

IMAGE EDITING

GIMP Selections

PART 6 Every project in whatever art app you choose will use Selections. **Michael J Hammel** selects the *GIMP* essentials...

Selections are the foundation upon which much graphic artwork is built. From object isolation to mask generation, selections are often the first tool pulled from the *GIMP* Toolbox when an artists starts a new project. But selections are more than just a tool. Combined with a scanned photo, channels and bucket fills they can be artwork unto themselves.

To cut flame from a candle an artist might reach for the Bezier Selection tool or perhaps the Freehand Selection tool. Each will suffice, though in different circumstances. But there are far more ways to isolate a shape than what you might find in the *GIMP* Toolbox. The flame burns red and blue and might be a candidate for Select by Color. Perhaps those colours aren't adequate, but their composite channels are – then a Fuzzy Select may be the answer. But what if these are too imprecise or time-consuming? Can't we just pluck that flame from the page?

Indeed we can, using a paintbrush and the Quick Mask.

Selections are powerful tools for finding related pixels within an image. While most users will use a selection to isolate a shape or colour a box, complex selections can be used on existing images to create stylistic impressions that resemble hand paintings or coloured drawings. The complexity of the selection can be reduced for style or increased for detail, the latter pulling more pixel information while the former leaves more to the viewers' imagination.

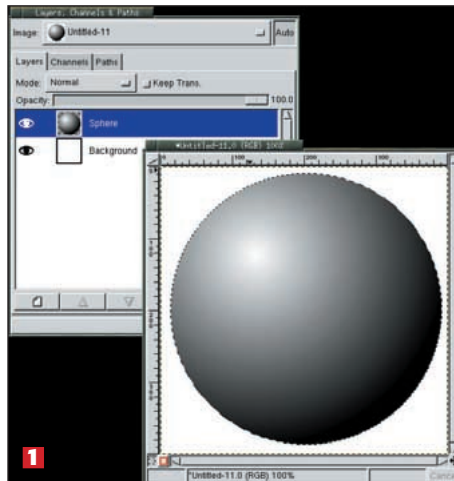
The GIMP provides multiple selection options from the Toolbox: Elliptical, Rectangular, Freehand, Bezier, and Fuzzy Select tools. Outside of the toolbox you can find the Quick Mask on the bottom of any Canvas Window and Select by Color in the Canvas Window Select menu. Options for selections are found in the Select menu and in the various tool options dialog windows. Combining selections – adding, subtracting and creating unions – is done by holding the Shift, Control (Ctrl) and Shift+Ctrl keys, respectively, down before starting the selection. Constrained selections (perfect circles or squares) can be made by holding the same keys down while dragging.

This issue we'll look briefly at combining selections, since this is often one of the hardest processes to understand, along with using selections to create simulated drawings from real photographs. In the last tutorial we'll look at using the oft-overlooked Quick Mask.

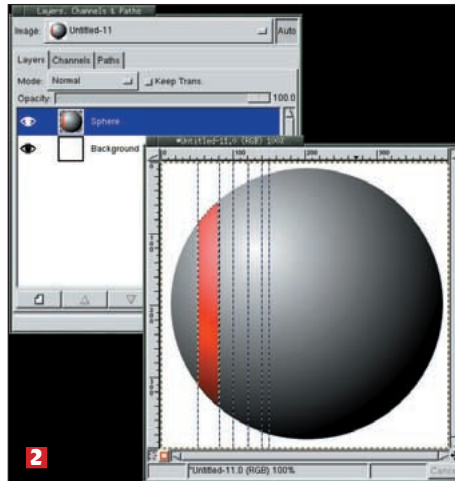
Adding, Subtracting, and Unions: Selections as building blocks

Rectangular and elliptical selections can be useful on their own, but often it is a combination of two or more of these that gives the user the outline they need. A simple example of this is to place

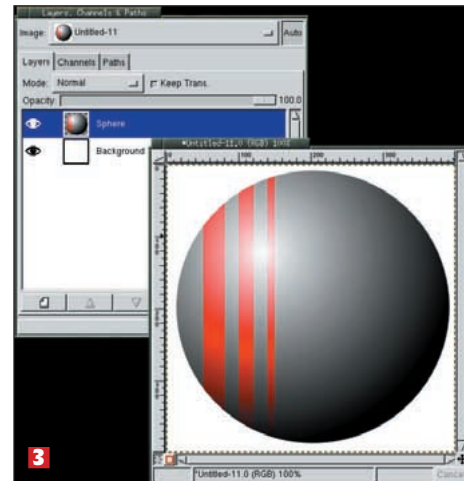
stripes over a ball. With a few simple keystrokes added to the typical click and drag of the mouse, this process becomes another no-brainer.



