Inkscape:
An Introduction

Contents

How to use this user guide

This handbook accompanies the taught sessions for the course. Each section contains a brief overview of a topic for your reference and then one or more exercises.

Exercises are arranged as follows:

- A title and brief overview of the tasks to be carried out;
- A numbered set of tasks, together with a brief description of each;
- A numbered set of detailed steps that will achieve each task.

Some exercises, particularly those within the same section, assume that you have completed earlier exercises. Your teacher will direct you to the location of files that are needed for the exercises. If you have any problems with the text or the exercises, please ask the teacher or one of the demonstrators for help.

This book includes plenty of exercise activities – more than can usually be completed during the hands-on sessions of the course. You should select some to try during the course, while the teacher and demonstrator(s) are around to guide you. Later, you may attend follow-up sessions at ITLP called Computer8, where you can continue work on the exercises, with some support from IT teachers. Other exercises are for you to try on your own, as a reminder or an extension of the work done during the course.

Text conventions

A number of conventions are used to help you to be clear about what you need to do in each step of a task.

- In general, the word **press** indicates you need to press a key on the keyboard. **Click, choose** or **select** refer to using the mouse and clicking on items on the screen. If you have more than one mouse button, **click** usually refers to the left button unless stated otherwise.
- Names of keys on the keyboard, for example the Enter (or Return) key are shown like this **ENTER**.
- Multiple key names linked by a + (for example, **CTRL+Z**) indicate that the first key should be held down while the remaining keys are pressed; all keys can then be released together.
- Words and commands typed in by the user are shown *like this*.
- Labels and titles on the screen are shown **like this**.
- Drop-down menu options are indicated by the name of the options separated by an angle bracket, for example **File>Print**. In this example you need to select the option **Print** from the **File** menu. To do this, click with the mouse button on the **File** menu name; move the cursor to **Print**; when **Print** is highlighted, click the mouse button again.
- A button to be clicked will look like this
- The names of software packages are identified *like this*, and the names of files to be used *like this*.

Software used

Inkscape 0.48.5 r10040
Windows XP or Mac OSX

Files used

Course files folder containing images and documents

Revision information

Version	Date	Author	Changes made
1.0	November 2013	Carl Wenczek	New notes for new course
1.1	April 2014	Carl Wenczek	Minor amendments to errors and typos
1.2	September 2014	Carl Wenczek	Minor amendments to text
1.3	*May 2015*	*Carl Wenczek*	*Reordering of introductory pages*

Acknowledgements

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The Inkscape Window

Canvas

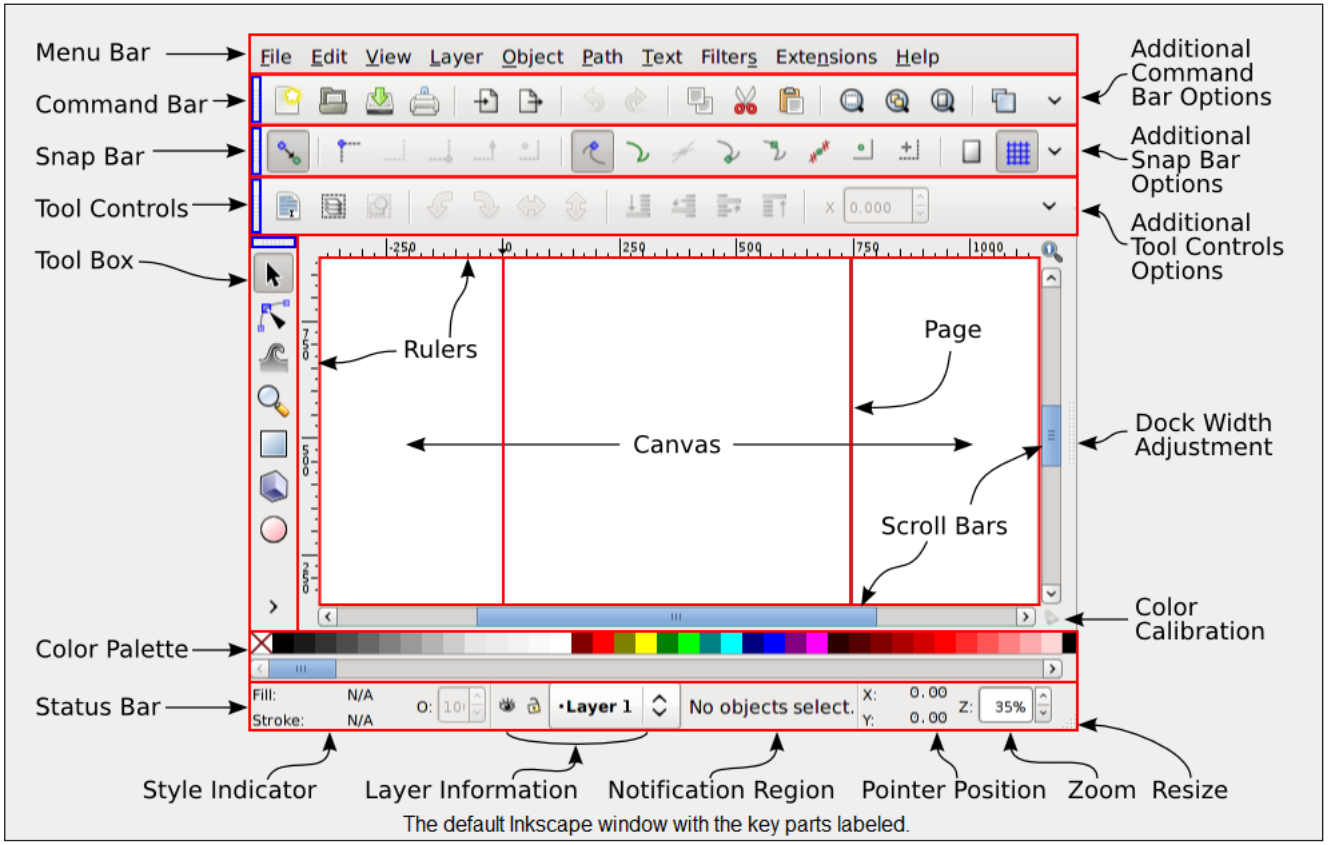
The drawing area. It may extend outside the viewable area. It can be panned (scrolled left/right and up/down) and zoomed.

Page

The part of the Canvas area corresponding to a printed page or other predefined area. Useful for setting an output region in printing or exporting a bitmap image. It may extend outside the viewable area.

Menu Bar

Contains the main pull-down menus.



The default Inkscape window with the key parts labeled.

Command Bar

Contains shortcuts to many of the items located in the menus. Click on the Down arrow on the right end to access entries missing due to space.

Snap Bar

Contains clickable icons that control snapping.

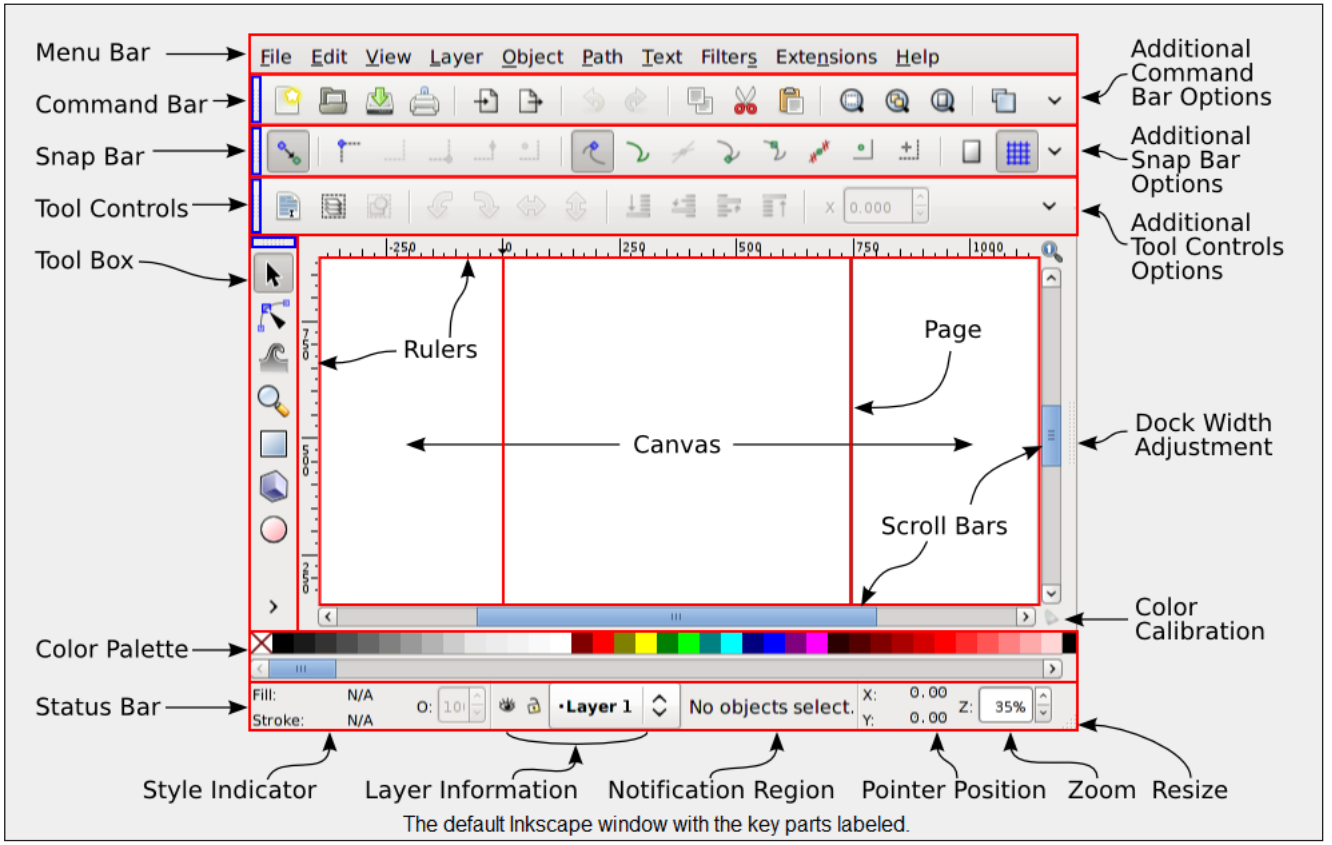
Tool Controls

Contains entry boxes and clickable icons that are specific to the selected tool. For example, when the Rectangle Tool is in use, an entry box to specify a selected rectangle's width appears. Click on the Down arrow on the right end to access entries that may be missing due to space. If there is no arrow, then all options are being shown.

