ILLUSTRATION & IMAGE EDITING

Gimp Shadows and reflections

**Michael J Hammel shows you how to do shiny stuff properly in *Gimp*.**

When you create 3D images of metal, plastic or gels with *Gimp*, the key to making them look real is to simulate lighting that suggests the material's imperfections.

This month we'll use a simple but convincing 3D effect to create a set of buttons, similar to the Play, Stop, etc buttons on a CD player, that appear to reflect light. You'll end up with metallic-finish buttons simulating imperfect, rather than perfect, reflections. This technique is critical to nearly all designers who have a need for 3D effects. If you're wondering why perfect is a bad thing all of a sudden, just look at how good the old *Star Wars* effects are compared to the shiny, flawless look of the new episodes – or watch *Flash Gordon*, whose producer misguidedly demanded a pristine look for those plastic spacecraft.

The button bar starts life as a rectangular selection. Then we'll use guides to centre the selection and accurately position other features in the image. In *Gimp 2.0* you create guides manually by dragging them from the rulers to their proper position. *Gimp 2.2* provides built-in features for accurately positioning guides without dragging. When necessary in this tutorial, I'll show how you can use grids to provide exact positioning in *Gimp 2.0*. Any other steps that differ between versions 2.0 and 2.2 will also be made clear.

Note that I'll be working in pixels in this tutorial. If your default settings have been changed to inches or centimetres in the Preferences dialog you should change them back to pixels to make it easier to follow the steps.

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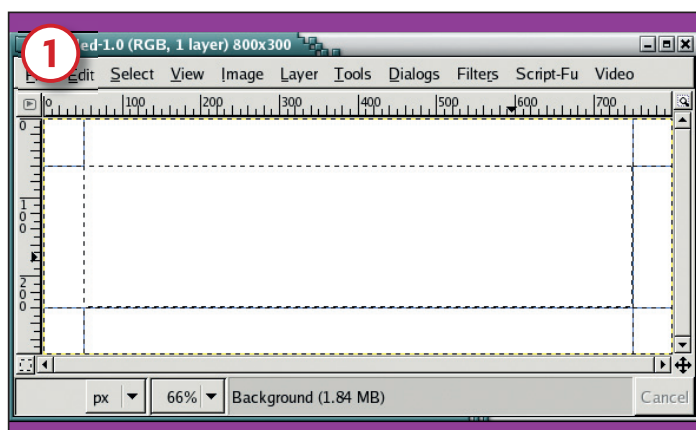
1/ Set the rectangle

Open a new image window 800x300 pixels in size. The rectangular selection requires two horizontal guides and two vertical ones. Place the horizontal guides at 60 and 240 pixels and the vertical guides at 50 and 750 pixels.
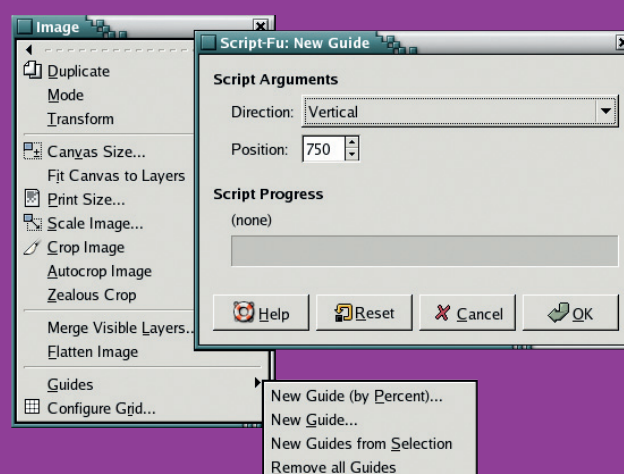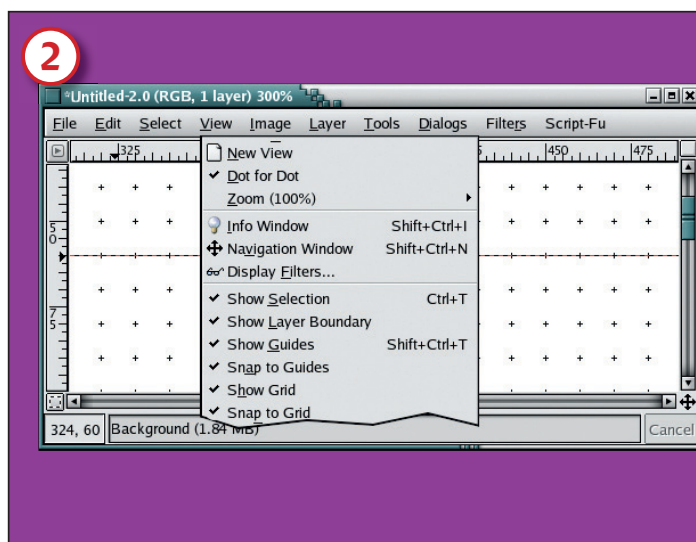
2/ Position guides

