

The GNU Graphics Manipulation Program (GIMP)

Mendlesham Computer Club

By Giles Godart-Brown

What is GIMP?

- GIMP is the GNU Image Manipulation Program, it is used for drawing and for editing photographs.
- It has many of the features of Photo Shop which retails for about £250, but you can download GIMP for free from <https://www.gimp.org/downloads/>
- GIMP is open source, so there are huge numbers of plugins that enhance its capabilities, for example the [G'MIC filter library](https://gmic.eu/download.html) from <https://gmic.eu/download.html>

What can you use Gimp for

- Gimp is a hugely competent piece of software for manipulating still images.
- It has many features, so looks a little daunting at first, It is a huge application, however there are many excellent tutorials on the subject on the internet, for example;
 - https://www.youtube.com/watch?v=Q8C0LJPpr64&ab_channel=TechGumbo (15 minutes)
 - <https://www.youtube.com/watch?v=x6pXJ7ljir0> (50 minutes)
- The following slides show some of the most popular edits, but is by no means an exhaustive guide.

Common Gimp edits

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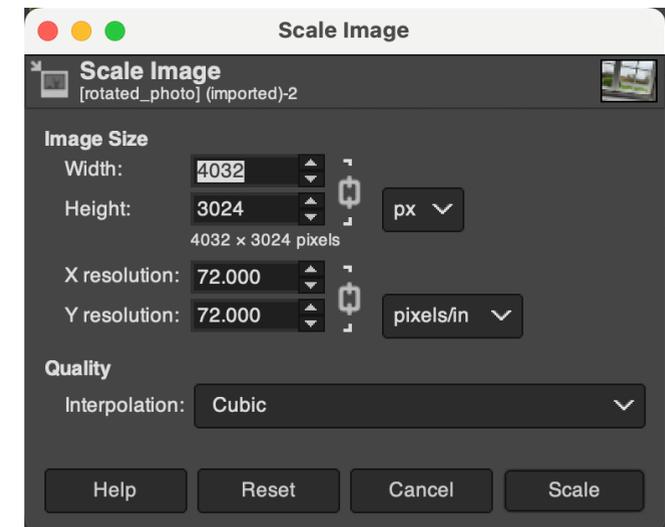
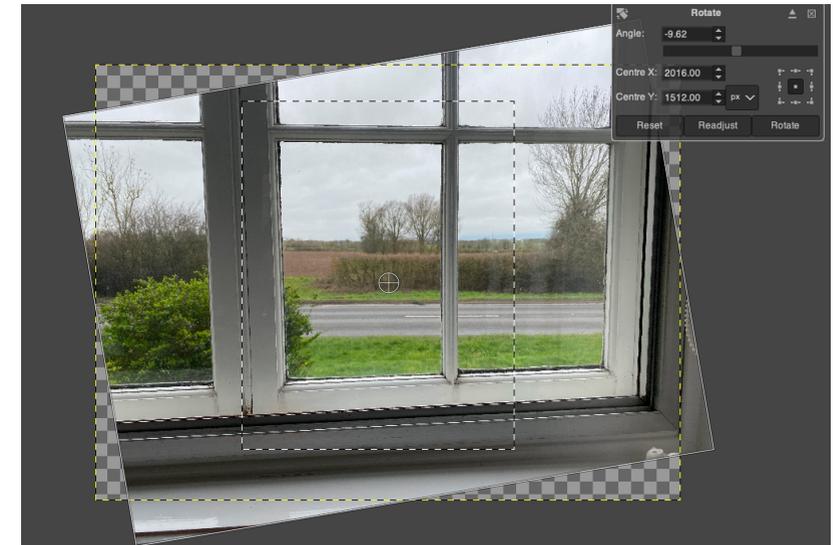
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Before you start

- Make sure you have installed Gimp from <https://www.gimp.org/downloads/>
- Its good practice to copy your image first and work on the copy so you always have a master copy when things go wrong.
- Its also easier for cleaning up afterwards to put any temporary versions in a temp folder.

