

Read reviews and tutorials on four free to use downloadable graphics related software...

Gimp An Adobe Photoshop alternative

Google Sketchup An easy to use 3D design program

Scribus Create professional looking publications for your class or school

Inkscape Draw vector illustrations

Gimp

If you ever felt the need to retouch, edit or manipulate an image in any way, you would probably use Adobe Photoshop. Unfortunately, this excellent, industry standard piece of software does not come in cheap so if you did not have access to it, you would have been left pretty much stranded – unless you knew about Gimp.



Gimp stands for GNU Image Manipulation Program. It is an open-source paint program that can be used to perform complex tasks such as photo retouching and image manipulation or simply as a paint program. GIMP is growing in popularity at a rapid rate as a complete graphics package – it is free and a good substitute of Photoshop.

Gimp includes the following features

Gimp has many features one would find in a professional program. This includes alpha channel support which lets you create images on a transparent background, multiple layers, a wide range

of painting tools and unlimited undo history, very useful to correct as you can go back on previous steps as you work. One disadvantage I can see is that it does not support CMYK (perhaps not for long) – and it is the only missing feature that stops professional users from using it in an industrial setup. Fortunately, this is no big deal for us teachers and our students, and certainly does not stop Gimp from being a very useful program. Another plus for Gimp is that extra plugins are available here (also for free), meaning that the number of features it can have is virtually limitless.

The Gimp Layout

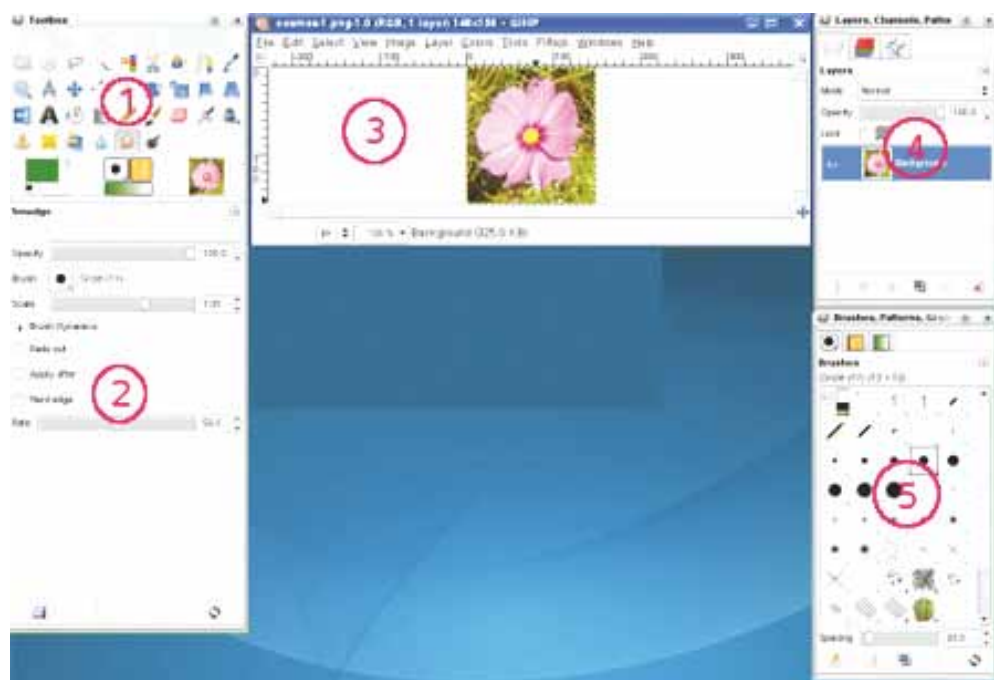
The way Gimp is created, all windows and panels that make up the program can be moved around independently, as you prefer. The best layout for most users is as you see in the screenshot below.

1. The Main Toolbox
2. The Tools Options
3. Image window(s)
4. Layers, Channels, Paths, Undo
5. Brushes, Gradients and Patterns

Continued on back page...