For *Gimp 2.0*, this can be done by first enabling the Grid features: View > Show Grid And View > Snap To Grid. Zoom in on the grid and use the vertical scrollbar to position the image window at 50 on the vertical ruler. Drag a guide from the horizontal ruler at the top of the window down until the second value in the Pointer Coordinates window is 60 (shown in the bottom-left corner). Scroll the image window down until 250 is displayed in the left side ruler and repeat the process for a new guide at 240. Repeat this process for vertical guides at 50 and 750. Zoom back out so the page fits in the image window. Turn off the Grid Visibility (View > Show Grid) for now – it can be turned on again later as needed.

For *Gimp 2.2*, it's much simpler. Open the New Guide dialog (Image > Guides > New Guide). Select Horizontal and set the position to 60; then click on the OK button. Repeat for the guide at 240. Do the same for vertical guides at 50 and 750.

**With the guides in place, draw a rectangular selection with corners where the guides intersect.**
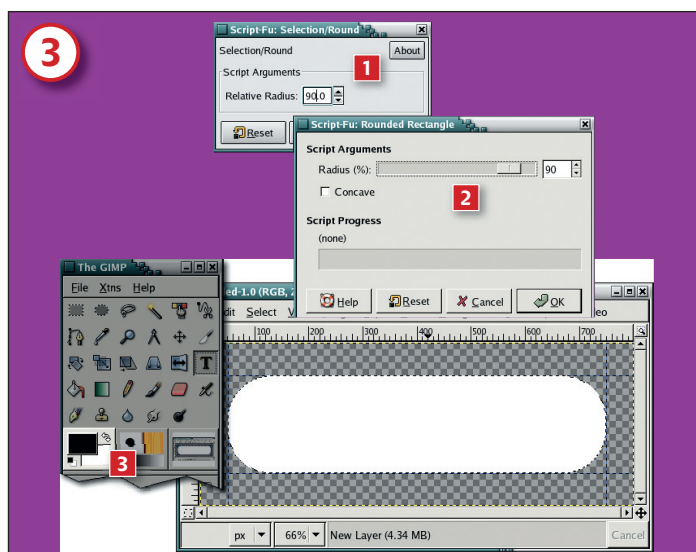
3/ Round the edges

The button bar should have rounded edges. This is easily accomplished in either version of *Gimp*. In version 2.0 ⬛1, choose Script-Fu > Selection > Round and use a Relative Radius of 90.0. In version 2.2 ⬛2 choose Selection > Rounded Rectangle and use a Radius of 90%.

After the selection is rounded at the sides, create a new transparent layer (Layer > New Layer). Drag the background colour ⬛3 (which should be white by default) into the selection. This will fill it with white.

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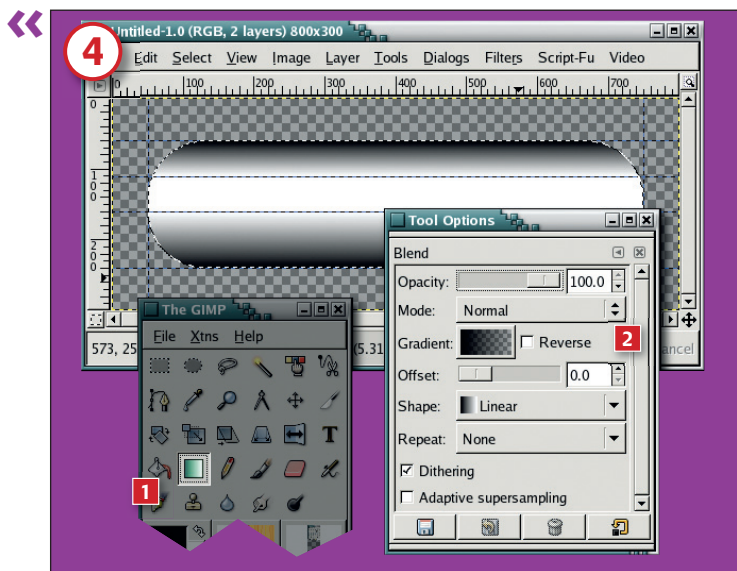
4/ Apply gradient

