

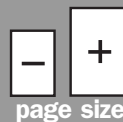


digitalphotography
the complete course

New York Institute of Photography

Photoshop 12: Web Techniques 1

Unit Five Lesson Twenty Six



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Introduction.

Whether you are preparing images for your employer's Web site, creating your own online photographic portfolio, or simply e-mailing your family photographs to friends and relatives, chances are that you will one day need to use Photoshop to create images and graphics for the Web. In fact, you might already be using the Internet in conjunction with your photos in different ways—uploading digital images to online photo labs or Internet auctions, for example.

The purpose of this Lesson is not to teach you how to program your own Web site, but to give you the skills you need to properly use Photoshop to create images for the Web. We'll look closely at some of the technical challenges and other issues posed by the Internet that you will encounter, and sharpen your understanding of how Web sites handle photographs. By the time you have completed both this Lesson and Web Techniques 2, which you will receive in Unit 6, you will be able to easily prepare both images and graphics for the Web, as well as create your own simple photo Web site using Adobe Photoshop's automated Web Gallery features.

Even if you never plan to have your own photographic Web site, it's likely that one day you'll be asked by someone you know to create graphics and prepare photos for their Web site. These lessons will make sure you have the knowledge you need to do just that.

If you do decide to create your own photo Web site, we recommend that you read the series NYI Dean Chuck DeLaney and I wrote for the NYI Web site, Web Design for Photographers. You'll find many of the relevant articles from the series in the Digital Student Lounge. They cover topics outside the scope of these Digital Course Lessons that I've written, including how to plan your site and how to work with programmers, and delve deeper into the different types of photographic Web sites you might consider creating.

Sharon Gumerove
NYI Webmaster

Photos and the Internet.

Let's start with a brief look at the history of photographs on the Web.

When the Internet was first developed nearly forty years ago, photographs were not an integral part of the online experience. Originally created as a Cold War project of the Department of Defense, the initial concept of the Internet was to link universities and major research facilities together as a way to protect the work they were conducting in the event of a war. The project, called Arpanet, went online with four universities in 1969, and gave scientists at these colleges the ability to share text data, send e-mail, and access each research facility's supercomputers. As years went by, more and more computers were connected, and standards and technologies evolved, developing into the global network, or Internet, we know today.

The JPEG file format, the compression standard for photographs, was not created until 1991, by the Joint Photographic Experts Group. The development of the JPEG file format was crucial, since it meant that photographs could be compressed to a size small enough for the image file to travel on the Net. Remember, high speed Internet traffic in the early 1990s was



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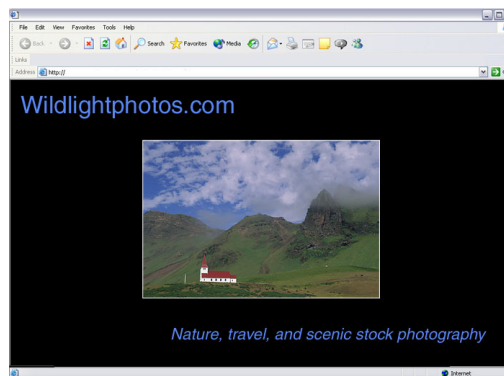
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a slow 14.4K or 28.8K—nowhere close to the bandwidth we have today. Image files needed to be small or they would take minutes to download, not the milliseconds it takes now. Even with today's high-speed transfers, small files are still a necessity. In addition, the current compression formats that were available before the advent of JPEGs did not handle photographs effectively. If they compressed the file small enough to move efficiently over the Internet, they lost a large amount of detail in the image. JPEG compression allows for both relatively small files and relatively good-quality compressed images, making it an ideal format for Web use.

Since then, of course, photos have found their way onto virtually every Web site. In fact it could be argued, at least by those of us in the photographic community, that the widespread use of images on Web sites has to do with the popularity of the Internet today. This has also created a higher demand for photographs for both on- and offline use, which is a great thing for photographers everywhere.

All types of photo Web sites—family photo sites, portfolio sites, gallery sites, personal expression sites, studio sites, camera store sites, stock photography sites—now abound on the Web. In fact, at one point photographers were the number-one group of professionals requesting Web site addresses from the agency that registers them.

So, the issue isn't whether or not you, as a photographer, will want a Web site. It's more what type of photo Web site do you want to create, and how do you go about doing it?



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Different Types of Photo Web Sites.

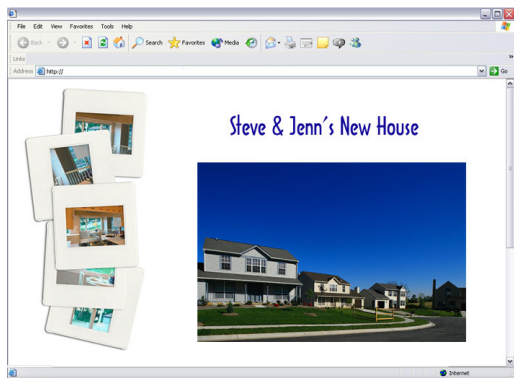
Let's take a quick look at the types of photographic sites you might want to consider.

Personal-Expression Web Sites. Your goal in photography may not be to make money; it may simply be to share your photographic vision with the world. A personal-expression Web site can be a way for you to show your pictures to your friends and family and anyone else who wanders onto your site. Before the Internet, many of these photos would only have been seen by a handful of people. Now, anyone you want to

can view your new baby's pictures, your vacation photo essays, or your fascination with just about any topic.

Portfolio Web Sites. Whether you are a beginning photographer or an established pro, an online portfolio site can function just like a hardcopy portfolio. Assemble a couple dozen images, contact information, tear sheets, and a bio, and you've got a site that you can e-mail to prospective clients and employers. You can even link to one of the group portfolio sites that are now online and gain greater exposure. These sites allow prospective buyers to search across multiple photographers' Web sites to find the photo they want to buy or a photographer they might want to work with.

Gallery Web Sites. A gallery Web site featuring your photographs is a good way to try your hand at the fine-art photography market. There's plenty of relatively easy ways to set up your own site to sell prints of your images, and there are even Web services that can handle the fulfillment, credit card processing, and printing of your photos.



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and even showcase quotes from satisfied customers—all of the information you would normally mail to potential clients on expensive printed card stock. You can even design your studio site to provide customers with private online areas where they can see proofs and order prints. You'll also generate higher profits since your clients will be able to share the proofs with friends and family who likely will wish to order prints as well.



Studio Web Sites. If you are a professional photographer with your own studio, setting up a Web site to both support and promote your company is a good business decision. Use the site to describe the products and services you offer, provide pricing and contact information, display samples of your work,

Stock Photography Web Sites. Stock photography Web sites allow you to sell your own photos online for a per-use fee in much the same way that traditional stock agencies do. Thumbnails, or small versions of your photographs, are organized into categories so that a potential client can easily search for the types of images they are looking to purchase and download them. Create a specialty stock site devoted to one particular type of image, or try your hand at selling your own royalty-free CDs.

Photo Retail Store Sites. If you own and operate a traditional brick-and-mortar camera store, you are no longer limited to your own geographic location. With an online photography store site, you can sell equipment to anyone, anywhere, at any time. Sell photo equipment through online auction sites like Ebay, or create your own virtual camera store.

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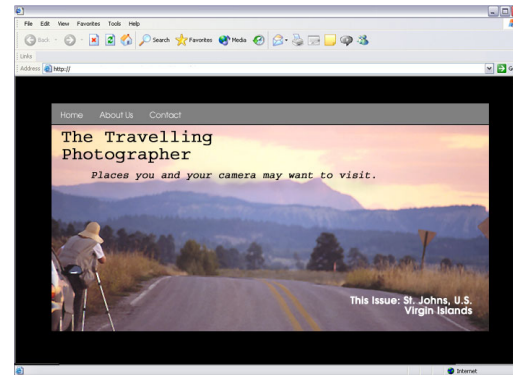


Keep in mind too, as we've said before, that even if you don't plan to create your own Web site to showcase your photography, odds are you will find yourself needing to prepare images for someone else's Web site—for your friends and family, or your employer.

Before we begin our discussions of how to use Photoshop to create images for a Web site, let's spend a few minutes discussing exactly what a Web site is. You will need to understand how sites work in order to effectively create images for the Web.

Photographic Hobby and Enthusiast Sites. Interested in toy cameras? Like infrared photography? Collect Civil War photos? If you've got an interest in a particular type of photography or subject matter, you can create a site and share your passion with the world.

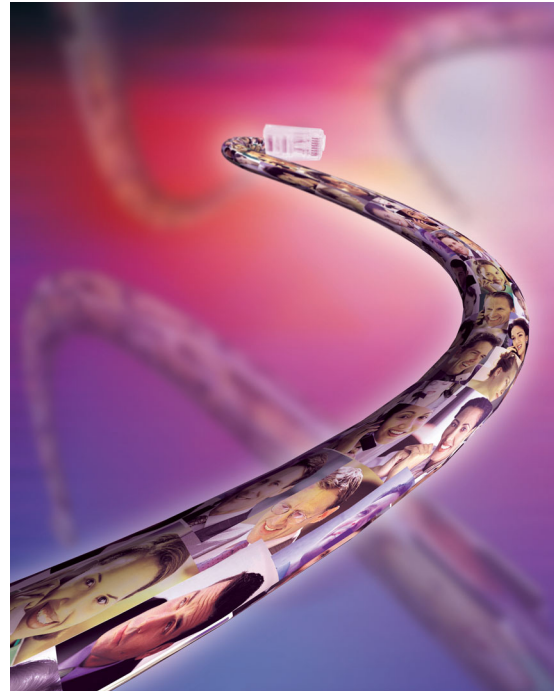
There are, of course, many variations on these different types of photo Web sites. What you should take away from this discussion is the understanding that the Internet offers great potential to you as a photographer—whether it is more work, additional profits, or simply more people to share your photographic vision with. You'll find complete discussions of several basic types of photo Web sites and the challenges and issues specific to them on the Student Lounge.



