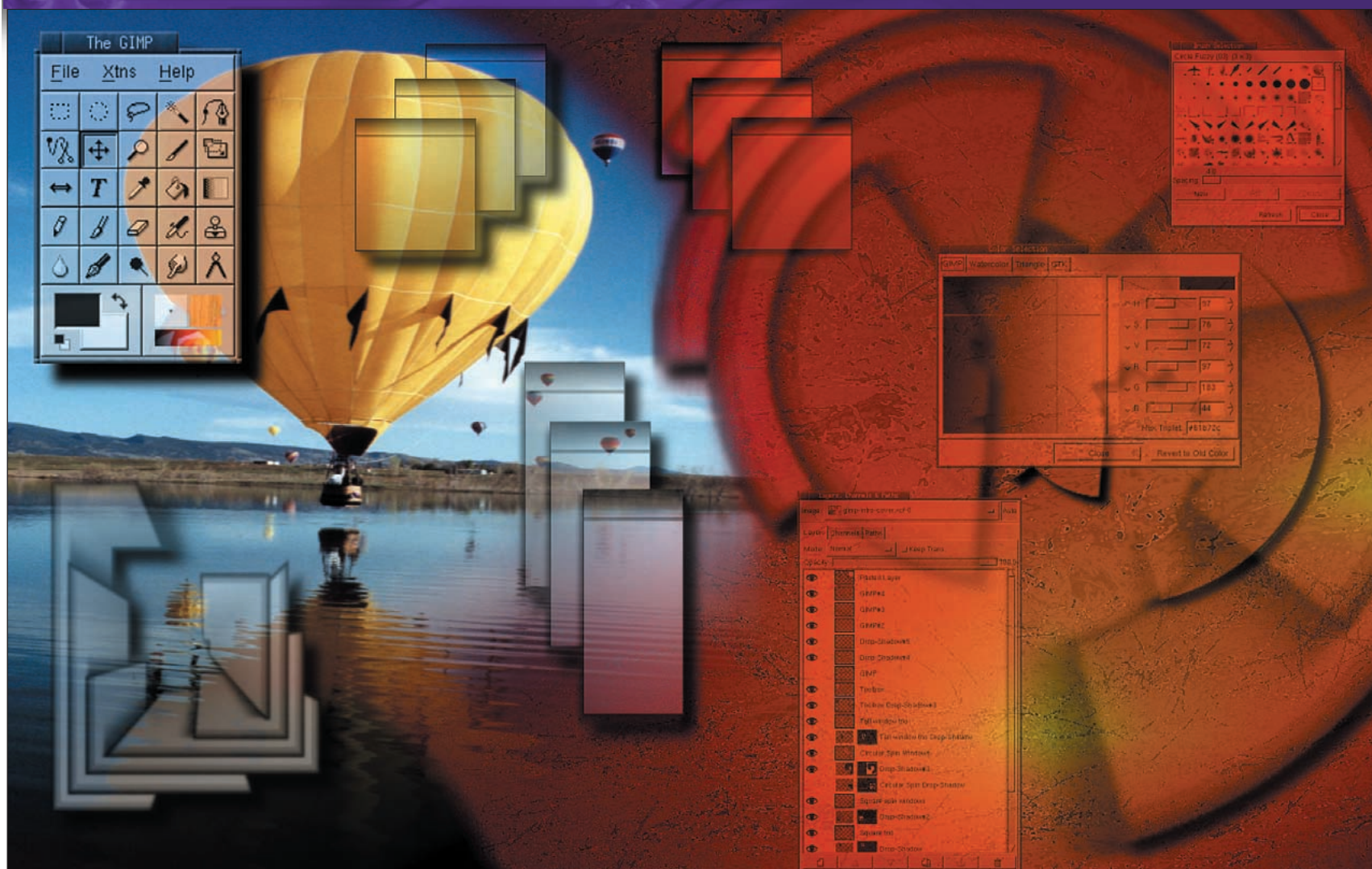


TutorialGIMP



ART AND IMAGE EDITING

The GIMP User Environment

PART 1 *The GIMP* is the grandfather of the Linux/GNOME desktop environment. **Michael J Hammel's** quick tour will get you started using this popular image editor.

