Gimp: Going to

Want to explore strange new worlds and seek out new inspirations in your art? **Michael J Hammel** shows you how to make the jump using Gimp.
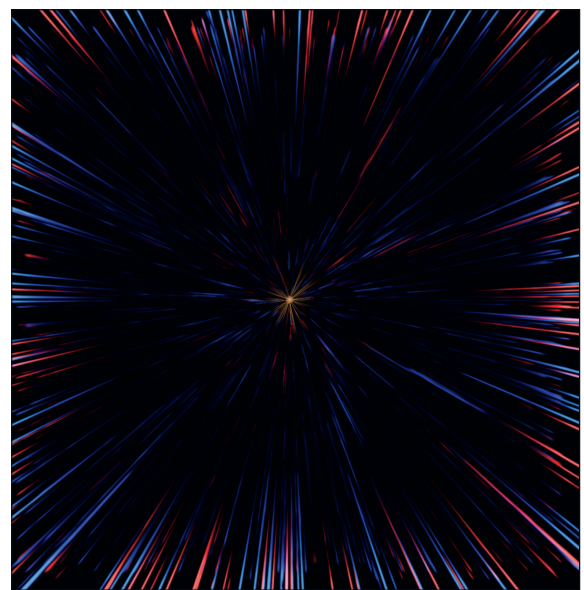
displays. Most importantly of all, this is a do-it-yourself project, so there are no stock images to track down this time. I'll also be going into a little more detail than I have in previous months in order to help you if you're new to these articles and still leaning toward the beginner level.

Prepare to engage

Open a new image window with a white background set to 1250x1250 pixels. Note that this tutorial will work better with a square image window, because of the rotations we'll be performing near the end of the process. Now the size of the image might be a bit large for your project, or it could be a bit too taxing for your computer to handle. If that's the case, just halve all the pixel counts. The end results should be essentially the same at half the size.

Choose Rectangle Select from the toolbox and draw a rectangular selection anywhere in the image window. The size and position of this initial selection don't matter, because we're about to change it manually. In the Tool Options dialog, set the Size to 1250x40 pixels and the Position to 0x605. This will create a selection 40 pixels tall that spans the width of the image window and is centred on our canvas.

Complete the selection by hitting Enter. Copy (Ctrl+C) and paste (Ctrl+V) the selection to a new layer. Name this new layer Noise. Open the Hurl filter (Filters > Noise > Hurl) and set the Random Seed to 10, the Randomisation to 1% and

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*.

After two months of you being patient while I indulged my creative side, it's time for a tutorial that is a bit more repeatable and not quite so complex. If you've spent your time this summer anywhere except hiding behind Saturn's moon, you'll know that a stellar rebirth brought a rejuvenated *Star Trek* back to the cinema. In homage to this re-envisioning, this month I'll show you how to add a warp speed effect to your projects.

What we're looking for in this project is an outcome similar to the warp speed effect in the original *Star Trek: The Motion Picture* movie from so many years ago. For those of you who haven't dusted off your trekkie memory banks in a while, let's recap: the USS Enterprise engages warp speed and pulls an asteroid in with it, turning the warp field into a wormhole. Everyone goes motion-blurry for a few minutes until they destroy the rock. Then Kirk goes all superior on his number two for making him look bad. Here, we're going to follow our shipmates into warp space and leave the wormhole stuff for the navigator to figure out.

For the cadets

Although there are a lot of steps to follow for this tutorial, none are particularly complex or require anything other than the stock features found in the latest version of *Gimp* (2.6). We'll only be creating a few layers too, which means this project won't be too taxing on slower systems or small

❯ **If a Scotsman complains that the** *Gimp* **"cannae take any more Cap'n," don't believe him.**

» **Last month** We turned up the heat and created a beautiful fire goddess.

