CREATING PERSPECTIVE

Playing with shadows – adding depth to 2D images

They add style, depth, and in most cases they come with one click. Shadows are simple, fast, and a must-have for any digital artist, says Michael J Hammel.

As the acronym implies, *The GIMP* is an image manipulation tool. Its strength is in changing distinct pixels without knowledge of the image content. In the world of 3D, however, tools are required to understand what an object is and that it has depth. So how can we get *GIMP* to understand objects and depth? The most obvious way is with shadows. *The GIMP* has many ways of dealing with shadows. Several come with built in filters while others require minimal knowledge of basic *GIMP* features.

This month's tutorial takes quick peaks at *The GIMP*'s built-in shadow tools, a method for generating your own perspective shadows, and a quick way to add a shadowy depth to any text.

STANDARD SHADOWS

The GIMP provides three standard shadow filters in the Script–FU>Shadow menu: Drop–Shadow, Perspective, and Xach Effect. For most situations a drop–shadow will suffice. For advanced artists, perspective shadows add flair by changing the perceived direction of incoming light. In any case, a quick look at all three menu options is all that is needed to learn their secrets.

Drop Shadow

1 A drop-shadow is simply a shadow placed behind an object. In this example we've drawn a red box and some red text, each on their own layer with a white background layer below them. Each layer is made active and the Script-FU>Shadow>Drop Shadow option is chosen. This filter provides options for setting how dark the shadow will be (its opacity) and how far offset it should be. Larger offsets and larger blur radii can make the shadow appear further back from the object. The effect is to make the object appear as though it floats above some surface.
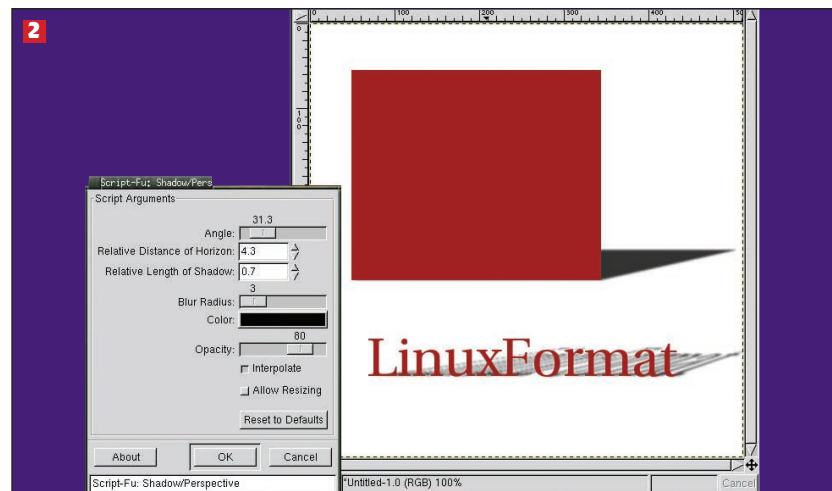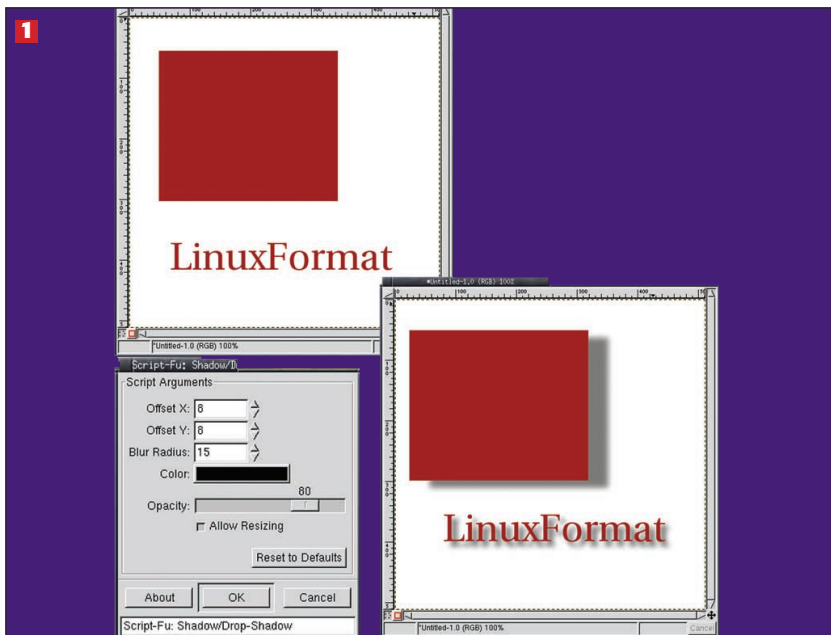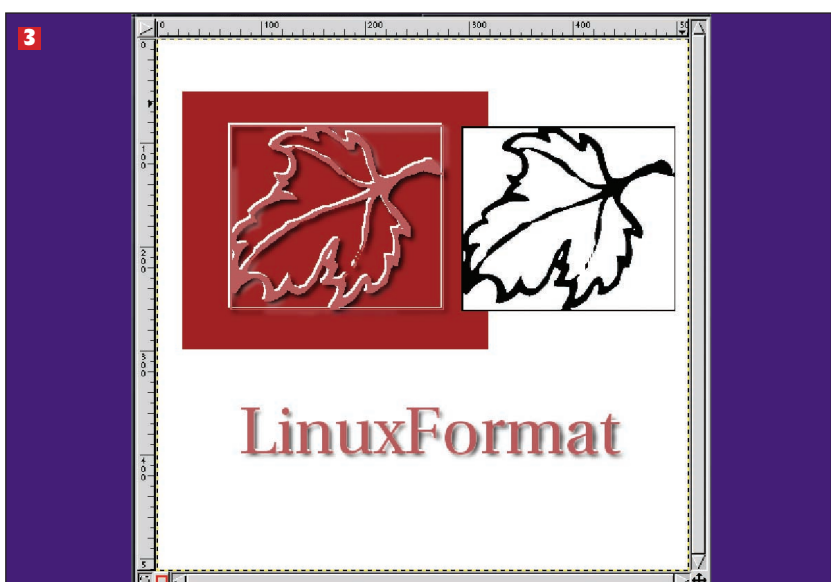