What Is a Web Site and How Does It Work?

A Web site is a collection of files that reside on a host or server computer. A server is responsible for holding the files that make up your Web site and sending those files out over the Internet when someone, known as a *client*, requests a specific page from your Web site. The client makes this request by typing in the Web site address, called an *URL*, of the specific page from your site, or by clicking on a link in their browser. When this happens, the request is sent to the client's Internet Service Provider (ISP), where another type of computer, called a *domain name server*, converts the `www.somewhere.com` address into a specially formatted address number. Another type of device, a *router*, then relays this address number across the Net until it reaches the host where the Web site is stored.

Once a request for a Web site arrives at the host computer, each file that makes up the requested Web page is broken down into little packets of data that are sent back out over the Internet. The larger the file, the greater the number of data packets it will be broken into. The routers now pass those packets along in cyberspace until they arrive at their final destination: the computer of the client who typed in the address.



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The greater the number of data packets, the more time it will take for the complete file to finally reach its destination. If you've ever wondered what those numbers and percentages are that you see at the bottom of your browser window, they are those packets of data that make up each file that is being downloaded onto your computer. The browser then takes those files and presents them as a completed Web page to the client, your Web site visitor.

To review, routers direct requests for files from clients to hosts and then route the stream of packeted data from the hosts back to the clients. The specific route that a packet takes can change from moment to moment depending on how heavy the Internet traffic is at the time. Furthermore, because of Internet traffic, the data might not necessarily take the shortest, direct route from your server to a router to the client, but instead might travel to many different routers all over the world before it arrives at its destination.

Why is it important for photographers in particular to understand this process? First, photo Web sites are likely to contain a large number of images, and if these files are too large and take too much time to arrive on screen, the person who is waiting for the information might give up in frustration and leave your site. This is bad for business. You want your Web site visitors to

stay on your site as long as possible. Second, the larger the image file, the more packets of data it will be broken into, increasing the possibility of a router losing one of the packets along the way. That tiny, annoying broken-picture icon you sometimes see on a Web page is the browser's way of telling you that the image file was "swallowed" by the Net, or simply doesn't exist. We'll show you how Photoshop can help minimize file size and thereby minimize the possibility of either of these situations arising.

The collection of files that make up a Web page can be varied and quite numerous. Let's take a look at a typical photographic portfolio site. This type of Web site is likely to consist of several dozen image files—the photographer's photos—usually in the JPEG file format. The site is also likely to have lots of graphics—buttons, navigational elements, icons, and logos. Each of these graphics is a separate file as well, usually in the GIF file format. Don't worry: if you're not sure about these file formats, we will be discussing them again in greater detail as we show you how to create them.

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HTML.

Files written in HTML are also likely to be part of your Web site. HTML stands for Hypertext Markup Language. HTML files contain the text of your Web site as well as formatting and image placement information. It is the HTML file that tells the browser where on the page an image should be displayed. HTML files also tell the browser what to do with other types of files and programs, such as JavaScript, Java applets, Flash movies, GIF animations, PDF documents, audio and video clips, and more.

Usually, there is at least one HTML file for every separate page of your Web site, and sometimes even two files. Keep in mind, however, that this is a simple example. More complex Web sites—usually those requiring sophisticated features such as database or shopping-cart integration—may be coded in something other than basic HTML. PHP, SHTML, and XML are other popular variations. However, the majority of basic Web sites are still programmed using basic HTML.

If you are curious, you can get a good look at what an HTML file looks like by examining the source code of any Web page whose URL ends in ".html." The source code in this case refers

```
<TD VALIGN="TOP" ALIGN="CENTER" WIDTH="5" HEIGHT="50"><FONT SIZE="4">
<A HREF="http://www.nyip.com/photoworld/htmsrc/jeep0201.html"><B>
Jeep Competition! </B> </A> </FONT> </FONT>
<CENTER>
<TABLE BGCOLOR="#FFFFFF" WIDTH="369">
<TR>
<TD VALIGN="TOP" ROWSPAN="3" ALIGN="CENTER" WIDTH="110"><I>
<FONT SIZE="-2"> ©copy:NYI Graduate Freysteinn G. Jonsson </FONT>
</I> <A HREF="http://www.nyip.com/photoworld/htmsrc/jeep0201.html">
<IMG SRC="pix/jonsson0201.jpg" ALIGN="TOP" WIDTH="100" HEIGHT="150" BORDER="0">
</A> </TD>
<TD ALIGN="LEFT" ROWSPAN="3" VALIGN="MIDDLE"> <FONT COLOR="#000000">
<I>Wow!</I>Click here to learn more about how this fascinating
image was made by <B>NYI Graduate Freysteinn G. Jonsson</B>!You'll
learn how Freysteinn used his NYI PhotoWorld press card to gain
access to this event. </FONT> </TD>
```

to the actual HTML programming that makes up the page. You can do this by loading a Web page into your browser and then choosing **View>Source** in Internet Explorer or **View>Page Source** in Netscape. What you will see is the text of the Web page with HTML markup symbols called elements or tags inserted within the file telling the browser where to display the page's images and how to display the text. For instance, the tag **** indicates that the words immediately following it should be in bold until the bold is turned off with the **** tag. Try it and see if you can spot the JPEG files.

HTML files can be created using a wide variety of software. In fact, you can create HTML code from scratch using any text editor, such as Windows Notepad, Windows Wordpad, or Mac SimpleText, and add the tags by hand. WYSWYG (What You See is What You Get) editors such as Adobe GoLive or

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Macromedia Dreamweaver make it relatively easy to create an HTML document, since you can switch back and forth between seeing the page just as it would look in the browser or by looking at the HTML source code. They also automate the process of adding tags and other elements. Freeware and shareware editors, such as BBEdit, are also available. Many other programs including Microsoft Word, page-layout software such as Adobe PageMaker and Quark XPress can also create HTML documents. Later on in this Course, you'll be learning how both Adobe Photoshop and Adobe ImageReady can also generate some HTML code. Keep in mind, however, that dedicated HTML editors such as Dreamweaver and GoLive create cleaner code and are much better suited to HTML creation than programs that were designed to create other types of documents.

Hosting a Web Site.

Getting back to our portfolio Web site example, you can now see that even a small site contains many files. Once you have created all of these files, you'll need to find a server to put them on. Most likely that will mean contracting with a Web hosting company. These companies allow you to put your files on their server for a small monthly fee. This fee covers the amount of space your site takes up on the server's hard drive. It also covers

a certain amount of bandwidth—the amount of traffic your site generates while sending files over the Web host's equipment. Finally, this fee covers the staffing and maintenance that Web servers require to keep them up and running 24–7. Surprisingly, the fees for a basic Web site are not very expensive—usually in the \$10–\$30-a-month range—and that should include enough bandwidth for all but the more popular large sites.

There are, of course, variations on Web hosting. Most ISPs, which provide you with your online connections and e-mail, will also provide you with free space on their servers for your own Web site. The major difference between free hosting and paid hosting is that with free space you usually cannot use your own URL. In other words, your Web visitors are going to have to type in a long Web address, such as *www.mywebhost/~mynamelmysite.html* as opposed to *www.mysite.com*. They may also have to contend with the onslaught of advertisements that pop up on many free host sites. This is fine for a personal-expression site or a portfolio site, but is not recommended for a serious business-oriented Web site.

One alternative is to purchase the necessary equipment and host your own site. You will need to be technically savvy and

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willing to deal with all of the issues involved, including keeping the site running day and night. Another popular hosting option is called co-locating, which is meant for larger Web sites that purchase their own servers but have a Web hosting company take care of maintaining the equipment and providing bandwidth. The fees for this are considerably higher, usually several hundred dollars a month.

This is an over-simplification of the process, and if you are interested in delving deeper into how the Internet works, and how to create a Web site, there are plenty of resources available—online, of course. You'll find some on the WebCenter 5 Goodies Page.

Photoshop and the Internet.

Adobe has expanded the capabilities of the Photoshop program in recent years, making it invaluable for Web designers and others who need to create images and graphics for the Internet. This wasn't always the case. Not all that long ago, it would have been standard practice for a Web designer to use several different programs along with Photoshop to create Web files. Some digital-imaging programs were better suited to creating GIF files, others to creating navigation buttons, or animating files. Today, almost all of the work can be done within

Photoshop or its companion program, Adobe ImageReady.

The current version of Photoshop offers many different features meant exclusively for Web site development. This includes the Save for the Web function and the Automated Web Gallery feature, to name two. We'll be showing you how to use both of these commands.

However, you'll find that using Photoshop for Web use can be a very different experience than using the software for print work. Creating images suitable for the Internet requires a whole different way of thinking and working with the software. This is another instance we talked about earlier in your Course: two Photoshop experts, one who works primarily for the Web and one who works for print, will each use Photoshop in completely different ways. There will be Photoshop commands, features, and procedures that you will only use for the Web that you will never need when creating a print, and vice versa. The reason for this is due, in part, to the very specific challenges the Web presents.