The Inkscape Window

Tool Box

Contains "Tools" for selecting, drawing, or modifying objects. Clicking on an icon selects a tool. Double-clicking brings up that tool's preference dialog. The cursor (pointer) changes shape when placed over the canvas depending on which tool is selected.



The default Inkscape window with the key parts labeled.

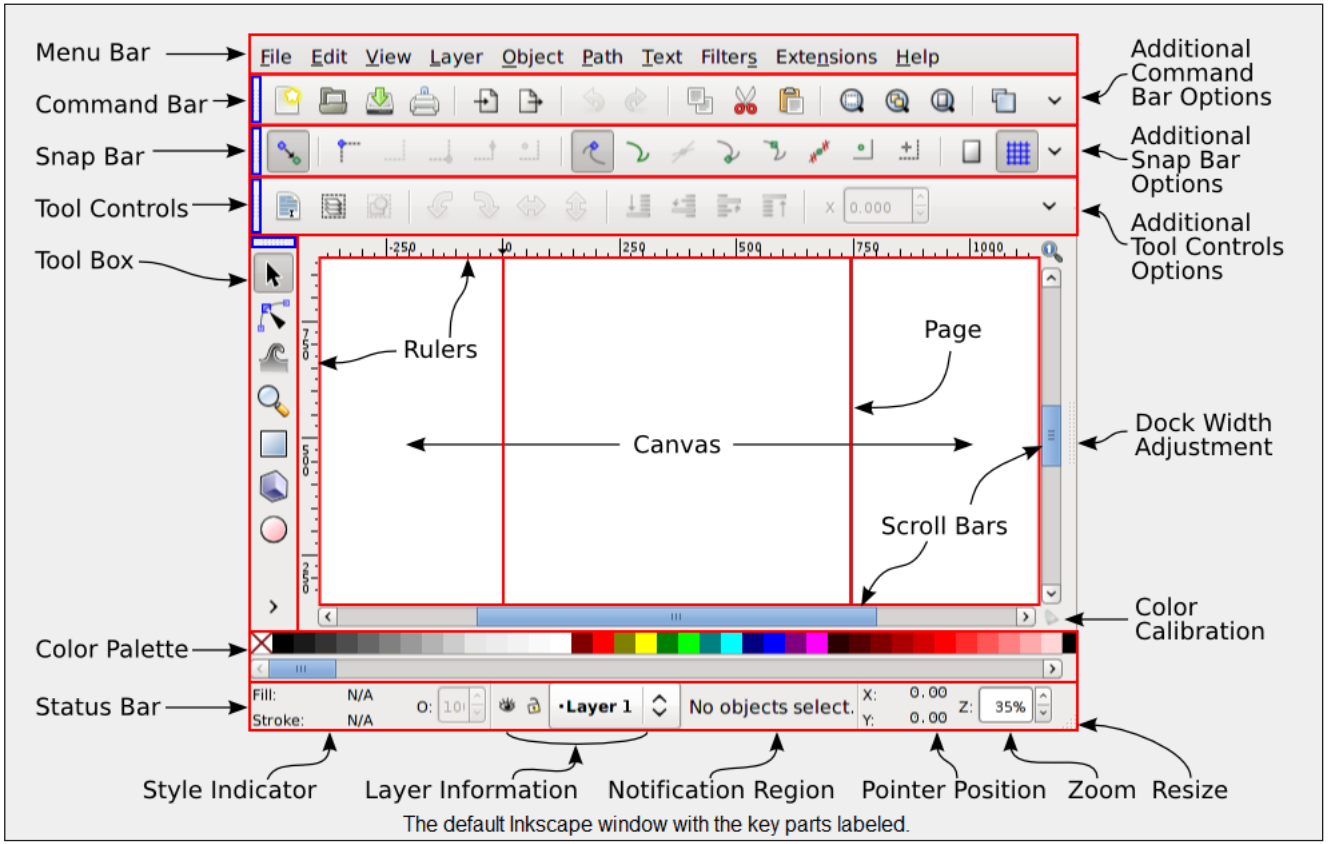
Color Palette

Contains a colour palette. Colours can be dragged from the palette onto objects to change their Fill. Using the Shift key while dragging will change the Stroke colour instead. The colour used by some tools can be set by clicking on a colour swatch. The palette can be changed by clicking on the arrow icon at the right end of the palette. Many predefined palettes are included. If the number of colour swatches in a palette exceeds the space allocated, the scroll bar beneath the palette can be used to access the hidden swatches.

Status Bar

Contains several areas, including the Style Indicator, current drawing layer, pointer position, current drawing layer (and if it is visible or locked), current zoom level, window resize handle, and a Notification Region that describes context dependent options.

The Inkscape Window



The default Inkscape window with the key parts labeled.

Style Indicator

Shows the style (Fill and Stroke) of a selected object, text fragment, or gradient stop. A Left Mouse Click on the Fill or Stroke paint part of the indicator opens the Fill and Stroke dialog. A Right Mouse Click opens up a pop-up menu.

Notification Region

Contains context dependent information. If the region is too small to view all the text, placing the cursor over the region will display a tool tip with the full text.

Rulers

Show the x- and y-axis coordinates of the drawing. Use Ctrl+R to toggle on/off. A Left Mouse Drag from a Ruler onto the Canvas creates a Guide Line.

Scroll Bars

Allows scrolling to adjust which part of the Canvas is viewable.

Color Calibration

Button toggles on/off use of a Colour Profile (if set up).

Setting up

Setting up Inkscape The preferences dialogue is accessed from the File menu. It lets you customize many aspects of the way Inkscape works.	
Open Inkscape and set preferences	**Steps** 1. Open Inkscape. 2. Choose **File>Inkscape Preferences...** This will launch the *Inkscape Preferences* dialogue. Preferences worth setting include the *Rotation snap angle* under the *Step* entry; and setting the *Default export resolution* under the *Import/Export* entry
Overflow exercise	**Steps** 1. Choose **File>Open...**. This will launch the *Select file to open* dialogue box. 2. You will notice that there are options along the top of the dialogue box as well as the usual list of folders and drives down the left hand side to help you navigate and locate a file or folder. 3. Select the image file called *marine life 01.jpg* 4. Choose to *embed* the image and then click **OK**. The aim is to try and recreate this illustration. *Treat this as an overflow exercise while you are waiting, or if you finish the exercises in the course book early and would like a challenge!*
Notes	

Image navigation

Exercise - Using the Zoom Tool

An Inkscape drawing can be viewed in many different ways. The view can be changed by panning and by zooming the canvas. The Inkscape window can be made full screen.

Open an image	**Steps** 1. **Open** the SVG file called *Houses of Parliament 01.svg*
Use the Zoom in or out tool	**Steps** 1. From the Tool Box select the **Zoom in or out** tool **(F3)**  . 2. Move your mouse cursor over the image. You will notice the cursor shows a magnifying glass symbol with a small + (plus) sign inside it. 3. Click with the mouse in the image to zoom in. 4. Hold down the **Shift** key. The symbol in the magnifying glass should change to a **-** (minus) sign. 5. While holding down **Shift** click with the mouse in the image to zoom out.
Zoom tool options	**Steps** 1. Take a look at the **Tool Controls** for the Zoom tool. You will see there are other options for zooming. 2. Hover your mouse pointer over each in turn to see a tool tip describing each option.
 *Tool Controls for the Zoom in and out tool*	
Scroll bars	**Steps** 1. To save zooming in and out of an illustration you can use the **scroll bars** along the bottom and up the right hand side of the screen to pan your image while maintaining the current level of magnification.
Notes	

Introduction

Exercise - Create simple vector based shapes

The advantage a program like Inkscape has over raster based programs is it's very powerful vector tool set. This exercise will give you a sampling of the drawing tools that come with Inkscape.

Open Inkscape and create a new document	**Steps** 1. Open Inkscape. 2. Choose **File>New** and select the **Default** document. 3. You can change the size of the document and the units by choosing **File>Document Properties...**
Create a rectangle	**Steps** 1. Select the **Create rectangles and squares** tool **(F4)**  . 2. Your mouse cursor will change to a crosshair and rectangle. Move your mouse cursor into your document and click and drag to create a rectangle.
Move and resize your rectangle	**Steps** 1. Select the **Select and transform objects** tool **(F1)**  from the **Tool Box** and click and drag one of your rectangles to move it. 2. Take a moment to look at your selected rectangle. You will notice it has eight handles. One in each corner and one in the middle of each of the sides. 3. Click and drag on any of these handles with the **Select and transform objects** tool to resize the rectangle. Hold the **Ctrl** key down when dragging a corner handle to maintain the rectangles proportions.
Notes	

A **Fill** is a colour, pattern, or gradient inside an object. You can apply Fills to open and closed objects.