Perspective Shadow

2 An alternative to a drop shadow is a perspective shadow. A perspective shadow is like your own shadow when the Sun shines – it can run in front of you on the ground or behind you depending on the direction you face. In this example, the red block and text appear to have the Sun in front because the shadows run behind them. Because the shadow touches the bottom of the objects the effect is to make the object appear to sit on a surface. The Script-FU>Shadow>Perspective filter is used to create these shadows. The angle runs counter-clockwise starting at 0 along the X axis, so lower values create perspectives that are more flat.

Xach Effect

3 Also included as a shadow option is the Xach Effect filter. While this filter doesn't actually produce a shadow as its primary effect, it does include a shadow. To use this filter, make a selection over your object and apply the filter. The effect makes the selected area of the object appear to be raised and slightly translucent. In this example a leaf image with a black border was used to create a selection and then applied to the red box. The effect is slightly different when applied to a selection made from the text because the selection matched the shape of the object (the text). The result is a variation on a 3D text effect.

‹‹ PERSPECTIVE SHADOWS

The standard Perspective shadow filter provides plenty of configurable options, but it lacks an interactive feel. Adding perspective shadows manually is rather easy and gives you more control of the effect.

Manual perspective for text

1 Duplicate a text layer and flip the duplicate vertically. Then align the bottom of the original layer with the top of the flipped copy, essentially aligning the baselines of the text for each layer. Using the Transform tool from the Toolbox, scale the duplicate layers height by dragging down the bottom edge of the transform outline. Don't stretch its width, just its height. Apply this change, then switch to the Perspective mode of the Transform tool and drag the lower left corner out to the left. Apply this change.
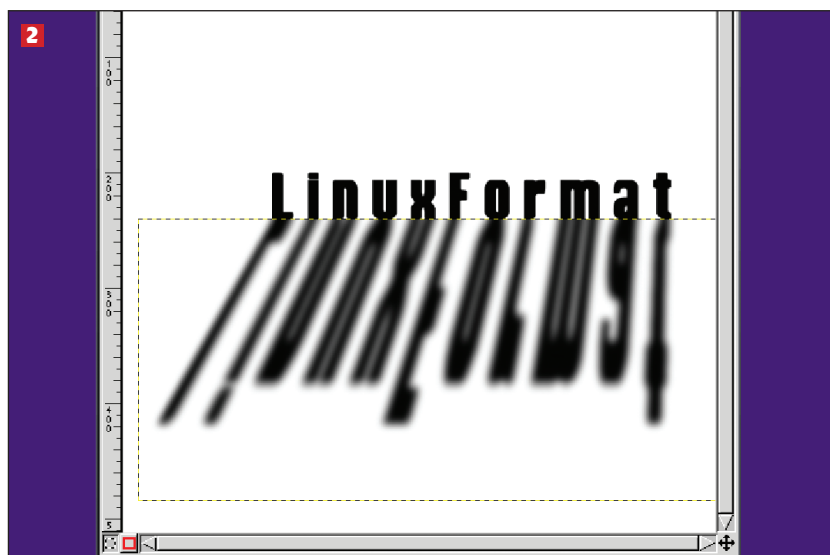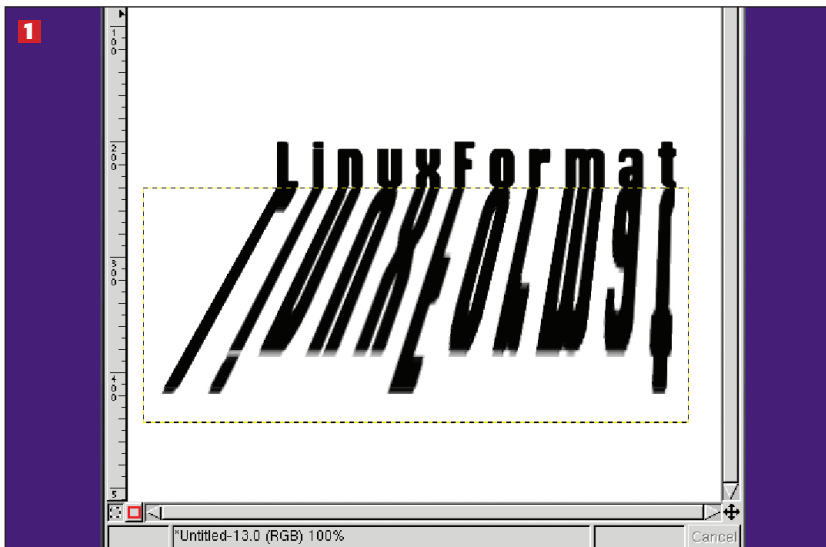

Blurred duplicate

2 Change the layer boundary size for the transformed layer to add some space to the bottom and right sides. You don't want the top to have any additional space and you don't really need any additional space on the left. The extra space is for blurring – be certain the layer has Keep Transparency turned off. Now Gaussian Blur this layer. This example used 10 pixels, but you can use whatever looks appropriate. Notice that after the blurring you won't have any blur along the top edge – that's why you didn't want to add any space to the top of the resized layer! That edge needs to match evenly with the original text. A shadow is most distinct where it touches its object but fades as it moves away from that point.

