

INTERACTIVE DESIGN FOR THE REAL WORLD

GIMP ALIGN TOOL

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CONTENTS

1. Design Goals
2. Functionality
3. User scenarios
4. Evaluation
5. Brainstorming
6. Design
7. Conclusion

1. DESIGN GOALS

CONTROL

GIMP users should have an easy workflow, and should be able to work exactly and precisely. With ease, GIMP users should be able to control selections, layers, channels and paths. Users should have the ability to perform tasks ranging from simple commands to tasks higher in complexity.

THE FREEDOM TO CREATE

Even with little experience with the program, using the align tool should become second nature to users, and they should be able to use it freely, quickly and efficiently with having to think about their actions too much.

SPEED. SPEED, SPEED

The align tool should be uncomplicated to use. So that users know the functions by first sight, the options should be clear and easy to grasp. Thus, a faster work pace for users would be achieved.

2. FUNCTIONALITY

Functionality is used to align and distribute layers, paths and channels.

ALIGN

Functionality in aligning would be to align **layers, (text, image, shape), the selection, paths, left, right, top, bottom, centres (horizontal & vertical)**, to **align with canvas, active layer or shape** (preset or one you create) and to **pre-set templates or templates you create yourself**.

DISTRIBUTE

The functionality in distributing would be to **distribute layers, (text, image, shape), selection, paths, to create templates or use pre-set templates, distribute with canvas, active layer, shape, path, certain offset (px, mm, cm), patterned offset, evenly (outlying objects and centres)** and to **distribute along a shape** (either pre-set or one you create yourself).

OTHER

There are some other ideas that could serve functionality. A **hover preview** is another idea for functionality. This would be to be able to hover the mouse in front of the align tool and be able to see a preview of what the page would look like before actually doing it, saving the user time. **Centre points** will automatically be added to objects as soon as users select to use the align tool. This will allow objects to be aligned or distributed according to their centres, which is a function that designers would commonly need to use. A **parent object** is the selected object that will define what the rest of the objects do, whatever you do with it the other objects will do too. To be able to set the parent object would improve the users functionality.

3. USER SCENARIOS

User scenarios walks one through the essential use of the Align tool. These scenarios are useful for showing existing possibilities in GIMP but also new design solutions.

ALIGN

The Align option is one of the simplest features of the Align tool. Designers and artists would typically need to use this feature if they wish to align a selection, layers or paths with the canvas, a parent object, a layer, a shape or a path.

> Select an option in the relative tool in the tool options. By clicking on the object users select an option, then they press one align button option in the toolbox.

KEEPING THINGS TOGETHER

Users would often need to 'keep things together' if they wish to order a selection, layers or paths relative to a parent object.

> Select a group of objects by rubberbanding. Set a parent by shift+ctrl+right-clicking on a object, then press the align button in the toolbox.

REAL DISTRIBUTION

Real distribution would be used if users wish to distribute a selection on the canvas, a layer, or along a path or shape. The Offset option for Distribution allows the user to set a pixel, centimeter, millimeter or inch margin between different objects in their selection. An option exists to set a patterned offset by clicking the '+' icon next to 'Offset'. This pattern will then be repeated in the distribution. If the Offset button is left unticked, GIMP will distribute the selections relative to the two most outlying object.

> Select an option in the relative tool in the tool options and select them by clicking on the objects.

Optional: by checking the offset users set an offset in px/mm/cm

Optional: by pressing on the plus icon users can set their own pattern.

Users press the distribution button in the toolbox

EVERYTHING TOGETHER

'Everything together' shows a more complex example to demonstrate the extensive possibilities of the Align tool when different features are used together. Users also have the option of distributing along a shape or a template (preset or one that they can create themselves) with ease.

> Select the canvas option in the relative tool in the tool options

Users are able to click and drag the center point inside the objects

Select a group of objects by rubberbanding

Users press the center align button in the toolbox

Set a parent by shift+ctrl+right-clicking on an object

By checking the offset users set an offset in px/mm/cm

By pressing on the plus icon users can set their own pattern

Users press the distribution button in the toolbox

> **Shape:** Select the shape option in the relative tool in the tool options

Choose from the shape pop-up window a preset shape

Optional: create your own

Click into the canvas to define the size and angle of the shape

The objects automatically align to the shape - on their shortest side

>**Template:** Select the template option in the relative tool in the tool options

Choose a template

Optional: create your own

Click into the canvas to define the size and angle of the template

the objects automatically align to the template - on their shortest way

4. EVALUATION

We used the User Scenarios to evaluate the Align tool, and to identify what problems existed thus establishing which features could be improved upon.

