

Introduction

Gimp[0] is an open source software for high-end image processing. For the image editing there are seven different selection tools available. My Project is to turn the seven selection tools into fewer more compact set of tools. The new set of tools should have to be much faster/easier to use than the old ones. For example, the user shouldn't have to go out of the image in the menu bar to change the options. It also must be easy to use for all users. And the new tool need to have adequate shortcuts.

The current Selection tool [1]

Rectangle Selection Tool [R] [2]

The Rectangle Selection tool is designed to select rectangular regions of the active layer.

Ellipse Selection Tool [E] [3]

The Ellipse Selection tool is designed to select circular and elliptical regions from an image, with high-quality anti-aliasing.

Improvements : Needs Rotation; so that more than the basic shapes can be achieved; More shapes other than Rectangle and Ellipse needs to be introduced

Select by colour Tool [Shift+O] [4]

The Select by Color tool is designed to select areas of an image based on color similarity. It works a lot like the Fuzzy Select tool ("Magic Wand"). Select by Color tool selects all pixels that are sufficiently similar in color to the pixel you click on, regardless of where they are located.

The Magic Wand/Fuzzy Select [U] [5]

The Fuzzy Select (Magic Wand) tool is designed to select areas of the current layer or image based on color similarity.

Foreground Select Tool [6]

This tool lets you extract the foreground from the active layer or from a selection. It is based on the SIOX [7]

Improvements : All the three tools are very similar; can be combined to make a easy to use tool. Foreground Select Tool can be achieved by selecting 2 version of multiple colours [One for the background and one for the foreground], Same can be achieved by choosing multiple colours.

Free Select Tool [8]

The Free Selection tool, or Lasso, lets you create a selection by drawing it free-hand with the pointer, while holding down the left mouse button

Intelligent Scissors [9]

Intelligent Scissors is useful when you are trying to select a region defined by strong color-changes at the edges.

Improvements : Both the tools are very similar; can be combined to make a easy to use tool. Intelligent scissors is a free select tool, where the curve between anchors is shifted to sharp-edges/colour changes.

Modified Selection Tools

The selection tool has to be one tool for three major types of selection:

a)Shape b)Colour c)Content

Shape Selection Tool :

A Combination of Rectangle & Ellipse Selection Tool and few new tools

Colour Selection Tool :

It combines Select by Colour and Fuzzy Select; and includes Multiple colour selection thus it can puesday for Foreground Select

Path Selection Tool :

It combines both magnetic and free select tool, and also implements free polygon tool.

Common Options

This are options present in all three selection tools

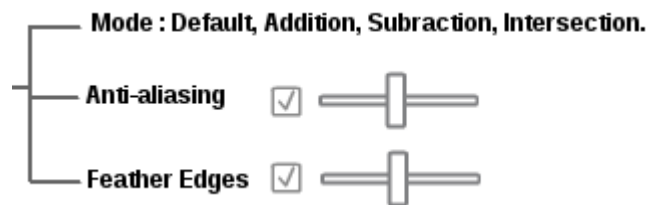
Mode **[Existing]:**

Default

Addition [Shift]

Subraction [Ctrl]

Intersection [Ctrl + Shift]



Anti-aliasing **[Existing; Need to add Slider/Slider Algorithm]:**

[Check Box] and [0 to 1; Slider]

Having a Slider from 0 to 1 gives more flexibilty, especially in colour selection/path selection. as they can decide how refined they want the sharpness to be

Feather Edges **[Existing]:**

[Check Box] and [Radius in px; Slider]

Other Shortcuts

Space **[Existing]:**

Panning around image

1)Shape Selection Tool:

a)Rectangle selection tool

b)Ellipse selection tool

c)Single Row/Column Marquee tool

As the Slice tool is not yet imlemented in gimp; it can be useful for webdesign

d)Normal Polygon selection tool

Given a Integer,N,Generates only symmteric shapes; for complex shapes use Free Path Tool

Shortcuts:

Ctrl [Start from Centre]