Gimp feature list

- Selections – Rectangle, Ellipse, Free select, Fuzzy select
- Painting tools – Brushes, a Pencil and an Airbrush
- Alpha channel support for working with transparency
- Layers - New, Duplicate, Merge, Flatten, Mask
- Channels – RGB and Alpha – (no CMYK channels yet!)
- Colour – Balance, Hue/ Saturation, Colorize, Bright/ Contrast, Levels, Curves
- Filters – Blur, Enhance, Distort, Noise, Artistic, Decor, Map, Animation
- Undo history, limited only by memory
- Transformation tools – Scale, Rotate, Shear, Flip
- Vector drawing paths – Design, Edit and Move
- Editable Text tool, Text along path, Path from text
- Support for a wide range of file formats, including GIF, JPEG, PNG, TIFF, MPEG, PDF, PCX, BMP and others
- Support for plug-ins – new file formats and new effect filters.



Scribus

Desktop Publishing

is not supported, so Word files have to be saved in one of the supported formats. Alternatively, the user can do a copy/paste from Word into Scribus directly. This works fine, but formatting is automatically removed.

Scribus supports a wide range of popular vector file formats out there when it comes to importing, including Encapsulated Postscript (.eps) and Adobe Illustrator (.ai). Image formats supported include .pdf, .gif, .jpg, .png, .tif, .psd and many others.

Layout and design

Creating the layout in Scribus is done by using a number of tools situated in the toolbar on the top part of the display. These include insert text frame, insert image frame, insert table, shapes and polygons as well as a number of different type of line tools. Any object created can be manipulated at a later stage.

Text Frames can have text flowing automatically from one another. This is useful when working with a multi-column layout. Just create two (or more) Text Frames, click on the first one and import the text into it. Subsequently, select the Link Text Frames icon, and then select the second Text Frame – text will automatically spill into it.

The layout and design aspect of this software is very extensive, it is up to the user to decide how 'deep' he or she will go into learning and using it. Whatever reason you have to use Scribus, whether to create a poster for your classroom, a leaflet to send home to parents, or the annual school publication, it will do the job. If you get stuck you can access the help files directly from the Help menu.

If you would like to support the creators of Scribus you can do so by purchasing an official printed copy of the manual which is available from Amazon.com.



What is Desktop Publishing?

Desktop Publishing (DTP) software is used to create publications such as magazines, books, newspapers, leaflets, brochures and more, which are then printed on a home/office printer or mass produced at a printing press. The content for a publication is usually created in an external program, for example stories are written in Microsoft Word, photographs are edited in Adobe Photoshop and illustrations prepared in Adobe Illustrator. DTP software is then used to bring everything together by importing all the bits and pieces – the final output is exported in .PDF file format for easy access.

DTP software available comes divided for two target audiences. There is the professional kind, which usually comes with a hefty price tag – these include Quark XPress and Adobe InDesign, and there are others which cater for the home/small office user such as Grasshopper PageStream, Microsoft Publisher and Serif PagePlus.

While scavenging Google for open source software I bumped into Scribus, which is probably the only open source/free desktop publishing software out there. Weighing in at just over 20 megabytes in size, it is a very complete piece of software, and includes enough advanced features to be used for professional work. Installation was smooth and straightforward – on a side note, in order to use the EPS image format and print preview, a freely available, third party software called Ghostscript has to be installed.

Creating a new document presents the user with a number of options, including document layout (single page/double sided/3 fold or 4 fold), margin guides, bleeds, document size and orientation, number of pages and more. Alternatively one can opt to use one of the preset templates such as brochures or newsletters.

Importing

Importing text, pictures and illustrations in Scribus is straightforward. It supports a number of text formats, including text files (.txt), Html as well as OpenOffice (.sxw). Unfortunately Microsoft Word (.doc/.docx)

LearnIT

Software reviews and tutorials written by Conrad Fenech and Winston Attard at the eLearning Centre.

Layout design by Conrad Fenech.

Website

<http://blogit.skola.edu.mt>

Printed at Dormax Press.

Publication produced by the Curriculum Management and eLearning Department within the Directorate for Quality and Standards in Education and the School Resources Management Department within the Directorate for Educational Services.



Scribus Capability List

- Supports major image formats including SVG
- Professional type/image setting features include CMYK colours and colour management
- Available in more than 24 languages
- Supports PDF export - including transparency and encryption
- It is not possible to save files to Quark XPress or Adobe InDesign format
- Pantone Management System (PMS) is not supported due to licencing issues

Read more Scribus tutorials at http://wiki.scribus.net/index.php/Scribus_Video_Tutorials

Free Fonts

Need free fonts? You can find many decent ones from here, many of which are freely downloadable:

<http://www.1001fonts.com>

Scribus: Text flow tutorial

1. The first thing to do is to launch Scribus and create a new document. For this tutorial, an A4 one page document will do.
2. Now click the 'Insert Text Frame' icon and draw a large text frame.
3. In order to add text into the text frame, select the 'Edit contents of frame' icon. This will allow you to type, copy/paste or import text. Fill the text frame with text.



