you'll have to indicate this in the *Preferences* dialog box. Select Edit/Preferences and remove the check from the *Save Palette Locations* checkbox. With the box checked, Photoshop will start each new session with the *Palettes* in the position that they were in at the close of the last session.



We'll take a closer look at the various options in the *Preferences* dialog box later in the manual. We'll be using the default layout throughout this book.

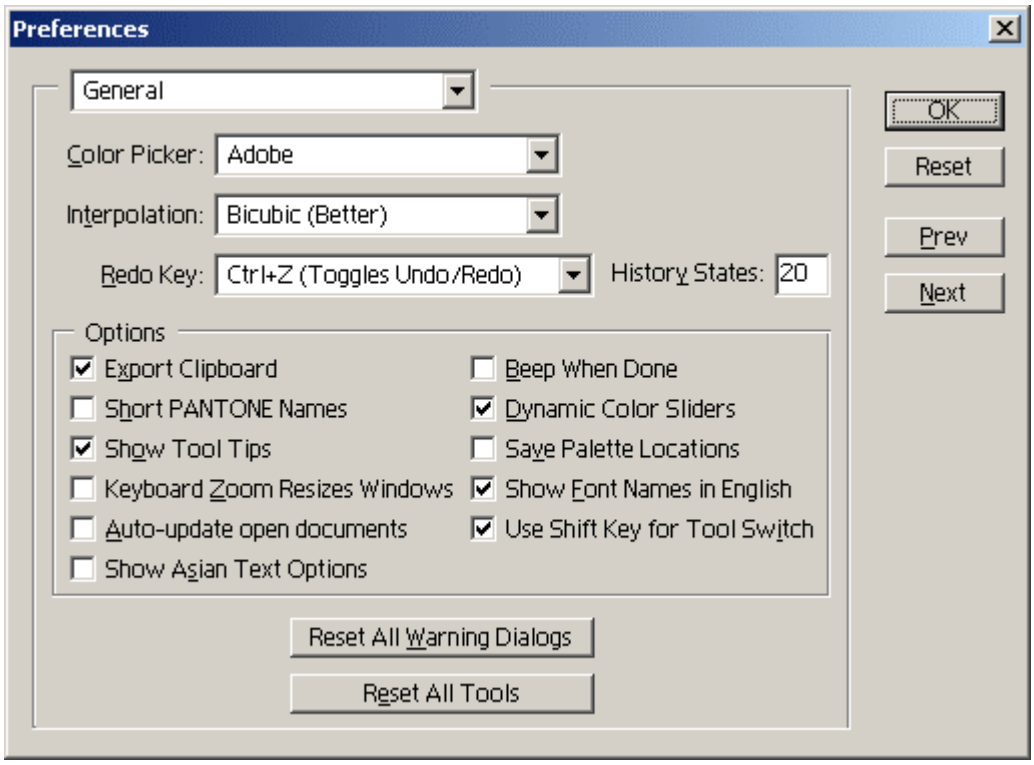
You can also resize various panels. For example, the *Swatches Palette* can be used at the default size, or, you can drag any of the corners or sides of the *Palette* window to increase or decrease the size.



The Swatches Palette at default size, and at a larger size.

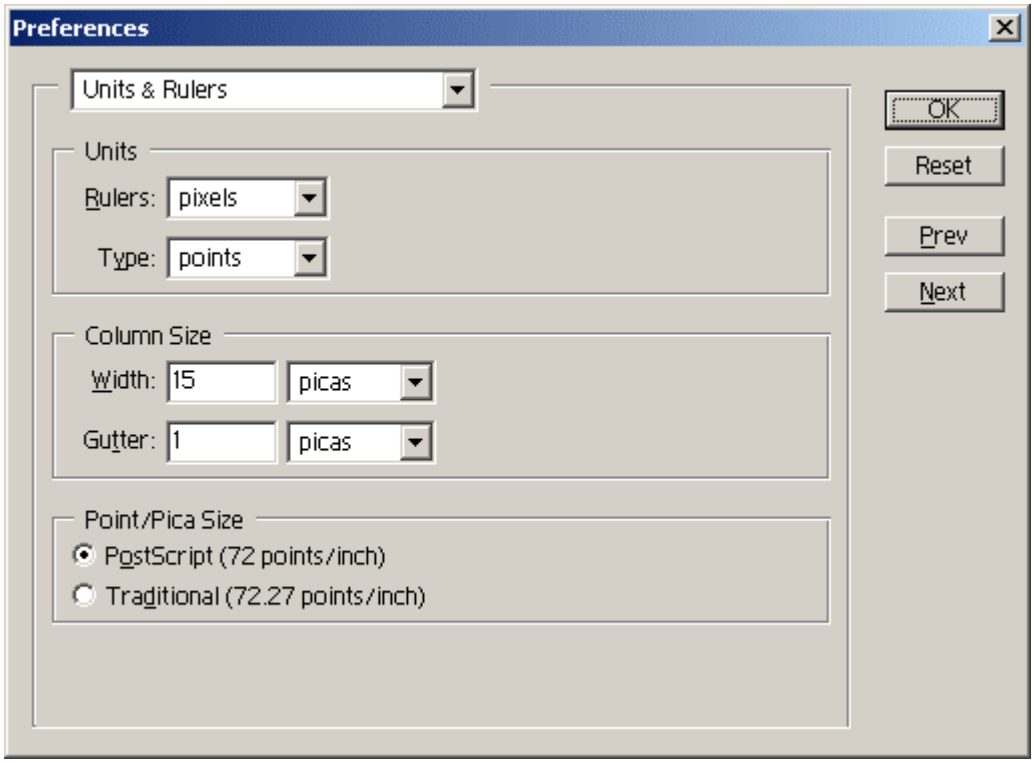
Preferences

Preferences in Photoshop are used to further customize the Photoshop workspace and how it behaves. To access *Preferences* select Edit/Preferences. The *Preferences* dialog box appears. *Preferences* are divided into 8 categories. At this point, some of the *Preferences* may not be clear to you because they relate to concepts covered later in the book. At this point, we'll briefly discuss a few of the more important settings.



Customize or change your *Preferences* by selecting the *Preference* type from the drop-down menu. Photoshop currently has a number of preferences unrelated to web development that we will not explore. What follows is a list of Photoshop's preferences and recommendations to optimize Photoshop for web development. We begin with *Units & Rulers* to ensure that you use pixels rather than inches as your standard unit of measurement. You may want to return to the other *Preferences* settings as you proceed through the material. Until you familiarize yourself with Photoshop's environment and some of it functions and features, the purpose of some of the *Preferences* might not be readily apparent. Feel free to proceed to the next chapter.

Preferences - Units & Rulers

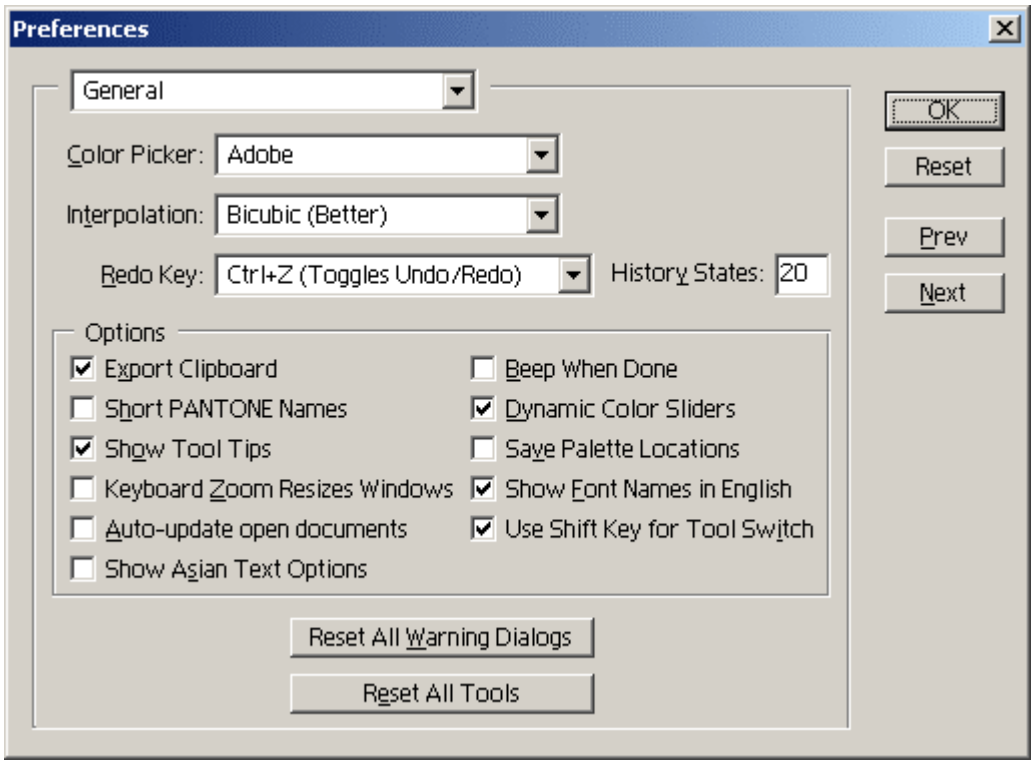


Units
Select *Pixels*. Pixels are the recommended measurement as they are the standard unit for web site development. Other options relate to images created for Print.

Column Size
Column Size and Point/Pica Size control Font attributes. Leave them at the default settings.

Point/Pica Size
Point/Pica Size is Print related settings. Leave it a default, Postscript (72 points/inch).

Preferences – General
General Preferences include *Color Picker, Interpolation*, and *Options*.



Color Picker
Color Picker is set to *Adobe* at default. You can set it to Windows (on Windows based systems) but this limits Photoshop's control of color. Keep it at default.

Interpolation
Interpolation calculates intermediate values when translating or changing image resolution and dimensions. Keep it at *Bicubic*.

History States
Choose a number between 1 and 100 to increase or decrease the number of *History States* that Photoshop will commit to memory. Keep in mind that the more *History States* you allow the higher the demand on your computer's memory and processing power. Stick with the default for now. We'll be discussing the *History Palette* later in the manual.

Preferences - Saving Files

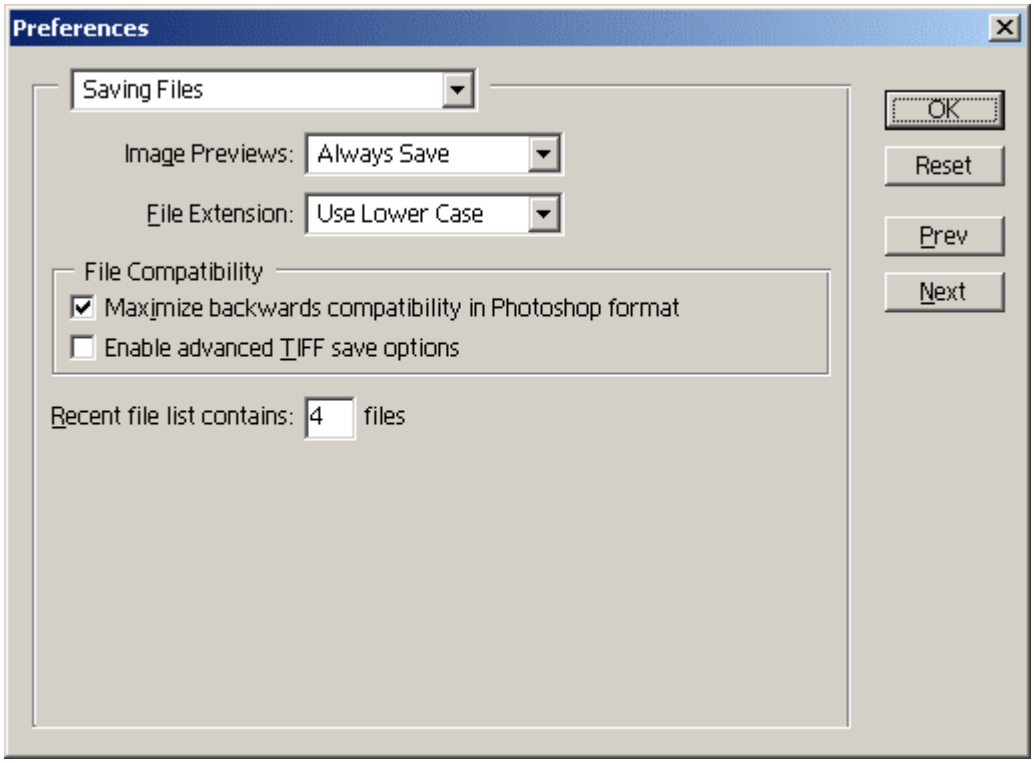
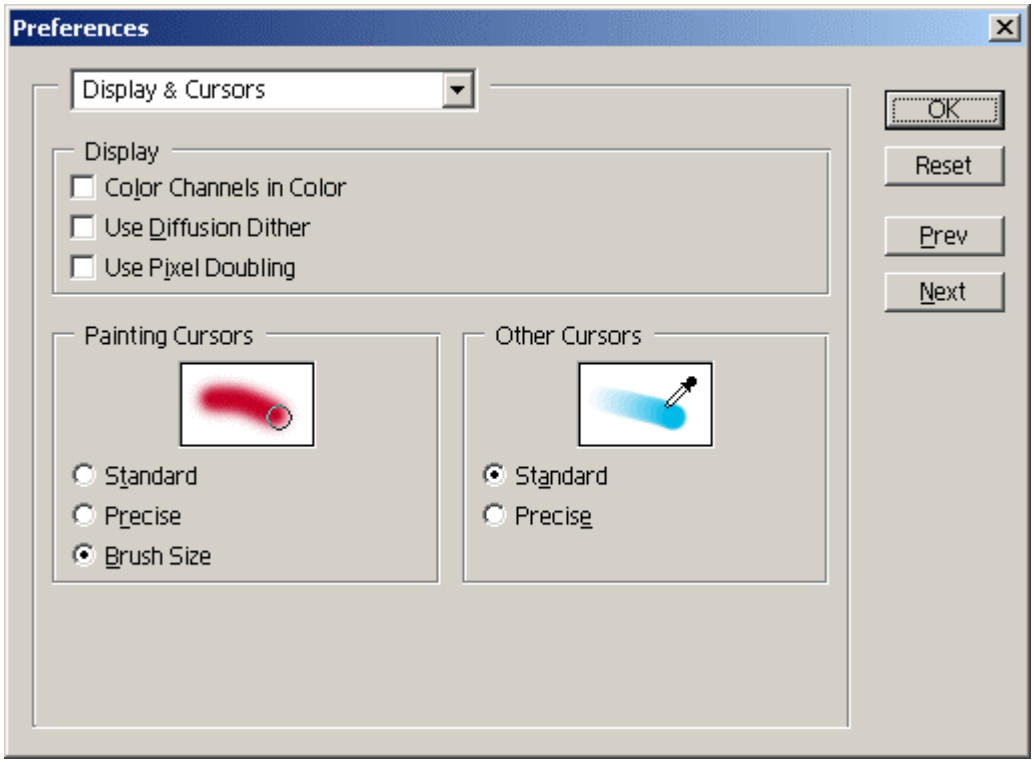


Image Previews
To save previews or thumbnails of your images select *Always Save* in the *Image Previews* drop-down menu. You will see these thumbnails when you open and *{Single-Click}* images stored in a directory using Photoshop's Open command. To save disk space select *Never Save*. Select *Ask When Saving* if you want Photoshop to ask if you desire a thumbnail or not whenever you save an image.

File Extension
Select *Use Lower Case* to force Photoshop to save files with lower case file type extensions. Lower case extensions have become the de-facto standard and are recommended. UNIX servers are case sensitive so a consistent character-case, upper or lower is important to maintain when using your images for the Internet.

File Compatibility
Check *Maximize backwards compatibility in Photoshop format* under *File Compatibility* to ensure programs or applications that don't support Photoshop's Layers can load the image. Uncheck to create a smaller file.

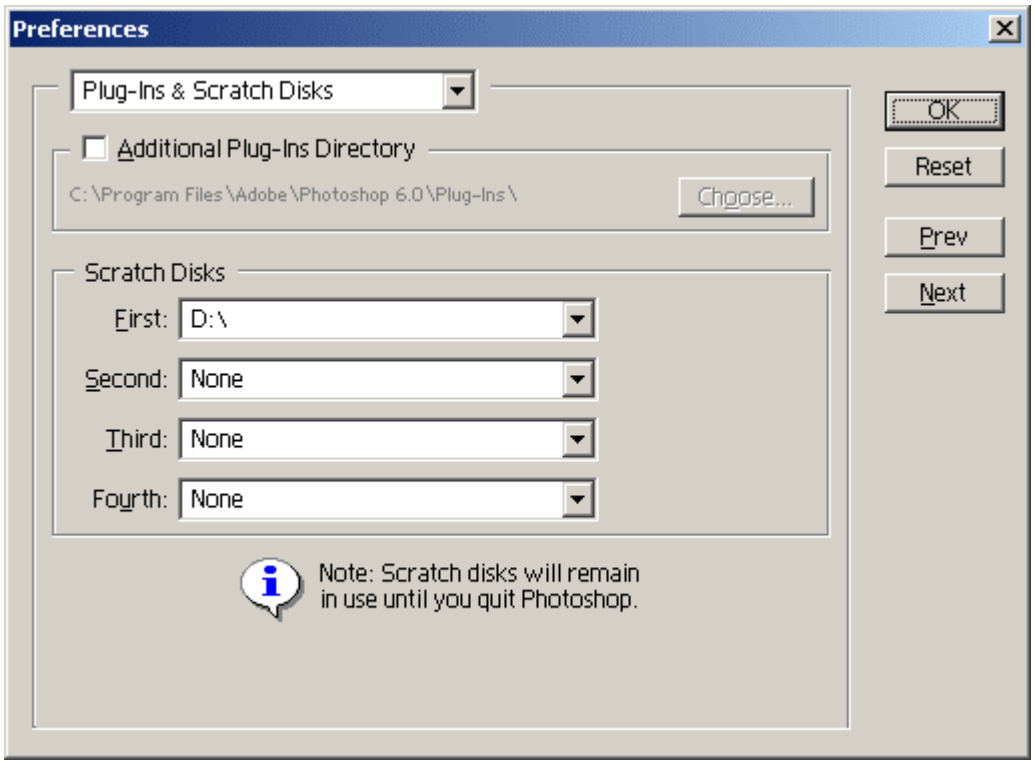
Preferences - Display and Cursors



Painting Cursors
Select *Standard, Precise* or *Brush Size*. *Standard* displays an icon of the tool, such as the *Paint Brush* when you paint on the image. *Precise* displays a cross hair and *Brush Size* represents the size and shape of the brush. We recommend selecting *Brush Size* so you can see the area and size your brush will be covering.

Other Cursors
Select *Standard* or *Precise*. *Standard* displays an icon of the tool, such as the *Eye Dropper*, and *Precise* displays a cross hair. For increased accuracy in editing, we recommend selecting *Precise*.

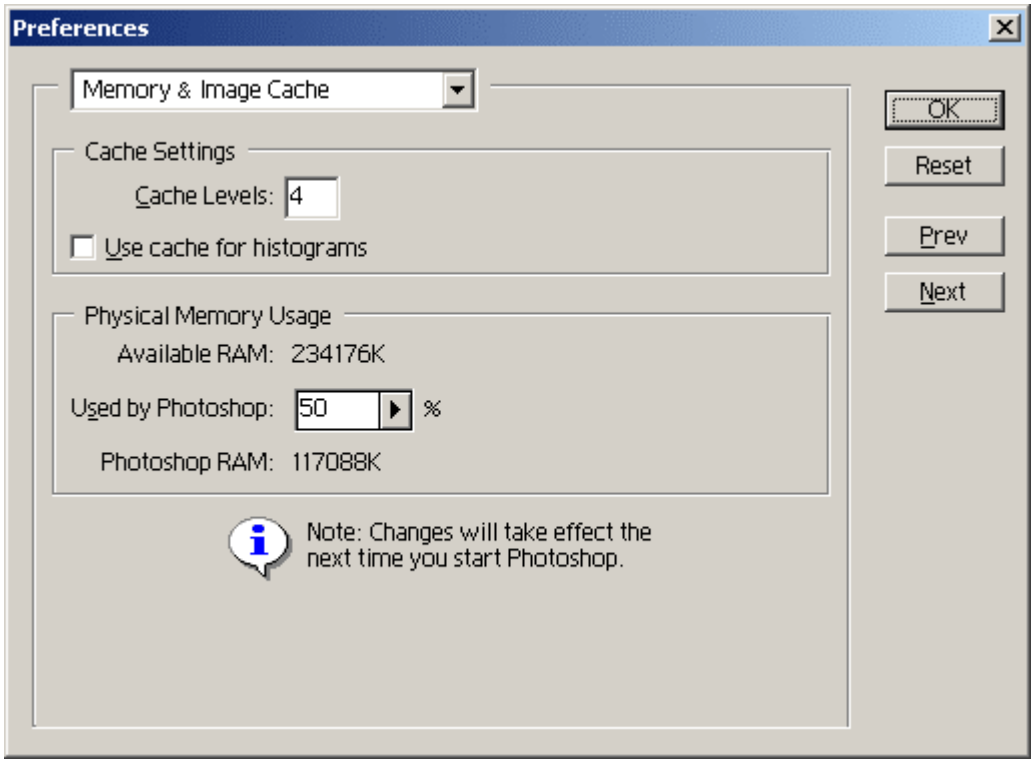
Preferences - Plug-Ins & Scratch Disks
Plug-Ins are extra features that extend Photoshop's capabilities. *Filters*, for instance are actually *Plug-Ins* that can be added and removed.



Plug-Ins Folder
By default, *Plug-Ins* are stored under the Photoshop\Plug-Ins directory. To change the path select *Choose* and enter the new path. However, we recommend you keep the path at default.

Scratch Disks
Scratch Disks are areas of your hard drive Photoshop uses for memory when physical memory (your RAM) is full. An image in Photoshop takes approximately 3-5 times its file size. For instance, if your file takes up 10 Megabytes on your hard drive, Photoshop requires approximately 40 Megabytes of RAM when working with it. As you work on multiple images RAM requirements increase and Photoshop will begin to use your hard drive for virtual (rather than physical) RAM. It is recommended that free space on your hard drive for the *Scratch Disk* equals at least the amount of physical RAM in your system. If you have 128 Megabytes of RAM for instance, you should have at least 128 Megabytes of storage space on your hard drive for the *Scratch Disk*. The greater the RAM and free space the better Photoshop performs. If you have more than one hard drive, we recommend installing Photoshop on one and designating your *Scratch Disk* space on another. Photoshop can have up to four *Scratch Disks*. To designate what hard drive will act as your *Scratch Disk* select the drive letter or volume from the drop down list. By default, Photoshop uses your *Startup* hard drive.

Preferences - Memory & Image Cache



Cache Settings
The *Cache* is an area of memory Photoshop uses to store low-resolution versions of your images to help with screen updates or refreshes. Recall that typical computer monitors can display no more than 72 ppi. If you are working on an image with a high ppi setting Photoshop makes all the editing and modifications in the selected resolution, but does not need to use the higher ppi to display your image on screen. For web development, you will be working in 72 ppi but we recommend you keep the Cache settings at default. The *Cache Level* ranges from 1 – 8, the higher the setting the larger the Cache. If you are running out of memory, you might want to decrease the *Cache* value.

Physical Memory Usage
Physical Memory Usage is a setting unique to Photoshop on the Windows platform. By default, the amount of physical RAM designated for use by Photoshop is 50%. If you are editing many images simultaneously, you may want to increase memory use so that Photoshop does not use the *Scratch Disk* as much. Physical RAM is much faster than the *Scratch Disk's* virtual memory. To modify the amount of RAM designated to Photoshop *{Click}* the drop-down arrow and move the Slider back and forth to increase or decrease RAM use. We recommend keeping the RAM level at default. If you do need to increase the amount, do not increase it to more than 70%. The actual memory used by Photoshop is displayed beside *Photoshop RAM*.

ImageReady

ImageReady is Photoshop's web-specific companion Program. You can launch ImageReady by *{Clicking}* the "Jump to Default Graphics Editor" button on the Toolbar from within Photoshop. ImageReady's workspace, made up of a Toolbox, Menus, and Palettes is very similar to Photoshop's. There are however important differences. Before covering these differences however, it is important to learn to use Photoshop and learn about Image Fundamentals. ImageReady's web-specific features are introduced in later chapters.

Photoshop and ImageReady work in tandem. You can edit an image in either application and switch or move to the other. For instance, you can edit an image in Photoshop and switch to ImageReady to prepare it for the Internet. Photoshop will automatically open the image you have been editing in ImageReady. If you need to go back to Photoshop to make some changes using Photoshop's features the image will move back to Photoshop with all the changes you have made to it in ImageReady intact.

Review Questions

1. What are the main areas of the Photoshop workspace?

2. How is the Option Bar related to the Toolbox?

3. How do you undock and dock the Palettes?

4. Which Menu Item will give you access to Photoshop's Preferences?

5. How do you reset your Palette arrangement back to its default setting?

Summary

As a result of this chapter, you should be able to:

- Understand the main elements of the Photoshop interface
- Dock, resize, and customize the Photoshop workspace
- Restore default Palette layouts
- Access Preferences

3

Photoshop Fundamentals: Creating and Using Images

This chapter covers the process of creating new images, loading images, and using images in Photoshop.

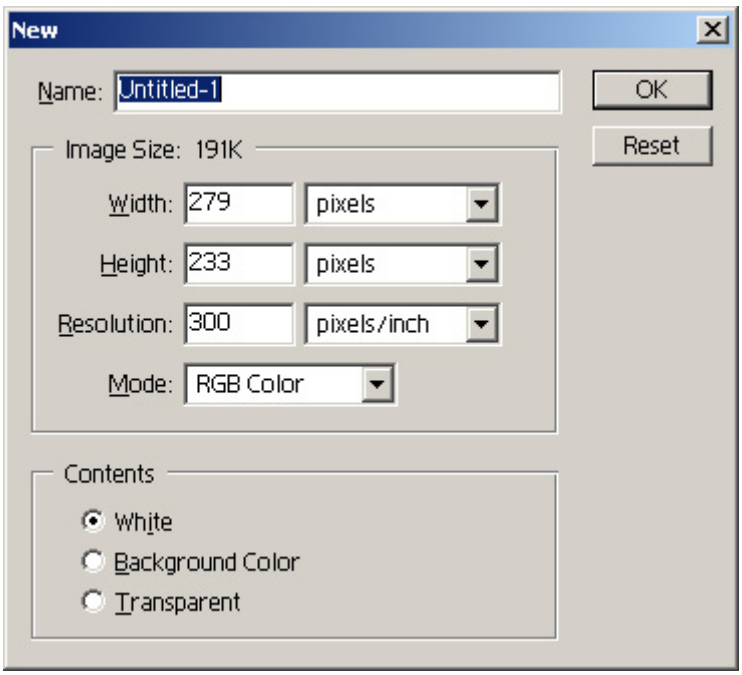
Objectives

Upon completing this section, you should be able to:

1. Create and import images to edit in Photoshop
2. Use a scanner to acquire images
3. Use the Navigator and History Palettes

Creating New Images

If you haven't already started Photoshop start it now. Creating a new image involves five key decisions: Image Name, Image Width and Height, Image Resolution, Image Mode, and Image Contents. To create a new image, select File/New by *{Clicking}* on *File* on the *Menu Bar* and selecting *New*. The *New* dialog box appears.



Name

Enter the name of your image file in the *Name* field. It's a good idea to name all of your files appropriately so that you can remain organized and productive. Web sites can consist of many images and easily idenpsdying images by name can be a significant benefit. You do not have to enter the name of the file at this point however; you can name it when you save it if you wish. Input ***FirstImage***.

Width & Height

Specify the width (horizontal size) and height (vertical size) in pixels. To ensure you are working in pixels select *pixels* from the drop-down menu. Recall the basic unit of your screen's display is the pixel and because web pages are screen based it is essential to work in pixels rather than inches or any of the other unit options. Create an image with a width of 300 pixels and a height of 250 pixels (300x250). Recall that most web sites are developed with a maximum horizontal size of 640 pixels. Because of scroll bars and other screen-space or "real-estate" taken up by the browser a maximum horizontal size of 600 pixels is recommended. There are exceptions to this rule, such as the horizontal size of background images.

Resolution

Set resolution to 72 ppi for images designed for the Internet. Again, recall that your screen can display a density of no more than 72 ppi (some monitors have a slightly larger range) making higher resolutions, which create larger file sizes, wasteful. You

may choose to design and edit in a higher ppi if you are developing images to fulfill multiple objectives, such as print, video, and Internet. Appropriate ppi settings can be determined by consulting your service bureau. For now, select a resolution of 72 ppi.

Mode
Select *RGB Color* for *Image Mode*. Because your images are destined for the screen, which uses the RGB Color space, *RBG Color* is the appropriate mode to create and edit your images. Recall that in addition to the RGB color space, digital images have different color or bit-depths. By default, RGB mode in Photoshop operates in a 24-bit color depth.

Contents
Contents determine the initial background color of your image. Options include *White, Background Color*, and *Transparent*.

Selecting *White* creates an image with a white background.

Selecting *Background Color* creates an image with the current color of the *Background Color* swatch in the *Toolbox*. By default, this color is white, but in the process of editing you will almost certainly change it.

Selecting *Transparent* creates a background without any color, similar to glass or acetate. Photoshop, by default, represents transparency by a gray and white-checkered pattern. You can customize the pattern by selecting File/Preferences/Transparency & Gamut. Use the *Grid Size* and *Grid Colors* drop-down menus to make changes. You can customize the transparency colors by *{Clicking}* on the swatches and selecting the color you desire. Changes are immediate. Most Photoshop users leave the *Transparency Preferences* at default.

Select *Transparent* and *{Click}* OK in the *New* dialog box. You should have an *Image Window* in the Photoshop workspace. Why select a transparent background? You'll find out as we progress through this chapter and the next. Note that the checkered pattern in the image is only an indicator of transparency, it is not image data.

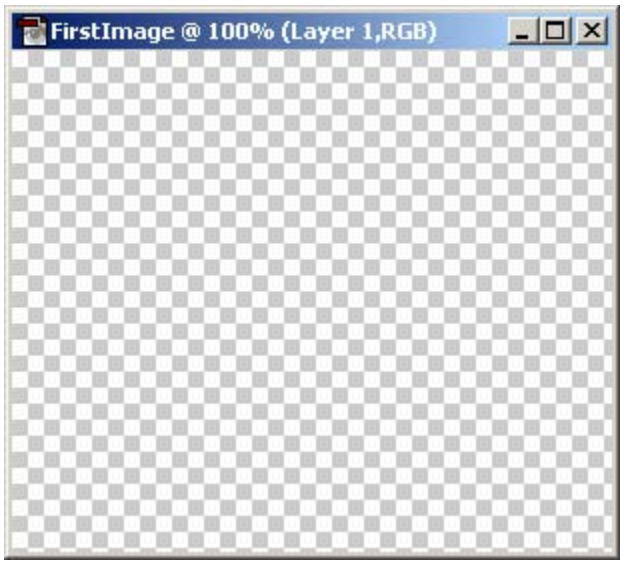


Image Window

At the top of the *Image Window* is the name of your document, the current level of magnification (***FirstImage*** @ 100%), the current *Layer* you are working on (at this point the image has only one *Layer*), and the *Image Mode*, in this case RGB with a bit depth of 24. Standard controls for minimizing, maximizing, and closing the document appear at the top right corner.

You can *{Click}* and drag the top of the *Image Window* to move it anywhere within the workspace. If you drag the *Image Window* to areas occupied by the *Toolbox* and the *Palettes* the *Image Window* is covered by them.

To resize the *Image Window {Click}* and drag the top, bottom, left, or right sides to increase or decrease the size in any of these directions. To resize the *Image Window* proportionately *{Click}* and drag at any of the corners.

We will be using and modifying the ***photoshop6xfiles*** included with this manual. Take the time now to copy those files into a new directory on your hard drive so you can save the changes that you make them. Save "***FirstImage***" in a new folder inside the ***photoshop6xfiles*** folder that you just installed. After you have saved your blank or empty image close it by *{Clicking}* on the Close icon at the top right corner of the *Image Window*.

Scanning Images into Photoshop

To scan images into computers requires a scanner. Scanners are similar to photocopiers, where light passes over a photograph or some other type of physical object and makes a copy of it. With computers, rather than burning toner onto another page, the scanned image is converted into a bitmap, which you can manipulate and modify in Photoshop.

Connecting a scanner to your computer is beyond the scope of this course. Follow your manufacturer's instructions. Once the scanner is installed and working you can access it within Photoshop if the scanner is TWAIN compliant. TWAIN is a format that permits your computer to interface with imaging devices such as scanners. To select the TWAIN device select File/Import/Select TWAIN_32 Source. Select your scanning software.

To scan an image directly into Photoshop, select File/Import/TWAIN_32. The scanning software is launched. Because scanning hardware and software vary considerably, we cannot cover how to use your scanning software. Follow the manufacturer's instructions. It is paramount, however, that you keep bit-depth in mind (24bit is optimal), image dimensions, and image resolution (72ppi or higher if developing for other media).

Once you have successfully scanned the image into Photoshop, close the scanning software and save the image in Photoshop format. You can manipulate as you can any other image.

Importing Existing Images into Photoshop

Very often you will work with images that have all ready been created, such as images of company logos, scanned images, and images taken with a digital camera. Furthermore, you might need to make further changes to an image you have already created and edited. To import or load existing images into Photoshop select File/Open. The *Open* dialog box appears.

Open dialog box

The *Open* dialog box contains standard file opening options such as controls to navigate to particular directories, create new directories, etc. For the purpose of this course, navigate to the ***photoshop6xfiles*** folder you've installed on your system.

For *Files of type:* with Windows, or *Format* with Macintosh select *All Formats* to make the Open dialog box show files of all types. *{Click}* the drop-down arrow and have a look at the list of file types or formats Photoshop supports. Recall that file types are different kinds of bitmap or vector files that have developed and evolved since the birth of digital imaging. Because Photoshop supports so many file formats your editing options are almost limitless.

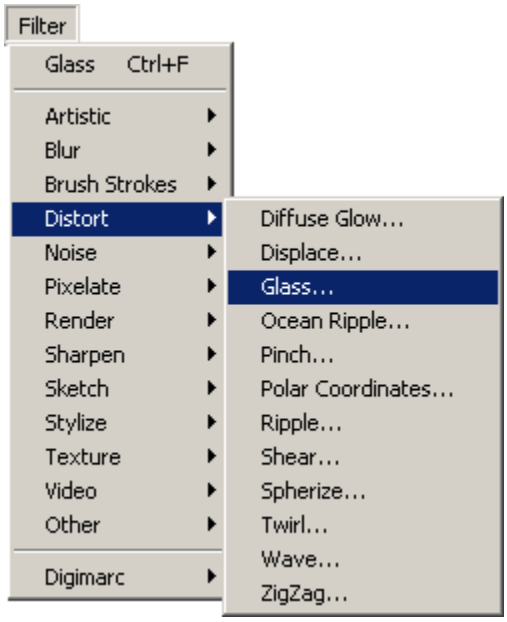
Navigate your way to the chapter003 *{Double-Click}* ***monkey*** or *{Click}* ***monkey*** once and then *{Click} Open*. The *Monkey Image Window* opens.

You now have an imported image file. Let's examine some of the things we can do and certain things that happen when you create or import an image into Photoshop.

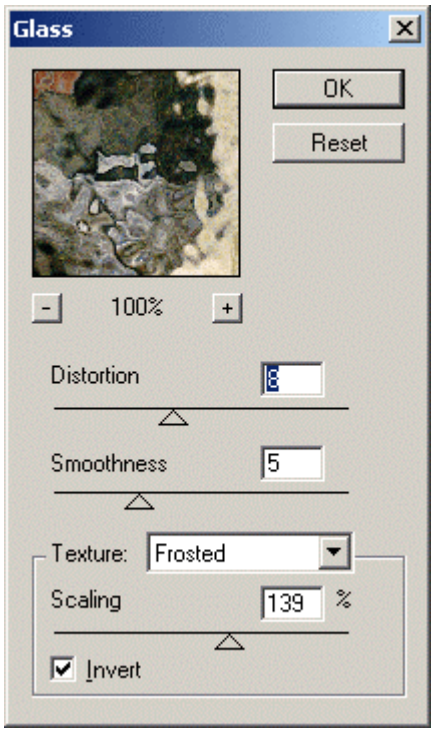
Image Mode

Just as with a document you have created, a document you have imported contains the name or title of the image, the current magnification level, and the *Image Mode* in the *Image Window Title Bar*. *Image Mode* refers to the color space the image is operating within. RGB is the color space of choice for Internet images because RGB is also the native color space of your computer and monitor. It is important to realize that an image designated by Photoshop as being in RGB mode has a 24-bit color depth. Recall that the higher the bit depth of an image, the larger the file size. Why edit and manipulate your images with a 24-bit color depth if ultimately you might only export the image with a bit-depth of 8? If you work in a bit-depth of 8, many of Photoshop's advanced features, such as using Filters, resizing images, and re-coloring images are either not available or do not operate effectively. By editing or manipulating your images in RGB mode, you give yourself the greatest range of creative options and the greatest level of accuracy. Of course, ensuring that your display is currently set to 24-bit depth is also essential. You can always reduce the bit-depth when you have completed editing your image.

Select the Filter Menu Item and drag the mouse over the available items. As you rest the mouse pointer over each item a pop-up box appears with a list of sub-items. You'll notice that currently, all the Filters are available. Select Filter/Distort/Glass.



The Glass dialog box appears.



Input “8” for *Distortion*, “5” for *Smoothness* and select *Frosted* from the *Texture* drop down menu. *{Click}* OK. The image of the Monkey now appears as though you are looking at it through Frosted Glass. Remove the distortion. Select Edit/Undo Glass. Filters are covered in depth later.

Next, select Image/Mode/Indexed Color. Accept the default values of the *Indexed Color* dialog box and *{Click}* OK. Notice that the *Image Window* no longer indicates or displays *Image Mode*. Any bit-depth below 24, except for Grayscale (which displays *Black*), is indicated by the absence of an *Image Mode* indicator. Now attempt to apply the Glass Filter to the image as you just did. You’ll notice that none of the Filters are available, hence the need to edit your images in RGB Mode. Close the Monkey image by *{Clicking}* the Close box at the top right corner of the *Image Window*. When prompted if you desire to save changes to the document *{Click}* “No.” Open the ***monkey*** image again to explore Photoshop’s Magnification controls.

Magnification/Navigation Controls

To modify, edit, and create images you will need to increase and decrease magnification for accuracy.

Navigator Palette
{Click} the *Navigator* tab in the Navigator *Palette* Group. You will notice a red box surrounding a thumbnail of the Monkey image. The image in the *Image Window* you have currently selected is displayed in the Navigator *Palette*. When the box surrounds the entire image it signifies the current magnification level is at 100%.

At the bottom of the *Navigator Palette*, you can see a box that displays the current magnification level. *{Double-Click}* to manually input a different magnification level.

Beside the input box is the *Zoom Out, Zoom Slider*, and *Zoom In* controls. *{Click}* the *Zoom Out* or *Zoom In* buttons to decrease and increase magnification in preset increments. *{Click}* and drag the *Zoom Slider* back and forth to decrease or increase magnification.

As you use the *Navigator* controls, you'll notice the *View Box* (red box) on the thumbnail decreases and increases in size depending on the current magnification level. When you pass the mouse pointer over the *View Box* you'll notice the cursor changes to a *Hand* icon. *{Click}* and drag inside the *View Box* to move the *View Box* around the thumbnail. As you do so, watch the *Image Window*. The image moves around within the Window as you move the *View Box*. When passing the mouse pointer outside of the *View Box* but over the thumbnail, the pointer changes into a *Pointing Hand* Icon. *{Clicking}* on the thumbnail moves the red box to the area you just clicked. The image adjusts in the *Image Window* accordingly.

The Zoom Tool 
Alternately you can use the *Zoom Tool* on the actual image to adjust magnification. *{Click}* on the *Zoom Tool* to select it. *{Click}* and drag over the area you desire to magnify. Pressing the [ALT] key changes the *Zoom Tool* to a *Zoom Out Tool*. Notice the "+" sign that appears in the center of the magnifying glass icon by default. Pressing the [ALT] key changes the "+" sign to a "-" sign. *{Click}* on the image to Zoom Out to predetermined levels. *{Double-Clicking}* the *Zoom Tool* restores magnification to 100%.

The Hand Tool 
As an alternative to using the *Navigator Palette* to move a magnified image within the *Image Window* you can use the *Hand Tool*. Magnify the Monkey's face. Select the *Hand Tool*. *{Click}* and drag over the image to move the image within the Window, effectively moving other parts of the image under the virtual magnifying glass.

The History Palette

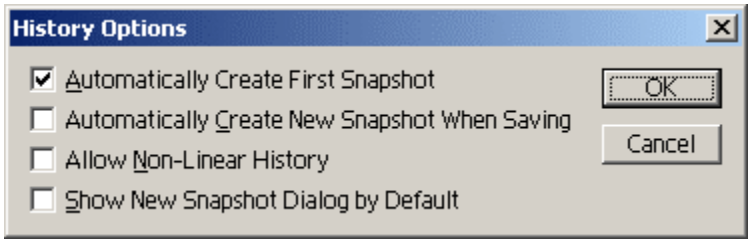
The *History Palette* is effectively Photoshop's Undo manager. Many applications or programs feature multiple levels of Undo, meaning you can discard or erase a series of modifications or changes you have performed. For instance, in a Word Processor you can repeatedly *{Click}* the Undo button until you're left without any content at all after having input a few paragraphs. Similarly in Photoshop, you can use the *History Palette* to Undo a series of modifications you have made to an image.

The Snapshot

Like the *Navigator Palette*, a thumbnail of your image also appears in the *History Palette*. This thumbnail is called a *Snapshot*. The *Snapshot* is a record of the image complete with all the modifications you have performed on it. Initially of course, upon opening, the image has not yet been modified. Having performed a number of modifications, you can create new *Snapshots* to effectively create a record of the latest version of your image.

The State

Below the *Snapshot*, Photoshop records or logs each of the modifications you make to an image. Each record is called a *State*. By default, the number of *State*s is set to 20. You can increase or decrease this number by adjusting the *History States* field in the *General Preferences*. *{Click}* on the Black Triangle at the top left hand corner of the *Palette* to access the Menu. Each *Palette* has a number of options you can access by *{Clicking}* on this Black Triangle. In this case, select *History Options*.



Automatically Create First Snapshot

Checking *Automatically Create First Snapshot* creates a record of the image before any modifications have been performed. That way, at any point in the editing process, you can easily return to the image in its original form.

Automatically Create New Snapshot When Saving
Selecting this option will automatically create a *Snapshot* of your image when you save it.

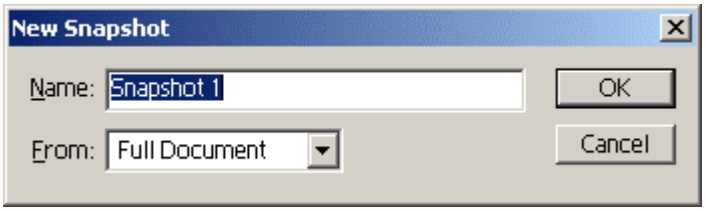
Allow Non-Linear History
As you make modifications to the image, the *History Palette* makes a record of each modification building from the bottom up. The last *State*, or the *State* at the bottom of the *History Palette* therefore represents the last modification you made. Each modification or *State* is related, meaning if you discard or erase a *State* with other *State*s following it in the list, all the *State*s that follow are also erased. Check *Allow Non-Linear History* to keep *State*s that follow deleted or modified *State*s in the stacking order intact. You can use these *State*s with the Art *History* Brush detailed in further chapters.