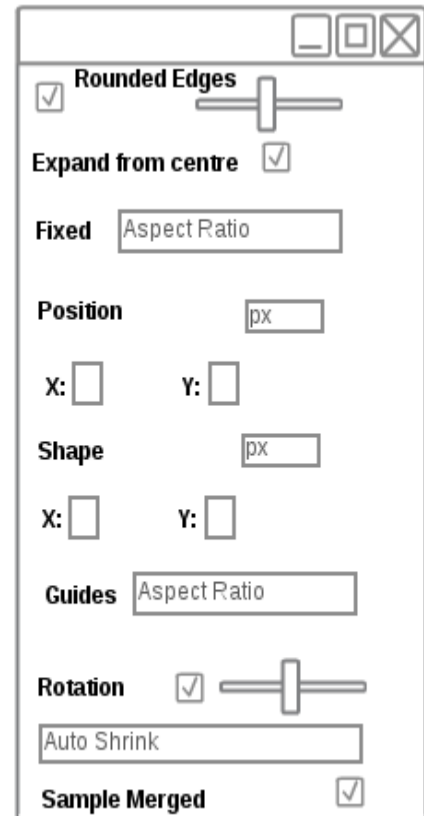
Shift [Square/Circle; Maintain Aspect Ratio]

Tool Options

Expand from the Centre [Check Box]
Fixed [Drop Down-Menu]
[Width;Height;Aspect Ratio;Size]
Position [Drop Down-Menu] [px,m,cm,in]
x [Int Box] y [Int Box]
Size [Drop Down-Menu] [px,m,cm,in]
x [Integer Box] y [Integer Box]
Guides [Drop Down-Menu]
Rotation [Check Box] [0-360 Slider/Integer Box]
AutoShrink
Shrink Merged

Rounded Edges [Check Box] [Slider] (Only for Rectangle Selection tool)
Row/Column [Boolean Box] (Only for Single Row/Column Marquee tool)
N [Integer Box] (Only for Normal Polygon selection tool)

[Other Images of Shape Select tool is added at the last]



2) Selection by Colour:

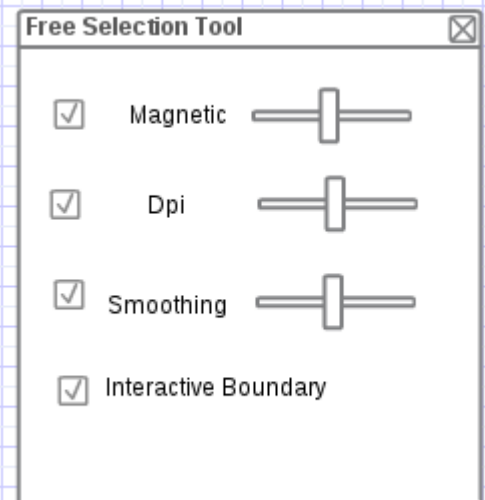
Tool Options

Select transparent area [Check Box]

Sample Merged [Check Box]
Threshold [Check Box] and [0 to 1; Slider]
Contiguous [Check Box] and [0 to 1; Slider] (This will act as a barrier between Fuzzy & Select by Colour; 0 for no Jumps and 1 For from all over the image)
Smoothing [Check Box] and [0 to 1; Slider] (This will smooth the curve; removing all the sharp edges)

Selected by [Check Box] [Drop-Down] or
Multiple Colour [Check Box] [Space to show Colours selected]
[Shift: Add Colour; Ctrl: Delete Colour]

Brush Panel [Checkbox]
Basic Brushes [Option Tab] [Option of a Circular/Rectangular/Square Brush]
Size [Slider] [Integer Box]
Rotation [Slider] [Integer Box (0-360)]



3)Free Selection

Magnetic [Check Box] [The most Biggest benifit is you can add magnetic properties after selecting a free selection]

Smoothing [Check Box] and [0 to 1; Slider]

Interactive Boundary [Check Box]

Shortcuts:

