SKINNING WITH THE GIMP

Multimedia interfaces

On the CD and DVD

MIs – better known as Skins – are all the rage with application developers. Michael J Hammel wields the tools to create fantastic interfaces, all you have to do is provide the creativity!

The chances are you've played with programs like *MPlayer, Xine* and *XMMS* if you're into watching video or listening to music on your Linux system. These tools provide user interfaces that stretch the limits of convention for computer programs.

But skins aren't limited to multimedia programs. The advances in CSS for the Web have made skinning an art unto itself for website design. Take a look at the 'Zen Garden' (**www.csszengarden.com/**) or Eric Meyer's 'css/edge' (**www.meyerweb.com/ eric/css/edge/**) sites for examples of this technology.

Creating these interfaces is a two-step process. The latter step is trickier and requires understanding how to chop images into component parts and put them back together using a skinning interface, often requiring knowledge of XML or some other text file describing the position of those image pieces. The first part, however, is a breeze: building the interface starting with nothing more than a blank GIMP canvas and an active imagination.

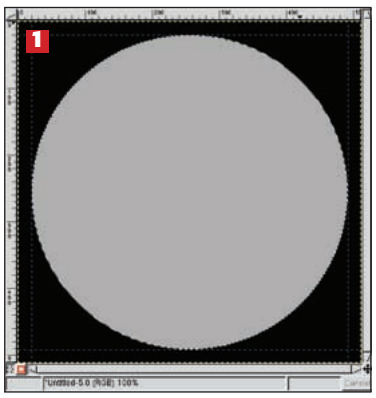
In this tutorial we'll take the steps outlined in *The Complete Adobe Photoshop Handbook*, a compendium of tips and tutorials for Photoshop users published by *Linux Format*'s sister publication *Computer Arts*, and convert them into the equivalent steps under *The GIMP*. In this way, you'll not only get to see how easy it is to create these mind-stretching designs, but also how close in features *Photoshop* and *The GIMP* really are!

There aren't many special tricks here that a default installation of *The GIMP* couldn't provide, but you will want to make sure you can find the *Lighting Effects* plug-in (Filters>Light Effects>Lighting Effects) and are very familiar with dragging Guides around the canvas. We'll be using many guides in this tutorial. We also assume you know your way around *The GIMP*'s windows and menus, know how to change foreground and background colours, and know how to use selections. If you don't have the *Round* plugin (look for Selections>Round) then skip the part where we round the edges of selections. You don't have to round them to complete this tutorial. Finally, we'll be working with grey colours for most of this tutorial. Color and texture can be added later as separate layers composited with different layer blend modes.

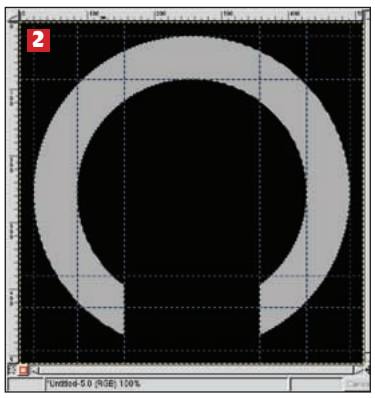
Designing a skin

The design is simple – an imaginary handheld device with a Palm Pilot-like screen, handle grips on the side and a hard-shelled metal structure underneath. We start by creating a 3D metallic plate on which the device is built.

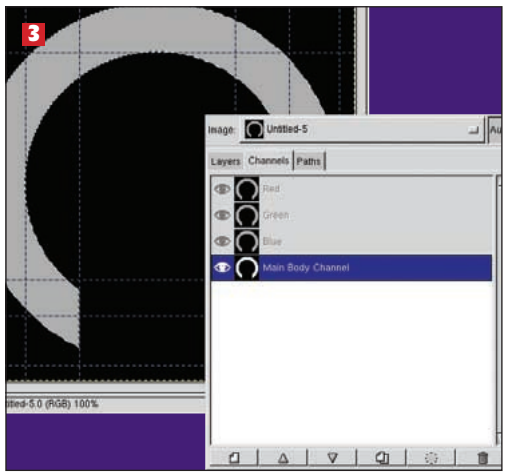
1 Create a new window that is 512 x 512 pixels in size. Fill the background layer with black and then create a new, transparent layer above it. Keeping in step with the original tutorial, we'll name this new layer 'Main Body'. Drag a vertical guide from the left ruler into the canvas area and position it at x=20 pixels. See the lower left of the status bar to see the guide position. Drag another vertical guide and place it at x=492. Place horizontal guides at y=20 and y=492. Make a circular selection by pressing the shift key while you click where the left and top guide meet and dragging to the opposite guides intersection. Fill this selection with equal amounts of Red, Green and Blue (RGB), each set to 175.