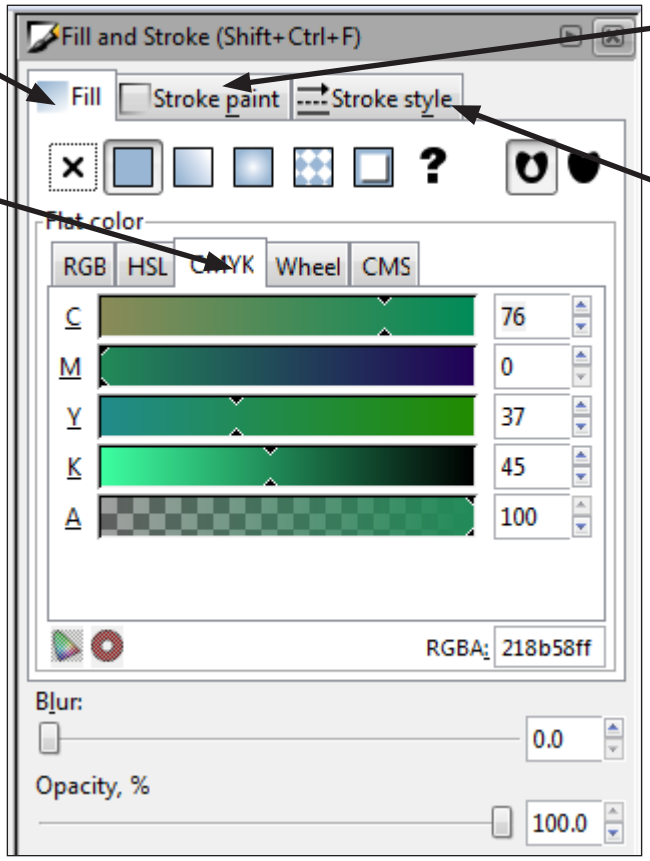
A **Stroke** is the visible outline of an object. You can control the width and colour of a Stroke.

Every object in your artwork can have one or more Fills and Strokes, or none at all. The current Fill and Stroke colours are displayed in the Toolbox.

Fill your rectangle with colour	**Steps** 1. Using the **Select and transform objects** tool **(F1)** select one of your rectangles. 2. Choose **Object>Fill and Stroke...** 3. From the Fill and Stroke dialogue choose colours for the Fill and Stroke and change the width of the Stroke.

Choose Fill type, colour and opacity

Set colour mode/space



Choose Stroke type, colour and opacity

Set the Stroke style

Notes

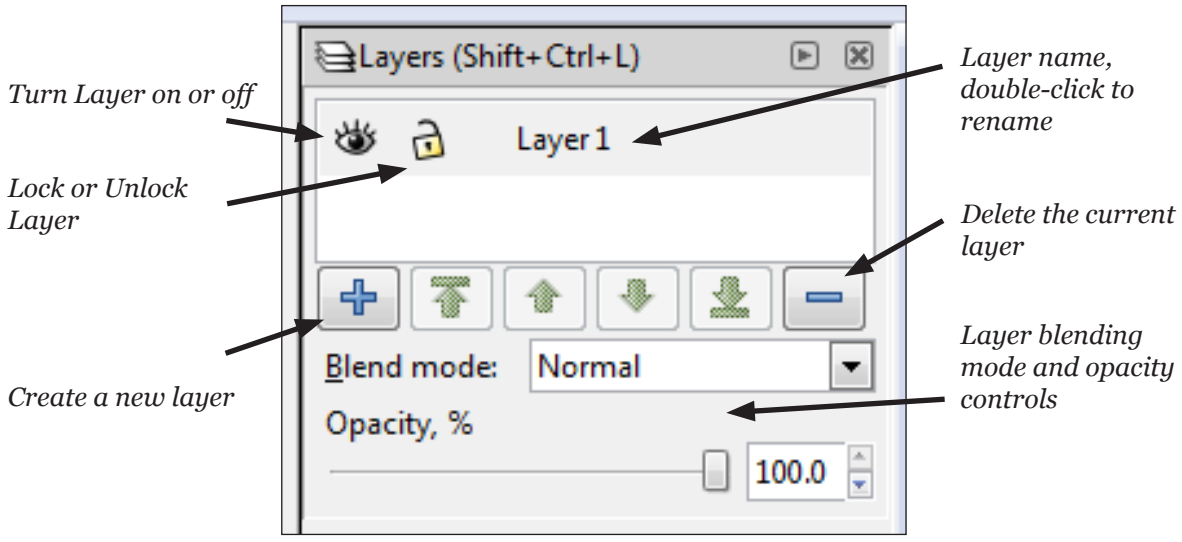
Working with Layers

Organise your document using Layers and the Layers dialogue

When creating complex artwork, it's a challenge to keep track of all the items in your drawing. Small items get hidden under larger items, and selecting artwork becomes difficult. Layers provide a way to manage all the items that make up your artwork. Think of layers as clear folders that contain artwork. If you reshuffle the folders, you change the stacking order of the items in your artwork.

The structure of layers in your document can be as simple or complex as you want it to be. By default, all items are organized in a single, parent layer. However, you can create new layers and move items into them, or move elements from one layer to another at any time. The Layers panel provides an easy way to hide and lock artwork.

Create a new document	**Steps** 1. Choose **File>New** and select the **Default** document. 2. You can change the size of the document and the units by choosing **File>Document Properties...**
Examine your Layers dialogue	**Steps** Inkscape documents are automatically set up with one layer called *Layer 1*. All artwork you create is automatically placed in this layer. 1. Choose **Layer>Layers**... 2. Your Layers dialogue should look similar to the image below. At the moment your document contains one layer called *Layer 1*.

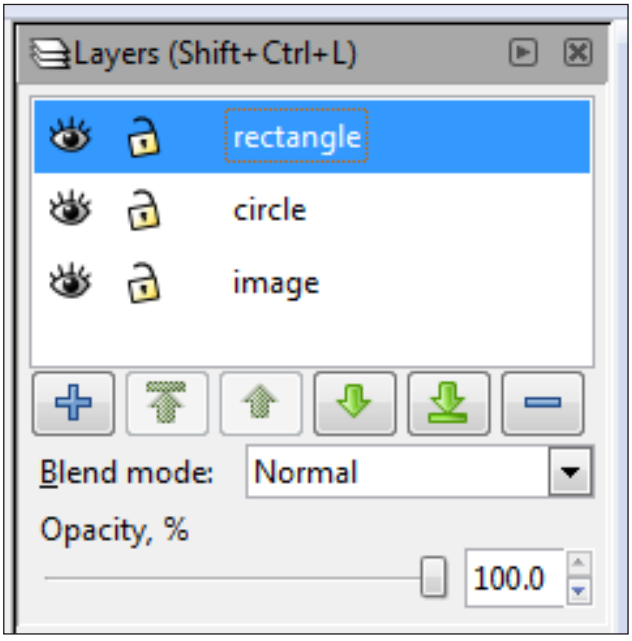


Notes

Organise your document using Layers and the Layers dialogue

To add a new layer, you just click the button with the blue plus sign which opens the Add Layer dialogue. In this dialogue you can name your layer and also choose to add it above or below the current layer or as a sub-layer. The four arrow buttons allow you to change the order of layers, moving a layer to the top, up one level, down one level and to the bottom. The button with the blue minus sign will delete a layer, but do note that any objects on that layer will also be deleted.

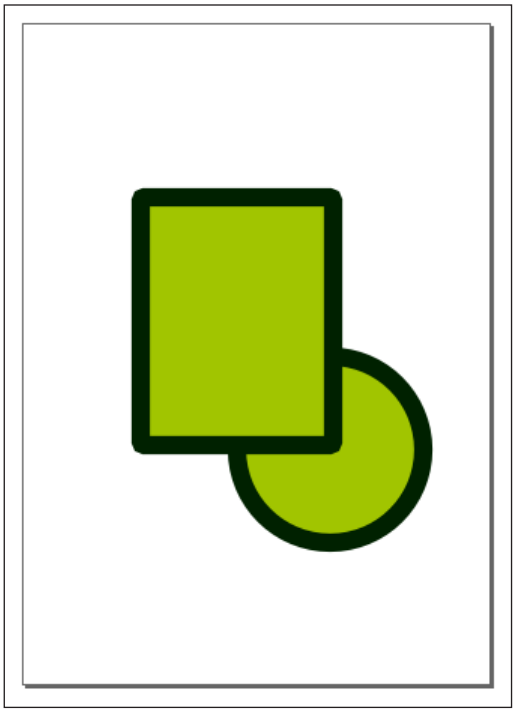
Rename Layer 1	**Steps** 1. Click over the name *Layer 1* in the Layers dialogue. It should become highlighted allowing you to type in a new name. 2. Rename the layer *image*.
Create two new layers	**Steps** 1. Click the button with the blue plus-sign in the Layers dialogue. 2. Call your new layer *circle* and click **Add**. 3. Create a third layer and call it *rectangle*.