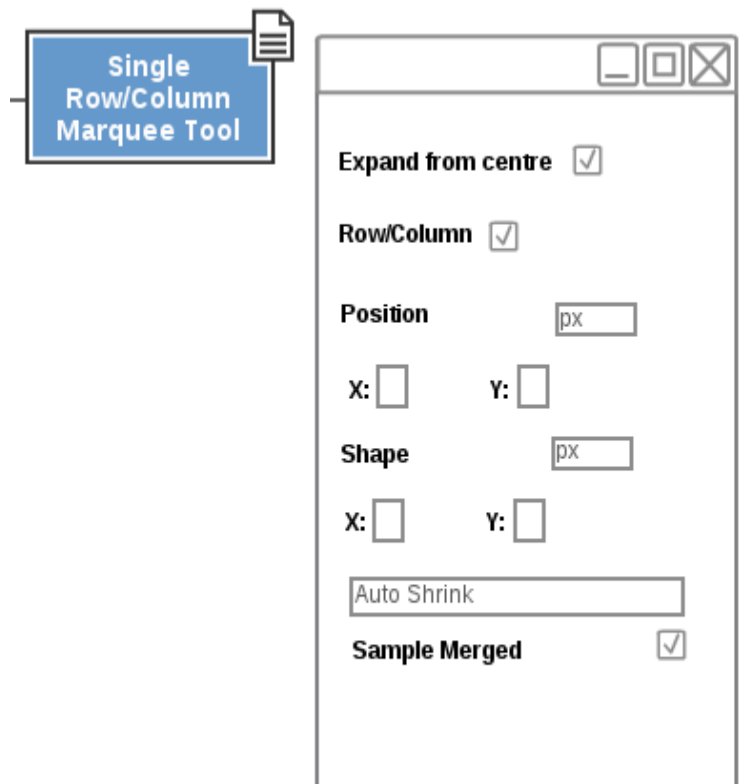
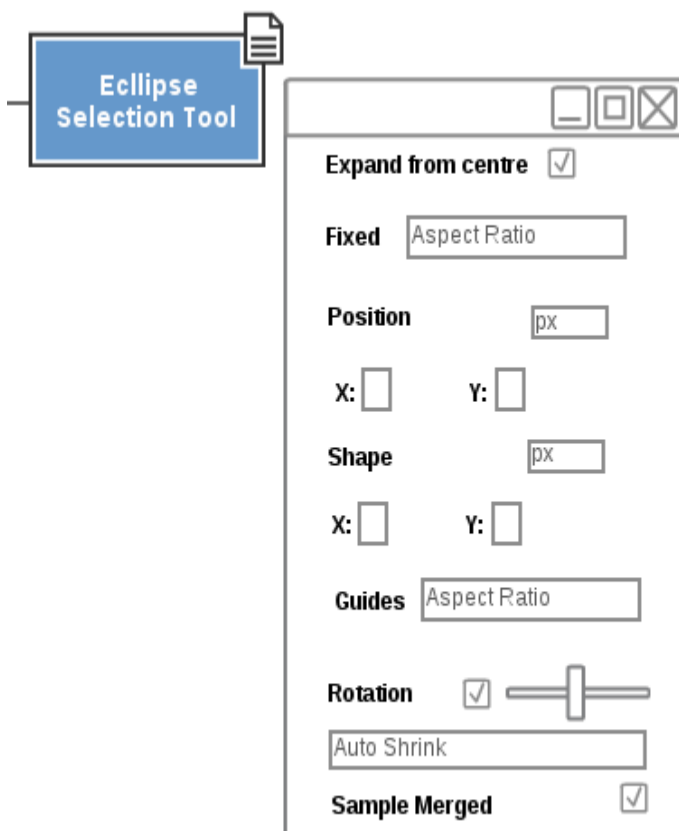
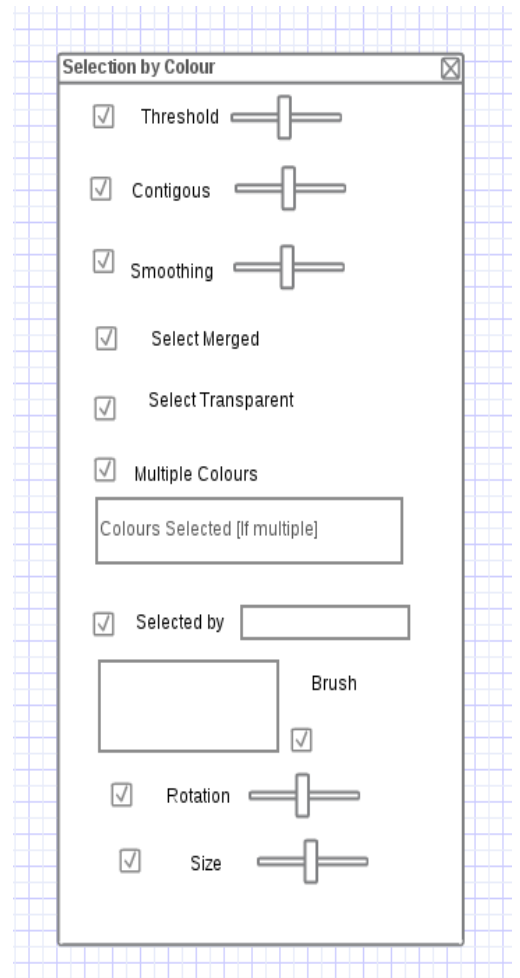
Pressing Ctrl and Drawing the curve will make it magnetic