warp speed
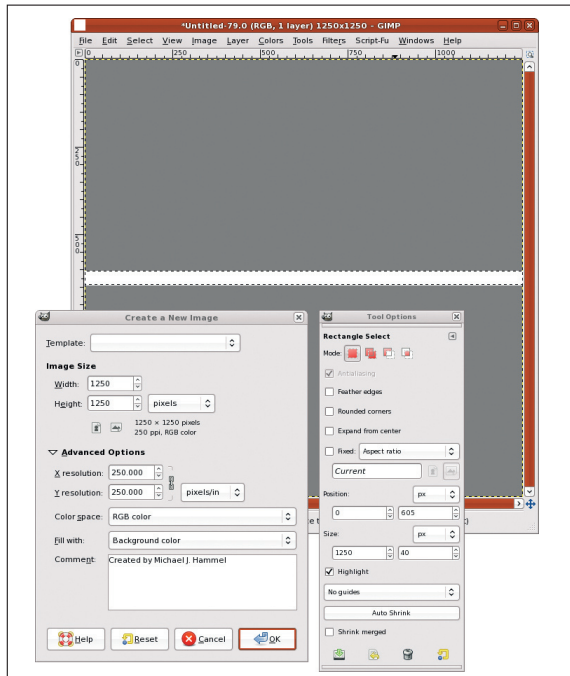
> ❯ It looks like we're not making use of all our canvas space, but don't worry – soon this will be a streaking warp field.

Repeat to 2. Click OK to apply the settings to the Noise layer. Note that the Random Seed and Repeat values can be changed as you desire and increasing the noise will produce more warp streaks. However, too much noise will clutter the final product with streaks, so don't overdo it.

You'll probably notice that the Hurl filter has essentially thrown dots of colour on the current layer within the selection. This project doesn't need the colour, though, just the dots. Desaturate (Colours > Desaturate) the Noise layer using the Luminosity setting. Luminosity brings out the dots better than the Lightness and Average settings, but feel free to choose a different Desaturation option if you prefer.

The contrast between the space and the dots can be improved further using the Levels dialog. Set both the Black Point and White Point, represented by eyedroppers between the Input Levels and Output Levels graphs, to 180. Click OK to apply this change.

When dots go streaking

At the moment the colours are inverted for the warp speed effect (the dots are black and the background is white), but this will be addressed momentarily. Before that, the Noise layer needs to be rescaled to fit the image window. Rescaling will stretch the dots from the noise into vertical streaks.

Scale the Noise layer (Layer > Scale Layer) to 1250x1250 pixels. The Scale dialog keeps the aspect ratio by default, which means changes to either Height or Width cause an

immediate update to the other field. However, as only the Height needs to be scaled here, you should click on the link icon to the right of these two fields so that the link appears to be broken. This will let you change the Height and Width of the object you're scaling independently of each other.

Since the layer we're working with was initially centralised, the scaling should keep the Noise layer directly aligned with the background. If it doesn't, use the Align tool. This tool requires you to click on each layer, one at a time, in the image window to align them. So, aligning the Noise layer with the background means clicking on the Background layer first, followed by the Noise layer and then using the Relative To option. Since this process shouldn't be necessary, I'll leave it as an exercise for the curious reader.

With the Noise layer active in the Layers dialog, merge (Layers > Merge Down) the Noise layer with the background layer. Doing this will give the merged layer the same name as the bottom of the two layers that were merged, so Background in this particular case.

Now it's time to invert the colours (Colours > Invert). Suddenly, the project begins to take shape, but the streaks need to flow from the outer edges of the image window towards the centre. The first step is to map the image into polar coordinates.