1 We start by adding a transparent layer to a new Canvas window with a white background. Choose the Elliptical Selection tool from the Toolbox. Hold down the Shift key, click in the upper left of the Canvas window and drag to the lower right. This creates a circular selection. Double click on the Gradient Tool to get its Tool Options dialog box. Choose 'FG to BG' for the Blend option and 'Radial' for the Gradient type. With their defaults set (black and white, respectively), swap the foreground and background colors by clicking on the swap arrows. Click inside the selection toward the upper left and drag to the lower right. This creates a simulated 3D sphere in the transparent layer. In the Layers and Channels dialog, choose 'Alpha to Selection' from the Layers menu for this layer. We now have a selection around the sphere.



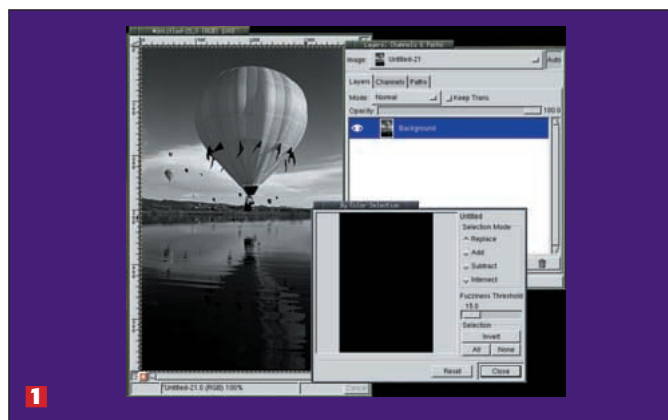
2 Add some vertical guides by clicking on the left side ruler and dragging into the Canvas. Make an even number of guides – here we added six in order to add three vertical stripes separated by gray area. Choose the Rectangular selection tool from the Toolbox. With the Shift and Control keys held down, click near the left-most guide outside of the sphere. When you start to drag, holding the mouse button down, release the Shift and Control keys. Clicking near the guide will cause the selection to snap to the guides. By holding the Shift and Control keys down when you start to drag the mouse you have told GIMP to create a union of the existing selection with the selection you are creating with the Rectangular selection tool. By releasing the two keys while you drag you allow your rectangular selection to be drawn with the lower left corner following the mouse. If you didn't release the keys, you'd end up with a perfect square instead, which is not what we wanted in this case. Once you release the mouse button, a selection is created where the rectangular selection and the existing selection overlap – the area of the sphere where the stripe will be added.



3 Bucket fill the selection from the previous step with red, setting the Bucket Tool Options blend mode to 'Color'. Repeat this process a couple of times to add more stripes. There are actually easier ways to do this – and less destructive – but this shows how to use the union option for combining selections. In practice, you might fill the selections in their own transparent layer and change the Layer Blend mode to color instead in order to prevent changing the sphere while still generating the desired composite effect.

Select by color: Pencil drawings made quick and easy

The artistic side to selections includes using them as the basis for simulated pencil sketches. The trick here is to use multiple selections to pull in just the right amount of the original image. The Select by Color dialog is perfect for this sort of work.



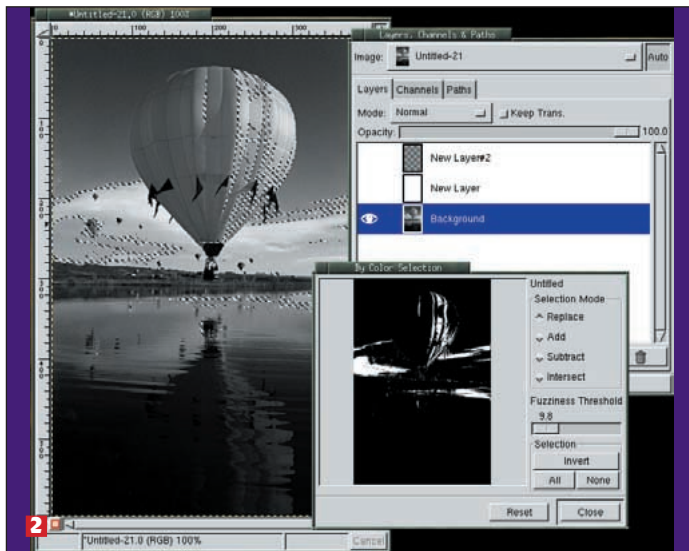
1 Start with any decent photo. While the photo doesn't have to be the best quality, it helps to have good content. We've chosen a balloon launch with several balloons rising above a lake. Desaturate the image. Add a white layer but turn off its visibility. Add a transparent layer above that. Open the Select by Color dialog. The dialog will hold a black preview showing that no pixels have been selected. Make sure the Selection Mode is set to Replace.