Final image

3 Now add a layer mask to the transformed layer. Apply a linear gradient going from black to white, starting at the bottom of the layer and running to the top. You need to play with this a little to get the right effect – you want the shadow to appear to fade away with distance. Add a gradient background. Finally, add a radial gradient (white to black) in a new layer and set its layer blend mode to Screen. The result is an image with a light source behind your object (text in this case) and a perspective shadow flowing toward the viewer.
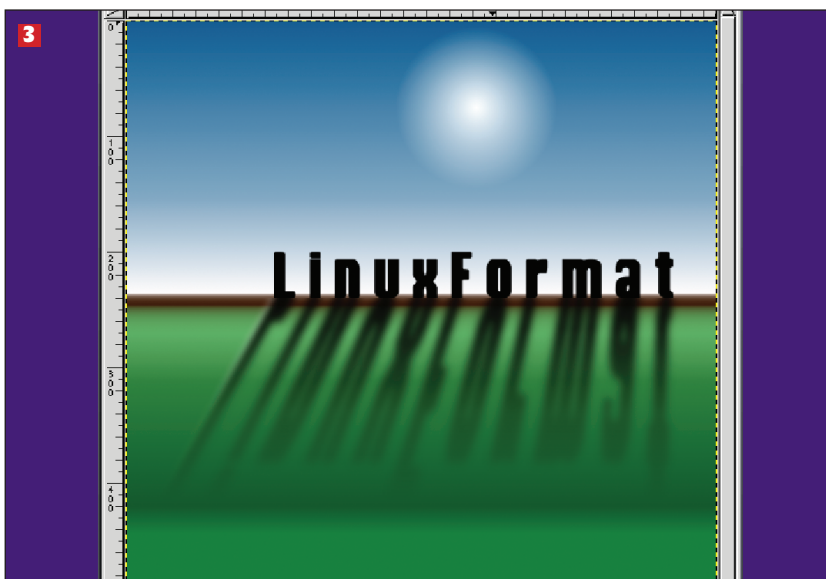
EXTRUDING TEXT

Shadows can also be used to simulate depth, providing a 3D effect to a 2D object. Although *The GIMP* does not provide a filter to extrude text, a blurred image can be used to simulate depth. The object will appear lit from in front and shadowed along its depth. This short tutorial takes only a few minutes to perform but can add plenty of pizzazz to any image. Note that this method will work best with thick, solid shaped fonts. It does not work well with script, thin-lined or Dingbat fonts.

Coloured text transformed

1 **Start with a white background layer and add a coloured text layer. This tutorial only works if your original text colour and the extruded shadow are different colours. In this example, coloured text has been added to its own layer, sheared with the Transform Tool and the perspective changed (also with the Transform Tool). The layer border has been extended (see Layer Boundary Size in the Layers menu) to make space for the extruded area we're about to create. Duplicate the text layer. Use Alpha to Selection on it and fill the selection with black (or some colour other than the colour of the original text). Turn off the selection (Shift-Ctrl-A).**
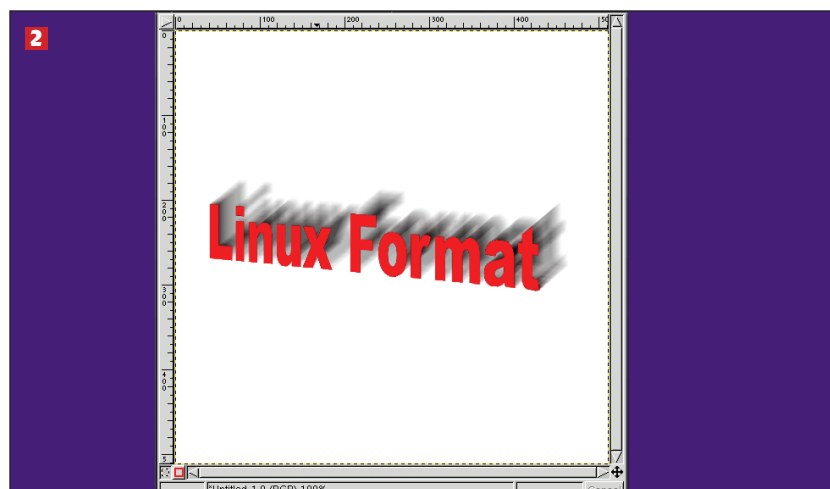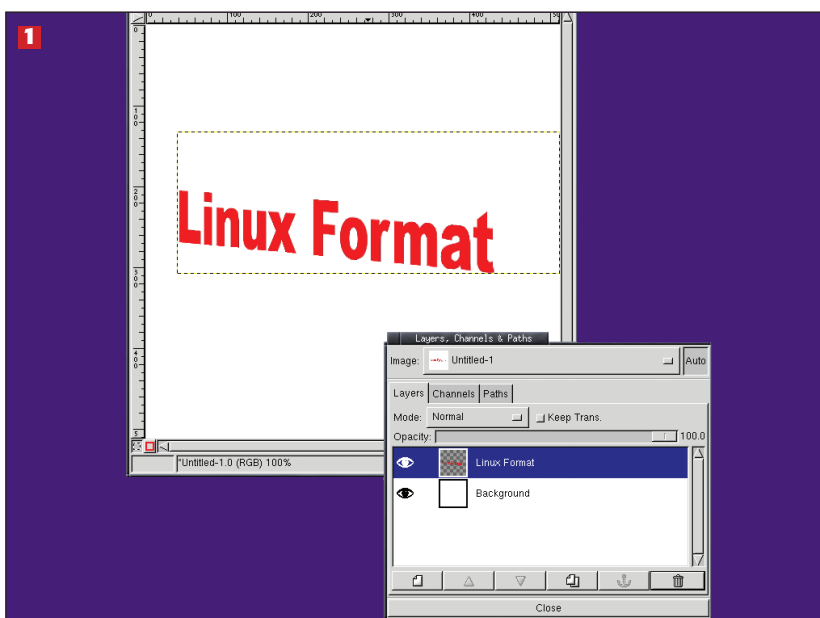

