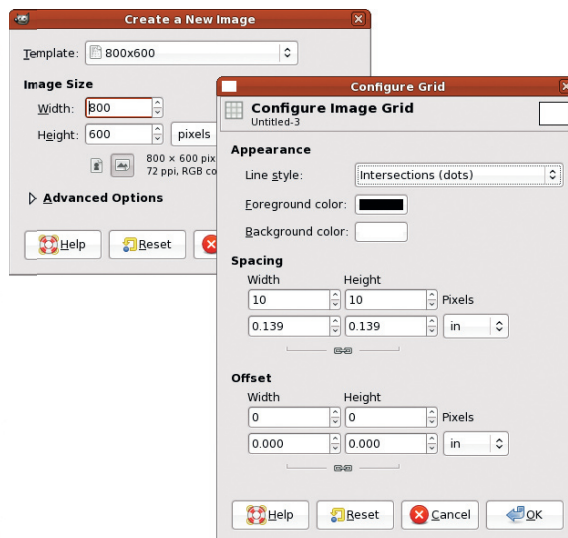


» **Gimp** Open source image-editing software you can get your teeth into

Gimp: A Bottle

Drawing with the Gimp is a 'path' you can only follow with a proper 'guide'. **Michael J Hammel** offers both in this design of a 3D wine bottle.



» The grid will allow precise positioning of path control points as well as precise editing of the path curves.

This tutorial is for both new and experienced *Gimp* users who haven't yet ventured into the world of drawing from scratch. You will need to have a basic knowledge of *Gimp*'s windows – the toolbox, image windows and dialogs – though I'll provide menu locations where needed. You should be familiar with creating new layers and naming them. You'll get a thorough understanding of how guides can perfectly align your design elements, how drawings don't have to be done in colour initially and how 3D effects are just a matter of lighting.



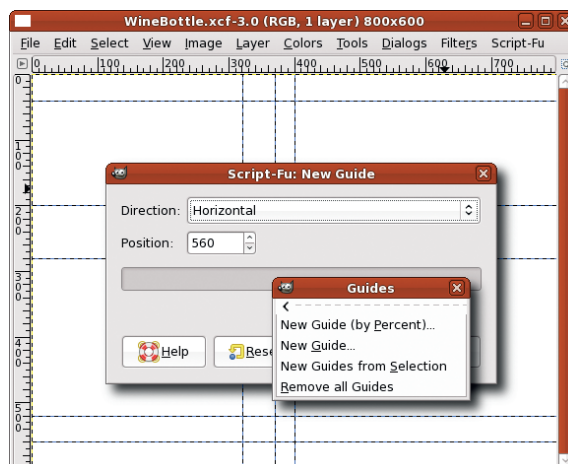
Our expert

Michael J Hammel is a contributor to the *Gimp* project and the author of three books on the subject, including his latest, *The Artist's Guide to Gimp Effects*.

By now you're all familiar with how *Gimp* can be used with photo manipulation. In past issues I've talked about using stock photography for graphic design and showed how colour edits can make photos fit just about any project. But photo editing is just one side of *Gimp*. We can, of course, create graphics from scratch. And we can do it using vector drawing.

In a nutshell, photo editing is raster editing, and drawing with editable lines is vector editing. While I can draw using either Wacom or Aiptek tablets and *Gimp* paint tools, this month I want to show you how you can draw using nothing more than guides, a grid and paths. Guides are straight lined elements you drag from image window rulers that allow you to accurately position points, bound selections or simply trace with drawing tools. Paths are vector components of an image that can be edited at any time to change their shape using control points and drag handles. Path edits do not immediately affect the image window – you have to retrace the paths or convert them to selections for use in the image.

Paths are to drawing what layers are to photo editing. You create multiple paths in a single path layer and then create multiple path layers to create a drawing. Since paths are editable curves – not just straight lines – they are perfect for drawing manga or other types of cartoons. But like most *Gimp* features, they aren't limited to just cartoons. We're going to use them as the basis of a 3D shape.