Show New Snapshot Dialog by Default
Selecting this option will automatically prompt you to input a name for your new *Snapshot*, even if you create it using the buttons at the bottom of the panel.

Select the *Airbrush Tool*. *{Click}* and drag over the Monkey image and paint over it as you wish. Select the *Paintbrush Tool*. Switch or swap the Foreground and Background colors by *{Clicking}* on the *Swap Arrow Icon*. Paint on the Monkey image as you wish. Now examine the *History Palette*. You'll notice that below the thumbnail of the Priest are three *States*: Open, Airbrush, and Paintbrush.

If you don't like the modifications you have made you can get rid of them by *{Clicking}* and dragging the *State* over the *Trashcan icon*, then *{Release}*, or you can *{Click}* the *State* you want to erase and *{Click}* the *Trashcan icon*. Alternately you can *{Click}* on any of the *States* to make the *States* that come after it inactive. For instance, if you *{Click}* the "Airbrush" *State* the "Paintbrush" *State* becomes inactive, indicated by color. Gray indicates the *State* is inactive, white indicates the *State* is active, and green indicates the *State* is selected. Discarding or erasing a *State* that has other *States* below it in the *History Palette* will erase those *States* as well.

If you have discarded your Airbrush and Paintbrush modifications, make them again. Having made your modifications *{Click}* the *Options Triangle* (the Black Triangle at the top right corner of the *Palette*) and select *New Snapshot*. The *New Snapshot* dialog box appears.



You can name the *New Snapshot* and select the source of the *New Snapshot* with the *From* drop-down menu. However, the options in this drop-down menu cannot, at this point be understood until we have covered *Layers*. For now, leave it at default, *Full Document*. A new *Snapshot* is created in the *History Palette* complete with all the modifications you have performed. If you didn't name the *Snapshot* initially, simply *{Double-Click}* the white area beside the *Snapshot* to initiate the *Rename Snapshot* dialog box. Type in any name you desire. Now you have two *Snapshot*s, one of the image as it was when opened and one of the image after your modifications. You can use these *Snapshot*s as starting points to make more modifications by simply *{Clicking}* on the desired thumbnail and making your modifications as you normally would.

At any point, you can also create a new document or a new *Image Window* with the latest modifications you have made. Simply *{Click}* the *Options Triangle* in the *History Palette* and select *New Document*. A new *Image Window* will open. By default, the name of the new *Image Window* will be the name of the Tool you last used to modify the original image. For instance, if you used the Paintbrush Tool last the new Image will be titled ""Paintbrush." When you save the image you can change the name.

Close all images by *{Clicking}* the Close Box at the top right corner of the *Image Window*. Do not save changes to the ***monkey*** image.

Review Questions

1. What are the five key decisions involved in creating a new image?

2. Why edit images in 24-bit color depth if ultimately they will be 8-bit images on the Internet?

3. Why would you use the Magnification/Navigation controls?

4. What is a Snapshot in the History Palette?

5. If you delete a History State with other States below it what happens to those States?

Summary

As a result of this chapter, you should be able to:

- Create and import images to edit in Photoshop
- Use a scanner to acquire images
- Use the Navigator and History Palettes

4

Photoshop Fundamentals: Using Selections and Channels

This chapter covers creating and using Selections and Channels for digital image editing.

Objectives

Upon completing this section, you should be able to:

1. Understand and create Selections
2. Understand Channels
3. Use the Channels Palette to save Selections

Selections and Channels

One of the primary features you use when editing and manipulating images are Selections. Selections are areas of an image you choose to isolate from the rest of the image to make modifications to or to copy and paste into other images or even the same image again. For instance, you might want to re-color someone's eyes. To do so, you would use one of Photoshop's numerous *Selection Tools* and methods to isolate the area around the pupils on both eyes and make color adjustments accordingly. If you do not create a Selection then the entire image is affected by your color adjustments.

Selections are not saved by Photoshop automatically. For instance, having used the *Selection Tools* to isolate or select the color around the pupils of the eyes, and having made appropriate color adjustments, your client requests yet another change to the color. When you import or load your image into Photoshop again, you have to re-select the color around the pupils unless you tell Photoshop to save the Selection you have created. Photoshop saves Selections in Channels. Channels are part of the *Layers Palette* group. Be patient. We will get into Channels and how they operate further on in this chapter.

The Selection Tools

The Marquee, the Move, the Lasso, the Magic Wand, the Pen Tool, and the Painting Tools in Quick Mask mode make up Photoshop's *Selection Tools*. A Marquee, a dotted line in constant motion, represents the shape of your selection. The Marquee is also known as a **Selection path** and informally as an "ant trail". At any time, select Select/Deselect to remove a selection. We will examine how to use the *Selection Tools* and related *Palettes*.

Marquee Tool 

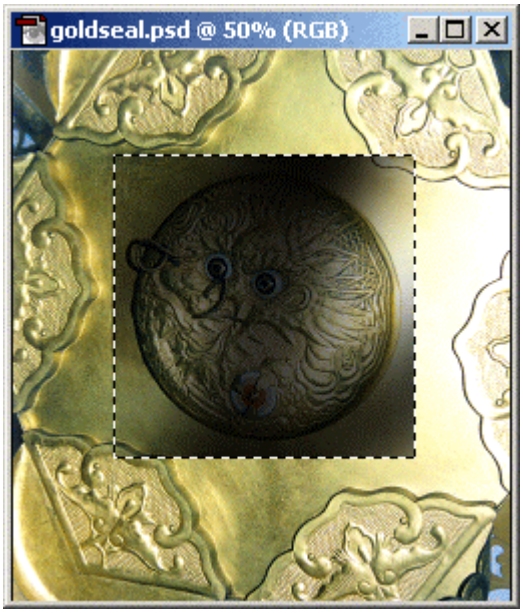
The *Marquee Tool* is used to create regular shaped selections. The shape of your selection is represented by a Marquee; a line of cycling black and white squares in constant motion. The Marquee is also known as a **selection path**. Available shapes include a **Rectangular Marquee** for square and rectangular Selections, **Elliptical Marquee** for circular and oval Selections and **Single Row** and **Single Column** marquee to select single rows or columns of pixels. To access the supplementary *Marquee Tools* you simply *{Click}* and hold your mouse button on the Rectangular Marquee Button in the *Toolbox*. A *Fly-Out Menu* appears giving you access to the rest of the tools.

To constrain the shape of the rectangular, elliptical or crop Tools hold the [SHIFT] key as you *{Click}* and drag to create your Selection. Perfectly square and circular selections result.

Crop Tool 

Use the *Crop Tool* to cut all non-selected content from your image. This tool is very useful for tweaking the composition of a photograph as it allows you to remove extraneous material quickly and easily. The *Crop Tool* is limited to rectangular shapes.

Open the Photoshop file ***goldseal*** from the ***chapter004*** folder in ***photoshop6xfiles.*** Select the Rectangular Marquee. *{Click}* and drag a rectangular Selection over the circular emblem in the center of the image. Use the *Airbrush Tool* to paint over the image. You'll notice that painting only occurs within the Selection area because the selection designates that this area, and only this area, is subject to modifications.



The Selection isolates a particular area of the image. Modifications occur only to the Selection area.

Use the *History Palette* to remove the modifications you've just done. Try out the other Shapes in the *Marquee Tool*.

When you get to the *Crop Tool*, you'll notice boxes located at the corners of the Marquee as well as in the center of each side. You can *{Click}* and drag these to resize the selection path or marquee. Press [ENTER] on your keyboard to crop the image. What happens? The image data outside of the *Crop Tool's* selection is erased and the image scales to the data within the selection. Notice that all material outside of the crop marquee has been grayed out so as to give you a better idea of how your content will look once it has been cropped. You can use the *History Palette* to restore the image back to its original state.

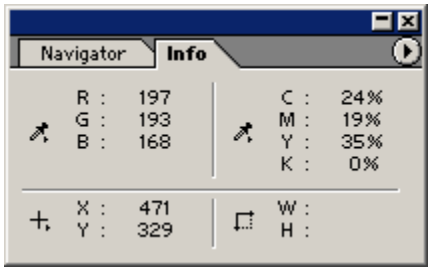
Multiple Selections
You may want to isolate more than one area of the image for modifications. To do so simply create your initial selection and hold the [SHIFT] key down as you create other selections. *{Shift-Clicking}* within a selection, adds to the selection.

Modifying Selections
You will have noticed that modifying or resizing the *Crop Tool's* selection path is easy. You simply *{Click}* and drag the square handles accordingly. To do the same to a regular selection select Select/Transform Selection. *{Click}* and drag to resize the

Selection as you wish. Press [ENTER] to affect the changes. Press [ESC] to cancel the modifications.

The Info Palette

{Click} the *Info Tab* in the *Navigator Palette* group.



Pass or roll the mouse pointer over the image. Notice that the *Info Palette* immediately returns information to you as you move your mouse around. As your mouse passes over part of the image data the *Info Palette* gives you RGB and CMYK (a color mode for Print) information, as well as the location of the pointer within the image, expressed in terms of X and Y coordinates in pixels (if you selected "pixels" as your base unit of measurement in File/Preferences/Units & Rulers.) You'll notice a *Width(W)* and *Height (H)* indicator in the bottom right corner of the *Info Palette*. This returns the dimensions of your selections. Make a Rectangular selection anywhere within the ***goldseal*** image. You'll notice the *Info Palette* returns the width and height values of the Selection in pixels. You can use the *Info Palette* when creating selections for precise measurements and accuracy.

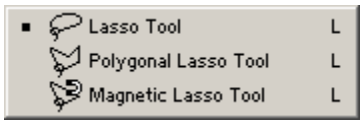
Moving Selections

To move a Selection around the image simply *{Click}* within the Selection you have created and drag.

In addition to using the *Move Tool* to move the *Toolbox*, *Palettes*, and Images around the Photoshop workspace, you can also use the *Move Tool* to move selections. Any image data within the Selection area moves with the selection. To move only the Selection Marquee, not the image data within it, make sure you have any one of the *Selection Tools* selected in the *Toolbox* and *{Click}* inside a Selection area, hold, and drag the Selection.

The Lasso Tools

{Click} and hold down on the current *Lasso Tool* in the *Toolbox* to view the fly-out menu.



Lasso Tool 

The *Lasso Tool* is used to create irregularly shaped Selections. The *Lasso Tool* includes the *Lasso* for freehand Selections, similar to drawing with the mouse as you would with a pencil on paper. *{Click}*, hold and drag to create your Selection. *{Release}* the mouse button to close the Selection.

Polygonal Lasso Tool 

The *Polygonal Lasso Tool* is used to make Selections by drawing a series of straight lines to make a polygonal shape. *{Click}* within the image to start or begin creating your Selection. As you drag the mouse (having released the button) a line extends from your start point. To begin another line *{Click}* again and continue until you have created the desired Selection shape. To close a *Polygonal* Selection either *{Click}* the start point again or *{Double-Click}* to make Photoshop draw the final line to the start point for you.

Magnetic Lasso Tool 

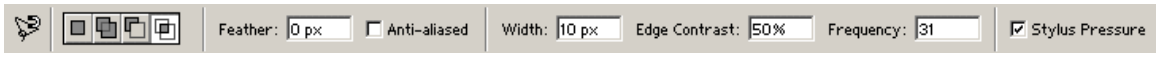
The *Magnetic Lasso Tool* works similarly to the *Polygonal Lasso Tool* in that you *{Click}* within the image to start or begin creating your Selection and drag the mouse (having released the button) to create the Selection path. However, whereas with the other *Selection Tools* you determined the path or shape of your Selection, the *Magnetic Lasso* attempts to create the path itself. You act as a guide by directing the *Lasso* around or close to the area you desire to select.

Open the file ***fudog*** from the ***chapter004*** folder. Select the *Magnetic Lasso Tool* and *{Click}* on one side of the statue. Begin to guide the mouse pointer along the side of the statue. You'll notice that the path automatically snaps to the edge of the statue. The *Magnetic Lasso* uses color contrast to decide where to create the Selection path or shape. To increase the *Magnetic Lasso's* accuracy *{Click}* frequently as you guide the *Lasso*. Click points, represented by small boxes, become visible along the selection path. To close the Selection path *{Click}* again at the start point or *{Double-Click}* to make Photoshop close the Selection for you. Presently, just select the head of the dog statue. Use the *Move Tool* to move your Selection to the left of the statue. Select Select/Deselect to remove the Marquee or Selection path that surrounds your Selection. You'll see that an accurate copy of the top of the statue has been made. Notice that the current Background Color fills the Selection area when you move it. To increase accuracy you could use the Magnification Tools or you can modify the behavior and sensitivity of the *Magnetic Lasso* by modifying the parameters in the *Options Bar*.

Having used the Magnetic Lasso Tool to isolate the top of the statue, use the Move Tool to move the Selection to another area of the image.

Selection Tool Options

As you know, the *Options Bar* displays a number of different options depending on the Tool you are currently using. All of the *Selection Tools* have a set of options, but some differ from others. The *Magnetic Lasso* has the most.



Feather

Feathering your Selection creates a gradual softening effect, from solid color to transparency, similar to how the feathers on a bird's wing gradually become transparent at the tips. To examine the effects of feathering select the *Elliptical Marquee Tool*. Before making a Selection of the top half of the statue, enter a value of 20 in the *Feather* field. Make sure *Anti-aliased* is checked. Recall that Anti-aliasing softens the transition from the edge of an image or Selection to the color the edge is placed against. Leave Style at default, *Normal*. Select the top half of the statue. Select the *Move Tool* and move your Selection toward the bottom of the image. You'll notice the area you've moved the image data from fills with the current background color. You'll also notice how the background color gradually fades or feathers into the surrounding color. Deselect your Selection. Notice how the edges feather into the background as well, becoming transparent toward the edge.

The effects of Feathering

Lasso Width
Recall that the *Magnetic Lasso* searches for edges to attach to. The *Lasso Width* defines the range of pixels within which the Tool will search for edges. The range is limited to values from 1 to 40.

Frequency
Frequency determines how often the *Magnetic Lasso* creates anchor points along the Selection path. Each anchor point acts effectively as a fresh start to edge detection, increasing accuracy. The range is limited to values from 0 to 100.

Edge Contrast
Edge Contrast adjusts the sensitivity of the *Magnetic Lasso*'s edge detection. The range is limited to values from 1% to 100%. Higher values require increased contrast between the edge you desire to select and the image data that surrounds it. Experiment with the options to see how they affect the behavior of the *Magnetic Lasso*.

Magic Wand Tool 

The *Magic Wand Tool* differs from the other *Selection Tools* in that rather than drawing a path yourself you simply *{Click}* the *Magic Wand* in the area you wish to select and the *Magic Wand* creates the Selection for you. It creates the Selection based on a range of related colors. The range of colors is set in the *Options Bar* by adjusting the *Tolerance* setting. Increasing the value increases the color range.

Make sure the ***fudog*** image is open and in its original state (you can reload the image or use the *History Palette* to delete your modifications.) Select the *Magic Wand Tool*. In the *Options Bar*, set the Tolerance level to 20. Uncheck *Contiguous*. Now *{Click}* any area of the black background around the statue. A Selection path is created that surrounds most of the background. The color of the area that you clicked on becomes the base color that establishes the related color range, in this case shades of black. However, it does not surround the entire area. Deselect select the Selection. Change the *Tolerance* to 30 and *{Click}* the statue again. The Selection path should encompass the entirety of the black background that surrounds the statue. Deselect the Selection again.

Check *Contiguous* and reselect the black background. You'll notice that the entire background is no longer selected. Why? Because the parts of the background that remain unselected are separated by colors currently outside of the range established by *{Clicking}* to create your Selection and establishing a tolerance level. By checking *Contiguous* you force the *Magic Wand* to select a color range that is uninterrupted by colors outside the range. When *Contiguous* is unchecked, the *Magic Wand* selects all the areas that fall within its color range within the entire image. The *Use All Layers* feature is covered later.

The Pen Tool 

The Pen Tool can also be used to create Selections. We will be exploring the function of the Pen Tool in depth in a later chapter so, for the time being, suffice to say it can also be used to create very accurate selections.

Creating Selections in Quick Mask Mode 

Photoshop also permits you to use the various Painting Tools to create Selections. We won't be covering the Painting Tools just yet. However, an introduction to how the Painting Tools function in *Quick Mask Mode* is essential.

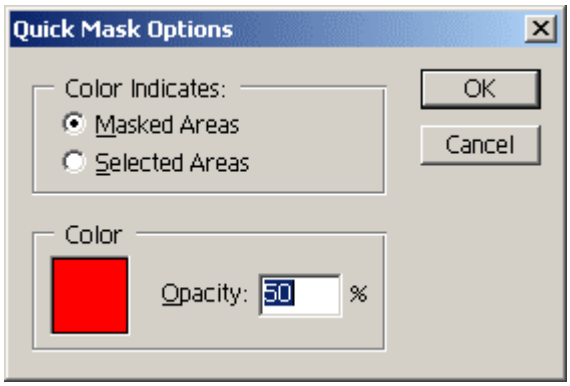
Restore the ***fudog*** image to its original state by using the *History Palette* or by reloading the image. *{Click}* the *Edit in Quick Mask Mode*  button on the *Toolbox*. Make sure the Background and Foreground colors are at default.

Select the *Airbrush Tool* and begin painting over one of the statue's legs by *{Clicking}* and holding. You'll notice that instead of painting with Black, a very light Red color results. In effect, you are painting the area you wish to make into a Selection. Black adds to the selection, white subtracts from the selection. If you *{Click}* the *Swatches Tab* in the *Color Palette Group* you'll notice that all of the Swatches are different shades of gray. Selecting different shades adds transparency to your selection, similar to the Feather effect, the darker the color the greater the transparency. Once you are familiar with the Painting Tools, you can use them to make very complex Selections.

{Click} Edit in Standard Mode  to exit *Quick Mask Mode*. You'll notice that the Marquee or Selection area is outside the area you painted. To reverse the Selection select Select/Inverse. To force Photoshop to make the area you painted the Selection area you have to set the Quick Mask Options.

Quick Mask Options

{Double-Click} either the *Edit in Standard Mode* or *Edit in Quick Mask Mode* button to activate the *Quick Mask Options* dialog-box.



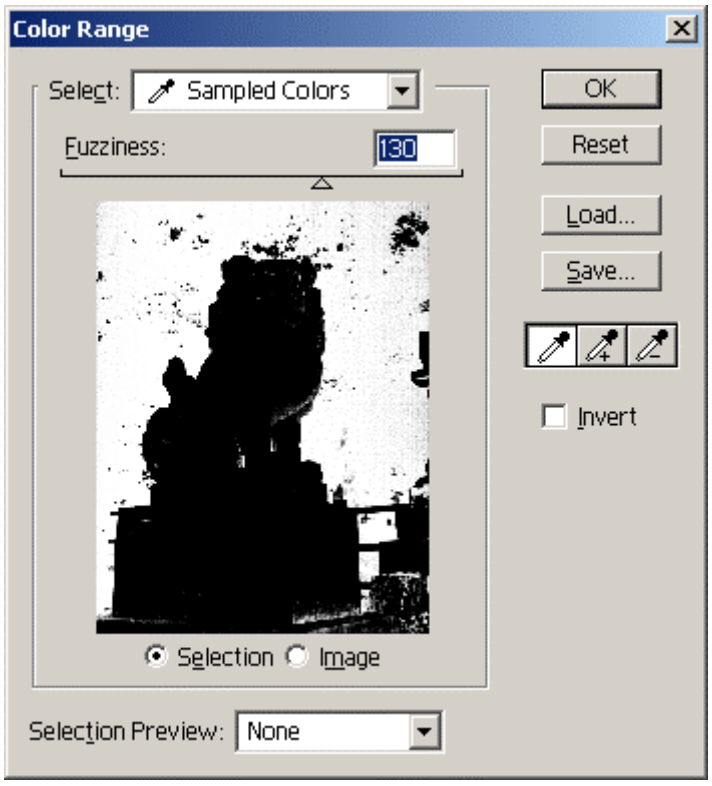
Color Indicates
Check *Selected Areas* to force Photoshop to make the area you paint with any of the Painting Tools the Selection area. Select *Masked Areas* to force Photoshop to make the area outside of your painting area the Selection.

Color
{Click} the *Color* swatch to change the mask color from default Red to something else. You'll find this useful when you have to select an area with the same color as the Mask. Changing it will make your editing easier.

Enter a different value in the *Opacity* field to increase or decrease the opacity of the Mask. This has no effect on the opacity level of the actual Selection, it affects how much of the image you can see while creating the Mask.

Creating a Selection with Color Range

Recall how the *Magic Wand* works. The Selection is created by analyzing a base color (which you designate by *{Clicking}* on it) and a range of related colors you determine by setting *Tolerance*. You can also use the *Select by Color Range* function by selecting Select/Color Range. The *Color Range* dialog-box appears.



Color Range Dialog-Box

The *Color Range* dialog-box consists of a *Selection* option drop-down menu, *Fuzziness* controls (for fine tuning the range of your Selections), an *Image Box* with the current image or Selection, *Selection Preview* options and 3 *Color Pickers*.

Select

Use the items in this menu to define how you are going to create your Selection. You can choose by color range (from Reds, Yellows, Greens, Cyans, Blues, Magentas), by Sampled Colors (colors you select with the Color Pickers), by Contrast (Highlights, Midtones, Shadows), and Out of Gamut (which applies to images created for Print.) Generally, you'll use Sampled Colors.

Fuzziness

Use the *Fuzziness* to increase or decrease the selected color range.

Selection or Image

Check *Selection* to display Selection data in the Image box. Check *Image* to display the image.

Selection Preview

Select from *None, Grayscale, Black Matte, White Matte*, and *Quick Mask* to display the Selection area and control how the Selection is displayed within the *Image Window.*

Color Pickers

There are three color pickers. Use the Color Picker without a "+" or "-" symbol to select one color as the basis for creating your Selection and define the range by using the *Fuzziness* slider. To add additional colors to your Selection use the Color Picker with the "+" sign. To remove colors from your Selection use the Color Picker with the "-" sign.

Invert

{Click} Invert to reverse your current Selection.

Restore the ***fudog*** image to its initial state. Select Select/Color Range. Make sure *Selection* is checked below the *Image Box*. Select the *Color Picker* without any signs. You can use the *Color Picker* within the Image Box or on the Image itself. *{Click}* on the Black Area of the ***fudog*** image. A black mask covers most of the statue in the *Image Box*, indicating the unselected area. *{Click}* and drag the *Fuzziness* slider to a across its range to see how the selection is affected. Adjust the *Fuzziness* slider so that the statue is almost completely black and the background almost completely white. *{Click} Invert* to reverse the Selection. *{Click}* OK. A Selection marquee surrounds the statue.

Saving Selections with the Channels Palette

You might want to save your selections for future use as well. To do so you use the *Channels Palette*.

Load Selection, Save Selection, Create, Delete Channels

Restore the ***fudog*** image to its original state by using the *History Palette* or by reloading the image. Create a Selection using any one of the *Selection Tools* you wish, but make sure Feathering is set to 0. *{Click}* the *Channels Tab* in the *Layers Palette Group*. You will see four channels: RGB, Red, Green, and Blue. The RGB channel is a composite of the Red, Green, and Blue channels.

Color Channels

There are two types of *Channels* in Photoshop: Alpha and Color. The ***fudog*** image is made of a combination of three color *Channels*, each containing a range of data relating to the primary colors in digital imaging, Red, Green, and Blue. Recall that combining variations of Red, Green, and Blue can produce over 16 million colors. Photoshop keeps the primary color information separate for editing purposes, most specifically for modifying color. We will use *Channels* further on. For now, *{Click}* the *Visibility (the eye) Toggle* beside the *Channel* thumbnails to *Toggle* the visibility of a color channel. Notice how the color in the image drastically changes. To restore the *Channels* simply *{Click}* the visibility *Toggle* beside each invisible channel or *{Click}* the *Visibility Toggle* of the RGB Channel to activate all the *Channels*.

Alpha Channels

We use *Alpha Channels* to save our Selections. *Alpha Channels* do not store color data, rather they store grayscale data used to define and store Selections. *{Click} Save Selection as Channel* at the bottom of the *Channels Palette*. An *Alpha Channel* is added below the color channels titled, "Alpha 1." To rename the channel simply *{Double-Click}* the Channel Box. Rename accordingly.

The Selection is saved as an Alpha Channel

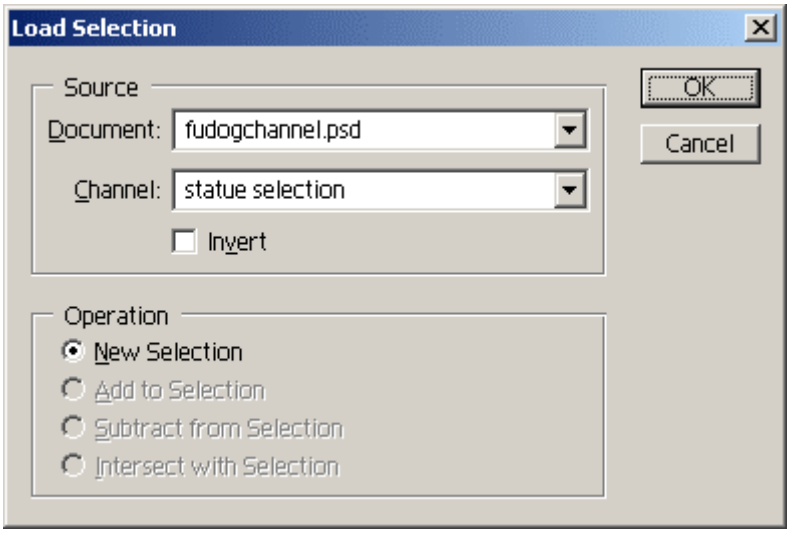
Examine the *Alpha Channel* thumbnail. You'll notice that the channel is made up of pure black and white. The black indicates the area of the image not selected and the white the area of the image selected. If you haven't already, deselect the Selection. *{Click}* the *Visibility Toggle* beside the *Alpha Channel*. The resulting composite now has a pinkish hue over the image with regular color showing through where the Selection was. *{Click}* the *Visibility Toggle* of all the color channels to make them invisible. Only the *Alpha Channel* is visible. Notice again that the black area represents the area of the image not selected, while the white area represents the area of the image that is selected. In effect, you can look at the *Alpha Channel* as a mask. The white area is the hole in the mask. When active as a Selection we can only manipulate the area of the image we see through that hole.

Recall that we mentioned *Alpha Channels* store grayscale data to define and store Selections. Our current *Alpha Channel* has only black and white. Different values or levels of gray indicate transparency when working with Selection Masks, that is, as the color range shifts from black, which is absolute transparency, to white, which is absolute opacity, various levels of transparency occur. Recall what occurs when we feather a Selection. The edge of the Selection gradually shifted to complete transparency. Anything below the translucent or partially transparent areas shows through or mixes with the image above.

To demonstrate lets create an elliptical Selection with a Feather value of 20. First, *Toggle* the visibility of the *Alpha Channel* to off and restore the color channels by toggling the visibility of the RGB Channel to on. Next, select the *Elliptical Selection Tool* and set *Feathering* to 20 in the *Options Palette*. Create an elliptical Selection with the ***fudog*** image. Now use the *Channels Palette* to create an *Alpha Channel* based on your new Selection. Deselect your Selection and examine the new *Alpha Channel* by toggling the visibility of the other Channels. Notice the elliptical area is pure white at the center and fades close to complete transparency toward the edge as color shifts to various shades of gray. This is why *Alpha Channels* work in grayscale, using 256 shades of gray to define transparency.

Restoring Your Selection

We created *Alpha Channels* based on our Selections so that we can restore the Selections at a later time. When you save an image as a Photoshop native document the *Alpha Channels* are saved with the file. We'll pretend that we saved the ***fudog*** image and have just reloaded it. (You can save it as ***fudogchannel*** if you wish, close it and reopen it.) Make sure both *Alpha Channels* are not visible by toggling visibility in the *Channels Palette*. Make sure that you *Toggle* the visibility of the *RGB Channel* to on. To restore your selection select Select/Load Selection. The *Load Selection* dialog box appears.



Load Selection dialog box

Source

Indicates the source filename of the *Alpha Channels*, in this case "fudogchannel.psd."

Channel

Use the drop-down arrow to select which channel you want to restore the Selection from: either *Alpha 1* or *Alpha 2* unless you renamed the channels.

Invert

{Clicking} Invert reverses the *Alpha Channel* values, switching black to white, white to black, and any intermediate grays accordingly. As a result, your Selection will be

inverted or reversed. Modifications occur in the area of the image you did not initially select.

Operation
Select *New Selection, Add to Selection, Subtract from Selection*, and *Intersect with Selection* as you desire. For the most part, you will select *New Selection*. The other options are only available if the image already has an existing Selection active. Experiment with these settings if you wish.

{Click} OK. Your Selection is restored.

Exercises

1. Open the ***window*** image from the ***chapter004*** folder. Use the *Magnetic Lasso Tool* or the *Magic Wand* to create a Selection around the window.

2. Use the *Channels Palette* to convert the Selection into an *Alpha Channel*.

3. Open the ***landscape*** image from the ***chapter004*** folder.

4. Experiment with the *History Palette* by painting on the image with the *Airbrush Tool*. Try to select different colors by *{Double-Clicking}* the Foreground Color Swatch in the *Toolbox*.

5. Use the *History Palette* to remove your modifications and make new Snapshots.

Review Questions

1. What is the primary function of a Selection?

2. What key do you press and hold to constrain the shape of Selections?

3. What Tool or type of Tool must you use to move the Selection Marquee and not the image data currently within the Marquee?

4. How does the *Magnetic Lasso Tool* determine what part of the image to create a Selection path around?

5. What effect does Contiguous and Discontiguous have on color based Selections?

6. Where are Selections saved too?

7. There are two types of Channels in Photoshop, they are?

Summary

As a result of this chapter, you should be able to:

- Understand and create Selections.
- Understand Channels.
- Use the Channels Palette to save Selections.

5

Photoshop Fundamentals: Using Layers

This chapter introduces you to Photoshop's Layers, a powerful feature essential in digital image editing.

Objectives

Upon completing this section, you should be able to:

1. Understand the Concept of Layers
2. Use all the Options in the Layers Palette
3. Manage and Organize Layers
4. Use Layers to create digital images

Layers

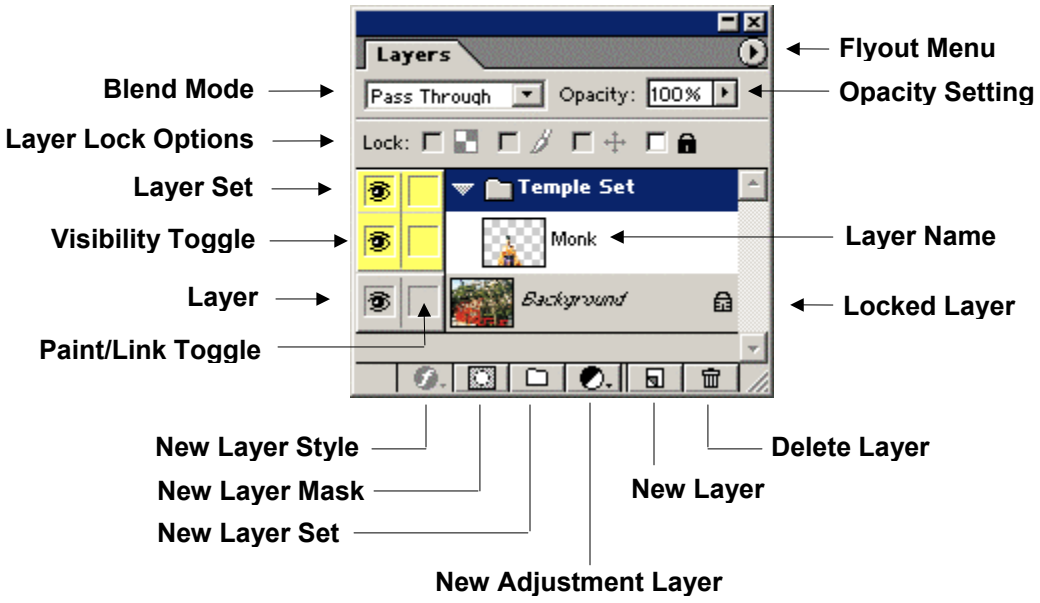
One of Photoshop's most powerful and most popular features is *Layers*. *Layers* are similar to acetate or transparent paper. Each *Layer* in a Photoshop document or image can contain image data that adds to the image data placed on the *Layers* below. Effectively, each *Layer* is an entire image unto itself within a master image. By combining these images together, you get what is called a ***composite***, meaning an image composed of many different elements, in this case made up of multiple *Layers*. The best way to understand the concept of *Layers*, how they work, and why they are so powerful is to use them.

Open ***priest*** and ***gates*** from the ***chapter005*** folder in ***photoshop6xfiles***. Make ***gates*** active by *{Clicking}* on the *Image Window* Title Bar. You'll notice the color mode is CMYK rather than RGB. CMYK is a color space suited for Print production, such as magazines or flyers. Examine the *Channels Palette*. CMYK images are made of a composite of 4 color channels. Because we are developing for the Internet, we need to convert from CMYK to RGB *Image Mode*. Select Image/Mode/RGB Color. Examine the Channels *Palette*. You'll see only 3 primary color channels and the composite RGB channel.

We're going to use *Layers* to add text to the ***gates*** image and add some content from the ***priest*** image. We'll be using some of the Selections Tools as well. We'll begin by examining the *Layers Palette*. *{Click}* the *Layers Tab* in the *Layers Palette* Group.

Layers Palette

The *Layers Palette* is divided into 8 distinct controls, which include *Layers*, *Blend Mode, Opacity*, *Layer Lock Options*, and the *Layer Style*, *Layer Mask, New Layer, New Layer Set, New Adjustment Layer*, and *Trash Icon* set. It's important to note that *Layers* have a stacking order, from the bottom up, meaning the *Layer* at the very bottom of the *Layers Palette* is the last or bottom *Layer*.



Layers

Each *Layer* contains a *Layer Name, Thumbnail, Paint* or *Linking Toggle*, and *Visibility Toggle*.

Layer Name

It's a good idea to name your *Layers* for easy reference and organization. By default Photoshop names each new *Layer* "*Layer* x" where x represents a number, starting at 1. If you import a flat image (meaning an image with only one *Layer*, such as ***fudog***, Photoshop defaults to naming the *Layer* "*Background"* in italics. The Italics indicate that no other *Layer* can be placed beneath it, in effect locking the *Layer* as the bottom *Layer*. To change the name of the "*Background*" *Layer* simply *{Double-Click}* the *Layer* and enter a new Name in the *Name* field. When you rename the "*Background*" *Layer* it is no longer fixed to the bottom of the stack. To rename any other *Layer,* select it in the *Palette* and then select Layer Properties from the *Palette's* fly-out menu. You can also *{Double-Click}* a *Layer* while pressing the [ALT] key to rename a *Layer*.

Thumbnail

The *Thumbnail* is a visual representation of the *Layer's* content. By default, Photoshop uses the smallest *Thumbnail* size. To change the size or disable the *Thumbnail {Click}* the *Options Triangle* and select Palette Options. Check the *Thumbnail* size you desire in the *Layers Palette Options* dialog box.

Paint or Linking Toggle
When a *Layer* is active or selected (by *{Clicking}* on it) a *Paintbrush* icon appears in the *Toggle* box beside the *Thumbnail*, indicating the *Layer* can be painted on. When you *{Click}* in the *Toggle* box of an inactive or unselected *Layer* you "Link" that *Layers* content to the current active *Layer*, no matter where the active *Layer* is in the stacking order. Changes in position and various effects you apply to the active *Layer* are also applied to the *LinkedLayer*. A *Chain* icon appears to indicate *Linking*.

Visibility Toggle
{Clicking} the *Visibility Toggle* makes *Layers* visible or invisible in the *Image Window*. It's important to note that even though a *Layer* may be invisible, if it's the active *Layer* or is linked to an active *Layer* any changes you perform still occur.

Blend Mode
You can select from 17 different Blending options to affect how the image data in a *Layer* mixes or blends with other *Layers*. Usually you'll use *Normal* mode. Some of the other *Blend Modes* produce interesting effects. By experimenting and practicing as you compose your images, you will become familiar with the most, if not all the *Blend Modes*. You must have at least two *Layers* in your image to use *Blend Mode*.

Lock Transparency, Pixels, Position, and Layer
Check the *Lock Transparency* checkbox to limit painting and editing effects to areas of a *Layer* that are not transparent. You can also lock the pixels themselves or the position of the pixels by *{Clicking}* on the appropriate checkbox.

Layer Style, Layer Mask, New Adjustment Layer, New Layer Set, New Layer, Trashcan
{Clicking} the *Layer Effect* button allows you to apply prepackaged styles to the content of the selected *Layer*.
{Clicking} the *Layer Mask* button adds a Mask to the currently active *Layer*. *Layer Masks* are covered in depth later.
{Clicking} the *New Adjustment Layer* button inserts a *Layer* that allows the designer to apply tonal and color modifications to their image without having to affect the image content in any way.
{Clicking} the *Create New Layer Set* button creates a new *Layer* set above the currently selected *Layer* or *Layer Set*
{Clicking} the *Create New Layer* button creates a *Layer* above the currently active *Layer*.
{Clicking}, dragging and releasing a *Layer* over top of the *Trashcan* deletes the *Layer*.

Using Layers

Make sure you have both ***priests*** and ***gates*** open and that you have changed the *Image Mode* of ***gates*** to RGB. Make ***priests*** active.

Make a Selection around the Priests in the orange and green robes in ***priests***. Their shapes are somewhat irregular so a selection has been saved with the image for your convenience. Try to make the selection on your own or load the selection included. Once loaded, select Edit/Copy to copy the contents of your Selection to the clipboard. The clipboard is Photoshop's storage area for image data you copy and paste.

Make ***gates*** active. Select Edit/Paste. Your Selection (the Priests) is pasted into ***gates*** in a new *Layer*. Photoshop automatically titles the *Layer* "Layer 1." Select the new *Layer* and rename it "Priest." Alternately, you can use the *Move Tool* to *{Click}*, drag, and drop your selection from ***priests*** to ***gates***.

Transparency

Examine the *Layers Palette*. The Priest *Layer* sits on top of the *Background Layer* and in the *Image Window* the Priests sit on top of the Gate image. You can see the gate, tree, and landscape around the Priests because, by default, *Layers* are transparent. Pasting the selection into ***gates*** has created a new *Layer* with a transparent background in which the Priest selection sits. Recall when we created a new image we selected a transparent background. Transparency is represented by a gray and white checkerboard. *{Click}* the *Visibility Toggle* in the background *Layer*. The gate disappears. You see only the Priests and the transparent background that surrounds them.

Make sure the Priest *Layer* is active. *Layers* are active when colored blue. A *Paintbrush* icon also appears in the *Paint* or *Link Toggle* box. *{Click}* the *Opacity* control and drag the slider back and forth. You begin to see the Gate and Trees in the background through the Priests as you decrease its opacity. As you create images you'll find Transparency a powerful tool.

Moving Layers

Select the *Move Tool*. Make sure the Priest *Layer* is active. *{Click}* and drag the Priests in the *Image Window*. You'll notice that you can move the Priests or part of Priests outside the edges of the *Image Window*. With *Layers*, you can think of the Image dimensions as the dimensions of a virtual window through which we see the image data. Photoshop permits you to move image data outside of the virtual window. As a result, we can do things like drag the Priests to the bottom right corner of the screen so that only their faces appear. You'll find this flexibility a great creative aid when composing images.

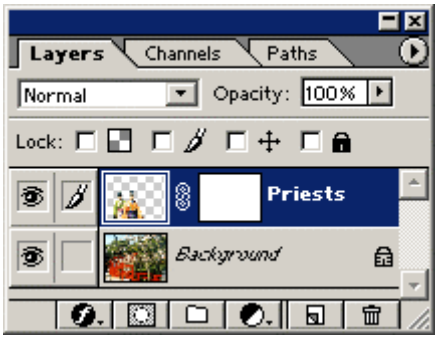
Blend Modes
Move the Priests to the center of the image. *{Click}* the drop-down *Blend Modes* list and explore the different *Blend Modes*. Photoshop examines the color data of the *Layer* you are blending and the color data of the *Layers* below and uses the various *Blend Modes* to create particular visual effects. Keep in mind you can also move the *Layer* around and play with *Opacity*. Photoshop's flexibility and complexity encourages combining effects and operations for increased creativity. Make sure you select *Normal* for the *Blend Mode* before proceeding.

Lock Transparency, Lock Pixels, Lock Position.
Select the *Airbrush Tool*. Make sure the Priest *Layer* is active. Check the *Lock Transparency* checkbox. Paint on the Priest *Layer*. You'll notice that your paint strokes are limited to areas that contain image data, in this case the Priests. The effect is similar to painting a Selection. By selecting *Lock Transparency*, you are restricting changes to the image data contained within the *Layer*. Use the *History Palette* to remove your brush strokes and uncheck *Preserve Transparency*.

Locking the *Layer's* pixels will allow you to reposition the content of the *Layer* but not change or modify the pixels themselves. You cannot, for example, use the *Airbrush Tool* to change the color of an object on a *Layer* with locked pixels.

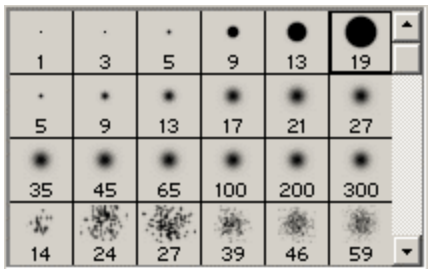
Locking the *Position* of content on a *Layer* allows you to paint or edit it but not move it.

Layer Masks
Layer Masks are *Alpha Channels* attached to a *Layer*. Black completely masks or covers image data. White reveals image data. Gray values between Black and White reveal image data at various degrees of opacity. Add a *Layer Mask* to the Priest *Layer* by *{Clicking}* the *Add Layer Mask* button at the bottom of the *Layers Palette*. A *Link* icon and a *Mask Thumbnail* are added to the *Layer*.



A Layer Mask is linked to the Priests Layer.

Select the *Airbrush Tool* and *{Click}* on the *Brushes Tab*. *{Click}* the circular brush at the top right corner of *Palette*.



***{Click}* the circular brush at the top right corner of the Brushes Palette.**

We're going to remove the Priest in the green robe from the picture. Make sure the Foreground Color is Black. Start painting over the Priest's robe until the body of the Duck is roughly circular. If you examine the *Thumbnails* in the *Layer*, you'll notice the Mask *Thumbnail* displays Black where you've applied your paint strokes, making those areas taken up by the Priest in the green robe transparent. The Priest *Thumbnail* looks the same because you haven't actually erased the Priest; you're merely hiding or masking him.

The Priest's Green Robe is being masked out by the Layer Mask.

The Priest is still on the Layer, but is hidden by the mask.

{Click} the *Link Icon* in between the *Thumbnails* of the Priests *Layer*. Move the Priests. You'll notice that the Mask remains in place. To move the Mask with the image data keep the *Thumbnails* linked.

To remove the *Layer* Mask *{Right Click}* on the Mask's *Thumbnail* in the *Layer*'s *Palette* and select an option from the Context Sensitive Menu that appears. You have the choice of either discarding or applying the Mask. *{Click}* "Discard" to remove the Mask and restore the Priest to its original state. If you *{Click}* "Apply", the masked areas of the Priest are erased and the Mask *Thumbnail* removed. Selecting "Disable *Layer* Mask" keeps the Mask but does not apply it to the *Layer*. A red "X" appears over the Mask *Thumbnail*. To reapply the Mask select "Enable *Layer* Mask" from the Context Sensitive Menu.