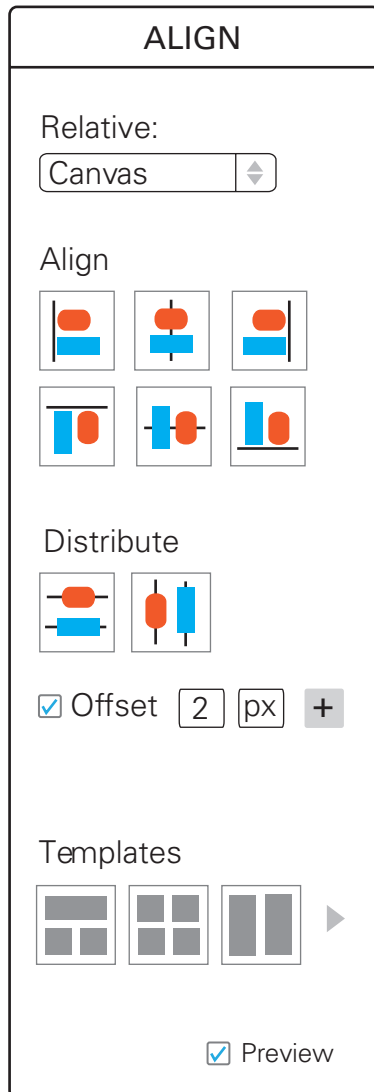
We found that the current tool isn't fulfilling the goals of GIMP for a number of reasons:

- The 'Align' and 'Distribute' icons aren't 100% clear about what action they perform. Exactly the same icons for 'Align' and 'Distribute' exist, yet they perform very different actions. This could be confusing for the users. It is also unclear that the 'Distribute' function only works when the Offset box is ticked. Furthermore, there isn't enough contrast in the icons which would extend the time users need to choose which function they need.

- The Offset box only provides measurements in pixels, even though one can choose canvases for print (300dpi) when you create a new canvas. This is an inconsistency in measurements and makes it near-impossible to determine how much the offset will actually be in print documents.

- Where you determine the number of pixels in Offset, there is no drop-down box with numbers, meaning you either have to enter a value manually or click through all the numbers until you get to your desired number - this makes it a longer process.

- There is no 'distribute evenly' option - in order to distribute objects (or layers, paths or channels), one has to go through an extensive and complicated process to achieve even distribution. This hinders the 'speed' and 'freedom to create' goals of GIMP.
- Users aren't able to determine a parent object to align or distribute from apart from when it is the first object clicked, and this isn't possible when using rubber-banding selection. This would limit users' options hence hindering their control & 'freedom to create'.
- There is no 'align to canvas' option, which means that if users wanted to align objects (etc) to the canvas, they would have to make the whole canvas a layer first. This greatly breaks up their workflow.
- There are no 'creative' options for aligning or distributing, for example along a shape or path. This limits the possibilities of what users can create using the Align tool.
- There is no option to align the horizontal or vertical centers of objects, since GIMP does not provide an automatic centerpoint for objects. This limits users' control, since they would often have the need to align the centres of objects, but the Align tool doesn't provide them with the option to do so.



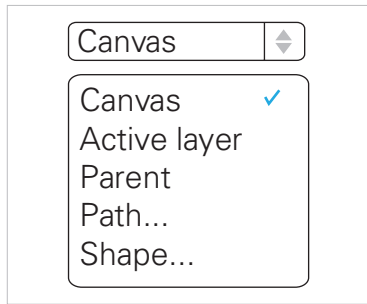
6. DESIGN

The redesign we present here addresses the faults we found in the Evaluation and is a further development of ideas created during brainstorming.

TOOLBOX

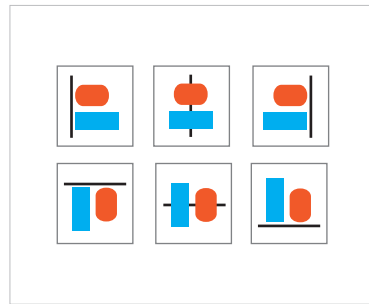
We found that it would be best to keep Alignment as a tool. The biggest reason for this was because the GIMP program doesn't have a neutral pointer tool. Therefore, having the Alignment function as a workspace, separate window, directly implemented when an object is selected or by right-click option wasn't feasible without changing the whole GIMP program.