Add horizontal guides at positions 110 and 160. Click on the Gradient tool **1** to make it active. In the Gradient Options dialog, select the Foreground To Transparent **2** gradient and make sure that the foreground colour is black. Now drag from the bottom of the selection up to the next horizontal guide. Drag again from the top of the selection to the next lower horizontal grid. This will give a tubular effect.
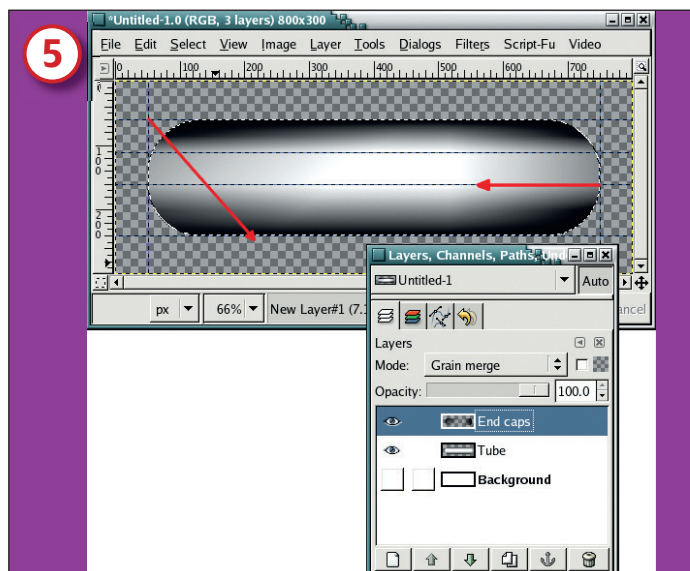
5/ Add shadows

The next step is to add shadows (ie end caps) to the end of the tube, giving it a more 3D appearance. Create a new transparent layer above the tube layer. With the Gradient tool still active, click and drag from the right edge to about a third of the way into the selection (drag directions are shown in red in this image). Now drag from the upper left intersection of the guides down and to the right at a 45° angle, just past the bottom of the selection. Set this layer's blend mode to Grain Merge. Turn off the selection (Select > None or Ctrl+Shift+A). By dragging in different directions the gradients simulate the effect of variations in reflections.
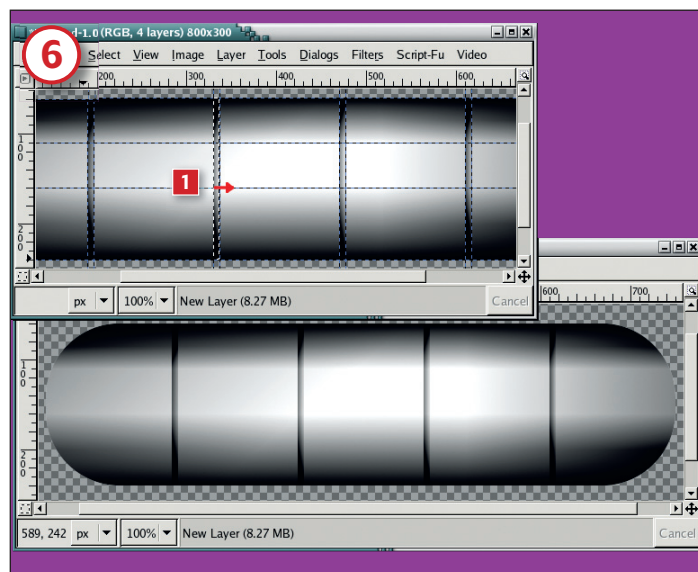
6/ Split into buttons

Next come the buttons. The five buttons (Rewind, Pause, Stop, Play and Fast Forward) need to be spaced evenly – that means we'll need four visual separators. These will be created with four pairs of vertical guides with the following positions: 190/197, 330/337, 470/477, 610/617. Create a new transparent layer. For each pair of guides just created, draw a rectangular selection that runs from the top of the tube to the bottom.