We've already talked about one of these issues: the necessity of small files. Let's discuss how this specifically relates to your digital photography.

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Image Size.

File Size.

One of the first differences you will notice when you start to work with Web images and graphics in Photoshop is the file size of the images. Web files are small—very, very small—when compared with a typical file used to create an 8" x 10" print. Consider a 300 ppi 8" x 10" image, which is normally 20 megabytes, with a 72 ppi 275 x 183 pixel Web photo that is 147 kilobytes. Buttons, navigational elements, and other graphics will have even smaller file sizes. As we've discussed, the nature of the Internet dictates the need for files that are as small as possible so that they can easily travel through cyberspace.

Pixel Dimensions.

However, the size difference between print images and Web images is more than just file size. It's also the physical dimensions of the image file. [SEE FIGURE 1]

Here is a typical photograph for the Web. As you can see, the Image Dialog box shows us that the image is 300 pixels in width and 200 pixels in height. As indicated under Document

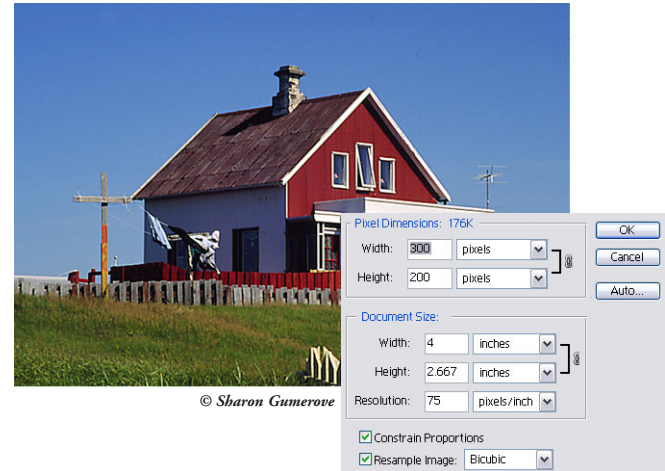


Figure 1

Size, if you were to print this image, it would be 4 inches wide and 2.667 inches in height.

However, when you are working on files for the Web, Document Size is basically irrelevant. Normally you would not concern yourself with how large the image will be if your Web visitor were to print it, but with how much of the screen it will take up when it appears in the browser's window.

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So, the first thing to remember is that when you use the Image Size command in Photoshop to size images for the Web, you will be altering the Pixel Dimension sizes and the Resolution settings, not the Document size settings, to create the images in the size you need them. This is an important distinction because the pixel dimensions you choose are one of the determining factors in how large the image will appear to your Web site viewer. The other determining factor is the screen resolution your Web site visitor has set, which we will discuss shortly.

Image Resolution.

Deciding which image resolution to use for the Web is much like the decision you make for your prints. You should choose the resolution of your image based on the resolution requirements of your output device. In this case, for Internet use, the output device will be a monitor. Monitors typically have a resolution of 72 ppi, though some display at slightly higher rates. We recommend that you change the resolution of files meant for the Web to 72 ppi (or 75 ppi if you want to make the math easier.) Choosing a resolution higher than that will simply make the files larger and therefore result in longer transmission times, without an increase in quality.



Figure 2 "Centralpark.tif"

© Sharon Gumerov

Let's run through the steps for sizing an image for the Web in Photoshop. Assume that this photo will be one of several pictures we are sizing for our gallery Web site.

SIZING AN IMAGE FOR THE WEB EXERCISE:

1. Open the file named "centralpark.tif." [SEE FIGURE 2]

When preparing a digital image for the Web, you should always check to make sure that the color mode is set to RGB.

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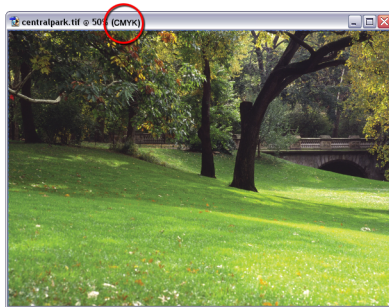


Figure 3 Titlebar with color mode. File is in CMYK

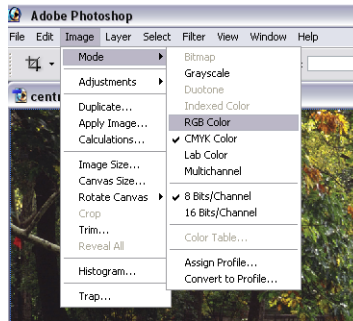


Figure 4 Image>Mode menu with checkmark, indicating CMYK color mode.

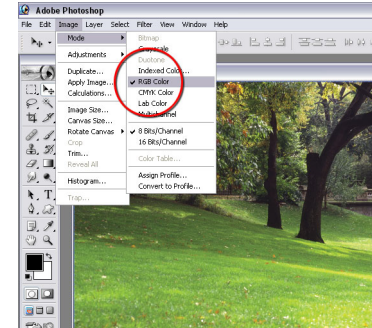


Figure 5 The color mode has been converted from CMYK to RGB.

Using Photoshop, the color mode of a digital image can be ascertained in two different ways.

2. Look at the title bar of the image. The current color mode is in parentheses, following the title. [SEE FIGURE 3]

3. Choose **Image>Mode**.

The current color mode is indicated by a checkmark next to it. [SEE FIGURE 4]

This is extremely important because while a CMYK image might look fine on your monitor, it may not on others. On the Web, unpredictable color is a reality that we must live with. By converting your images to the RGB mode, you increase the possibility of more accurate color delivery.

4. Choose **Image>Mode>RGB Color**. [SEE FIGURE 5]

This color mode is converted from CMYK to RGB.

The next thing we want to do is determine the size of the image.

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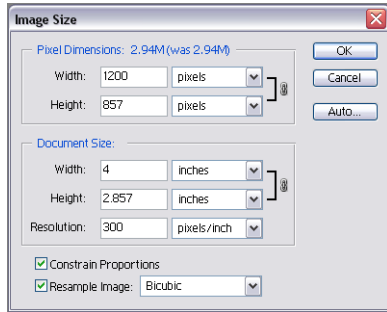


Figure 6

5. Chose **Image>Image Size**. The Image Size dialog box appears. [SEE FIGURE 6]

As you can see, the dimensions of this image are currently 1200 pixels wide by 857 pixels high.

6. Select the **Resample Image** option. Resampling indicates that pixels will be added or discarded when any one of the values is changed. Since we want to reduce the size of our file, we will want to eliminate pixels from the image through resampling.

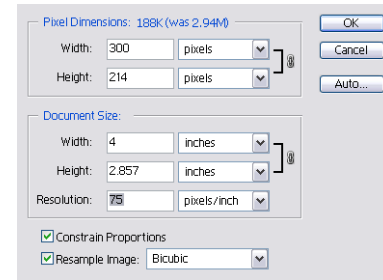


Figure 7

7. Select the **Constrain Proportions** option. By constraining the proportions of the image, you ensure that it will not become distorted when it is resampled.

Let's change this image to a size that will work better for the Web.

8. Change the resolution from 300 ppi to 75 ppi. [SEE FIGURE 7]

Notice that the pixel dimensions are now 300 pixels wide by 214 pixels high and that the file size has dropped from 2.94MB to 188K.

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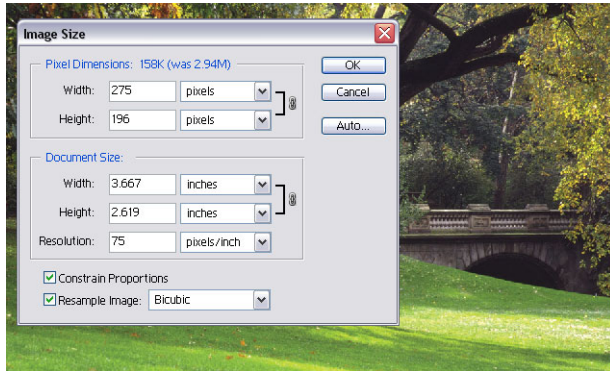


Figure 8

However, let's make the photo a little bit smaller to match the size of all of the other images that will be on the site. It is a good idea to determine and maintain a consistent size for photos of a similar type on your site. The consistency will create a uniform appearance on screen and make it much easier for you to update the site, since you'll always know what size to make new images you add.

9. Change the pixel dimension to 275 pixels wide. Remember that you are changing the width measurement under Pixel Dimensions not Document Size. Also notice that you don't need to change the height of the image as long as the Constrain Proportions box is checked. This works in reverse

too. We could set the height measurement and the width would change automatically. [SEE FIGURE 8]

The width of this image is now 275 pixels wide and 196 high at 75 ppi with a file size of 158K. If this image was fine for your use, all you would need to do is click OK and then save the image.

However, for now, click **Cancel**. Keep in mind that you can always make an image smaller than the size that results when you changed the resolution to 75 ppi from 300 ppi with the Resample box checked. However, what if you needed this image to be larger than 300 pixels?

Let's assume that we need to change the resolution of this image to 75 ppi but we need the photo to be 350 pixels wide. The steps for doing this are very similar to those outlined above.

