Dean Photographic Club

Tutorial

"Re-sizing Digital Photographs for Projected Image competition entries"
by Steve Hale.

Introduction

The subject of resizing photographs crops up almost every time a competition comes along that requires photographs/images for digital projection. Given these discussions occur on a regular basis it would appear that people may need a little help in understanding this procedure.

If you don't want to understand the background as to why and what resizing is all about then jump this section and go to here – "How to Resize in CS3**"**

I have thought about why we might need to resize our photographs for projection, I'm sure this question may have gone through your head as well; the only sensible answer I can come up with is to optimize file size. We don't really want to produce a file that has far more information in it than the projector can display. On the other hand it would not be a good idea to provide files that are less than the native resolution of the projector. This is the same rule you would use when printing a photograph, you don't use lesser printing quality than the best your printer has to offer.

Resolution & Aspect Ratio

The "native resolution" of a projector is the resolution of the electro-optical device inside the projector that produces the projected image when light is shone through it and focused by the lens. The resolution will be generally quoted in pixels.

Here I will explain how easy it is to re-size your photograph or image for digital projection. For this example I will be using Photoshop CS3, however most image manipulation applications will have similar if not identical features.

There will be possibly two facts given to you about the projector, resolution and aspect ratio.

In this instance the resolution should be the projectors native resolution as talked about above. The resolution will be presented to you as two numbers i.e. 1024 x 768. The first figure is the "x" dimension, or horizontal. The second figure is the "y" dimension, or the vertical.

If you photograph is "Landscape" then the "x" or horizontal dimension is key. If you photograph is "Portrait" then the "y" dimension is key. This simple rules expands somewhat to accommodate square and letterbox; I will explain more detail later.

The “aspect ratio” is the relationship of the “x” dimension to the “y” dimension, the unit of measurement is not relevant as this is a “ratio”. Aspect ratios are most often presented to us as whole numbers and not fractions, whole numbers are easier to recall. A common aspect ratio most people are familiar with is 4:3, the older television standard screen ratio. This ratio can also be expressed as 1.33:1 which is not so easy to remember but is easier to understand mathematically, as it means the “x” dimension is 1.33 times the “y” dimension. The advantages of knowing the aspect ratio of the projector are if you want to maximize your print suit the projector, or, so as to understand how your print will look when projected.

Common projector specifications are: -

Resolution	**Typical Description**
1024x768px / 4:3	(older computer monitor standard)
1280x768 / 16:9	(widescreen HD Ready)
1440x800 16:9	(or 900) (wide screen High Definition)
1920x1080 16:9	(wide screen full High definition)

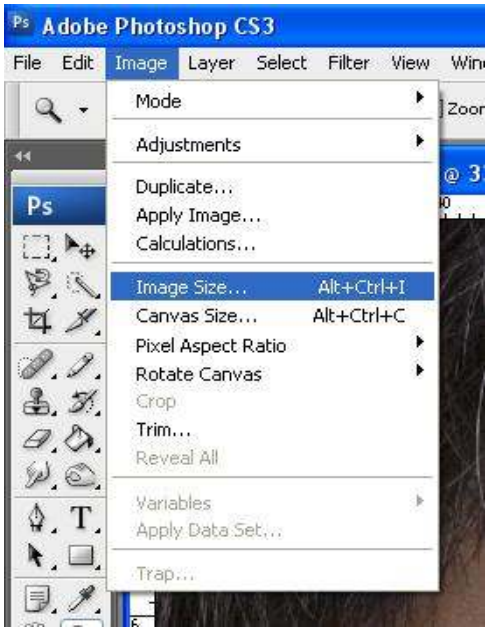
That’s the whys and wherefores over and done with so now on the how to bit.

