Generic photo editing tips

Work on photos in high resolution and in uncompressed formats, such as those native to the specific graphics editing software such as XCF (GIMP) PSD (Photoshop) or PSP (Paint Shop Pro) when working on a photo, but when you want to email or publish the work online, use a compressed format such as JPG or PNG.

When you begin working on a photo of already at lower resolution, it's good practice to resample the photo to double resolution before doing any retouching work.

For most of the lab exercises work with **base_image.jpg** and save it in a new GIMP file such as **01_removed_noise.xcf**, **02_adjusted_color.xcf** ...

Practice the global image effects (noise, colour, brightness) in one series of files, but then open the base image again for all the detail effects (red eye, blemishes, teeth and warping). You can later try all the effects on your own files.

Useful shortcuts: **Ctrl+Z** – Undo, **Ctrl+Y** – Redo, **Ctrl+Shift+A** – deselect

1. Global changes - Adjusting contrast and color

Basic: Brightness/Contrast/ColorSaturation

In the top menu select **Colors -> Brightness-Contrast**. Usually, you'll need to adjust both values slightly to get a good result. Tip: photos are usually printed slightly darker than they show up on screen, so make the photo 5-10% brighter before sending it to a photo lab.

In the top menu select **Colors -> Hue-Saturation**. It is best to leave the Hue slider alone. With the Lightness slider you can slightly adjust the overall level of brightness/darkness and with the Saturation slider control the color intensity.

A frequent adjustment (especially to overexposed photos) is to slightly darken the image (-5) and increase the color intensity (+15).

Advanced: Historgram manipulation

One of the more powerful adjustments is the control of the **histogram** of the image. The histogram is simply a plot of how often a certain pixel value (0-256) appears in the image. Open the file **base_shadow.jpg** and select **Colors->Levels**. From the Channel submenu you can use Value for the overall darkness level or each RGB channel.

As you will later notice, the extreme values of black/white are seldom used in images. The three triangle sliders are sometimes referred to as the highlight edge/clip (rightmost triangle), midtone/gamma balance and shadow edge/clip (leftmost triangle), although these names do not appear in GIMP.

Move the Shadows triangle slider across the unused or sparsely used part of the histogram. This will modify existing values so that the darkest parts of the image use the darkest possible colors, for example if the darkest grey value in the picture was 15, it is now 0. Similarly highlights will control the other end of the brightness spectrum. The middle (midtone) slider is used to control balance between the two ends of the scale, either increasing the emphasis on dark or light parts of the image. In this example move the slider to value 2.00. This should greatly enhance details that were previously hidden in the shadow.
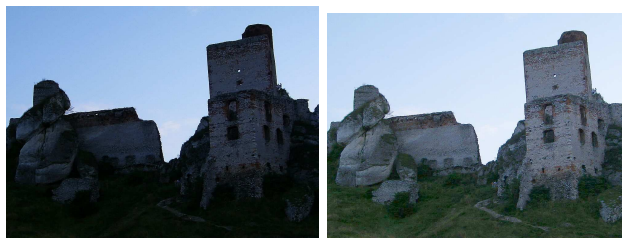
By adjusting each of the colour channels separately, you can improve the white balance of the photo. GIMP can attempt to do that automatically if you use the three Auto eyedropper tools(for picking black, grey and white points). Best use the white eyedropper on a section of the image you know should be white, such as someone's shirt or a piece of paper.

2. Global Changes - Removing camera noise

When you zoom in on digital photos you can notice a lot of colourful noise and sometimes artefacts from JPG compression. A good tool to remove it is an "edge preserving smooth", known in GIMP as the Selective Gaussian Blur.

Go to **Filters -> Blur -> Selective Gaussian Blur**. Choose an appropriate radius (3-5 pixels) and an appropriate maximum delta (30-40). The delta allows us to preserve edges and details, as pixels differing by more than the delta value will not be blurred.

The effect works best if applied on a very high resolution photo which is later scaled to half size or smaller.

The same effect can be used on selected areas of skin to make it appear smoother.

3. Common Retouching - Red eye removal

Open the **base_image.jpg** photo. Select the zoom tool and zoom in on the eyes (mouse click or select to zoom, ctrl+mouse click to zoom out)

Using the freehand selection tool select the eyes.
Select the first eye freehand by moving the mouse with the left button held down, or select using line segments by clicking the mouse (double-click to end selection).
While pressing shift, select the second eye.

Righ-click inside the selected area and choose **Filters -> Enhance -> Red Eye Removal**
Adjust the threshold so that no red color stays in the pupil, but that the black doesn't cover too great of an area. Press OK to apply.