Recall making Selections into *Alpha Channels*. If you *{Click}* the "Channels *Palette*" you'll see that adding a *Layer* Mask creates an *Alpha Channel* in the "Channels *Palette*."

Transforming Layers

You might have noticed that the Priest is a bit too large for the image that he has been inserted into. This can be easily corrected. You can use the "Transform" effects to resize, rotate, and distort image data in *Layers* and Selections.

Select Edit/Free Transform. A *Transformation Box* surrounds the image data of the *Layer*, in this case the Priest. By *{Clicking}* on the Box's handles, you can resize the image data. Holding the [SHIFT] key constrains the Box as you resize, maintaining proportion. If you hold the mouse pointer just outside of the Box close to one of the Handles you can rotate the image.

For precise Transformation control select Edit/Transform and choose the desired effect.

Make the Priest slightly smaller so that he looks as though he is walking down the path beside the gate.

Creating New Layers

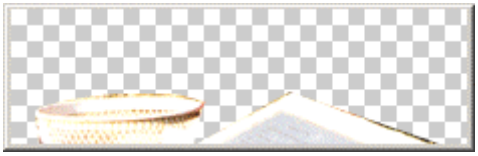
To create a new *Layer {Click}* the *Create New Layer* button at the bottom of the *Layers Palette*. A *Layer* is added above the currently active *Layer*. Make the new *Layer* active and rename it "Garbage Can."

Make the *Background Layer* active. Make a Selection around the White Garbage Can and Sign on the bottom left hand side of the image. If the Priest is obscuring that part of the image you can move him away or turn the Priest *Layer's Visibility* off.

Having made your Selection, copy it to the Clipboard by selecting Edit/Copy. Make the "Garbage Can" *Layer* active. Select Edit/Paste. Your Selection, in this case the Garbage Can, is placed into the *Layer*. You may have to move the content on the *Layer* to reposition it exactly where it's placed on the original image (the *Background Layer*.) As an alternate, you can select Edit/Paste Into. A new *Layer* is created and the image data in the Selection is copied to the precise position it was copied from. In addition, a *Layer Mask* is automatically created based on the Selection.

Move the Priest *Layer* so the Priest is behind the Garbage Can in the "Garbage Can" *Layer*. We've now added depth to the image. The Priest appears behind the Garbage Can and a measure of realism has been added to the photograph. You've created an image or composite using *Layers*. By isolating different elements or components of an image in *Layers*, you have a great deal of creative flexibility. Imagine creating this image without *Layers*. You would have to make very precise selections and use the *History Palette* extensively. It would also take up much more time.

The Garbage Can and Sign that we want to isolate



The content isolated

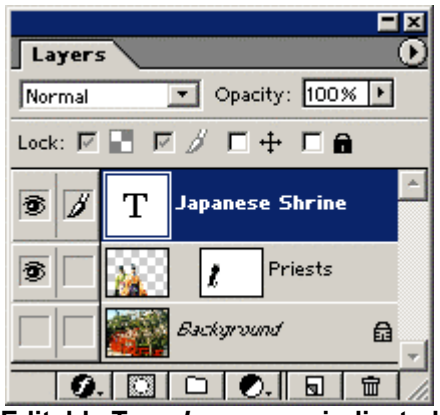
The Priest behind the Garbage Can.

Text and Layers

When you add Text to an image by selecting the *Type Tool* and *{Clicking}* in the *Image Window* at the location you want your text to appear, a *Layer* is automatically created above the currently active *Layer*. The name of the *Layer* defaults to the text you input.

Photoshop 6 allows you to type text directly into your document. Other image-editing programs and previous versions of Photoshop required that you type your text into a specialized dialog box. Now all the user need do is select the *Type Tool*, place their cursor in their *Image Window*, and begin to type.

Make sure the top *Layer* in the *Layers Palette* is active and the Foreground Color is white. Select the *Type Tool* and *{Click}* toward the top left corner of the image. At this point, we won't go through the *Type Tool* options. For now input "Japanese Shrines" and input a value from 12-18 in the *Size* field. *{Click}* OK. Your type is created in its own *Layer*.



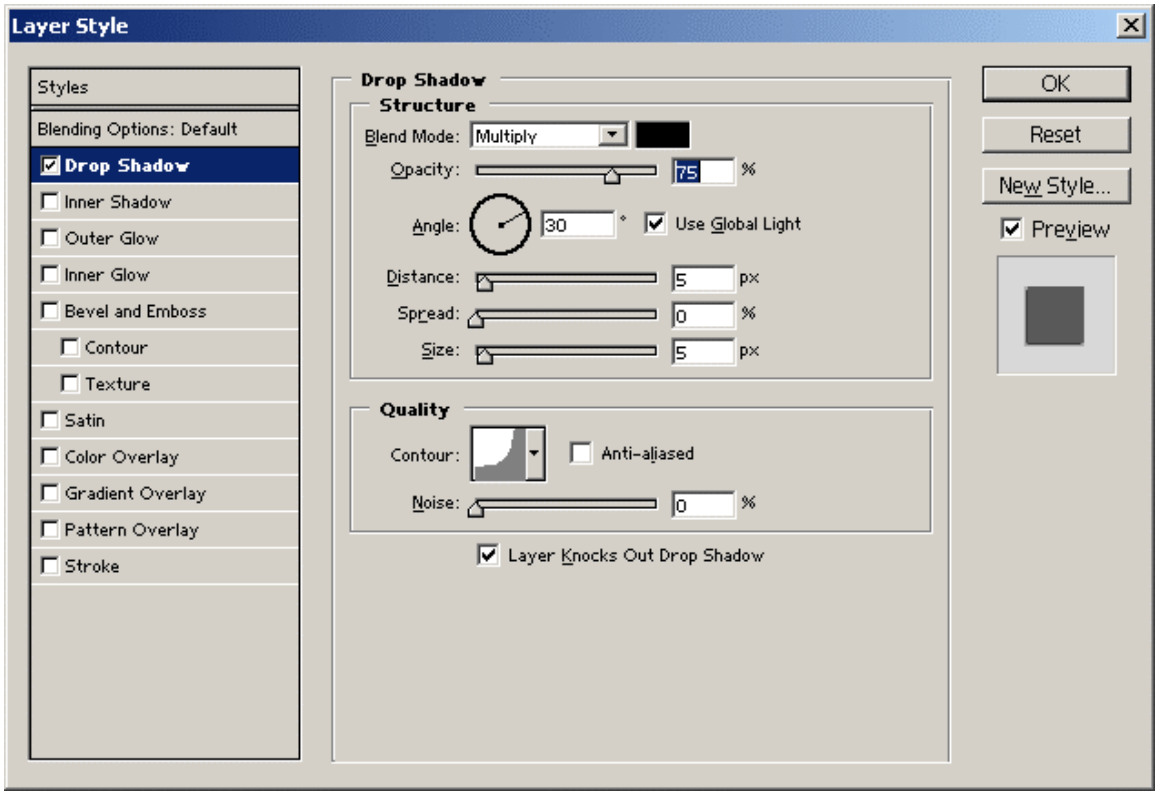
Editable Type *Layers* are indicated in the Layer by a capital "T".

At this point, the type can be re-edited or changed by highlighting the text in the *Image Window* with the *Type Tool* in the *Layer*. Editable type is indicated by the capital "T" that sits in the *Thumbnail* of the *Layer*. By *{Right-Clicking}* on the "T" and selecting *Rasterize Layer* you convert the type to a graphic, making it no longer editable. You can position the type as close to the top left corner as you wish.

Layer Styles

Layer Styles are pre-defined special effects applied to the image data contained in the *Layer*. To apply a *Layer Style*, select the *Layer* you want to apply the effect to and *{Click}* on the *Add a Layer Style* button at the bottom of the *Layers Palette*. In this instance, apply a *Drop Shadow* to your Type *Layer*.

From the *Styles* drop-down, select *Drop Shadow*. A rather substantial dialog box appears with options to adjust the appearance of the *Drop Shadow*. Use the *Layer Style* dialog box to add, remove, and modify *Styles* on your *Layers*. *{Click}* on a *Layer Style* checkbox to add a *Style* and *{Click}* on the *Style* label to modify its properties. We'll take a closer look at the *Styles* later in the manual so stick with the *Drop Shadow* for the time being. *{Click}* OK to close the *Layer Style* dialog box. Take a look at your *Image Window*. You'll notice a soft shadow behind the type. The type appears to be floating in front of the image. A lower-case italic "f" appears in the *Layer* indicating that an effect has been applied.



The *Layer Style* dialog box.

Layer Effects are indicated in the Layer by a lowercase "*f*".

Click on the small gray triangle beside the "*f*" to reveal the effect.

{Click} on the small gray triangle beside the *Style* icon on the *Layer* to reveal the individual *Styles* that have been applied to it. Each *Layer Effect* has a set of properties that change according to the effect. If you'd like to adjust these settings *{Double Click}* on the *Style's* label in the *Layer Palette* and the *Layer Style* dialog box appears. Each effect also has its own *Visibility Toggle* as well. Experiment with properties to customize the effect.

Managing Layers

Changing the Stacking Order
To change the stacking order of *Layers* simply *{Click}* and drag the *Layer* above or below other *Layers*. A solid black line indicates the *Layer* is ready to be dropped. *{Release}* the mouse button.

Duplicating Layers
Use the *Options Triangle* and select *Duplicate Layer* to make a copy of the *Layer*. You can title the *Layer* and choose to copy it to the same image, another image you have opened, or create a new image with the contents of the *Layer*.

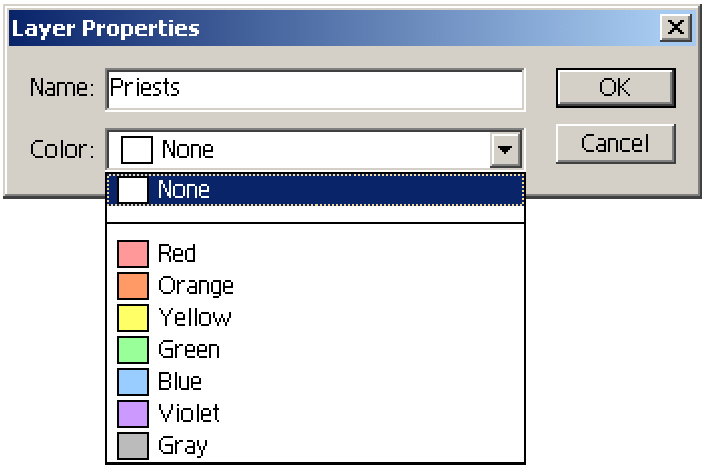
Merge Options
Selecting *Merge Down* from the *Options Triangle* merges the contents of the currently active *Layer* with the *Layer* below it.

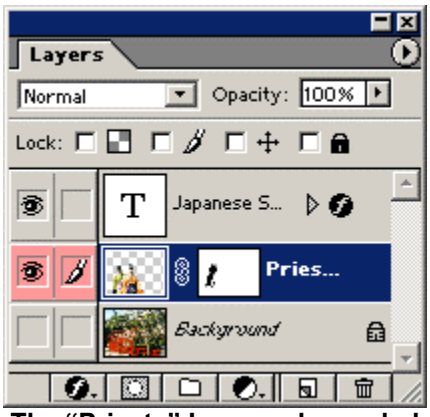
Selecting *Merge Visible* from the *Options Triangle* merges the all the currently visible *Layers*. The bottom *Layer* must be visible and the currently active *Layer*.

Select Layer/Merge Linked to merge *Layers* you have linked together using the *Link Toggle Box*.

Select *Flatten Image* from the *Options Triangle* to merge all *Layers*. This removes all the flexibility you have with *Layers*.

Color-coding Layers
Photoshop 6 has made managing *Layers* much easier by allowing the user to color-code them in the *Layers Palette*. Select *Layer Properties* from the *Options Triangle*, select a color from the drop down menu and *{Click}* OK.

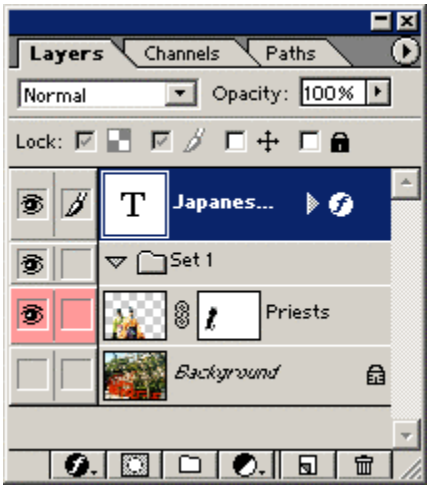




The "Priests" Layer color-coded

Layer Sets

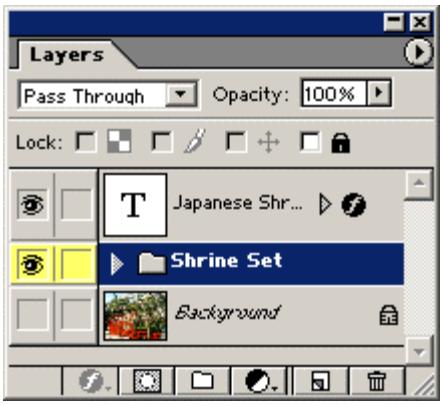
Photoshop 6 also allows the user to group similar content into what are known as *Layer Sets*. *Layer Sets* are easier to understand if you think of them as folders and the individual *Layers* as papers inside the folders. Create a *Layer* Set by clicking on the *New Layer Set* button at the bottom of the *Layer's Palette*.



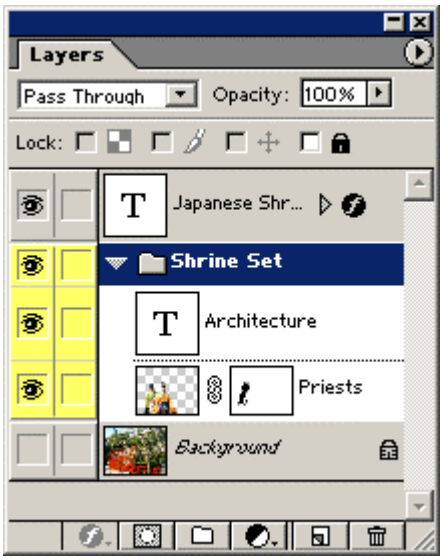
A new set added called "Set 1"

The new *Set*, which is named "Set 1" by default, is added one below your currently selected *Layer*. Rename the *Set* by *{Double-Clicking}* on it and inputting a name in the dialog box that appears. You can also give the *Set* a color if you wish. It is important to remember that the color settings for your *Sets* override any individual color settings you have given individual *Layers*.

To place a *Layer* in a *Set* you *{Click}* and drag it onto the *Set's* Folder Icon. You need to place it directly on the Icon or the move won't take place. A successfully relocated *Layer* will appear below the *Set* and its *Thumbnail* will be slightly indented. *Sets* can be minimized and maximized by *{Clicking}* on the small gray rectangle beside the *Set's* name.



A color-coded *Set* renamed "Shrine Set" in the *Layers* Palette



"Shrine Set" expanded

Exercises

1. Open ***layersexercise.psd*** from the ***chapter005 folder***. A composite layout for a mock-up website will open in the workspace.

2. Examine the Layers in the Layers Palette. Toggle visibility on and off and watch the effects in the Image Window. Take note that we have a variety of different types of Layers. Our main aim for this exercise is to organize these Layers into color-coded sets.

3. Create four new Layer Sets by {Clicking} on the New Layer Set button at the bottom of the Layer Palette. Rename them as "Photos," "Text," "Design Elements," and "Navigation Elements". Color-code each set differently.

4. If you place the "Text" set folder at the top of the Palette listing and then follow it with "Navigation Elements," "Photos" and "Design Elements" respectively you should be able to organize all content and still maintain its stacking order.

5. Select the various Layers to check their content and place them, logically, in the various folders. Refer to ***layersfinished.psd*** to see one way in which the Layers content can be organized.

6. Select the Text Layer for the "Kyushu – Miyamoto" banner and add a Drop Shadow to it by {Clicking} on the Layers Style Button at the bottom of the Palette. Do the same to the "Nav Backdrop" shape in the "Navigation Elements" folder.

7. Link the five navigation buttons together (Famous Gardens, etc…) using the Link Toggle in the Layers Palette. Use the Move Tool to reposition them so they are situated in the top-left half of the gray navigation bar. Refer to ***layersfinished.psd*** for exact positioning.

8. The "duotone" photograph in the "Photos" folder drowns out the map of Japan that has been placed on top of it. Decrease the opacity of the "duotone" Layer by moving the Opacity Slider at the top of the Layers Palette to 15. You should now be able to see the map of Japan clearly.

Review Questions

1. What are the main advantages of Layers?

2. If a Layer is titled Background what does this indicate?

3. If two Layers are linked together and you reposition or move one of the linked Layers, does the position of the other Layer change as well?

4. What does Locking a Layer's pixels do to a Layer?

5. What are Layer Styles?

6. How do you place a Layer inside a Layer Set?

7. What dialog box allows you to change the color of a Layer or Layer Set?

8. How do you expand and collapse Layer Sets and Layer Styles in the Layers Palette?

Summary

As a result of this chapter, you should be able to:

- Understand the Concept of Layers.
- Use all the Options in the Layers Palette.
- Manage and Organize Layers
- Use Layers to create digital images.

6

Editing Images

This chapter introduces you to editing operations common in everyday image production.

Objectives

Upon completing this section, you should be able to:

1. Use all of Photoshop's Painting and Drawing Tools
2. Create Type
3. Understand and Use Filters
4. Adjust and Manipulate Color
5. Use Guides and the Grid

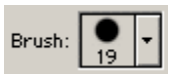
Using the Painting and Drawing Tools

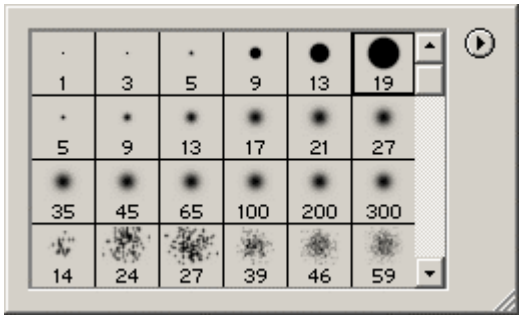
Photoshop's Drawing Tools are very powerful. For each Tool, there are sets of options (on the *Options Bar*) you use to define how the Tool operates. To use Photoshop effectively you should be familiar with all the fundamentals and use them in combination to create images for the Internet.

As we progress through the Drawing Tools we're going to use the image you created earlier we named ***FirstImage***. Open Photoshop and load ***FirstImage***. If you didn't save ***FirstImage*** create a new image at 300x250, 72ppi, RGB, transparent background. As you read this section, try the tools and options out on your image. You might want to make a separate *Layer* for each brush you experiment with.

Brushes

When you use any of the Painting Tools, it's a good idea to select a brush size and shape immediately. *{Click}* the *BrushesTab* in the *Options Bar*.





The *Brushes Palette* consists of a series of circular and irregular shaped brushes of various sizes. The edges of the brush shapes vary from solid to soft. Select a brush by *{Clicking}* on it. If you set *Painting Cursors* to *Brush Size* under *Preferences*/Painting Cursors the mouse pointer will change to an outline of the brush shape you selected at the size you selected when you pass it over the *Image Window*.

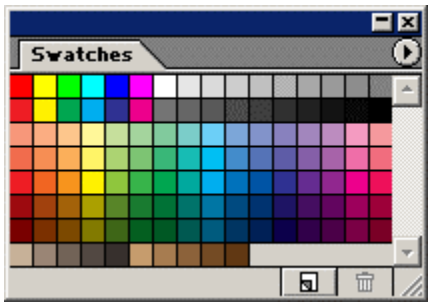
To create a new brush, *{Click}* the *Options Triangle* and select *New Brush*. Adjust *Diameter, Hardness*, (of the edge), *Spacing* (how much space is placed between each instance of the brush shape as you paint) *Angle*, (orientation of the shape), and *Roundness* (from circular to oval shapes). The basis for your new brush is the currently selected brush shape. You can save your brushes by selecting Options Triangle/Save Brushes. To Load your brushes, or one of Photoshop's included Brush Sets select Options Triangle/Load Brushes and navigate to the location you store your brushes. Photoshop's included Brush Sets are located in ***Photoshop/Goodies/Brushes***.

To modify an existing brush, *{Click}* the brush shape and select Options Triangle/Brush Options. You can adjust the brush just as you create a new brush. Modifying the default brushes isn't recommended.

To reset the Brushes to default select Options Triangle/Reset Brushes.

Swatches

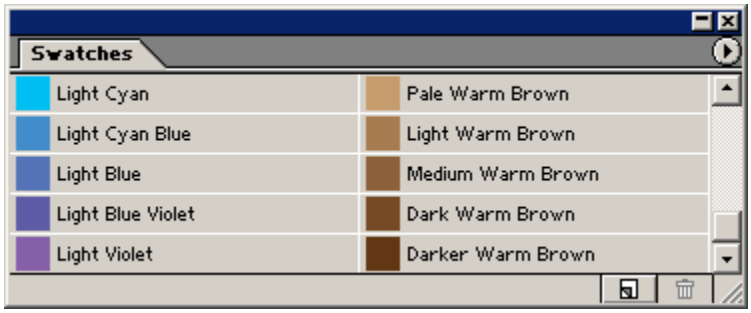
The *Swatches Palette* defaults to a broad spectrum of available colors. To choose or pick a color *{Click}* on a color swatch. The color you select replaces the current *Foreground Color*.



The Swatches Palette

To Load a custom set of swatches select Options Triangle/Load Swatches. Adobe has also included a variety of various print-ready and web-safe Swatch sets for your convenience. To reset your *Swatches Palette* back to it's default setting select Options Triangle/Reset Swatches.

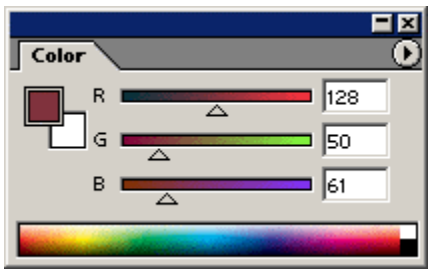
Adobe has increased the functionality of the *Swatches Palette* by allowing you to list the individual names or color codes for each *Swatch*. This makes the process of choosing and referencing colors that much easier than it was before. To list the *Swatch Labels* select Options Triangle/Small List.



The Swatches Palette with Details Listed

Color Palette

The *Color Palette* is an interactive color mixer consisting of *Color Sliders*, *Color Fields*, *Foreground* and *Background* swatches, and the *Color Ramp*. Make sure you are in the RGB spectrum by selecting Options Triangle/RGB Spectrum and Options Triangle/RGB Sliders.

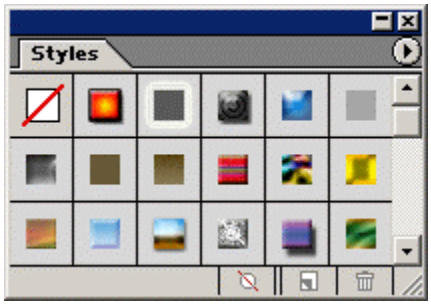


The Color Palette

To create colors simply *{Click}* and drag the Red, Green, or Blue sliders. You can also *{Click}* and drag in the *Color Ramp* or input color values manually into the *Color Fields*. *{Click}* on the *Foreground Color* swatch to change the *Foreground Color*. *{Click}* on the *Background Color* swatch to change the *Background Color*.

The Styles Palette

The *Styles Palette* contains prepackaged and custom *Styles* that can be applied to shapes and text. We'll be looking at this *Palette* in depth in a later chapter.



The Styles Palette

Airbrush Tool

The *Airbrush Tool* effectively sprays color onto an image, similar to painting with a can of Spray Paint. Imagine the mouse button is the nozzle you press down and hold as you spray. The longer you spray a particular area the more opaque or dense the color or paint becomes. In other words, as you apply increased or consistent pressure the density of the color increases. When you use the *Airbrush Tool*" you should select an appropriate brush and color and then use the *Options Bar* to set the brush's behavior.

Airbrush Options

The *Options Bar* for the *Airbrush* contains *Brush, Blend Mode, Pressure*, and *Brush Dynamic* controls.

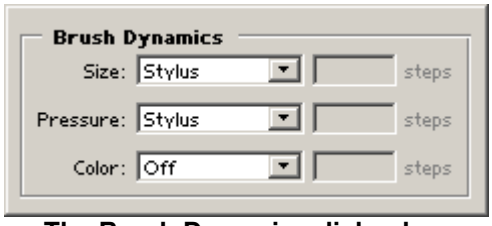
Airbrush Options

Pressure

The *Pressure* setting regulates the speed at which the selected color builds opacity as you hold the mouse button down. Reducing the value extends the time it takes for the color to reach full opacity.

Brush Dynamics

The *Brush Dynamics* dialog box applies to many of the Paint tools in the *Toolbox*. It adjusts and modifies the way these tools apply color to an image. *{Click}* on the *Brush Dynamics Icon* to review your options.



The Brush Dynamics dialog box

Inputting values in the *Size Drop Down Menu* will force your paint stroke to decrease in size as you apply color. The number of "steps" you enter affects the amount of time you have to keep the mouse button depressed. Input a value greater than 0 to activate the *Fade* option. The Pressure setting will gradually decrease the amount of pressure used to apply paint to 0. The color setting will gradually transition the applied paint color from the foreground to background color. The *Stylus* option is only applicable if you use a *Graphic Tablet* for design.

Size Fade **Pressure Fade** **Color Fade**

Paintbrush Tool

The *Paintbrush Tool* applies color to your image instantly, with a *{Single-Click}*, unlike the *AirbrushTool* which requires holding the mouse button down for a certain amount of time to match the color of the swatch.

Paintbrush Options

Like the *AirbrushTool*, the *Paintbrush* has options for *Blend Mode* and *Fade*. There are also *Opacity* and *Wet Edges* controls.

***Paintbrush* Options**

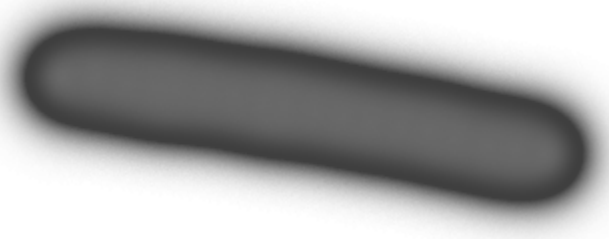
Opacity

Opacity sets the level of opacity. 100% is full opacity. 0% is full transparency.

Wet Edges

Checking *Wet Edges* creates paint strokes that are translucent in the center with a solid outline at the edge, similar to painting by fingers.

A normal paint stroke



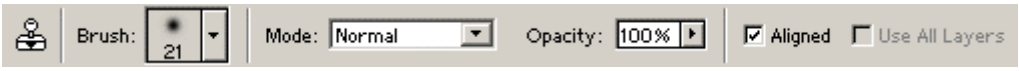
A paint stroke with wet edges applied

Rubber Stamp Tool 

The *Rubber Stamp Tool* operates like the *Paintbrush Tool* except that rather than selecting a color to paint with, you select an area of the image to duplicate or clone by *{Alt/Option-Clicking}* the area you wish to duplicate. As you paint with the *Rubber Stamp Tool* a cross-hair passes over the area you've selected for your reference. The size of the brush you select in the *Brushes Palette* determines the size or radius of the cloning area. The *Rubber Stamp* tool is an outstanding tool for retouching photographs.

Rubber Stamp Options

Options include *Blend Mode, Opacity, Use All Layers*, and *Aligned*.



Rubber Stamp Options

Aligned

Check *Aligned* to force the cross-hair to follow the *Rubber Stamp* regardless of how many times you *{Click}* and *{Re-Click}*. When *Aligned* is unchecked the cross-hair returns to original position after you have released the mouse button and *{Click}* again to resume.

Use All Layers

Check *Use All Layers* to duplicate visible image data in all *Layers*. Uncheck to duplicate the image data of the currently active *Layer*.

"miyajima.psd"

the people at the base of the gate removed with the Rubber Stamp tool in "miyajimaretouched.psd"

The *Rubber Stamp Tool* is not limited to duplicating image data into the same image or a single *Layer*. You can *{Alt-Click}* in one *Image Window* and duplicate the contents into another *Image Window* or another *Layer*.

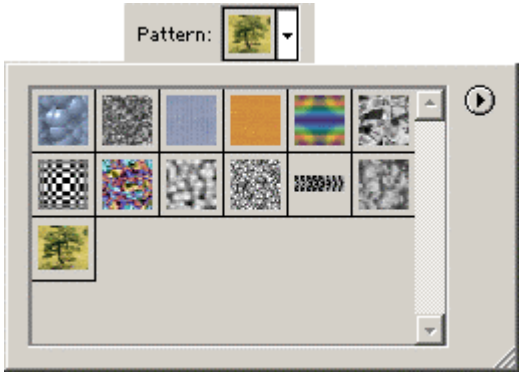
Open the ***landscape.psd*** image from the ***chapter006 folder*** and practice using the *Rubber Stamp Tool*. Try to add and remove trees and rocks. Duplicate elements from ***landscape.psd*** into a new *Layer* of ***FirstImage***.

Pattern Stamp Tool 

The *Pattern Stamp Tool* paints or repeats a pattern. You use the *Rectangular Marquee Tool* to define patterns in Photoshop.

Defining a Pattern

Using the ***landscape*** image create a rectangular selection around one of the trees. Select Edit/Define Pattern. There are no limits on the size or content of the pattern, but it must be rectangular. Photoshop stores the pattern you've just defined for use by any of the Tools that use patterns, such as the *Pattern Stamp Tool* in a menu in the *Options Bar*. *{Click}* on the *Pattern Menu* button to access your defined pattern in addition to a range of preset patterns. *{Clicking}* on the *Options Triangle* in the *Pattern Menu* will allow you to add to, delete, rename, and reset the Patterns available.



The tree pattern we have created is added to the Pattern Menu

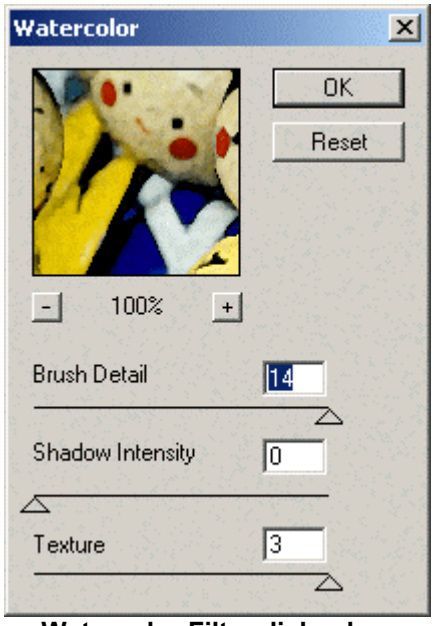
Painting with the Pattern Stamp Tool

Paint with the *Pattern Stamp Tool* as you do with the *Paintbrush Tool*. You'll notice that the pattern you just defined is painted and repeated. Use *Opacity* in the *Options Bar* to control opacity.

History Brush Tool 

The *History Brush Tool* operates like the *Paintbrush Tool* except that rather than selecting a color to paint with, you select a *History State* to restore as you paint. To illustrate how the *History Brush Tool* works we're going to apply two filters to the ***toy*** image (filters are covered later) and then use the *History Brush* to restore particular areas of the image to previous *States*.

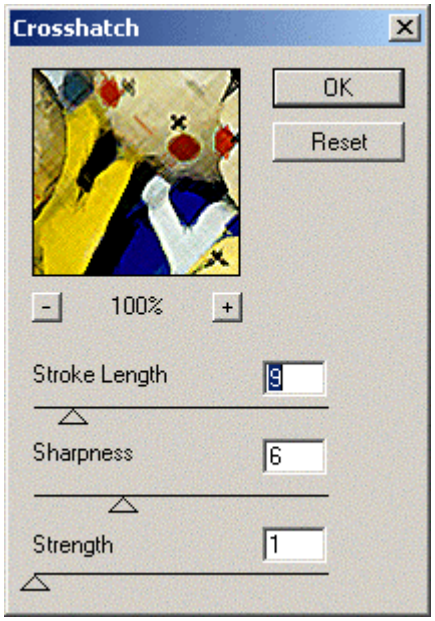
Open the ***toy*** image from the ***chapter006 folder***.
Select Filter/Artistic/Watercolor.



Watercolor Filter dialog box

Make *Brush Detail* 14, *Shadow Intensity* 0, and *Texture* 3. *{Click}* OK. The filter is applied, changing the look of the image from a photograph to a painting.

Select Filter/Brush Strokes/Crosshatch.



Crosshatch Filter dialog box

Make *Stroke Length* 30, *Sharpness* 6, and *Strength* 3. *{Click}* OK. The filter is applied, changing the image to a distorted sketch.

Examine the *History Palette*. You'll notice that both the Watercolor and Crosshatch filters are listed as *States*. To get rid of the Crosshatch effect on the one of the toys select the *History Brush Tool*, select a brush size, and select 100% opacity. *{Click}* the *Toggle* Box in the *Watercolor State*. A *History Brush* icon appears. Paint over the toy of your choice. The *Watercolor State* of the image is restored as you paint.

Art History Brush 

The *Art History Brush Tool* operates like the *History Brush Tool* with additional brush or paint effects. Like the *History Brush*, the *Art History Brush* samples data from a *History State* of your choice.

Art History Brush Options

You can produce various natural media effects by changing the *Blend Mode, Opacity, Paint Style, Fidelity, Area*, and *Spacing* control in the *Options Bar*. Experiment with different settings to learn how they affect your image.

Specialized Art History Brush Options

Paint Style

Select from *Tight Short, Tight Medium, Tight Long, Loose Medium, Loose Long, Dab, Tight Curl, Tight Curl Long, Loose Curl*, and *Loose Curl Long* to define the shape of your brush strokes.

Fidelity

Fidelity determines how the currently selected *Foreground Color* mixes with the color in the selected *History State*.

Area

Area determines how much of the image is covered by your paint strokes and the frequency of stroke effects.

Spacing

Spacing determines the limitations of your strokes based on color variations. Increasing the value limits your strokes to area of similar color. Decreasing the value broadens the range of color your strokes affect.

Eraser Tool 

The *Eraser Tool* works similarly to Photoshop's other painting Tools except rather than add color or restore *History States* you remove image data. Like the other painting Tools, you select brush size and shape and options from the *Options Bar*.

Eraser Tool Options

Options include *Erasing Mode, Opacity, Fade*, and *Wet Edges*.

Eraser Options

Erasing Mode

Select from *Paintbrush*, *Airbrush, Pencil*, or *Block* to determine how the *Eraser Tool* behaves. *Block* produces a square block.

Wet Edges

Checking *Wet Edges* produces an effect similar to pouring water on a freshly painted paper and using your fingers or a brush to wash away the paint.

Erase to History

Toggle a *State* or *Snapshot* in the *History Palette* and *{Click}* on the *Erase to History* checkbox if you want to erase to an earlier incarnation of your current image.

Background Eraser Tool 

The *Background Eraser Tool* intelligently erases areas of color to transparency, most particularly areas of continuous or similar color. By *{Clicking}* and dragging close to an edge the *Background Eraser* will erase the background but not the edge.

Background Eraser Options

Options include *Range (Discontiguous, Contiguous, Find Edges), Tolerance, Sampling (Continuous, Once, Background Swatch)*, and *Protect Foreground Color*.

Background Eraser Options

Limits

Select *Discontiguous* to erase the selected color from the entire *Layer*.
Select *Contiguous* to erase the selected color in a range where the color occurs continuously.
Select *Find Edges* to erase areas of the same color as well as maintaining a sharper definition for the edge.

Sampling

Select *Continuous* to sample as you drag.
Select *Once* to sample and erase areas containing the initial sample color.
Select *Background Swatch* to erase areas containing the current *Background Color*.

Protect Foreground Color

Check *Protect Foreground Color* to prevent the eraser from erasing colors that match the current *Foreground Color*.

Magic Eraser Tool 

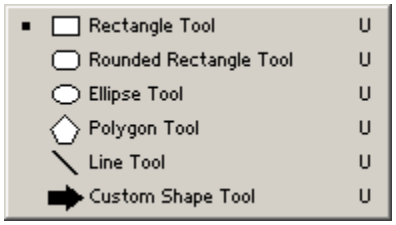
The *Magic Eraser Tool* erases entire areas of color with a *{Single-Click}* rather than *{Clicking}*, holding, and dragging. Use *Tolerance, Anti-aliased, Contiguous*, and *Use All Layers* accordingly.

Pencil Tool 

The *Pencil Tool* paints solid, hard-edged strokes. Options include *Blend Mode, Opacity, Fade*, and *Auto Erase*.

Shape Tools 

The *Shape Tools* are a new addition to the Photoshop *Toolbox* and make up a large part of its vector functionality. We will be discussing their options and usage in a later chapter.



The *Line Tool* is not a new Tool to Photoshop. The way that it operates, however, has been changed for this version of the program.

Line Tool Options

Line Tool Options include *Blend Mode, Opacity, Weight, Anti-aliased, Arrowheads (Start, End)*, and *Shape*.

Blur Tool 

Use the *Blur Tool* to blur areas of the image by painting over them. Select *Brush Shape* and *Size*, *Blend Mode*, *Use All Layers*, and *Pressure* accordingly.

Try using the *Blur Tool* on an element of the ***toys*** image to see the effects.

Sharpen Tool 

Use the *Sharpen Tool* to sharpen areas and edge of the image by painting over them. Select *Brush Shape* and *Size*, *Blend Mode*, *Use All Layers*, and *Pressure* accordingly.

Smudge Tool 

Use the *Smudge Tool* to smudge areas of the image by painting over them. Select *Brush Shape* and *Size*, *Blend Mode*, *Use All Layers*, *Pressure* and *Finger Painting* accordingly. *Finger Painting* mixes the *Foreground Color* into the *Smudge* effect.

Dodge Tool 

Use the *Dodge Tool* to lighten areas of the image by painting over them. Select *Brush Shape* and *Size*, *Range (Shadows, Midtones, Highlights)*, and *Exposure* accordingly.

Burn Tool 

Use the *Burn Tool* to darken areas of the image by painting over them. Select *Brush Shape* and *Size*, *Range (Shadows, Midtones, Highlights)*, and *Exposure* accordingly.

Sponge Tool 

Use the *Sponge Tool* to saturate or desaturate the colors you paint over. Select *Desaturate* or *Saturate* from the *Mode* drop-down menu and adjust *Pressure* accordingly.

Gradient Tool

The *Gradient Tool* is used to create gradient fills. Gradients are gradual shifts from at least one color to another or one color to transparency. The effect is similar to the way the sky shifts from dark blue to a lighter blue as you look toward the horizon. Gradients can also consist of multiple colors, much like a rainbow.

Select from *Linear,* *Radial,* *Angle,* *Reflected*, and *Diamond Gradient Tools*. *{Click}* and drag to create the Gradient in a *Layer* or Selection.

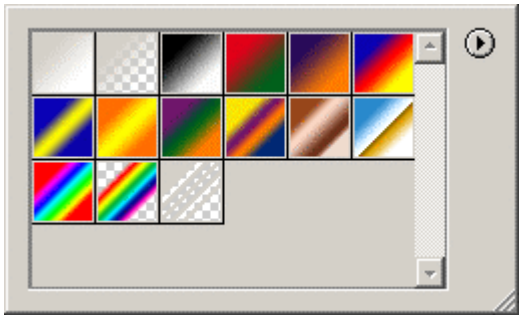
Gradient Tool Options

Options include *Gradient, Blend Mode, Opacity, Reverse, Dither, Transparency*, and *Edit*. A preview of the Gradient appears in the *Gradient Preview* bar.

Gradient Options

Gradient

The Gradient drop-down has 15 Gradient combinations to select from. Choose from any one of the 15 *Thumbnails* or *{Click}* on the *Options Triangle* to edit or create your own Gradients. *{Double Click}* on the drop-down to access the *Gradient Editor*.



The Gradient Menu

Reverse

Check *Reverse* to reverse the Gradient.

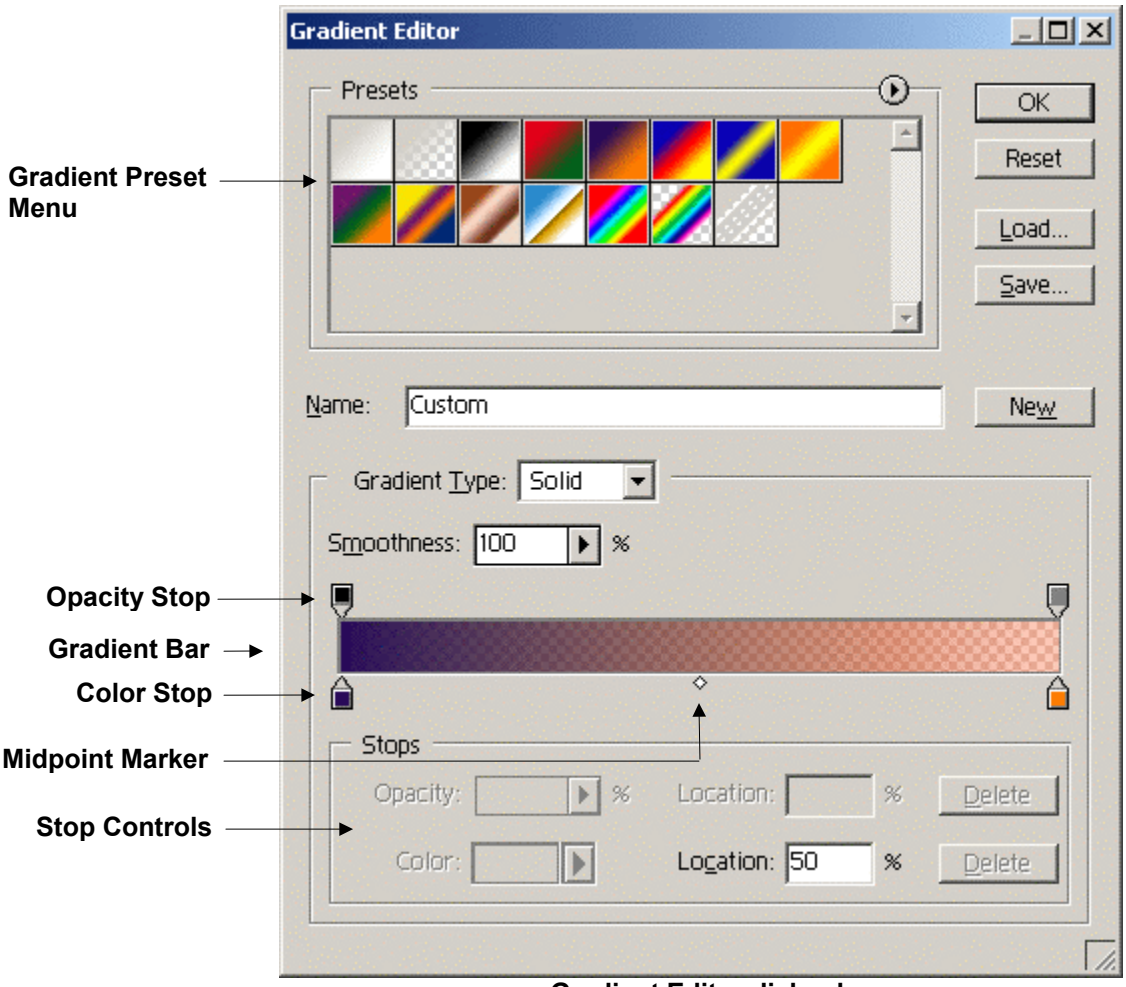
Dither

Check *Dither* to make the transition from one color to the next as smooth as possible.