TOOLS



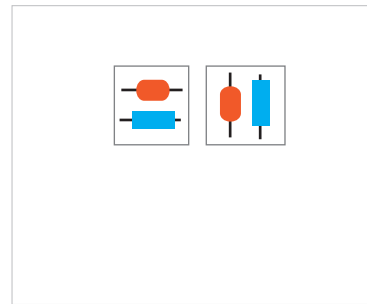
Relative

Objects, texts & images could align along: canvas, active layer, the selection, parents, shapes, path, templates.



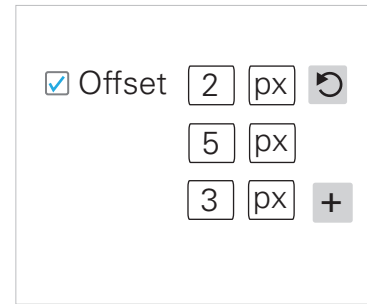
Align

Objects, texts & images could align to: left, center horizontal, right, top, center vertical, bottom



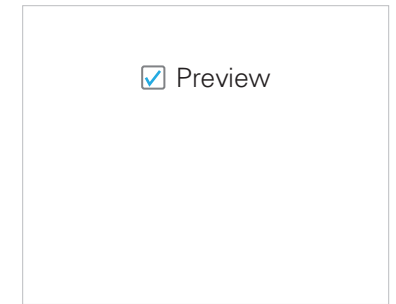
Distribute

Objects, texts & images could distribute to: horizontal or vertical



Offset

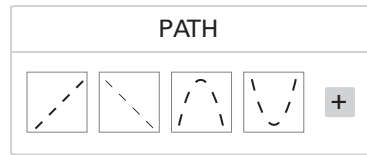
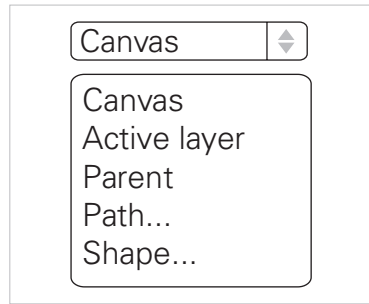
Objects, texts & images could have different distances with patterns
+ add new offsets
refresh patterns



Preview

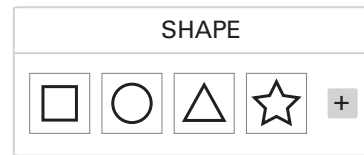
If the preview is ticked, a hover preview shows a thumbnail of the result

TOOLS



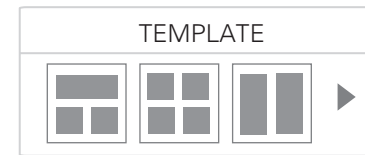
Objects, texts & images could align along path

- preset paths
- create your own paths



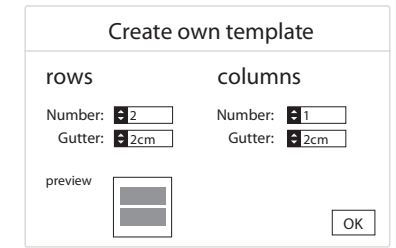
Objects, texts & images could align along shapes

