Basic photo enhancements in Paint Shop Pro

May 2005

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Introduction

Paint Shop Pro is a comprehensive graphics package, previously produced by Jasc Software, Inc., and now owned by Corel. It contains tools that allow you to paint, edit, and retouch your images, and supports a variety of file types.

This document will introduce you to basic photo enhancements using Paint Shop Pro (version 8).

For more information about Paint Shop Pro see:

- `www.corel.com`
- `www.pspug.org` (Paint Shop Pro Users Group homepage).

Prerequisites

It is assumed that you are running Paint Shop Pro from the ISS desktop and are familiar with Microsoft Windows XP.

You should also be familiar with the basic use of Paint Shop Pro as described in TUT110.

Other related documentation

Getting Started with Paint Shop Pro

Chapter 1 Simple Photo Corrections

Objective To perform some simple corrections on photos such as rotating, straightening, cropping and resizing.

Instructions You will open up some sample images and rotate, straighten, crop and resize them.

Comment You should be running Paint Shop Pro 8

Whether your source is a digital camera, or if your photos have been scanned in, it is likely that they will benefit from some adjustments. Photos are often not completely straight, or can benefit from being cropped or resized to improve their composition.

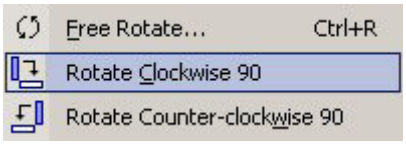
Activity 1.1 You will first rotate an image. It can be necessary to rotate photos that have been taken in portrait pose by a digital camera, for example.

Task 1 From the **File** menu, choose **Open**. In the **Look in:** box choose the **C:** drive.

Then navigate to the **C:\Program Files\Jasc Software Inc\Paint Shop Pro 8\Sample Images** directory.

Select the **flower.jpg** image, then click **Open**.

Task 2 From the **Image** menu select **Rotate**.



From the resulting sub-menu, select **Rotate Clockwise 90**.

The image will be rotated 90^{o} clockwise.

Task 3 From the **File** menu select **Save As**, or press the **F12** function key.

The **Save As** dialog box will appear:

Select the **M:** drive, your home directory, a subdirectory if you wish, a new filename and then click **Save**. A copy of the rotated image will now be stored in your home directory.

Activity 1.2 You will straighten a crooked photo.

Photographs taken with digital cameras, or when scanned in, can be slightly skewed from the horizontal and can benefit from being straightened.

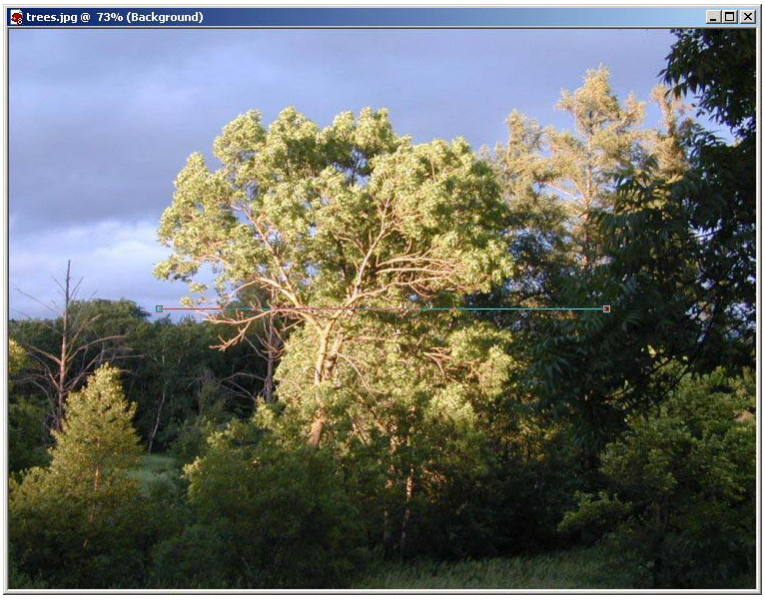
Task 1 From the **File** menu, choose **Open**. In the **Look in:** box choose the **C:** drive.

Then navigate to the **C:\Program Files\Jasc Software Inc\Paint Shop Pro 8\Sample Images** directory.

Select the **trees.jpg** image, then click **Open**.

Task 2 From the **Tools** toolbar select the **Straighten** tool  - by default it is grouped with the **Deform** tool. 

A guideline will then appear on the image.



