Working with Images for the Web

Using GIFs and JPEGs

Overview

The two most popular formats for pictures on the internet are GIF and JPEG. Both will work on your web page, but each has pros and cons. This guide will show you when to use each format and how to create professional-looking images for the web, employing transparency and avoiding common mistakes.

In This Guide

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Photoshop Elements

The Basics

An image contains a lot of information. The larger the image, the more information it contains. However, users expect web pages to load quickly. Large images take longer to load. To speed up the load time, it is possible to pack the image information into a smaller file size using complex algorithms. Two of these compression formats are GIF and JPEG.

JPEGs

The JPEG format (made by the Joint Photographers Expert Group) is ideal for photographs. It compresses the information in the image by using complex algorithms, but maintains the colors the image contains. Photographs can have millions of colors. If you need to place photographs on your web page, use the JPEG format.

Figure 1. A JPEG image.

JPEGs use a **lossy** compression format, which means the more the image is compressed, the worse it will look. At high compression, you see **artifacts**, pixels that seem discolored. These artifacts are more noticeable in images with solid colors and **less noticeable** in photographs, whose natural color shifts hide the artifacts.

GIFs

GIFs are limited to 256 colors. During compression, the image uses fewer and fewer colors. The simpler the image, the smaller its file size and the faster it downloads. The GIF format is typically used for images with a couple of nice solid colors like most logos, line drawings or cartoons.

Figure 2. A GIF image.

GIFs can also be **animated**, by giving the image multiple frames which cycle like an animator's flipbook. There are programs that create animated GIFs. This guide doesn't cover animated GIFs, but you can find out more by searching the web.

Transparency

JPEGs cannot be made transparent, but GIFs can. This is useful when you want to display an image on top of a multi-colored or textured background without an ugly bounding box. In the picture to the right, the dog is set against a background of bright green – a distracting choice. The picture at bottom right removes the green background by making it transparent.

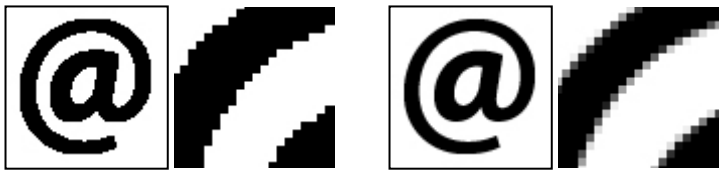
Figure 3. A GIF image with a transparent background.

GIF transparency works by allowing you to select one color from your image to become transparent (in our example, the green background). In order to have a solid area of transparency, you have to have a solid area of the selected transparency color.

Anti-aliasing

Most graphics have a soft edge which is achieved through an optical illusion called **anti-aliasing**. Anti-aliasing helps our eyes see a smooth line, especially on diagonals and curves. The effect is achieved by blending the colors of the foreground and background.

Figure 4. A GIF image: aliased (left) and anti-aliased (right).



Notice how much smoother the anti-aliased symbol on the right appears. Under some circumstances, this blending can lead to nasty results.

Blending and Halos

Remember, only one color in a GIF can be made transparent. That means all the pixels blending the foreground and background colors are going to remain opaque, as these pixels are different colors. These transition pixels show up as an ugly halo **if** the background color of the web page and the background color of the GIF image contrast with each other.

Figure 5. "Halo" caused by anti-aliasing.

In Figure 5, the original image (top left) was created with a red background. The destination web page has a black background. Placing the transparent GIF image on that web page (bottom left) leaves a halo of reddish pixels. These are the pixels that were used to blend the foreground and background colors of my original image.

The solution is to think ahead. When creating your GIF image, choose a background color that matches the background color of the destination web page. Then the transition pixels employed in anti-aliasing will blend your image into the page, creating a professional final product.

For More Information

There are many websites that offer more information on working with GIFs and JPEGs. For additional help, contact the ITS Helpdesk at helpdesk@ithaca.edu or 4-3282.