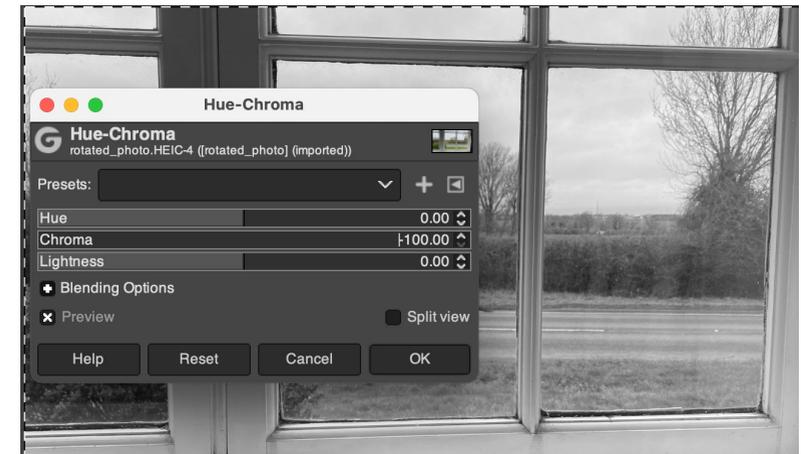
Rotating and sizing an image

- Rotating – Use Image>Transform>Arbitrary Rotation. Note The rotate tool  can be used to rotate parts of an image
- Cropping - Use the square select tool  to select the area you need, then use Image>Crop to selection
- Resizing - Use Image>Scale image. Change the units to centimetres or inches. Leave the chain link selected to keep the aspect ratio.



Colours Contrast and Brightness

- First try Colours>Auto>Equalise and Colours>Auto> White balance.
- If that doesn't work, try Colours>Brightness and Contrast. Drag the bars to find the optimum position.
- Colours>Colour temperature is useful for adjusting for artificial lighting.
- To create a Black and White Photo - Use Colours>Hue-Chroma and set Chroma to -100

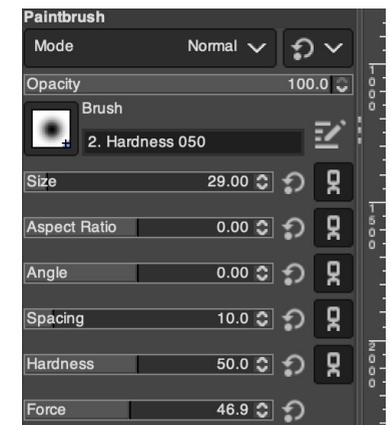
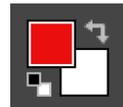
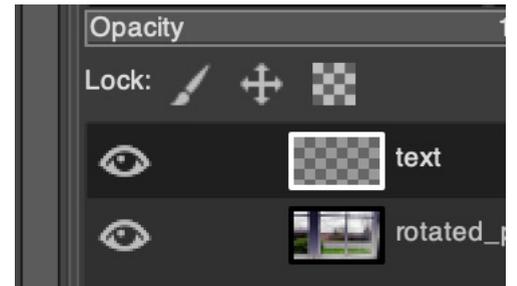


Layers

- Gimp uses Layers to allow you to construct an image having several conceptual parts.
- The bottom layer is the background of the image.
- Layers above this usually have a transparent background and are used to manipulate a part of the image without affecting the other part. A bit like a stack of slides.
- Examples:
 - if you want to draw on top of a slide it's a good idea to do this on a transparent layer above the background, this makes it easier to move the drawing around later on.
 - Similarly if you want to paste another image into you photo, do this on a new layer.