- preset shapes
- create your own shapes



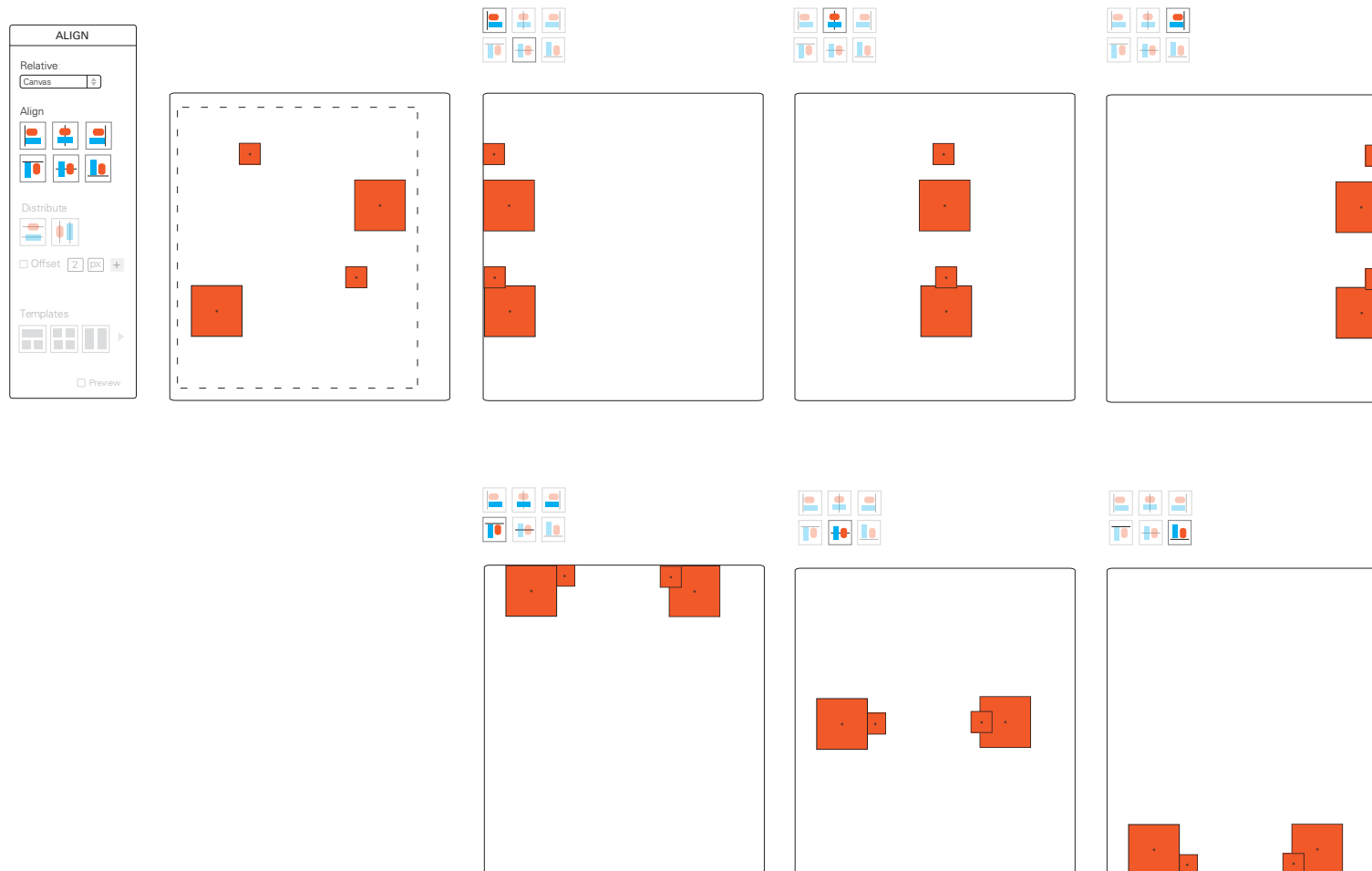
Objects, texts & images could align along template

- preset template
- create your own template



Create templates with rows and columns. 'Preview' shows a hover thumbnail of the result of the created template