» Get used to guides – this project uses plenty of them!

» **Last month** We swapped colours selections and Gimp's colour tools.

of wine

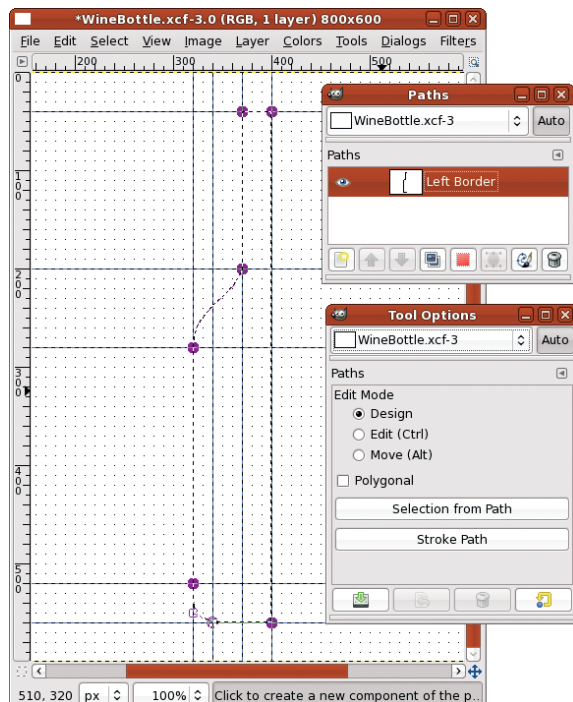
This is a two-part tutorial. In this first part I'll design the bottle and labels without any text. Next month I'll add the text, some graphic enhancements and a detailed bottle cap.

Drawing the bottle shape

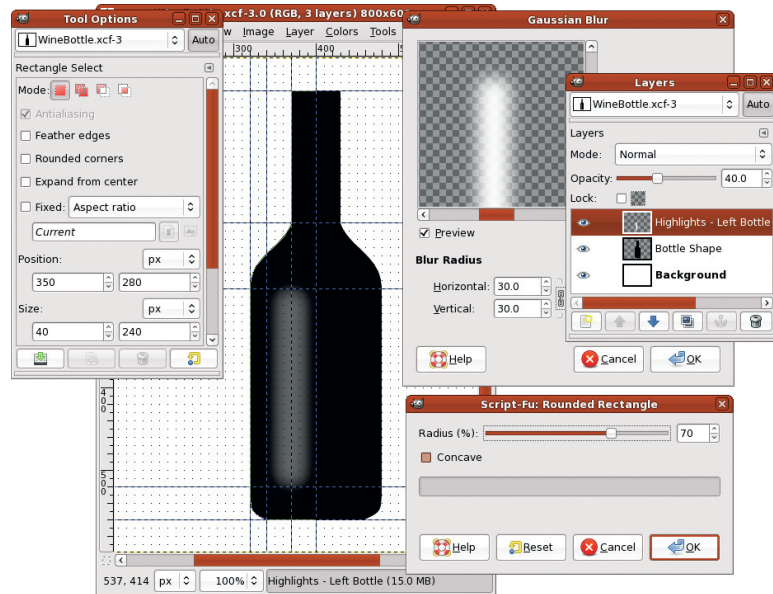
Start with a new 800x600 image window (File > New). *Gimp* supports a Snap To Grid feature that will be used along with the guides. Configure the grid (Image > Configure Grid) to use a spacing of 10x10 pixels and to use grid dots. Then enable the Snap To Grid feature (View > Snap To Grid). The grid should also be visible (View > Show Grid) when you're editing curves.

The bottle outline is created by first outlining the left half and then duplicating and flipping this to create the right half. The left half is drawn using a path. A set of guides are used to precisely align the path control points. Four vertical and five horizontal guides are required for this part of the drawing. When placing multiple guides it is faster to use the tear-off menus. Tear-off menus are only available from the Menu Button in the upper-left of the image window, just below the File menu option. All menus accessed from this button have a dotted line at the top. Clicking on the dotted line tears off the menu into its own window.