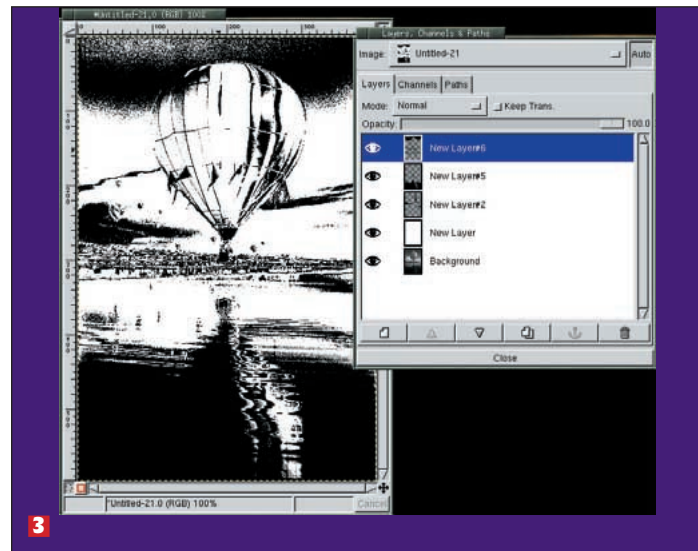
TutorialGIMP

Select by color: Pencil drawings made quick and easy (continued)

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2 Click in the image and check the preview in the Select by Color dialog. Adjust the Threshold and try again till you get an image that looks good in the preview, but does not include the entire original image – we're looking for a sketch here, not a painting. Note that the white areas in the Select by Color dialog will be black in our sketch.

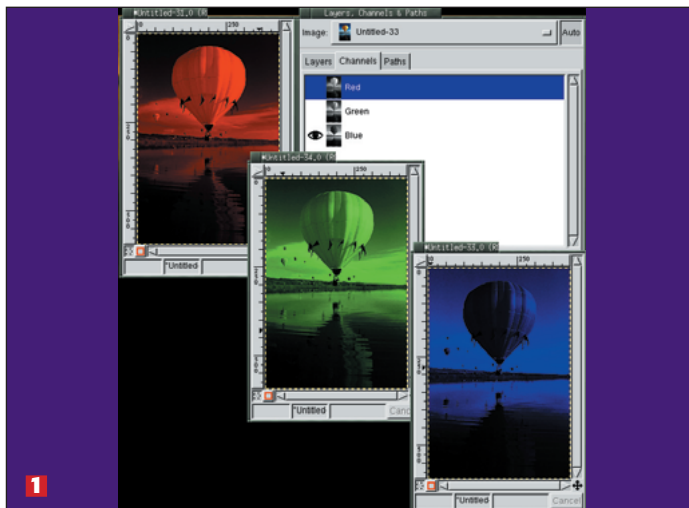


3 Close the Select by Color dialog with a selection still active. Make the transparent layer active by clicking on its name. Be sure that the Keep Transparency button is not set for this layer in the Layers and Channels dialog. Now bucket fill with black in the selection in this layer. Use Ctrl-Shift-A to turn off the selection, then turn on the visibility of the white layer. Viola! Instant pencil drawing. You'll have to experiment a few times and might need to repeat the selection/bucket fill steps a few times to get the image you want. The trick here is to find a selection that pulls out the interesting parts of the original photo.