Notes

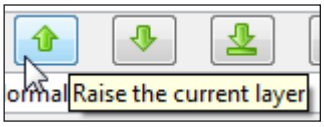
Add artwork to your layers

You can select a layer by clicking on it. Once selected the layer will be blue. Once a layer has been selected all objects that you add to your document are applied to this layer.

Add artwork to your layers	**Steps** 1. Select the circle layer by clicking on it. The layer should turn blue in the Layers dialogue. 2. Create a circle and apply stroke and fill. 3. Select the rectangle layer by clicking on it. The layer should turn blue in the Layers dialogue. 4. Create a rectangle and apply stroke and fill.
Move your artwork	**Steps** 1. Rearrange your artwork so that the circle and the rectangle overlap each other as shown in the image below. 2. To move artwork first select the appropriate layer and then select and move the artwork using the **Select and transform objects** tool **(F1)**  .
	
Notes	

Change the layer order

The four arrow buttons along the bottom of the Layers dialogue allow you to change the order of layers, moving a layer to the top, up one level, down one level and to the bottom.

Change the layer order	**Steps** 1. Select the circle layer by clicking on it. The layer should turn blue in the Layers dialogue. 2. Click the Raise the current layer button to move the circle layer above the rectangle layer.  The circle should now sit above the rectangle.

Hiding and revealing layers

You can use the Layers dialogue to hide objects quickly without deleting them. This could be useful if you wanted to apply different text on a common background.

To the left of each layer in the Layers dialogue is an eye icon and you only need to click on this to hide a layer. The closed eye icon indicates a hidden layer and clicking it will make a layer visible.

Hide and reveal layers	**Steps** 1. Experiment with clicking on the eye icons to hide and reveal your layers.

Locking and unlocking layers

If you have objects within a document that you don't want moved or deleted, you can lock the layer that they are on.

A layer is locked by clicking on the open padlock icon next to it, which then changes to a closed padlock. Clicking the closed padlock will unlock the layer again.

Lock and unlock layers	**Steps** 1. Experiment with clicking on the padlock icons to lock and unlock your layers.

Notes

Layer blending modes

Inkscape offers a number of blending modes that alter the appearance of layers.

By default, layers are set to Normal mode, but the Blend mode drop down allows you to change the mode to Multiply, Screen, Darken and Lighten.

Import an image	**Steps** 1. Select the *image* layer. 2. Choose **File>Import...** Select the image file called *ripples 02.jpg* and click **Open**. 3. The *jpeg GDX pixbuf Input* dialogue will appear. Choose to **embed** the image and click **OK**. The image will appear in your document underneath the circle and the rectangle because it has been placed on the *image* layer. 4. You may need to move the image using the **Select and transform objects** tool **(F1)**  .
Change a layers blending mode	**Steps** 1. Select either the *circle* or *rectangle* layer. 2. From the bottom of the Layers dialogue change the layers blending mode using the **Blend mode** drop down menu. 3. You can also experiment with the layer **Opacity**.
Save your document	**Steps** 1. Choose **File>Save As...** 2. Choose a name for your file and a location to save it. Then click **Save**. 3. Keep this document open; you will be using it for the next exercise.
Notes	

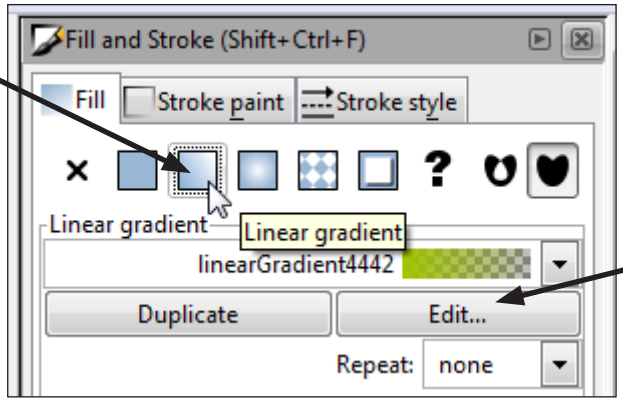
Gradients

Exercise - Create a Gradient

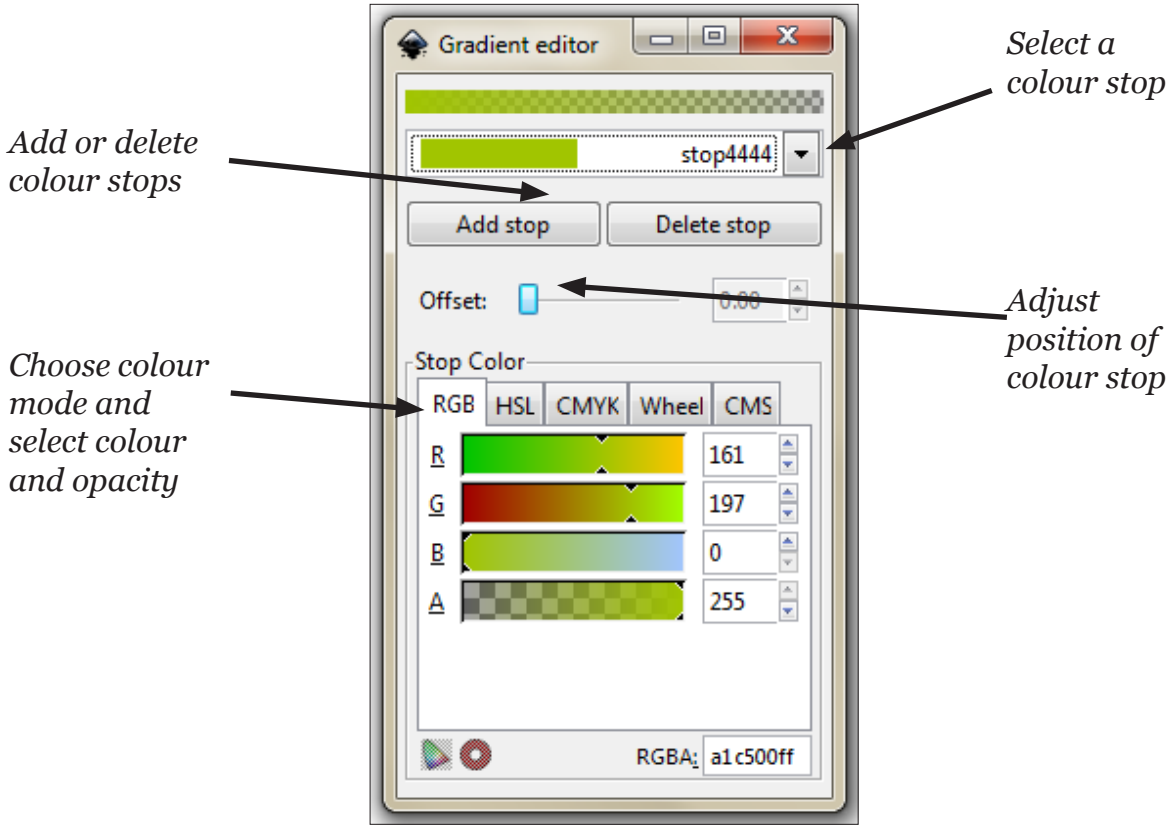
You can use the Gradient editor (accessed via the Fill and Stroke dialogue) or the Create and edit gradients tool to apply, create, and modify gradients.

Gradient colours are defined by a series of stops along the gradient slider. A stop marks the point at which a gradient changes from one colour to the next.

Using the options in the Gradient dialogue or with the Create and edit gradients tool, you can specify the number and location of stops, angle in which the colors display, and the opacity of each colour.

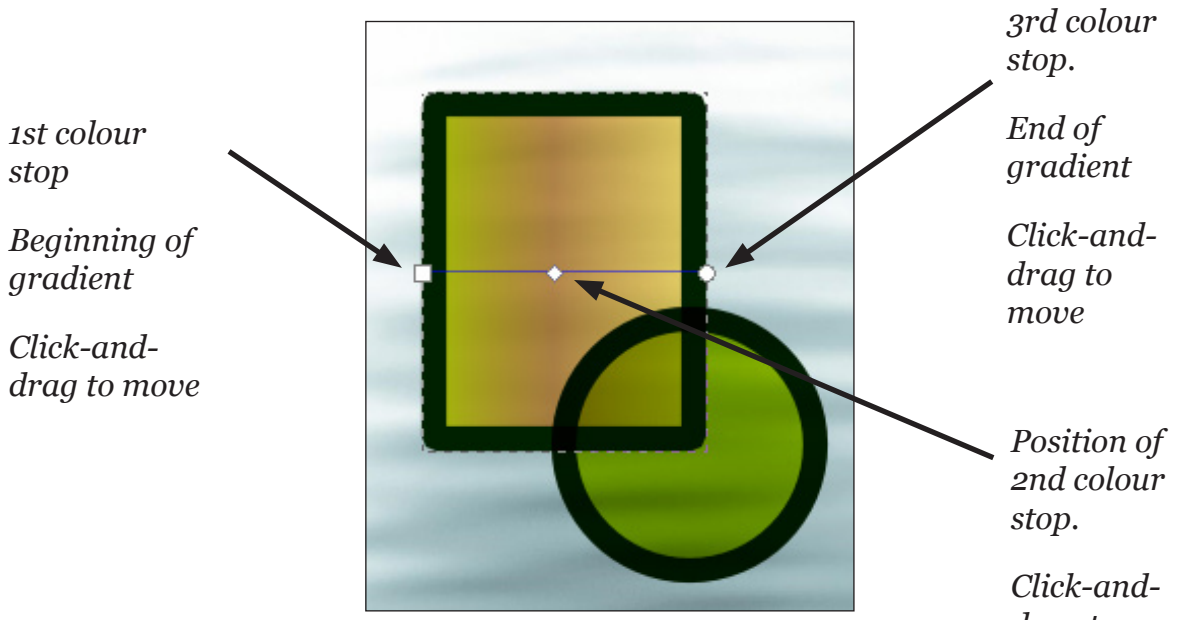
Continue working with the document you created for the layers exercises	**Steps** 1. Continue working with the document you created for the layers exercise. 2. Alternatively open the file called *Gradient 01.svg*.
Fill the path with a gradient	**Steps** 1. Select one of the shapes, either the rectangle or the circle. 2. Choose **Object>Fill and Stroke...** to launch the Fill and Stroke dialogue.
First choose Linear gradient for the Fill  *and then choose Edit to edit the gradient*	
Set a gradient for the paths fill type	**Steps** 1. Select the **Fill** tab and then choose **Linear gradient** for the fill type.
Notes	

Edit the gradient	**Steps** 1. Click the **Edit…** button in the Fill and Stroke dialogue. 2. This launches the **Gradient editor** dialogue. 3. Begin by changing the start and end colours of you gradient by selecting the colour stops. See image below.