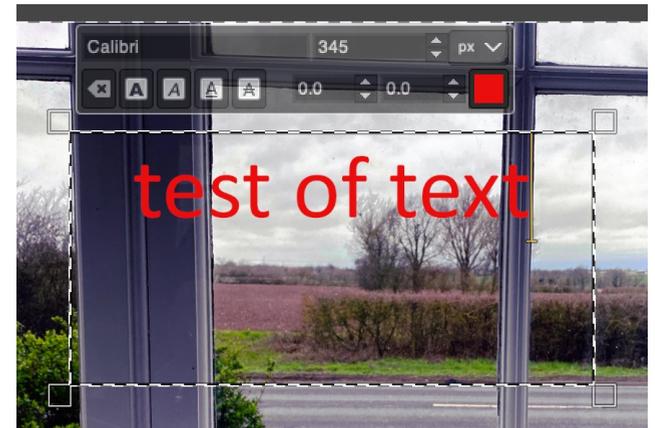
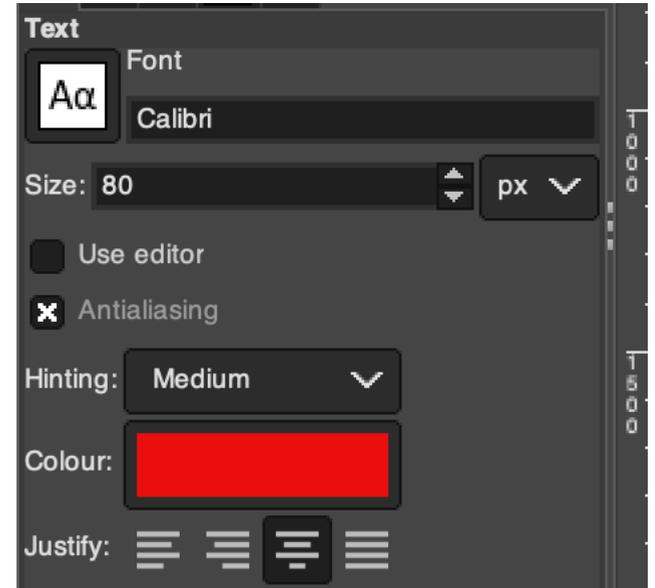
Drawing over an image

- Create a new layer with Layer>Create New Layer. Make sure 'fill' with is set to Transparency and opacity is set to 100%, you can adjust these later on.
- You can hide layers using the eye icons in the layers list
- Select the new layer by clicking on it.
- For freehand artwork, chose your tool (paintbrush, pencil, airbrush)
- Chose the foreground colour
- Chose brush size, hardness and type
- Start drawing
- Use <Control>Z to undo when you get it wrong