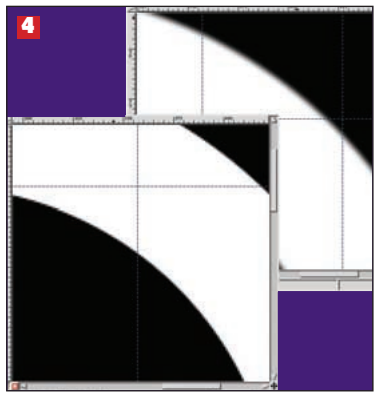
2 Add guides 85 pixels from all four edges and drag another circular selection using these guides. Use Ctrl-X to cutout this selection from the Main Body image. Add vertical guides at 155 and 357 and a horizontal guide at 380 to create a rectangular box cutout at the bottom of the Main Body image. Use the 'Alpha to Selection' option for the Main Body layer to create a selection out of this upside down horseshoe shape.

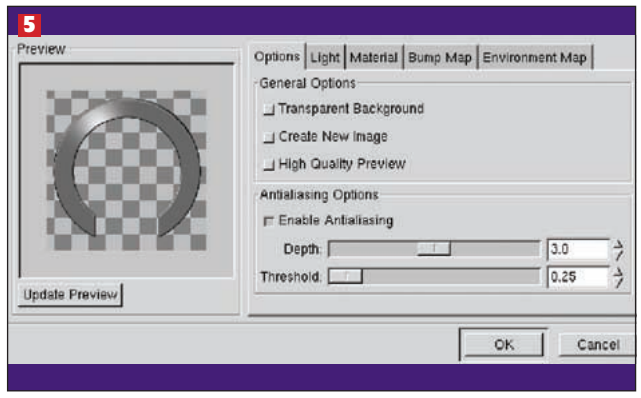


3 Change to the Channels page of the Layers and Channels dialog. Add a new channel and name it 'Main Body Channel'. Set its opacity to 100%. The image should go to black with the horseshoe shaped selection still active. Fill this selection with white, then clear the selection with Ctrl-Shift-A.



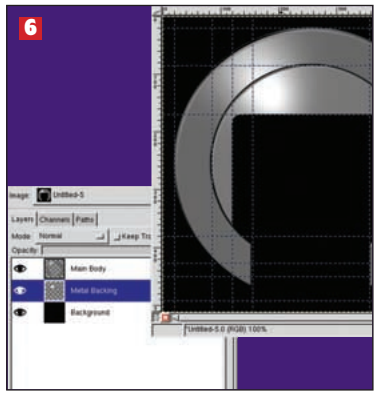
4 With the 'Main Body Channel' still active, apply a blur with Filters>Blur> Gaussian Blur (IIR) with the horizontal and vertical values set to 3. The blur applied to this channel will be used to create the bevelled edge of this part of the design. The same technique (using different channels) will be used later on other components in the image to add a 3D feel to them as well. When the blur is complete, click on the eye icon to turn of the visibility of this channel (so we can see the whole image again). Go back to the Layers page in the Layer and Channels dialog and click on the "Main Body" layer to make it active.





5 Now we'll give the Main Body a little 3D effect. Open the Lighting Effects plug-in (Filters>Light Effects>Lighting Effects). Set the Options to Enable Antialiasing with a depth of 3.0 and threshold of 0.25. In the Light page set the Light Type to Directional and the Color to white. Set the Direction Vector to x= -0.60, y= -1.0 and z= 1.0. In the Material page set the Intensity Ambient level to 0 and the diffuse level to 0.70. Set the Reflectivity diffuse to 0.65, specular to 0.85 and the highlight to 27.00. Finally, in the Bumpmap page, enable bump mapping using the Main Body Channel as the map and using the default values for the rest of the options. The Environment mapping is not used here. Apply this to the Main Body layer.

6 Create a new layer below the Main Body and call it 'Metal Backing', making sure this layer is now the active layer. Use the guides from step two to create another circular selection and fill the selection with red, green and blue values of 200 each. Add vertical guides at 120 and 392 and horizontal guides at 170 and 450. Create a rectangular selection from these guides and round the corners using the Selection>Round menu option, with the roundness set to 30. Cutout this selection from Metal Backing using Ctrl-x. Create a selection of this layer with the 'Alpha to Selection' option in the Layers menu.
In the Channels page of the Layers and Channels dialog, add a new Channel named 'Metal Backing Channel' set to 100% opacity and fill the selection again, this time with white. Turn of the visibility of this channel and clear the selection. Change back to the Layers page and make sure the 'Metal Backing' layer is active. Apply the Lighting Effects plug-in to this layer just as in the previous step but this time use the 'Metal Backing Channel' as the Bumpmap image.