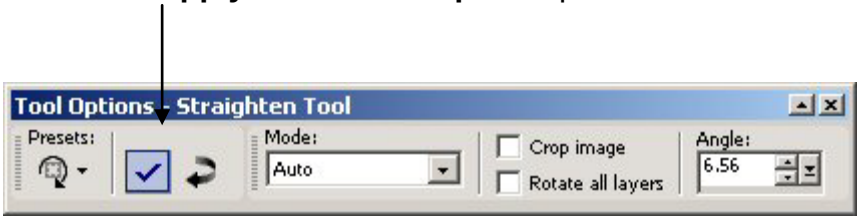
The guideline represents the axis that you wish to straighten. The image will rotate so that the guideline becomes the new horizon.

In this image of the trees, we can alter the guideline to straighten the tree in the centre. The whole guideline can be moved by dragging over the middle of the line. Dragging the ends of the line will alter the gradient of the line.

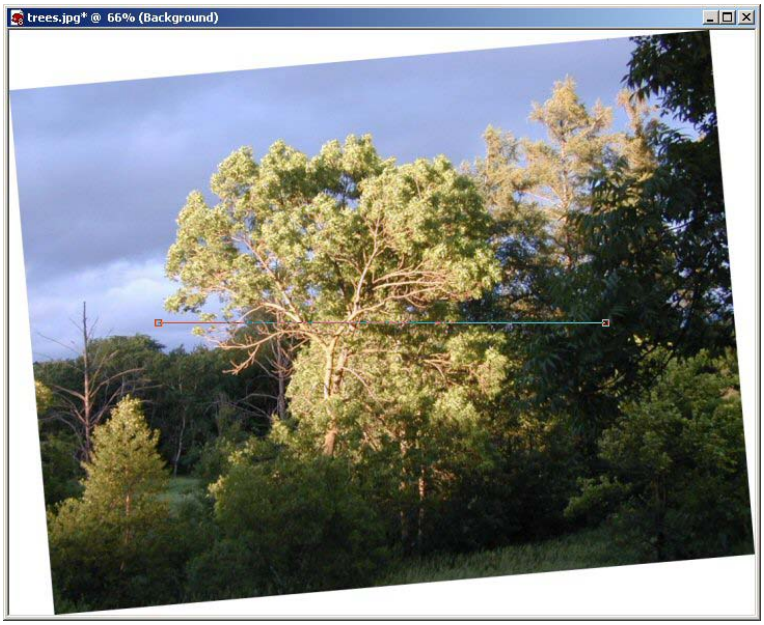
Task 3 In this image, move the right hand edge of the guideline down a little way.

To apply the changes, either **double-click** on the image,

or click on **Apply** on the **Tool Options** palette if it is visible.



The image should then rotate slightly to make the guideline the new horizon, and the large central tree will appear more vertical.



Although similar to the **Rotate** command, the **Straighten** tool is a more powerful tool as you can graphically straighten the photo based on its contents, rather than having to guess an angle of rotation.

Task 4 Save the image for use in the next task. From the **File** menu select **Save As**, or press the **F12** function key. The **Save As** dialog box will appear.

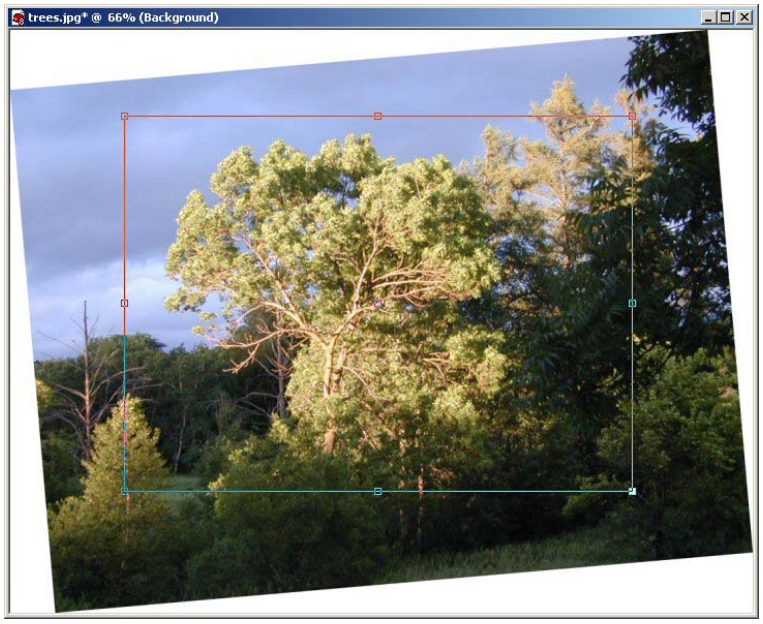
Select the **M:** drive, your home directory, a subdirectory if you wish, a new filename of **trees_straight.jpg** for example, and then click **Save**. A copy of the modified image will now be stored in your home directory.