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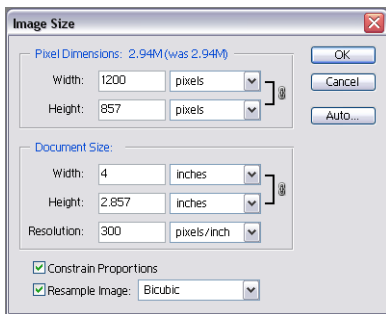


Figure 9

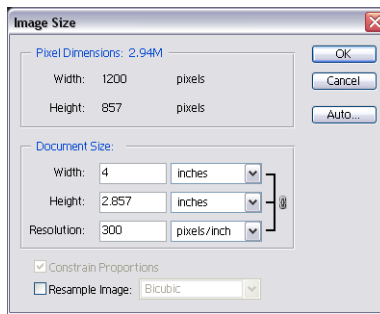


Figure 10

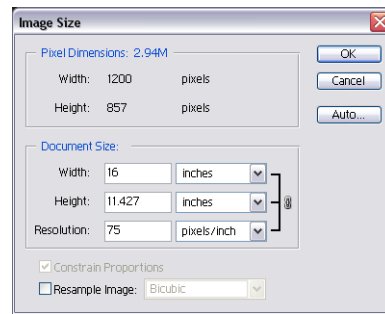


Figure 11

Since the image is already open and we have changed the color mode to RGB, let's start by opening the Image Size dialog box.

1. **Image>Image Size.** The Image Size dialog box opens. [\[SEE FIGURE 9\]](#)

As you can see, the dimensions of this image are still 1200 pixels wide by 857 pixels high.

2. However, this time we are going to de-select the **Resample Image** option. This will allow us to change the resolution of the image without Photoshop automatically changing the pixel dimensions. [\[SEE FIGURE 10\]](#)

De-select the **Resample Image** option.

3. Change the Pixel Resolution from 300 ppi to 75 ppi. [\[SEE FIGURE 11\]](#)

Notice that the pixel dimensions have remained at 1200 pixels wide and 857 pixels high even though the resolution is now 75 ppi. The file size has also remained at 2.94MB.

4. Click **OK**. The Image Size dialog box closes.

This process has left us with a very large 75 ppi image. We need to make it 350 pixels wide. To do that, we need to open the Image Size dialog box a second time.

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5. Choose **Image>Image Size**. The Image Size dialog box opens. Notice that the image has remained at 1200 pixels wide and 857 pixels high with a resolution of 75 ppi. [SEE FIGURE 12]
6. Select the **Resample Image** option to eliminate pixels from the image.
7. Change the pixel dimensions of the width of the image from 1200 pixels to 350 pixels. [SEE FIGURE 13]

Notice that the height has changed from 857 to 250, the file size has dropped to 256K while the pixel resolution has remained constant at 75 ppi.

8. Click **OK**.

By using the Image Size command twice—first to change the resolution and second to change the pixel dimensions—you can effectively create images that exactly meet your pixel dimension and resolution needs.

If you wish to save the file, use the **Save As** command and give the new file a unique name.

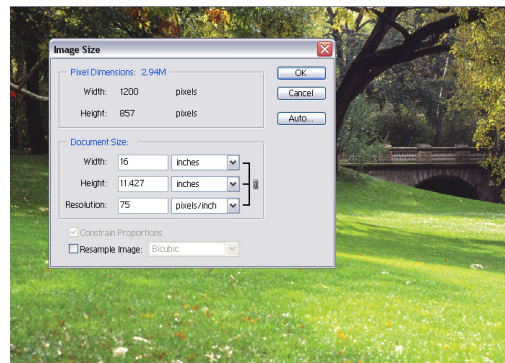


Figure 12

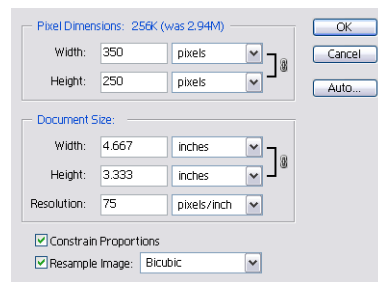


Figure 13

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Screen Resolution.

Screen resolution is one of the most complicated issues you will have to face when working on a Web site, and one of the hardest to understand. It is a crucial element that governs how the Web site will look and work, and determines how you size all of the images and graphics included.

One of the most important things to understand about how the Internet works is that you cannot completely control how a Web page will look to a specific viewer. Every visitor to your Web site uses a different computer system, a different size monitor, a different browser—all configured in a unique way. The possible combinations are infinite, and they affect both the size and color of what your visitor sees. Web browsers read the HTML files and attempt to create pages that will give a similar, though not exactly the same, viewing experience to each visitor. When you are designing for the Web, the best you can do is to try and make the quality of the viewing experience as high as possible for the majority of your viewers.

One of the major differences between all of these different computer systems has to do with the screen resolution that the graphics card in a computer is set up to display.



Figure 14 Display Properties on a PC.

You can see what resolution your computer system is set at by following these instructions:

On a Windows system:

1. Choose **Start>Control Panel>Display**.
2. The Display Properties dialog box appears.
3. Click the **Settings** tab. [SEE FIGURE 14]
4. Select an appropriate monitor resolution for your monitor size.

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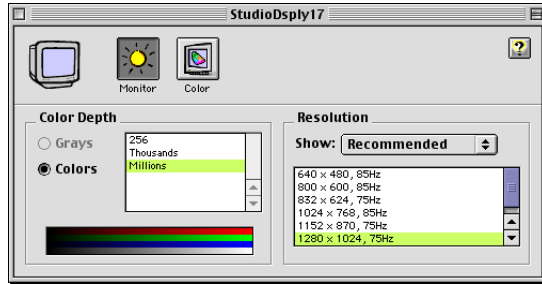


Figure 15 Display Properties on a Mac.

You'll see that your Screen Resolution setting is either 640 pixels wide x 480 pixels high, or 800 wide x 600 high, or 1024 wide x 768 high, or possibly even higher.

On a Mac:

1. Choose **Apple Menu>Control Panels>Monitors**.
2. Select the **Monitors** option.
3. The Monitors dialog box appears.
4. Select an appropriate monitor resolution for your monitor size. [SEE FIGURE 15]

If your settings were set at 800 x 600 and you changed them to 640 x 480, everything on screen will appear larger. If you changed your settings from 800 x 600 to 1024 x 768, everything on screen will appear smaller.

You can switch back and forth between one resolution setting and another. Web designers do this throughout the design process to ensure that their Web-page designs look good and are readable by all visitors.

It used to be that the size of the monitor governed the screen resolution your computer's graphics card used. The larger the monitor, the more screen resolution was likely set on the system. For instance, if you had a 15-inch monitor, your screen resolution setting might be 640 pixel wide x 480 pixels high. A 17-inch monitor would likely result in a screen resolution setting of 800 x 600 pixels. If you had a 19-inch monitor, your screen resolution setting might be 1024 x 768 pixels. Nowadays, however, flat-panel LCD monitors tend to have higher resolution settings than traditional monitors of the same size. Currently many new computers are preset at 800 x 600 pixels because many new systems ship with a 17-inch monitor.

One important thing to realize is that all of these measurements are in pixels. Why is this important?

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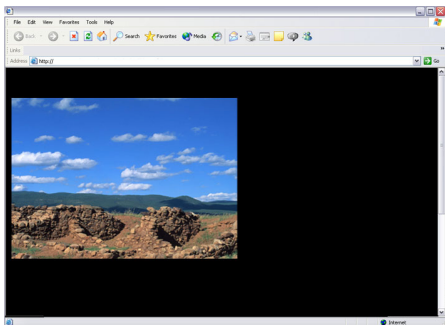


Figure 16

All of your images for the Web will also be in pixel sizes. Let's take a 320-pixel-wide image as an example. On a monitor whose display settings are 640 x 480 pixels, that image will fill half the width of the screen. [SEE FIGURE 16]

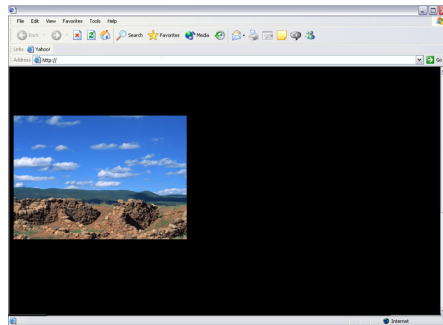


Figure 17

If the screen resolution is 800 x 600, that same 320-pixel image will take up approximately 40 percent of the screen. [SEE FIGURE 17]

However, if your viewer is using a monitor that is set at 1024 x 768 pixels, the 320-pixel image will only take up approximately 31 percent of the screen. [SEE FIGURE 18]

Visit the Unit 5 Study Hall and watch the Monitor Comparison movie to find out how monitor size affects how your images appear on the Web.

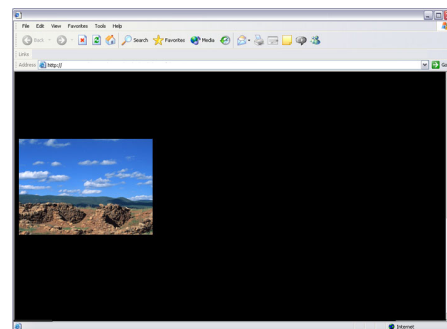


Figure 18

If you have an image that is larger than the resolution settings of your visitor's monitor, he or she will have to scroll sideways to see the entire screen. Anything that might annoy the person viewing your page can potentially cause them to leave your site—which, of course, is bad for business.