Resources

MPlayer Skin Howto: http://mplayerhq.hu/DOCS/skin.html

XMMS supports *WinAMP* skins. A Howto for this can be found at www.markerrington.com/winampskins/howto/

This *GIMP* tutorial was inspired by the original work of Kraig Sederquist (www.sedergraphics.com) from a tutorial published in *The Complete Adobe Photoshop Handbook*, published by Creative Arts Magazine, Future Publishing Ltd.

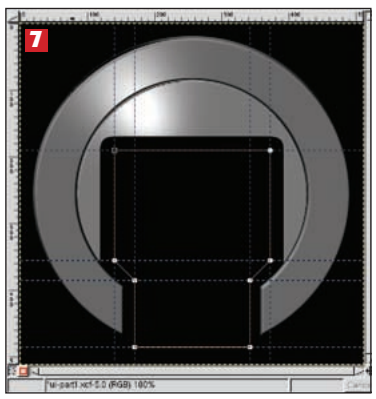
Make the screen Area

Now we'll add an area in which we'll later place display screens. These screens will appear to be encased by a metallic frame set within the empty space formed by the 'Metal Backing' layer. The trick to this part of the tutorial is to be creative with the casing – make it fit in the empty space by drawing a straight and angled edge selection using the Bezier Selection tool, then round the corners with Selection>Round again. The fancier you get with your Bezier selection the more high-tech you can make the casing appear.

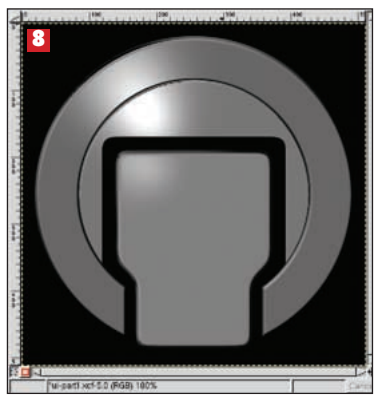
After the casing is ready, we will spend some time creating handles to hold our digital device.

Start by removing all the old guides. The existing guides will just add unnecessary clutter and confusion to our work. You can drag them out manually or, if you have the script installed, use the 'Guides>Remove Guides' plug-in.

7 Add a new layer above the Main Body layer and call it 'Screen Casing'. Add horizontal guides at 190, 355, 385 and 490. Add vertical guides at 140, 170, 342, and 372. Draw a Bezier selection using these guides to make straight and angled lines that cover much of the empty space in the 'Metal Backing' layer. Fill this selection with RGB values of 150.

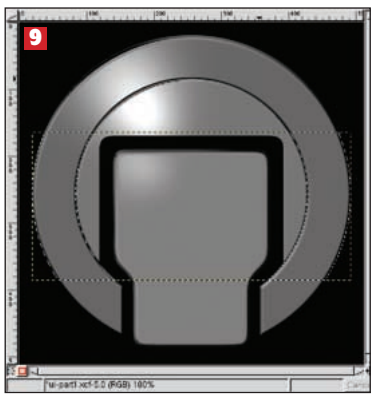


8 Create another channel at 100% opacity, this time named 'Screen Casing Channel'. Fill the selection in this channel with white and turn off visibility of the channel. Return to the 'Screen Casing' layer and apply the Lighting Effects filter again using 'Screen Casing Channel' as Bumpmap. To change the reflectivity on this casing (making it a duller metal) you can move the location of the light and change the ambient intensity and the specular value. Don't forget to blur your channels or the 3D effect will not show up.

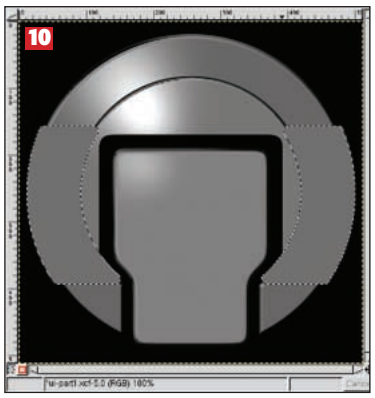


Make the screen Area (continued)

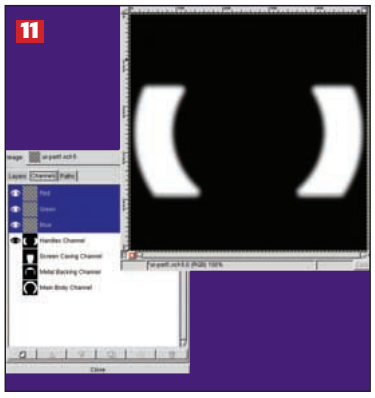
9 Make the 'Main Body' layer the active layer. Make a rectangular selection through the middle of this layer, then copy and paste the selection as a new layer. Name this layer 'Handles'. The new layer will be cropped to the edges of the selection, but we need to grow the selection, so you'll need to choose 'Layer to Imagesize' in the Layers menu to make room for the larger selection.