Activity 1.3 You will now crop the straightened trees image to improve its composition and remove the white space at the edges.

Task 1

With the modified trees image still open, choose the **Crop** tool from the **Tools** palette.

With your mouse cursor over the image, place the mouse cursor at the top left corner of where the crop will start, click the left mouse button and hold it down while dragging the mouse to the diagonally-opposite corner. Then when you let go of the mouse button, the cropped area will be outlined.



If you are not happy with the crop outline, you can drag the sides or corners to resize the area. When happy with the crop outline, **double-click** the mouse to finish the crop, and the image will appear as below.

Task 2 From the **File** menu select **Save As**, or press the **F12** function key.

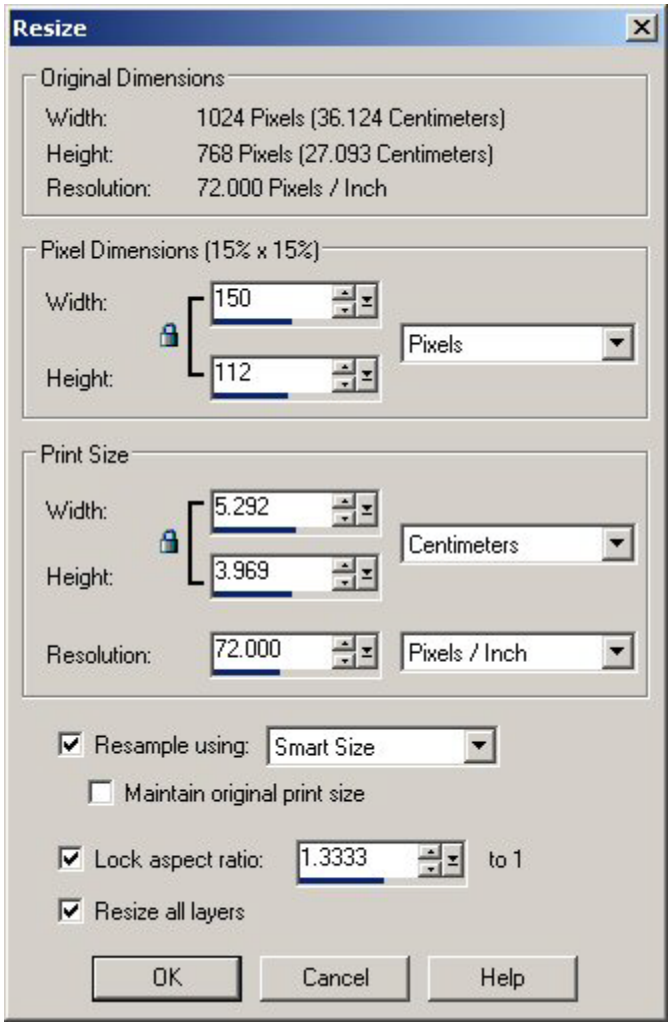
The **Save As** dialog box will appear.

Save the cropped image in your home directory with a new name e.g. **trees_cropped.jpg**

Activity 1.4 You will now resize the cropped image.

Task 1 With the **trees_cropped.jpg** image still open, select **Resize** from the **Image** menu.

The **Resize** dialog box will appear:



In the Pixel Dimensions group ensure that **Pixels** are selected, and type **150** in the **width** box. **Check** the **Lock aspect ratio** and **Resize all layers** boxes, if not already checked. Then click **OK**.

Notice how the image is now much smaller than the previous one.

Reducing the size of an image can be useful before sharing and also for producing thumbnails that could be used on a web page, for example.

Note that enlarging images reduces the quality of the image, more than reducing images, as the information for the extra pixels has to be estimated.

Task 2 Choose **Save As** from the **File** Menu, or press the **F12** function key. The **Save As** dialog box will appear:

Save the smaller image in your home directory with a new name e.g.

trees_thumbnail.jpg

Chapter 2 Further Photo Enhancements

Objective To perform some common photo enhancements such as removing red-eye, adjusting the colour, enhancing the contrast and saturation, and sharpening soft-focus images.

Instructions You will open an image and first remove red-eye from it, followed by the other techniques mentioned above.