Transparency

Check *Transparency* to enable any transparency settings in the Gradient patterns. Uncheck to disable transparency.

Gradient Editor
The Gradient Editor consists of the *Gradient Preset Menu*, controls to create *New Gradients, Rename Gradients, Remove Gradients, Duplicate Gradients, Load* and *Save Gradients*, *Adjust color* or *transparency*, *Color Stops* to build Gradients, and the *Gradient Bar*.



Gradient Editor dialog box

Creating New Gradients
To create a new Gradient *{Click} New* and name it in the *Name* field. A new *Thumbnail* will appear in the *Gradient Preset Menu*.

The *Gradient Bar* is automatically built with a copy of the last selected Gradient. To change a color select one of the *Color Stops* situated at the bottom of the *Gradient Bar* and *{Double-Click}* on it. Select a color from the *Color Picker*.

To add additional *Color Stops* to the Gradient *{Click}* on an empty spot beneath the *Gradient Bar*. To modify the location of Gradient colors drag the *Color Stops* and *Midpoint Markers* back and forth as you desire. To delete a color simply select it's *Color Stop* and hit the [DEL] key or drag up or down on it and it will disappear.

To add Transparency *{Click}* and adjust the *Stops* at the top of the *Gradient Bar* (which displays Alpha information rather than colors) and adjust the *Opacity Slider* at the bottom of the dialog box. *{Clicking}* and dragging the *Stops* and *Midpoint Markers* effects the placement of Transparency.

Adjust the *Smoothness Slider* to increase or decrease the smoothness of your Gradient. You can also choose a *Gradient Type* from the *Type* drop-down Menu. *Smooth* is the default while *Noise* creates a Gradient that randomly mixes the color across a selected range. Adjust the various Sliders in the dialog box to find a noisy *Gradient* that suits your needs.

If you wish you can use percentage figures to precisely position the *Stops* and the *Midpoint Markers* by adjusting the location sliders at the bottom of the dialog box.

{Click} OK to finish.

Paint Bucket Tool 

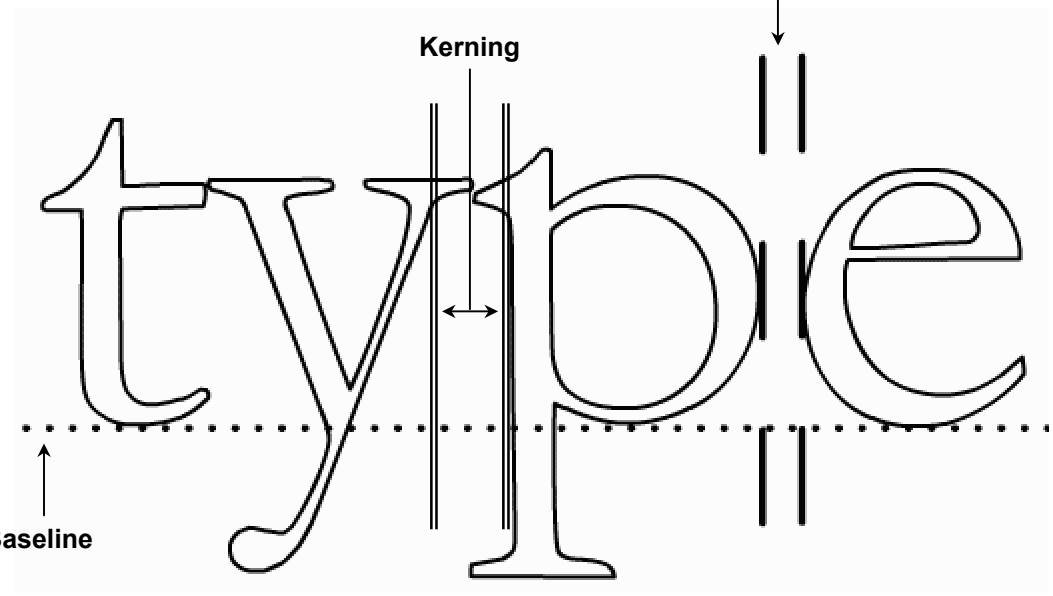
The *Paint Bucket Tool* replaces a color or range of colors with either the current *Foreground Color* or a pattern if you have defined one. At this point, as you've been experimenting with all the Tools you should be very familiar with the *Paint Bucket's* options, which include *Blend Mode, Opacity, Tolerance, Anti-aliased, Contents (Foreground or Pattern), Use All Layers*, and *Contiguous*.

Using the Type Tool 

Use the *Type Tool* to create text in Photoshop. For the Web you'll be using type to label buttons and as elements of typographic design. Select the *Type Tool* and *{Click}* in the *Image Window*. Photoshop creates a new *Text Layer* (indicated in the *Layers Palette* by a capital "T" at the edge of the *Layer*). Select the *Vertical Type Tool*  to input vertical text. Select the *Type Mask Tool*  to create a selection in the shape of the text you input.

Typographic Terminology

Before you begin to create and manipulate text in Photoshop, you should know some of the basic typographic terminology that some of the options in Photoshop use. Examine the following example.



Typeface: Garamond

Typeface
A typeface is a full set of characters (uppercase, lowercase, numerals, special characters, etc.) designed in a specific *Style*. For example, the same word, presented using different typefaces, can look quite different:

Typeface Typeface Typeface Typeface

Typefaces are also often referred to as fonts. The look of your text is very much a key in the design of your images.

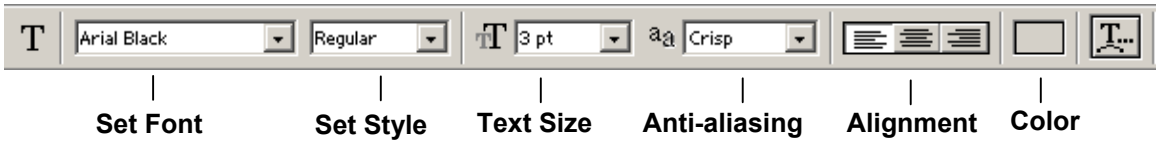
Baseline
The Baseline in text is an imaginary line that the characters effectively sit upon. Lower case text, such as the "p", has a descender, which descends below the Baseline.

Kerning
Kerning is the space between a particular pair of characters. Each typeface may have particular kerning values so that some characters are closer to each other than others, depending on their shape. For example, the capital letters A and V, when placed together, have complimentary shapes and are often placed closer together than A and N.

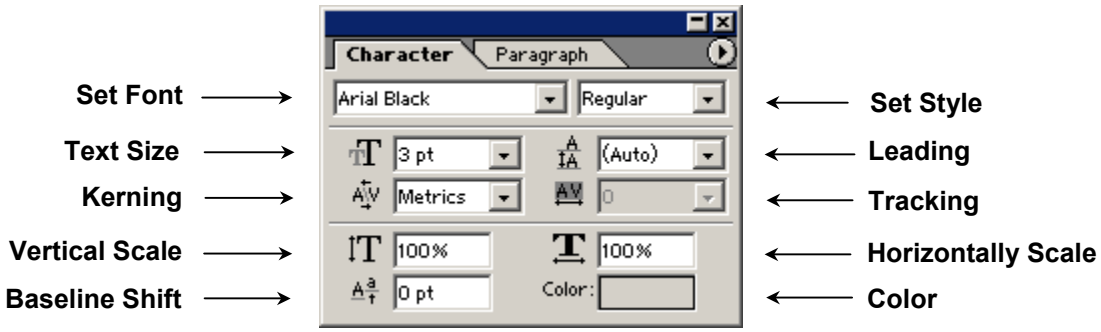
Tracking
Tracking is the space between characters in a line of text. The space between characters, regardless of the particular characters, is uniform when using Tracking. It can easily be confused with Kerning. Remember that Kerning is a very specific measurement of spacing between particular pairs of characters, whereas Tracking is the measurement of spacing between all characters.

In Photoshop you adjust a types *Style*, kerning, leading, tracking, etc. by selecting options from either the *Options Bar* or the *Character/Paragraph Palette*. Simply highlight the text that you want to change and select an option from either the *Options Bar* or the *Palette*.

The Options Bar



The Character Palette



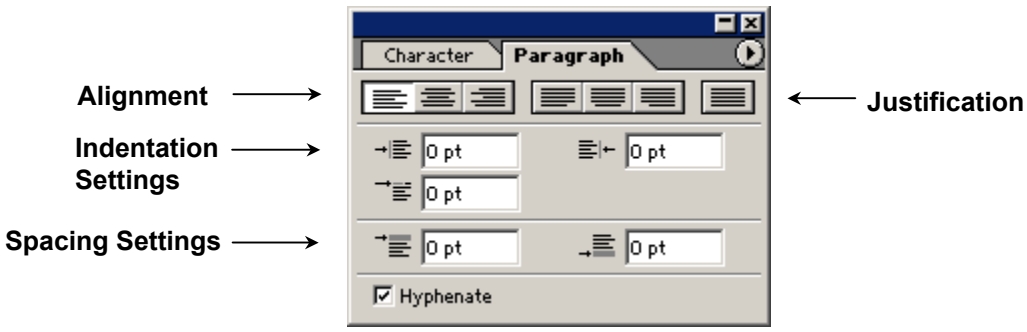
Font
Use the drop-down menu to select the *Font* you want to use. Photoshop will list all the fonts installed on your system.

Style
Use the drop-down menu to select *Styles* such as *Bold, Italic, Underline*, and *Regular*. Available *Styles* differ depending on the font you've selected. However, you can *{Click}* on *Underline, Faux Bold*, or *Faux Italic* to add these *Styles* to fonts that do not have them.

Size
Input *Font Size* to scale your text. *Size* is measured in either points or pixels. Use pixels for web development. If you highlight your text by *{Clicking}* and dragging over it, any changes you make to the font size changes the size of the font. Alternately you can highlight your type and the font size value and use [SHIFT] Arrow-Up or Arrow-Down to increase or decrease the size value in increments of 10.

Anti-Alias
Select from *None, Crisp, Strong*, and *Smooth* to control the level of Anti-aliasing of your text. You'll find that *Crisp* is particularly useful for small text.

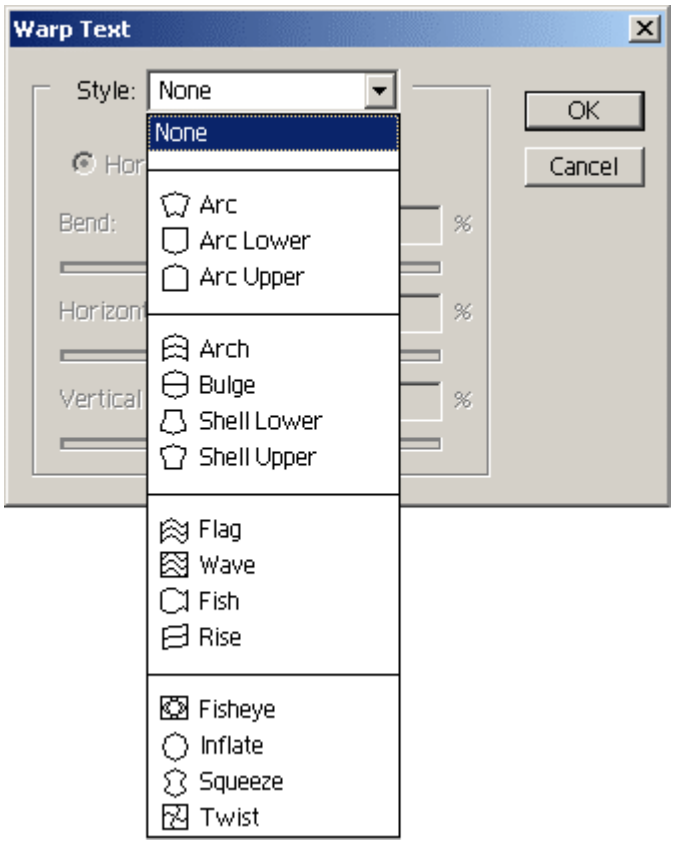
The Paragraph Palette



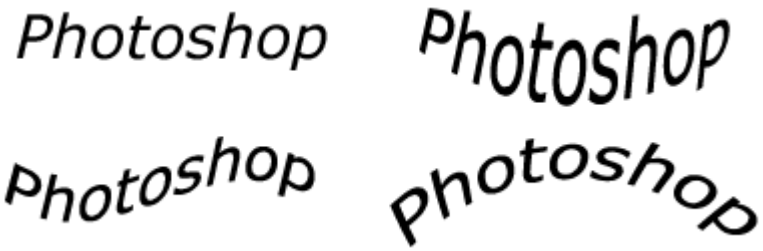
The *Paragraph Palette* allows you to modify *Paragraph Text*. Paragraph text is that which occupies a pre-defined *Paragraph Block*. To create a *Paragraph Block* you must *{Click}* and drag in the *Image Window* with the *Text Tool*. A *Paragraph Block* looks somewhat like a Selection Marquee with handles to resize it along all sides and a blinking text cursor in the top right hand corner to input text. Use the *Alignment, Justification*, and *Indentation* Controls in the *Palette* to modify the positioning of text in the *Paragraph Block*.

Text Warp 

The ability to edit text has increased greatly in Photoshop 6 with the introduction of *Text Warping*. *Text Warping* allows the user to customize the appearance of text and still maintain the ability to edit it at all times. Input the word "Photoshop" in your *Image Window*, select it, and *{Click}* on the *Text Warp* button in the *Options Bar*. A dialog box appears on your screen. Select the type of warp that you'd like to create from the *Style* drop-down menu.



The *Bend, Horizontal*, and *Vertical* sliders allow you to further customize the appearance of your text. *{Click}* OK when you are happy with your settings. If, in the future, you want to change the appearance or the wording of your text you need only select it with the *Text Tool* and type. You will still be able to edit your text as text no matter what kind of warp you have applied to it. Below you will find some examples of what *Text Warping* can do.



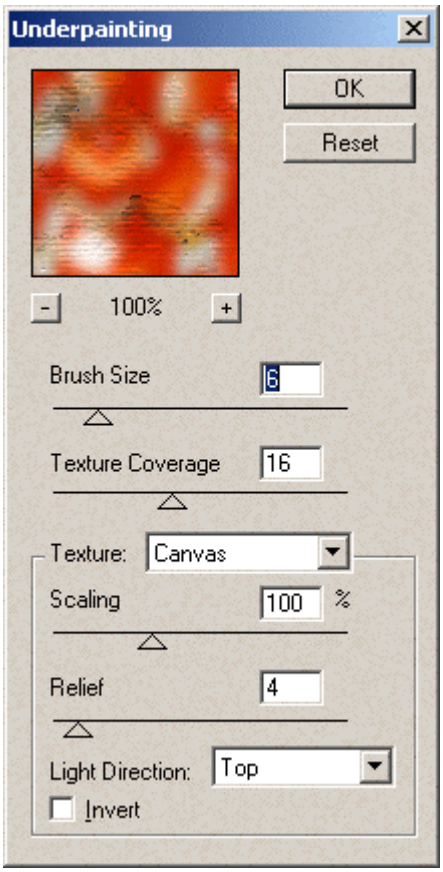
Using Filters

Filters are a set of pre-set special effects that you apply to entire images, individual *Layers*, or selections. Images must be in RGB mode to access Photoshop's full range of *Filters*.

Applying Filters

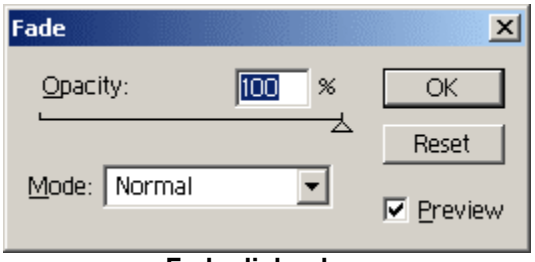
To apply a *Filter*, isolate the area of the image you wish to apply it too. For instance, if you want to apply a *Filter*, such as *Blur*, to an entire *Layer* you would select the *Layer* in the *Layers Palette*. If you wanted to apply the *Blur Filter* to a part of the image data on a *Layer*, you would make a selection on that *Layer* and apply the *Filter*.

Open the ***flowers*** image from the ***chapter006*** folder. Select Filter/Artistic/Underpainting. The *Filter* dialog box appears with the title of the currently selected *Filter*. A set of Options accompanies most *Filters* (not all *Filters* have Options). Options change depending on the nature of the *Filter*.



In this case, we have *Brush Size, Texture Coverage, Texture, Scaling, Relief, Light Direction*, and *Invert*. *Filters* usually have a preview window in the dialog box so you can see the effects of the *Filter* on your image and the effects that changing the Options cause in real-time. *{Click}* OK. Photoshop applies the *Filter* to your image and the History *Palette* creates a state. You've effectively changed a photograph into a very stylized painting.

Fine-Tuning Filters with Fade
Once you've applied a *Filter* you can fine-tune it by selecting Edit/Fade Filter Name, where *Filter Name* is the name of the last *Filter* you applied. In this case we select Fade Underpainting.



Fade dialog box

Fade controls include *Opacity, Mode (Blend Mode)*, and *Preview*. Input an *Opacity* value or use the slider to reduce the strength of the *Filter's* effect on your image. Experiment with different *Blend Modes* to affect the manner in which the *Filter* is applied to the image. Check *Preview* to display your changes in real-time. *{Click}* OK to make the changes.

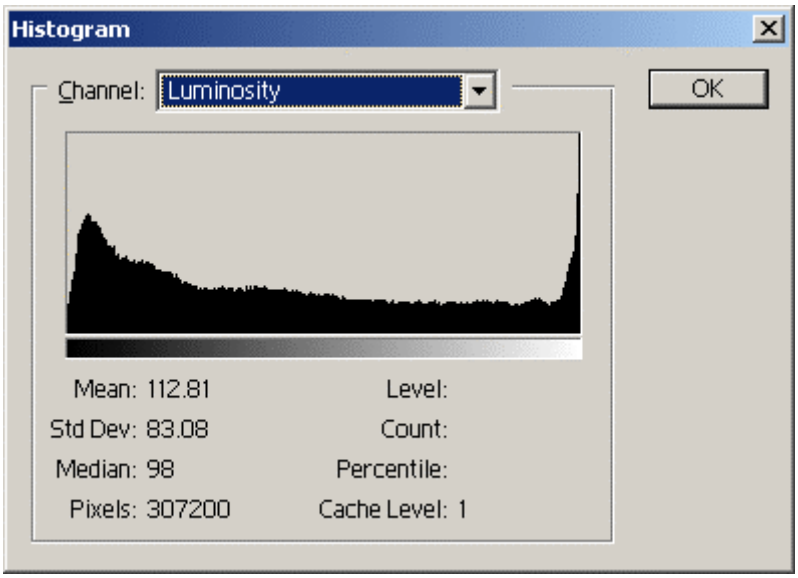
By experimenting with other *Filters* you can learn about effects you like and various options that many *Filters* have. As we progress through creating buttons, navigation bars, and GIF animations, we'll put some *Filters* to use. Recall that *Layers* have *Layer Styles*, essentially specialized *Filters* linked to *Layers*. We'll be using these effects as well. Some of the *Layer Styles* can be applied to editable *Type Layers*, but to apply *Filters* to *Type Layers* you'll have to *{Right-Click}* the "T" icon in the *Type Layer* and select *Rasterize Layer*. You won't be able to edit your type after rendering it.

Adjusting Images

In addition to modifying or adjusting images with Selections, *Filters*, *Layers*, using *Blend Modes*, and using *Painting* and *Drawing Tools*, Photoshop also allows you to adjust a wide variety of color properties, such as tone, saturation, balance, and contrast. Controls for adjusting these image qualities are located under Image/Adjust. Adjustment controls include *Levels, Auto-Levels, Auto-Contrast, Curves, Color Balance, Brightness/Contrast, Hue/Saturation, Desaturate, Replace Color, Selective Color, Channel Mixer, Invert, Equalize, Threshold, Posterize*, and *Variations*. Before using these controls however, you should examine the image's *Histogram*.

Histogram

The *Histogram* represents the pixels of an image in graph form. It charts how many pixels an image contains and their distribution in terms of dark tones to bright tones. Dark tones are charted to the left and bright to the right. Dark tone areas are referred to as *Shadows*. The area in between dark and bright tones is referred to as *Midtones*. Bright tone areas are referred to as *Highlights*. View the *Histogram* by selecting Image/Histogram.



***Histogram* for "priests.psd"**

By examining the *Histogram* of an image, you can instantly see the Tonal balance of the image and use that information as a basis for your adjustments.

Channel

Select from *Luminosity, Red, Green*, or *Blue* when working with RGB images. *Luminosity* is a composite of the *Red, Green*, and *Blue Channels*.

Mean, Std Dev, Median, Pixels

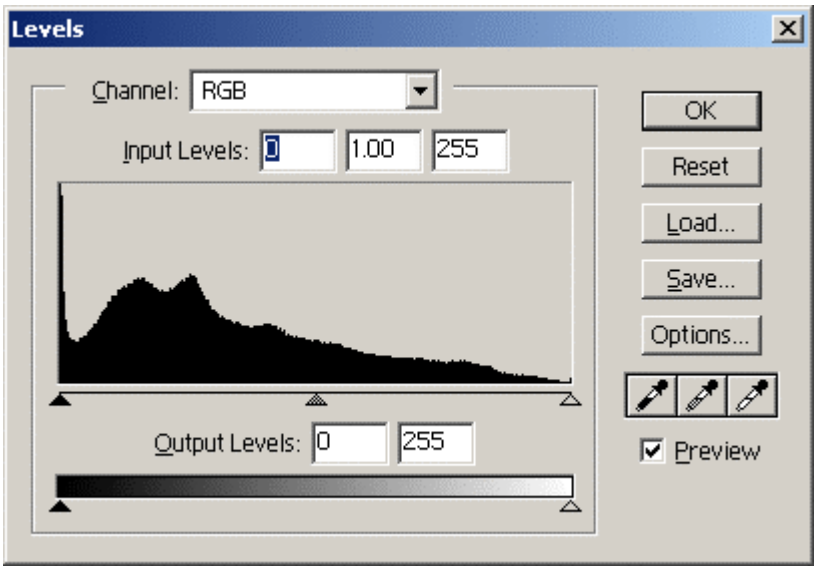
The values listed in the left hand column of the *Histogram* display the average brightness value of the image (Mean), the range of variance from the mean (Std Dev), the middle brightness value (Median), and the number of pixels used to calculate these numbers. If you're viewing a *Histogram* for the entire image, all the pixels are used. If

you're viewing a *Histogram* for a selection, the numbers of pixels within the selection are used.

Level, Count, Percentile, Cache Level
{Click} and drag to highlight particular areas of the *Histogram* to get values for *Level* (the selected area's brightness level), *Count* (the number of pixels in the selected area), and *Percentile* (the percentage of pixels within the selected tonal range.) *Cache Level* is set in File/Preferences/Memory & Image Cache. If *Use Cache for Histograms* is checked, the *Histogram* is based on the *Cache* version of the image. For absolute accuracy uncheck *Use Cache for Histograms* to force Photoshop to use the real image data. This is less of a concern for web development because you're working on a low resolution (in terms of density as in 72 ppi) image, which matches the resolution of the *Cache* version. However, if you are working on higher density images the accuracy of the *Histogram* is affected.

Using Levels

Open the ***buddha.psd*** image from the ***chapter006*** folder and examine it visually. You'll notice that the image lacks contrast. The whites aren't particularly white and the blacks aren't particularly black. As a result, the statue doesn't stand out from the background in terms of color brilliance, only in terms of shape and different, but subdued colors. We can use *Levels* to enhance the look of the statue and make it really stand out. Select Image/Adjust/Levels.



Levels dialog box

The *Levels* dialog box contains a *Histogram* and controls for *Channel, Input Levels, Input Level Sliders, Output Levels, Output Level Sliders, Shadows, Midtones*, and *Highlights Eyedroppers*, a *Preview* option, and options to *Load* and *Save Levels* as well as designate *Auto Levels*.

Channel
Select from the composite *RGB* to modify all channels simultaneously or select *Red, Green*, or *Blue* and modify channels on an individual basis.

Input *Levels*/Input *Levels* Sliders
Input Levels display the range from the *Black Point* (*Shadows*) to the *White Point*, and the *Mid Point* in between. By default, the range is 256 possible values, from 0 to 255 with the *Mid Point* being precisely in between. By adjusting these *Levels*, you can increase or decrease each of the three primary tonal properties, *Shadows*, *Midtones*, and *Highlights*. The *Histogram* for the statue image reveals that very few pixels are actually pure white. *{Click}* and drag the *White Point Slider* to the left until you reach a value of 220. The white areas at the base of the statue become more brilliant. The image is no longer muddy and the statue stands out from the background. We could have done the same thing for the *Shadows* if the image had a deficiency in pure black pixels.

Output Levels/Output Levels Sliders
Reduce the tonal range (at default 0 to 255) by adjusting the *Output Levels* either by input or using the sliders.

Levels Eyedropper Tools
Use the *Shadows*, *Midtones*, and *Highlights Eyedroppers* to designate pure black, pure medium, and pure white manually by selecting the appropriate *Eyedropper* and *{Clicking}* on a point within the image. If you select the *Midtones Eyedropper* and *{Click}* on the gray base of the lamp in the bottom left of the photograph the *Histogram* changes to reflect your selection and the color of the image changes as well. In this case, the *Blue Channel* becomes dominant in the composite. The *Eyedropper*s are generally more useful when changing the tone of grayscale images.

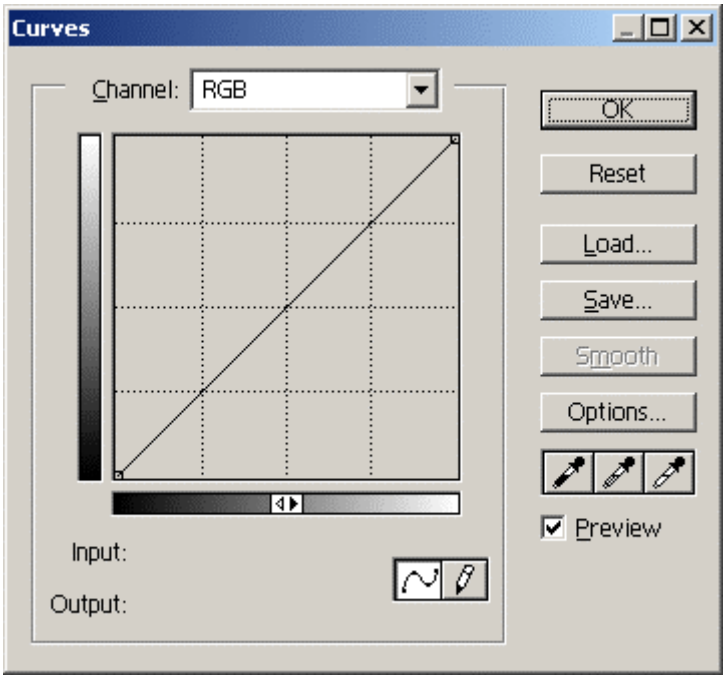
Preview
Check *Preview* to see the affect of your modifications in real-time.

Auto *Levels*
Selecting Image/Adjust/Auto Levels causes Photoshop to automatically adjust the tones in the image.

Auto Contrast
Select *Auto Contrast* to automatically increase the contrast of colors in an image. Colors increase in saturation and edges sharpen.

Curves

Use *Curves* for greater control when adjusting image tone. *Curves* are very similar to *Levels* in that you adjust the *Shadows* (Black Point), *Midtones* (Medium Point), and *Highlights* (White Point), except you do so with a curve to which you can add points too for increased accuracy. You manipulate the *Curve* by *{Clicking}* and dragging on a point. You add points to the *Curve* by *{Clicking}* and dragging on the *Curve* where there isn't a point or by *{Single Clicking}* on the *Curve* where there isn't a point. Controls for *Curves* include *Channel, Input Values Bar* and *Field*, *Output Values Bar* and *Field, Edit Curve Button, Custom Curve Button, Black Point, Mid Point*, and *White Point Eyedroppers*, *Auto, Smooth*, options to *Save* and *Load Curve* settings, the *Curve* Window and the *Curve* itself. The Controls common to the *Levels* adjustment work precisely the same in *Curves*.



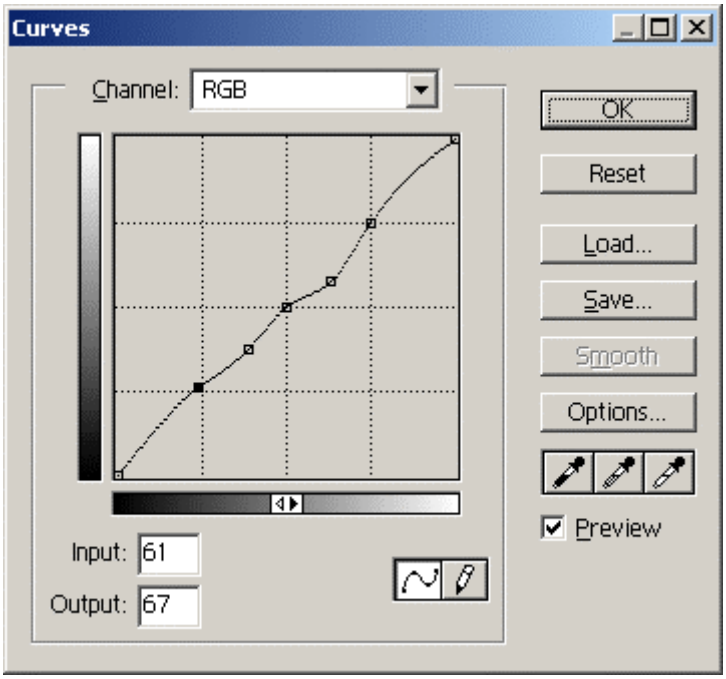
***Curves* dialog box**

Adjusting Tones with Curves

Open the ***buddha*** image again and select Image/Adjust/Curves. The *Curve* is in a straight line, at 45 degrees, indicating it has not yet been manipulated. The point at the bottom left of the *Curve* represents the current *Black Point* while the point at the top right represents the *White Point*. There is no point in the middle of the *Curve* by default because you can add points all along the *Curve* and *{Click}* and drag them for very accurate and precise control. However, by *{Clicking}* the center of the *Curve* you can add a *Midtone Point*.

{Click} the center of the *Curve* to add a *Midtone Point*. Next *{Click}*, hold, and drag the *Midtone Point* up and down the *Curve*, trying to keep the *Curve* as straight as possible. By doing this you are mirroring *Levels* controls where you *{Click}* and drag the *Point* sliders back and forth. The distance between the sliders or *Points* changes the tone of the image. With *Curves*, you have increased control because you can add multiple points between the *Black, Mid*, and *White Point*s. *{Click}* twice at different locations on the *Curve* between the *Midtone Point* and the *Black Point* to add two more points. Now

{Click} and drag these points back and forth and watch what happens to the ***buddha*** image. By *{Clicking}* and dragging the points to add variance to the *Curve* more drastic tonal changes occur. It takes practice to get used to using *Curves* to adjust tone but as you can see it is a much more powerful option than using *Levels*.



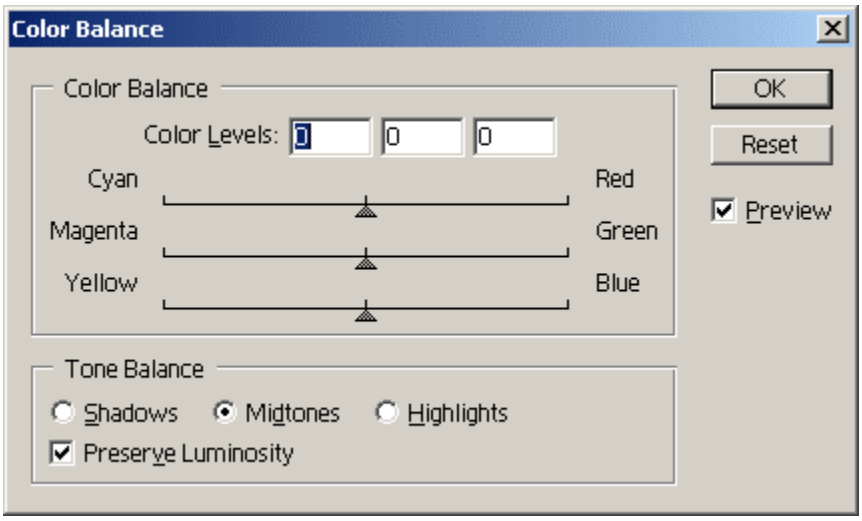
Points Added to the *Curve* in the *Curves* dialog box

Custom Curve Button

In addition to using the default *Curve*, Photoshop permits you to draw your own *Curve* in the *Curve* Window. Simply *{Click}* the *Custom Curve* Button and *{Click}* and drag inside the *Curve* Window to create your *Curve*. Adjust the *Curve* as you would normally by *{Clicking} Edit Curve* Button.

Color Balance

Adjust the *Color Balance* of an image, *Layer*, or Selection with the *Color Balance* controls. Controls include *Color Balance* fields and sliders for *Cyan to Red, Magenta to Green*, and *Yellow to Blue, Tone Balance (Shadows, Midtones, and Highlights), Preserve Luminosity*, and *Preview*. Open the ***toys*** file from the ***chapter006*** folder and convert it to *RGB Mode* to explore *Color Balance*.



Color Balance dialog box

Color Balance Fields and Sliders

Use the *Cyan to Red, Magenta to Green*, and *Yellow to Blue* fields and sliders to adjust color values. As you experiment with them, notice how the color changes in the image. To isolate particular tones within the image use the *Tone Balance* controls.

Tone Balance

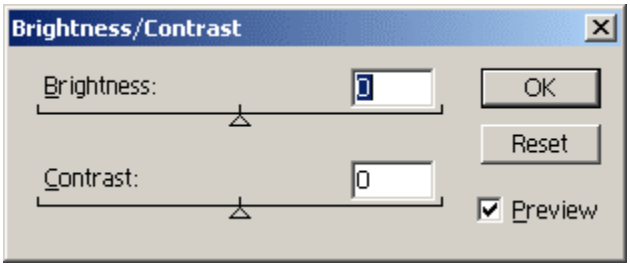
Check *Shadows*, *Midtones*, or *Highlights* to isolate *Color Balance* changes you to those particular tones of the image.

Preserve Luminosity

Check *Preserve Luminosity* so that *Color Balance* changes affect only the color of the pixels and not the brightness.

Brightness/Contrast

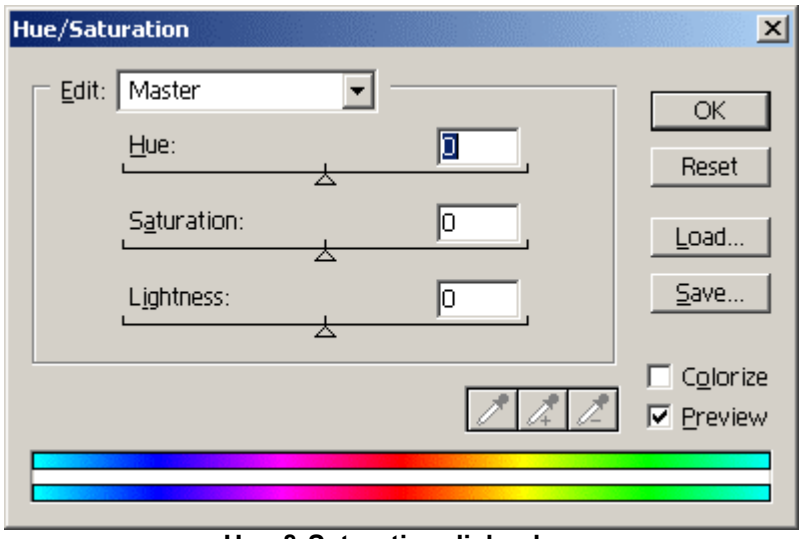
Use the *Brightness* and *Contrast* sliders to increase or decrease the brightness and contrast of an image, *Layer*, or selection. Try increasing *Contrast* to maximum and see what happens to ***toys***.



Brightness/Contrast dialog box

Hue/Saturation

Use the *Hue/Saturation* Controls to increase and decrease the *Hue, Saturation*, and *Lightness* of an image, *Layer*, or selection. From *Edit* select *Master* to adjust all the colors or select from a list of color ranges that include *Reds, Yellows, Greens, Cyans, Blues, Magentas*. When you select a color range, you can adjust the range using the sliders in between the color bars at the bottom of the *Hue/Saturation* dialog box and by using the *Eyedropper* tools. Experiment with ***toys***. *{Clicking} Colorize* causes the image, *Layer*, or selection to take on a duotone effect, where the image is tinted by one dominant color.



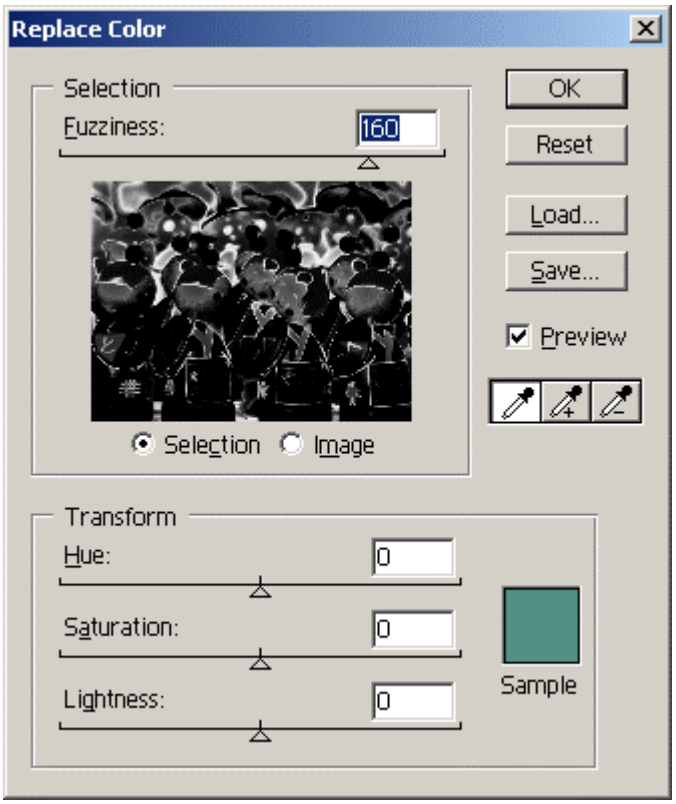
Hue & Saturation dialog box

Desaturate

Selecting *Desaturate* removes the color from an image. The image will appear to be in *Grayscale Mode* but remains in RGB.

Replace Color

Select *Replace Color* to change the *Hue, Saturation*, and *Lightness* of a particular color or particular range of colors. The *Replace Color* controls are similar to selecting by *Color Range*, including *Fuzziness*, *Eyedroppers* to select one color, select additional colors, or deselect colors, a *Preview* checkbox, and the ability to choose either *Selection* or *Image* in the *Image Box*. In addition, the *Replace Color* controls include *Hue, Saturation*, and *Brightness* sliders and fields, and the *Sample Box* that indicates the currently selected color or base color for the currently selected range.



Replace Color dialog box

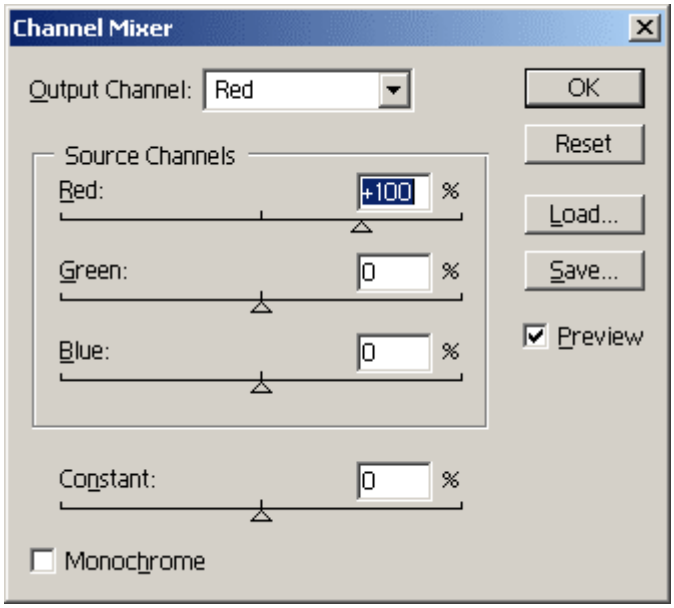
Make sure you have ***toys*** open. Select Image/Adjust/Replace Color. Make sure *Selection* is selected for the *Image Box* and use the *Eyedropper* to *{Click}* the blue gown on one of the toys. Adjust *Fuzziness* to 200 so that most of the content, other than the gowns, in the image are black. You'll notice that the blue area in the background of the photograph remains in the *Image Box* because the blue matches that of the gowns. Now experiment with the *Hue, Saturation*, and *Lightness* controls to modify the color of the toys

Selective Color

Use *Selective Color* to adjust CMYK values for images destined for print. Because you don't use CMYK mode for the Internet you won't have much use for this control. However, feel free to experiment with it. Like other controls, you can isolate a color range and use sliders to modify them.

Channel Mixer

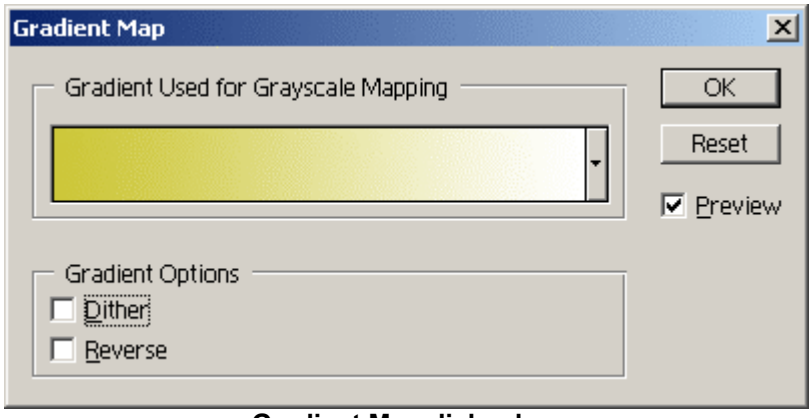
Use the *Channel Mixer* to adjust the balance of each individual color channel in the image. Select the desired *Color Channel* with the *Output Channel* drop-down list. You'll notice that sliders for the *Source Channels* default to a value of zero, except for the currently selected *Color Channel*, which defaults to a value of 100%. Use the sliders to increase and decrease the percentage values of each *Channel* to change the tone of the image. Use the *Constant* slider to add or subtract black or white to the mix.



Channel Mixer dialog box

Gradient Map

Use the *Gradient Map* dialog box to map either a custom or preset gradient to the grayscale values of an image. The effect is somewhat like that of a Duotone used in print but without the need of converting the image over to a Duotone. The default gradient consists of the current *Foreground* and *Background Color*, with the foreground mapped to black and the background mapped to white. *{Click}* on the black triangle to the right of the *Gradient Used for Grayscale Mapping* preview to select alternate gradients or *{Double Click}* on the gradient preview itself to edit and create custom gradients. Editing Gradients used as a *Gradient Map* is no different than editing those used as a fill so navigating your way through the options should pose no problem. Check the *Dither* checkbox if you're going to publish your graphic as an indexed image and need to reduce the banding of the gradient in your. Check the *Reverse* checkbox to flip the colors from right to left.



Gradient Map dialog box

Three Color Gradient mapped to an image

Invert
Use *Invert* to reverse the colors of the current image, *Layer*, or selection. In effect, you make a photographic negative of your image.