Then use a Black To White gradient and drag horizontally **1**, left to right, starting on the left edge of the selection to just past the right edge. Follow any horizontal guide that intersects the selection to force a completely horizontal gradient. Set this layer's blend mode to Grain Merge.
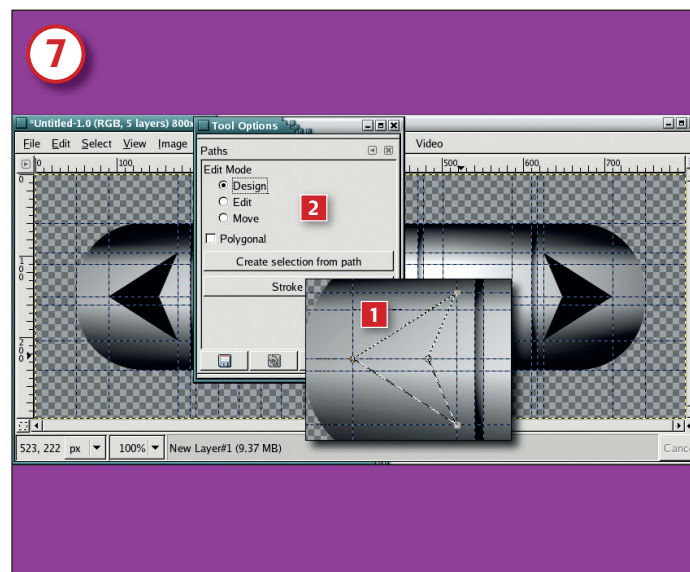
7/ Rewind and FF

Create a new transparent layer for the button icons above the separators layer; add horizontal guides at 96, 150 and 204; and add vertical guide pairs at 90/175 (for Rewind), 225/250 and 277/302 (for Pause), 365/442 (for Stop), 501/586 (play) and 625/710 (for Fast Forward).

■ **Rewind** Click on the Path tool in the Toolbox. Draw a path for the Rewind arrow **1**. Note that only four anchor points are required for this shape. Convert this path to a selection **2** (in the Paths options dialog). Fill the selection with black by dragging from the foreground colour.

■ **Fast Forward** Copy the Rewind selection (Edit > Copy), paste it (Edit > Paste), flip the floating layer horizontally using the Flip tool, and move to the right end of the tube. It will snap to the guides in that space. Anchor the floating layer (Layer > Anchor Layer) to the button icons layer.
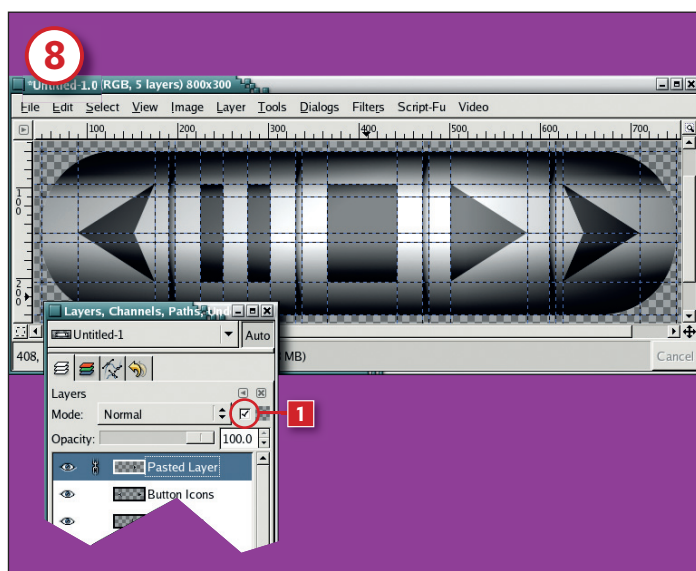
8/ Play, Pause and Stop

■ **Play** Paste and flip horizontally again. Move the floating layer over to the Play button. Convert the floating layer to a new layer (Layer > New Layer). Turn off Keep Transparency **1** for this new layer. Use the circular paintbrush with a radius of 13 to fill in the back side of the arrow with black. Merge this new layer (Layer > Merge Down) with the one below it (the buttons icons layer).

■ **Pause and Stop** With the button icons layer active, create rectangular selections from the guides located within these button areas. Fill each selection with black.

When all icons are completed, set the layer blend mode for the button icon layer to Grain Merge.
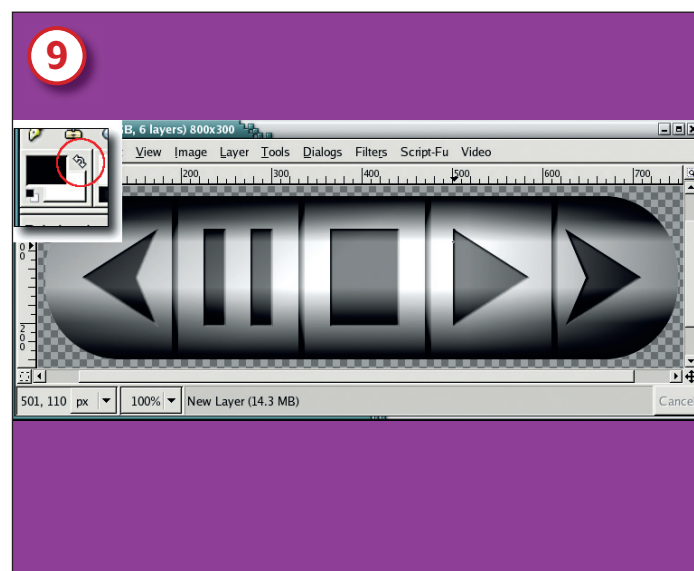
9/ Increase definition