Guides can be precisely positioned using the Image > Guides menu. The first vertical guide is placed in the exact



» The first handle is for the line coming into the control point from the previous control, the second handle is for the line leaving the control point.



centre of the image window. Use the New Guides (By Percent) option. Set the Direction to Vertical and the position to 50. Additional vertical guides, created with the New Guide option, should be positioned at 320, 340 and 370. Horizontal guides should be positioned at 40, 200, 280, 520 and 560. These positions (except the very first) are all pixel offsets.

Choose the Paths tool from the Toolbox. In the Tool Options dialog make sure the Edit Mode is set to Design. In the image window, click on the following guide intersections (the vertical guide is listed first) to drop path control points: 400/40, 370/40, 370/200, 320/280, 320/520, 340/560, 400/560. This gives a straight edges outline that needs to be rounded. In the Tool Options dialog set the Edit Mode to Edit. Click and drag on the control point at the guides intersecting at 370/200 to pull out the drag handles. Drag down three grid dots and left one grid dot. Repeat for the control points at the following grid intersections using the specified drag amounts:

- » 320/280 (up 4 grid dots)
- » 320/520 (down 3 grid dots)
- » 340/560 (up 1 and left 2 grid dots)

In the Paths dialog, click on the path name to rename this path 'Left Border'. In the Tool Options dialog click on Selection from Path.

The finest wine known to humanity

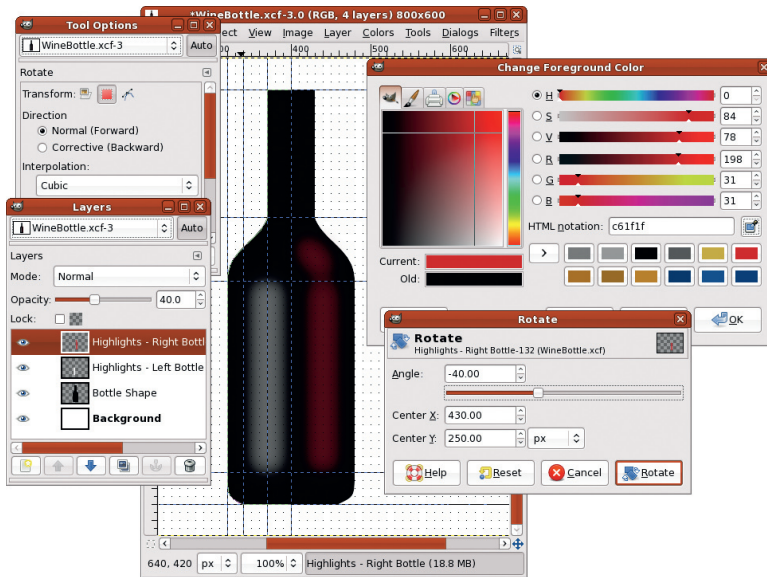
The shape is now outlined. Add a transparent layer (Layer > New) and name this layer 'Bottle Shape'. Fill the selection with black. Copy the selection (Edit > Copy) and paste it (Edit > Paste) as a new layer (Layer > New after pasting). Flip horizontally this copied layer using the Flip tool from the Toolbox. Use the Move tool and click and drag in the image window to move this layer so that the left edge of the bottle in »

» The blur is kept to 30 pixels so it doesn't spread outside the width of the bottle.

Quick tip

Grid dots are visible in white areas of the bottle. This isn't a bug, but rather helps to see the grid over the image for alignment purposes. You can change the colour of the dots, to see them in dark regions too, in the Preferences dialog.

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this layer aligns with the right-hand edge of this bottle in the Bottle Shape layer. This copied layer should be the active layer (if not, click on the top layer in the Layers dialog to make it active). Merge it with the Bottle Shape layer (Layers > Merge Down).