Open the Polar Coordinates filter (Filters > Distorts > Polar Coordinates). Set the Circle Depth to 0 and the Offset Angle to 0. If the former isn't set to 0, the distortion won't map to the full size of the square image window. Technically, the latter could be set to anything, but I've chosen to use 0 to make it easier to remember this process. There are three options at
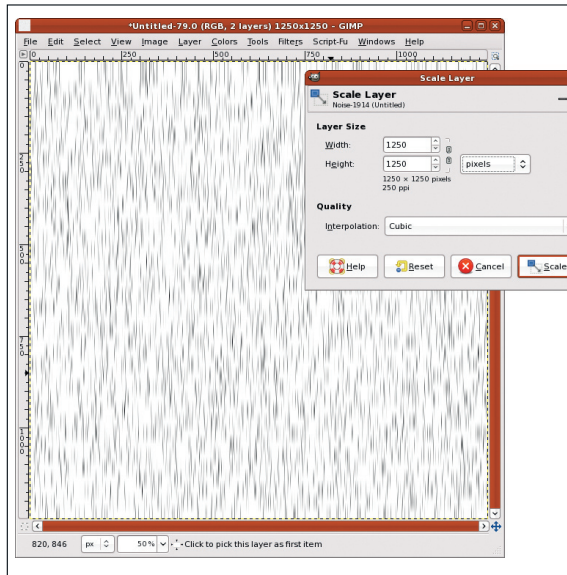
> ## "Rescaling will stretch the dots from the noise into vertical streaks."
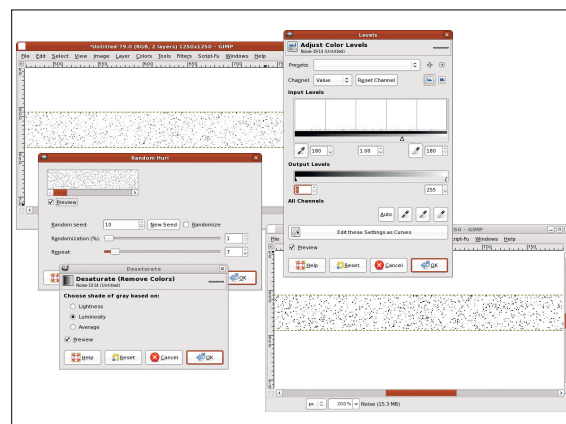
> ❯ This close up shows the Levels adjustment has darkened the noise (before is upper left and after on the lower right), which will improve the visibility of our warp streaks later.

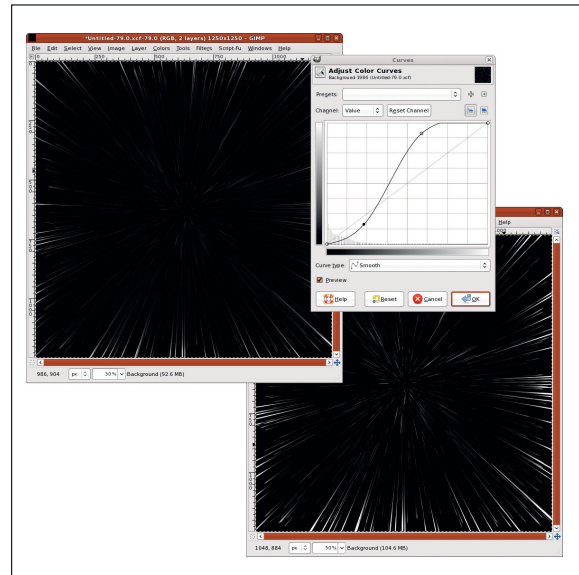❯❯ **If you missed last issue** Call 0870 837 4773 or +44 1858 438795.

› **The Scale dialog defaults to changing Height and Width proportionally, but clicking the link icon will alter that.**

› **Curves provide a useful way of enhancing the contrast of our warp streaks for a more potent effect.**

the bottom of this dialog: Map Backwards, Map From Top and To Polar. Only the To Polar option needs to be set. The other two aren't necessary for this example, but setting them shouldn't adversely affect the final results.

The streaks in the image might be too bright or too dim at this point, depending on the work you did with the Noise layer earlier. If they're too dim, duplicate the Background layer and set the duplicate layer's Layer Mode to Screen. If there are too many streaks, set the Layer Mode to Overlay instead. Once that's done, you should merge the two layers.

Stretching the field

The image should now look like a bad approximation of the warp speed effect. Fortunately, *Gimp* gives us the tools to make it better. Applying the Polar Coordinates filter stretches the streaks slightly, but they need to be lengthened even further. This is done using the Motion Blur filter, so open it up

› **Applying the Polar Coordinates filter to the inverted streaks creates the foundation of the warp speed effect.**

with Filters > Blur > Motion Blur. Be aware that the preview window may be slow to update depending on your system's resources, so you may need to be patient. Set the Blur Type to Zoom and centre the effect at X = 625 and Y = 625, making sure that the Blur Outward option isn't set. The Length parameter should be somewhere around 50 to 100 – note that larger values will stretch the streaks more, but might dim them too much. In this example, the length was set to 100.

There are several steps that can be performed at this point to improve the streaks. If the streaks are too dim, duplicate the layer and set its Layer Mode to Screen, then merge the two layers. If this causes too many new streaks to appear, these can be addressed by using the Curves or Levels dialogs. Here, I used the Curves dialog to adjust the Value curve (*as shown in the screenshot above*), brightening nearby streaks and removing dimmer streaks from view.