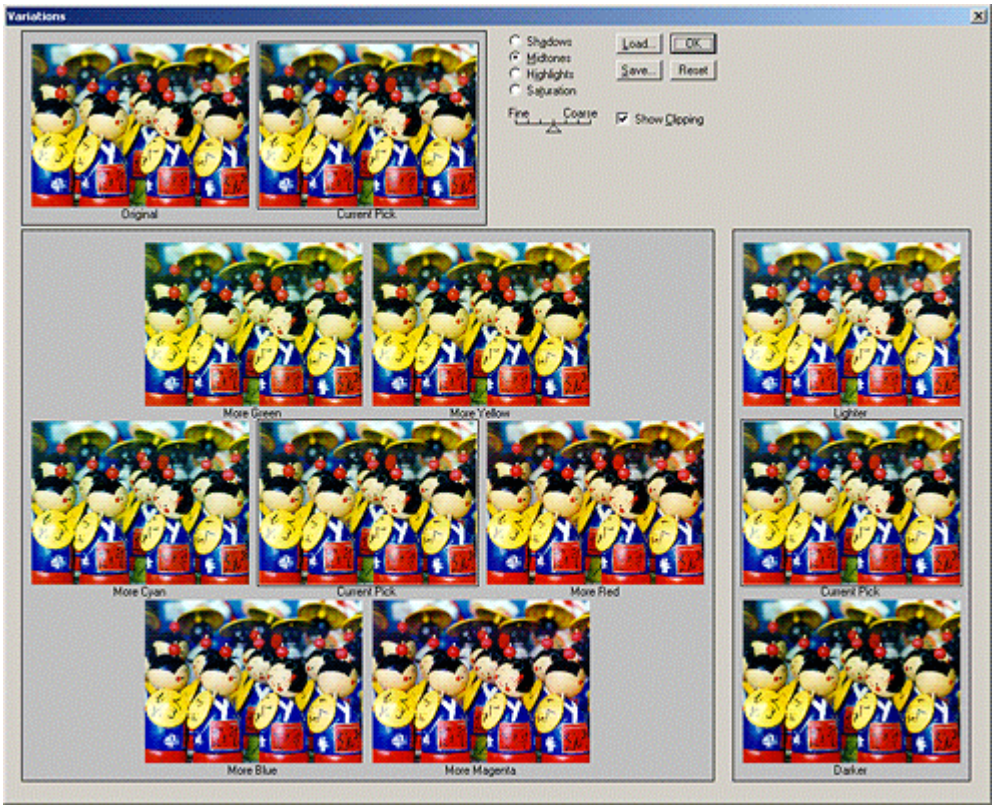
Equalize
Use *Equalize* to make Photoshop designate the lightest pixel and the darkest value as absolute black and white and then adjust the pixels between evenly or equally.

Threshold
Use *Threshold* on the current image, *Layer*, or selection to convert all pixels to either black or white. Adjust the *Threshold Level* by enter a new value or using the slider. Increasing the value adds more black and decreasing the value adds more white. The range is from 0 to 255.

Posterize
Use *Posterize* on the current image, *Layer*, or selection to reduce the amount of colors, and therefore tone. For instance, if you enter a value of 5, the image is reduced to five of the most dominant colors.

Variations

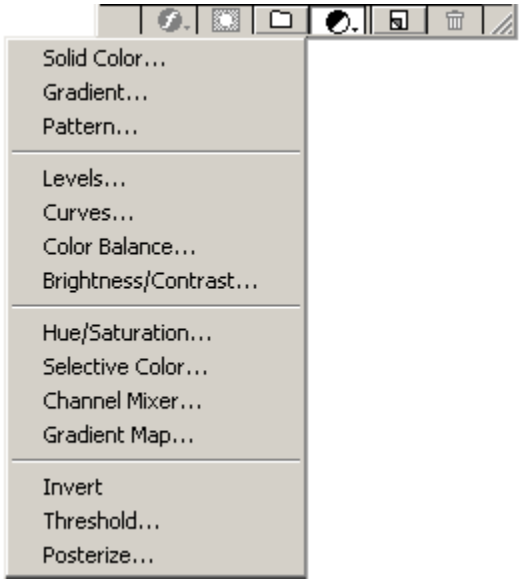
Use *Variations* to view multiple results of tonal changes for the current image, *Layer*, or selection. The *Variations* dialog box consists of 12 *Thumbnails* divided into three areas. At the top is the image in its Original form beside which is the image as it appears with modifications. To isolate tones and saturation control check *Shadows*, *Midtones*, *Highlights*, or *Saturation*. Check *Show Clipping* when adjusting *Saturation* to ensure you do not over saturate a particular color. Use the *Fine* and *Coarse* slider to adjust the amount of each change.



Affect changes by *{Clicking}* on the *Thumbnails* in the *Color* or *Brightness* areas. The *Color Area* consists of *Thumbnails* to add more *Green*, *Yellow, Cyan, Red, Blue*, and *Magenta*. Continue *{Clicking}* on the *Thumbnails* to add color. Lighten or darken the image by *{Clicking}* on the *Lighter* or *Darker Thumbnail*s in the *Brightness* area. *{Click}* OK to affect changes.

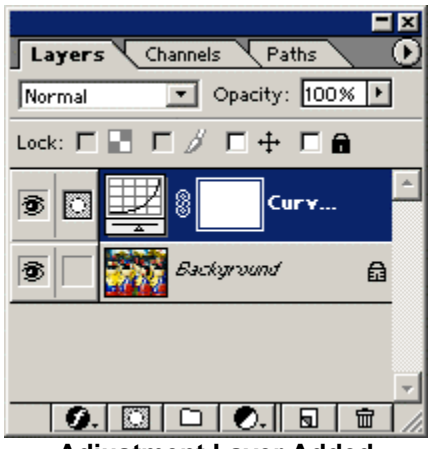
Adjustment and Fill Layers

Photoshop features a powerful *Adjustment Layer* you can use within the *Layers Palette* to affect tonal changes to all the *Layers* that lie beneath the *Adjustment Layer*. To create an *Adjustment Layer* select the *Layer* that you want to affect and *{Click}* on the *New Fill* or *Adjustment Layer* button at the bottom of the *Layers Palette*. A drop down menu will appear that allows you to choose a *Layer Type*. For *Fills* select either *Solid, Patter* or *Gradient* and for *Adjustments* select either *Levels*, *Curves*, *Brightness/Contrast*, *Color Balance*, *Hue/Saturation*, *Selective Color*, *Channel Mixer*, *Gradient Map, Invert, Threshold*, or *Posterize*.



Adjustment Layer Options

An *Adjustment Layer* is created with the name of your selected *Adjustment* and the applicable dialog box appears. Make changes as you would normally. To modify your adjustments *{Double-Click}* on the *Adjustment Layer*.



Adjustment Layer Added

Using Guides and the Grid for Alignment

Often you will want elements within your image positioned relative to each other. To align elements, such as a series of buttons or type you have two options, using *Guides* or using the *Grid*.

Using Guides

To create *Guides* you must make the Rulers visible. Select View/Show Rulers. The units of the Rulers depend on the setting you selected in File/Preferences/Units & Rulers. Because you're developing for the Internet, it's a good idea to select *Pixels* as the basic unit. Make a guide by passing the pointer over either the horizontal or vertical Ruler and *{Click}*, hold, and drag the *Guide* over the image. *{Release}* to drop the *Guide* at the desired point. By default, the *Guide* is blue in color. Change the color by selecting File/Preferences/Guides & Grid." Make sure *Snap to Guides* is enabled by selecting *View/Snap To/Guides*.

Open ***toys*** from the ***chapter006*** folder and create a *Vertical Guide* at 50 pixels from the left of the image. Create two *Type Layers*, one with the text "Japanese Souvenirs" and one with the text "Children's Toys" Select the "Japanese Souvenirs" *Type Layer* and drag it toward the *Guide*. Notice how the edge the letter "J" snaps against the *Guide*. *Guides* ignore the transparent areas of a *Layer* and use image data to snap too. Select the "Children's Toys" *Type Layer* and drag it toward the *Guide*, just below the "Japanese Souvenirs" type. Now both *Type Layers* are perfectly aligned.

To discard a *Guide {Click}* and drag the *Guide* off the image. To move a *Guide* hold the [CTRL] key over the *Guide* and drag whenever you are using a tool other than the *Move Tool*. Holding [CTRL] and [ALT] simultaneously switches the orientation of the *Guide* from vertical to horizontal or horizontal to vertical. You can use multiple *Guides*. To discard all *Guides* select View/Clear Guides.

Using the Grid

The *Grid* works in a similar fashion to *Guides* in that the content of your *Layers* will snap to the lines of the *Grid*. Select View/Show/Grid to display the *Grid*. Make sure that *Snap to Grid* is also enabled under View/Snap To/Grid." A light gray *Grid* covers the image. To adjust the *Grid* setting select File/Preferences/Guides & Grid.

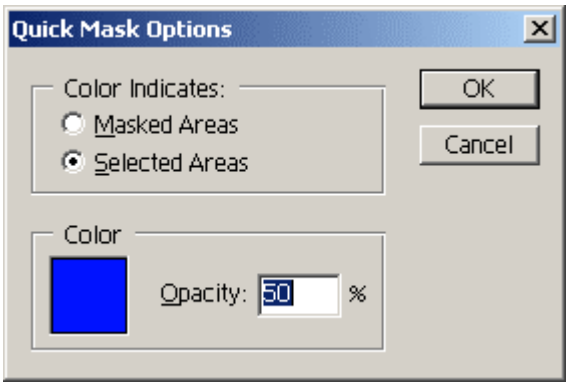
By now it should be evident to you that Photoshop is a very powerful and complex program that is easy to use. Because there are numerous image editing options and many different ways to achieve imaging goals first time users might find the program overwhelming. We've reviewed the fundamental elements you'll need to put into practice when creating images for the Internet. We're going to use most, if not all, of these fundamentals in the chapters ahead to create actual images for the web, including static images, buttons, navigation bars, banners, and animated GIFs.

Exercises

1. Open the ***gate*** image from the ***chapter006*** folder.

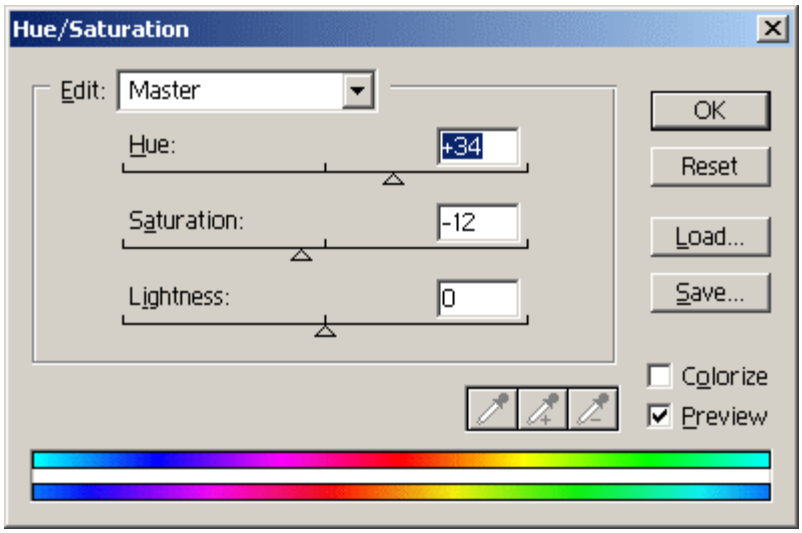
2. Use the Selection Tool or Selection Tools of your choice to select the red fence. (Hint: Use Select Color Range and adjust the Fuzziness control. Use Quick Mask Mode and the Airbrush Tool to erase any Selections outside of the gate.)

In Quick Mask Mode the Red Fence is clearly selected.



The Quick Mask has been made blue in the Options dialog box

3. Change the color of the Fence using the Hue/Saturation control. If you drag the Hue slider to 34 and the Saturation slider to -11 the fence turns yellow.



The Hue/Saturation dialog box adjusted for the image.

The Gate turned Yellow

Review Questions

1. What is the Brushes Palette used for?

2. As you {Click} and hold the mouse button when using the Airbrush Tool what happens?

3. What does the Rubber Stamp Tool do?

4. How do you create Custom Gradients?

5. What are Filters?

6. What is the Histogram?

7. In Photoshop, tones are divided into three categories, they are?

8. What advantage do Curves have over Levels when editing image tone?

9. What does the Threshold command do?

Summary

As a result of this chapter, you should be able to:

- Use all of Photoshop's Painting and Drawing Tools
- Create Type.
- Understand and Use Filters.
- Adjust and Manipulate Color.
- Use Guides and the Grid

7

Working with Vectors

Creating and editing Vector Shapes is a fundamental part of working with Photoshop 6. Most of the basic layout and design of your website will, most likely, be created with Vector Shapes. That being the case, it is important that you not only know how to create vector content but also how to organize it.

Objectives

Upon completing this section, you should be able to:

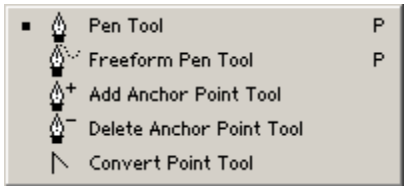
1. Use the Pen Tool
2. Use the Shape Tools
3. Apply Styles to Shapes and Objects

Working with Vector Content

If any one new feature of Photoshop 6 could be classified as "revolutionary" it would have to be the incorporation of vector shapes. The *Pen Tool*, a tool that creates vector content, has long been used to create paths and selections, but that was about the extent of vector functionality in Photoshop. For version 6, Adobe has introduced a range of *Shape Tools* that utilize path information to create editable shapes. The beauty of utilizing the *Shape Tools* is that vector content in your image remains completely editable at all times just so long as your document remains in the Photoshop native file format. You can place as many vector shapes on the same *Layer* as you wish and they will remain editable. You can also apply *Layer Styles* to *Shapes* and maintain them as editable. That having been said you must always keep in mind the differences between vector and bitmap image information and the benefits and drawbacks of both. The vector tools are very useful but they are also limited to the creation of relatively simple illustrations. You would never use vectors to display the complex color information of a detailed photograph.

Before we begin to discuss the expanded range of vector tools let's take a look at the more traditional roles of the *Pen Tool*.

The Pen Tool



The *Pen Tool* can be used to create Selections. Initially, as you create your Selection path the *Pen Tool* does not make a Marquee, but rather a fully editable vector based path. What does this mean? When you create a path with the *Pen Tool*, it creates straight lines and curves, called segments, which begin and end in anchor points. At each anchor point the curvature, length, and position of connected segments can be modified by manipulating what are called *Direction Lines*.

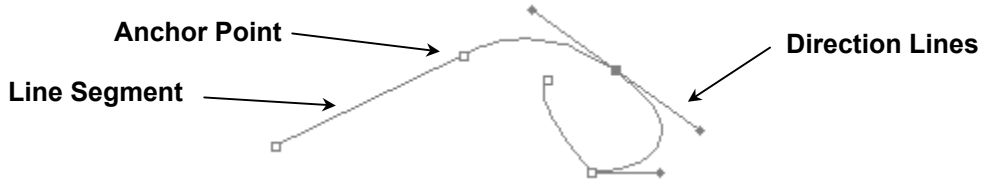
The best way to understand how the *Pen Tool* functions is to experiment with it. . We're going to use the ***toys*** image which is located in the ***chapter007*** folder.

Select the *Pen Tool*. If you *{Click}* and hold the *Pen Tool* a fly-out box appears with other related *Pen Tool*s. We'll be covering these in the following exercise.

Focus your attention on the toy in the right two thirds of the image. Create a path around its head by *{Clicking}* and releasing to establish your starting point. An anchor point is created. Drag the mouse to create segments and *{Click}* to create new anchor points. Continue to create a path around the toy's head. *{Click}* the initial anchor point to close the path. Recall that you can use the *Zoom Tool* to get closer to the toy's head if you like.

Direction Selection Tool
The power of the *Pen Tool* lies in its ability to manipulate the path you have just created. By selecting the anchor points with the *Direction Selection Tool* you can move them, extending the segments on either side of the anchor point as well as changing their direction.

Convert Point Tool
Using the *Convert Point Tool* on anchor points creates *Direction Lines* that modify the curvature of both segments connected to the anchor point or a segment on either side of the anchor point separately. *{Click}* and drag on an anchor point to create *Direction Lines*. As you continue to extend or move the mouse, the *Direction Lines* continue to grow. You'll notice that both the segments curve symmetrically. *{Click}*, drag and release to create *Direction Lines*. Then *{Click}* the end point of the *Direction Line* to change the curvature of a single segment.



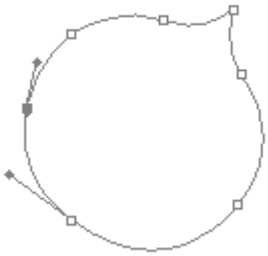
Path Example

Add Anchor Point Tool **Delete Anchor Point Tool**
To add and remove anchor points on the path use the *Add Anchor Point Tool* and the *Delete Anchor Point Tool* by *{Clicking}* on the path.

Freeform Pen Tool
Use the *Freeform Pen Tool* to draw paths freehand.

You might find using the *Pen Tool* unusual. Be patient. It takes practice.

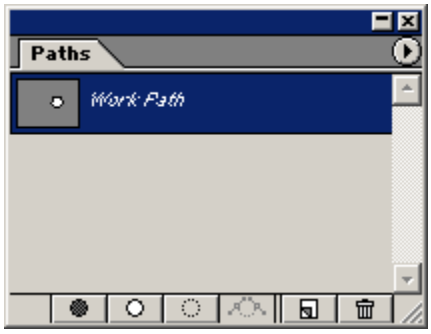
A path created around the doll's head



The path revealed

Creating a Selection from a Path

Once you have created a path you'll need to convert the path into a Selection. To do so *{Click}* the *Path Tab* in the *Layers Palette* group.

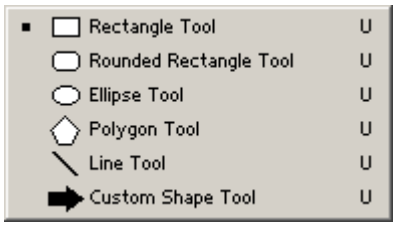


You'll see a thumbnail or *Path Box* of the path titled "Work Path." At the bottom of the *Paths Palette* are several icons.

Fill, Stroke, Path as Selection, Selection as Path, New Path, Delete Path

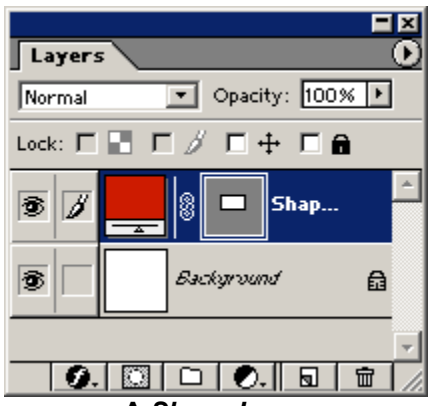
At this point, we will concern ourselves with the *Load Path as Selection* Icon. *{Click}* the Icon to make a Selection path based on the path you have created with the *Pen Tool*. A Selection path Marquee results. You can still see the *Pen Path* beneath the Marquee. You can delete the *Pen Path* by *{Clicking}* and dragging the *Path Box* over the *Trashcan* icon in the bottom right corner of the *Palette* and releasing. Alternately you can hide the *Pen Path* by *{Clicking}* on the *Check Mark* at the top right hand corner of the *Options Bar*. This is the better option because it simply "dismisses" the path so you won't have to recreate it later. To get the *Pen Path* back simply *{Click}* the *Path Box* in the *Palette*. The path returns. When you save your image as a Photoshop file the *Pen Path* is saved with the image document.

The Shape Tools 



Now that you've wrapped your mind around Paths, understanding the *Shape Tools* should be simple. A Photoshop *Shape* is nothing more than a path that acts as a container for a fill. It can be edited in exactly the same way as a Path in that it also contains *Lines Segments* which are connected by *Anchor Points* which can be modified by adjusting *Direction Lines*. *Shapes* can also be used to add or subtract from other *Shapes* or create entirely new Custom *Shapes*. *Shapes* can also utilize any of the *Layer Styles* settings available in the *Layers Palette*.

Let's take a look at how Photoshop handles *Shapes* by placing a single Rectangle in our Image Window. Create a new document that's 300 pixels wide by 300 pixels high and draw a rectangle using the *Rectangle Tool*. Direct your attention to the *Layers Palette* and take note of the new *Shape* Layer that has been added to it. Hold down the [ALT] key and *{Double Click}* on the *Layer* if you'd like to rename it.



A *Shape Layer*

A *Shape Layer* contains both a thumbnail of the *Shape*'s color and its location. Notice that the *Shape*'s color is the current *Foreground Color*. If you'd like to change the color simply *{Double-Click}* on the *Color Thumbnail* and use the *Picker* to select a new one. If you'd like to add an additional *Shape* to the current one simply draw it in the Image Window and it will be added to the current *Shape Layer*. If you'd like to add a new *Shape* on a different *Layer {Click}* once on the *Shape*'s *Location Thumbnail*. Notice that the white outline around the *Location Thumbnail* disappears. Draw another Rectangle in your Image Window and you'll find that a new *Shape Layer* has been added to your *Layers Palette*.

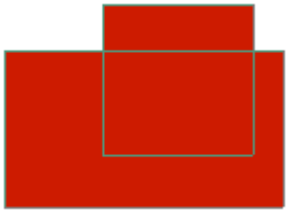
{Click} on the *Shape Location Thumbnail* on the original Rectangle's *Layer*. The white outline should reappear around the thumbnail indicating that any *Shape* we draw will be placed on that *Shape Layer*. We're going to create a composite *Shape* by adding more elements to our original rectangle. Take a look at your *Options Bar* to see what types of options are available to you.

Shape Tool Options Bar

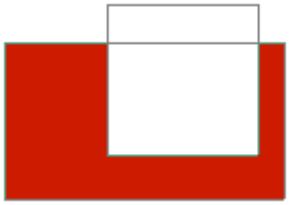
The *Options Bar* not only allows you to choose what type of *Shapes* you'd like to create but also how you'd like those *Shapes* to interact with each other.

Combination Options 

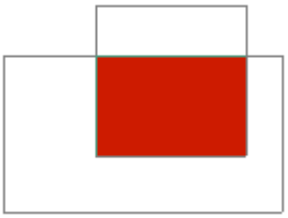
Shapes on a single *Layer* can be added to, subtracted from, intersected with, or excluded from other shapes. All you need do is select the particular option that you require, draw your shape, and Photoshop will do the rest for you. Below you will find some examples of how the various options work using our original rectangle and an additional rectangle.



Add *Shape*



Subtract *Shape*



Intersect *Shape*

Exclude *Shape*

These are rather simplistic examples. If you put your mind to it you can create some interesting designs using combinations of shapes.

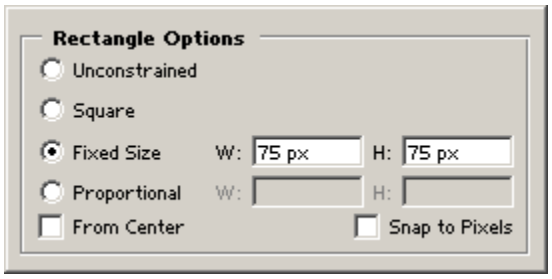
Note that each of the components within your composite shape can be selected individually and modified. Use the *Path Component Tool*  if you want to select one whole shape on a *Shape Layer* or the *Direct Selection Tool*  if you want to edit *Anchor Points* within a single Path.

If you are happy with the way your composite *Shape* looks you can combine the various elements that go into it and create one *Shape*. Multiple select the various *Shapes* that make up your custom shape with the *Path Component Tool* and *{Click}* on the *Combine Button* in the *Options Bar*. Your composite is now a single path.

Let's take a look at some of the other *Shape Tools* available.

Rounded Rectangle Tool 

The *Rounded Rectangle Tool* allows you to create Rectangles with corners that are rounded to whatever degree you wish. Input a value in the *Radius* field to control the degree of curvature. This tool is especially useful for creating capsule shaped buttons for website navigation. *{Click}* on the *Shape Tool* drop down menu to access the Options for the Tool.



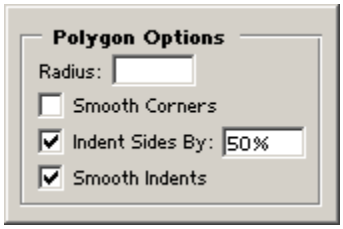
The *Square* option constrains the proportions of your object to an equal width and height. *Fixed Size* will automatically create a rectangle with the dimensions inputted in the *Width* and *Height Field*. *Proportional* forces the Rectangle dimensions to a ratio that you designate in the provided fields. *From Center* forces the Rectangle's point of origin to be its center as opposed to its left top corner. Most of these options apply to the other *Shape Tools* as well and all of the keyboard shortcuts for the above options are identical to those utilized when drawing a *Rectangular* or *Elliptical Marquee*. If you've spent much time using an earlier version of Photoshop you're probably already used to the keyboard shortcuts.

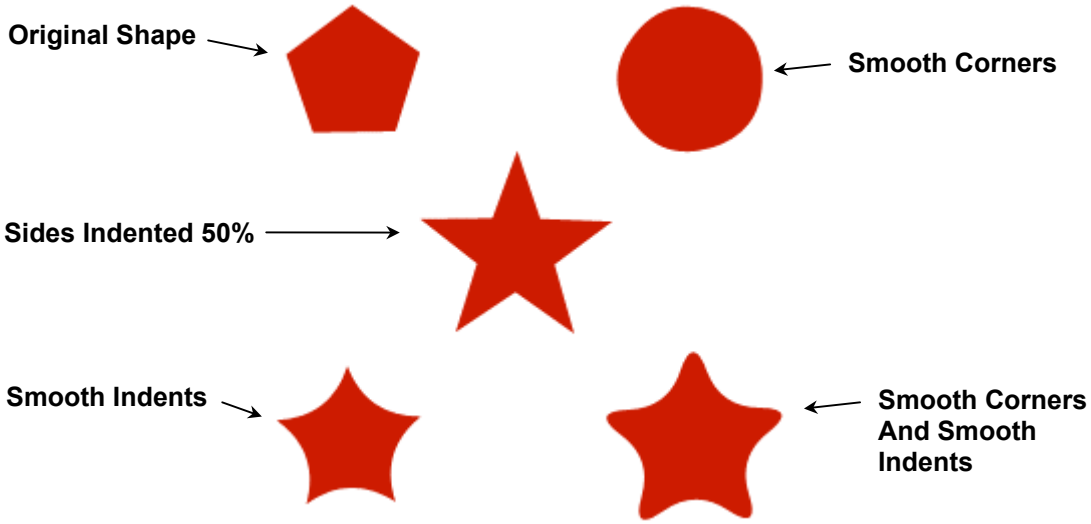
Ellipse Tool 

The *Ellipse Tool* functions in a similar fashion to the *Elliptical Marquee*. Use it to draw circular and elliptical shapes.

Polygon Tool 

Use the *Polygon Tool* to create *Shapes* with multiple sides of equal length. *{Click}* on the *Shape Tool* drop down menu on the *Options Bar* to access the various options available. Below are 4 modifications of the same shape.

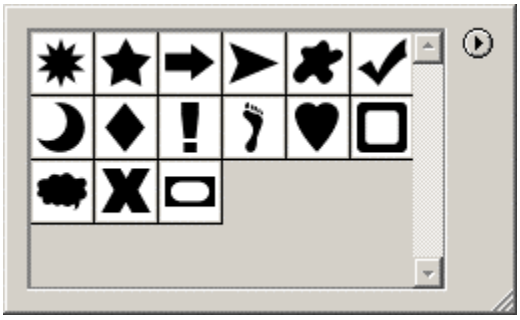




Line Tool 

The *Line Tool* doesn't actually draw *Line Segments*. Input a value of 5 in the pixel field in the *Options Bar*, draw a Line in your Image Window, and select it with your *Direct Selection Tool*. The *Anchor Points* that appear indicate that the *Line* is actually a rectangular path that can be modified in exactly the same way as any other *Shape* or Path. Simply select the *Anchor Points* and modify them as you would any other shape. Select the *Tool*'s drop down menu and you can add arrowheads of various sizes to either or both ends of your Line.

Custom Shape Tool 
The *Custom Shape Tool* allows you to place unique paths in your document. Click on the *Shape* drop down menu to see your options.



You can add your own *Custom Shapes* to the Menu by first selecting the *Shape Layer* with the *Shape* or *Shapes* that you want to add and then navigating your way to Edit/Define Custom Shape from the Menu.

Generic Shape Tool Options

***Shape* Tool Mode** 
These options allow you to use the *Shape Tools* to create a *Shape Layer*, a new *Work Path*, or a rasterized *Shape*. If you create a rasterized *Shape* you cannot go back and edit it after you've created it.

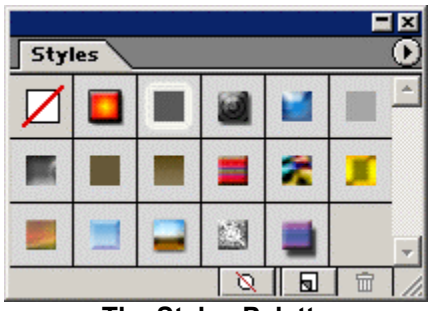
Blend Mode
The *Blend Modes* that you can apply to individual *Shapes* are exactly the same as those that you can apply to a *Layer*. Refer to the chapter on *Layer*s if you'd like further information.

Opacity
The *Opacity* of *Shapes* can be changed by sliding the *Opacity Slider* in the *Options Bar*. It operates in exactly the same way as the *Opacity Slider* in the *Layers Palette*.

Layer Style
Layer Styles are prepackaged effect settings that can be applied to a *Shape*. You can either set a *Style* from the outset by making a selection from the *Layer Style* Menu in the *Options Bar* or select a *Shape Layer* and select a *Style* from the *Style*s *Palette*. The one major drawback to using *Style*s is that every single *Shape* on a *Shape Layer* will adopt the style. You cannot pick and choose which
Shapes it is that you'd like to apply the style to if they co-exist on the same *Layer*.

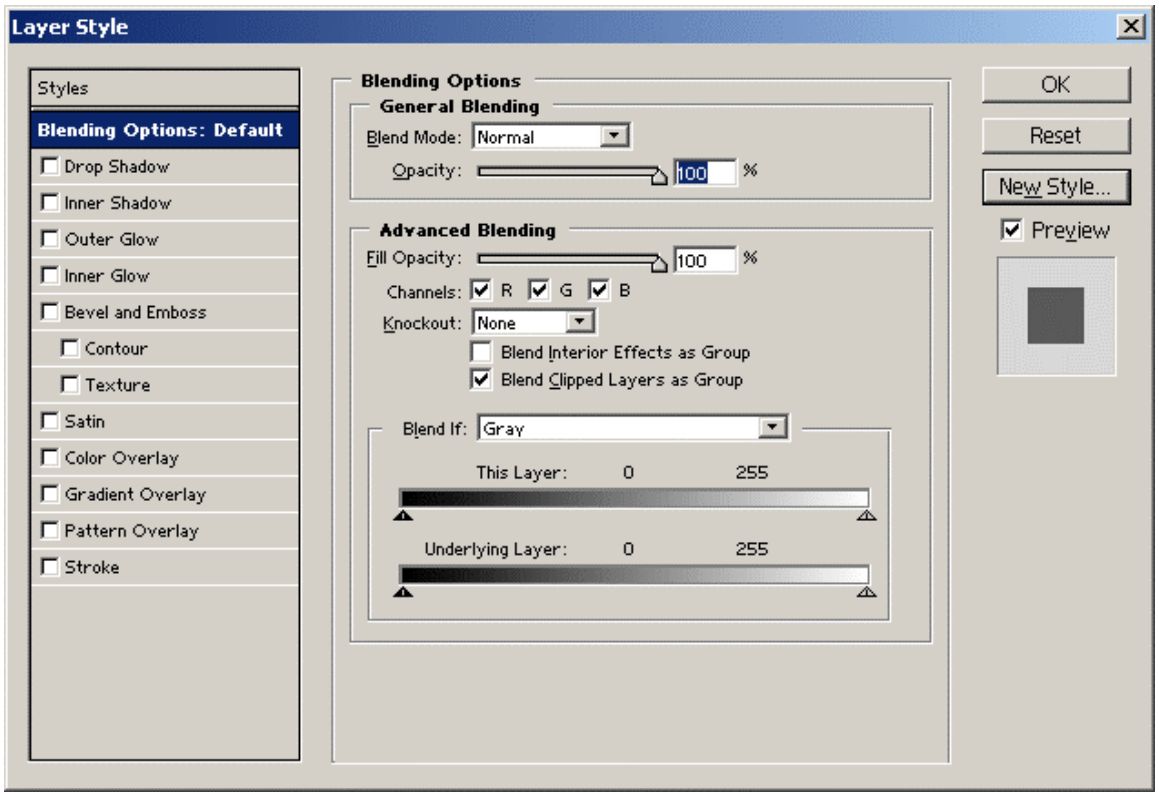
Creating and Applying Layer Styles

Layer Styles are a major addition to Photoshop 6. Photoshop 5.5 incorporated *Layer Effects* but they were nowhere near the level of complexity found in the latest version of the program. *Layer Styles* are a combination of *Layer Effects*, *Fills, Strokes*, *Blend Modes*, and *Overlays*. The wide range of options available gives the designer the freedom to create some unique styles.

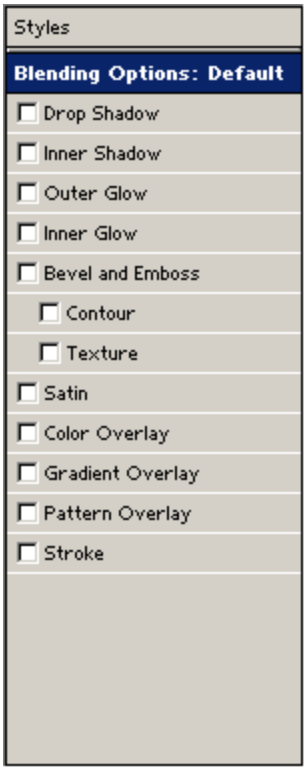


The Styles Palette

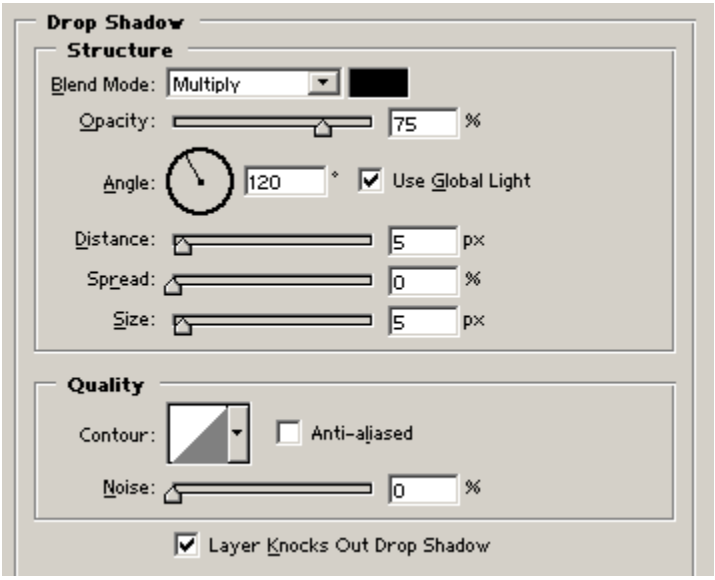
Instead of exploring every detail of every aspect of creating different styles let's just try creating one and see what the process involves. Our first step is to place a *Shape* in our Image Window. You cannot create a new *Style* unless you have a *Shape* to apply it to. Create a new 300 x 300 document if you don't already have one on your screen and place a capsule-shaped *Rounded Rectangle* in it. To apply individual effects to the *Shape* you must *{Double Click}* on its *Layer* in the *Layers Palette*. The *Layer Style* dialog box appears on your screen.



Take a look down the left hand side of the dialog box and you'll see the range of options available to you.



We're going to create a style for the buttons in a make believe website so, for starters, *{Click}* on the checkbox beside *Drop Shadow*. If you're not happy with the default *Drop Shadow* that's been applied to your *Rounded Rectangle* you can *{Click}* on the *Drop Shadow* label in the *Style*s *Listing* in the dialog box and a number of options will appear in the middle of it.



Use the *Sliders* or *Fields* to adjust the *Angle* at which the *Drop Shadow* sits underneath your *Shape*, the distance it sits from the *Shape*, its *Spread*, and its *Size*. In this case the button is going to be yellow so *{Double Click}* on the Color Swatch beside the Blend Mode drop down menu and change the color of the *Drop Shadow* to dark yellow. Our button should now look something like this.

Next we're going to want to apply an *Inner Glow*. *{Click}* on the *Inner Glow* checkbox in the *Layer Styles* dialog box and *{Double-Click}* on its label to reveal its options. We want our button to look like it's made out of glass so we're going to have to give it a dark glow to create the illusion of refracted light. We'll use a *Gradient Glow* so *{Click}* on the *Gradient* drop down menu and select the *Black and White Gradient*.

We'll need to tone down the black a little so *{Double-Click}* on the *Gradient Preview* to bring up the editor and change the black to a dark gray. Change the Glow's size to 21 by adjusting the slider under the *Elements* category.

Select *Bevel and Emboss* from the *Style*s list and *{Double-Click}* on its label to reveal its options. We want to make the button rounded and add a simulated reflection. To do this we are going to have to create an *Inner Bevel* with a depth of 200, a size of 35, and a softness of 2. We'll also adjust the *Shading* by increasing the *Altitude* to 40, increasing the *Highlight Opacity* to 93, and decreasing the *Shadow Opacity* to 16.

Our last step is to apply a *Color Overlay* to restore some of the brilliance lost when the other effects were applied. Select a bright yellow color with a *Normal Blend Mode*.

We now have a button that looks like it's made out of glass. For even greater authenticity you could add a *Contour* and a *Radial Gradient Overlay*.

If you need to use this particular combination, or any other combination, of *Layer* Effects on a regular basis you can *{Click}* on the *New Style* button in the *Layer Style* dialog box. The *Style* will now appear as a thumbnail in your *Style*s *Palette* and can be used any time you wish.

Explore the other features of the *Layer*s *Style*s dialog box and try adding to, deleting from, and resetting the thumbnails in the *Style*s *Palette*. With practice you'll find that *Style*s and *Shapes* make a potent combination. Both remain editable at all times making creation and editing of web content flexible and easy.

Review Questions

1. What does an Anchor Point do?

2. What does a Direction Line do?

3. Can the Pen Tool be used to draw Shapes? If so, How?

4. How do you subtract one Shape from another?

5. What is the difference between a collection of Shapes on a Shape Layer and a Combined Shape?

6. How do you the increase the number of sides for a Polygonal Shape?

7. What type of effects can be used to make up a Layer Style?

8. How do add a Drop Shadow to a Shape?

9. How do you create a New Style and how would you access it if you needed to use it sometime in the future?

Summary

As a result of this chapter, you should be able to:

- Use the Pen Tool
- Use the Shape Tools
- Apply Styles to Shapes and Objects

8

Creating Static Images for the Internet

In this chapter, we will create a logo for a make-believe company. We will also examine when to use the GIF or JPEG image types and Photoshop's Optimization options.

Objectives

Upon completing this section, you should be able to:

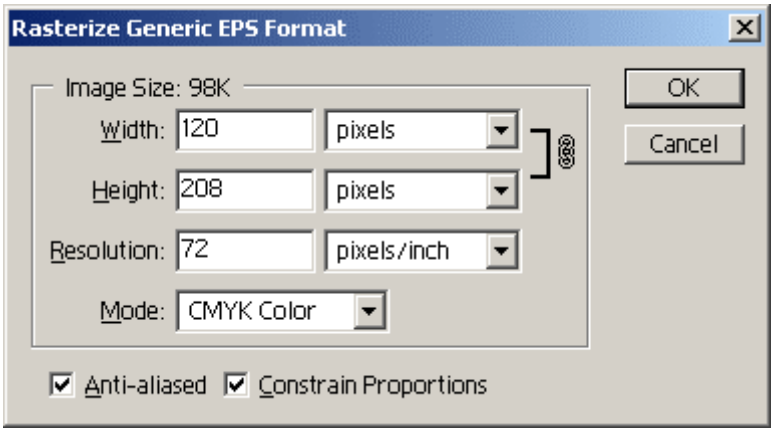
1. Create a logo in Photoshop
2. Create an Internet ready still image
3. Understand appropriate use of GIF or JPEG file types
4. Understand Photoshop's Image Optimization options

Creating a Logo in Photoshop

Most logos are actually created in vector-based programs such as Adobe Illustrator because vector-based artwork is scalable and suitable for print. In most cases, you are given a copy of a company's logo in either .eps or .ai format. However, since we are working exclusively in Photoshop we will create a logo from scratch. Before doing so however, we will review importing vector-based files such as .eps or .ai into Photoshop and optimizing it for the Internet.

Importing Vector Based Logo Files

Open ***kimono.ai*** from the **chapter008** folder. The *Rasterize Generic EPS Format* dialog box appears. To rasterize means to translate the vector information of a file into a grid of columns and rows filled with pixels, in other words, to take vector information and convert it into bitmap information. Options include *Width* and *Height* (in various units), *Resolution, Mode, Anti-aliased*, and *Constrain Proportions*.



Rasterize Generic EPS dialog box

Input 120 into the *Width* field, making sure pixels is the unit. If *Constrain Proportions* is checked, the *Height* field adjusts automatically. It is very important that proportions, particularly for logos, be maintained. Set *Resolution* to 72 ppi and *Mode* to *RBG* because we are producing for the screen. Make sure *Anti-aliased* is checked to create smooth edges. *{Click}* OK.

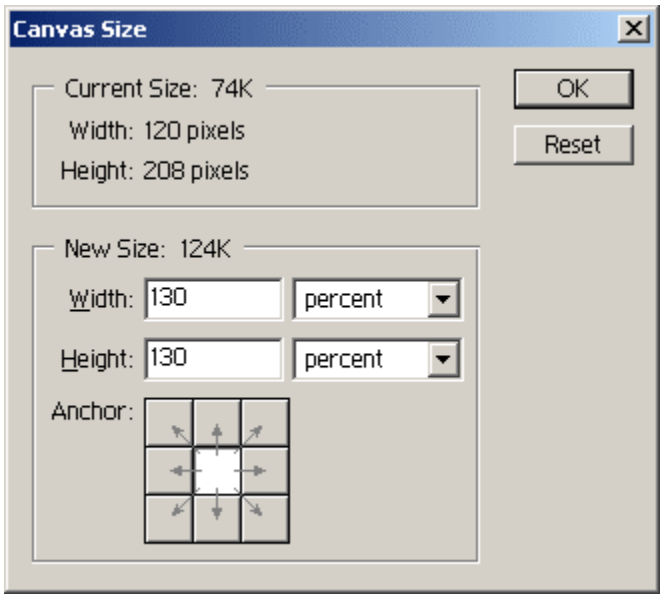
Vector Based Image
Converted to a Bitmap

Examine the image. You'll notice that it is composed of solid colors and sharp edges. This type of image is typical of vector-based artwork. Notice also that unlike opening a bitmap image, which defaults to a "*Background*" *Layer*, vector images default to "Layer 1" with the image data surrounded by transparency. [ALT] + *{Double-Click}* the *Layer* and rename it "Logo."

Preparing the Logo for the Internet

The client, in this case, has asked that a drop shadow be added to the logo and that the logo sits on a white background on the website. What follows is the typical process for making a logo web-ready.

1. First, we need to expand the *Canvas Size* so we can add a drop shadow to the logo. Select Image/Canvas Size. We need to expand the *Width* and *Height* of the Canvas. Select *percent* from both the *Width* and *Height* drop down lists and input 130 in both fields. Leave the *Anchor Point* in the center. This is where the image data remains relative to resizing the Canvas. *{Click}* OK.