How to Resize in CS3

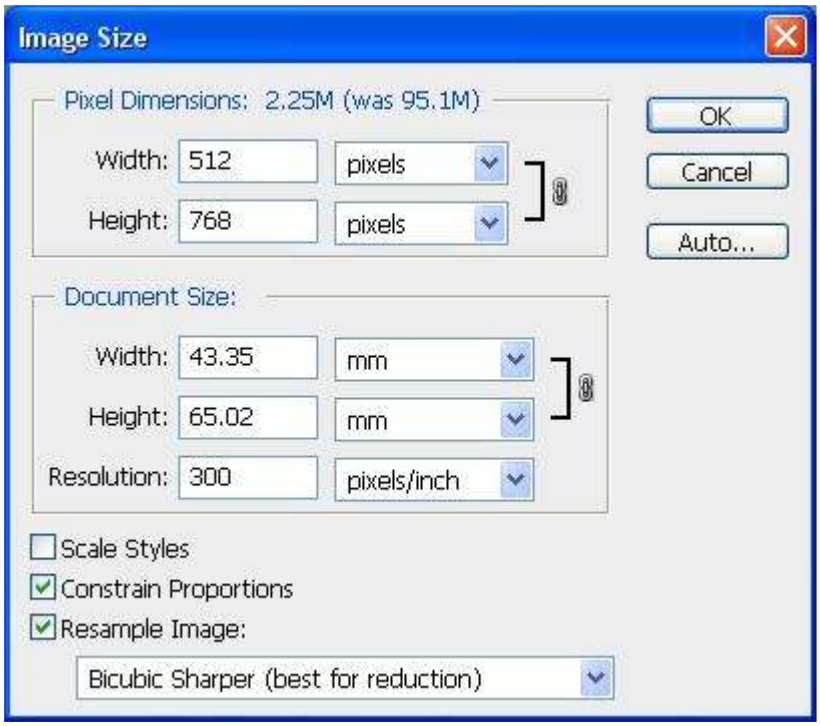
I will assume you have the photograph already loaded into Photoshop and are ready to resize.

From the Main Menu Bar at the top of the screen mouse left click “Image” then “Image Size”.

Figure 1. Select Image Size



You will then be presented with the panel below.



This is where you will need to make a few decisions based on your photograph and the projector. If you follow a few simple steps you shouldn't go wrong.

Important – You only need to set ONE dimension. You will do either step 4 or 5 below, **not both**.

1. Tick the "Constrain Proportions" tick box.
2. Tick "Resample Image" (may already be done)
3. Below "Resample Image" select the re-sampling method which will be used from the drop-down box. (I have gone for the one suggested by Photoshop in this instance.)
4. If you photograph is "**Landscape**" (Not Landscape - go to step 5) then in the "Pixel Dimensions" section at the top set the "**Width**" to equal "Projector Width" i.e. **1024** x ~~768~~ of the projector specification.
5. If you photograph is "**Portrait**" then in the "Pixel Dimensions" section at the top set the "**Height**" to equal "Projector Height" i.e. ~~1024~~ x **768** of the projector specification.

That is all you need to do, all the other setting on this panel are not relevant to what you are doing in this procedure. The "Document Size" section is only used when you are preparing the photograph to be printed.

Click OK. – Job done!! That was easy wasn't it!

If you are preparing a square photograph you can set either dimension and all will work out fine.

It may be that after resizing you photograph a “mild” amount of sharpening will be required. Don’t over sharpen!!

The last thing you will need to do is save the photograph. Most clubs will suggest that the image be submitted as a JPEG. Sadly although widely used by many this image format is not the best due to the possible introduction of artifacts into your image by the compression technique.

Most programs will allow you to adjust the level of compression applied to the image before saving. You should aim to compress as little as possible while getting the file size equal to or less than any constraints placed on you by the club. Most clubs have a suggested maximum file size of no greater than 2Mb (two mega-bytes) as there can be issues sending them via email.

You should not need to put borders or attempt to fill white space or black space around your image. The Slide Show application used to present your images will take care of this for you. The exception to that rule is that application has been configured incorrectly.

I have written this short tutorial as a starter for 10. As members read it I’m sure question will come. I’ll do my best to address them through the expansion of this tutorial.

Regards

-SH.