

Optimize Your Digital Images Using Microsoft Photo Editor

Digital cameras can be an asset to any school; however they can be very frustrating when the images transferred to the computer do not look as sharp and crisp as they did on the camera's LCD screen. The first step in combating the frustrations of dull images is to concentrate on proper lighting for your photographs. The better the original light in the photograph, the more information that can be recorded from your scene. But even the best photographers are unable to completely control their environments. This will be especially true in a robust school environment. If you do find yourself with dull, gray, dark images, there are some things we can do to the images using Microsoft Photo Editor to fix these problems.

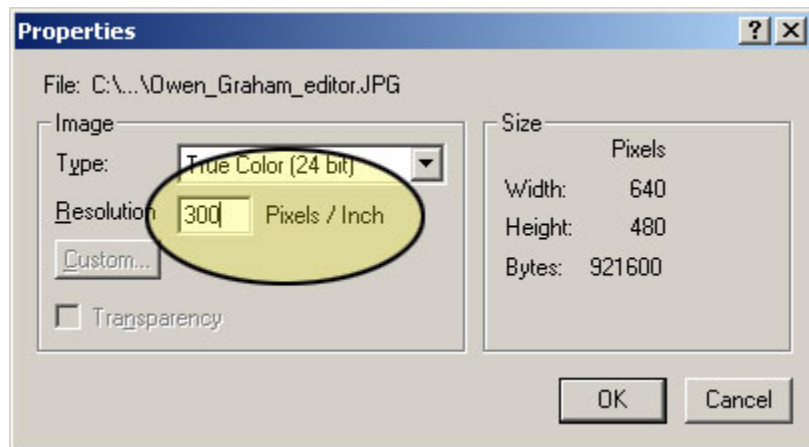
1. **Important** - If your camera saves your digital images as jpg files, it has already compressed these images.

When you open these images in Photo Editor, be sure you go to **FILE >**

PROPERTIES

and change your resolution to 72 pixels/inch. This set is to ensure your image properties will match and you

do not run into the problem of resizing a file with an original resolution of 72 pixels/inch to a file with a resolution of 300 pixels/inch.



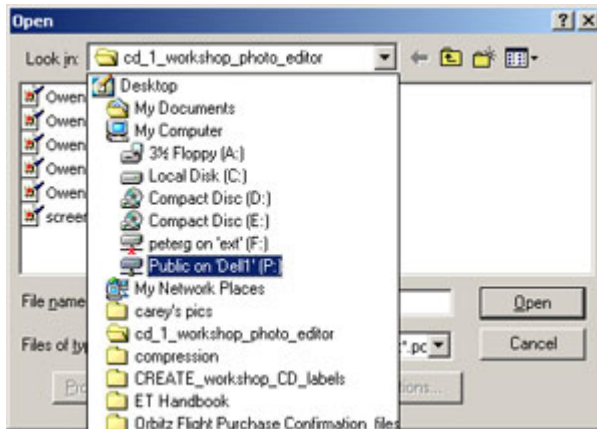
2.



In this picture of Sean and Mary, the overcast conditions caused the image to be recorded as dull and very dark. We need to open this image in Photo Editor and lighten the image and increase the contrast.

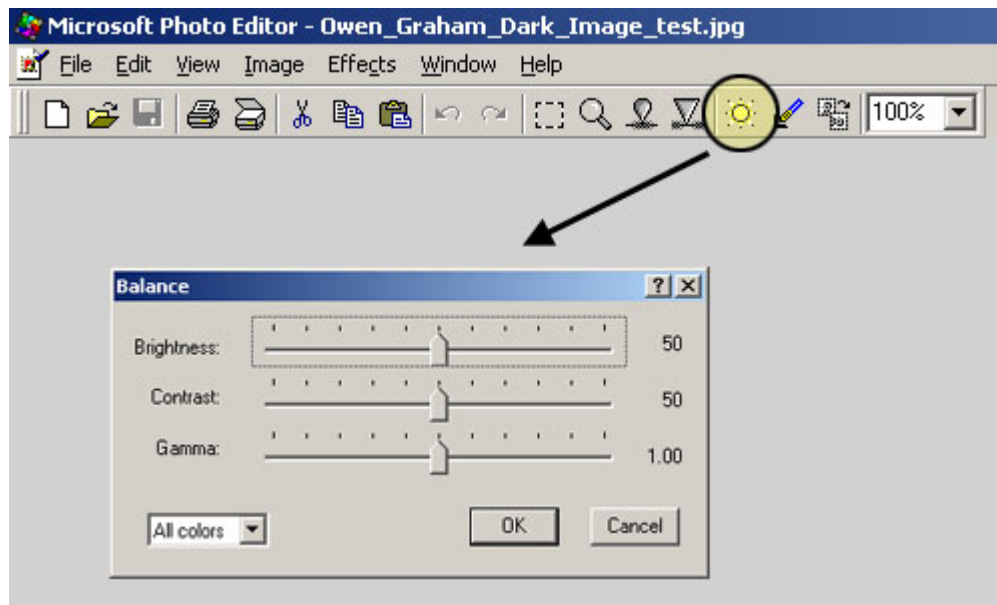
When editing the brightness and contrast on an image it is a good idea to find the purest white and black areas of the picture to help you base your decisions. In this case, Sean's white t-shirt should be considered our gauge for the lightest colors while the area around the tire in the background will be the baseline for the darkest colors.