Add highlights

Extruding the bottle into 3D comes next. This is done simply by adding some lighting effects in the form of coloured filled and blurred selections. Create a transparent layer and name it Highlights-LeftBottle. Make sure this new layer is at the top of the layer stack in the Layers dialog. The highlights require six selections: two on the left-hand side of the body and the

neck of the bottle will act as reflected white light, and four on the right-hand side will simulate light shining through the bottle and its contents.

Choose the Rectangular Selection tool from the Toolbox. Drag a selection in the image window starting at the intersection of the guides at 340/280 and dragging to the intersection of guides at 400/520. In the Tool Options dialog change the Size to 40 x 240 and the Position to 350 x 280. Place the mouse over the image window again and hit the Enter key to accept the selection. Round the corners of the Rounded Rectangle dialog (Select > Rounded Rectangle) set to 70%. Fill the rectangle with white. Remove the selection (Select > None). Apply a Gaussian Blur (Filters > Blur > Gaussian Blur) that is 30 pixels in both the X and Y directions. Reduce the layer opacity in the Layers dialog to 40%.

There are two right-hand side selections on the body of the bottle. The first is the same width and height as the highlight on the left-hand side and the second is just above but smaller, round and rotated.

Create a transparent layer and name it Highlights-RightBottle. Make sure this layer is at the top of the layer stack. Create another selection just as you did for the left-hand side highlight, but set the Position to 420 x 280. Round the corners again. Click on the Foreground colour box in the Toolbox and set the RGB values to 198/31/31, respectively. Fill the selection and then remove it, but don't blur yet. Set the layer transparency to 40%.

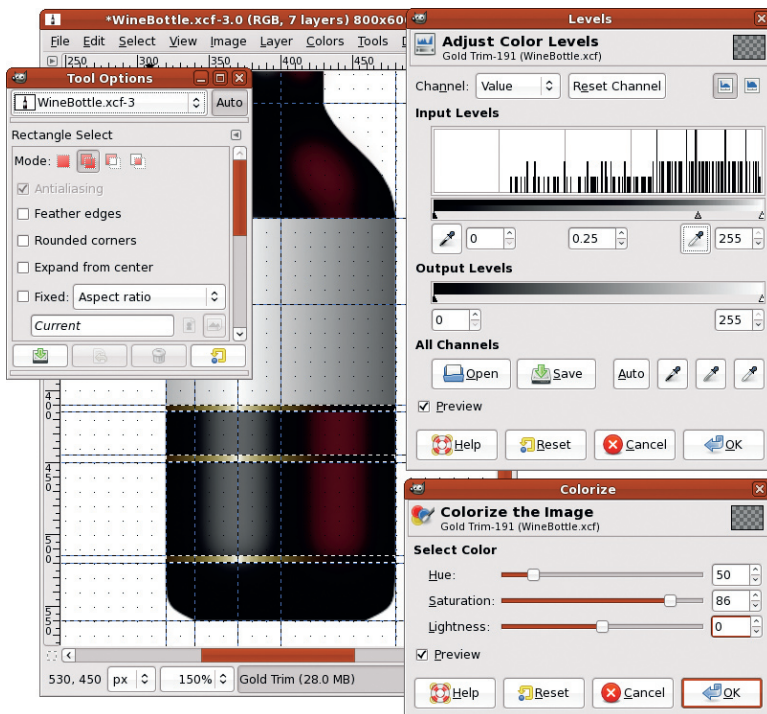
Choose the Elliptical selection tool from the Toolbox. Create an oval selection starting at the intersection of guides at 340/200 to 400/280. In the Tool Options dialog set the position to 400x210. Hit Enter in the image window to accept this selection setting. Choose the Rotate tool from the Toolbox. In the Tool Options dialog set the Transform option to Selection. Click in the image window and in the Rotate dialog that opens, set the Angle to -40 degrees, then click on the Rotate button to rotate the selection. Shrink the selection (Select > Shrink) by 10 pixels and feather it (Select > Feather) by five pixels. Fill the selection with the same colour as the previous selection then remove the selection. Finally, Gaussian blur the layer by 30 pixels.