Our icons are still looking a bit flat – we can give them more definition with more strongly-defined borders. Make a selection of the icons (Layer > Transparency > Alpha To Selection). Create a new layer above the icons layer. Using the circular paintbrush with a radius set to 03, draw black lines on the top parts of the selection. Swap foreground and background colours **1** and draw white lines on the bottom of the selections. Gaussian Blur (Filters > Blur > Gaussian) this layer by 1.5 pixels using the RLE option. Set the layer blend mode to Grain Merge.
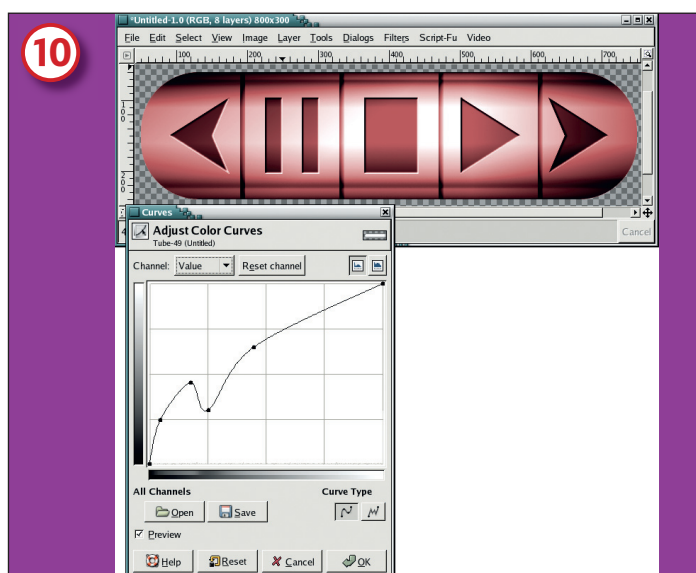
10/ Choose a colour

Add a new layer at the top of the stack, and fill it with any colour you like. Set the layer blend mode to Colour. The final adjustment comes from the Value curve in the Curves dialog when applied to the tube layer. This will increase or reduce the reflection on the tube by increasing or decreasing the amount of white in that layer. This last adjustment is optional, really: we've already done all the clever stuff, but you might not want your buttons to be grey.
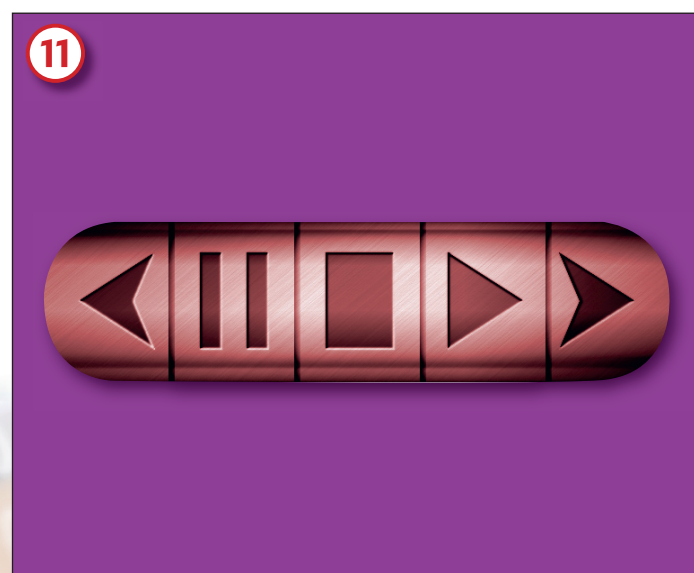
11/ Metal finish

As an additional step to this project, try this. Add a layer with noise just below the colour layer, then apply a bit of angled Motion Blur to get a brushed metal effect to your buttons. **LXF**

NEXT MONTH

The graphic artist isn't the only one using *Gimp* these days. Next month I'll look at what the average reader can do with their own photographs, from vignettes to collages to backscreening.