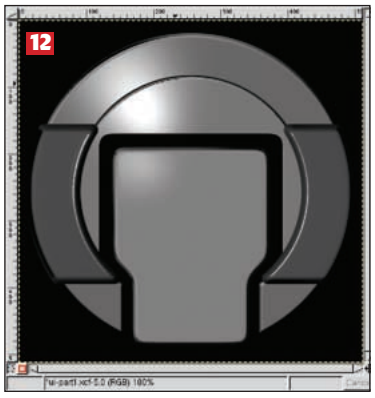
10 Select 'Alpha to Selection' in the Handles layer – you now have a selection of the two handles we're about to create. Grow the selection (Selection->Grow) by 8 pixels, make sure the 'Preserve Transparency' option for this layer is turned off, and fill with RGB = 112. Keep the selection active for the moment.



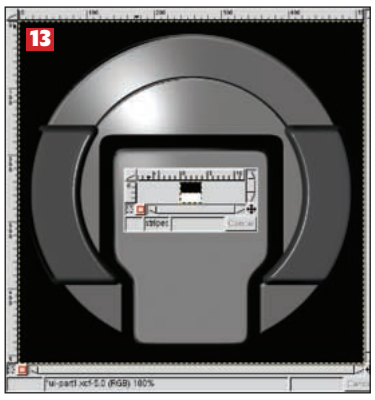
11 Create another 100% opacity channel, this one named 'Handles Channel'. Fill the selection with white. Clear the selection and blur the channel by 16 pixels. Switch back to the layers page and make the Handles layer active.



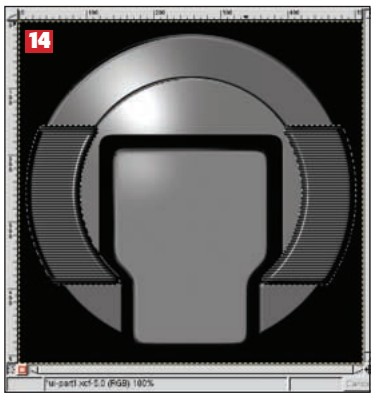
12 Apply the Lighting Effect filter to the Handles layer using the Handles Channel as the Bumpmap. Change the Reflectivity and Intensity options to change the material appearance of the handles. We'll be adding more texture to them in a moment.



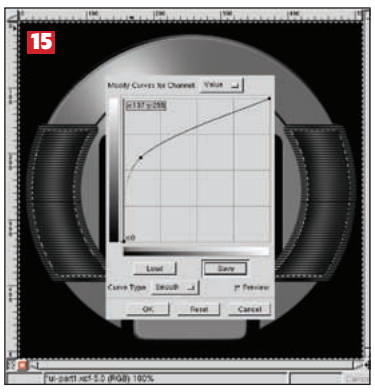
13 Let's add texture to the handles. Create a new, very small 4x4 image filled with white. Fill the upper half with black. Zooming in on this image will make this black fill easier. Save this file in your .gimp-1.2/ patterns directory with the filename 'stripes.pat'. When prompted, give the description as 'Simple Stripes'. Once you've saved the file, open the patterns dialog and click 'Refresh'. The new stripe pattern should be listed in the set of patterns.



14 Use 'Alpha to Selection' on the Handles layer, then create a new layer above the Handles layer. Name this layer 'Handle Lines'. Select the Simple Stripes pattern from the patterns dialog box, double click on the Bucket Fill Tool to open its Tool Options dialog. Choose 'Pattern Fill' for the Fill Type. Now click inside the selection. The stripes will fill the selection in the new layer. Change the layer mode for this layer to Overlay.