4. Now split the text frame in two columns. From the Windows menu, enable the 'Properties' panel, then click the arrow next to 'Columns & Text Distances' to reveal this feature's options.

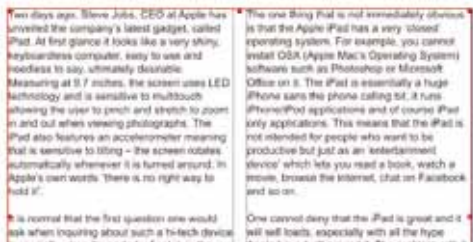
text. The text frame has to be edited in a way that it goes round the external shape of the picture.

From the 'properties' panel, expand the 'shape' option, then select 'Use Frame Shape' option. Click 'Edit' button – here you can edit the frame in a way that it goes around the image's contour. This panel contains a lot of buttons and options, but for this tutorial only a couple are needed. Add a bunch of nodes on the frame by enabling 'Add Node' then clicking on the frame. Add a few of these, and then move them one by one around your picture. You can add more nodes as you go if needed – extra nodes can be removed by selecting 'remove node' icon and clicking on them.



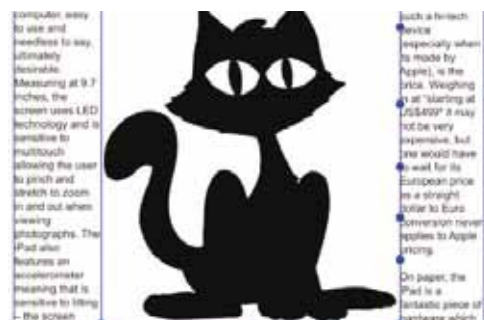
5. Using the arrows to the right of 'Columns', select '2' – this will split the text frame into two columns. Following this, keep adding to the 'Gap' until you are happy with the space between the columns, as seen here:

6. In this step, we will import a picture into this document. First create an image frame in which a picture will be inserted – just click the 'insert image frame' icon.



7. Draw an image frame and import an image into it (File menu -> Import -> Get Image). Place the image frame in the middle of the text frame as shown below.

8. As you can see in this image, the 'white space' within the image frame overlaps the



After selecting the 'Move Node' icon you can move nodes around to the edge of the picture. When done click 'End Editing'.

9. That's all – the end result should look something like this (please note that the light grey line is just a guide, it will not show if you do a print out):

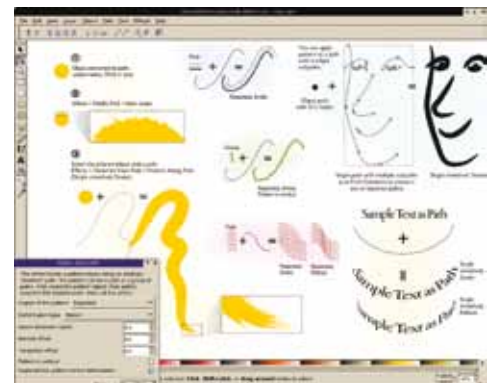


Inkscape

Vector drawing software

attributes, including the stroke (outline) thickness and colour, fill colour and so on can be changed as needed. Subsequently, forms can be merged, intersected, divided and cut using options available in the 'Path' menu. 'Draw Bezier Curves/Straight Lines' tool from the toolbar is used to draw a shape or a path manually. Once a shape has been created, it can be manually edited, first by clicking 'Edit paths by node' tool, and by then manipulating the nodes. Shapes, paths and also text can be manipulated as needed by the user. These can be resized, flipped, rotated, duplicated or distributed around the artboard as required. Objects can also be accurately placed within the document using the X and Y co-ordinates. Similarly, these can be made bigger and smaller using the Width and Height attributes.