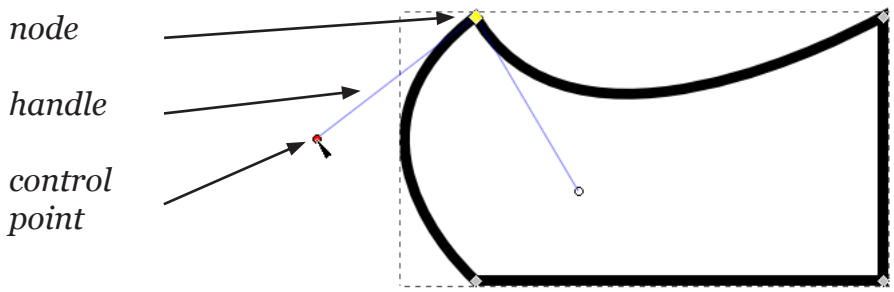
Add another colour stop	**Steps** 1. Add another colour stop, change it's colour and adjust it's position using the Offset slider.

Notes

Adjust the direction of the gradient	**Steps** 1. Select the **Create and edit gradients** tool (**Ctrl + F1**)  from the **Tool Box**. 2. You will see that a line with three control points has appeared across the selected shape
	
	3. Experiment with clicking-and-dragging the control points to adjust the direction and length of the gradient and the positions of the colour stops.
Try applying a gradient to a shapes Stroke	**Steps** 1. Try applying a gradient to a shapes **Stroke**.
Notes	

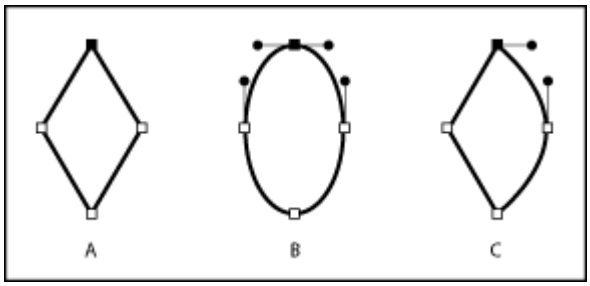
Working with Nodes

A path is made up of one or more straight or curved *segments*. At the beginning and end of each segment are *nodes*. You change the shape of a path by editing its nodes. You can control curves by dragging the *control points* at the end of the *handles* that appear at nodes.



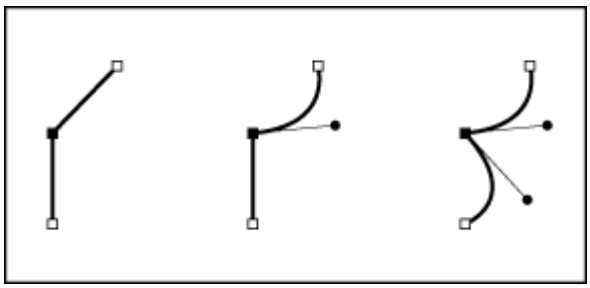
A path is either *open*, like an arc, or *closed*, like a circle. For an open path, the starting and ending nodes for the path are called *endpoints*.

Paths can have two kinds of *nodes* - corner nodes and smooth nodes. At a corner node, a path abruptly changes direction. At a smooth node, path segments are connected as a continuous curve. You can draw a path using any combination of corner and smooth nodes. If you draw the wrong kind of point, you can always change it.



Nodes on a path A. Four corner nodes B. Four smooth nodes C. Combination of corner and smooth nodes

A corner node can connect any two straight or curved segments, while a smooth node always connects two curved segments.

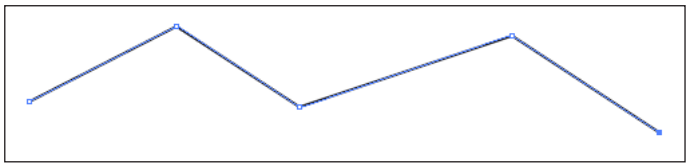


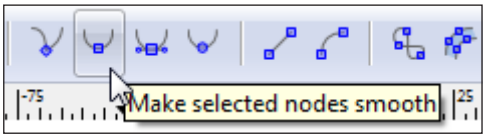
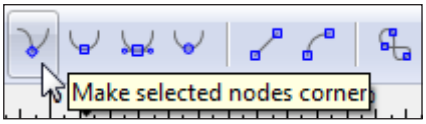
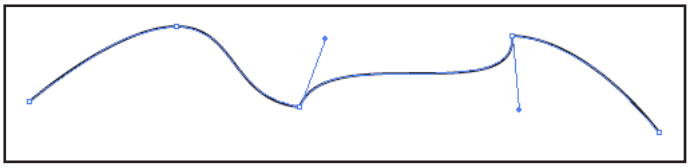
A corner node can connect both straight segments and curved segments.

Exercise - Introducing the Draw Bezier curves and straight lines tool

The Draw Bezier curves and straight lines tool (Shift + F6) draws straight and curved lines to create objects.

The simplest paths you can draw with the tool are straight lines, made by clicking to create nodes. By continuing to click, you create a path made of straight line segments connected by corner points.

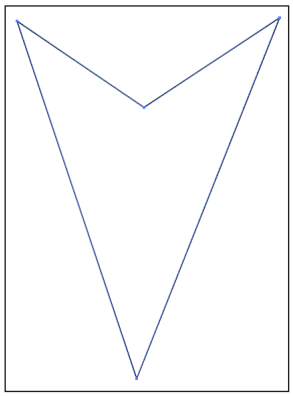
Create a new document	**Steps** 1. Choose **File>New>A4_landscape**.
Create straight lines with the Draw Bezier curves and straight lines tool	**Steps** 1. Select the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  . 2. Position the tool where you want the straight segment to begin, and click to define the first node. *If direction lines appear, you accidentally dragged the tool; press escape and start again.* 3. Click again to create the first line or segment. Continue clicking to draw a path like the one shown below. When you have finished press **Enter**.
	
Turn some of the segments into curves with the Edit paths by nodes tool	**Steps** The **Edit paths by nodes** tool **(F2)** changes smooth nodes to corner nodes and vice versa. 1. Select the **Edit paths by nodes** tool **(F2)**  . 2. Click on the path you want to modify.
Notes	

	3. Position the **Edit paths by nodes** tool over a node you want to convert and click to select it. It should change colour, from grey to yellow. 4. From the **Tool Controls** panel choose **Make selected nodes smooth**.
	
	The node becomes a smooth node. You will notice that handles have appeared from the node. 5. Adjust the curve of the segments by **clicking-and-dragging** the *control points* at the ends of the *handles*.
Turn some of the nodes into corner nodes	**Steps** 1. To convert a smooth node to a corner node first select the node with the **Edit paths by nodes** tool. 2. Then select **Make selected nodes corner** from the **Tool Controls** panel.
	
	The node becomes a corner node. Initially it will not look any different. However, when you drag the control points at the ends of the handles you will see that you can move them independently and create a corner node. 3. Adjust the curve of the segments by **clicking-and-dragging** the *control points* at the ends of the *handles*.
	
Save your document	**Steps** 1. Choose **File>Save As...** 2. Give your document a name and choose **Inkscape SVG (*.svg)** from the **Save as type** drop-down menu.
Notes	

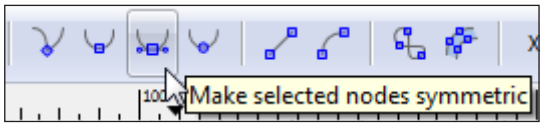
Exercise - Create a Heart

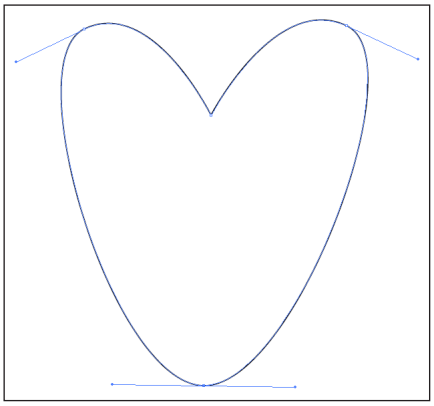
Continue working with the document you created in the previous exercise

Create a heart shape with straight lines	**Steps** 1. Using the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  create a heart shape with straight lines. 2. End or close the path by clicking on the original/first node.