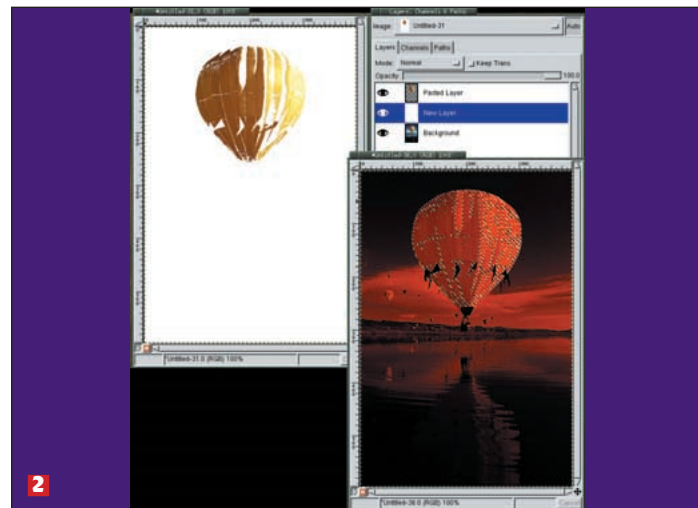
Channel selections: Going from photo to drawing

We can expand on that simple drawing and create a painting with only a few added steps. Working with the Fuzzy Select tool will

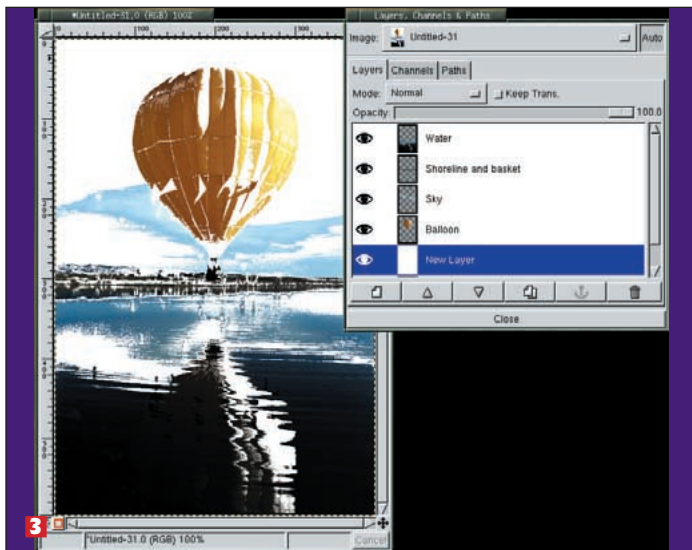
help with creating selections. We'll finish by adding a few blurs and applying a canvas to the final image.



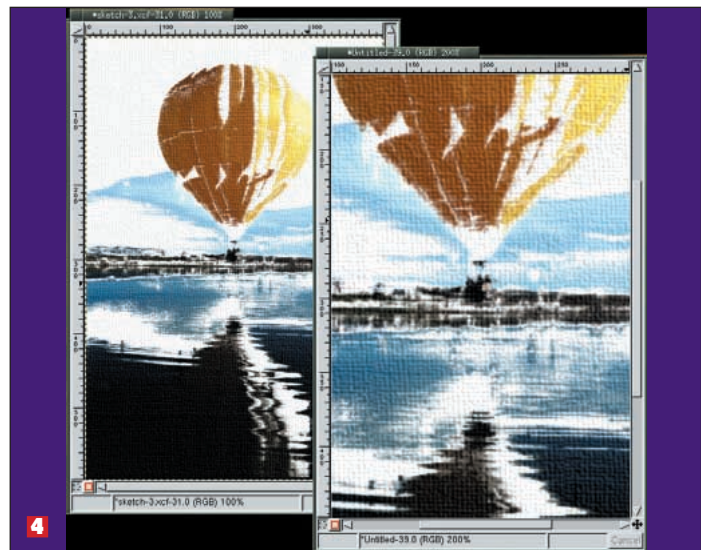
1 Start with the same photo, but this time don't desaturate it. Open the Layers and Channels dialog and go to the Channels page. Turn off the visibility (click on the eye icon) in two channels and look at the image using only the third, let's say the blue channel. Now try a different channel, let's say just the red channel. Look at what parts of the image stand out in each channel. We'll be making Fuzzy Selections in different channels to grab different parts of the image.



2 We've turned off the Green and Blue channels by clicking on their channel names. With the Fuzzy Select tool active, click and drag around the image - in this case we clicked and dragged around the balloon to select part of it. We don't want the whole balloon, however. So we use the Fuzzy Select's Tool Options and reset the Threshold, then hold down the shift key and click and drag in another part of the balloon. We did this several times to get a selection that outlines the balloon but does not grab it completely. The bottom right image shows the selection in the red channel and the upper left image shows that selection copied from the background, pasted into its own layer and placed above a white layer. The painting is taking shape.