The GNU Image Manipulation Program, better known as *The GIMP*, is the premier interactive image processing application for the Linux operating system. Its user interface is based loosely on the popular *Adobe Photoshop* image editing package. But while *Photoshop* provides a long, dual-column Toolbox with multiple pop-up menus, a cluttered menu bar, and an enclosed workspace, *The GIMP* provides a simplified Toolbox and menu bar, a free floating workspace, and sophisticated Canvas windows with tear-off menus.

The GIMP provides many of the same features as *Photoshop*, from layers and paths to blend modes and text manipulation. It also provides features not found in *Photoshop*, including support

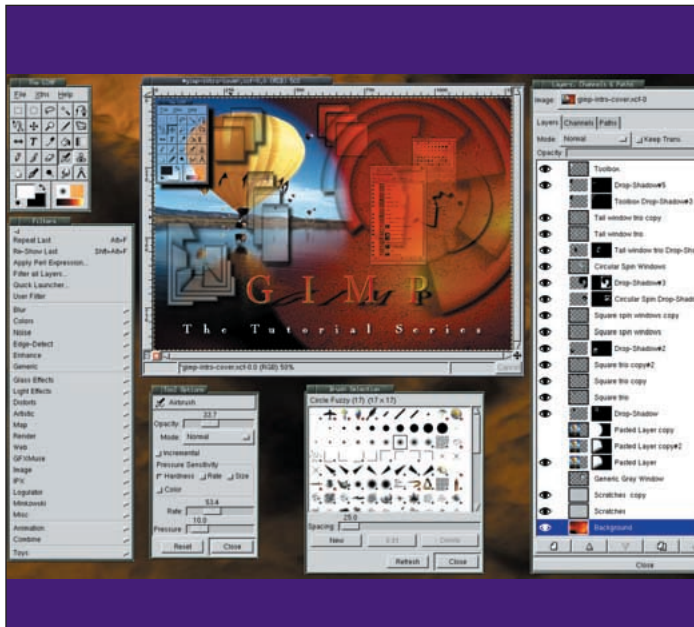
for multiple scripting languages which makes *GIMP* perfect for web based animation production.

GIMP's flexibility and easy to understand interface, coupled with its sophisticated plug-in API, scripting languages and open source license has made it an integral part of the motion picture special effects industry.

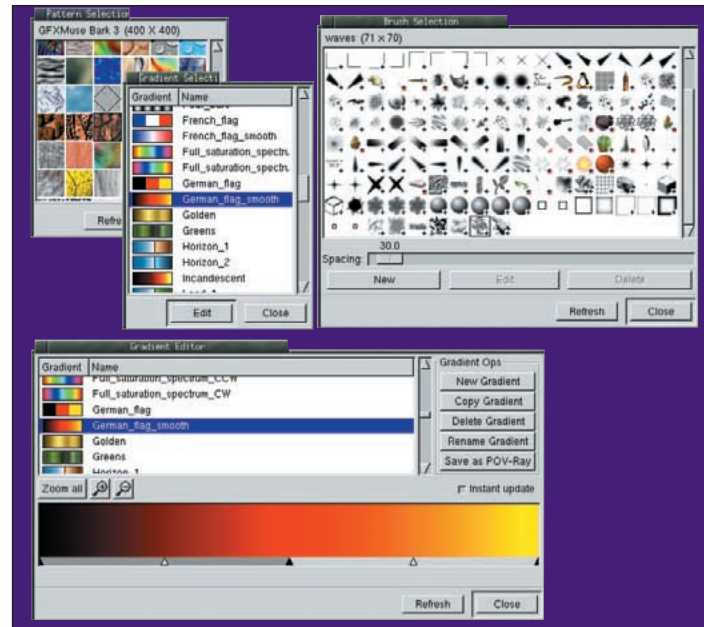
The GIMP interface

The main window for the *GIMP* is called the Toolbox. The tools should be familiar to *Photoshop* users, though the layout of the window is slightly different. First, individual tool buttons are not pop-up menus on their own. Double-clicking a tool button in the *GIMP* opens a Tool Options dialog which allows you to change the behaviour of the tool. This helps reduce the complexity of the tools by allowing them greater flexibility for a single tool instead of providing multiple tools that do similar things.