Transform the straight lines into curves	**Steps** 1. Use the **Edit paths by nodes** tool **(F2)**  to select nodes to convert into smooth nodes. Tip: for the node at the bottom of the heart try choosing **Make selected nodes symmetric**.



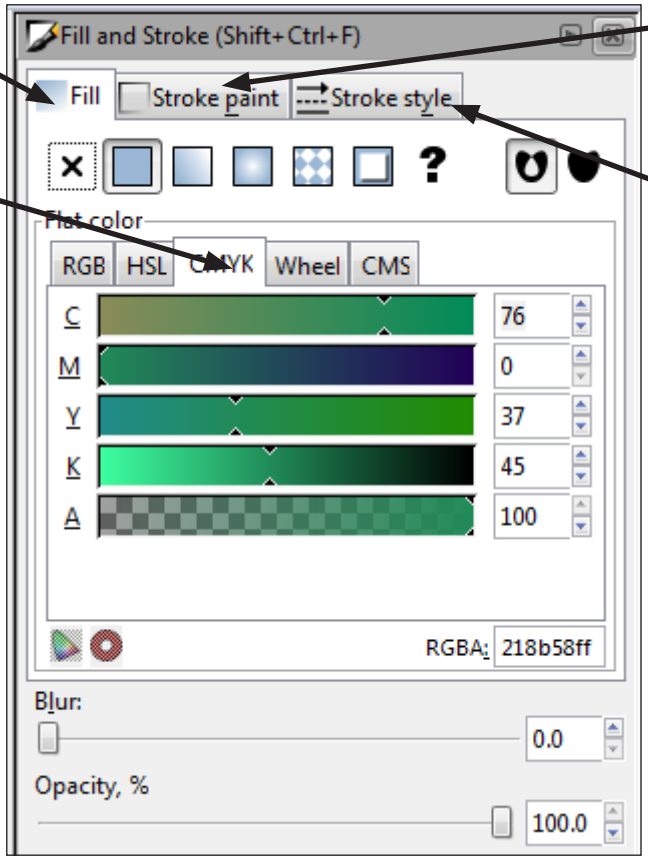


Notes

Fill your heart shaped path with colour	**Steps** 1. Ensure the heart shape is still selected. If not, select it using the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  . 2. Change the Fill and Stroke colours using the Fill and Stroke dialogue (choose **Object>Fill and Stroke…**)

Choose Fill type, colour and opacity

Set colour mode/space



Choose Stroke type, colour and opacity

Set the Stroke style

Notes

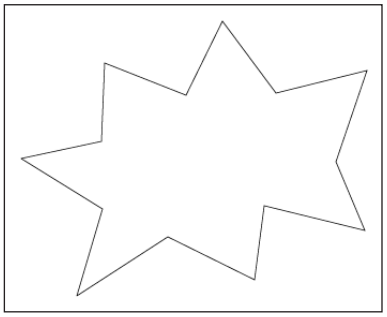
Exercise - Create a cloud shape

Use the Draw Bezier curves and straight lines tool to create the cloud shape.

Steps

1. From the **Tool Box**, select the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  .

2. Using the **Draw Bezier curves and straight lines** tool create a cloud shape similar to the one shown in the image below. End or close the path by clicking on the original/first node.

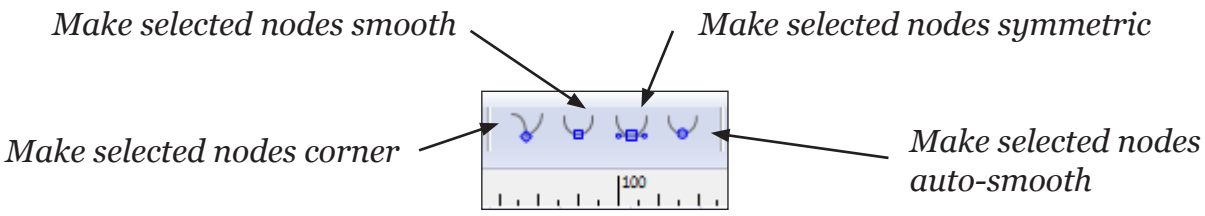


Convert nodes

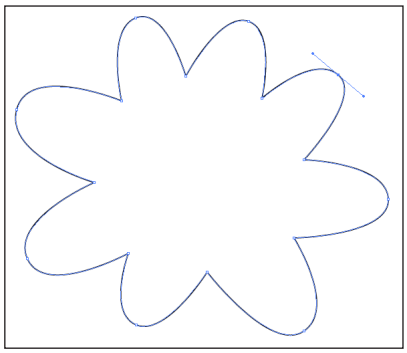
Steps

1. Select the **Edit paths by nodes** tool **(F2)**  .

2. Use the various options for the **Edit paths by nodes** tool in the **Tool Controls** panel to convert all of the corner nodes to smooth nodes.



Notes



Save your document	**Steps** 1. Choose **File>Save** You will continue working with this file.

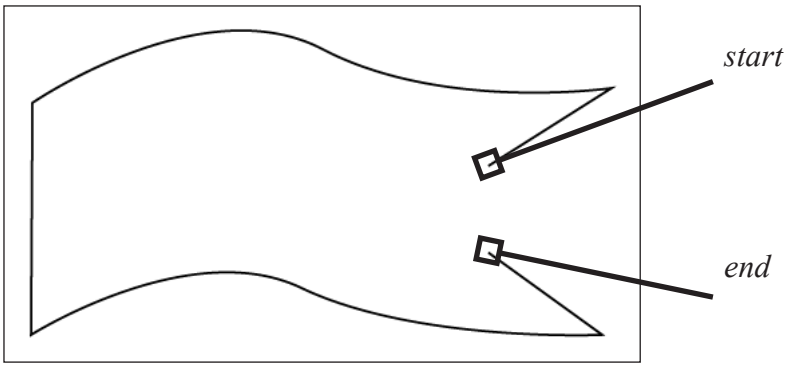
Notes

Closing paths

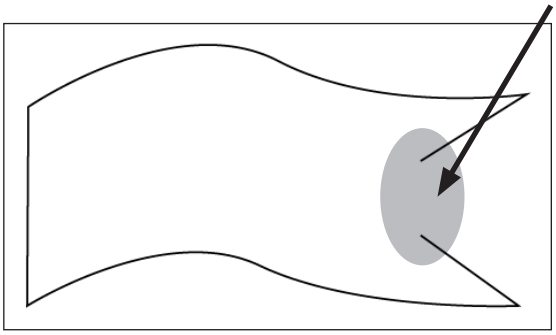
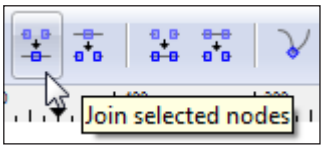
Exercise - Create a Flag

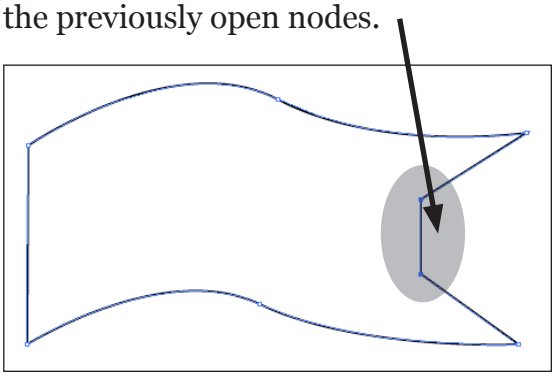
Join selected nodes: The Join selected nodes option connects the endpoints of an open path to create a closed path or joins the endpoints of two open paths.

Continuing working with the same document	**Steps** 1. Continue working with the same document. 2. Should you require it, you can **Open** the document called *Inkscape Introduction 01 - part 01.svg*
Create a flag shaped path	**Steps** 1. Use the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  and the **Edit paths by nodes** tool **(F2)**  to create a flag shape as shown in the image below. 2. Ensure the flag is an open path because we will be joining the end points in the next task.



Notes

Join the nodes together to create a closed path	**Steps** 1. To join two nodes together you first need to select them. 2. Select the **Edit paths by nodes** tool **(F2)**  . 3. Click on the path to select it. Then click and drag a selection marquee around the two open nodes.  4. From the **Tool Controls** panel choose **Join selected nodes**.  5. In preparation for the next task choose **Edit>Undo: Join nodes**.
Notes	

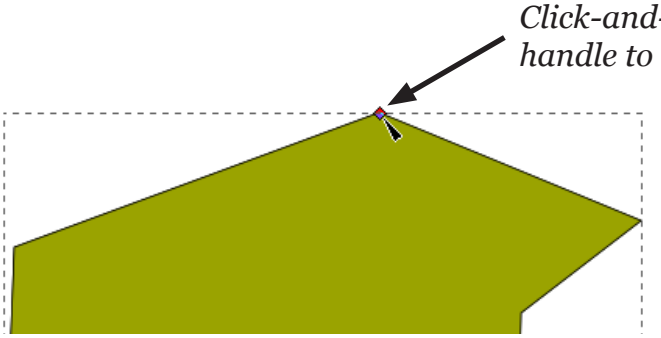
Connect the nodes with a new segment	**Steps** 1. To join two nodes together you first need to select the path. 2. Select the **Edit paths by nodes** tool **(F2)**  . 3. Click on the path to select it. 4. Select the **Draw Bezier curves and straight lines** tool **(Shift + F6)**  . 5. Position the tool over one of the nodes. It should turn red. Click and move the tool to the other node. When it turns red click on it. The path should now be closed by the new segment connecting the previously open nodes. 
	Save your document
Notes	

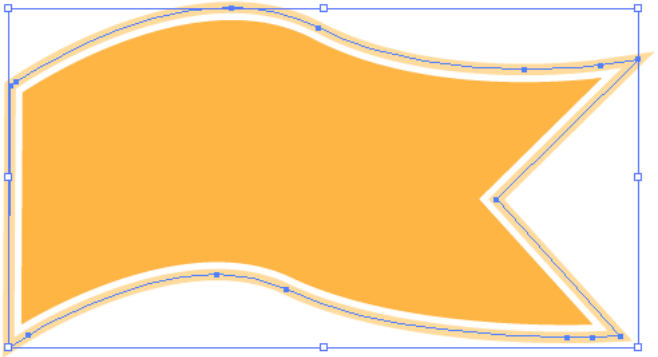
Modifying paths

Exercise - Modify a path using the Linked Offset command

You can create a replica of an object, set off from the selected object by a specified distance, by using the Linked Offset command. This is useful when you want to create concentric shapes or make many replications of an object with regular distances between each.