So far, we've only talked about the width of the screen. Length of an image is not as important, since Web pages will automatically lengthen to accommodate more information, and the majority of computer users are used to scrolling down on a Web site page. However, there are times when length will be an issue for you, particularly if you are trying to fit navigation buttons or important information at the bottom of the screen without making your visitor scroll. People in the print business call this putting the information "above the fold."

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What all this means is that designing a Web page is not a concrete thing. Unlike the print world, where if you create a file that will output an 8 x 10 print on one printer, the same file will also output an 8 x 10 on a different printer, in the Web world, the size an image appears on screen depends on your visitors' monitor settings.

Since you cannot control the settings your visitors use, you must design for the lowest common denominator. Traditionally that means you need to create sites based on a 640 x 480 resolution setting. Many sites are now being designed for 800 x 600 pixels, but there are other complications, including your visitor's ability to print the page easily, that make this decision something to think about carefully.

Keep in mind that, when we say you should design for a 640 x 480 display, because of graphics and other elements like scroll bars that take up real estate on a browser's window, the maximum number of pixels you can actually use for Web elements is approximately 610 pixels wide by 450 pixels high. It also means that 610 pixels is the total width of all of the graphics you create, combined, including white space.

White space is a graphic designer's term, which basically means all of the space on the page that is not occupied by graphical

elements. White space in Web terms is the background that you want to be visible.

In other words, if you have three images across the width of your page plus white space between them, the width of each image would be approximately 175 pixels (image one @175 pixels + image two @175 pixels + image three @175 pixels = 525 pixels). In this example, that would leave 85 pixels for white space around the images. [SEE FIGURE 19]

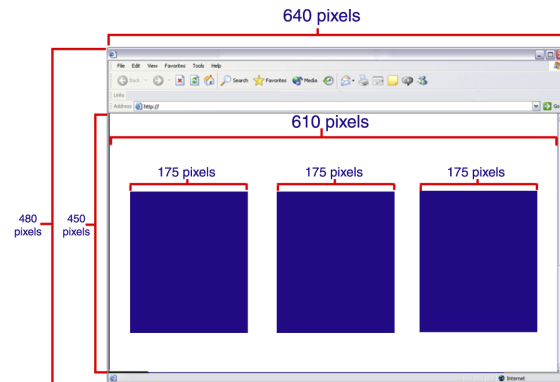


Figure 19 Here's what 3 photos, each at 175 pixels wide, would look like viewed on a 640 x 480 display.

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By the way, you are probably wondering what would happen if someone had his screen resolution settings at 800 x 600 and then looked at this 610-pixel example. The extra 190 pixels (800 – 610 = 190) would automatically be turned into white space by the browser. Depending on how the site was coded, this extra white space would either be distributed equally across the page, or placed along the right side of the screen.

If you do decide to create a site designed at 800 x 600 or larger, remember to leave sufficient room for the browser elements as well.

If you find all of this confusing, understand that this is one of the hardest concepts to grasp about Web design. Many experienced Photoshop users find it confusing. The more you prepare images for the Web, the more it will start to make sense. Just remember that the sum total of all of the elements you create should not exceed 610 pixels in width if you are designing a site for 640 x 480 pixels, and remember to leave some pixels left over in your calculations for white space.

File Formats.

There are a number of file formats in use on the Web. The most popular are by far JPEG and GIF, though there are others like PNG that may gain in popularity. Each of these different formats has specific uses, and you will need to determine which format will work best for every single image or graphic you create for the Web. Each of the different formats compresses files in a different manner.

JPEG Files.

Throughout this Course, we have familiarized you with the advantages and disadvantages of JPEG compression. We have also discussed that you will most likely use the JPEG file format for photographic images on the Web. This is because of the way it compresses images.

To get technical, JPEGs can store the complete file information in 24-bit RGB images (16.7 million colors), which is more than enough to handle most photographs. Unlike the GIF format, which compresses images by removing color, compression in a JPEG image is the result of selectively discarding data.

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Photoshop gives you a great deal of control over how much you want to compress your JPEG file, and this compression rate ranges from 10:1 to 100:1. The more compression, the smaller the file and the more artifacts, jaggies, and other damage will be visible. However, Photoshop allows you to see what the image will look like before you save it, so you can make the tradeoff between file size and damage. JPEG compression is considered "lossy," which means that the quality that is lost when the image is compressed and saved cannot be recovered. The more times you save a JPEG, the more cumulative the damage. In addition, because JPEGs are lossy, when you try to enlarge a JPEG file the damage becomes even more evident. You'll see blocky pixels and other artifacts in a damaged JPEG that has been enlarged or saved too many times. For that reason, the pixel dimensions of a JPEG can be made smaller but should never be increased.

For the most part, you will want to use the JPEG file format for all of your photographs, both black-and-white and color, as well as for graphics that have continuous tones, such as blends, gradients, or shadows. In other situations, however, you might consider the other popular Web-friendly file format, the GIF.



Notice the pixilated edge of the roof and the blurriness of this damaged JPEG.

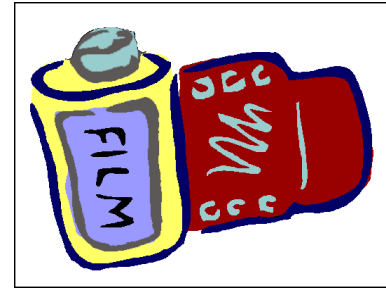
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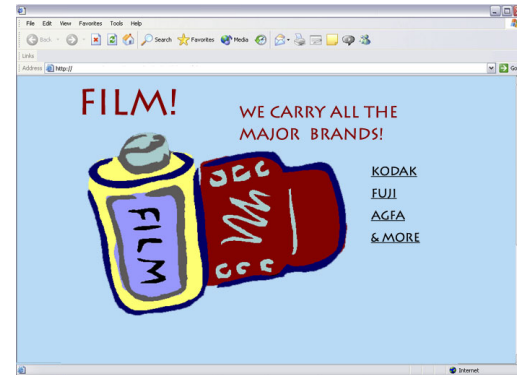
GIF Files.

The GIF (Graphics Interchange Format) file format algorithm compresses images in a completely different way than the JPEG does. Unlike the JPEG, a GIF can be saved over and over again without causing damage to the image. As such, GIF files are often referred to as *lossless*. GIF files are, by definition, 8-bit images. That means that they are comprised of 256 or fewer colors. By reducing the amount of color information, file size is reduced substantially. However 256 colors is hardly enough color information to reproduce subtle shades of color, gradients, shadows, etc., typically found in a photographic image. For this reason, the GIF file format is typically reserved for cartoon-like drawings, high-contrast images, text, logos, and other graphic elements that tend to have large areas of a single color.

GIFs offer another important feature that the JPEG does not: transparency. Using the GIF format, you can define a single color (such as a white background) to be transparent, allowing text or even your Web site's background to appear to flow around the GIF. In essence, a transparent GIF can appear to be any shape, whereas a JPEG will always appear rectangular or square.



GIF image with a white background that has been made transparent.



Notice how the white background around the film canister appears transparent allowing the Web site's background and text show through.

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PNG Files.

The PNG (Portable Network Graphics) file format was originally designed to be an all-purpose Web format. That's because it can be saved as either an 8-bit or a 24-bit image. Not only that, PNGs can be used with images in RGB, indexed-color, grayscale, and bitmap color modes. Because PNG can create 24-bit images, you can use it to compress photographs. Unfortunately, the resulting files are often larger than the same files saved as JPEGs. PNG does offer a transparency option, so there may be times when you'll want to use this format to compress photographs. PNG transparent images have smoother edges than their GIF counterparts. Keep in mind, however, that PNG has not yet gained popularity, making it unreadable by some older browsers.

Other Formats.

Many of the file formats you already have experience with are not meant to be used on the Web. Files in PSD, TIF, or EPS formats are simply too large to be transmitted online. Very often they are in color modes that will not work online. That brings us to the next issue you will need to deal with when preparing images for the Web: color.

Color and the Web.

You will confront several different color issues when creating Web graphics and photos. As we've discussed, the colors on your site will appear differently to every one of your Web visitors because of the variations produced by their monitors. However, there are several other color issues that can also affect what your visitor sees and how you prepare your Web files.

Color Modes.

What color mode your file is in has a lot to do with the end-use of your image. That's because there are specific file formats for specific uses, and each of these file formats have specific color-mode requirements. We have already discussed some of the typical color modes you will need to use to create JPEG- and GIF-formatted files.

- All JPEG images should be in the RGB color mode.
- All GIF images should be in the Index color mode.

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CMYK Color Mode Images.

None of the files that you will be using on the Web should be in the CMYK color mode, since they will probably not display properly on a visitor's monitor, even though they may look fine to you. Because monitors are RGB devices, your CMYK image color will be converted, with unpredictable results at best.

It is always a good idea to check the color mode images you are preparing for the Web. To avoid problems, make this a normal part of your workflow. This is particularly important if you find yourself preparing images for the Web from files that you have not created yourself. That's because the CMYK format is traditionally used when images are to be professionally printed in brochures, flyers, and other documents. So, an image that you need to work on that comes from an outside source just might be in CMYK mode.

Color Modes for Black-and-White Images.

You might assume that black-and-white photos should be in the Grayscale mode, but that is not the case. Again, since your images will be displayed on RGB monitors, you will need to deliver them in the RGB color mode.