Inkscape document files are saved as an .SVG format. Other industry standard vector formats are supported, including .EPS and .PDF. Alternatively files can be saved as a bitmap in .PNG format. I recommend Inkscape a lot, do not let its busy appearance discourage you, it is not difficult to work with and with some dedication you will be able to create drawings, logos or even handouts to be used in your class. You do not have to learn about all the tools and options to be proficient with Inkscape, in fact, with very few tools you can create good illustrations. This software can come useful especially for subjects in which illustrations are used, including Maths (Geometry) and Graphical Communication.



Graphics software come in two flavours, bitmap or vector. The most popular commercial bitmap software is Adobe's Photoshop with Gimp coming close on its heels as an open source alternative. For many years, Freehand was the only vector drawing program to be an industry standard, until Adobe bought Macromedia, the company behind it. Eventually Adobe killed off Freehand as it already had a similar software, Illustrator.



In this review I am looking at a free, open source alternative to Illustrator called Inkspace. Just like the program it gets inspiration from, at first it can look complicated (but really it is not that hard to learn and use) but end results look great. Starting a new document gives the user a number of layouts to choose from, including A4, DVD cover sleeve, business card and many more. Alternatively one can manually edit these sizes through the document properties menu.

Inkspace's layout may look quite busy. A number of toolbars rest on top of the artboard and similar to Illustrator, the tools are made available through a toolbar on the left side of the display. Through these tools one can draw basic shapes such as triangle, square and circle and their

The programs listed in this issue of LearnIT have been approved by MITA with the following reference numbers:

Scribus 789327
Sketchup 789323
Inkscape 789326
GIMP 789142

If you would like to install any of the above software on the desktops...

If you are in the

Primary:

Contact your school eLearning Support Teacher

Secondary:

Contact your school technician

Follow our tech-blog!

blog



<http://blogit.skola.edu.mt>

Download Inkscape from
<http://www.inkscape.org>

Get Inkscape Tutorials from:

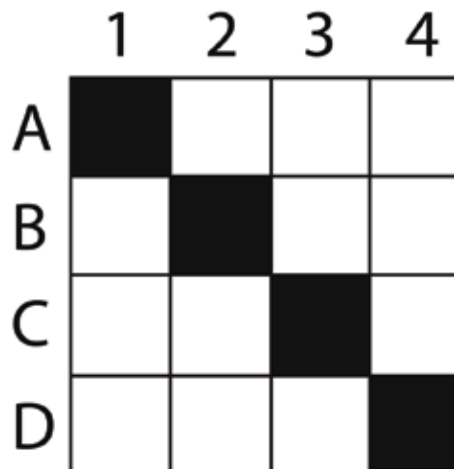
<http://inkscape.tutorials.wordpress.com>

Get free to use clipart for
Inkscape from here:

<http://openclipart.org>

Vector and Bitmap, the differences

The difference between the two types implies how data is drawn to the screen. An image is formed by a number of small dots adjacent to each other, known as pixels.



Look at the above image, one can see a black line going from A1 through A4. You and I, as humans can see the relationship with each pixel, but once saved as a bitmap image format, a computer does not 'understand' that these pixels form a straight line.

The file format (such as .JPG, .PNG, .BMP and many others) stores the data to build the image by giving the individual RGB (red, green, blue) values for each pixel.

For example, in the above image's case, the file would include the following data:

A0: Black, A1: White, A2: White, A3: White, A4:

White, B1 White, B2 Black and so on.

When a bitmap picture, such as a photo is enlarged, it looks blurry as it would not have the data need to fill in the gaps formed by the new extra pixels added.

In vector drawings, on the other hand, the computer is 'aware' of the shapes and forms, and it 'understands' the relationship between the pixels that form them. This means that vector drawings can be scaled infinitely without ever losing quality. For example, fonts are a type of vector – they can be enlarged as much as one wants and sharpness is always retained.

For the same image to the left, a vector file (such as .PDF, .EPS, etc.) would include the following instruction:

Draw a line between A1 and D4

Subsequently, if the user had to move pixel D4 to another position, Adobe Illustrator, Inkscape or whatever program is being used will redraw the pixels for a line image to be retained. This would not be possible if the image was a bitmap.

As a rule, all vector images have to be created from scratch by a user. Photos or scanned images are automatically bitmap, and cannot be converted to vector.

Vector images can be saved in bitmap image format but cannot be converted back.

Embed: Best use of ICT

Experience and create with technology including animation, robotics, creating graphics, working with interactive surfaces, Nintendo Wii, Design and Technology and more.