The Linked Offset command makes a copy of a path that can then be enlarged or shrunk. A handle controls the magnitude of the offset. The original object is not converted to a path and remains editable, and the changes are reflected in linked copies. More than one link can be made.

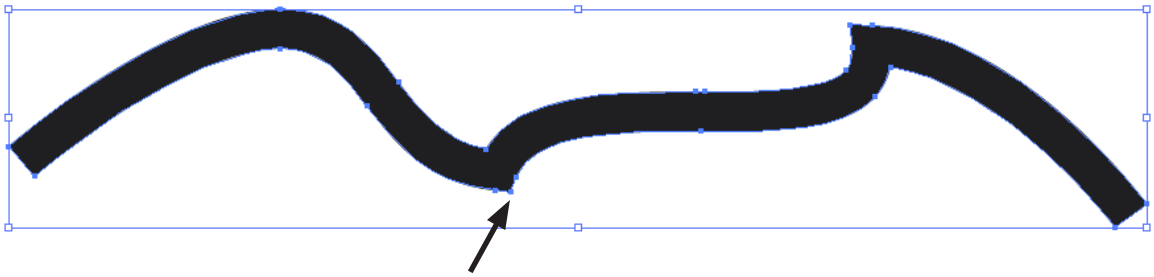
Continuing working with the same document	**Steps** 1. Continue working with the same document. 2. Should you require it, you can **Open** the document called *Inkscape Introduction 01 - part 02.svg*
Use the Offset Path command	**Steps** 1. Select the flag shape you made earlier using the **Edit paths by nodes** tool **(F2)**  . 2. Choose **Path>Linked Offset**
	
	3. Click-and-drag the **handle** to offset the path. The original path and the offset path are linked. Any changes you make to the shape of original path will be applied to the offset path. The offset path can be converted to an editable path by choosing **Path>Object to Path**. The link is then broken and the offset path can be edited using the **Edit paths by nodes** tool.
Notes	

Modify the two paths making up the flag	**Steps** Using the Linked Offset command has created a replica of the flag, set off from the original flag by a specified distance. You can select each of the flag shapes using the **Edit paths by nodes** tool **(F2)**  and adjust their fill and stroke attributes. 1. Try filling the inner flag shape with a colour and giving the outer flag shape a thicker, coloured stroke.
	
Notes	

Exercise - Modify a path using the Stroke to Path command

One simple way to make a shape that you can use as a building block to create your design, is to convert a path with a thick stroke into an object.

Duplicate a path	**Steps** 1. Using the **Edit paths by nodes** tool **(F2)**  select the path you made in the earlier, **Draw Bezier curves and straight lines** tool, exercise. 2. Choose **Edit>Copy** and then **Edit>Paste**. 3. Use the **Select and transform objects** tool  to move the duplicate path into an empty area of your artboard.
Increase the Stroke weight	**Steps** 1. Ensure your path is still selected. 2. Set the **Fill** to **None** and set the **Stroke Width** to about **20 pt**.
Create an Outline Stroke	**Steps** 1. Ensure your path is still selected. 2. Choose **Path>Stroke to Path**. You will notice that your path has changed from a line with a thick stroke to a path with no stroke. Instead, the path is filled with colour. New nodes have been created around the outside of the path. You can select, move and modify these using the **Edit paths by nodes** tool.



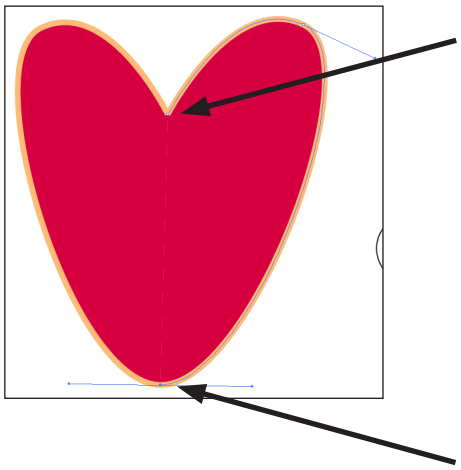
Use the Edit paths by nodes tool to select, move and modify the new nodes

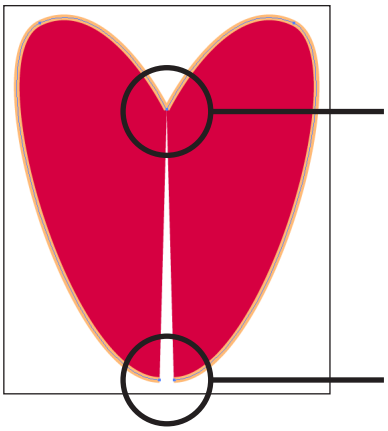
Notes

Exercise - Modify a path using the Break path at selected nodes command

The Break path at selected nodes command cuts paths at specified nodes.

In this exercise you will cut the heart shaped path in half, delete one half, duplicate the remaining half and join them back together to create a symetrical shape.

Continue using the same document	**Steps** 1. Select the heart shape you made earlier using the **Edit paths by nodes** tool **(F2)**  .
Use the Scissors Tool to cut the path as specified points.	**Steps** 1. Selecting the path will enable you to see its nodes. 2. Select the anchor points, as shown in the image below, one at a time. 3. Then choose **Break path at selected nodes** from the **Tool Controls**. When you split the path at a node, a new node appears on top of the original node, and one node is selected.
	
Notes	

Delete one half of the heart	**Steps** 1. Select the heart shape using the **Edit paths by nodes** tool **(F2)**  and choose **Path>Break Apart**. 2. Choose **Edit>Deselect**. 3. Use the **Select and transform objects** tool to select one half of the heart and then **delete** it.
Reflect and copy the remaining half of the heart shape	**Steps** 1. Select the remaining half with the **Select and transform objects** tool. 2. Choose **Edit>Copy** then **Edit>Paste In Place.** 3. Choose **Object>Flip Horizontal**. 4. Use the cursor or arrow keys to move the copied half horizontally into position. Your two halves may not join properly at this stage.
	 *You will need to join this pair of nodes together...* ... and then this pair.
Join the two halves together	**Steps** 1. Use the **Edit paths by nodes** tool to select both halves of your heart. Select one half and then **Shift**-select the other half. 2. Choose **Path>Combine**. 3. Use the **Edit paths by nodes** tool to select and join the nodes. Your heart shape should now be a symetrical, single, closed path.
	Save your document

Working with Text and Paths

Exercise - Create text inside a shape

Using the **Create and edit text objects** tool, you can create type anywhere in a file simply by clicking and starting to type.

In addition, you can flow text into shapes or onto paths.

Create a new document.	**Steps** 1. Choose **File>New>Default**.
Create some text	**Steps** 1. Select the **Create and edit text objects** tool (**F8**)  from the **Tool Box**. 2. Click somewhere in your document and type some text.
Create a shape	**Steps** 1. Select the **Create circles, ellipses, and arcs** tool (**F5**)  from the **Tool Box**. 2. Click-and-drag to create a circle.
Flow the text into the shape	**Steps** 1. Select the text and the shape by holding down **Shift** and selected them with the **Select and transform objects** tool. 2. Then choose **Text>Flow into Frame**. The text will flow into the frame. You can continue editing or adding to the text by clicking on it with the **Create and edit text objects** tool.
Flow text around a shape	**Steps** 1. Create some text and a circle as you did in the task above. 2. Select both the text and the circle. 3. Then choose **Text>Put on Path**.
Notes Please take a look at the following website for tips and tricks: *http://wiki.inkscape.org/wiki/index.php/Tricks_and_tips#Text_on_circle*	

Saving your document

Exercise - Saving your Inkscape document

As an SVG file (.svg)

Inkscape drawings are saved as SVG files. SVG stands for Scalable Vector Graphics which is an XML standard for describing a drawing using vector graphics.

As a PDF (.pdf)

You can save your Inkscape document as a PDF (Portable Document Format).

The advantage of using PDF is that it preserves the layout and content of your original Inkscape document without your audience needing to have access to Inkscape. PDFs can also have small file sizes and are cross platform compatible.

As an EPS (.eps)

You can save your Inkscape document as an EPS (Portable Document Format).

EPS files can be inserted into Microsoft Word.