So, if you are scanning a black-and-white image for the Web, we recommend that you start by:

1. Scanning the original in RGB color mode.
2. Retouching and optimizing.
3. Converting the image to Grayscale:
Image>Mode>Grayscale, to remove all color information.
4. Converting the image mode back to RGB:
Image>Mode>RGB.

Web-safe Colors.

We've discussed 8-bit (256 colors) and 24-bit (16.7 million colors) images with regard to how they are compressed by the JPEG, GIF, and PNG formats. However, another color issue comes into play when you are creating Web sites.

Back in the early 1990s it became apparent that there were differences in the ways different browsers and computers handled color. Since many computers, at that time, could only display 256 colors (8-bit images), Web pages looked very different on every platform they were viewed on. The solution was to come

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up with a set of colors that were identical regardless of whether they were displayed on a Mac or a PC. These 216 colors became known as the Web-safe color palette. Today, of course, virtually all computers are capable of displaying millions of colors, so the use of this limited number of Web-safe colors is not as important as it once was. However, if you are particularly concerned about how color appears on your site, or you suspect that your site will be viewed by people using other devices with limited color capability, such as cell phones and PDAs, it's easy to make sure you use Web-safe colors. You can choose the Web-safe color palette in a number of different ways, including loading Web-safe colors onto the Swatch palette. Let's take a look at another way: the Color Picker.

The Color Picker.

We've discussed how to change the background and foreground colors on the Toolbar earlier in your Course, and you'll use the colors you've chosen for many different aspects of your Web work, from creating backgrounds for your images to creating colored text. However, the Color Picker menu is worth a closer look, since it contains information that will also help you when working with color for Web projects.

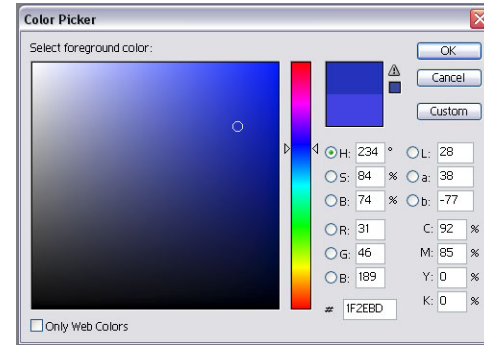


Figure 20

USING THE COLOR PICKER EXERCISE:

Single click the Foreground Swatch at the bottom of the Toolbox. The Color Picker appears. [SEE FIGURE 20] By default, Photoshop uses the Adobe Color Picker.

Using the Color Picker, you can choose a foreground or background color.

We will concentrate on just a few of the many options this dialog box affords.

One way to select a new color is to use the color field and the color slider.

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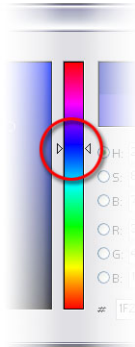


Figure 21

Click and drag the white triangles along the slider to change the colors in the color field. [SEE FIGURE 21]

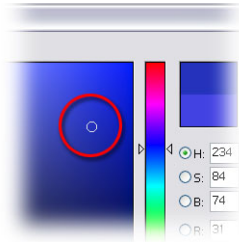


Figure 22

A round marker indicates the color's position in the field. Click and drag the marker to change the color. [SEE FIGURE 22]

The new color is displayed at the top of the color rectangle located in the upper-right corner. The original color is displayed in the bottom of the same rectangle. [SEE FIGURE 23]

As you adjust the color, the numerical values change to reflect the new color. Photoshop accommodates Web designers by allowing them to reduce the color choices to strictly Web-safe colors.

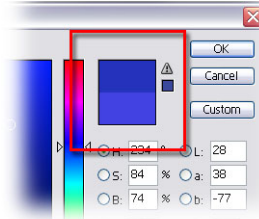


Figure 23

1. Select the **Only Web Colors** option in the lower-left corner of the Color Picker. [SEE FIGURE 24]
2. Drag the white triangle along the slider to change the colors visible in the color field. We've changed ours to blue.
3. Select a color by clicking on the color in the color field. We've selected a medium blue. The new color is displayed in the new color swatch.
4. Click **OK**. The Foreground Swatch in the toolbox changes to the color you've just picked.



Figure 24

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Hexadecimal Color Values.

The Color Picker also shows you equivalent hexadecimal numbers. The hexadecimal number system uses a series of numbers from 0 to 9 and a series of letters from A to F to represent any number. Those of you who remember your high school math will recognize this as a base-16 numbering system. It isn't important to understand what Hex is as much as it is important to understand that Hex is used in HTML as a way of defining a color. So, any color you choose in the Color Picker will have a corresponding Hex number value. In this example, the blue we have chosen can be represented in Hex as #1F2EBD. So, when you are coding your HTML page and you want the text, links, or background on the page to match a color that you might have used in an image or graphic, you can use the Hex number for that color. [SEE FIGURE 25]

By using the Color Picker and Web safe colors, you can pick colors easily and consistently. By maintaining a consistent color theme throughout your Web site you can begin to establish what advertisers call branding. Branding can go a long way towards making your Web site and your photography business look as professional as possible. After all, think of how the color yellow is synonymous with Kodak and green is with Fuji. That's because of branding and the consistent look both

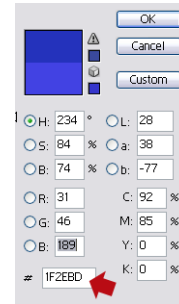


Figure 25

companies maintain in their packaging, in their printed materials, advertising, and online materials. You can do the same.

Browser Compatibility.

There's one final issue you need to be aware of when creating a Web site. Web pages will look and work differently on every single browser and in every single version of any particular browser. Consequently, when you are creating a Web page, be sure to frequently check how it works and how it looks on as many different browsers as you can. Software designed specifically for Web-page layout will help you do this by letting you check any page you are working on in a variety of browsers included in the software. However, as you'll see in the next

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Exercise, you can also preview an image (though not a complete Web page) directly in Photoshop when you use the Save for the Web function.

SAVING FOR THE WEB EXERCISE:

As we've mentioned, Photoshop has come a long way in generating tools to help you create Web images and graphics. Foremost of all of these is the Save for the Web command. Designed exclusively for Web use, it allows you to choose a particular file format and see the results of what that compression will do before you save the image. It also allows you to compare different compression ratios and different file formats all at the same time, and will even tell you approximate modem transmission times so you'll have an idea of how long it will take for the image to load on your visitor's browser.

In the real-world exercise below, you'll put into practice much of what you have already learned in this Lesson, learn a few more Photoshop tricks to help you create images, and learn how to Save for the Web.

Let's assume we are creating an image for our gallery Web site. There will be one photo on each page, so the image will need to be featured prominently. The background of the page will



Figure 26 "fountain.tif"

© Sharon Gumerove

be black with grey text. In this exercise, we're going to open a photograph, size it for the Web, define the edges of the image, add a copyright notice, and then save it as a JPEG. This is something you will do again and again as you create files for a Web site.

1. Open the file named "fountain.tif." [SEE FIGURE 26]
2. Check the color mode. Choose **Image>Mode**. This image is currently in CMYK mode, so you'll need to convert it to RGB color.

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3. Choose **Image>Mode>RGB Color**.
4. Check the image size. Choose **Image>Image Size**.
The Image Size dialog box appears. [SEE FIGURE 27]
5. De-select the Resample Image option and change the resolution of the image to 75 ppi. [SEE FIGURE 28]

The pixel dimensions remain at 2100 pixels wide and 1500 pixels high, even though the resolution is now 75 ppi.

6. Click **OK**. The Image Size dialog box closes. This process has now left us with a very large 75 ppi image that we need to make smaller.
7. Open the Image Size dialog box again.

Choose **Image>Image Size**.

8. Select the Resample Image option. This will allow you to change the pixel dimensions of the image from 2100 pixels and 1500 pixels to a more Web-friendly size.
9. Select the **Constrain Proportions** option. This will ensure that your image won't be distorted when you resize it.

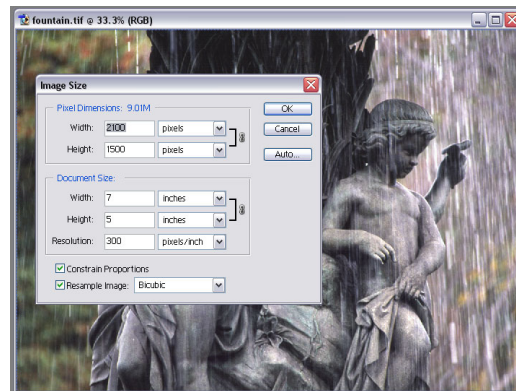


Figure 27

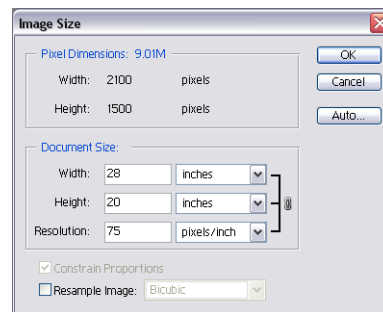


Figure 28

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- Change the Pixel Dimension to 350 x 250 pixels.
- Click **OK**. [SEE FIGURE 29]

Note: Remember, you only need to de-select the Resample option if you want to discard pixels from an image and reduce or enlarge its size.