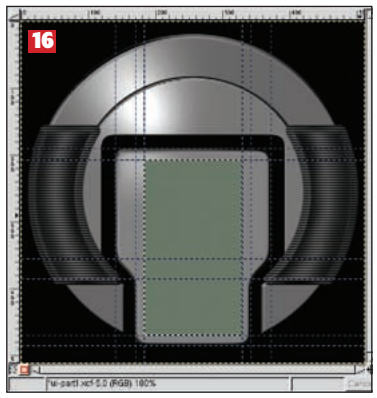
15 The handles are almost complete. We need to add a little more depth to them so they appear more round than flat. To do this, we start with the handle selection once again (it should still be there if you haven't cleared it yet). Add another layer between the Handles and Handle Lines layers and name it 'Handle Shadows'. Select a large, soft edged brush, perhaps 'Circle Fuzzy 76' if you have that one. With the opacity of the airbrush tool set to 50 per cent, paint black strokes along the left and right edges of the selection in this layer. Your strokes should follow the curve of the handle selection. Only add shadows along the outside at first, then add a little to the inside. Just enough give the appearance of a rounded handle. When you're done, shrink the selection by 10 pixels, invert it, and feather it by 7 pixels. Choose Image>Colours>Curves and adjust the curve as shown. This keeps the edges of the original handles while preserving the roundness of the shadows.



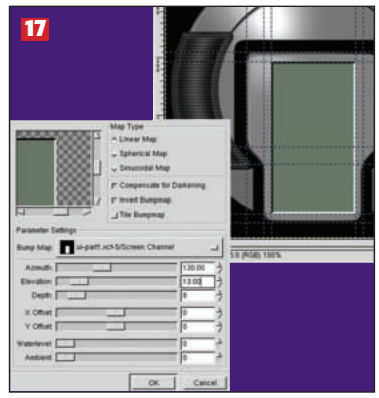
Add the display screen

This can be done in multiple pieces if you want multiple display areas or as one big screen over the Screen Casing layer. We'll use our light mapping trick to give the appearance that the screen is recessed into the metal casing.

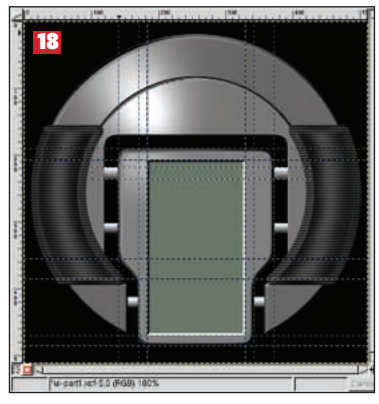
16 Start with new vertical guides at 183 and 329 and horizontal guides at 233 and 470. These provide the outline for our screen. Make a rectangular selection with these guides. Create a new layer just above the 'Screen Casing' layer and call it 'Screen'. Fill the selection with RGB values of 106, 120, 105 respectively. The screen resembles the original Palm Pilot LCD screen.



17 Create a 'Screen Channel' in the channels page filled with white. Clear the selection and blur by 3 pixels. Return to the Screen layer. Select Filters>Map>Bump Map. Set the azimuth to 130, the elevation to 13, the depth to 8 and choose the Linear, Compensate for Darkening and Invert Bumpmap options. Make sure the Bump Map image is set to the 'Screen Channel'. Apply this to the Screen layer.



18 You now have the appearance of a recessed screen. At this stage, the basic unit is complete and we can get as creative as we'd like. First we'll make simple connections between the Screen Casing and the Main Body. Add a transparent layer just above the background and below the Main Body layer. Draw a rectangular selection starting on the left inside the Main Body and through to the right side of the Main Body. Set the Foreground to White and Background to Black. In the Gradient Fill Tool Options dialog set the Blend to 'FG-to-BG (RGB)' and the Gradient to 'Bi-Linear'. Then drag from top to bottom of the selection. The result will be simple 3D tubing between the Screen Casing and the Main Body. Repeat this a few times along different horizontal lines in the image. Notice that only the parts of the tubing that are not blocked by higher level layers show through.



In glorious colour

While there are many more features we could add to this interface, so let's turn our attention to adding texture and colour to it as an example.

19 Choose the Main Body layer and duplicate it. Get a selection with Alpha to Selection. Fill this with a pattern - we chose 'Canyon 2'. Desaturate the layer, set its blend mode to Multiply and reduce its opacity to about 50%. Duplicate this layer, alpha to selection the new layer and fill with the Pink Marble pattern. Set this marble layer's blend mode to Color.

20 Duplicate the Screen Casing layer and Alpha to Selection on it. Fill the selection with a blood red – RGB of 102, 9, 9 respectively. Set the layer mode for the red layer to Saturation.

21 Duplicate the Metal Backing layer and Alpha to Selection it. Fill the selection with the Lightning pattern. Set the layer blend mode to Value and the opacity to about 40%.

NEXT MONTH

You'll doubtless have a wealth of summer holiday snaps to tweak and catalogue by the time the next issue of *LXF* hits the shops, so we're going to show you how *The GIMP* can edit them to make them look their very best. LXF