Next, the concept of Full Screen is irrelevant with the *GIMP* –



The working environment of *The GIMP*. Starting at the upper left: the Toolbox, a Canvas window, the Layers and Channels dialog, the brushes dialog, the Tool Options dialog and a tear off Filters menu. A typical *GIMP* session often has multiple Canvas windows opened, along with the Layers dialog. The brushes, patterns and gradient dialogs can be left open, or closed and quickly recalled using respective active buttons in the Toolbox.



The brushes dialog offers access to standard grayscale brush shapes, coloured brushes and Brush Pipes. Brush pipes offer artists brushes with multiple shapes, any of which can be imprinted on the Canvas window depending on direction, speed and even pressure applied by the paint tool. Predefined patterns can be easily saved using the '.pat' file format. Gradients can be created and edited using the Gradient Editor.

The GIMP

File Xtns Help

Rectangular, Elliptical, Freehand, Fuzzy, Bezier, Intelligent Scissors, Move, Zoom, Crop, Transforms, Flip, Text Tool, Color Picker, Bucket Fill, Eraser, Blur / Sharpen, Gradient Tool, Pencil, Paintbrush, Airbrush, Ink Tool, Clone Tool, Dodge & Burn, Smudge, Measure

Foreground Color, Background Color, Swap FG and BG, Reset to defaults

GIMP Toolbox: Its File and Xtns menus are unique but the tool button should be familiar to Photoshop users.

File: New Canvas windows are opened here, as features for managing dialog windows, documents and image acquisition from external sources such as scanners.

Xtns: Provides plug-in and script developer tools such as the PDB Browser and Perl Control Center along with a set of scripts (both Perl and Script-FU based) for generating images such as logos and web galleries in new Canvas windows.

Help: Loads help content using either an internal browser or an externally configured Netscape browser.

Active Brush: [Icon]

Active Pattern: [Icon]

Active Gradient: [Icon]

URLs

Online *GIMP* resources

GIMP:
<http://www.gimp.org>
GIMP Registry:
<http://registry.gimp.org/index.jsp>
Graphics Muse Tools CD:
<http://www.graphics-muse.com/gfxmuse/gfxmuse.html>
Tutorials and other useful links:
<http://www.graphics-muse.com/cgi/gmcat.pl?id=11>

since the workspace is open (not constrained by the application) it is possible to move and resize windows at will. Iconifying the *GIMP* will only affect the Toolbox itself, not the other windows. However, a quick way to hide all the windows is to press the Tab inside a Canvas window. This will cause *GIMP* windows to be hidden. Because of the unconstrained nature of the *GIMP*'s interface, there are no icons on show in the Toolbox for setting the application display size like the ones that inhabit the bottom of the Photoshop window.

Finally, menu options in the *GIMP* that create new images or modify existing ones can apply either to the active Canvas window or to a new Canvas window. The concept of an active Canvas window is sometimes hard to grasp for new users of *GIMP*. One of the most common questions is "Where are the Filters?" Each Canvas window has its own menu, accessible from the menu button in the upper left corner of the window or by holding down the right mouse button inside the window.



TutorialGIMP



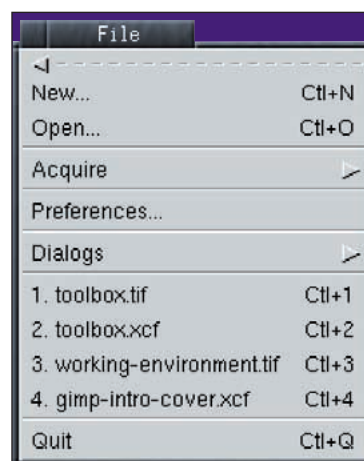
This is the catch-all menu for plug-ins that don't quite fit anywhere else. Many of these tools are script based, either Perl or Script-Fu. The most useful of these are not included in the stock *GIMP* distribution, such as the Web gallery tools and the animation and video tools. But most can be downloaded from the *GIMP* Registry.