As a Bitmap (.png)

You can save your Inkscape document in a bitmap (raster) file format. Inkscape exports to the PNG (Portable Network Graphics) format.

PNG supports lossless compression and is more appropriate for artwork containing text and line art.

Save your document as an SVG file	**Steps**
	1. Throughout the exercises you have been asked to save your document. By default Inkscape has been saving the document as an SVG file. This file format will save the document and include your layers. Think of this as your master document. 2. If you choose **File>Save As...** you should see **Inkscape SVG (*.svg)** is selected in the *Save as type:* field. 3. If you wanted to you could enter a new name for your document in the *File name:* field.

Notes

Save your document as a PDF	**Steps** 1. Choose **File>Save As...** again. This time choose **Portable Document Format (*.pdf)** from the *Save as type:* field. 2. You can use the same name or type a different one. 3. Click **Save**. 4. The **Portable Document Format** dialogue will appear. 5. Click **OK** to save the document as a PDF.
Notes For more information on LaTeX visit http://www.latex-project.org/	
Save your document as an EPS	**Steps** 1. Choose **File>Save As...** again. This time choose **Encapsulated PostScript (*.eps)** from the *Save as type:* field. 2. You can use the same name or type a different one. 3. Click **Save**. 4. The **Encapsulated PostScript** dialogue will appear. 5. Click **OK** to save the document as an EPS.
Notes	
Save your document as a bitmap/raster image (PNG file)	**Steps** 1. Choose **File>Export Bitmap...** 2. The **Export Bitmap** dialogue will appear. 5. Click **Export** to save the document as a PNG file.
Notes	

Further information

Bibliography and Recommended reading

You will find most information on the Inkscape website:

- **http://inkscape.org/**

There is a good online manual available here:

- http://tavmjong.free.fr/INKSCAPE/MANUAL/html/index.html

Tips and tricks

- http://wiki.inkscape.org/wiki/index.php/Tricks_and_tips

Macintosh keyboard equivalents

Command (or Apple) key (MAC) = Control (Ctrl) key (PC)

Ctrl key (MAC) = Alt key (PC)

This documentation uses the terms of the PC keyboard, and so speaks of the “Control” (Ctrl) key and the “Alt” key, but these have different meanings in the Macintosh world.

The Mac usually has (moving from the leftmost bottom corner of the keyboard inwards toward the space bar) a “Control” key in the same position as the PC control key. Then there is an “Option” key, which has a funny symbol and “Alt” written on it, in the position where a “Windows” key often appears on PC keyboards. Then, next to the space bar, there is a “Command” key, with an Apple logo and a sort of quadrifoil symbol, which occupies the space in which you usually find the Alt key on a PC.

The problem is that, although the PC and the Mac have a key marked “Control” in the same position on the keyboard, they use this key differently. Whereas PC users use, for example, Control-C to copy and Control-S to save, Mac users are accustomed to Command-C and Command-S.

Use the Command (or Apple) key as the Control key. Thus Command-S will save the file. Since you cannot use the Option key (which is marked “Alt”), because it is used to enter symbols, this leaves the key marked “Ctrl” to serve as the “Alt” key. If you are a regular Mac user, this is probably the easiest way -- just remember that when the documentation refers to the “Ctrl” key, do not use the key with that label, but use the Apple key, and when the documentation refers to the “Alt” key, use the key marked “Ctrl”.

Inkscape– an introduction

Carl Wenczek

IT Learning Programme

Comfort and safety

Programme

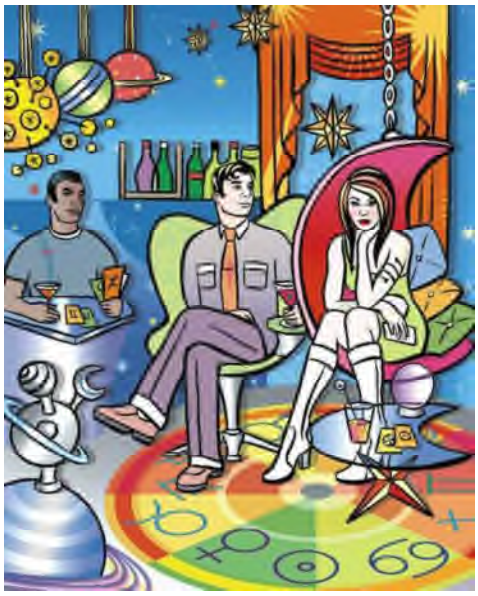
Programme

- Creating and editing paths
- Working with text
- Layers
- Saving

What is Inkscape

Why use Inkscape

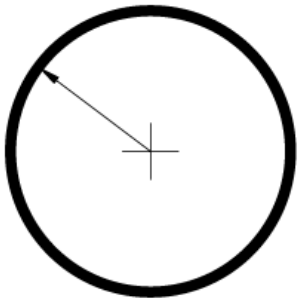
Inkscape



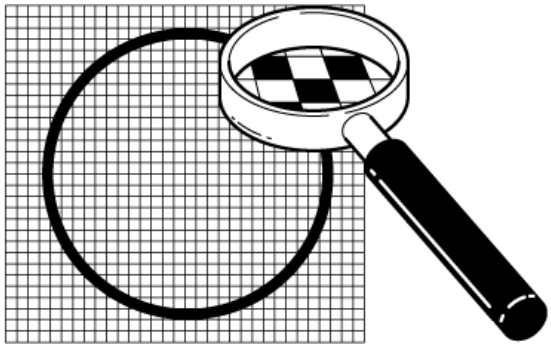
Photoshop or GIMP

Vector and Raster graphics

Vector



Raster

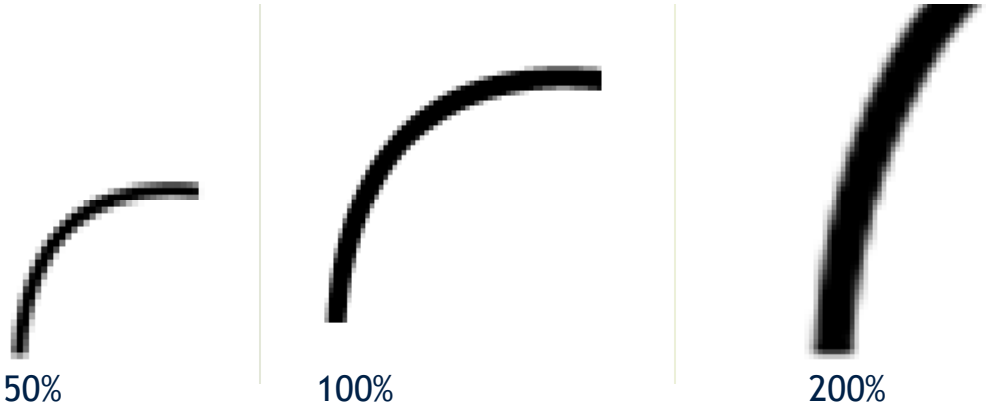


Raster graphics 01

- Described by the order of single dots (pixels) in a matrix
- Suitable for graphics where the colour information changes from dot to dot (e.g. photographs)
- Larger than vector image files
- Difficult to convert a raster image to a vector image

Raster graphics 02

- Raster images do not scale as well as vector images
- Their sharpness depends on their resolution
- They are resolution dependant



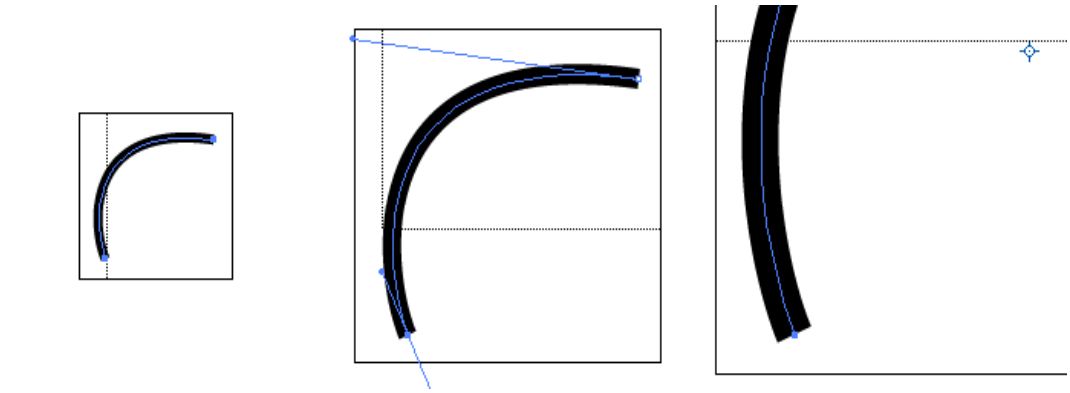
Vector graphics 01

- Described by mathematic formula

  A circle would be defined by its centre (in the form of a coordinate), its diameter and the thickness and colour of the line
- Suitable for graphics containing elements like lines, rectangles, text, etc.
- Smaller than raster image files
- Easier to convert a vector image to a raster image

Vector graphics 02

- Vector graphics scale well, retaining their sharpness and detail
- They are resolution independant



Bezier curves

- Inkscape uses straight lines and Bezier curves to create shapes and lines that can be scaled indefinitely

- http://www.math.ubc.ca/~cass/gfx/bezier.html

Demonstrations

File formats

Inkscape - .svg
- use – master file
- retains layers

Portable Document Format - .pdf
- use – sharing documents, integrity
- multiplatform and secure

Apple

iT services

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