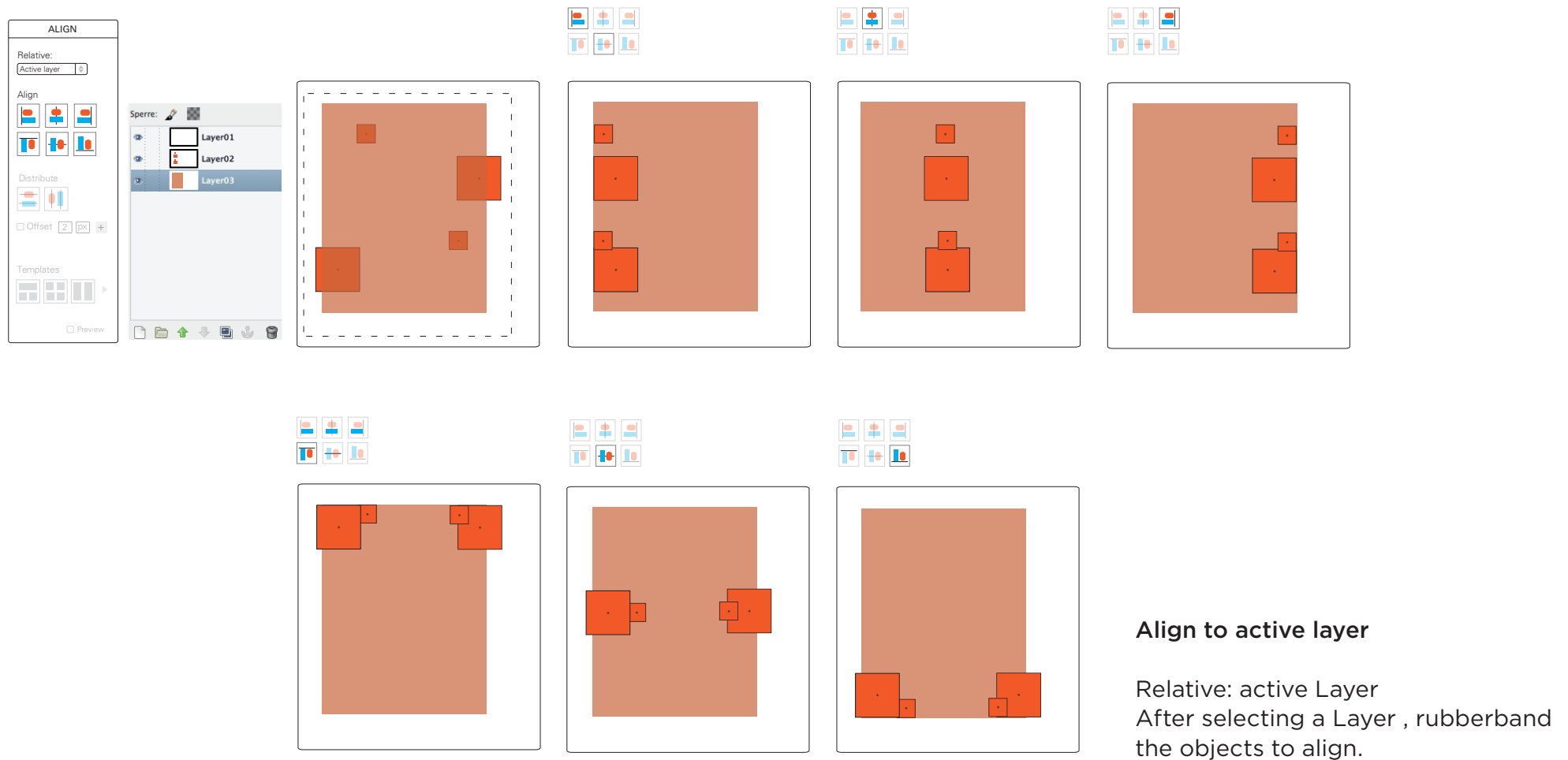
ALIGN OBJECT TO CANVAS



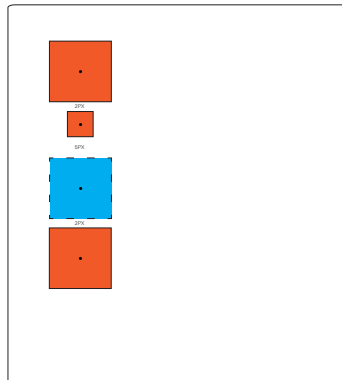
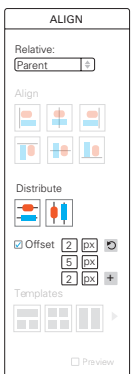
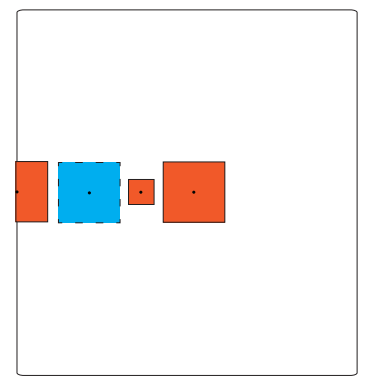
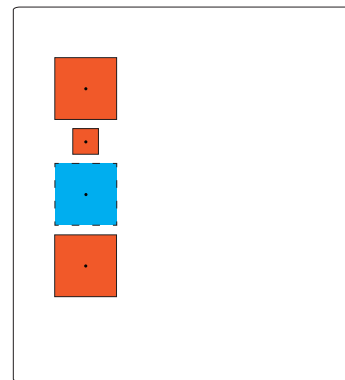
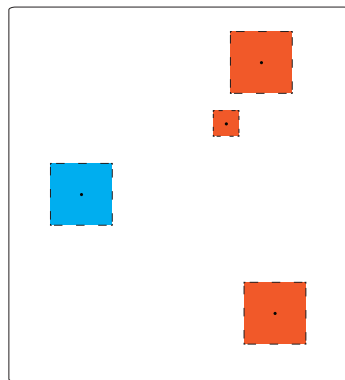
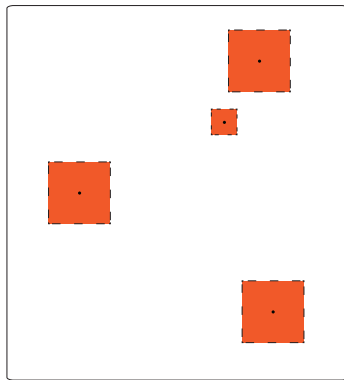
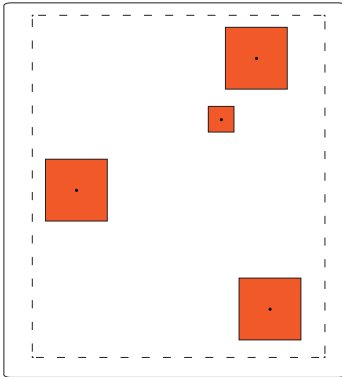
Align to canvas

Relative: Canvas
Objects, texts & images