Canvas Size dialog box

2. Next, we need to add a drop-shadow to the logo. *{Double-Click}* on "Logo" in the *Layers Palette* and the *Layer Styles* dialog box will appear. *{Click}* on the *Drop Shadow* checkbox and adjust the Angle so it sits at 120 degrees. *{Click}* OK.

3. *{Click}* the *Layer Options* triangle and select *New Layer*. Call it "White" and use the *Paint Bucket Tool* to fill it with white. *{Click}* and drag the "White" *Layer* beneath the "Logo" *Layer*. At this point, we've fulfilled the client's request for a drop shadow behind the logo, which sits on a white background.

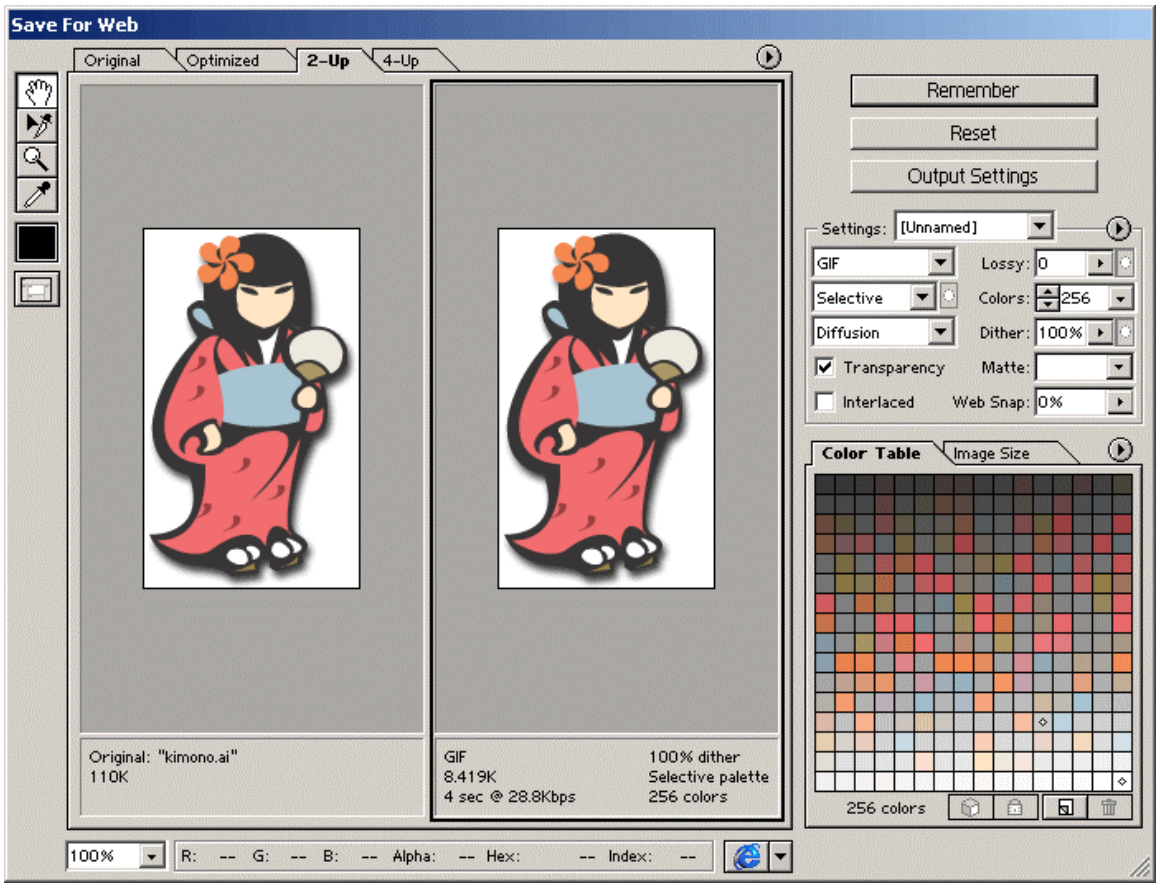
4. You'll notice that there is a lot of white space around the logo and the drop shadow. We should eliminate this space because the extra pixel information translates into larger file sizes. Our goal is to create a website that runs quickly and smoothly as well as looking spectacular. To do so you use only the absolute necessary amount of pixel information. Use the *Crop Tool* to cut away the extra white space. When cropping it's usually a good idea to expand the size of the Image Window so you can *{Click}* in the gray area of the Image Window to begin cropping. *{Click}* and drag a box around the area of the image you want to keep. Try to get as close as possible to the edges of the logo and drop shadow without clipping or cutting them off. Press *{Enter}* to crop the image. You may find you might have to crop the image repeatedly to get the closest cut.

5. At present it's highly recommended that you save the file in native Photoshop (.psd) format. Always keep a copy of your file in its native form. In this case, we would keep a copy of our Photoshop file and the original Illustrator file (.ai). Save the file as ***travelogo.***

6. Now we have to optimize it for the Internet. To do so select File/Save for Web. The *Save for Web* dialog box appears.

Save for Web

The *Save for Web* dialog box consists of *Tabs (Original, Optimized, 2-Up, 4-Up)* to control how many *Optimization Previews* of the image you can see (from 1 to 4 Previews at a time). A set of *Hand, Slice, Magnification*, and *Eyedropper Tools*, and *Image Compression Options (Image Type, Palette, Dither Type, Compression, Colors, Dither Percentage, Transparency, Matte, Interlaced, and Web Snap)* are included. *Output Settings*, a *Color Table, Color Table Options, Image Size, Magnification Level, Info Bar*, and *Info Bars* at the bottom of each *Preview Window* are also included. We will cover the *Slice Tool* and *Output Settings* later in the manual so focus your attention on the other features of this dialog box for the time being.



Save For Web dialog box

Preview Windows

Select from *Original, Optimized, 2-Up*, and *4-Up* to see various versions or your image in the *Preview Windows*. You'll be applying various compression and file-type settings to your image. Photoshop gives you a real-time preview of what the image looks like with a particular set of compression options. *{Click}* on the *2-Up Tab*. Two *Preview Windows* result, one titled "Original" in the *Info Bar* at the bottom, which includes the File Size, and one titled with the currently selected *Image Compression* options, including *File Type, File Size, Projected Download Time, Dither percentage*, *Palette*, and *Number of Colors*. Depending on your current *Image Compression* options the new version of the image should be dramatically smaller than the native Photoshop version.

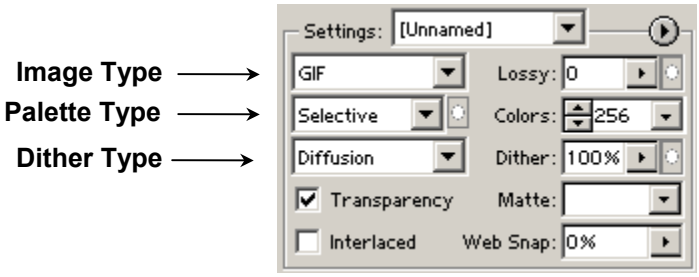
Compression Options
Photoshop has numerous *Compression Options* you can apply to an image to prepare it for the Internet. Select from a list of pre-set *Compression Options* by selecting *Settings* which include GIF, JPEG, and PNG variations. At this point PNG is not recommended because the file format hasn't yet been widely supported by the browsers. There are a few things to consider when selecting an appropriate compression option:

- Nature of the Image: Solid Colors, Sharp Edges, Photograph
- Target Audience Bit-Depth: 8-bit display or higher?
- Target Audience Bandwidth: Low, Medium, or High?

If the image is made up of predominantly solid colors and sharp edges, such as the image we are working with, then GIF is the best format because file size will be significantly smaller than using JPEG. JPEGs are 24bit images with over 16 millions colors and are much more suited to Photographic images which tend to be made up of a wide variety of colors, tones, and little, if any, patterns.

Select each of the pre-set GIF *Compression Options* and examine the image and the image size. When you can, it's advisable to use the *Web Palette* to ensure that people using 8-bit displays see the image as you do. More and more users have 24-bit color displays so Web Safe colors are becoming less of an issue than they were in the past. We will, however, employ them in this example to see how they work. Select GIF Web *Palette* from Settings. You'll notice that certain colors shift slightly from the original. In many cases, when you are creating images of this type that are not logos these color shifts are acceptable. However, your client may not agree to slightly different colors for a logo. At present, if you examine the *Color Table* you'll notice that there are only 26 colors in the compressed version of the image. To adjust these settings, such as adding more Web Safe colors you'll have to build *Compression Options* yourself.

Building Compression Options
If none of the pre-set *Compression Options* is useful to you, you can customize options by using the drop-down settings, which include *Image Type, Palette, Dithering, Lossy, Colors, Matte Color, Transparency, Interlaced*, and *Web Snap*.



Compression Controls

Make sure you *{Click}* the *Preview Window* to make it active. Select *GIF* from the *Image Type* drop-down menu. Select *Web* from the *Palette* drop-down menu. For *Dithering*, select *No Dither*. Feel free to experiment with the other settings to view the effects on your image. For *Lossy* select 0 by using the slider. Drag it up and down and see the effect on the image and the file size. Experiment with *Colors* and examine the effect on the image and the file size. Select *Auto* when you have finished.

Again, you'll notice that some of the colors, particularly the color of the blue sash have shifted in tone. If this isn't a concern you can *{Click}* OK and save your image. However, we want to make the sash in the web image as close as possible to the original. Select the *Eyedropper Tool* and sample the blue color in the original image. Make sure you select the *GIF Preview Window* to reactivate it. *{Click}* the *Add Eyedropper Color* icon at the bottom of the *Color Table*  . The blue elements return to their original color.

Make sure the settings are as follows: *Gif, Web, No Dither*, and *Auto* for *Colors*. The image should be from 3k to 4k in size. *{Click}* OK to save the image at the default output settings. Photoshop automatically retains its current name and adds the appropriate extension, .gif.

Compressing Photographic Images

Photographic images and images with smooth color blends and transitions are better compressed with JPEG compression. Before we create our custom logo, we're going to optimize an image of a Japanese Torii gate. Open ***Miyajima*** from the ***chapter008*** folder. The gate will become an element in a design we will create later. Resize the image so it's 200 pixels across and 267 pixels high. Save it as a Photoshop file and title it ***shrinegate.*** Remember it's essential to save and keep the source or original file in case of further changes.

JPEG Compression
Select File/Save for Web. Using the compression settings we used for the ***travelogo*** image isn't practical for this type of image. Make sure you select *GIF, Web, No Dither*, and *256 Colors* for the image. Notice the sky is now made up of about three colored stripes. The smooth transition from dark blue to a very light blue is entirely lost. Even if you select *Diffusion* as a *Dithering* option the transition remains uneven and the image looks more like a painting rather than a photograph.

GIF compression isn't suitable for most Photographic Images.

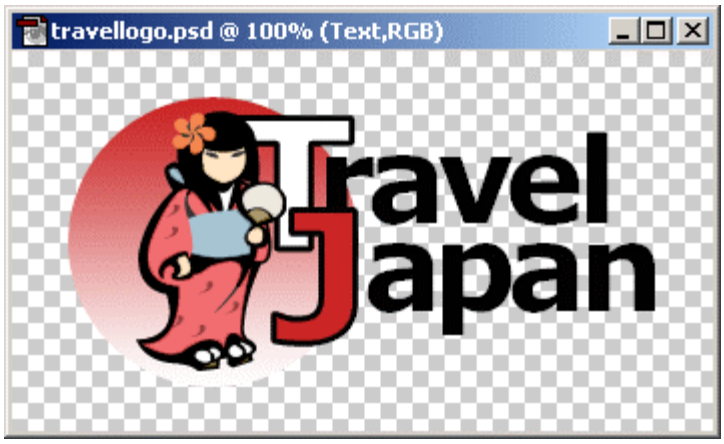
Change *Image Type* to "JPEG." Because JPEGs use a 24-bit color palette, the *Color Table* is empty. Options change to pre-set *Levels of Compression (Low, Medium, High, Maximum), Progressive, ICC Profile, Optimized, Quality, Blur*, and *Matte*.

Compression Levels
Photoshop's preset JPEG compression settings contain particular *Quality* values. *Quality* refers to the amount of compression placed on the image. The lower the number, the less the *Quality*, the higher level of compression, which makes for smaller file sizes. You will have to make the decision. You will have to decide at which point does image *Quality* override file size. Select *Low*. The *Quality* setting changes to 10. You'll notice small blots or artifacts along the edge of the ttop of the gate. Select the other *Compression* settings and examine the image. Use the *Quality* slider for more control and examine the *Quality* of the image and the change in file size. There can be a large variation in file size from the lower settings to the higher, but very often, you'll find a range of 20 – 40 in terms of *Quality* usually does well.

Checking *Progressive* forces browsers to display a low-resolution or partial version of your image.

Creating a Custom Logo

We need to create a logo for our make believe company. Because there are a number of images with a Japanese theme in the ***photoshop6xfiles*** folder, we're going to make a travel company called "Travel Japan." We'll keep the logo simple, consisting of "Travel Japan" type, a Rising Sun backdrop, and the Kimono Girl image that we used earlier in the chapter.



The Travel Japan Logo

1. Create a new document in RGB mode with a transparent background that's 350 pixels wide by 190 high.
2. We want to place the girl in the Kimono in the image so navigate your way to File/Place and browse for the ***kimono.ai*** image in the ***chapter007*** folder. *{Click}* OK and you'll find the image "placed" in your document with a crosshair over it. The image's default size is perfect for our purposes so *{Click}* OK and it will rasterize. The image's Levels are a bit off so select Image/Adjust/Auto Levels to correct them. Place the girl off to the left hand side of the image for the time being.
3. Next we'll place the Rising Sun in the image. Use your *Elliptical Shape Tool* to place a perfect circle in your image. Its size should be just slightly larger than the kimono girl. We want the Sun to appear to be rising on a misty morning so we'll apply a *Gradient Overlay* to it. *{Double Click}* on the circle's *Layer* to bring up the *Layer Styles* dialog box. Check the *Gradient Overlay* checkbox to apply it and access its options. We want a linear Gradient at a –90 degree angle that moves from red to white. Adjust the options and *{Click}* OK.
4. Next we want to add the text to the Image. Make sure the *Foreground Color* is black. Select the *Type Tool*. Enter "T", font Verdana, style Bold, Size 90 pixels, Anti-Alias Crisp. *{Click}* OK. *{Click}* the Commit Current Edit button on the *Options Bar* to finalize your work on the letter "T" and use the *Type Tool* to create a letter "J" with the same settings as the "T".
5. Add 2 new *Type Layer*s. Input "ravel" into the first and "apan" into the second. The only difference between these text *Layer*s and the last two is the size and tracking. Make the size 60 and the tracking -80.
6. Our next task is to modify the appearance of the "T" and the "J". Select the "T" *Layer* and make the letter white. *{Double Click}* on the *Layer* to access its *Style*s options and give it a 3 pixel, black stroke that originates from the center. Do exactly the same for the letter "J" but in this case make its fill red instead of white. Make sure that the red is the same as that of the red in your Rising Sun gradient.

7. For organization's sake you might want to create a *Layer Set* for the text elements. Label it and give it a *Set* color.
8. Next we want to position the Text and the design elements. Use the finished image displayed on the last page as a visual guide to "eyeball" the various elements into position. You could, if you wanted to, use guides to precisely position the elements but in this case a slightly informal composition is what we are aiming for.
9. Place the girl in the kimono on top of the sun disc. Center her on the disc as best you can and place both elements in the left half of the Image Window.
10. Make sure the "T" *Layer* is sitting underneath the kimono girl and move it, in the Image Window, so it's sitting beside her with her fan and hair slightly overlapping.
11. Place the letter "J" so it sits below and slightly to the right of the "T". Move the "J" *Layer* above the "T" *Layer* so that the "J" overlaps the "T" in the Image Window. We want the horizontal extension at the top of the "J" to sit symmetrically on top of the bottom of the "T". Again, use the image on the last page as a positioning reference.
12. Select the "apan" and "ravel" *Layer*s and position them beside their respective starting letters. They should be centered, on the horizontal access, with the capital letters and the "l" in "ravel" should sit perfectly in line with the left vertical line in the letter "n".
13. Save the file as ***travelogo*** in Photoshop format.
14. Select File/Save for Web.
15. Compress the image as a GIF with *Adaptive* for *Palette*, *Diffusion* for *Dither*, *256* for *Colors*.
16. You'll notice that Photoshop defaults to a White background behind our image. This is the *Matte* color. To change the *Matte* color use the drop-down menu and select from *None, Eyedropper Color, White, Black*, and *Other*. *Other* will give you the *Color Picker*. You can use this to input the exact Hexadecimal value of your web page's background to match it perfectly.
17. Check *Transparency* to use the transparent properties of the *Layer* to create a GIF with a transparent background. Transparent backgrounds are useful for web pages with background patterns, images tiled together to add texture to a page. Notice that the transparency grid reappears in the optimized version of the image. For now, uncheck *Transparency* and make sure *Matte* is set to *White*. The optimized version should be just over 3K, making for a fast download.
18. Save the file.

Producing images for the Internet follows a particular process. You produce the source images in RGB color and always keep an original version or copy of the source file in case of future modifications. To prepare the file for the Internet you analyze the nature of the image. If it's made up of sharp edges and continuous color the GIF format is usually the preferred *Compression* and file *Type* method. If the image is a photograph or an image consisting of a multitude of colors with no or little pattern, JPEG is usually the preferred *Compression* and file *Type* method.

Having selected the method of *Compression* you have to decide on an applicable color palette, usually Web, when using *GIF Compression*, and the minimum amount of colors you can use to produce an acceptable image and file size. When using JPEG you have to decide how much *Compression* (*Quality*) you can apply to the image to produce an acceptable image and file size.

Finally, you can adjust the image size to reduce file size by *{Clicking}* on the *Image Size Tab* and inputting lower resolution values. Place them in your HTML documents accordingly.

Review Questions

1. When would you use JPEG Compression instead of GIF Compression?

2. Why is it a good idea to save a native Photoshop version of your image?

3. Company Logos are usually created as bitmaps or vectors?

4. Why is would you want to use the Web Palette for 8-bit images?

Summary

As a result of this chapter, you should be able to:

- Create a logo in Photoshop
- Create an Internet ready still image
- Understand appropriate use of GIF or JPEG file Types
- Understand Photoshop's Image Optimization options

9

Creating Banners and Animated GIFs

In this chapter, we create a static and animated banner for our mock travel company.

Objectives

Upon completing this section, you should be able to:

1. Create a static banner using Photoshop
2. Create an animated GIF banner using Photoshop and ImageReady
3. Understand standard banner dimensions and restrictions

Banner Dimensions and Restrictions

Banners are usually a means of advertising on web sites placed at the top of web pages. Companies pay other companies to place their banner on their web site and make it link to their own home page. For instance, Travel Japan wants to draw users to their web site by advertising on Yahoo, most specifically the section listing Travel-based web sites. Your job, as a designer, is to create a banner that encourages users to visit the Travel Japan site within particular dimensions and color and file size restrictions. The standard banner specifications are as follows:

468 x 60
GIF: Web Color Palette
Animation: Permitted/Not Permitted
8K to 14K

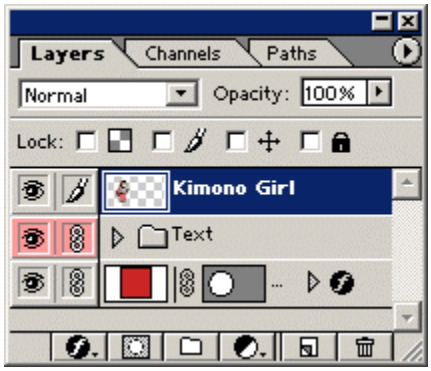
Dimensions, palette, and file size can, and often do, vary depending on restrictions dictated by the company that displays your banner. Before developing a banner, it is essential that you acquire and confirm the Banner specifications.

Creating a Static Banner

Creating a static Banner is simply a matter of creating an image with the specified pixel dimensions and compressing it so that the file size does not exceed the specified limit and uses the specified color palette. Let's create a static banner for Travel Japan.

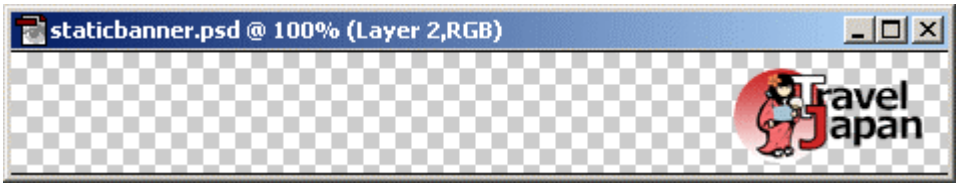
The Finished Product

1. Create a new image: dimensions 468 x 60, resolution 72 ppi, mode: RGB, contents: transparent. Save it as ***staticbanner***.
2. Because the vertical resolution is so low (60 pixels), the shape of banners forces us to design almost exclusively within a horizontal direction. However, we can use our logo so open ***travelogo.psd***.
3. Select the "Kimono Girl" *Layer* in the *Layers Palette* and link the remaining *Layer*s to it by *{Clicking}* each one separately, or *{Clicking}*, holding, and running the mouse pointer over the Link boxes. Note that the *Text Layer Set* has been compressed.



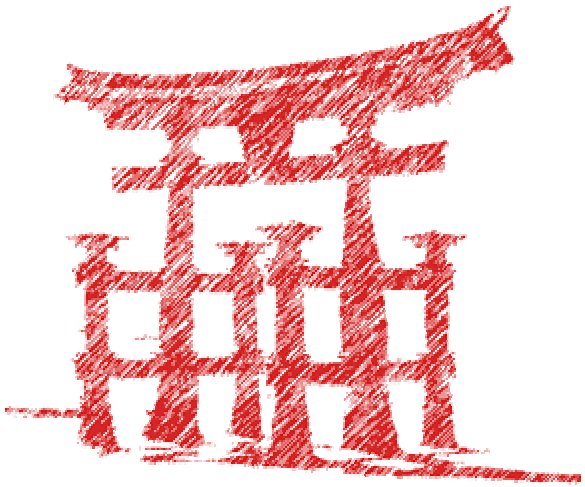
All *Layer*s are linked to the "Kimono Girl" *Layer*.

4. Select Layer/Merge Visible to merge the *Layer*s together. The result is one *Layer* titled, "Kimono Girl."
5. We want to put "travelogo" into the banner so we'll need to resize it. Select Image/Image Size and change the height to 60. The width should adjust automatically as the proportions are set to *constrained*.
6. Now we want to move "travelogo" into "staticbanner". Select your *Move Tool*, put it in the "travelogo" Image Window, and drag and drop the content into the "staticbanner" Image Window. Position it on the right end of the document.



The Logo resized to fit the dimensions of the banner.

7. Open ***miyagate*** from the ***chapter009*** folder. Create a selection around the Gate and copy it to the clipboard. For your convenience a selection is saved with the document. Feel free to use it if time is an issue.
8. Create a new image and paste your selection to it.
9. Make your *Foreground Color* the same red as that of the Rising Sun in the Logo and your *Background Color* white. Select Image/Adjust/Gradient Map. The Gate should now be two colors. Select Filter/Sketch/Graphic Pen and apply the filter with the default settings.
10. Save the image as "filtergate" in Photoshop format.
11. We'll need to resize the Gate so it will fit in the banner. Select Image/Image Size and change the width to 240 pixels. The width should adjust automatically as the proportions are set to *constrained*.
12. Select your *Move Tool*, put it in the "filtergate" Image Window, and drag and drop the content into the "staticbanner" Image Window. Position it on the right end of the document. The gate is higher than the banner so position it in the Image Window so only the top of it is visible.



The Gate image with the Gradient Map and Filter applied

Gate image added and positioned in "staticbanner"

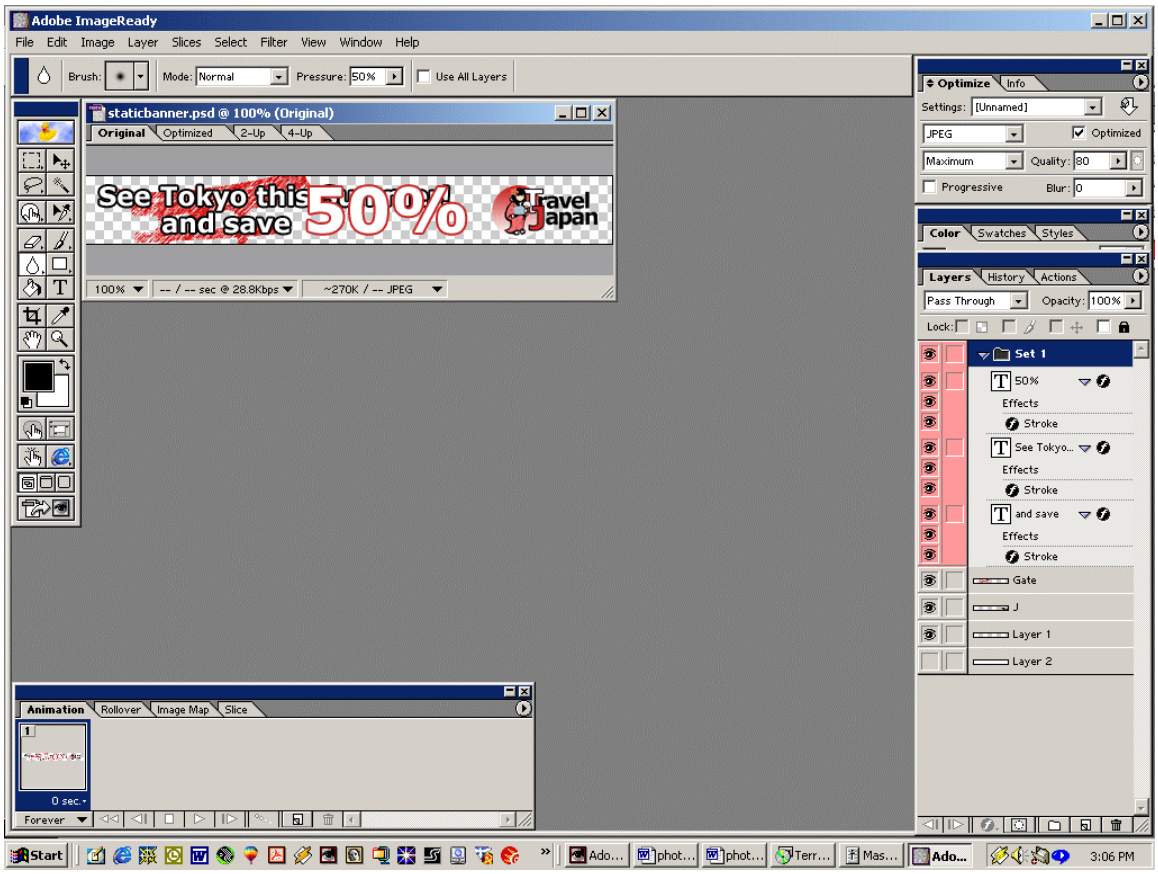
13. Select the *Type Tool* and input "See Tokyo this Summer!." Font: Verdana, *Style*: Bold, size is 23, Anti-Alias is Crisp, color is white. Use the *Layer Styles* dialog box to add a black, 2-pixel wide stroke to the text.
14. Create 2 new text *Layer*s. For the first input the words "and save" and use the same appearance settings that you applied to the first text *Layer*. Input "50%" into the second *Layer*. Use the same settings with a few exceptions. Make the size 55 and change the color of the stroke from black to red.
15. Position the text according to the example at the beginning of the lesson. The "50%" text overlaps the word "summer" on purpose so don't worry about the positioning for the time being.
16. Add a new *Layer* and position it at the bottom of the stacking order. Use the *Fill Tool* to fill it with pure white.
17. Save the "staticbanner", again, refer to the picture at the beginning of this chapter or open the ***staticbannerfinished*** file to see how your finished document should look.

Creating an Animated GIF Banner

Creating an animated banner involves building a static version, as we have just done and then adding animation. By doing so you always have a static version to fall back too when required. Animation doesn't occur in Photoshop, rather it occurs in ImageReady. Close all Image Windows except for "staticbanner." *{Click}* the *Jump to ImageReady* button at the bottom of the *Tool*box to launch ImageReady. ImageReady opens and "staticbanner" is transferred from Photoshop to ImageReady.

The ImageReady Environment

ImageReady's environment or workspace should be immediately familiar to you because there are many similarities to Photoshop. The first thing you'll notice is the Image Window contains *Save for Web* controls in the form of *Original, Optimized, 2-Up*, and *4-Up Tabs*. Because ImageReady is dedicated exclusively to web output, you can think of ImageReady as always being in *Save for Web* mode. Though of course, you can still save native Photoshop files.



The ImageReady Environment

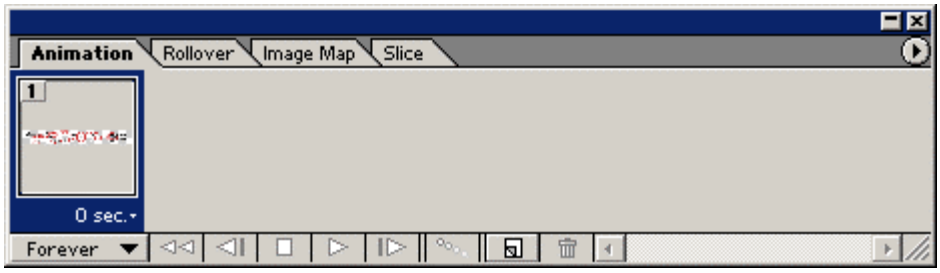
There are also some changes to the *Palette*s. Instead of a *Navigation Palette*, we have an *Optimize Palette* where we set our *Compression* settings. We also have a *Rollover*, *Animation*, *Image Map*, and *Slice Palette*. Furthermore, subtle changes in other Photoshop's traditional *Palette*s also exist.

Finally, the *Toolbox* also has new additions and changes. We have the *Image Map Tool*s and various toggles to turn the visibility of web content on and off. One *Tool* that ImageReady and Photoshop share that we haven't mentioned yet is the *Slice Tool*. It operates identically in both programs so we'll explore its features as we work with ImageReady and you can apply this knowledge to future use of Photoshop.

ImageReady's custom *Tool*s and *Palette*s are covered in depth as we continue building typical web graphics. Presently we need to create an animated banner. In addition to the current set of ImageReady *Tool*s and *Palette*s, we also need the *Animation Palette*. Select Window/Show Animation to open the *Animation Palette* if it is not open.

The Animation Palette

The *Animation Palette* contains Tabs for *Animation*, *Slice*, *Image Map*, and *Rollover* (*Slice*, *Image Map*, and *Rollover* are covered later), a *Frame Thumbnail*, *Looping* control, *Frame* controls (*First Frame, Previous Frame, Stop, Play, Next Frame*), and controls to *Tween*, *Add*, *Duplicate* and *Remove* frames.



Frame Thumbnails

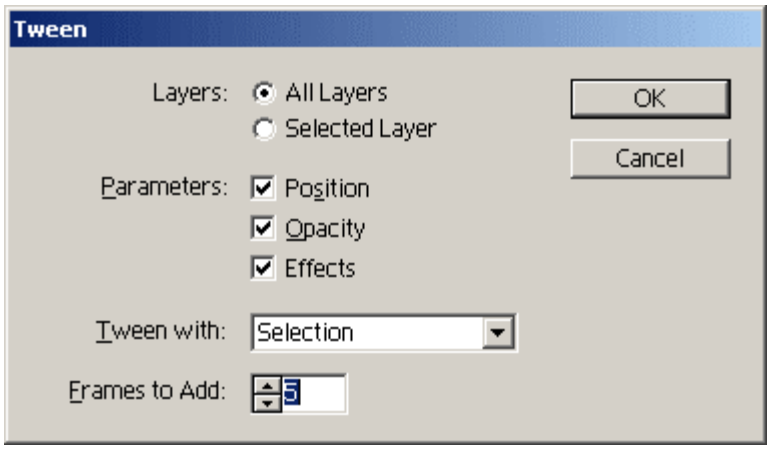
Each *Frame Thumbnail* consists of a frame marker which indicates the frame number, a graphical representation of the image data contained in the frame, and the duration of the frame which you change by *{Clicking}* on the arrow beside the duration and selecting the desired duration (in seconds). To change the order of frames simply *{Click}*, hold, and drag the frame to the new location. To add frames *{Click}* the *Duplicate Frame* button. A new frame is created with the image data contents of the previous frame inside. To delete a frame, select it and *{Click}* the *Trashcan* icon. To control whether the animation plays once, loops continuously, or loops a set amount of times select from the *Loop* drop-down menu.

Frame Controls
Use the *Frame* controls to play and stop the animation, go to the next or previous frames, and go to the first frame.

Animating in ImageReady

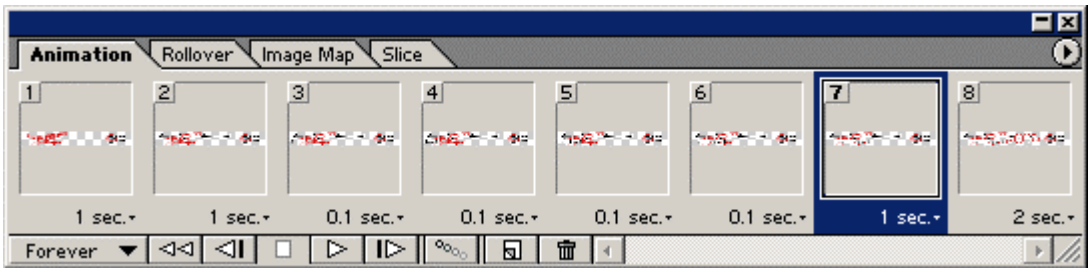
Animating in ImageReady involves adding new frames in the *Animation Palette* and then changing the image data within the image accordingly using the *Layers Palette*. Each frame holds the current state of the image. For instance, if you want a graphic to fade away you would reduce the opacity of the *Layer* containing the graphic in steps through a series of frames. After you've created each frame of your animation you manipulate and adjust timing by adding time to each frame or particular frames. Finally, you decide if you want the animation to loop continuously, loop a set number of times, or play once. Let's animate our "staticbanner" image in ImageReady.

1. *{Click}* the *2-Up Tab* in the Image Window so you can see the original version and apply *Compression* settings to the second *Preview Window*.
2. Ensure that the second *Preview Window* is selected and use the following *Compression* settings from the *Optimize Palette*: Gif, Adaptive, Diffusion, 0 Lossy, 90 Colors. Experiment with *Dither* settings if you desire. Notice that with *Diffusion* you can adjust the percentage by using the *Dither* slider.
3. If it's not open, select Windows/Show Animation to open the *Animation Palette*. The *Animation Palette* contains one *Frame Thumbnail* representing the first frame.
4. Our animation involves the "and save" text moving into the banner from off the edge and each word building up in sequence. Use the *Layers Palette* to make the *Type Layer*s invisible. Notice how the *Type Layer*s also disappear from the *Frame Thumbnail*.
5. *{Click}* on the *Duplicate Current Frame* button to create a new frame and turn the visibility of the "See Tokyo this Summer!" *Layer* back on. We now have a two frame animation in which the words "See Tokyo this Summer!" appear in the banner. *{Click}* on the *Play* button in the *Palette*'s *Frame* Controls to preview your animation. Notice the abrupt and sudden looping of the frames. We'll adjust this later. *{Click}* the Stop button.
6. Now we're going to animate the "Stage Left" entrance of the "and save" text. Duplicate the current frame and turn the visibility of the "and save" text on. Duplicate this new frame. You should now have 2 frames added with the visibility of "and save" turned on in both.
7. We're going to set the start and end position of the "and save" text. At the moment, we have the end position, or where we want the text to be when that part of the animation ends. Now we have to establish the start position. Select the first *Frame Thumbnail* that contains the visible "and save" text and use the Arrows on your keyboard to move it off the left edge. If you cannot select the "and save" *Layer* *{Click}* the *Original Preview Window* as modifications can only be performed with the original version selected, not in any of the *Compression Preview Windows*.
8. Select both "and save" *Frame Thumbnail*s (*Frame*s 3 and 4).
9. *{Click}* on the *Tween Frames* button at the bottom of the *Animation Palette*. We are going to have ImageReady generate *Frame*s in be*Tween* the two frames to automatically move the text.



The Tween dialog box

10. Examine the *Tween* dialog box. Select "All *Layer*s" to copy all the currently visible *Layer*s into the *Frame*s that ImageReady automatically generates. *{Click} Position, Opacity, or Effects (Layer Effects)* depending on the nature of the changes you are making to create the animation. In this case, we check *Position*. Define what to *Tween* with, either *Selection*, *Next Frame*, or *Last Frame*. In this case, we are *Tween*ing the *Frame Thumbnail*s we have selected so select *Selection*. How many frames do we want in be*Tween* the first and last frame that make up our selection? Input "3" into *Frame*s *to Add*. *{Click}* OK. Examine the *Animation Palette*. *{Click}* each *Frame Thumbnail* to see the text advance in each *Frame*.
11. *{Click}* the Play button in the *Animation Palette*. You'll see the text move into the image. **Keep in mind that ImageReady does not play the animation as quickly as it will actually play in a web browser**. To see how it really plays you'll have to save it and preview the file in a browser.
12. Duplicate the last frame in the animation and turn the visibility of the "50%" text on. We now have all of the frames for our animation. Now we just have to adjust the timing.
13. Use the *Frame Timing* drop down menu below each *Frame* thumbnail to adjust the delay between each frame. Set each frame to play for 1 second except for those that make up the "and save" position change. Set those frames to play at 0.1 seconds except for the last which you should also be set for 1 second. The last frame of the animation should be set for two or three seconds.



***Frame Thumbnail*s with Duration setting added to each frame.**

14. Select File/Save, to save the *Original* version of the file with the new changes.
15. Select Files/Save Optimized, to save the GIF version with the new changes.
16. View the GIF in a web browser.

Congratulations! You've created an animated GIF.

Review Questions

1. What are the typical dimensions of a standard Banner?

2. What bit depth is most common to standard Banners?

3. When previewing your GIF animation why should you look at it in a browser?

4. How do you modify the contents of a Frame in your GIF animation?

Summary

As a result of this chapter, you should be able to:

- Create a static banner using Photoshop.
- Create an animated GIF banner using Photoshop and ImageReady.
- Understand standard banner dimensions and restrictions.

10

Creating Buttons and Rollovers

In this chapter, we create buttons, the key to interactive web sites, and use ImageReady to generate Rollovers, where the button changes when users pass or roll the mouse pointer over the button.

Objectives

Upon completing this section, you should be able to:

1. Create a button with ImageReady
2. Create Rollovers in ImageReady
3. Integrate Rollovers into your HTML documents

Creating Buttons with ImageReady

Creating buttons involves creating an image just as you would any other image. However, there are certain predominant elements common to buttons designed for the Internet, such as shapes (rectangular or elliptical), content (text or symbols), appearance (bevel and/or drop shadow), and size.

Button Size

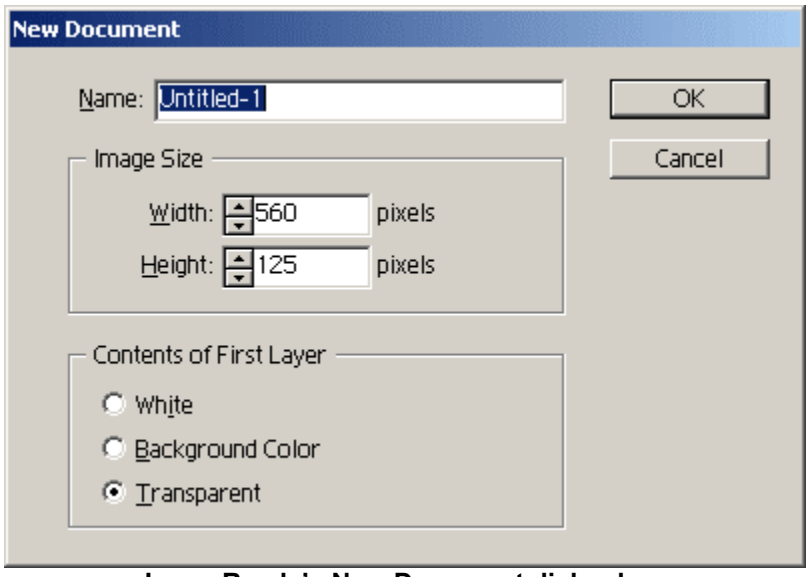
There is no standard button size. The size of your buttons depends on the design objectives of your site and its content. Usually you'll want buttons that are clearly visible but not too large, and you'll want to use keywords to guide the user to various parts of your page with different content. For the Travel web site, we're going to make three buttons, "trips", "contact", and "links." The text or *Type* you use on your buttons is a key factor in button size because you'll usually want to use a *Type* size of no less than 12 px (pixels) and the number of characters your keyword consists of often dictate the size of the button so that the *Type* sits properly on the button. The largest keyword we are using is "contact" and we've determined that we are going to use a *Type* size of 14px. Furthermore, we've decided to use a rectangle with a drop shadow.

With experience, you'll become familiar with approximate sizes for your buttons. Because "contact" contains the most characters, it will be the first button we create.

Create a new image by selecting File/New. ImageReady's *New Document* dialog box appears.

New Document

ImageReady's *New Document* dialog box consists of *Name, Image Size (in pixels)*, and *Contents of* First *Layer* (White, Background, Transparent). *Pixels Per Inch* settings do not exist because ImageReady defaults to 72 ppi. If you are generating images that will be used for print as well as the web, you'll have to develop your images in Photoshop and use ImageReady to make the images suitable for the Internet. Create an image 120 pixels wide by 40 pixels high, background transparent.

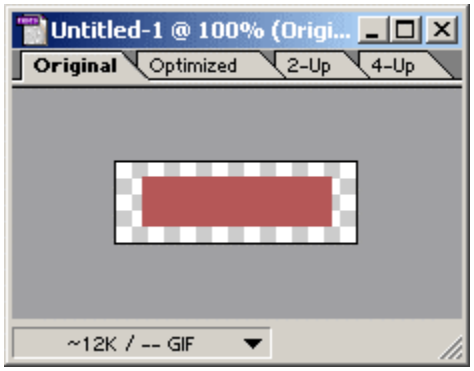


ImageReady's New Document dialog box

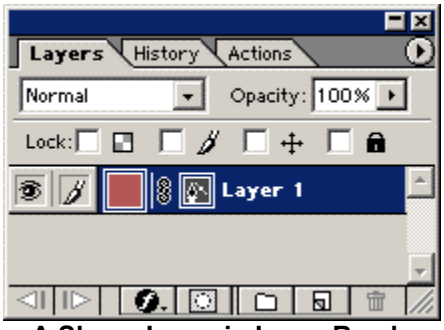
ImageReady's Shape Tools 

To create the shape of the button you can use the selection *Tool*s or you can use ImageReady's *Shape Tool*, which has three of the most common button shapes, *Rectangle, Rounded Rectangle*, and *Ellipse*. Simply select the desired shape and *{Click}* and drag to create it, much like creating a selection. The shape is filled with the current *Foreground Color*. The *Shape Tools* are very similar to those found in Photoshop with a few exceptions. ImageReady *Shapes* cannot be modified or edited as Paths. ImageReady doesn't have a *Path Component* or *Direct Selection Tool* in its *Toolbox* so these *Type*s of selections and modifications cannot be made. ImageReady shapes can only be transformed and moved. Take a look at the *Options Bar* and you will find that many of the *Options* available for these *Shapes* are identical to those offered in Photoshop.