The File and Xtns menus

GIMP's Toolbox provides three menu choices – File, Xtns and Help. While the purpose of Help is fairly obvious – links that launch web browsers to online documentation and other useful sites – the purpose of Xtns may not be. In fact, it's commonly asked how these menus relate to the Canvas menu.

If you're used to *Photoshop*, one of the first hurdles to migrating to the *GIMP* will be understanding the active Canvas concept. Menu options for any menu are either associated with the current active Canvas window or are independent of any Canvas window. This means that menu options that render new images will either do so in the currently active Canvas window or in a new Canvas window.

The Xtns menu provides options that are not dependent on any open Canvas window. The menu is divided into two parts. The top portion provides options that are more plug-in and script developer oriented. These include the DB Browser and PDB Explorer for searching for plug-in API information and the Parasite



The File menu is where you'll open existing documents or create new Canvas windows. You can also configure *GIMP* directories and various behaviours using the Preferences dialog. If you have scanner plug-ins such as XSANE or QuiteInsane they would appear under the Acquire submenu here.

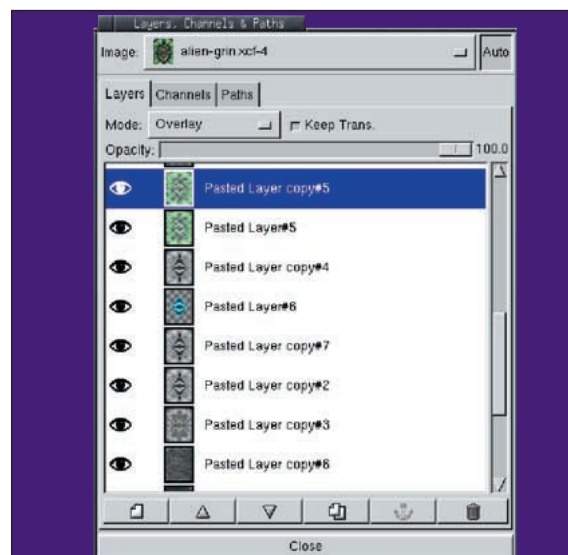
editor for adding annotations and other useful text information to images. The lower half of the menu includes tools for rendering logos and buttons as well as managing the Perl server.

Few of these options are ever used by the average desktop *GIMP* user, though power users will find the DB Browser useful. Additionally, many of the options shown are not part of the stock *GIMP* distribution. They are added by additional plug-ins which can be downloaded from the *GIMP* Registry, various web sites around the world, or acquired from the Graphics Muse Tools CD, a commercial package of over 100 prebuilt plug-ins.

Scanner support

Where to get your drivers

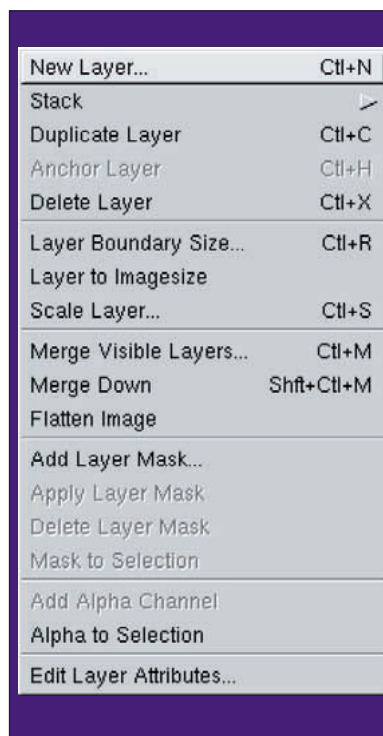
SANE
<http://www.mostang.com/sane/>
 XSANE
<http://www.xsane.org/>
 Vuescan
www.hamrick.com
 Image Scan!
http://www.epkowa.co.jp/english/index_e.html
 QuiteInsane
<http://quiteinsane.sourceforge.net/index.shtml>
 Epson KOWA
http://www.epkowa.co.jp/english/linux_e/lcd_e.html
 Linux USB Project
<http://www.linux-usb.org/>



Managing Layers requires the use of the Layers menu. This menu can be accessed by right-clicking on any layer. Layer management includes four basic functions: creating and deleting, changing the stacking order (including merging layers), managing the alpha channel, and managing the layer mask. A simplified Layers menu is offered in the Canvas menu that will also allow to align layers edges and centers.