could align to canvas,
by selecting the align buttons.

ALIGN OBJECT TO ACTIVE LAYER



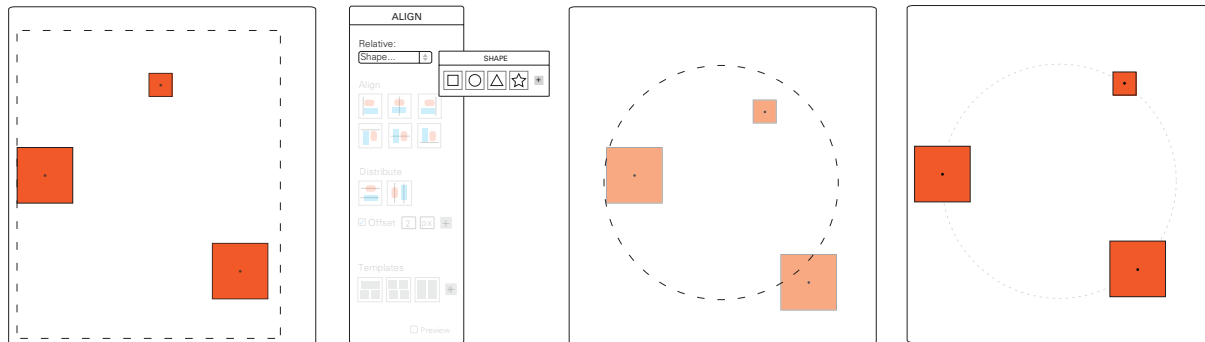
DISTRIBUTE AN OBJECT RELATIVE TO A PARENT



Distribute to a parent

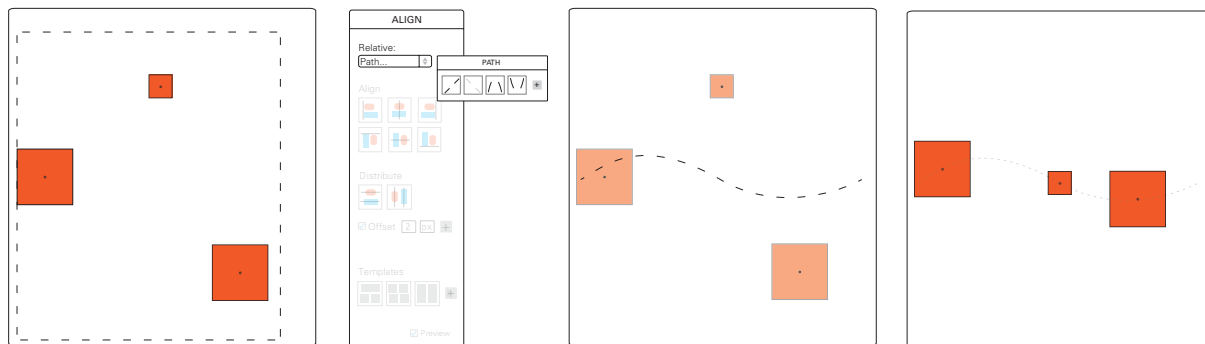
Rubberband the objects to select them. Shortcut shift+ctrl+right-click to set the parent. The plus icon would set a distribution pattern. A refresh Button deletes the patterns.