Open for the public:

Saturday, 22nd May (09.00-13.00), Sunday, 23rd May (15.00-19.00)

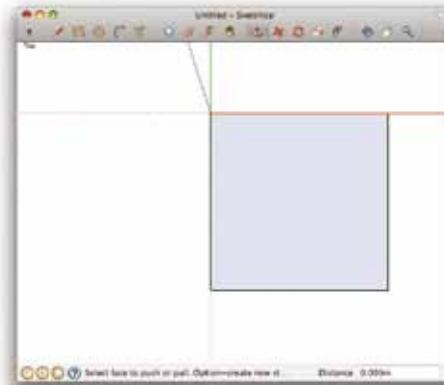
Venue: Excelsior Hotel Floriana

3D for everyone! SketchUp is a fun-to-use and easy-to-learn piece of software that won an award in 2000 for its low learning curve. It is a fast and versatile 3D modelling application that allows you to quickly create objects, furniture and buildings. You can use SketchUp for fun to draw three-dimensional virtual models or for practical projects, such as planning a kitchen or designing a bookshelf.

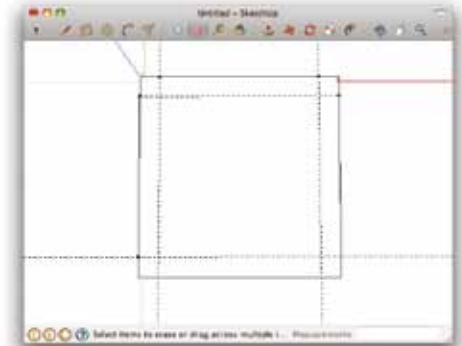
In this tutorial we shall build a simple model of a chair, step by step.

Google Sketchup 3D Drawing Program

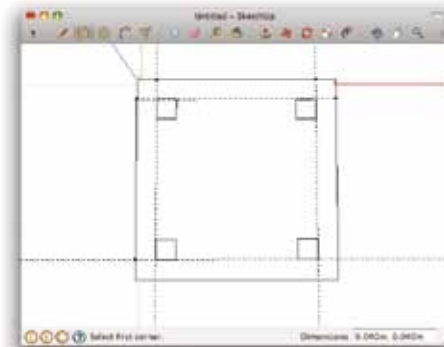
1. Open a New document in SketchUp and draw a square of 0.40m with the Rectangle tool from the Toolbox. Start at the intersection point and input the exact measurements in the Dimensions box, bottom right of the drawing area.



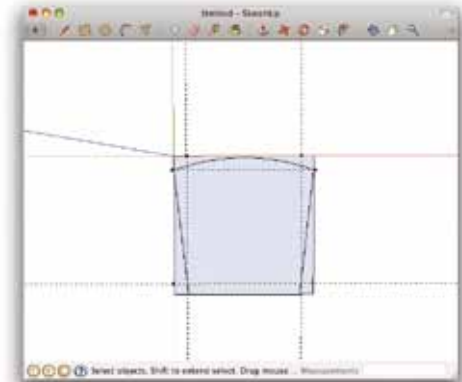
2. Use the Orbit tool to view in perspective and the Push/Pull tool to extrude upwards. Use the Dimensions box to input extraction of 0.04m.



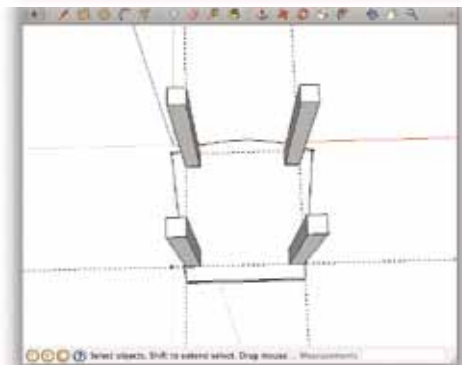
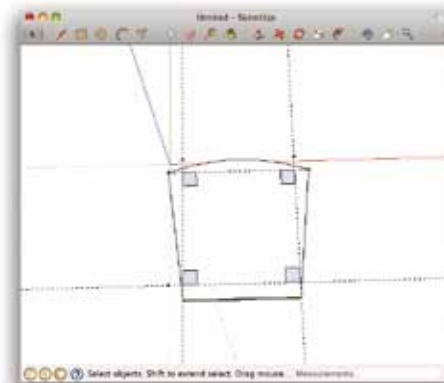
3. View from the top with the Orbit tool and use the Tape Measure tool to drag guides (dotted lines) 0.04m inside the rectangle to position the legs.