As discussed, the background of our Web page will be black. Since the fountain is a very dark color, the edges will blend into the background, making it hard to see where the photo ends and the background begins. [SEE FIGURE 30]

To solve this, we will clearly define the edges of the image in white using Photoshop's **Stroke** command.

- Choose **Select>All**. This command creates a marquee that is equal in size to the Canvas dimension, essentially selecting everything on the currently active layer.

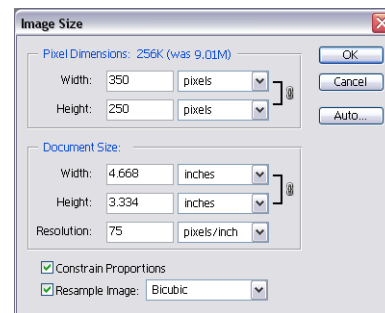


Figure 29

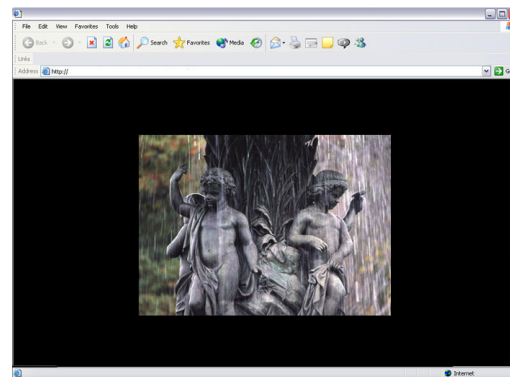


Figure 30

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- Click on the Foreground swatch on the toolbar. Make sure that the color you choose is white. The easiest way of doing this is by typing 255 into all three of the RGB boxes on the right-hand side of the Color Picker menu.

[SEE FIGURE 31]

- Select **Edit>Stroke**. The Stroke dialog box appears. We are going to add a white 1-pixel border around the perimeter of the photo.
- Configure your stroke settings as indicated. [SEE FIGURE 32]

Width: 1 pixel

Color: White

Location: Inside

Blending Mode: Normal

Opacity: 100%

- Click OK. A 1-pixel white border is added to the inside of the image.
- Now we are going to add a 1-pixel black border around the outside edge of the photo. This will ensure that the white border we just created doesn't get cut off when we

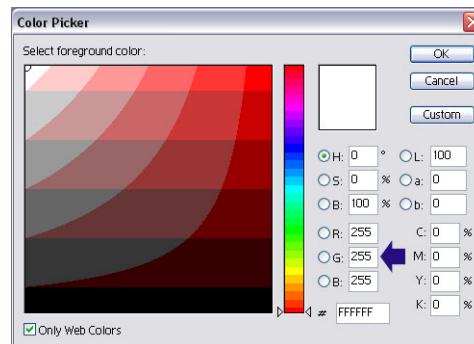


Figure 31



Figure 32

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save the file. To do this, click on the Background Swatch and set the Color Picker to match our Web-page background, which is black. (Hint: The RGB setting for black is 0 Red, 0 Green, 0 Black.)

18. Choose **Image>Canvas Size**. The Canvas Size dialog box appears. Add 2 pixels to both the width and the height under New Size.

Width: 352 pixels

Height: 252 pixels

Notice the Anchor Box. The white square in the center indicates that we want the extra pixels we're adding to be distributed evenly on all sides of the photo. For now, leave this as is. [\[SEE FIGURE 33A\]](#)

19. Click **OK**.

A thin black border is added to all four sides of the image. [\[SEE FIGURE 33B\]](#)

Now let's add a copyright notice to this image. There are a number of places where we could add this information; for instance, we could add a watermark to the photo by typing the

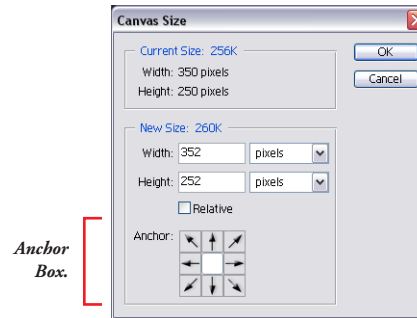


Figure 33A Canvas Size dialog.

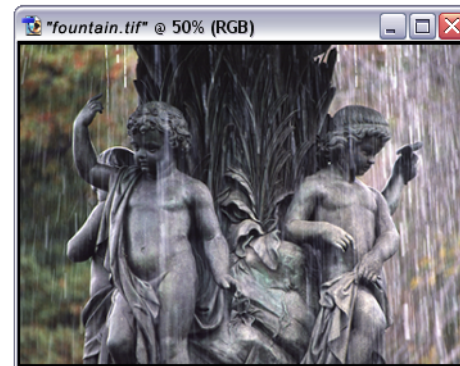


Figure 33B Image resized with 1 point border.

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copyright within the image area. However, this is not a particularly attractive solution and it can distract from your photo. In this exercise, we will increase the canvas size of the image and put the copyright data above the photo but still within the image file.

There are two reasons for doing this. Adding the copyright information directly into the image file means that anyone stealing your photo will have to physically remove the copyright from the file, proving that they were aware they were stealing the photo when they removed it. This is not complete protection, but it does imply intent.

However, the other reason for adding the copyright information to the image file, rather than simply programming it as text in the HTML document, is that it is much easier on the programmer. The copyright will always remain with the image, exactly where you placed it.

Where to put copyright information is an aesthetic as well as legal decision you will need to make on your own. You'll find more information on copyrighting your images and other ways of digitally protecting your photos in our Digital Dialog series in the Student Lounge.

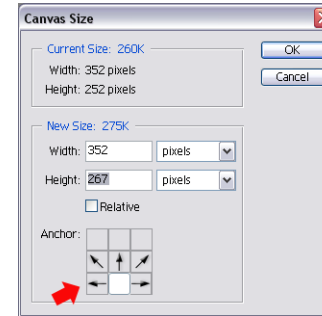


Figure 34A

1. Before you resize the Canvas, make sure black is selected as the Background color. Select **Image>Canvas Size**. This time, let's add 15 pixels to the top of the image.
2. Change the Height from 252 to 267 pixels.
3. Click the bottom center square of the Anchor Box. This tells Photoshop to add the 15 extra pixels to the top of image. [\[SEE FIGURE 34A\]](#)
4. Click **OK**.
5. Now let's pick a color to use for our text. Click on the Foreground Color on the Toolbar and use the Color Picker to change it to a Gray color. We used R: 204, G: 204, B:204.

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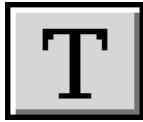


Figure 34B



Figure 36

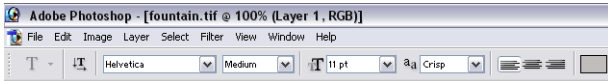


Figure 35

6. Select the Type Tool on the toolbar and click on the black space at the top of the picture. A blinking cursor will appear. [SEE FIGURE 34B]
7. Configure the Type Tool options as indicated. [SEE FIGURE 35]
8. Choose **Helvetica** from the Font pull-down menu.
9. Select **Bold** for the style of the font.
10. Select **11** as the font size.
11. Choose **Crisp** in the Anti-Aliasing pull-down.
12. Select **Left-Align** for the text.

13. Make sure your Foreground Swatch is the correct color. In this case our pre-selected gray.
14. Now you are ready to type the copyright notice. We'll start by creating the ubiquitous copyright symbol.

On a Windows machine: To create a copyright symbol, hold down the ALT key while typing 0169 into the numerical keypad. (Make sure that Num Lock is on.)

On a Mac: To create a copyright symbol, press Option + G.

Add a space and then type your name. Photoshop will automatically make a new layer for this text so you can move it around to reposition it wherever you want. In this case, we've moved it to the center of the photo. [SEE FIGURE 36]

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We're ready for the last part of this procedure, which is using Photoshop's Save for the Web command to save this completed image as a JPEG. As we've mentioned before, Save for the Web provides you with the information you need to choose the proper amount of compression for your photo or graphic. There are a lot of different settings you can make in the Save for the Web dialog box, and we're going to run through the most common. Later on in your Course, we'll show you how to use the Web to save a graphic as a GIF, and discuss some of the more advanced settings you can use to further optimize your files.

1. Select **File>Save for Web**. The Save for the Web dialog box appears. Notice the four tabs on the upper-left side of the box marked "Original," "Optimized," "2-Up," "4-Up."
2. Click the **Original** tab to view your original uncompressed photograph.
3. Click the **Optimized** tab to view your original photo compressed using the default compression method.
4. Click the **2-Up** tab to see the original uncompressed photo alongside the compressed version.

5. Click the **4-Up** tab to see the original uncompressed photo alongside three compressed versions. Using the Save for the Web command you can even mix and match different file formats, such as GIF and JPEG. This way you can determine which file format will work best for the photo or graphic in question. [SEE FIGURE 37]

We will work with the **4-Up** option.

In the upper left-hand corner of the Save for the Web dialog box, you'll see the Save for the Web toolbox. The two tools we will

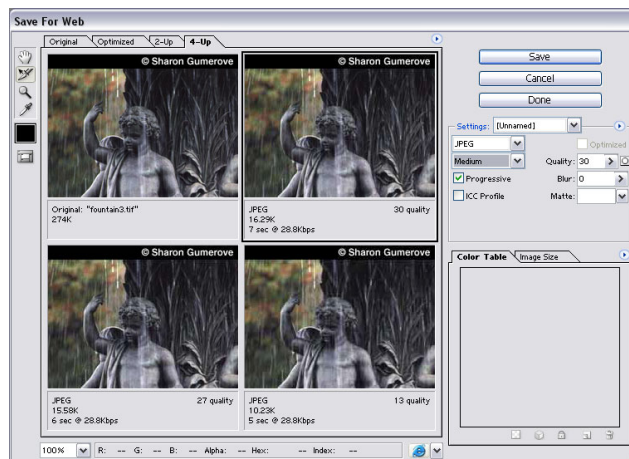


Figure 37

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use in this exercise are the Hand tool and the Zoom tool. Both tools work the same as their Photoshop counterparts.