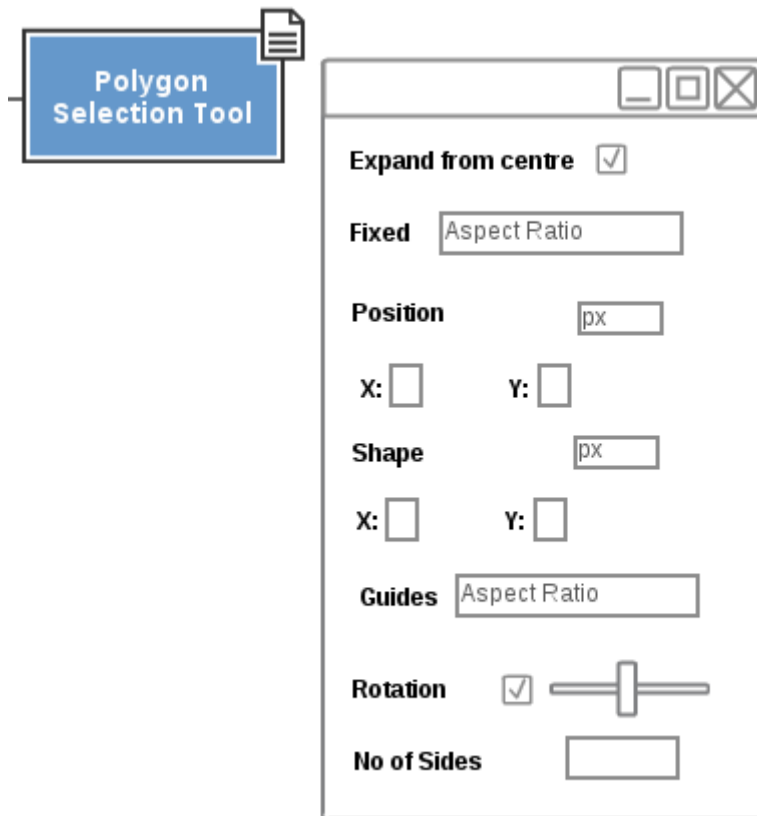
Pressing Shift and Drawing the curve will make sure the line is either 45/90 multiples

If an Anchor is click: [After Finalizing the Path]

By Pressing Shift and clicking on the anchor you can delete it; and Add New Anchors in the path [If not present]

By Pressing Ctrl and Dragging you can move the Anchor around [If Magnetic check box is selected the path will rearrange itself to align with nearby high contrast edge]





- [0] <http://www.gimp.org/>
- [1] <http://docs.gimp.org/en/gimp-tools-selection.html>
- [2] <http://docs.gimp.org/en/gimp-tool-rect-select.html>
- [3] <http://docs.gimp.org/en/gimp-tool-ellipse-select.html>
- [4] <http://docs.gimp.org/en/gimp-tool-by-color-select.html>
- [6] <http://docs.gimp.org/en/gimp-tool-foreground-select.html>
- [7] <http://www.siox.org/>
- [8] <http://docs.gimp.org/en/gimp-tool-free-select.html>
- [9] <http://docs.gimp.org/en/gimp-tool-iscissors.html>

Refrence

- <http://wiki.gimp.org/index.php/Hacking:GSoC/2013/Ideas>
- <http://blog.mmiworks.net/2011/08/teaching-interaction-10.html>

Comment

Some of the Images are Improper due to my lack creative skill and sloppy online designers,Hope its Fine

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