Comment The following effects can only be applied to 24-bit colour images. If your image has a lower colour depth you will need to increase the colour depth to make the commands available. (see Activity 2.6)

Activity 2.1 Removing Red Eye

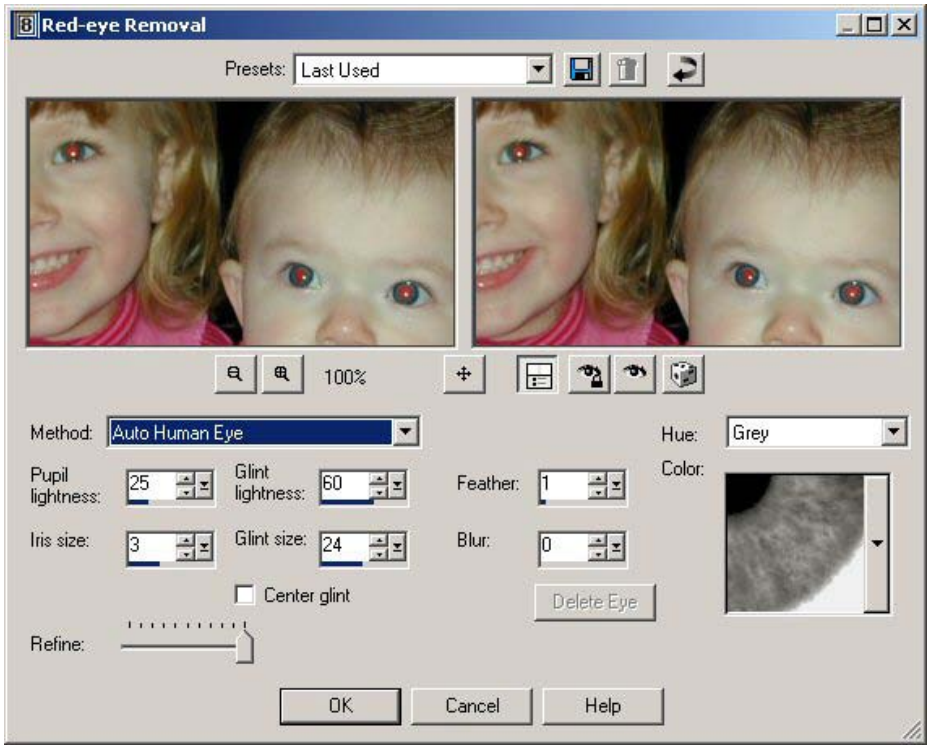
Task 1 A common defect on photos is “red-eye” caused by a reflection off the back of the eye from the flash.

From the **File** menu, choose **Open**. In the **Look in:** box, choose the **C:** drive. Then navigate to the **C:\Program Files\Jasc Software Inc\Paint Shop Pro 8\Sample Images** directory.

Select the **RedEye.jpg** image, then click **Open**. The image is of two little girls who have “red-eye” from the flash.

Task 2 From the **Adjust** menu, choose **Red-eye Removal…**

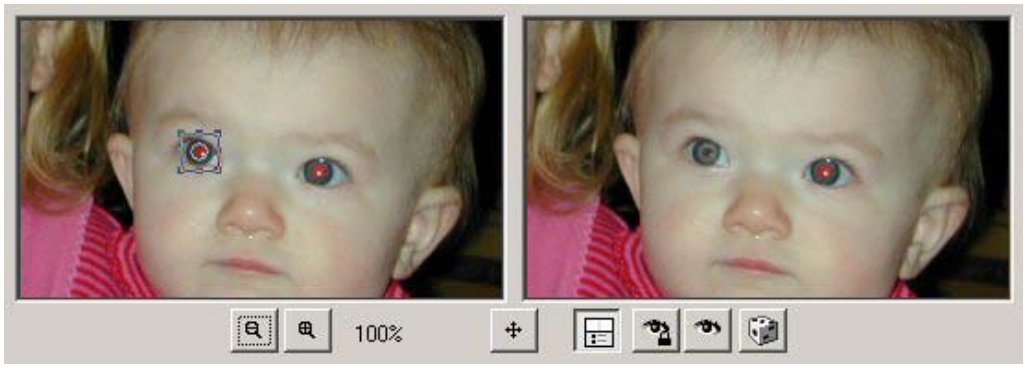
The **Red-eye Removal** dialog box will appear.



Task 3 In the **Method:** drop-down list, choose **Auto Human Eye**. As these children naturally have grey-blue eyes, choose **Grey** in the **Hue:** drop-down list.

The left and right panels containing the images, represent before and after red-eye removal respectively.

Task 4 In the left hand panel, click once in the centre of the left eye of the smaller girl. Paint Shop Pro will automatically detect the radius of the eye, and a small selection box will appear over the eye in the left panel. The corresponding eye in the right panel will now appear with red-eye removed.