[SEE FIGURE 38]

6. Select the Hand tool.

Each panel in the Save for the Web dialog box represents a different variation of the original image, each with a different compression applied. The current settings are based on the last time you used the command, so don't worry if your settings differ a bit from what we are discussing here.

The upper-left box contains a thumbnail representation of the original uncompressed image. Underneath it are the file name and current size. The rest of the boxes show you how the same image will look using various compression ratios. As you can see in this illustration, the photograph is shown using three different quality levels of JPEG compression: 30, 27, and 13. Notice also the differing file sizes for each compression level: 16.29K, 15.58K, and 10.23K. Finally, the panels also indicate the approximate transmission times each of the differently compressed images will take to reach your Web site visitor, assuming they are using a 28.8K modem; in this case, 7 seconds, 6 seconds, and 5 seconds respectively. [SEE FIGURE 39]



Figure 38

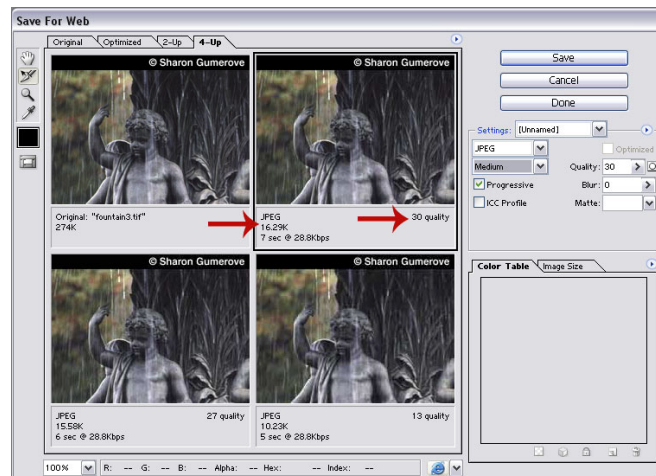


Figure 39

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7. To adjust the compression values for any one panel you must select it first. Click once in the upper-right part of the panel to select it. A selected panel will appear highlighted with a black border.

The compression Settings (in the upper-right-hand corner) represents the currently selected pane. [SEE FIGURE 40]

8. Start by choosing an optimized file format. Since the image we are compressing is a continuous-tone photograph, we'll choose the JPEG format.
9. Select JPEG from the Optimized File Format pull-down menu.
10. Next choose a compression quality. You can choose a preset Compression Quality setting from the pull-down menu. Your choices are Low (Quality 10), Medium (Quality 30), High (Quality 60), or Maximum (Quality 80), or by simply typing in any number from 1 to 100 into the Quality setting on the right hand side of the panel. Remember that lower-quality values sacrifice image quality for better compression.

What quality of JPEG compression should you use for the Web? Here at NYI, we like to choose the medium quality setting of 35 for basic images. However, since this particular

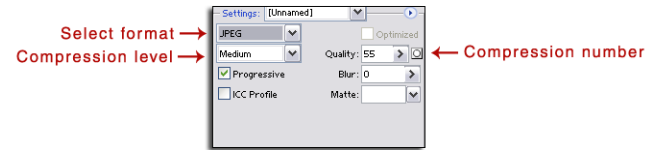


Figure 40

photo contains copyright text, a slightly higher quality setting of 55 will allow for a cleaner, less-pixelated copyright notice.

Notice the check box labeled Progressive. A Progressive JPEG will appear on your visitor's screen in several passes, each one making the image clearer and clearer. This can be advantageous as it allows your visitor to see at least a low-resolution version of your photo without having to wait for the entire picture to download. Without the progression option selected, the viewer won't see anything until the whole image downloads. (Remember our discussion on how Web files are broken into little packets of data, each of which has to transverse the Internet before being recombined into a complete file on your visitor's browser? Progressive JPEGs allow the image to be viewed before all of the data packets have arrived.) Those of you who are familiar with GIF compression will recognize this as a similar function to Interlacing.

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11. Choose the following compression settings:

File type: JPEG

Compression: Medium

Quality: 55

Progressive: Checked

The Save for Web dialog box also provides you with information you can use to determine approximately how long the image will take to reach your visitor's browser.

12. Simply **right click (Windows)**, or **Control + click (Mac)** the transmission-speed information and a menu will appear. Allowing you to see how fast your image will transmit across varying networks from a very slow 9600 bps modem to a very fast 2 MBPS T-3 Internet connection. [\[SEE FIGURE 41\]](#)

Since the slowest connection you'll probably encounter is 28.8K, that is a good choice for many people. Many new computers ship with faster 56K modems, and increasingly you'll find more and more people using cable or DSL connections, which are even faster.

Once you have set this, the same modem speed will be indicated in all three panels so you can compare and contrast transmission times. You also won't need to set this number again, unless you want to choose a different transmission speed, since Photoshop will remember it the next time you use Save for the Web.

Now that we have chosen a transmission-time setting and set the compression rate for the first panel, let's configure another panel so we can compare the compression settings visually.

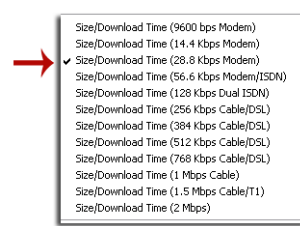


Figure 41

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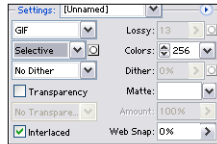


Figure 42

13. Select the panel in the lower left by clicking once.

14. Choose the following compressions settings:

File type: JPEG

Compression: Low

Quality: 10

Compression: Checked

Finally, let's also compare how this image might look compressed as a GIF. [\[SEE FIGURE 42\]](#)

15. Select the panel in the lower right by clicking once.

16. Choose the following compression settings:

File type: GIF

Color Reduction: Selective

Colors: 256

No Dither

Interlaced: Checked

We will discuss what these GIF compressions mean later on in your Course. For now, this will give you an idea of the file size, transmission times, and quality of a photograph compressed as a GIF. As you'll see, JPEG is a much more efficient way of compressing a photographic image.

Using the Save for the Web command you can easily determine what settings will give you the best-looking image with the desired transmission speed.

Be sure to use the Hand tool to move the image around in each of the panels and examine all parts of the photo. If you click on the Zoom tool, you can magnify the image in each of the panels and more clearly examine the different areas.

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Figure 43

Let's take a close look at the four different settings that we have for this image. [SEE FIGURE 43]

If you examine the four panels carefully, a number of things become obvious. First, the GIF setting for this photograph indicates that the file size is 88.75K, which is too large in the

context of a Web page that might include other images as well as graphics. Furthermore, the transmission time is three times longer than the highest JPEG setting—32 seconds rather than 11 seconds.

Even if the GIF image looked better than the JPEG (which it does not) it's obvious that the file size makes these particular GIF settings impractical to use.

That leaves us with two different JPEG settings. If speed were the major issue, then the JPEG setting of Low (Quality 10) would be a good choice. This file would take about 4 seconds to transmit with a 28.8K modem. For most photographers, however, the bigger concern is image quality.

As such, when we are preparing images for the Web, we must learn to balance image quality versus an acceptable transmission time. With that in mind, the JPEG with the quality setting of Medium (Quality 55) is probably the best choice. This file will take 11 seconds to transmit. As we've said, most of the public has faster than 28.8K modems and therefore, in reality, the file would take even less time to reach their browsers. If you examine the panels carefully, using the Zoom tool, you'll see that the copyright notice appears much sharper in the larger file as well.

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Realize that you could have chosen different quality settings than the ones we've shown you here.

Before we go ahead and save this image, there is one other function of the Save for the Web command that you might find handy. You can actually change the size of a JPEG (or PNG or WBMP) directly in the Save for the Web dialog box, so if you determine that the file is too large—because the transmission times are too long—you can make the file smaller without having to close the dialog box and start the process all over again. Simply click on the tab on the lower right of the dialog box marked Image Size and you can change the pixel dimensions of the photo. [SEE FIGURE 44]

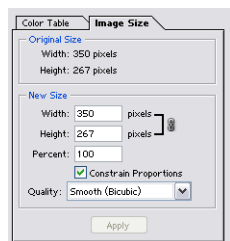


Figure 44

We're ready to save this image as a JPEG with a medium quality setting of 55.

17. Using the Hand tool, click on the panel on the upper right.
18. Click **Save**.
19. When the Save Optimized As dialog box opens, give the JPEG a new name and make sure to put it in the folder where you want it to go.

That's it. You've created your first photo for the Web!

As you can see, Photoshop offers many tools and features designed specifically to help you create, size, and save your photographs to use online and when you are creating your own Web site. In our next Lesson on Web Design in Unit 6, we'll show you how to create and save graphics for the Web, and how Photoshop's Web Photo Gallery command can create a Web site for you with just a few clicks of the mouse.

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