Layers Menu

One of the most difficult concepts new users have to conquer is the use of layers. A layer is like a transparent acetate sheet that you paint on. Each sheet is combined in different ways – called 'blend modes' – in order to generate the composited image. Layers have many features and can be moved, resized, and raised and lowered in the stack of layers. The Layers Dialog is used to manage layers and most users will find they have this window opened nearly all the time.



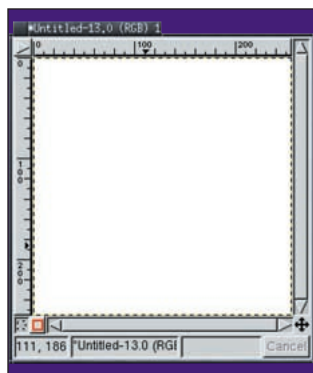
You'll find you use the Layers and Channels dialog often, mostly on the Layers tab. The Channels tab is used by more advanced users to work in a single colour channel to create selections or to save a selection as a new channel. The Paths tab is used to create line drawings that you can later convert into selections or outline using the Edit>Stroke option of the Canvas Menu.

A feature used extensively in large portrait designs is the layer mask. A layer mask blocks out sections of a layer. Light areas of the mask allow the corresponding part of the layer image to show through while dark areas of mask block out corresponding sections. Masks allow you to combine layers in without modifying their contents. This permits a single image, duplicated a number of times to create multiple layers, to be used with different blend modes using different parts of the image without change the original image.

The Canvas Window

The Canvas window is where all your image editing takes place. When you open an existing image, it is displayed as a single layer in a Canvas window. You can edit the first layer – which is called the Background layer by default, or create new layers and edit those.

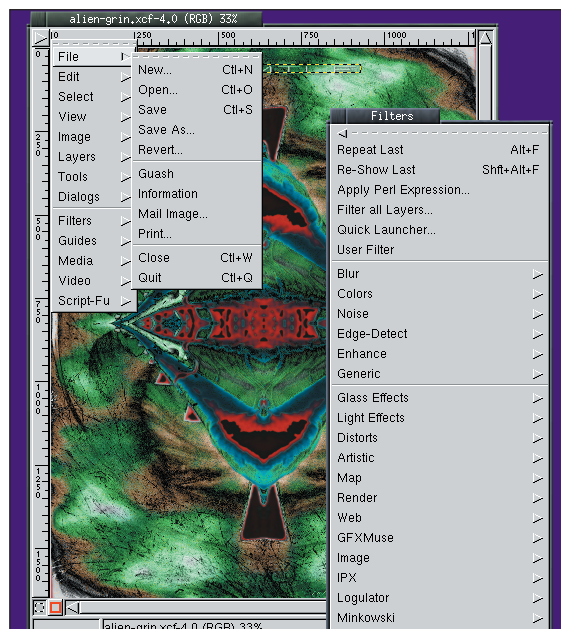
A canvas consists of rulers along the left and top sides of the drawing area, modifiable guide lines that can be pulled from the rulers (hold down the left mouse button and drag from one of the rulers), scrollbars on the right and bottom of the drawing area, a status bar along the bottom of the window, Quick Mask buttons on the lower left and an Image Navigator button on the lower right. The Image Navigator looks like the Move tool icon and allows you to scan around your image if it happens to be larger than the Canvas window currently displays.