Colouring the field

Before we get on to the final few steps, it's time to add colour to the plain white streaks to make them more reminiscent of *Star Trek: The Motion Picture*'s effect. Before starting, ensure you have just one layer, which should be the Background layer. If there are more layers than that, merge them until only the background remains. Duplicate the Background layer. Open the Colourize dialog (Colours > Colourize) and set the Hue to 220, Saturation to 90 and Lightness to -40, then apply these settings to the layer. Name the layer Blue, because these values will colour the streaks blue. Now set the Layer Mode to Screen and rotate the layer 90 degrees clockwise (Layer > Transform > Rotate 90 Clockwise).

With the blue tint added, it's time to add some red streaks to our effect. To do this, select the Background layer in the Layers dialog again. Open the Colourize dialog as you did before, but this time set the Hue to 360, the Saturation to 60 and the Value to -40. This will tint the layer red. It's worth noting that setting the Blue layer's Mode to Screen is what allows the red streaks to show. In an image such as this – made up of black and one other colour – the Screen mode acts similarly to the Addition mode, where the pixels in the
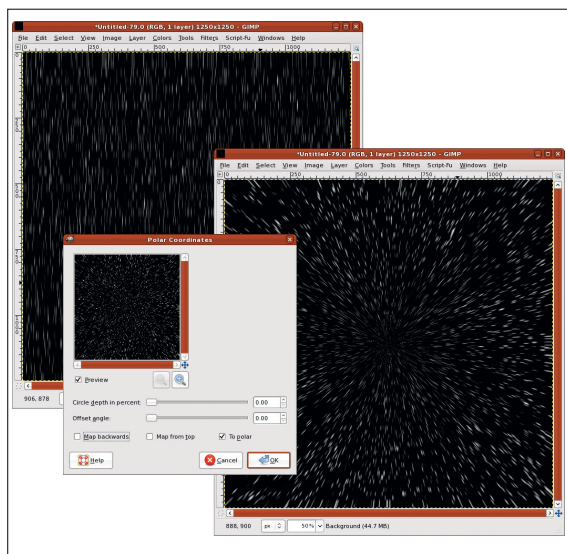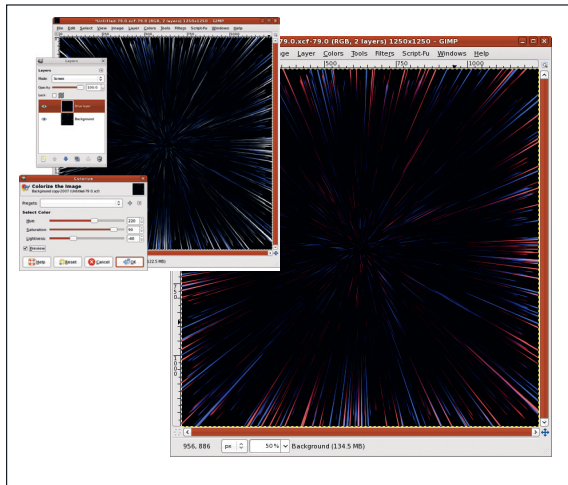
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❯ **Rotating the upper layer offsets the streaks, and setting the layer to Screen allows the red coloured streaks on the lower layer to show through.**

❯ **Editing the Gradient Flare dialog will produce the distant star in the warp.**

Screen mode layer are added to the pixels in the layer below. Black pixels in the Screen mode layer won't change the appearance of the pixels in the layer below, however.
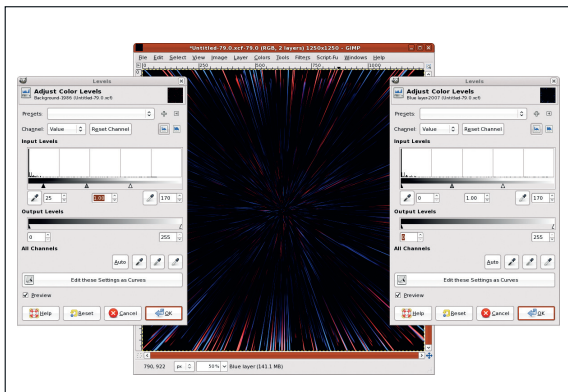
A few adjustments