Select the *Rectangle Tool* and draw a rectangle inside your Image Window. We want our button to be red so you might want to adjust your *Foreground Color* to R:201, G:38, and B:38. Your Rectangle, with the exception of its color, should look fairly similar to the one in the illustration below.



Take a look at the *Layers Palette* and you'll see a new *Shape Layer* displayed. It looks quite similar to the equivalent *Layer* in Photoshop.



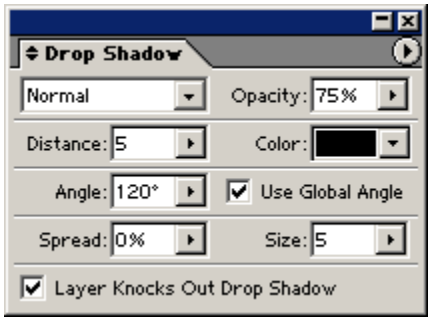
A Shape Layer in ImageReady

{Clicking} on the first thumbnail will allow you to adjust the color. *{Clicking}* on the second thumbnail will place a transformation box around your shape allowing you to *Scale, Rotate, Skew, Distort*, and add *Perspective* to your shape. You can select these options from the Edit/Transform Menu item. If you prefer you can precisely modify your *Shape* by selecting Edit/Transform/Numeric or by entering figures in the *Options Bar*. If you want to see the *Transformation Options* in the *Options Bar*, affect the *Shape* in some way and they will appear.

Shape with *Transformation Box*

Once you're happy with the appearance of your *Shape {Click}* on the *Color Adjustment Thumbnail* on the same *Layer* or {Click} on another *Layer*'s Label.
The *Transformation Box* will disappear.

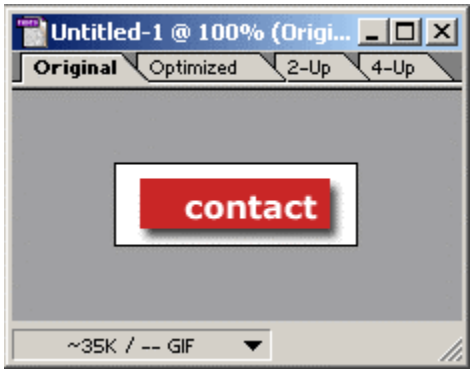
You can apply *Style*s to *Shapes* by either selecting them from the *Styles Palette* or selecting individual effects from the *Style*s drop down menu in the *Layers Palette*. The concept and application of *Style*s is virtually identical to what you've experienced with Photoshop. The one major difference being that ImageReady doesn't have a *Layer Styles* dialog box that allows you to manipulate the various options for each effect. Instead, each effect has a *Palette* that contains its *Options*. Below is the *Options Palette* for a *Drop Shadow*.



Next we are going to input the word “contact” into the Image Window. The *Text Tool* also works exactly as it does in Photoshop so you should have no problem completing this task. Make sure the *Foreground Color* is white and input “contact”, all in lower-case. Use the *Options Bar* and *Character Palette* to select “Arial” for font, “16px” for size, “Auto” for Leading, “0” for Tracking, and “Crisp” for Anti-alias. The *Type* appears on top of the button.

Positioning Content on Layers

To center the *Layer* content in the image select the “shape” *Layer*. Select Layer/set Layer Position. Select *Center* from the *Horizontal* and *Vertical* drop-down menus. Use the offset values in pixels to further modify position. Leave them at “0” for now. We want the “contact” *Type Layer* to appear on the left hand side of the button so select “Right” from the *Horizontal* drop-down menu.



The completed “contact” button.

Congratulations! You’ve created a button. Select File/Save As to save the file in Photoshop format. Call the file “buttons.” Recall that with *Layer*s we can have a file with multiple *Type Layer*s for each button and hide them accordingly as we save each button.

Now you have to optimize the image for the Internet. Select the *2-Up Tab* and use the *Optimize Palette* to set optimization settings. If you select GIF with a *Web Palette*, you’ll notice that the *Drop Shadow* doesn’t look at all good. Because the *Drop Shadow* is a gradual gradient of gray tones, *GIF Compression* with the *Web Palette* isn’t suitable. Select GIF with an *Adaptive Palette*. The button should be approximately 1.2Kb. Select File/Save Optimized As to save the optimized version as a GIF.

Creating Rollovers

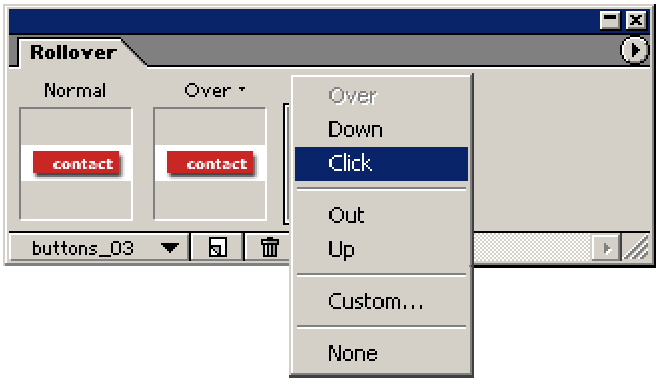
*Rollover*s are changes in the appearance of buttons depending on the current mouse state. For instance, when you pass the mouse point over a button you are rolling over it. To highlight the fact that you are rolling over it you can have the button change, such as the color of the text. When you *{Click}* on the button another version or change in appearance can occur. ImageReady automatically generates the HTML file, with JavaScript, to make this happen. You use the *Rollover Palette* to create different *Rollover* States or *Thumbnails*, modifying the look of the buttons in their various states, just like GIF animation, by making changes with the *Layers Palette*. Changes you make with the *Layers Palette* are reflected in the currently selected *Rollover State*. Once you have completed making different *Rollover States*, you optimize the image accordingly. Keep in mind that each *Rollover State* is actually an individual image so you have to add the file size of each *State* to determine final file size for the *Rollover* effect you build.

Rollover Palette

The *Rollover Palette* consists of *Rollover State*s, a *New State* button, a *Trashcan* button, a *Selection* drop-down, and a *State* drop-down list (*Over, Down, Click, Out, Up, Custom, None*.)

Rollover State

The *Rollover State* contains the current state of the image. Any modifications you make with the *Layers Palette* are reflected in the currently selected *State*, much like the *Animation Thumbnails* in the *Animation Palette*. The first *Rollover State* is always *Normal*, meaning the appearance of the button in its regular state, when there is no mouse activity.



The Rollover *Palette*

State Drop-Down List
Select from the *State* drop-down list to designate what mouse state activates the contents of the current *Rollover State*.
Over: the mouse pointer is over the button.
Down: the user has *{Clicked}* the button.
Click: the user has *{Clicked}* the button and the appearance of the button remains until another mouse event occurs.
Out: the user, having moved the mouse pointer over the button has moved it away or out from the button.
Up: the user has *{Clicked}* and *{Released}* the mouse button.
Custom: Select *Custom* to make your own *Rollover State*. You must script it yourself with JavaScript.
None: Selecting *None* will not generate an image for the current *Rollover State*.

State
Add a *New State* by *{Clicking}* the *New State* button. Move *State*s around by *{Clicking}*, holding, and dragging until you see a black drop-bar. Release the mouse button. Remove *State*s by *{Clicking}* and dragging the *State* to the *Trashcan* icon and releasing the mouse button.

Select Drop-Down
Use the *Select* drop-down to select slices.

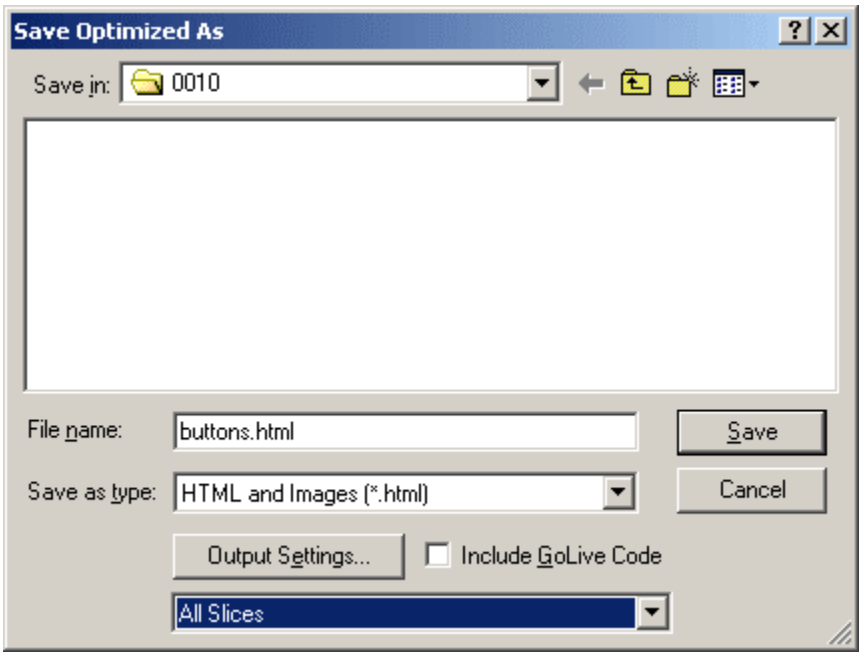
Add a new *Rollover State* by *{Clicking}* on the *New State* Button in the *Rollover Palette*. If the *New State* Button is unavailable (ghosted) then *{Click}* the *Select Slice* drop-down at the bottom of the *Rollover Palette* and select *Normal*. By default, the state of the image as it is in the preceding *State* occupies the new *State*. *Over* is the default mouse event for the second *State*.

If you were to select the *Type* "contact" *Layer* and change its color using the *Foreground Color* it would change in both the Normal and Over *State*s because you made the change outside of the *Layers Palette*. We need to change the color of the *Type* to black. To do so, duplicate the "contact" *Type Layer*. Make the original invisible. Modify the copy by changing its color to black. Notice that the *Normal State* displays white *Type* and the *Over State* displays black text. We also want to remove the *Drop Shadow* when the button is rolled over so duplicate the *Shape Layer*. Make the original invisible. Modify the copy by removing the *Drop Shadow*.

You'll also notice a *Slice Box* around the image indicated by a "01" and a mouse pointer in a small box. ImageReady generates all HTML and JavaScript by using *Slice*s. We will cover *Slice*s later.

Select File/Save to save a Photoshop version of the image.

Select File/Save Optimized As to save the GIF version of the buttons and the HTML file associated with them. The *Save Optimized* dialog box has additional options, including *Save as Type*, *Output settings*, and a *Slice Export* drop-down menu with options to *Save All Slice*s and *Save Selected Slices Only*.

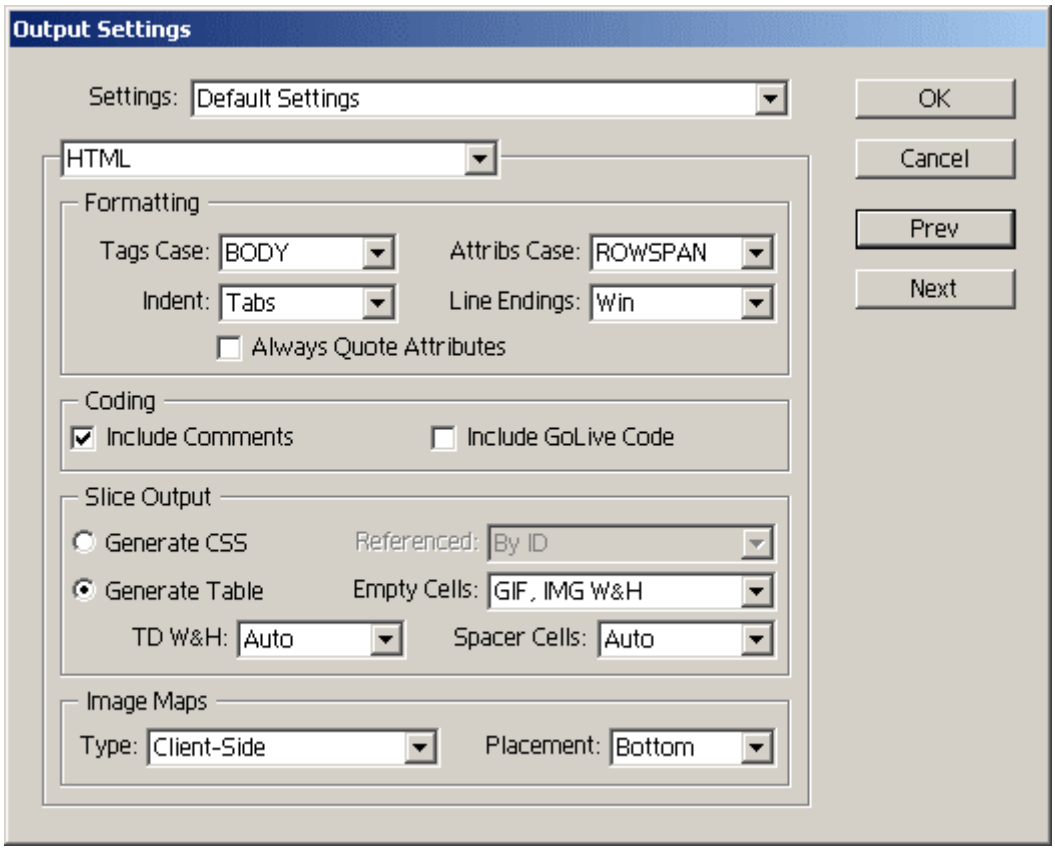


Saved Optimized As dialog box

{Click} on the *Output* settings button and select HTML from the drop-down menu.

HTML Options

Set HTML options to your preferences for the HTML file that ImageReady automatically generates. Options include *Tags Case, Indent, Attribs Case, Line endings, Always Quote Attributes, Coding, Generate CSS, TD W,H, Spacer Cells, Empty Cells. Include Comments, Image Maps*, and *Code*.



HTML Options dialog box

Tags Case

Select from *BODY, Body*, or *body* to format Tags in all uppercase, first letter capitalized, or all lowercase.

Indent

Select from *Tabs, None*, or *1* to *8 Spaces* to determine how Tags are indented.

Attribs Case

Select from *ROWSPAN, RowSpan, rowSpan*, or *rowspan* to format Tag Attributes in all uppercase, first letters capitalized, second word-first letter capitalized, or all lowercase.

Line endings

Select from *Mac, Win*, or *UNIX* depending on what platform you're developing for.

Include Comments
Check *Include Comments* to force ImageReady to place comments in the HTML code it generates.

Include GoLive Code
If you are using Adobe's GoLive web authoring program you may want to select this option. The exported document will include any unique code generated by GoLive.

Always Quote Attributes
Check *Always Quote Attributes* to force ImageReady to place quotes around attribute values.

Generate CSS
If you'd like to have your image content exported as *CSS Layer* you would select this option. *Layer*s are still problematic because they can't be viewed in all browsers. Be sure you are aware of how *CSS Layers* work in HTML and which browsers support the feature before you use them.

Generate Tables
Selecting this option will force ImageReady to cut your document into slices and place them, in order, in an HTML table. The following options apply if you have selected this option.

Empty Cells
Select from three methods of spacing empty cells. *GIF, IMG W&H*, which fills empty spaces with a 1 pixel transparent GIF, the width and height of which is set by IMG attributes (stretching a transparent GIF is a method of filling up table space for layout in HTML pages.) *GIF, TD W&H*, which fills empty spaces with a 1 pixel transparent GIF, the width and height of which is set by TD attributes. *NoWrap, TD W&H* to put width and height attributes with theTD tag and use the NoWrap attribute. The most reliable method is *GIF, IMG W&H*.

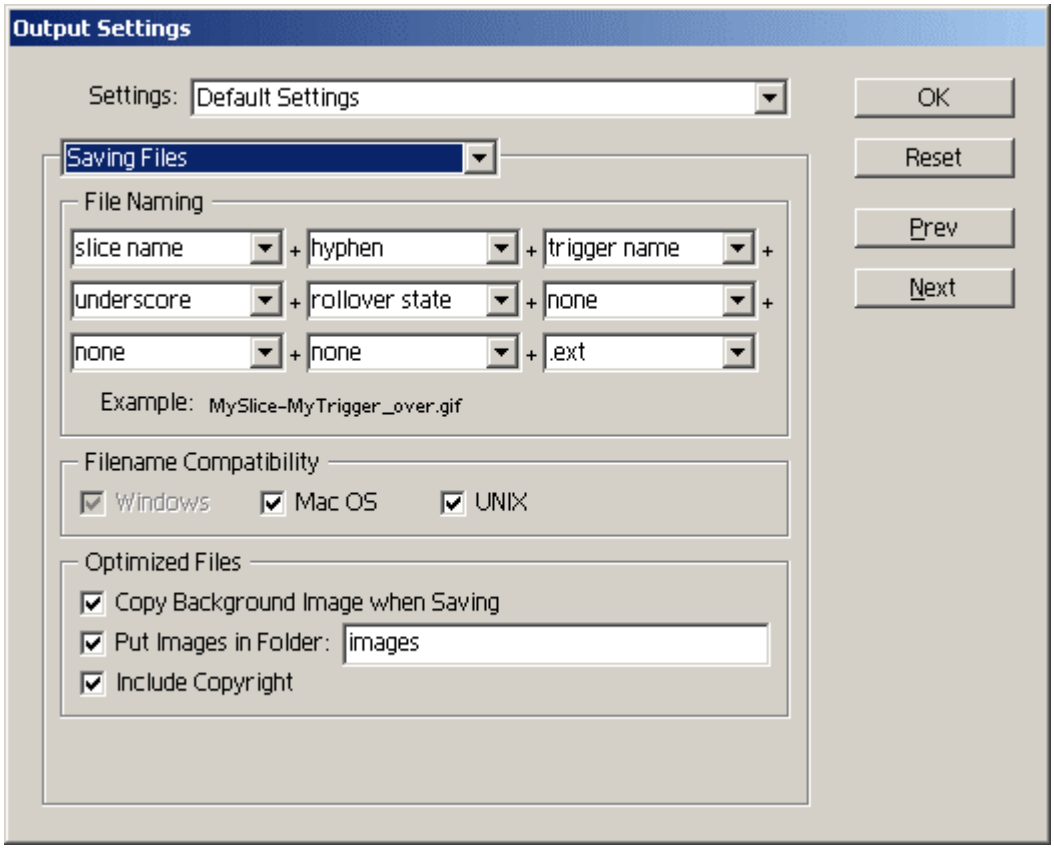
TD W, H
Select from *Auto, Always*, or *Never* to determine if width and height data is included for table data.

Spacer Cells
Select from *Auto, Always*, or *Never* to determine if ImageReady adds one column and one row of blank or empty spacer cells around the table.

Image Maps
Select from *Client-Side, NCSA Server-Side, CERN Server-Side, Client & NCSA*, or *Client and CERN* to determine the *Type* of *Image Map* code ImageReady generates. *Image Maps* are covered later. Consult your ISP or Systems Administrator for supported Map *Type*s. Client-Side is the most common and does not rely on specialized server settings to operate.

Saving Files Options

Select *Saving Files* from the *Options* drop-down menu. You can build the file-naming format for the web images ImageReady automatically generates by selecting from a variety of options in each of three drop-down lists. You can build your file names from three parts as well as input custom names into each field. A preview of the file name appears below the drop-down boxes. In addition, you can set *Compatibility, Background Image, Image Folder*, and *Copyright* options.



Filename Compatibility

Check *Windows, Mac OS*, and *UNIX* to ensure filenames are compatible with each Operating System.

Background Image

Check *Copy background image when Saving* to save a background image you specify in *Background*. The Background is specified by selecting *Background* from the *Options* drop-down menu.

Image Folder

Check *Put Images in Folder* and input the name of the subfolder (set to “images” by default) to specify where ImageReady will save the images it automatically generates relative to the location of the HTML file it generates.

Copyright

Check *Embed Copyright* to include Copyright information in the images that you can add using File/Image Info.

{Click} Saving Files Options and input “contact” in the first field. Select *none* for the second field, and *rollover state* for the third field. Uncheck *Copy background image when Saving* and *Embed Copyright*. Check *Put images in Folder* and leave the default folder name at “images.” *{Click}* OK.

Make sure you’ve selected *HTML and Images* from the *Save as Type* drop down menu. Call the file “buttons” and *{Click}* “Save.” Open “buttons.html” in a web browser. As you pass the mouse pointer over the button, it is replaced by the white *Type* version.

If you examine the files in the “images” folder, you’ll notice that there are two files, contact.gif and contactover.gif, just as you specified in *Output Settings*.

Examine the HTML code in your browser or in your HTML editor of choice. ImageReady has generated HTML and JavaScript to create the *Rollover* effect. Cut and paste the code into your new or existing HTML documents. Remember that JavaScript must be placed in the HEAD of the HTML document.

Review Questions

1. What ImageReady Tool is best suited to creating common button shapes?

2. In addition to generating HTML, what other scripting language does ImageReady generate when you create Rollovers?

3. How do you modify the image content in a Rollover State?

4. What purpose does the Styles Palette serve?

Summary

As a result of this chapter, you should be able to:

- Create a button with ImageReady
- Create Rollovers in ImageReady
- Integrate Rollovers into your HTML documents

11

Creating Navigation Bars

In this chapter, we create a navigation bar using ImageReady's Image Map and Slicing features.

Objectives

Upon completing this section, you should be able to:

1. Understand the use of Tables for HTML layout
2. Create a Navigation Bar
3. Use and understand ImageReady's Slice features
4. Create Image Maps with ImageReady

Tables and HTML Layout

In 3.x browsers or lower, advanced, pixel perfect layout capability is achieved by a combination of intricate tables and transparent GIF spacers. If you want your image to appear 70 pixels from the top and 90 pixels from the left of the browser window you have to generate a table with multiple cells and place your image within one of the cells. Because some browsers collapse empty cells, designers use 1x1 pixel transparent GIFs to fill empty cells by specifying various width and height attributes. You can use ImageReady to build the layout for your web pages and use *Slicing* to generate an HTML Table. In addition, you can apply separate optimization settings to each *Slice* (a slice becomes a cell in the generated Table.) ImageReady automatically generates the HTML Table, saves the images with the optimization settings of your choice, generates JavaScript if you've created *Rollover*s, and generates *Image Map* code if you've created an *Image Map*. We're going to generate a *Navigation Bar*, complete with *Rollover*s, by using ImageReady's *Slicing* features and *Image Map* features.

Creating a Navigation Bar

Navigation Bars are a collection of buttons grouped together in a column or row, or a slight variation of a column or a row, hence the term bar. There are two dominant methods of creating a *Navigation Bar*, either as one image with an *Image Map* attached, or as multiple images assembled in a Table. Regardless of the method you choose to use, you assemble the *Navigation Bar* as one image in ImageReady.

First, we have to decide what our *Navigation Bar* will look like. We've already created one button, "contact." We'll create the *Type*, both white and black, for two other buttons, "trips" and "links", and stack three buttons in a vertical layout.

Open the Photoshop version of "buttons" you saved earlier. Delete the *Over Rollover State* from the *Rollover Palette*.

Add a “trips” *Type Layer*, color white, and center it using Layer/Set Layer Position. Duplicate the *Layer* and change the color of the *Type* to black.

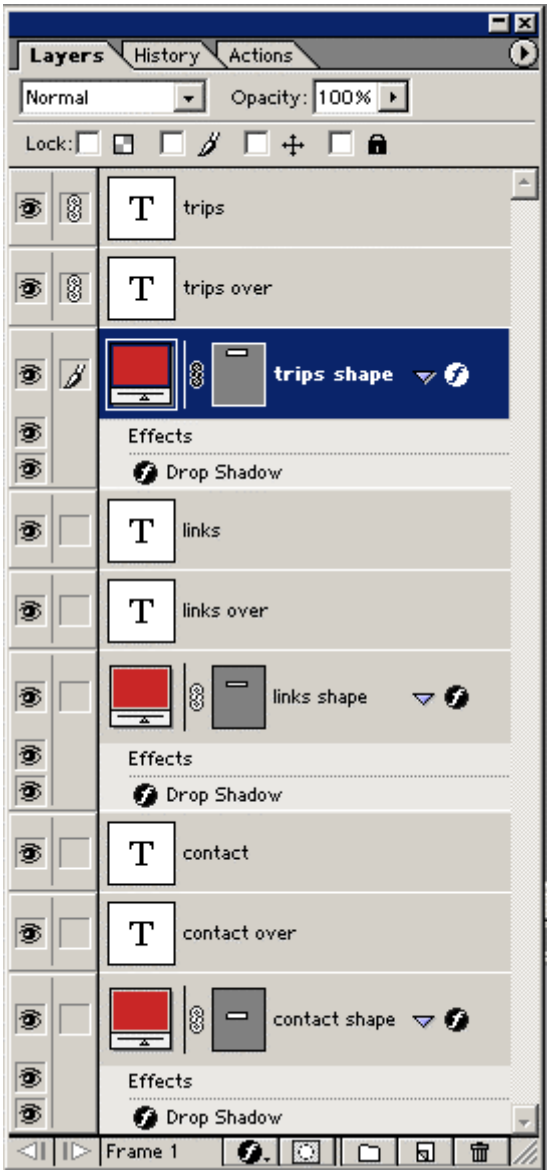
Add a “links” *Type Layer*, color white, and align it to the right it using Layer/Set Layer Position. Duplicate the *Layer* and change the color of the *Type* to white.

You might want to toggle visibility on or off for the other *Type Layer*s to make your work easier.

Create a new Image (250 x 300) to assemble our *Navigation Bar*. We’re creating a bigger space so that we can assemble each of our elements and crop the image when we’re satisfied with the layout.

To make duplicates of the button and the *Type* make the “buttons” Image Window active and select the “shape” *Layer* in the *Layers Palette*. Make both “contact” *Type Layer*s visible and link them to the “shape” *Layer*. Using the *Move Tool*, *{Click}* and drag the button shape to the *Navigation Bar* Image Window and *{Release}* the mouse button. The “shape” and *Type Layer*s are copied to the *Navigation Bar* Image Window. Make both “contact” *Type Layer*s invisible and unlink them. Make both “about” *Type Layer*s visible and link them. Drag them over to the *Navigation Bar* Image Window. Now you have two buttons, “contact” and “trips.” Again, make the “trips” *Type Layer*s invisible, unlink them, and make the “links” *Type Layer*s visible, and link them. Drag them to the *Navigation Bar* Image Window. Now you have three buttons with which to assemble a *Navigation Bar*.

You may notice that you have three *Layer*s titled “Layer 1.” To make yourself more productive you might want to toggle the visibility off in turn for each “Layer 1” *Layer* to see which one is attached to which *Type*. For instance, if you toggle the visibility off for a “shape” *Layer* and the button behind the “contact” *Type* disappears you know that that particular “shape” *Layer* has the “contact” *Type Layer*s attached to it. Rename the “Layer 1” *Layer* to “contact shape” and drag both “contact” *Type Layer*s over top of it in the stacking order to group the *Layer*s together in the stack. Do the same for the “trips” and “links” *Layer*s.



Rearranging and renaming Layers for an organized environment.

We've decided on a vertical layout for our buttons. If you haven't already, drag the "trips" button close to the top and of the Image Window. Place the "links" button beneath it and place the "contact button beneath the "links" button. This will be our *Navigation Bar*. Now we need to create the *Slice*s, which will determine the shape of our HTML Table and then create the *Rollover*s.

Save the image in Photoshop format as "navbar."

Slices

*Slice*s are the method by which you slice or cut up images to generate HTML Tables for precise Layout. By default, an image is surrounded by one *Slice*, or a table with only one column and row. As you add custom *Slice*s, ImageReady generates a Table with a variety of columns, rows, and GIF spacers. There are two types of *Slice*s, *User-Slices* which you, the user, create and modify, and *Auto-Slices* which ImageReady generates to create the HTML Table. To create *User-Slices* you use the *Slice Tool*.

Slice Tool 

Use the *Slice Tool* to create *User-Slices*. Select from *Normal (freehand)*, *Constrained Aspect Ratio*, and *Fixed Size Style*s to determine the behavior of the *Slice Tool*.

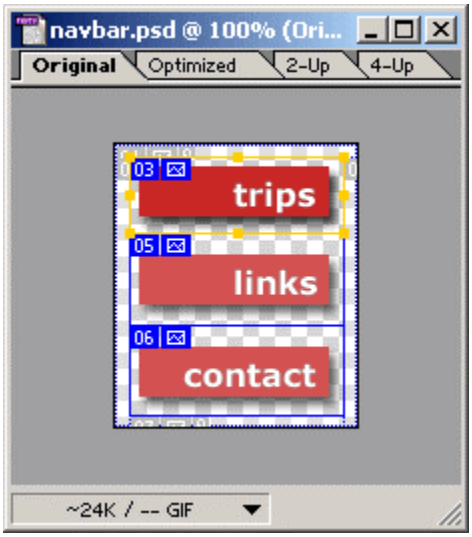
Slice Select Tool 

Use the *Slice Select Tool* to move *Slice*s and modify *Slice* size by *{Clicking}* and dragging size handles.

You'll notice the moment you select the *Slice Tool* the default *Auto-Slice* is made visible around the image. *Auto-Slice*s are distinguished by a gray box containing the *Slice* number (*Slice*s are numbered from left to right and top to bottom.) Before you *Slice* "navbar" it's a good idea to crop it. Use the *Crop Tool* to resize the canvas. Remove as much empty space as you possibly can without affecting either the buttons or their drop shadows.

Select the *Slice Tool* and *{Click}* and drag a *Slice* around the "contact" button. *User-Slices* are distinguished by a blue box displaying the *Slice* number as well as the *Image Slice* indicator. You'll also notice ImageReady has generated other *Auto-Slice*s to create an HTML Table.

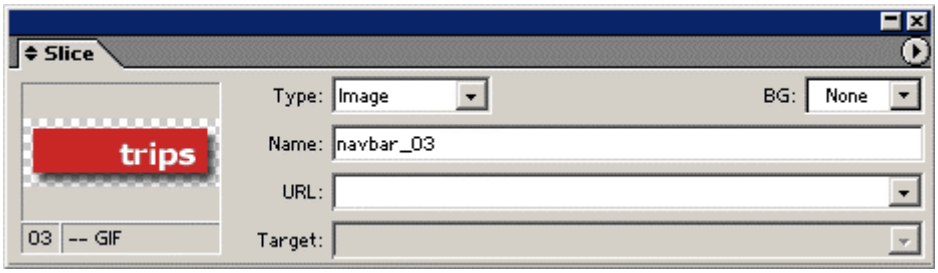
Use the *Slice Tool* to create two more *User-Slices* around the "about" and "links" buttons. Use the *Slice Select Tool* to fine-tune the size and location of your *Slice*s. To manage *Slice*s you use the *Slice Palette*.



The *Navigation Bar* with User *Slice*s.

Slice Palette

The *Slice Palette* consists of a *Slice Thumbnail* displaying the *Slice* contents and current *Image Type (JPEG, GIF, PNG)*, the *Type (Image, No Image)*, *Name (defaults to image title, underscore, Slice number), URL, Target*, and *BG* (*Background Color*).



The *Slice Palette*

Type

Select *Image* if the *Slice* contains image information or *No Image* to input text.

Name

Accept the default naming convention or enter a custom name. The name determines the name of the actual image file when you save the images and HTML.

URL

Enter an absolute or relative URL if you know at this point in the production where your button will link too.

Target

Enter the name of the target *Frame* if you're using *Frame*sets in your web site.

BG

Select a *Background Color* to be applied to the image when you save the optimized version. *None* defaults to a white background.

Select the "contact" *Slice* and rename it "contact" in the *Slice Palette*. Select the "trips" and "links" *Slice*s and rename them accordingly in the *Slice Palette*.

Reselect the "contact" *Slice*. Select the *Rollover Palette* and add a new *State*. Use the *Layers Palette* to change the text from white to black and turn the visibility of the *Drop Shadow* off in the new *Rollover State*. Leave the mouse event at *Over*. Do the same for the "trips" button and the "links" button.

Optimizing Slices

By default, ImageReady applies the same optimization settings to every *Slice*. However, you can optimize each slice individually, mixing file *Type*s, *colors*, and other *Compression* settings. To optimize *Slice*s simply select them and use the applicable settings in the *Optimize Palette*.

You've created a *Navigation Bar*, complete with *Rollover*s as well as an HTML file with a Table to keep the layout of your *Navigation Bar* intact. Select File/Save to save the Photoshop version of the file. Select File/Save Optimized As to save the HTML and web images of the file. To keep the images of the *Navigation Bar* separate from the images for the individual "contact" button change the subfolder directory from "images" to "navimages" under *Output Settings* in the *Save Optimized* dialog box.

Open "navbar.html" in a web browser and examine the *Navigation Bar* and the code ImageReady generated. You'll notice that ImageReady has created a table and uses a transparent GIF file, titled "spacer" to create a perfect layout for your *Navigation Bar*.

Image Maps

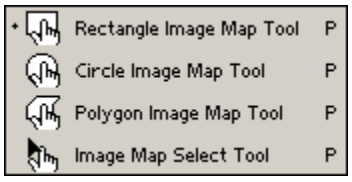
*Image Map*s take a different approach to *Navigation Bar*s. Rather than *Slicing* up the image into a Table, you save only one complete image and assign links to particular areas of the image. An *Image Map* is a set of co-ordinates applied to an image that define a link. Individual links, or *Hotspots* as they are sometimes called, can be rectangular, circular, or polygonal in shape. *Rollover*s and animation are not possible when using the *Image Map* method.

Select File/Save As and save "navbar" as "map" in Photoshop format. Delete all *Slice*s and *Rollover State*s so that only the default *Slice* surrounds the image.

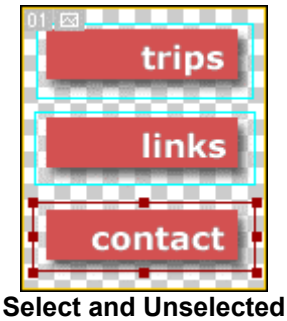
Creating Image Maps

To create *Image Map*s with ImageReady you use the *Image Map Tool*s in conjunction with the *Image Map Palette*. Alternately you can use the Menu to apply *Image Map*s directly to a Layer. We'll try both methods. *{Click}* and hold on the *Image Map Tool* icon in ImageReady's *Toolbox* to check your options.

Image Map Tools 

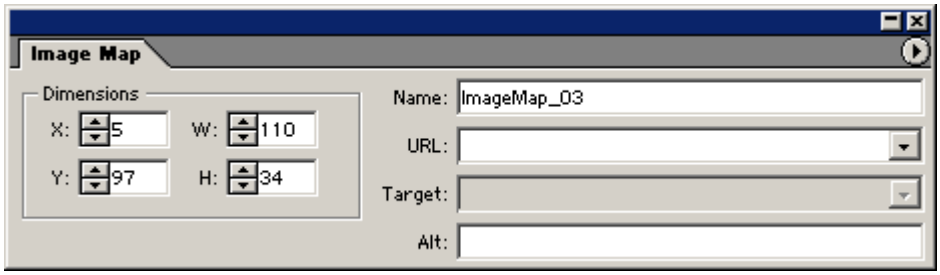


The *Image Map Toolset* allows the designer to employ and select, rectangular, circular, and polygonal *Hotspots*. Select the *Rectangular Image Map Tool* and use it to draw a *Hotspot* over the Trip button. Notice that the process of drawing an *Image Map* is not unlike that of creating a series of Shapes. Simply *{Click}* and drag your mouse cursor to place the *Image Map* in your document. Create Rectangular *Slice*s over all 3 of the buttons in the Nav Bar. Note that a selected *Image Map* has a red outline that's somewhat similar to a transformation bounding box. An unselected *Image Map* has a light blue outline.



Select and Unselected
Image Maps

You have two options if you'd like to adjust the positioning or size of your *Image Map*. Use the *Image Map Select Tool* to select the *Image Map* and modify it by adjusting the red squares on the corners and sides. Alternately you can use the *Image Map Palette* to adjust dimensions and positioning by adjusting the figures in the fields on its left hand side. Use the *X* and *Y* fields to move the Map around your Image Window and the *W* and *H* (*R* for Circle *Image Map*) to change its shape.



The Image Map Palette

Check the additional options on the right hand side of the palette. The name of the currently selected map, in this case “ImageMap_03” appears in the *Name* field. The URL field allows you to attach a link to your *Hotspot*. If your Link is going to target a *Frame* in a *Frame*set then you can select or input that style of link in the *Target* drop-down menu. If you’d like to add an “Alt” tag to your link you can do so with the *Alt* field at the bottom right of the *Palette*.

Image Maps and the Layer Menu

Use the Layer Menu to draw your *Hotspots* if you want a quick and easy alternative to the *Image Map Tool*s. Select any one of the three shape Layers in the *Layers Palette* and select Layer/New Layer Based Image Map Area from the Menu. ImageReady will insert a rectangular *Hotspot* into your document that fits your button perfectly. If you wish you can convert the *Hotspot* into a circle or polygon by selecting those options from the *Shape* drop-down menu on the left hand side of the *Image Map Palette*. If you apply a URL to any *Image Map* created in this manner you will see it listed in the *Layers Palette* underneath the *Label* for the subject *Layer*. If you move any shape that has had an *Image Map* applied to it in this manner you’ll find that the *Hotspot* moves with it.

Image Map URL listed in the Layer’s Palette

We’ll use this Layer Menu method to apply a *Hotspot* to each of the shape *Layers* in our *Navigation Bar*. Link each *Hotspot* to http://www.adobe.com.

Select *File/Save* to save the Photoshop version of the file. Select File/Save Optimized As to save the Optimized version with the HTML file containing the *Image Map*. Load “map.html” into a web browser and examine the HTML code.

Review Questions

1. What are the advantages of using a Navigation Bar?

2. What do Slices do in ImageReady?

3. There are two Types of Slices, they are?

4. What are the advantages of using an image divided into sections by a Table rather than using an Image Map for the entire image?

5. List and explain 2 separate means of creating a Hotspot

6. List and explain 2 separate means of adjusting the positioning and size of a Hotspot

Summary

As a result of this chapter, you should be able to:

- Understand the use of Tables for HTML layout
- Create a Navigation Bar
- Use and understand ImageReady's Slice features
- Create Image Maps with ImageReady

12

Creating Web Pages with ImageReady

In this chapter we create a web page using ImageReady.

Objectives

Upon completing this section, you should be able to:

1. Use ImageReady to create an individual web page
2. Modify Slices

Creating a Web Page with ImageReady

We've created static images, in both GIF and JPEG format, static buttons, *Rollovers*, an image map, and a *Navigation Bar*. How you use these assets is entirely up to you and your development method. You might code your HTML manually with a text editor, in which case you would cut and paste the HTML ImageReady has generated into existing and new HTML documents and use the anchor and reference tags for graphics created without HTML code. You might not even use ImageReady's HTML features, generating graphics only and coding your own HTML and JavaScript. You might use authoring software, such as Macromedia's Dreamweaver or Adobe's GoLive! and integrate the graphics, HTML, and JavaScript of ImageReady accordingly.

You can also use ImageReady to generate an entire web page, using *Slice*s and image dimensions to create the layout (with a table) and graphics for entire pages at a time. Furthermore, you can use ImageReady's *Update HTML* to automatically update HTML documents you've created or modified with ImageReady after you've changed the native Photoshop files. We're going to use all the elements we've already used to create the Travel Japan Home Page.

Web Page Dimensions

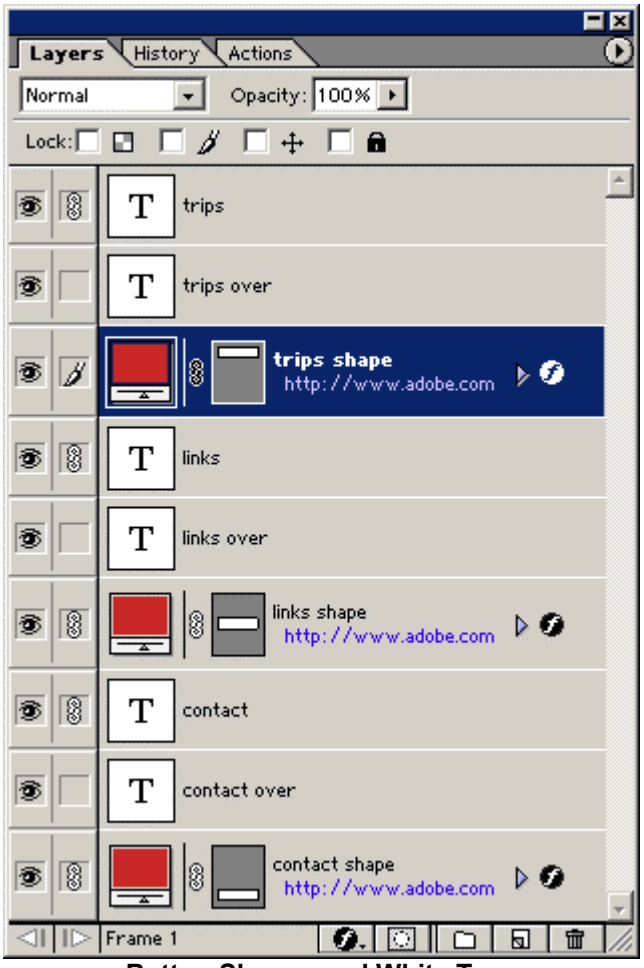
Our first consideration is the dimensions of our Home Page. We've decided we want to reach the widest audience possible in terms of resolution, which means we design to the lowest common denominator, a screen resolution of 640x480. Because browsers have scroll bars and other elements that take up space, we're going to design our page at 600 pixels wide. As a rule, people are used to scrolling up and down, but do not like to scroll from side to side. Selecting a maximum width of 600 pixels ensures users will not have to scroll to the side to view and read the content of the Home Page. Additionally, users do not like to scroll up and down too much. It's a good idea to present most of your information immediately, particularly for the initial or Home Page of your site. We'll do our best to keep all the information in our Home Page fit on screen, so we'll try to limit our vertical dimension (height) to 400 pixels.

Our first step is to create our master document that we'll use to create our Home Page. In ImageReady create a new document, dimensions 600x400, transparent background. Select View/Show Rulers to use as a frame of reference as we layout our Home Page. [ALT] + *{Double-Click}* "Layer 1" and rename it "background." We're prepared to begin building our Home Page.