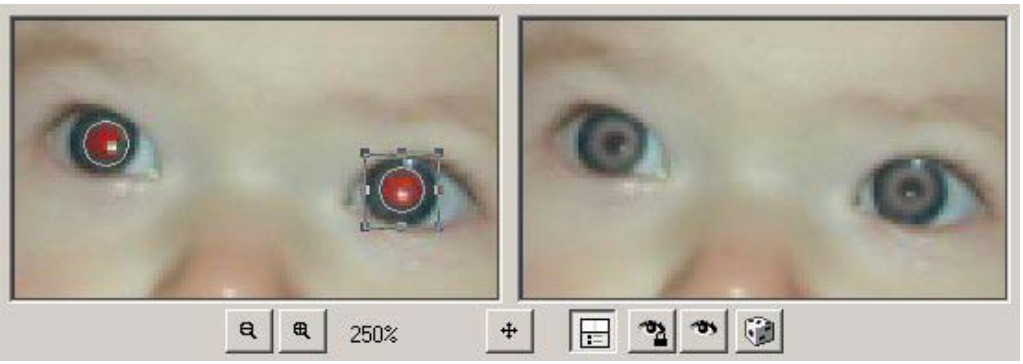


Task 5 In the dialog box, set the following settings: **Pupil Lightness** to **15**; **Glint lightness** to **60**; **Glint size** to **20**; **Feather** to **1**; **Blur** to **1**; **Iris size** to **4**; and make sure that the **Centre Glint checkbox** is **unchecked**.

(If the results on the right-hand panel do not look satisfactory, it is possible to adjust the size and placement of the corrected eye. The selection box over the eye in the left-hand panel can be resized by dragging one of the handles in the required direction. If you are finding it hard to accurately place the selection box or resize it, it may be easier to zoom in first using the zoom tools under the left-hand panel.)

Task 6 Now click on the centre of the right eye in the left hand panel to correct the red-eye on the right eye also.

The two panels will now appear as follows:



Note how much improved the picture on the right appears, with red-eye removed.

Note also that there are zoom and navigation buttons available.

Task 7 Correct the red-eye of the other girl and when you are happy with the results, click on **OK** to exit the red-eye removal dialog box.

Select **Save As** from the **File** Menu or press the **F12** function key. The **Save As** dialog box will appear.

Save the corrected image in your home directory with a new name e.g.

Red-eye2.jpg

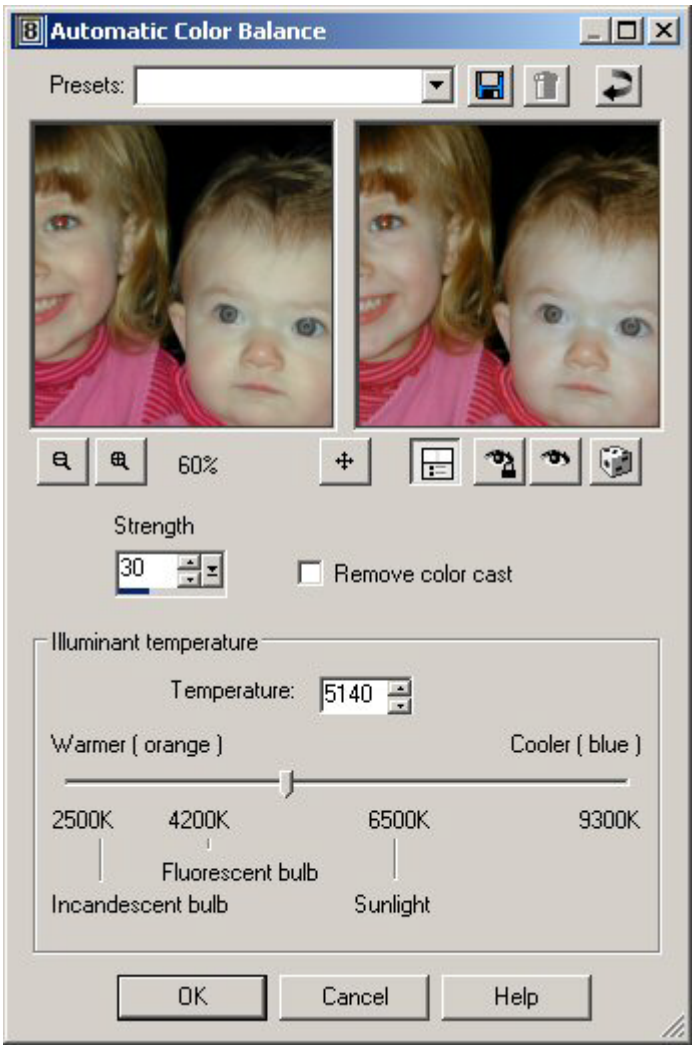
Activity 2.2 Automatic Colour Balance

The **Automatic Color Balance** tool is used to correct any colour cast from an image and to create natural looking colours. The illuminant temperature of an image can vary from warmer tones (oranges) to cooler tones (blues). Photos taken indoors tend to look more orange, while photos taken in bright sunlight tend to look more blue.