Every canvas has its own Canvas menu. To open this menu, hold down the right mouse button in the image area. The menu offers you a variety of options, from saving the file, to modifying existing selections, to applying filters. This is a tear off menu, which means if you click on the dotted line at

A Canvas window displays the composite image, but it does so based on the settings for the individual layers that comprise the complete image. The Canvas menu is opened by clicking the left mouse button on the arrow button in the upper left corner of the Canvas window or by holding down the right mouse button anywhere inside the Canvas window. When moving an existing Guide Line, be sure to have the Move tool active in the Toolbox. You can instantly resize the Canvas window to fit your image by pressing **Ctrl-E** inside the drawing area of the window.

the top of the menu it will become a window of its own that stays open until you click on the dotted line again. All submenus of the Canvas menu are also tear off menus, which means, for example, you could tear off the **Filters>Blur** submenu to have quick access to the multiple blur filters without having to traverse multiple higher level menus.



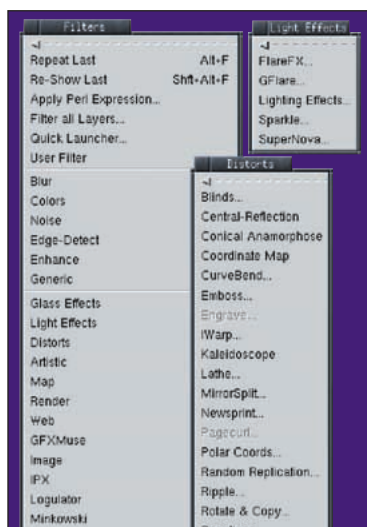
This menu is used more often than the menus in the Toolbox, so tearing it off to make it a window on its own is probably a good idea. The Script-Fu submenu has an option called "Shadow", which includes an easy to use drop shadow filter. The options shown in the Filters menu here do not all come with the basic **GIMP** installation. Many require you to download, compile and install them manually, or you can purchase prebuilt versions on CD.

Treeware Books on *The GIMP*

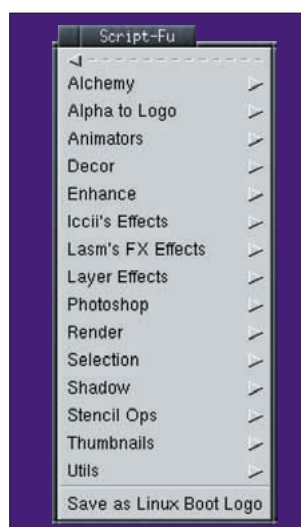
Grokking *The GIMP*, Carey Bunks, New Riders ISBN: 0-7357-0924-6

GUM – *GIMP* User Manual, Kylander and Kylander, Coriolis; ISBN: 1-5761-0520-2 (also online at GIMP.org)

***GIMP* for Web Professionals**, Hammel, Prentice Hall ISBN: 0-1301-9114-0



There are many filters freely available for **GIMP**, though not all come with the basic distro. The menus make sense for the most part – eg the **Blur** submenu provides filters that blur, the **Distorts** submenu provides filters that twist, flip and otherwise mangle an image and the **Light Effects** render lens flares and white light effects on an image.



Script-Fu is one of a number of scripting languages supported by **The GIMP**. This menu provides a filters which have been written in this language. In essence there isn't any reason to differentiate these filters from filters written in Perl or in any other language. For the short term, just remember this is where you'll find your drop shadow filters!

What's Missing

While **The GIMP** offers many of the same features **Photoshop** users have grown to appreciate, there are still a few missing from this Open Source alternative. The most important of these is proper colour management. The **GIMP** does not currently support true CMYK colour management. In fact, it only works in Grayscale,

Indexed and RGB colour spaces. Additionally, colour channels in **The GIMP** are limited to 8 bits. These two issues combine to make **GIMP** less than optimal for print work. Still, if absolute colour matching is not an issue, **GIMP** can – and does – provide many of the tools necessary for exceptional artwork bound for the Web, in print or in the video industry. **LXF**

NEXT MONTH

In the coming months we'll be offering a series of tutorials showing how this tool can be used for both the mundane and the sophisticated. In this first tutorial, we'll take a quick run through the windows and dialogs provided to help learn your way around. From here on, we'll assume a basic knowledge of menus and use of the Toolbox and Canvas windows. If you need more detailed information you can check out the online **GIMP** reference guide – the **GUM** (**GIMP** Users Manual).