Extrusion started

2 **Turn off Keep Transparency for the duplicate text layer and apply a motion blur (Filters >Blur >Motion Blur). The length of the blur shouldn't be too large - you don't want really deep 3D extrusion. Here a length of 35 pixels was chosen for a 512x512 canvas. The angle is set with 0 (zero) being to the left along the X-axis, so if you want extrusion to the upper right (as in this example) subtract the angle desired (40 degrees using the Measure Tool to estimate) from 180. This example used 140 degrees to make the motion move from lower left to upper right, which matches the transforms performed on the original text. Use the Linear option for the motion blur. Note that if you don't have enough border or you use too long a blur length or you use the wrong angle the extrusion will get chopped off at the layer border.**

Extrusion completed

3 **Move the duplicate layer below the original text layer and then merge it with the white background. You must do this or the next step won't work right. To make the blurred region appear solid, use the Levels dialog and drag the black and gray handles in the upper adjustment bar to the right. This will make most of the pixels extremely black. If you drag the black handle all the way to the right the edges of the text become jagged, so you may want to leave a little space between the white and black handles, with the gray handle set somewhere between or on either end.**
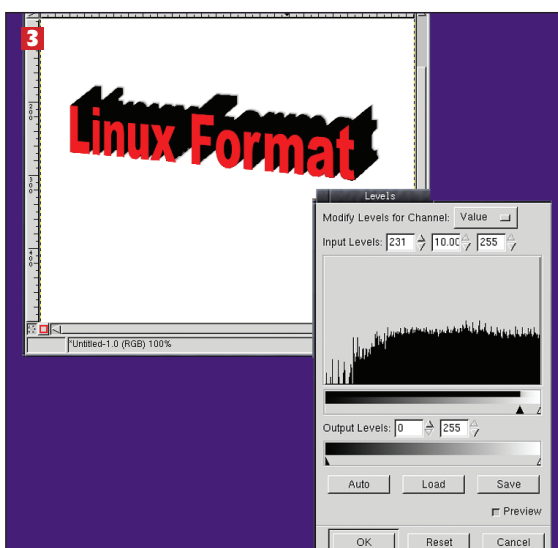
NEXT MONTH

We've mentioned the subject of Filters before when considering non-destructive editing – next time we concentrate on them in more depth.