Task 1 With the **red-eye2.jpg** image open, from the **Adjust** menu, choose **Color Balance**, then **Automatic Color Balance...**

The **Automatic Color Balance** dialog box will appear. The image appears in two panels again, representing before and after the changes.

If the image is zoomed in by default then click the zoom out tool so that the full face can be seen. It will be easier to see the result of any colour modifications this way.



Task 2 Ensure that **Strength** is set to **30** (the default), and that the **Remove color cast** checkbox is **unchecked**.

The Strength of correction for the image varies from 1 (the least) to 100 (the most). It is recommended to start with 30 and then adjust the strength until the image looks the most natural.

Move the illuminant temperature slider up and down to see the effect it has on the image. Select a temperature near **5700K** by using the slider or typing it directly into the box. This will cool the image slightly.

(The default temperature is 6500K which assumes sunlight conditions.)

Click on **OK** to exit the dialog box. From the **File** menu, select **Save As** or press the **F12** function key. The **Save As** dialog box will appear:

Save the image in your home directory with a new name e.g. **Red-eye3.jpg**

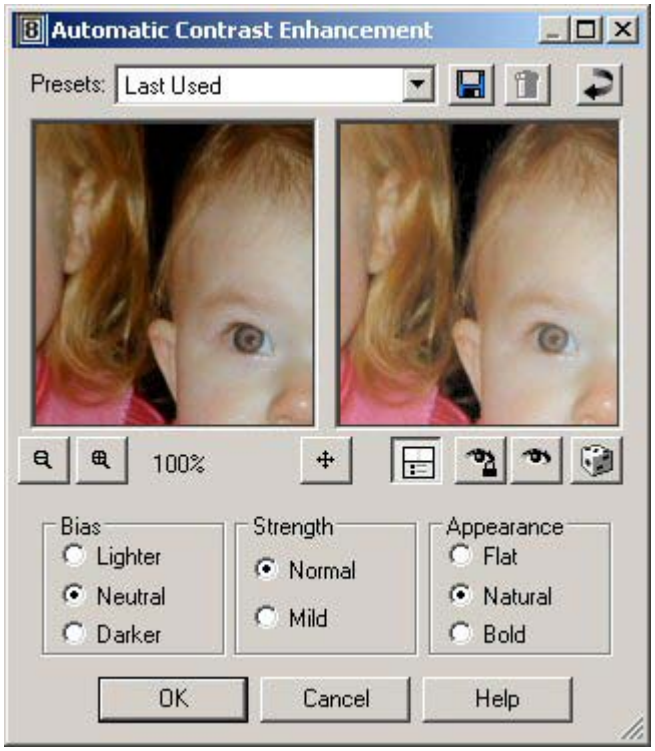
Activity 2.3 Automatic Contrast Enhancement

Contrast is the variation of dark and light intensities within an image. To look its best, an image must have the proper balance between highlights, midtones, and shadows.

The Automatic Contrast Enhancement tool adjusts the balance of the highlights, midtones, and shadows in an image to produce a more intense image that reveals more detail.

Task 1 With the **Red-eye3.jpg** image open, choose the **Adjust** menu, then **Brightness and Contrast**, then **Automatic Contrast Enhancement…**.

The following dialog box will appear:



Click on the Zoom Out button to view the whole face.

Select the settings of **Neutral** for **Bias**, **Mild** for **Strength** and **Bold** for **Appearance**.

As with this picture, the effects can be very subtle depending on the existing contrast already in the picture. Here, the contrast is most apparent in the skin tones and hair. Change the settings to observe the changes in the image. Click **OK** when you have finished altering the settings.

From the **File** menu, select **Save As** or press the **F12** function key. The **Save As** dialog box will appear.