3 Repeat the selection process in different channels, targeting other key components of the original image. Copy each selection and paste as new layers each time. Make sure all channels and the white layer are visible to preview your work. Turn off the pasted layers and the white layer and make sure the original layer is active before trying to make your copy from the selection. The results vary with your selections. Here we made selections of the balloon, the shoreline and basket, the sky and the water each as separate layers. The image is good as it is, but we can add a little artistic flair to it.

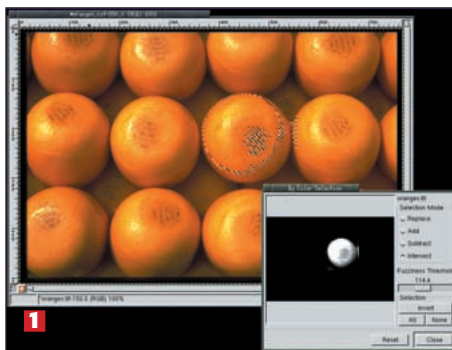


4 Save a copy of this as an XCF file just so you can come back and make changes later if you want. Then flatten the image into a single layer. Apply a very slight Wind (Filters > Distorts > Wind), with strength and threshold set to 1 and the both edges affected. Next, choose a Gaussian Blur RLE (Filters > Blur > Gaussian Blur(RLE)) using width and height of 1 pixel. Finally, apply a canvas texture (Filters > Artistic > Apply Canvas) of no more than 2 pixels in depth. Our results are pretty good. We've zoomed in to show the detail of the painting. Adding wind provided a light sense of brush strokes. Blurring took out any remaining photographic resemblance.

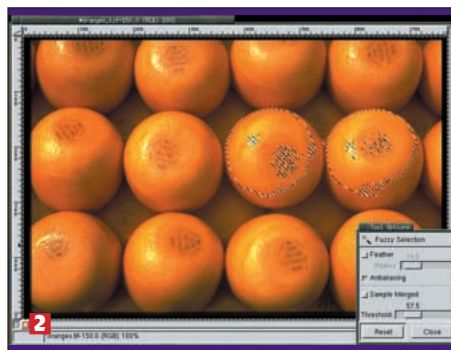
Quick Masks: Paint and isolate with the "Unknown Tool".

Enough of this artsy stuff – what about real selections? What is the easiest way to isolate a complex shape? The answer comes

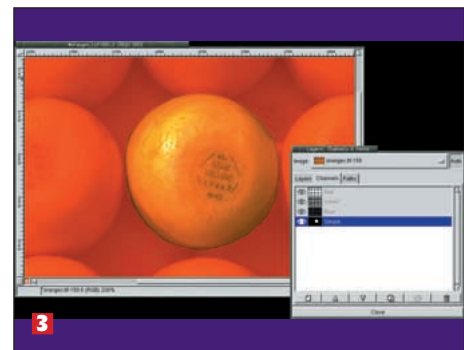
from a seldom-mentioned little red box found at the bottom of every Canvas window: the *GIMP* Quick Mask.



1 The problem with some selection tools in any art application is their imprecise nature. Selecting a single orange in this image using 'Select by Color' would get lots of oranges. We can trim this down to just one orange by making a rectangular selection and then setting the Selection Mode to 'Intersect' in the Select by Color dialog. The result isn't bad, but it just doesn't get the whole orange. Multiple attempts are necessary to really get close to getting the whole orange and nothing else.



2 Fuzzy Select can be used to select nearby pixels that are close in colour to the first pixel you click on. Dragging across the orange from the brightest to darkest areas also gets close, but when you get near the edge of the orange you start to pick up the neighbouring orange as well. A tip while working with Quick Masks – zoom in on the area to select. This will make it easier to be precise while painting your quick mask.



3 The fastest way to get that one orange is the Quick Mask. Start by clicking on Quick Mask button on the lower right of the Canvas window (the little box with the red outline). This causes the image to be overlaid with a reddish tint. Next, choose a brush. Hard-edged brushes will work better for Quick Masks. Make sure the Quick Mask channel is active in the Channels page of the Layers and Channels dialog. Now you're ready to start painting over the orange to make your selection. Paint with white to expose the orange (and create the area to be converted into a selection) and paint with black to replace the reddish tint (re: the mask). This will make the orange show through the red veil created by the Quick Mask. The area that shows through will become the selection. When you're done painting, click on the selection box to the left of the quick mask. Your selection is ready. **LXF**