Throat shadows

The highlights in the bottle's throat are made in a similar fashion. Start with a transparent layer named Highlights-Throat. Drag a rectangular selection from the intersection of guides at 320/40 down to 340/200. In the Tool Options dialog change the size of the selection to 20 x 120 and the position to 380x60. Round the selection, feather it by five pixels and fill it with white. Remove the selection.

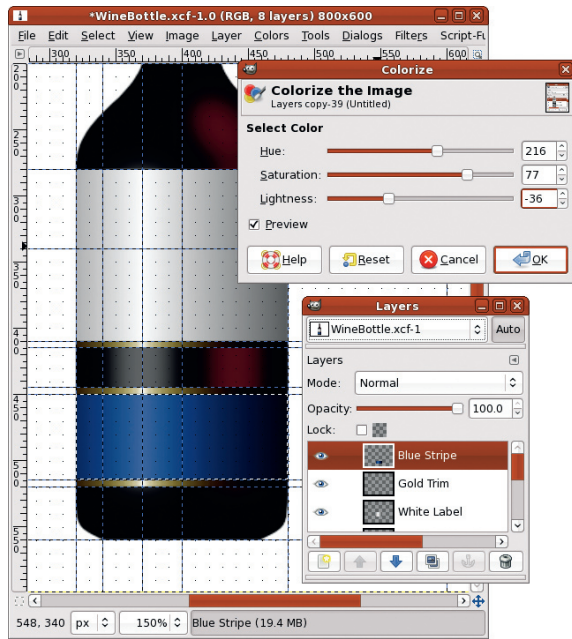
Repeat this selection on the same layer but set the position to 408x60 and its size to 15 x 90. Feather again and fill the selection with the red colour from the right-hand side selections. Remove the selection. One more round selection can be created directly below this last selection. Do this with the Elliptical tool and position it manually. Turn off View > Snap to Grid and View > Snap to Guides to accurately position it manually. Feather and fill with the red colour again. Remove the selection, then turn the Snap To options back on. Finally, blur this entire layer by 20 pixels and set the layer opacity to 40%.

What would a wine bottle be without its label? Boring, at least. This bottle's label will once again be outlined with



› You can create a more complex gradient with multiple levels of grey to give the gold trim on the label a more sophisticated appearance.

» **Never miss another issue** Subscribe the #1 source for Linux on p102.



➤ Use whatever colours you like for the label – you'll probably want to avoid lime green though!

guides but created using some new tools: gradients and the Colourise dialog.

Create a transparent layer named White Label and be certain it sits at the top of the layer stack. Add vertical guides positioned at offsets of 200, 480, and 600 pixels using the New Guides dialog. Add horizontal guides at 340 and 410. Choose the Rectangle Select tool from the Toolbox and drag a selection from the guide intersection of 320/280 to 480/410.

Reset the Foreground and Background colours in the Toolbox (click on the smaller boxes to the lower left of them). Choose the Gradient tool from the Toolbox. In the Tool Options set the Shape to Bi-Linear. Set the Gradient to 'FG to BG (RGB)' and enable the Reverse button. In the image window drag from the the guide intersection of 370/340 left to the intersection at 200/340.

Gold trim

The white label will be edged with gold trim, which is created in much the same way that the white label was created, though with some colour added. Additionally, there will be multiple pieces of trim. The trick with these will be to create multiple, disconnected selections and apply the trim fill and colouring all at once.

Create a transparent layer named Gold Trim and be certain it sits at the top of the layer stack. The part of the project needs four more horizontal guides. Using the New Guide dialog once again, add horizontal guides at 415, 445, 450, and 515. Use the Rectangle Select tool to create a selection starting at the intersection of 320/410 and dragging to the right at intersection 480/415. In the Tool Options dialog set the Mode to 'Add' (second icon from the left). Now create selections 320/445 to 480/450 and 320/515 to 480/520. This leaves three separate selections.