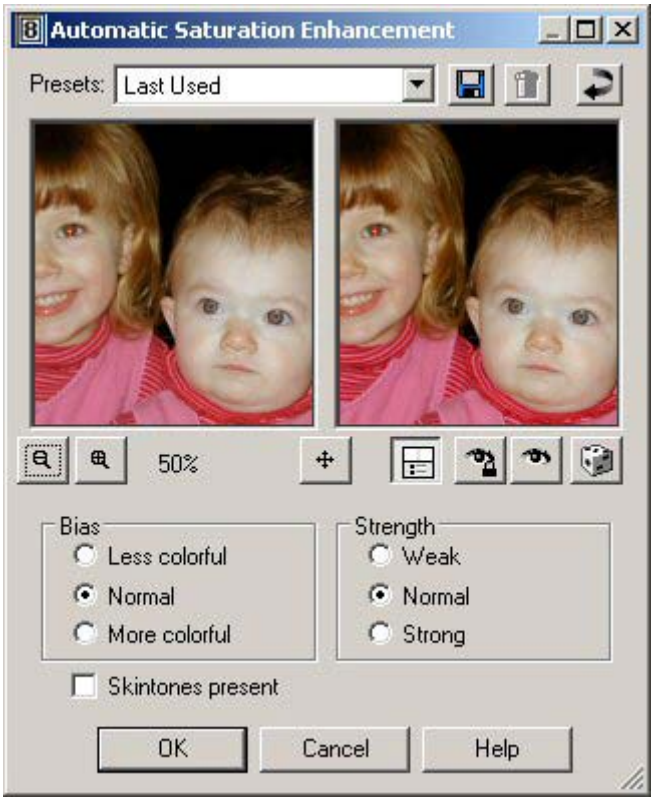
Save the contrast-adjusted image in your home directory with a new name e.g. **Red-eye4.jpg**

Activity 2.4 Automatic Saturation Enhancement

The Automatic Saturation Enhancement tool adjusts the vividness of the colours in an image. Saturation is the vividness of colours that results from the amount of grey in each colour. Saturated colours, such as scarlet red, appear bright and brilliant. De-saturated colours, such as pastels, appear subdued or washed-out. Saturated colours are brighter and de-saturated colours are greyer. Because de-saturated colours are greyer, this feature cannot be used on grey-scale images. Before correcting the saturation of an image, correct the colour balance and then the contrast first.

Task 1 With the **Red-eye4.jpg** image open, choose the **Adjust** menu, then **Hue and Saturation**, then **Automatic Saturation Enhancement**…

The following dialog box will appear:



As usual, there are two image panels to represent before and after modifications.

In the **Bias** panel (the vividness of the corrected colours), select **Normal** and in the **Strength** panel (the strength of correction) select **Normal**. Check the **Skintones present** checkbox. Select other settings if desired to see the effects on the image. Click **OK** when you have finished altering the settings.

From the **File** menu, select **Save As** or press the **F12** function key. The **Save As** dialog box will appear.

Save the adjusted image in your home directory with a new name e.g. **Red-eye5.jpg**

Activity 2.5 Sharpening Images

Many images can be slightly out of focus, or can have their sharpness reduced by scanning. The sharpen tools can help to focus an image and is often used after scanning in images.

Three sharpening options are available on the Sharpness menu:

Sharpen

Sharpen More

Unsharp Mask…

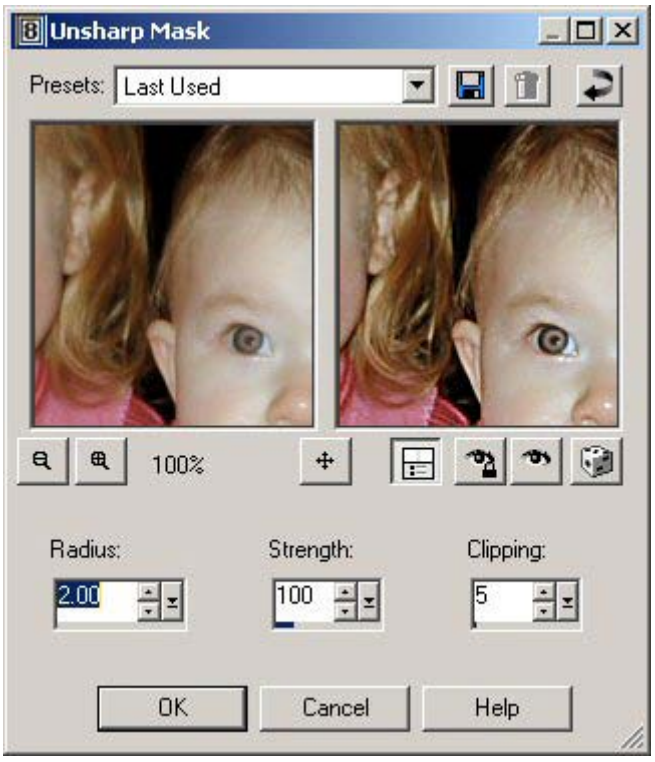
The Sharpen and Sharpen More effects focus an image and improve clarity by increasing the contrast between adjacent pixels where there are significant colour contrasts. This usually occurs at the edges of objects and so the effect produces crisper lines and a sharper image.