Navigation Bar

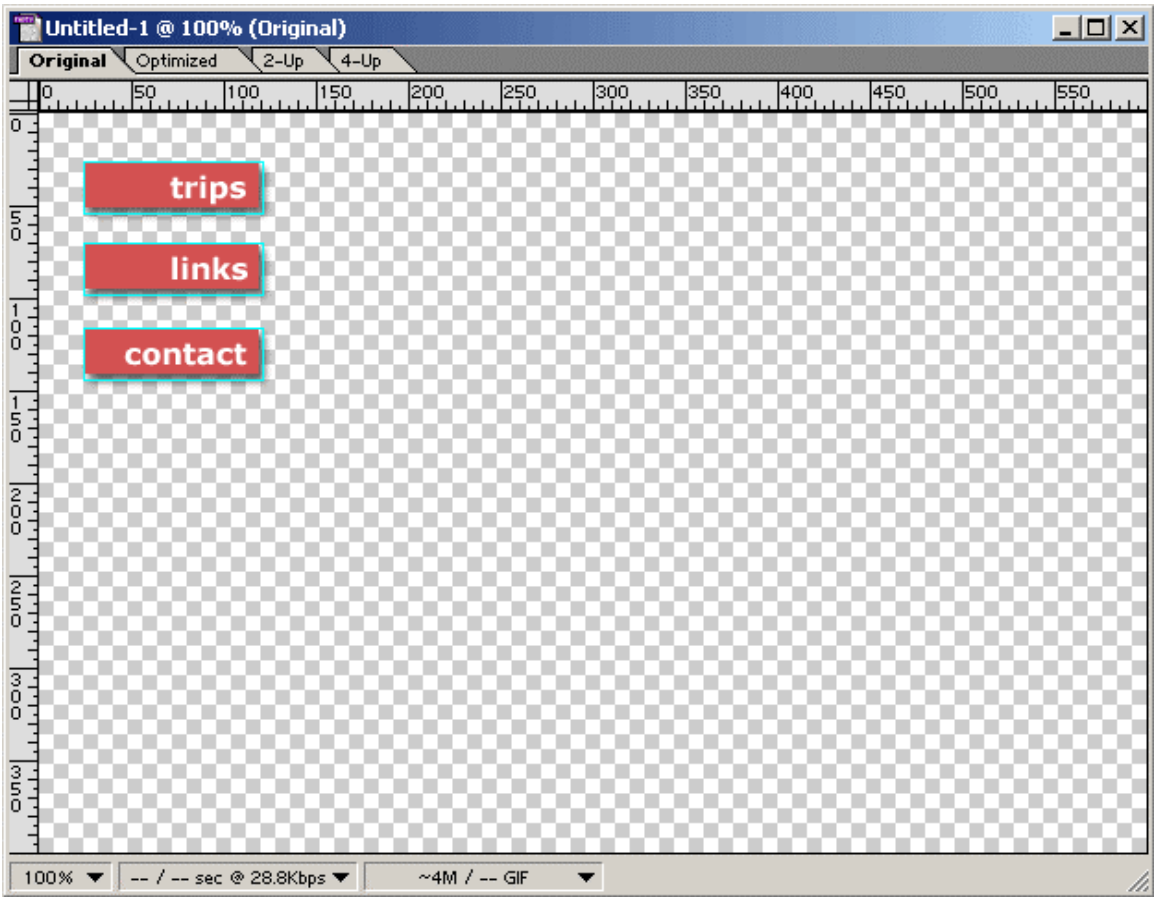
Open the "map" file in Photoshop format you created earlier. We need to copy the button shapes and the white *Type* for each shape. Select the "trips shape" *Layer* and unlink the "trips over" *Type Layer*. Unlink the "links over" *Type Layer* from the "links shape" *Layer* and the "contact over" *Type Layer* from the "contact shape" *Layer*. Now we need to link all the button shapes and black *Type Layer*s together so we can drag and drop them all at once into our master document.

Select the "trips shape" *Layer* and link it to the "trips" *Type Layer*, the "links shape" *Layer*, the links" *Type Layer*, the "contact shape" *Layer*, and the "contact" *Type Layer*.



Button Shapes and White Type linked together in Map.

Make sure "trips shape" *Layer* is selected in the *Layers Palette*. Use the *Move Tool* to drag the buttons over to the master document we've created. You'll notice that the *Layer*s and *Layer* content have been copied to the new document. The *Image Map* content, however, hasn't been copied so take this opportunity to reapply it to the 3 shape *Layer*s using the Layer Menu method. Position the *Navigation Bar* to the left for now.

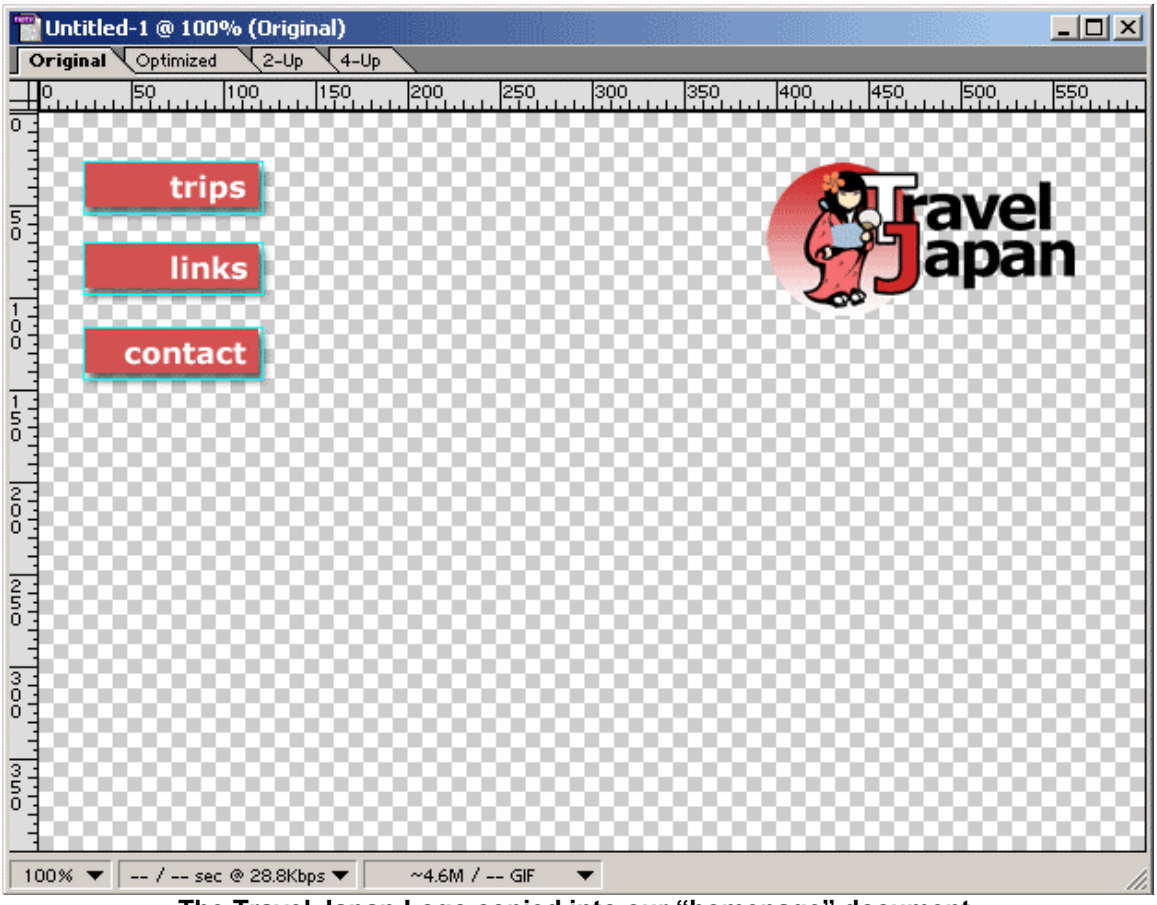


Navigation Bar copied to the master document.

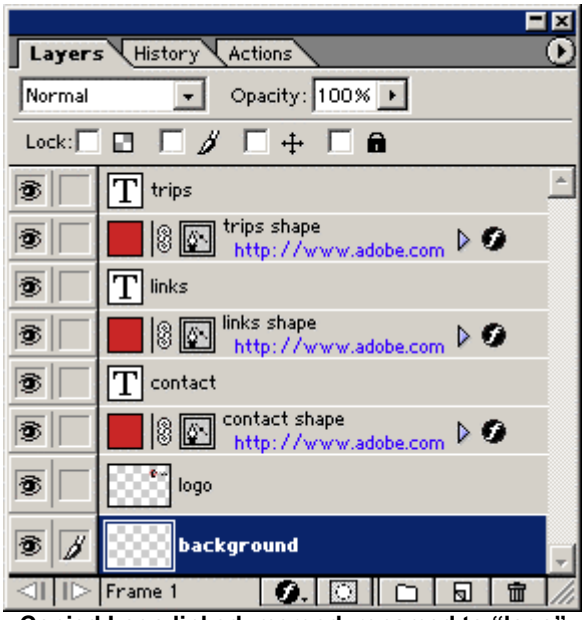
The Logo

Our next step is to import our logo, which we'll position at the top of our Home Page. Open "travelogo" in Photoshop format that you saved earlier. The Logo, as it is, is too big for our purposes so flatten it by selecting, Layer/Flatten Image and resize it to 200 pixels wide by selecting Image/Image Size. Use the *Move Tool* to drag the flattened logo into the master document. Because we won't be modifying the layout of our Logo we don't need to have all of the Logo's elements as separate *Layer*s.

It's a good idea to rename the Logo *Layer* for our reference and separate it in the *Layers Palette* from the buttons. You might ask why we didn't link and merge the *Type Layer*s with their corresponding button shapes, such as linking and merging the "contact" *Type Layer* with the "contact shape" *Layer*? If you do so, the *Image Map* information is lost. You might want to do so anyway if you like, but you will have to reapply the *Image Map* settings. Position the Logo near the top right of the master document. If you haven't done so already, select File/Save As and save the master document as "homepage" in Photoshop format.



The Travel Japan Logo copied into our "homepage" document.



Copied Logo linked, merged, renamed to "logo"
And moved in the Layers Palette.

Gate Picture

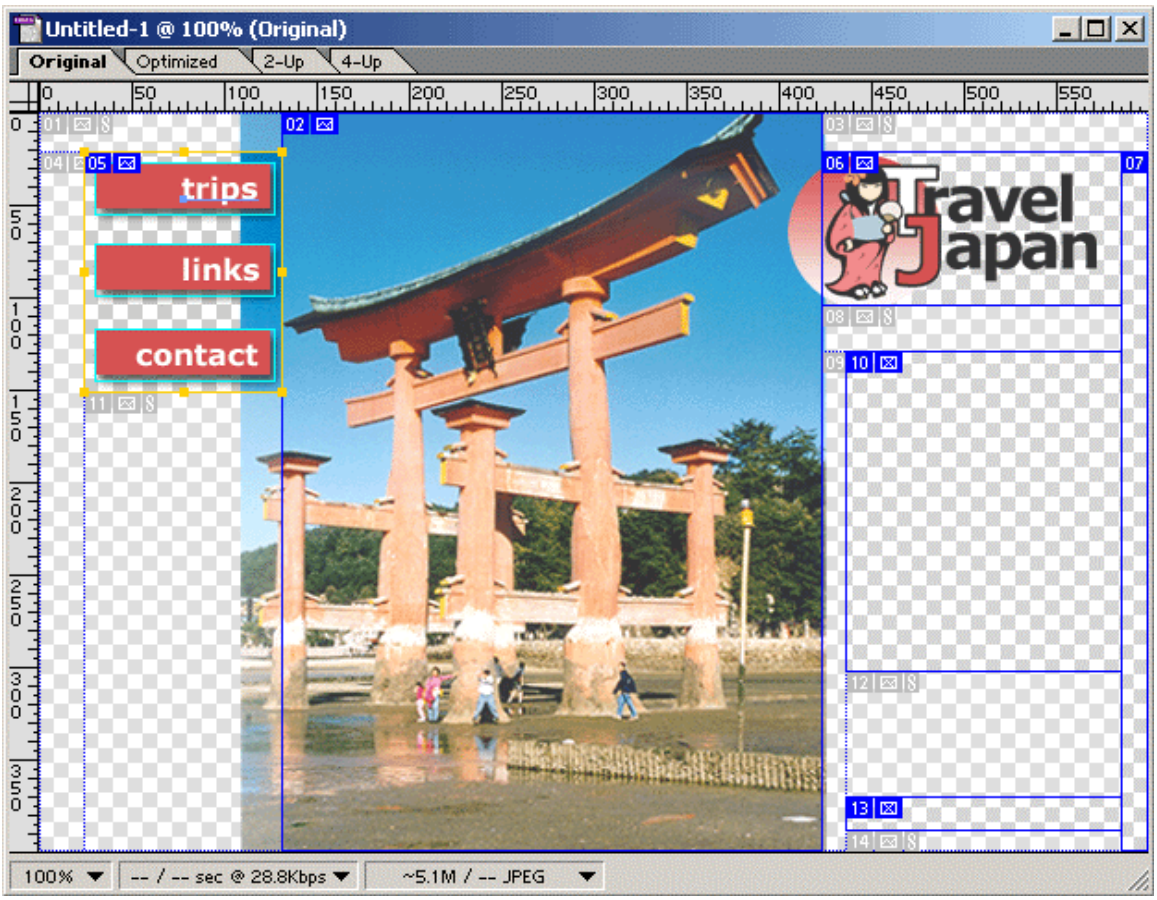
Our next step is to bring in the "shrinegate" picture we created earlier. Open "shrinegate" in Photoshop format and use the *Move Tool* to drag the picture image to our "homepage" document. You'll notice that it's too big for our layout. Select "Edit/Transform/Numeric" to change its dimensions. Check *Constrain Proportions* under *Scale* and input "70" in the *Percent* field. Position them between the buttons and the Logo and fit it perfectly to the height of our "master document". Rename the *Layer* "gate." If you wish you can use this opportunity to apply a filter or two to the photograph.

shrinegate image resized and positioned between our Navbar and Logo.

Using Slices for Layout

We have the basic layout of our home page. In addition to the graphics, we want to have a short welcome message to the right of the image, and copyright text in the bottom right corner. However, we want to use regular text rather than graphics for both the message and the copyright. By using *Slice*s to generate a Table to maintain our layout and by modifying *Auto-Slice*s we can successfully create the entire Home Page in ImageReady.

Use the *Slice Tool* to create *Slice*s around the *Navigation Bar*, the Logo, and the Shrine image. We also want two slices in the blank space below the logo for our message and copyright notice. Use the *Slice Select Tool* to resize the *Slice*s you create. Try to make them as close as possible to the edges of the image data so that when we optimize the *Slice*s maximum optimization occurs.



Create Slices around the Navigation Bar, Logo, and shrinegate image. Also create two Text Slices.

Select each *Slice* you've just created and use the *Slice Palette* to rename the *Slices* "navbar", "logo", "photo", "welcome" and "copyright" Select the "welcome".*Slice* and examine the *Slice Palette*. By default, *Slices* and *Auto-Slices* are filled with pixel information or transparent GIF spacers (unless you specified otherwise under HTML Options.) If *Image* appears beside *Type* it indicates that the *Slice* will use pixel information. To input text into the *Slice* select *No Image* from the *Type* drop-down menu. The *Slice Palette* changes to include a *Text* input box. Input:

 Welcome to the Travel Japan Website. We're sure you'll find our site both informative and educational. You just might find a "must take" vacation in the process.

You can input both HTML tags and text in the Text input box.

Select the "copyright" *Slice*. Select *No Image* from the *Type* drop-down menu and input Copyright: Travel Japan 2001

Optimize Slices
Select each of the “navbar”, “logo”, and “photo” slices and use the *Optimize Palette* to optimize the images. Use *JPEG Compression* for the photo and *GIF Compression*, *Adaptive*, for the Logo and *Navigation Bar*. Select File/Save to save the image in native Photoshop format. Select File/Save Optimized As to save the HTML file and the optimized images. Remember to specify a target directory for your images under *Output settings*.

Launch a web browser and open “homepage.html.” The layout we created in ImageReady remains intact and our text is visible and formatted just as we specified.

Our page viewed in Internet Explorer 5.0. Note the “contact” alt tag that has been added to the contact button.

Congratulations! You've successfully used ImageReady to create a web page, including an advanced Table, the use of spacer GIFs, optimized JPEGs and GIFs, and text. Of course, you are responsible for creating relevant links and managing the structure of the site.

Review Questions

1. What is the maximum recommended width for a web page designed for viewers at 640x480 pixels?

2. How do you optimize different areas of an image with different Optimization settings?

3. What are Spacer GIFs?

4. Define Auto-Slice

5. Where do you input HTML tags and text content in ImageReady?

Summary

As a result of this chapter, you should be able to:

- Use ImageReady to create an individual web page
- Modify Slices

13

Photoshop Extras

This last chapter discusses a few of Photoshop's unique new features.

Objectives

Upon completing this section, you should be able to:

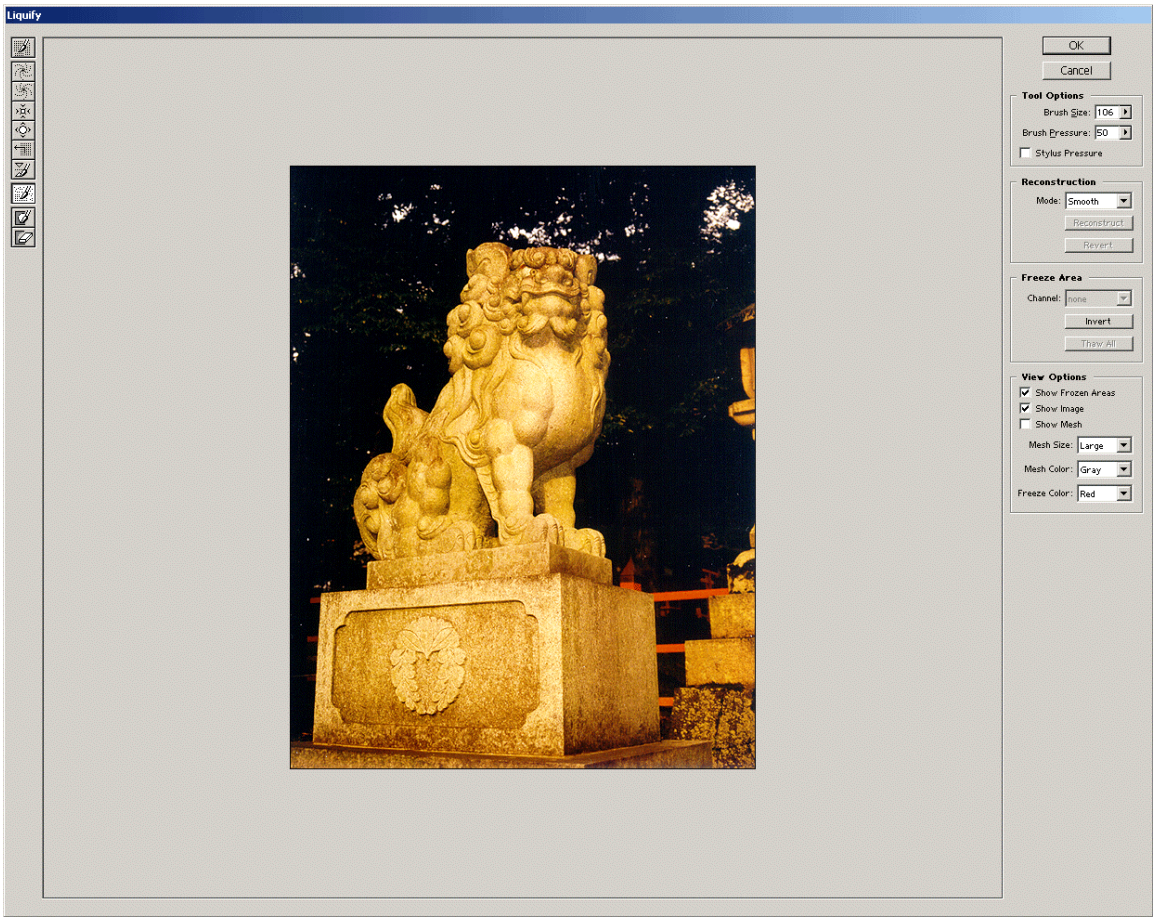
1. Use the Liquify Function
2. Group Layer Content

Photoshop Extras

Adobe has incorporated a number of unique features into Photoshop 6 that aren't easily classified. We'll close off the manual by taking a quick look at a few of these features and applying them to content that we have used throughout the previous chapters.

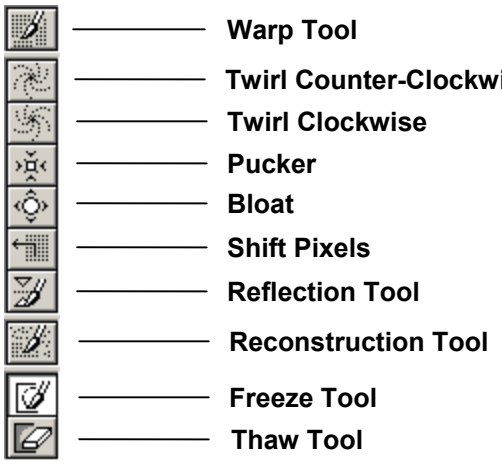
The Liquify Function

The *Liquify Function* could easily be called Photoshop's *Funhouse Tool*. Applying this feature to an image can be likened to standing in front of a wavy mirror at an amusement park. The reflection ends up completely distorted in the most unusual ways. To illustrate this we'll open up the ***fudog*** image from the ***chapter004*** folder and modify the statue's face. Once you have the image in your workspace select Image/Liquify from the Menu. The *Liquify* dialog box appears.

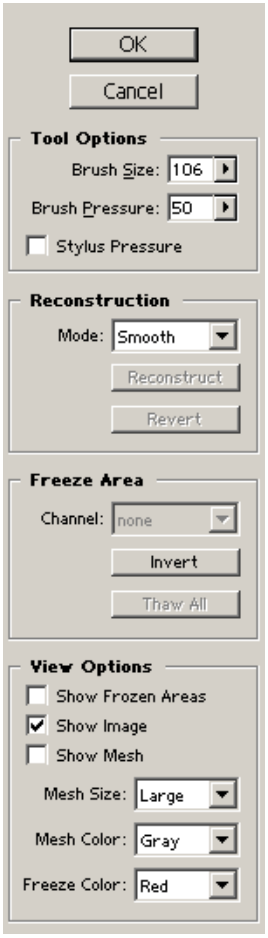


The Liquify Dialog Box

Down the left hand side you will find the various effects that can be applied to an image and down the right hand side you will find the options for the *Tool*s and viewing the image. Let's take a look at what you can do with this particular feature.



As you can see there is a broad range of unusual effects that can be applied to an image. Many of them are self explanatory. The *Freeze Tool* allows you to designate areas of an image that you want to avoid modifying. It does this by applying a red mask not unlike a *Layer* Mask. The *Thaw Tool*, logically, removes that mask. The options on the right hand side allow you to change the size of the brush that you use, revert to your original image, and modify your view.



Below you will find some example of the various *Tool*s at work.

The Original Image

The Warp Tool

The Counter-Clockwise Tool

The Pucker Tool

The Bloat Tool

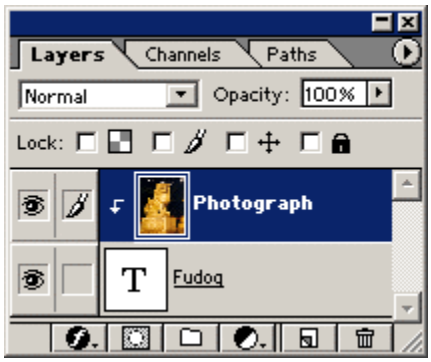
The Shift Pixels Tool

If at any time you want to return to your image's original state simply *{Click}* on the revert button.

The *Liquify Function* demands a certain amount of experimentation before convincing or realistic results can be achieved. Try applying the various *Tool*s to different images with a range of different option settings.

Grouping Layers

Grouping Layers allows you to use Shapes and Text to mask photographs and pixel information. To mask a photograph with some text simply place the layer that contains the photograph one level above the text layer and select Layer/Group with Previous from the menu. If you take a look at the *Layers Palette* you'll see that the *Layer* with the photograph is now indented slightly with a downward pointing arrow.



A Grouped Layer

The Original Text

The Text masking the Photograph

Summary

As a result of this chapter, you should be able to:

- Use the Liquify Function
- Group Layer Content

14

Answers Appendix

Chapter 1

1. What are the primary colors computers mix to create other colors?

   Red, Green, and Blue. The combination is known as RGB

2. What are the primary image types and how do they differ?

   Vector and Bitmap. Vector images are mathematical equations that describe the shape of an object. Bitmap images are a pixel by pixel representation of an image.

3. Color depth is also referred to as?

   Bit Depth

4. What file types are currently supported by Netscape Navigator and Microsoft Internet Explorer?

   GIF, JPEG, and PNG.

Chapter 2

1. What are the main areas of the Photoshop workspace?

   The Image Window, Toolbox, Palettes, and Menu.

2. How is the Option Bar related to the Toolbox?

   The Options Bar allows you to adjust any available settings for Tools accessible from the Toolbox.

3. How do you undock and dock the *Palettes*?

   ***{Click}* and drag on a Palette's Tab to either dock or undock it.**

4. Which Menu Item will give you access to Photoshop's *Preferences*?

   Edit

5. How do you reset your *Palette* arrangement back to its default setting?

   Select Window/Reset Palette Locations from the Menu.

Chapter 3

1. What are the five key decisions involved in creating a new image?

   Image Name, Image Width and Height, Image Resolution, Image Mode, and Image Contents

2. Why edit images in 24-bit color depth if ultimately they will be 8-bit images on the Internet?

   If you work in a bit-depth of 8, many of Photoshop's advanced features, such as using Filters, resizing images, and re-coloring images are either not available or do not operate effectively.

3. Why would you use the Magnification/Navigation controls?

   They allow you to edit the small details in an image and zoom in on your image content.

4. What is a Snapshot in the History *Palette*?

   The *Snapshot* is a record of the image complete with all the modifications you have performed on it.

5. If you delete a History State with other States below it what happens to those States?

   Nothing, they remain in the History Panel unaffected.

Chapter 4

1. What is the primary function of a Selection?

   To isolate content in your image.

2. What key do you press and hold to constrain the shape of Selections?

   The SHIFT key

3. What Tool or type of Tool must you use to move the Selection Marquee and not the image data currently within the Marquee?

   Any of the Marquee Tools will allow you to move a selection without also moving image content.

4. How does the *Magnetic Lasso Tool* determine what part of the image to create a Selection path around?

   It measures the level of contrast along an edge and creates a selection around areas of high contrast.

5. What effect does Contiguous and Discontiguous have on color based Selections?

   A Contiguous Selection will select every pixel of the same color in a document while a Discontiguous Selection will only select connected colors of the same color.

6. Where are Selections saved too?

   The Channels Palette

7. There are two types of Channels in Photoshop, they are?

   Color and Alpha

Chapter 5

1. What are the main advantages of Layer?

   Layers allow the user to isolate and organize material.

2. If a Layer is titled Background what does this indicate?

   That it is the bottom Layer in the Stacking order and cannot be edited.

3. If two Layers are linked together and you reposition or move one of the linked Layers, does the position of the other Layer change as well?

   The content on the Layer will move but the Layer in the Layer's Panel will not.

4. What does Locking a Layer's pixels do to a Layer?

   It allows you to move the pixel information to other parts of the screen but not edit it.

5. What are Layer Styles?

   Layer Styles are combinations of effects that are can be applied to the contents of a Layer. A typical application for a Layer Style would be a bevel and drop shadow applied to a button.

6. How do you place a Layer inside a Layer Set?

   Create a New Layer Set by {Clicking} on the New Layer Set Button in the Layers Palette and drag and drop Layers onto it.

7. What dialog box allows you to change the color of a Layer or Layer Set?

   The Layer Properties Dialog Box

8. How do you expand and collapse Layer Sets and Layer Styles in the Layers Palette?

   Click on the small triangle to the right of the Layer or Style Label in the Layers Palette.

Chapter 6

1. What is the Brushes Palette used for?

   The Brushes Palette allows you to select and edit your brushes.

2. As you *{Click}* and hold the mouse button when using the Airbrush Tool what happens?

   The amount of paint that's applied increases as you continue to hold down the button.

3. What does the Rubber Stamp Tool do?

   The Rubber Stamp Tool allows you to paint with pixel content from the same or a different image. Select an area of the image to duplicate or clone by *{Alt/Option-Clicking}* the area you wish to duplicate.

4. How do you create Custom Gradients?

   Access the Gradient Editor by *{Double Clicking}* on the Gradient Preview in the Options Bar.

5. What are Filters?

   Filters are a set of pre-set special effects that you apply to entire images.

6. What is the Histogram?

   The Histogram represents the pixels of an image in graph form. It charts how many pixels an image contains and their distribution in terms of dark tones to bright tones.

7. In Photoshop, tones are divided into three categories, they are?

   Shadows, Midtones, and Highlights.

8. What advantage do Curves have over Levels when editing image tone?

   Curves are very similar to Levels in that you adjust the Shadows (Black Point), Midtones (Medium Point), and Highlights (White Point), except you do so with a curve to which you can add points to for increased accuracy.

9. What does the Threshold command do?

   Use *Threshold* on the current image, Layer, or selection to convert all pixels to either black or white.

Chapter 7

1. What does an Anchor Point do?

   An Anchor Point connects 2 Line Segments, in a Path or Shape, together. They are major reference points that help define the shape of the object.

2. What does a Direction Line do?

   A Direction Line allows for curvature in a Line Segment. The user can adjust the length of a Direction Line and the smoothness of the curve that it is attached to will be affected.

3. Can the Pen Tool be used to draw Shapes? If so, how?

   Yes. Select the Pen Tool and {Click} on the Create New Shape Layer Button in the Options Bar.

4. How do you subtract one Shape from another?

   Draw the Original Shape, {Click} on the Subtract from Shape Area button in the Options Bar, and draw the Shape that you want to use to subtract material from the original.

5. What is the difference between a collection of Shapes on a Shape Layer and a combined Shape?

   A combined Shape is a single Path whereas a collection of Shapes on a Shape Layer is made up of multiple Paths.

6. How do you increase the number of sides in a Polygonal Shape?

   Select the Polygon Tool and increase the number of sides in the Sides field in the Option Bar.

7. What type of effects can be used to make up a Layer Style?

   Any of the effects available from the drop down menu at the bottom of the Layers Palette can be used to make a Style.

8. How do you add a Drop Shadow to a Shape?

   Select the Shape Layer in the Layers Palette and then select Drop Shadow from the from the Layer Styles drop down menu at the bottom of the Palette.

9. How do you create a New Style and how would you access it if you needed to use it sometime in the future?

   Select the Shape Layer with the effects combination that you'd like to save as a Style and then select New Style from the Style Palette. The Style will appear as a thumbnail in the Styles Palette for future application.

Chapter 8

1. When would you use JPEG compression instead of GIF compression?

   When you want to optimize a photographic image that uses a complex color palette

2. Why is it a good idea to save a native Photoshop version of your image?

   It makes it much easier to make changes to your design if the need arises at some future date.

3. Company Logos are usually created as bitmaps or vectors?

   Vectors. They are usually illustrations consisting of solid blocks of color.

4. Why would you want to use the Web *Palette* for 8-bit images?

   Using the Web Palette guarantees that anybody, on any platform, can see your images the way that you intended them to be seen.

Chapter 9

1. What are the typical dimensions of a standard Banner?

   468 x 60

2. What bit depth is most common to standard Banners?

   8-bit - 256 color palette

3. When previewing your GIF animation why should you look at it in a browser?

   ImageReady doesn't playback your animations at their true speed

4. How do you modify the contents of a Frame in your GIF animation?

   Edit, position, or create content in the Layers Palette

Chapter 10

1. What ImageReady Tool is best suited to creating common button shapes?

   The Shape Tool

2. In addition to generating HTML, what other scripting language does ImageReady generate when you create Rollovers?

   Javascript

3. How do you modify the image content in a Rollover State?

   Adjust the visibility and positioning of content in the Layers Palette.

4. What purpose does the *Style*s *Palette* serve?

   The Styles Palette allows you to add effects to shapes on your Layers. You can use it, for example, to add a drop shadow to a button.

Chapter 11

1. What are the advantages of using a Navigation Bar?

   A Navigation Bar allows the user to quickly and easily navigate their way around your website. A Navigation Bar can also be used on multiple pages with the designer only having to create the original once.

2. What do Slices do in ImageReady?

   Slices divide your image up into pieces. These pieces can then be exported into an HTML table with Javascript Rollovers and Image Map information.

3. There are two types of Slices, they are?

   Image Slices and Text Slices.

4. What are the advantages of using an image divided into sections by a Table rather than using an Image Map for the entire image?

   A document that has been cut up into pieces will load more quickly than one large image. An image that has been divided up and placed in a table can also have Javascript Rollovers applied to it.

5. List and explain 2 separate means of creating a “Hotspot”

   The Image Map Tool can be used to draw Hotspots directly into a document while the Layer Menu can be used to place precise Hotspots on top of existing Layer content.

6. List and explain 2 separate means of adjusting the positioning and size of a “Hotspot”

   Use the Image Map Select Tool to select, resize, and reposition your Hotspot in the image itself. Use the Options Bar to numerically adjust your selected Hotspot.

Chapter 12

6. What is the maximum recommended width for a web page designed for viewers at 640x480 pixels?

   600x400

7. How do you optimize different areas of an image with different Optimization settings?

   Select individual slices with the Slice Select Tool and adjust the Optimization settings in the Optimization Palette.

8. What are Spacer GIFs?

   Spacer GIFs fill empty cells in your Layout and exist to maintain the integrity of your layout when exported as an HTML document.

9. Define Auto-Slice

   An Auto-Slice is any Slice that you have not drawn yourself with the Slice Tool. Many Slices are created when just one Slice is drawn on a document.

10. Where do you input HTML tags and text content in ImageReady?

    In the Slice Palette.

A

Actions....15, 16
Add Anchor Point Tool....124 220
Adjusting Images....103
Airbrush Options....82
Airbrush Tool. 13, 14, 37, 43, 49, 56, 64, 82, 117, 119, 212
Alignment....99, 116
Allow Non-Linear History....37
Alpha Channels....53, 54, 64, 66
Animated GIFs....152
Animation....153, 156, 157, 158, 159, 168
Animation Palette....157, 158, 159, 168
Anti-alias....47, 91, 96, 98, 139, 167
Applying Filters....101 88
Art History Brush....37, 88
Aspect Ratio....181
Auto Contrast....105
Auto Levels....104, 105, 147

B

Background Color....30, 46, 81, 90, 112, 154, 182
Background Eraser Options....90 90
Background Eraser Tool....90
Banner Dimensions....153
Baseline....97
Bevel....133
Bevel and Emboss....133
Bit Depth....207 220
Blend Mode . 61, 62, 64, 82, 83, 84, 88, 91, 92, 93, 96, 102, 103, 130, 131, 133
Blend Modes....62, 64, 102, 103, 130, 131
Blur....92, 101, 146 92
Blur Tool....92
Brightness....103, 109, 110, 114, 115
Brush Shape....92
Brush Size....22, 79, 101 92
Button ..42, 74, 106, 107, 128, 164, 169, 190, 211, 214
Buttons....163, 164

C

Cache....24, 104
Canvas....141
Channel Mixer....103, 111, 115
Channels Palette....41, 52, 53, 54, 56, 58, 60, 66, 210
Character....97, 98, 167
Character Palette....98, 167
CMYK....44, 60, 111
Color Balance....103, 108, 115
Color Channels....52
Color Palette....49, 81, 153
Color Picker....20, 51, 94, 148
Color Range....50, 51, 110, 117
Compression...142, 143, 144, 146, 149, 150, 157, 158, 167, 182, 196
Compression Options....142, 144
Constrain....139, 193
Contrast....48, 51, 103, 109, 115 220
Convert Point Tool....124 220
Crop Tool....14, 42, 43, 142, 181
Cursors....22, 79
Curves....103, 106, 107, 115, 120, 212
Custom Shape Tool....130

D

Delete Anchor Point Tool....124
Desaturate....92, 103, 109 220
Distort....33, 166
Dithering....144, 145, 146 92
Dodge Tool....92
Drawing....78, 79, 103, 121
Drop Shadow....69, 74, 132, 133, 136, 141, 166, 167, 169, 182, 215
Duotone....112
Duplicate....71, 85, 94, 157, 158, 159, 179

E

Effect....62, 70
Effects....70, 131, 134, 159
Ellipse Tool....128
Elliptical Marquee Tool....47 89
Eraser Tool....89
Eyedropper Tool....105, 142, 145

F

Feathering....47, 52, 54
Fill....5, 115, 125, 155
fills....46, 47, 93, 172
Filters....23, 33, 34, 78, 101, 102, 103, 119, 121, 209, 212
Font....19, 98, 155
fonts....97, 98 220
Freeform Pen Tool....124

G

Gradient Editor 93, 94, 212 93
Gradients.....93, 94, 112, 119, 212
Graphic 82, 154
Grayscale 34, 51, 109, 112
Grid.....30, 78, 116, 121
Group..... 7, 35, 49, 52, 60, 200, 204, 205
Guide 116
Guides.....78, 116, 121

H

Hand Tool 35
Histograms.....104
History Palette ... 15, 20, 28, 36, 37, 38, 39, 40, 43, 48, 49, 52, 56, 64, 67, 87, 89, 101, 209
History State 20, 36, 39, 86, 88, 89, 209
Hotspot.....183, 185, 186, 219
Hue 103, 109, 110, 115, 117, 118

I

Illustrator 139, 142 220
Image Map Palette 183, 184, 185
Image Map Select Tool.....184, 219
Image Maps 171, 172, 177, 183, 184, 185, 187
Image Window... 30, 31, 32, 33, 34, 35, 38, 51, 60, 62, 63, 68, 69, 74, 79, 85, 96, 99, 100, 126, 129, 131, 142, 148, 154, 156, 158, 165, 167, 179, 180, 184, 208
Import 32
Indexed Color 34
Intersect 55, 127
Invert..... 51, 54, 101, 103, 113, 115

J

JavaScript..... iv, 168, 169, 174, 178, 189
Justification.....99

K

Kerning 97

L

Lasso Tool 44, 45
Layer.31, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 74, 75, 76, 79, 84, 85, 90, 93, 96, 101, 102, 108, 109, 113, 114, 115, 116, 123, 126, 127, 130, 131, 133, 134, 135, 136, 140, 141, 147, 148, 153, 154, 155, 158, 159, 164, 166, 167, 169, 172, 179, 183, 185, 189, 190, 192, 193, 200, 202, 204, 205, 211, 213, 214, 215, 219
Layer Mask 61, 62, 64, 65, 66, 67, 202
Layer Palette 70, 74
Layer Sets.....72, 74, 76, 211
Layer Styles.. 69, 75, 76, 102, 123, 126, 130, 131, 133, 141, 147, 155, 166, 211, 215
Layers15, 21, 38, 42, 48, 52, 59, 60, 61, 62, 63, 64, 66, 67, 68, 69, 71, 72, 73, 74, 75, 76, 77, 84, 91, 92, 96, 101, 102, 103, 115, 116, 125, 126, 130, 131, 134, 141, 147, 148, 153, 154, 155, 158, 159, 166, 167, 168, 169, 172, 179, 180, 182, 185, 190, 192, 193, 204, 211, 214, 215, 217, 218
Layers Palette42, 52, 59, 60, 61, 63, 64, 67, 69, 71, 73, 74, 76, 77, 96, 101, 115, 125, 126, 130, 131, 141, 153, 158, 166, 168, 169, 179, 182, 185, 190, 192, 193, 204, 211, 214, 215, 217, 218
Leading 167
Levels..... 103, 104, 105, 106, 115, 120, 146, 147, 212
Line Segment 129, 214 91
Line Tool..... 91, 129

M

91
Magic Eraser Tool..... 91
Magic Wand.....42, 48, 50, 56
Magic Wand Tool 48
Magnetic Lasso Tool.....45, 46, 56, 57, 210 220
Magnification.....34, 39, 46, 142, 209
Marquee . 42, 43, 44, 46, 49, 57, 85, 99, 123, 125, 128, 210
Mask Tool 96
Matte 51, 142, 144, 146, 148
Menu 12, 14, 15, 26, 29, 33, 36, 42, 66, 82, 85, 93, 94, 95, 130, 166, 183, 185, 190, 201, 208, 219
Mode..... 29, 30, 31, 33, 34, 49, 60, 62, 63, 64, 89, 92, 102, 108, 109, 117, 130, 139, 209 220
Move Tool.. 13, 44, 46, 47, 63, 74, 116, 154, 179, 190, 192, 193

N

Navigation Bar177, 178, 179, 180, 181, 183, 185, 186, 187, 189, 190, 191, 194, 195, 196, 219
New Layer.....61, 62, 67, 72, 74, 141, 185, 211

O

Opacity... 50, 61, 63, 64, 74, 83, 84, 85, 88, 89, 91, 93, 95, 96, 102, 130, 133, 159
Optimization.....138, 142, 151, 198, 220
Optimize Palette.....157, 158, 167, 182, 196

Options....12, 13, 14, 20, 30, 36, 38, 46, 47, 48, 49, 54, 59, 61, 71, 77, 79, 80, 81, 82, 83, 84, 85, 88, 89, 90, 91, 93, 97, 98, 100, 101, 115, 117, 125, 127, 128, 129, 130, 139, 141, 142, 144, 146, 147, 165, 166, 167, 171, 173, 174, 195, 208, 212, 214, 219
Over State 169

P

96
83
Paragraph 97, 99
Paragraph Palette 97, 99
Path ..124, 125, 126, 127, 128, 129, 130, 165, 214, 220
Path Component Tool 127, 128
Paths 125, 126, 165, 214
Pattern Stamp....85
85
Pen Tool..... 42, 49, 122, 123, 124, 125, 135, 137, 214
91
Pencil Tool....91
Photoshop . iv, 1, 2, 7, 8, 10, 11, 12, 15, 17, 18, 20, 21, 23, 24, 25, 26, 27, 28, 29, 30, 32, 33, 34, 36, 40, 41, 42, 43, 44, 45, 46, 49, 50, 52, 54, 57, 59, 60, 61, 63, 64, 68, 71, 72, 78, 79, 85, 89, 91, 96, 97, 98, 100, 101, 103, 104, 105, 107, 113, 115, 116, 120, 121, 122, 123, 125, 126, 127, 128, 131, 138, 139, 142, 143, 144, 145, 146, 148, 150, 151, 152, 154, 156, 157, 162, 164, 165, 166, 167, 169, 178, 180, 183, 185, 189, 190, 192, 193, 196, 200, 201, 208, 209, 210, 212, 216
Pixels 19, 62, 64, 103, 116, 164, 203
Polygon Tool 129, 214
Preference 18
Preferences... 11, 17, 18, 19, 20, 21, 22, 23, 24, 26, 27, 30, 36, 44, 79, 104, 116, 208
production ....iv, 2, 60, 78, 182

Q

Quick Mask....42, 49, 51, 117

R

Rectangle Tool....126, 165
Resolution....2, 14, 29, 139, 209
Rotate....166
Rounded Rectangle Tool....128
84
Rulers.... 18, 19, 44, 116, 189

S

Save Optimized..... 160, 167, 169, 183, 185, 196
scale.... 5, 98
Scanning.... 32
Selections41, 42, 43, 44, 45, 49, 51, 52, 53, 54, 57, 58, 60, 66, 103, 117, 123, 210
Shape 91, 122, 123, 126, 127, 128, 129, 130, 131, 133, 135, 136, 137, 147, 165, 166, 169, 185, 214, 215, 218
Sharpen 92
92
Slice Select Tool 181, 194, 220
Slice Tool 142, 157, 181, 194, 220
Slices..... 169, 180, 181, 182, 183, 186, 188, 189, 194, 195, 196, 199, 219, 220
92
Snap....116, 142, 144
Snapshot....36, 37, 38, 39, 89, 209
Sponge.... 92
92
Stacking Order 71
stroke....82, 83, 88, 147, 155
Style . 47, 61, 62, 69, 70, 74, 88, 97, 98, 100, 130, 131, 134, 136, 155, 211, 214, 215
Styles 15, 69, 70, 81, 98, 102, 122, 130, 131, 132, 133, 134, 137, 147, 166, 175, 181, 215, 218
Styles Palette..... 81, 130, 131, 134, 166, 175, 215, 218
Subtract from Shape.... 214
Swatches 17, 49, 80

T

Tables....172, 177, 178, 181, 187
Text Tool.... 99, 100, 167
Texture 34, 86, 101
220
Thumbnails..... 65, 93, 114, 157, 158, 159, 160, 168
Toolbox .. 12, 13, 14, 25, 26, 30, 31, 42, 44, 49, 56, 82, 91, 156, 157, 165, 183, 208
Transform....43, 66, 166, 193
Transformation.... 66, 166
Transparency..... 30, 62, 63, 64, 93, 95, 142, 144, 148
Tweening.... 159

U

Undo.... 34, 36
96

V

220

Z

Zoom.... 35, 124