3.



After launching Photo Editor, select **FILE > OPEN**. From the **Look in:** box, click on the drop-down menu and select the **Public on Dell1 (P:)** drive. Open the CD 3 folder and locate the folder named **Digital Imaging Templates** and double click on the file named **Owen_Graham_Dark_Image.jpg**.

4. Click on the **Image Balance** Button to open the Balance Dialog Box.



5. When adjusting the Brightness/Contrast of an image, you want to pay close attention to the areas that you have decided should be the whitest and darkest. As a general rule, I will increase the **Brightness** by 20%, the **Contrast** by 10% and the **Gamma** by 5% and then reassess the image.

6. By correcting the Brightness and Contrast, the individuals in the image are much more visible.



7. Correct the following image in the same manner. The file is located on at **P:\cd3\Digital Imaging Templates\Moore_dark.jpg**



8. The image below is too dark and has a green tint. What are the causes for these results?

Cause 1.

Overhead fluorescent lighting

Result 1.

The fluorescent lights will produce the green tint.

Because the lights are directly overhead, the shadows cast from the contours of Sherry's face produce dark areas around the eyes and throat.

Solution 1.

Turn off the overhead lights and take the picture with Sherry's face to the window ask Sherry to tilt her chin slightly towards the ceiling. This will eliminate the green tint and reduce the dark areas under the eyes.



Cause 2.

The background area is lighter than the subject.

Result 2.

The overall image is too dark. The open window behind Sherry confuses the camera's light meter. With such a large area of a light background, the camera has to darken the image to compensate.

Solution 2.

Either move the camera's position between Sherry and the light coming from the window, or have Sherry move to an area of the office that has a darker background.

9. If you find yourself with a discolored image as in the example above, we can make some adjustments to the image in Photo Editor. Open the file **P:\cd3\Digital Imaging Templates\Sherry.jpg** in Photo Editor.



- a) Adjust the brightness and contrast as we discussed earlier.



- b) Once you have made the picture brighter, you need to address the color issue. After you have click on the **OK** button to apply the changes to the brightness, click on the **Image Balance** shortcut again to re-launch the brightness controls.



- c) On the lower left side of the **Image Balance** Control box you will see a colors tab. You have the choice between red, green, and blue. By selecting green, we are able to adjust the brightness and contrast of just the green hues in the picture.



- d) After you have selected the Green tab, move the gamma slider to the left and notice how the green tint begins to go away. Continue adjusting the various colors and see what the results are for each change.



In the final image, I applied a sharpen effect to the entire image. If you adjust the colors of an image, you need to sharpen the image to reduce the fuzziness. However, do not apply a sharpen effect until you have finished all the color effects. The more times you sharpen an image, the more likely it will be distorted.

10. A few notes to remember:

- a) Pay close attention to clothing and background colors when adjusting an image. The subject's face is the most important, but some clothing can become quite distorted by adjustments the gamma controls.
- b) If the original image is extremely dark, lightening the image will begin to produce distortions know as **artifacts**.

What are artifacts?

When your digital camera takes a picture, the available light passes through the lens and is focused on the photosites located on the CCD (charge-coupled device). These photosites are diodes that convert photons (light) into electrons (electrical charge). If your scene is too light or dark, the camera cannot tell the difference in the information it has received and will interpolate what it thinks the electron information should be in the areas where the information is the same. Basically if there is a group of 10 photocells that return the same amount of electrons information to the CCD, the camera will take the first photocells with a known value different from the block of ten and divide that information and average the difference between the block of photocells. What results is a blurred image.