The Sharpen and Sharpen More effects work to a preset and do not let you change any options. Sharpen More sharpens with more intensity. The Unsharp Mask option however, provides you with a dialog box where you can alter the settings to produce your desired result.

Task 1 Using the Unsharp Mask

With the **Red-eye5.jpg** image still open, select **Sharpness** from the **Adjust** menu. Then select **Unsharp Mask…** from the **Sharpness** menu.

The **Unsharp Mask** dialog box will appear:



Set the **Radius** to **2.00** – this option tells the Unsharp Mask feature how many pixels are considered across a contrast edge. Ranges between 0.5 and 2.00 are generally used.

Set the **Strength** to **50** – this option sets the intensity of the contrast it applies.

Set the **Clipping** to **5** – this option determines the amount of contrast to call an edge, and therefore be sharpened.

The effects are most noticeable in the fine edges in the image, such as in the strands of hair and also around the eyes. Typically, the whole image will be crisper.

When you are satisfied with the results, click **OK** to clear the dialog box and view the sharpened image.

From the **File** menu, select **Save As** or press the **F12** function key. The **Save As** dialog box will appear.

Save the adjusted image in your home directory with a new name e.g. **Red-eye6.jpg**

The five effects just studied: **Red-eye Removal**, **Automatic Colour Balance**, **Automatic Contrast Enhancement**, **Automatic Saturation Enhancement and Sharpening** can only be applied to 24-bit colour images. If your image has a lower colour depth, you will need to increase the colour depth of your image to make the commands available.
Apart from the Red-eye removal tool, the effects can be applied to a selection. To do this, create the selection before choosing the effect.

It is also recommended that the five effects just studied are run on an image in the order that they were presented here.

Activity 2.6 Increasing Colour Depth

If an image has a colour depth of less than 24-bit, you may want to increase the colour depth before editing the image. Many of the photographic effect and correction commands work only on images with 16 million colours i.e. 24-bit. When you have finished editing an image, you may want to decrease the colour depth to save memory space, for example, you may want to reduce the file size of an image for the web.

Task 1 Increasing Colour Depth

Open up an image of your choice from the Sample Images directory as before.

From the **Image** menu, select **Increase Colour Depth**.

If the resulting submenu is greyed out, then it is not possible to increase the colour depth and the image must already be 24-bit.

Task 2 Checking Colour Depth

If you wish to view the current colour depth of an open image, then select **Image Information…** from the **Image** menu.

The resulting dialog box will show you lots of image information including the colour depth which is located on the Image Information tab.

Activity 2.7 One Step Photo Fix Script

A script is provided by Paint Shop Pro that runs several photo enhancing commands automatically, some of which have been described in this chapter.

The One Step Photo Fix Script runs the following commands in order:

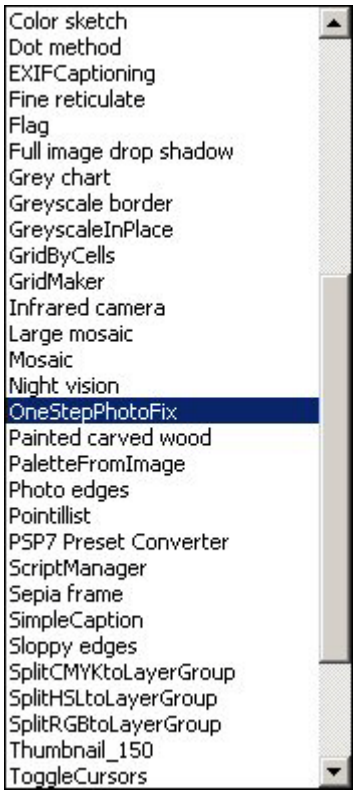
- Automatic Colour Balance
- Automatic Contrast Enhancement
- Clarify
- Automatic Saturation Enhancement
- Edge preserving Smooth
- Sharpen

Task 1 From the **View** menu, select **Toolbars**, then select the **Script** toolbar if it is not already highlighted in blue and visible.

Task 2 From the **Sample Images** directory, as before, open the **girls.jpg** image.

Task 3 On the **Script** toolbar, select the drop down arrow next to the script name.

From the resulting drop down list, choose **One Step Photo Fix**.



Task 4 On the **Script** toolbar, click the **Run** button (a little blue arrow which looks like a play button) next to the script name, to run the selected script.

Observe the changes in the picture as the photo enhancing commands are run.

If you wish, save the new image with a new name and then reopen the original to compare the two images side by side. You will notice how much richer and warmer the colours are in the modified image.