

Preparing Images for the Internet

Introduction

By using a digital camera or scanner you can acquire digital images (photos) to be used on your website. The problem is that the raw output from these devices is normally not ready to be displayed from the web. The file type, file size, and image dimensions are all factors that must be considered. We want the images to be viewable in all the major browsers and to not drastically slow down the load time of our web pages.

File Type

Many cameras and scanners output the digital images in *.bmp* (windows bitmap) file format. This format produces a large file size and also cannot be viewed with several major browsers. For these reasons, the images should be converted to the much more suitable *.jpg* file type. If your camera or scanner software does not have the option to save the images to the *.jpg* format then you will need to do this with a separate graphics application.

File Size

The file size determines the download (display) time of an image. A 50 kb image, for example, will load and display in a browser 10 times faster than a 500 kb image. For a web page to fully load in an acceptable amount of time you should keep each page, including all it's elements to 100 kb or less. This means you must use smaller and optimized images (also known as scrubbing the image). I suggest that no image have a file size of over 50 kb and that only one of these images should be used on a single page.

Image Dimensions

This is the actual viewable size of an image (width and height) normally measured in pixels. Most cameras and scanners output an image to a specific dimension such as 640 x 480 or 800 x 600. These are large images and should not be used on a web page at their present size. There is no need to entirely fill a browser window with an image. We suggest a maximum image width of 400 pixels and the height being determined by maintaining the ratio during resizing. Also, the image file size is directly related to image dimensions.

Tip: Never use the width and height commands of an image tag to resize an image. The file size will remain the same and this will only degrade the image quality.

Using IrfanView to Prepare Images

Now that we've covered the basics of digital images we can move on to the actual process of preparing them. There are many software applications available that will do an excellent job of cropping, converting, resizing, and optimizing digital images. These applications can also be very expensive. For the purpose of preparing images for your site we suggest using the freeware image viewer/editor IrfanView. It will do a nice job of preparing your images for general web page use.

If you do not have this program go to:

<http://www.irfanview.com> and download the latest version.

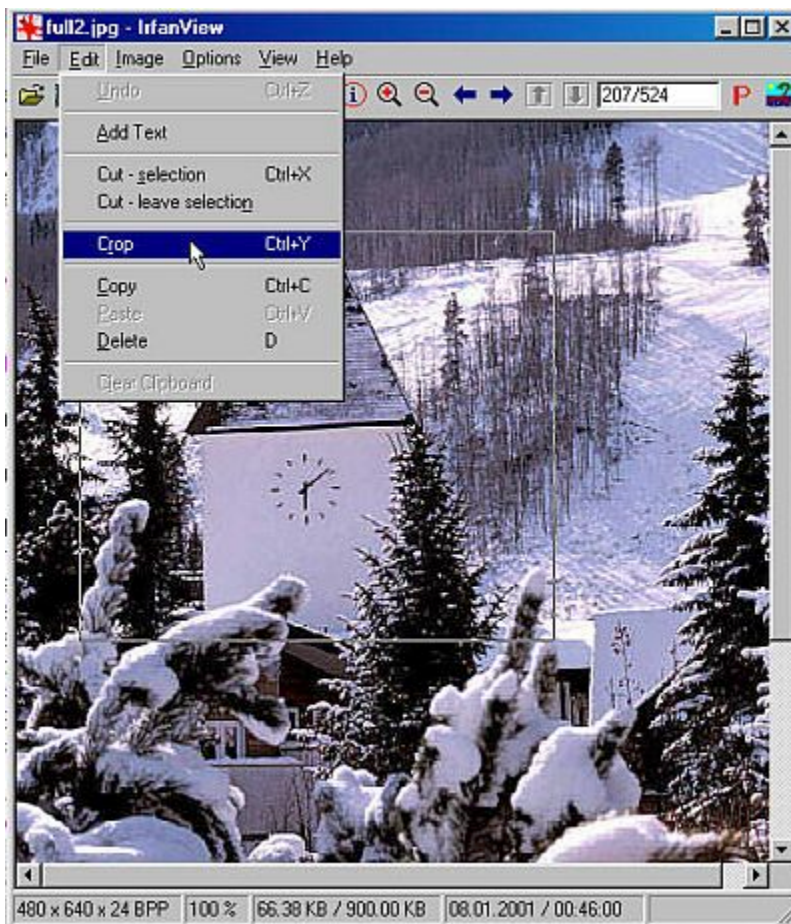
Assuming that the IrfanView program is now installed, we will now go thru a step-by-step procedure of it's use. There are four steps to preparing an image.

1. Cropping
2. Resizing
3. Optimizing
4. Converting

Once you become used to this process you will be able to prepare an image within a couple of minutes. The first step is to start up the IrfanView program and the go to **File** and then **Open** where you will browse to the saved camera or scanned image.