Use the Gradient tool with the same settings as the White Label and drag from the horizontal guide at 370 left to the guide at 200. Open the Colourise dialog (Colour > Colourise) and set the Hue to 50, the Saturation to 86 and the Lightness

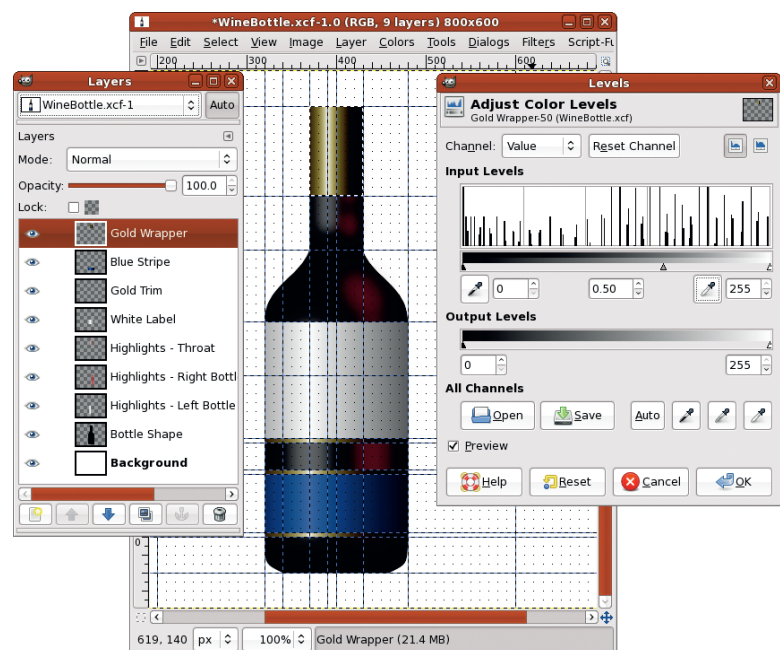
to 0 and apply these settings. Finally, apply a Levels adjustment (Colour > Levels) by setting the Input Levels midpoint value to 0.25. A thick blue stripe will add a little colour to the label. We'll make this like the white label, but a little lower on the bottle. Start with a transparent layer named Blue Stripe. Again, make sure this new layer is placed at the top of the layer stack. Create a rectangular selection starting at the intersection at 320/450 and drag down and to the right to the intersection at 480/515. Choose the Gradient tool from the Toolbox. Choose the FG to BG (RGB) gradient and make sure the reverse button is set. Make sure the Shape is set to Bi-Linear. Drag on any horizontal guide starting at the vertical guide at 370 and over to the left to the vertical guide at 200.

Finally, use the Colourise dialog to paint the label a dark blue. Set the Hue to 216, the Saturation to 77 and the Value to -36. The choice of colour here is arbitrary. Any other settings in the Colourise dialog will work just as well – It's strictly a matter of artistic preference.

Gold wrapper

The last piece to be added to the wine bottle in this first part of the tutorial is a gold wrapper along the bottle's throat. Like the white and blue labels, this wrapper is created with a simple, coloured gradient.

Create a transparent layer named Gold Wrapper and make sure it is positioned at the top of the layer stack. The wrapper needs some new guides. Add a horizontal guide at 140 and vertical guides at 390 and 430. Create a selection starting with the intersection at 370/40 and drag to 430/140. Create a gradient using the same settings as the Blue Stripe but drag left to right this time, from the vertical guide at 390 to the vertical guide at 430. Use Colourise with the Hue, Saturation and Lightness set to 50, 86 and 0, respectively. Finish this part of the tutorial by adjusting the Levels on this selection, setting the Input Levels midpoint to 0.50. **LXF**



➤ The choice of colour here is arbitrary. Any other settings in the Colourise dialog will work just as well. It's strictly a matter of artistic preference.



Quick tip
Like many artists, I get my ideas from others. This tutorial is an extrapolation to Gimp of a Photoshop tutorial found on PSDFan.com.

➤ **Next month** We'll add details to the label and create a cap.