We're close to our final product, but the intensity of the streaks can be improved. Select the Background layer and open the Levels dialog. Set the Black Point field to 25 and the White Point to 170. Now select the Blue layer and open the Layers dialog again. This time set the White Point to 170, leaving the Black Point at 0.
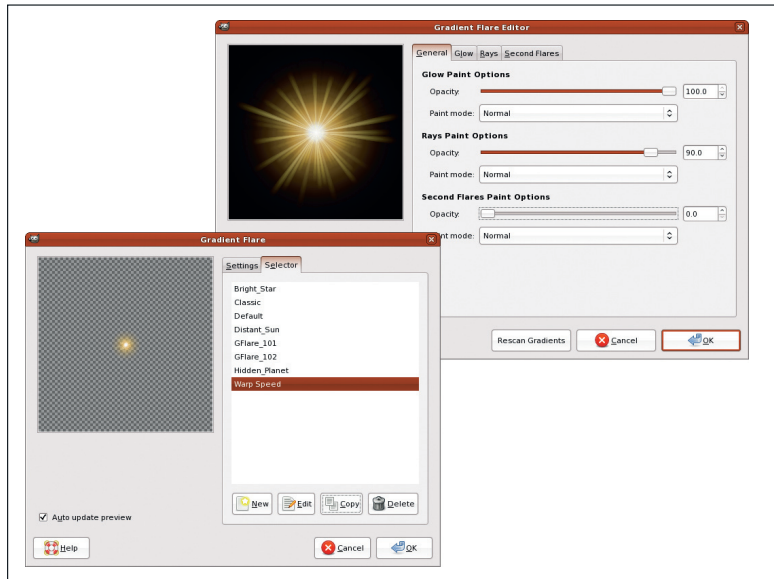
Creating a central star

The image is essentially done at this point, but there's one more thing we can do to spice things up a bit. It's time to add a central star at the focal point of the warp field.

There are many ways we could achieve this effect. For example, we could use the Paintbrush in tandem with a soft-edged brush, scaled appropriately. The Super Nova filter could be used or, to get really fancy, we could employ the Sphere

> **"Black pixels in Screen mode won't alter the look of the layer below."**

Designer filter's skills. However, the method I've chosen for this project is the Gradient Flare filter.

Start with a new transparent layer. Name this layer Gradient Flare. Now fire up the filter via Filters > Light and Shadow > Gradient Flare and click on the Distant_Sun entry in the Selector tab. At the bottom of the dialog, click on the Copy button and name the copy Warp Speed. With the new entry highlighted, click on the Edit button to open the Gradient Flare editor.

In the General tab, set the Glow Paint mode to Normal and the Opacity to 100, Rays Paint mode to Normal and Opacity to 90, and the Second Flares to Normal with the Opacity set to 0. This gradient flare won't use the Second Flares. Now select the Glow tab, set the Radial Gradient to %white_grd, the Angular Gradient to %white and Angular Size Gradient to %white. Under the parameters set the Size to 10%, the Rotation can be left at 0 and the Hue Rotation left at 55.0.

In the Rays tab set Radial Gradient to %white_grd, Angular Gradient to %Flare Glow Angular 1 and the Angular Size Gradient to %random. Under the Parameters you need to set the Size Percent to 104, Rotation to 140, Hue Rotation to -12, Number Of Spikes to 63 and Spike Thickness to 90.

Finally, click OK to accept the changes to the Warp Speed flare, and then click OK again in the Gradient Flare dialog to apply the flare to the transparent layer we created earlier. The flare can be coloured using the Colourize dialog. Here, I tinted the flare with yellow.

Finishing touches

The last step in our process is optional – so try it out and see if you think it improves your work. When I reached the end of this tutorial, I found that there was quite a bit of pixellation in the streaks when I viewed the image at full size (I typically work on these projects while zoomed out a bit). To compensate, I applied a Gaussian Blur of three pixels to each layer. This lightens the image slightly, so further adjustments using the Levels or Curves dialog may be required. **LXF**

❯ **After some adjustments you should see brighter streaks near the edges, tending toward blue, that fade away.**

> ### Quick tip
>
> A distant star field behind the warp field is another optional step. Create a noise layer, desaturate it and place it on the top of the layer stack. To hide the stars behind the streaks, add a layer mask and copy all the streak layers to it.

» **Next month** Scan everyday objects as an alternative to stock image sites.