4. Draw an arc with the Arc tool at the front of the chair and draw two diagonal lines with the Line tool on the sides to form the seat. Use the Push/Pull tool to eliminate the excess spaces.

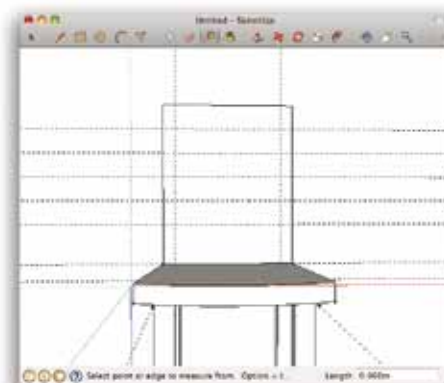


5. Use the Orbit tool to view the bottom of the seat. Draw 4 rectangles of 0.04m square at intersection of guides and extrude downwards (Push/Pull) to 0.45m. it is easier to extrude in perspective view using the Orbit tool.

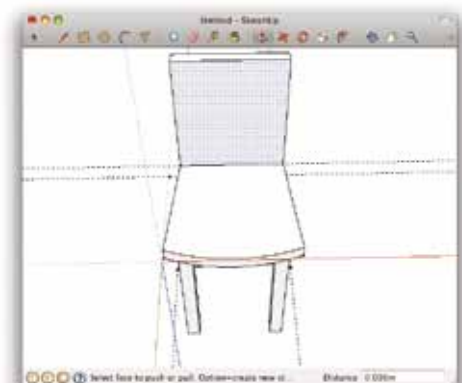


6. Bring the view from the front to draw a rectangle forming the back of the chair of 0.40m height. Use the Dimensions box for exact measurements. Extrude to 0.03m depth.

7. Enlarge front to view back of seat. draw horizontal guidelines 0.060m from each other starting from the top and 2 verticals, 0.03m from the sides.



8. Using the guides draw 3 rectangles under each other and extract to create the 3 spaces of the back.

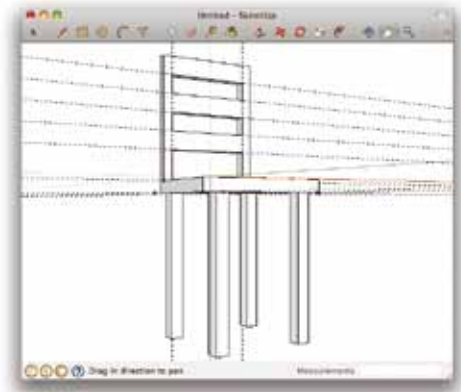
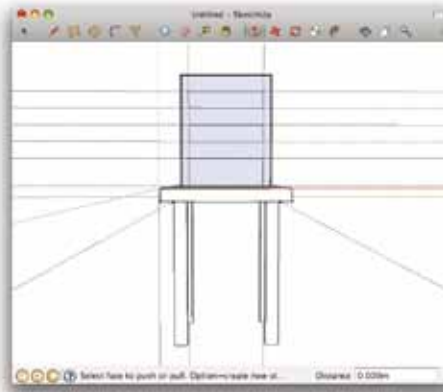


Download Inkscape from
<http://sketchup.google.com>

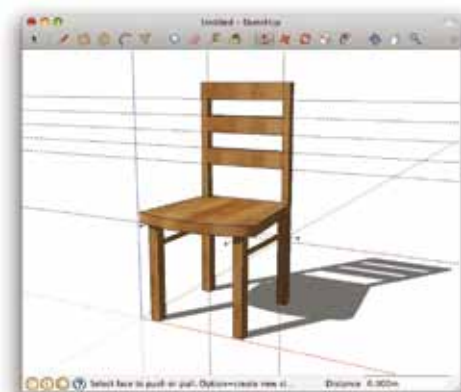
9. Enlarge with the Zoom tool to view the back legs and drag down a guide line 0.05m from the seat. Draw a circle on the inside back leg using the guideline and extrude to the inside front leg. Repeat procedure on the other side.

10. From Main Menu, File>Select All and use the Move/Copy tool to move the chair up so that the legs are positioned on the horizontal red line.