You might notice that the black that fills out the eyes is a bit pixelated and not smooth.
Right click in the eye area again and select **Filters -> Blur -> Blur**

Go to the menu **Select-> None** or press Ctrl+Shift+A to deselect the eyes and zoom out to judge the result.

As a final touch we might want to add a small glint.

Choose the brush tool with a small fuzzy brush size , on the left, decrease the

opacity to 75% and set the foreground color to be white . Experiment with different glint sizes to obtain a natural effect. Remember you can always press Ctrl+Z to undo an action.

Alternative technique for very fast retouching: select the eyes using the ellipse tool , then go to **Colors->Desaturate->Luminosity** (or **Average** if the eyes are too black).

4. Common Retouching - Blemish removal

One of the first details retouched in photos are skin imperfections such as blemishes, spots or pimples. These are best removed using a popular cloning tool, which is basically a paintbrush that paints with neighbouring image areas.

Open the base_image.bmp, select the zoom tool and zoom in on the chin. Mouse click or select to zoom, ctrl+mouse click to zoom out. Alternatively use ctrl+mouse scroll to zoom in/out. Use the middle mouse button to move around the image.

Choose the clone stamp tool Set opacity to 70% and choose a large fuzzy brush (15

or 17 pixels).
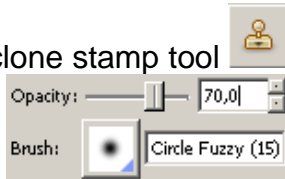
Ctrl + mouse click to select the reference point for the clone stamp - usually a patch of clear skin as close to the blemish as possible. Apply the cloned "make up" in single clicks or short strokes.


You can use the same technique to remove dust particles or other imperfections from scanned photos, or brighter patches from the hair to make it look thicker.

When using the clone tool be careful to frequently change the reference point for the brush, otherwise evident patterns will emerge

5. Common Retouching - Whiten teeth and eyes

Choose the freehand selection tool . Check the feather edges option and set the radius to 5 pixels. Select the teeth by single clicks at short distances.
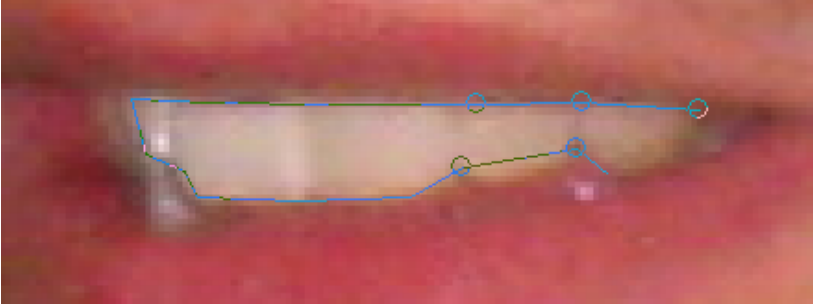
From the top menu choose Colors->Brightness and Contrast. Increase both brightness and contrast by about +15.

Although the same method can be used for the eyes, try something different. Zoom in on the eyes.

Select the paintbrush tool and from the Mode menu choose Dodge. Set the opacity very low (10-20%) and choose a medium or small fuzzy brush (13pixels). With short strokes or clicks whiten the eyes. Optionally add a few finishing touches to the teeth.

In the future look carefully at eyes of the models in magazine covers. You'll notice most of them were retouched with similar techniques.

6. Common Retouching - Warping

Warping is a very powerful tool that is by professionals to for figure enhancement (or amateurs to create fun caricatures). In Photoshop it is referred to as Liquify, in Paint Shop Pro it's also called Warp.
Open the file base_warp.jpg and select the waist area using the standard rectangle select

. As the warping tool is a slightly awkward and computationally intensive filter, it is best to use it on a small selected section of the image.

Go to **Filters -> Distorts -> IWarp**

Choose the Shrink distortion. Set it's radius to 30 and distortion strength to 0.40. The longer you press the stronger the distortion, so apply it with single clicks or short strokes. Try to smooth out the "love handles" to make the waist straighter.

Next select the arm area and again go to **Filters -> Distorts -> IWarp**
This time make the radius bigger (60) and choose the Grow distortion. Add a bit of muscle to the figure:

Similar warping effects are often used to decrease waist size and increase bust size in many photos of supermodels.

Warning! When warping your own photos be careful as warp also distorts the patterns on clothes and in the background. However, parts of the background can be either copy-pasted back with careful selections, promoted to a separate layer or fixed with the use of the clone stamp.