Crop The Image

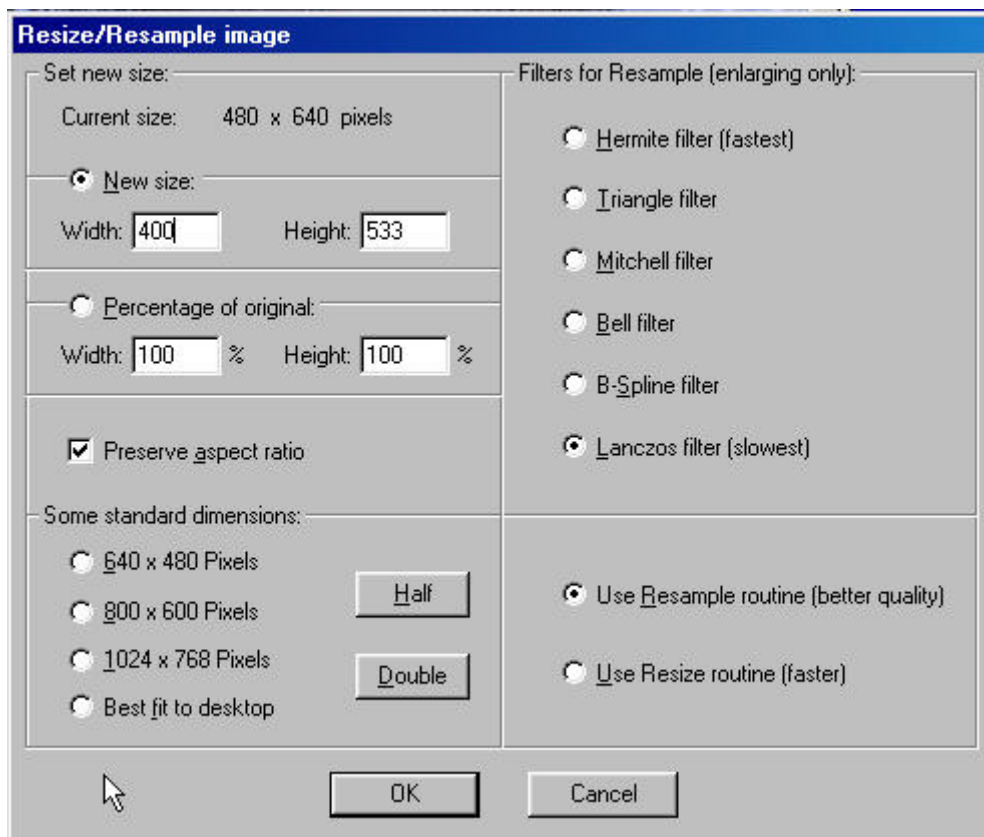
Cropping is simply selecting an area of the image that you want to keep and removing the rest. You will more likely need to do this with a camera image than a scanned image as you normally scan only the area you want to keep. Either way, if you want to keep the entire image as it is you can skip this step. To crop the image hold down the *left* mouse button while dragging a rectangle around the area of the image that you want to keep. Once you have the rectangle where you want, go to **Edit** and then click on the **Crop** command.



Resize The Image

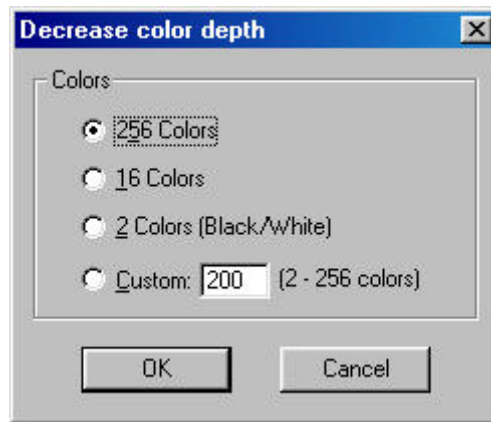
You should now be looking at the cropped image which can now be resized to specified dimensions. If you look at the status bar of IrfanView (very bottom of the program) you will see the current image dimensions (width and height) on the left. If the width is less than 400, and you do not want it any smaller than this, you can skip this step. If the width is over 400, or if you simply want the image to be smaller, it can easily be resized. Go to the **Image** menu and click on **Resize/Resample**. You will get the resize configuration panel. Make sure that all the settings are identical to the settings in the example below with the exception of the *New size: Height:* number. When you set the width to 400 the height will adjust itself accordingly. Now click the **OK** button and the image will be resized.

*Tip: If the resized image looks is blurred, go to the **Image** menu and click on sharpen.*



Optimize The Image

You should now be looking at the cropped and resized image. You can reduce the file size of the image considerably by reducing the number of colors in the image. A *.bmp* or *.jpg* image can contain thousands or even millions of colors. Reducing the image to 256 colors will affect the overall image quality but this is a good trade-off for the smaller file size and faster display time. Go to the **Image** menu and click on **Decrease Color Depth**. In the popup make sure that *256 Colors* is checked and then click the **OK** button.



Convert The Image

You should now be looking at the cropped, resized, and optimized image. The next and final step is to convert the image to the *.jpg* file type. It does not matter if it is already a *.jpg* image, the steps are the same. You will simply save the image as a *.jpg* with the name of your choice. Go to the **File** menu and click on **Save as**. In the popup, browse to the folder where you want to save the image. Type a name for the image (without an extension) in the *File name:* field. Select *JPG - JPEG Files* from the *Save as type:* menu. Click the **Save** button. You now have an image that is ready to upload and be used on a web page. Remember that you should use only one of these images on a single page.