ALIGN OBJECT ALONG A PATH/ SHAPE/ TEMPLATE



Align to shape

Relative to Shape
Objects align to a Shape on their shortest side. Define the size by dragging the shape.



Align to path

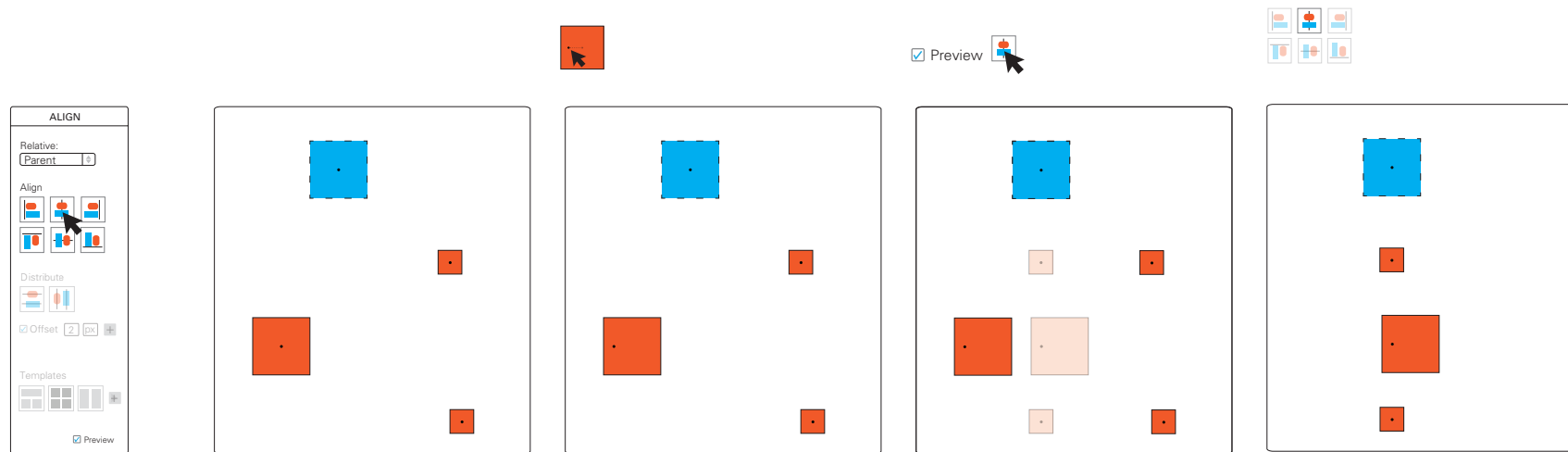
Relative to Path
Objects align to a path on their shortest side. Define the size by dragging the path.




Align to template

Relative to Template
Objects automatically align to a preset or user-created template.

CHANGE CENTER POINT/ PREVIEW



Change Center Point/ Preview

By rubberbanding, groups of objects are selected. Users are able to click and drag the center point inside the objects. Is the Preview ticked, a  hovering over the button shows the result - light red boxes.

7. CONCLUSION

Since starting this project, our objective has been to make the Align tool fit with the goals of the GIMP program. Firstly, we identified what we already observed as good features of the GIMP Align tool and what we thought could be approved upon. Thus, we had a clear list of functions that we wanted to achieve. Everything we came up with we believe is possible and would unquestionably increase users' control, freedom and speed when using the Align tool in the program.

Looking further into the future, we believe there are even more features of GIMP outside of the Align tool that would improve and fit with the vision of the program. Some things we identified included the addition of a **neutral pointer tool**, having an **action recording** option as well as **batch processing**. We are completely satisfied with what we have achieved and believe that the addition of these ideas could significantly improve GIMP as a program.