11. To add shadow, from Main Menu go to Window>Shadows and adjust your preference from the Shadow Settings window.



12. Chose the Paint Bucket from the Toolbox and from main Menu move to Window>Materials to pick a wood sample and fill the chair.



Save as a 2D drawing, a 3D model or as a SketchUp file (skp).

Get more Inkscape Tutorials from <http://inkscapetutorials.wordpress.com>

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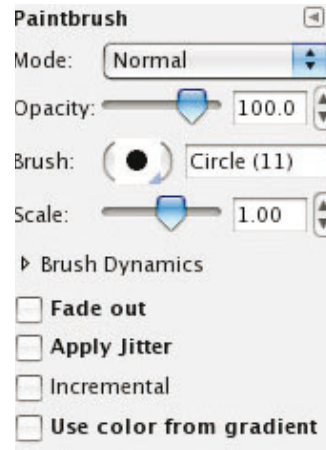
Free web-based applications for teaching / Implementing eLearning in class using podcasting
 Implementing blogs in classroom culture / Learning by discovery: Webquests
 / Editing your own videos using Windows Movie Maker / Learning with robotic kits in the Primary School classroom / Using the interactive whiteboard / ePortfolios and other eTools for educators
 / Using Concept Maps to facilitate meaningful learning

For more information visit <http://courses.skola.edu.mt>
 or phone **2598 2167** during school hours.

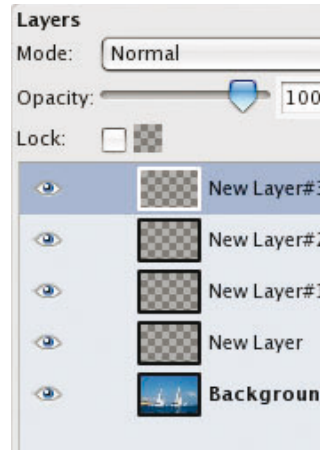
Gimp Panels



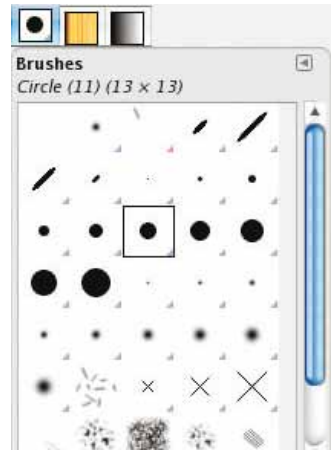
The main Toolbox



Tool Options
Changes according to tool



Layers, Channels, Paths,
Undo palette



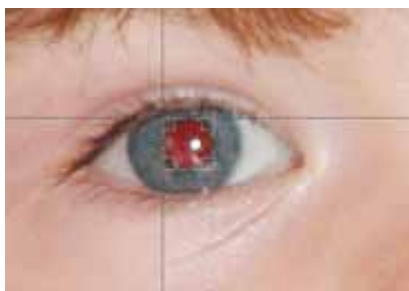
Brushes, Patterns,
Gradients windows



Main image window - where the main menu is also displayed. Multiple image windows can be open at the same time.

Using Gimp

Gimp is a powerful program very similar to Photoshop and therefore it may take some time for the user to become familiar with the layout and tools. Simple tasks are straight forward but if you plan to use it extensively it is a good idea to take a look at Gimp's official documentation [here](#) and tutorials [here](#). Alternatively you can look up for video tutorials on YouTube.



Red Eye Reduction Tutorial

Removing red-eye effect, caused by the camera flash, from your photos.

To correct red-eye effect in Gimp we resort to the Filters drop-down menu.

1. Open a photograph with red-eye effect.
2. Use the Magnifier to enlarge the view to focus on one eye.
3. Drag in guidelines from the side and top rulers and stop at the pupil.
4. From the selection options select feathering and type 3 as number of pixels to feather.
5. From the intersection of the guides draw an elliptical selection to cover the pupil. Use the shift to select a perfect circle around the pupil.
6. From the Main Menu select Filters>Enhance>Red-Eye



Removal...

7. With the Threshold at 50, click OK in the 'Red Eye Removal' window.
8. Repeat the steps to remove the red-eye effect from the other eye.

The filter is surprisingly effective and the final result is optimum.



Read more Gimp tutorials at
<http://www.gimp.org/tutorials>