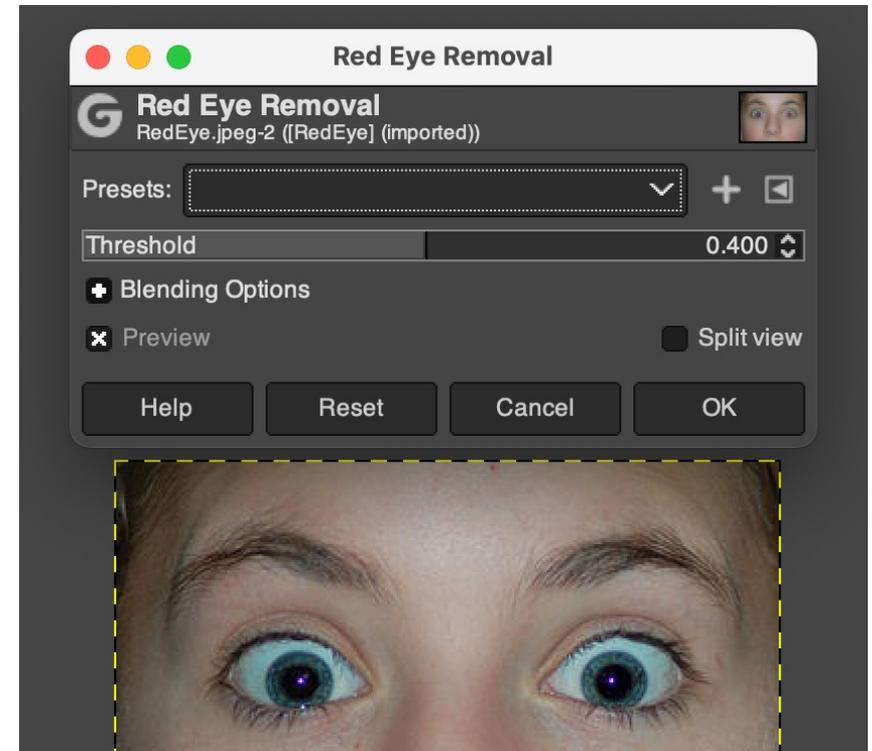
Adding text to a photo

- Create a new layer with Layer>Create New Layer. Make sure Fill With is set to Transparency and opacity is set to 100%, you can adjust these later on. Select the new layer.
- Chose the text tool  and select colour, font, text size and justification
- Draw a rectangle to contain the text, click inside it and start typing.



Cleaning and repairing photos - Removing red-eye

- GIMP has many tools, for example the Red Eye removal tool is much more sophisticated than the Windows photo app (note the highlights are retained)
 - Open your photo in Gimp and select Chose Filters>Enhance>Red Eye Removal



Cleaning and repairing photos – fuzzy select

- First remove as much as you can by cropping
- You can use the ‘fuzzy select’ tool  to select an area by colour, you can then use Edit>Cut to remove it, or the paint pot  and other paint tool to fill it with a colour (e.g. white). This is useful for changing backgrounds.



Cleaning and repairing photos - cloning

- Zoom into the area you are interested in, use fuzzy select if you are close to an edge so you restrict what you fix.
- Select the cloning tool  and brush size.
- Move to the area you want to pick up and hit <control>left click (<Command>left click on Mac) to select it.
- Then move mouse and click and wipe over the area you want to paint.



Creating signature files

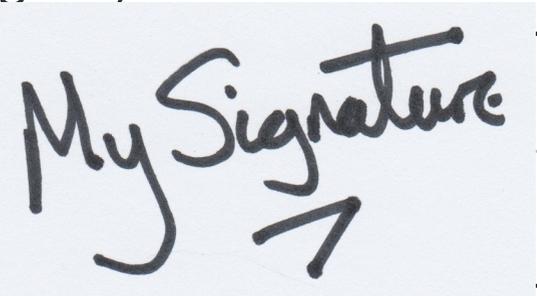
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Transparent Background?

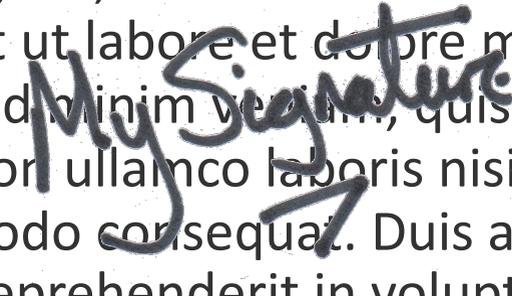
Square Background (jpg)

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A handwritten signature in black ink that reads "My Signature" with a stylized arrow pointing to the right. The signature is centered on a light blue square background.

Transparent Background (png)

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A handwritten signature in black ink that reads "My Signature" with a stylized arrow pointing to the right. The signature is centered on a transparent background, allowing the text behind it to be visible.

Using the mouse to draw your signature with a transparent background

- Create a new image in GIMP, make sure you have Advanced option>Background colour set to Transparent in the New image dialogue
- Make sure the background shows the checkerboard Transparent display
- Chose the pencil tool and a suitable colour and size and draw your signature with the mouse
- Export the resultant image as a .png file

Using a scanned image to create a signature with a transparent background

- Scan your signature from a piece of paper
- Open the image in GIMP
- Right click on the Background Layer on the RHS of the screen and “Add Alpha Channel”
- Use the Fuzzy select tool to select the white space around your signature and hit the delete key to remove it, the checkerboard should show though.
- Carry on with fuzzy select and other paint tools to refine the image
- Export the resultant image as a .png file