DESKTOP ENVIRONMENT

Beginners' Guide to Linux – GNOME

PART 4 Linux is all about choice, so it's not surprising that there is more than one desktop environment available. Let's take a look at GNOME, a project formed due to fears about the openness of KDE's original license.

An ancient Chinese proverb says that it's better to light a candle than curse the darkness. So if KDE isn't to your liking, don't let it get you down; give GNOME a spin. Like KDE, GNOME provides a complete desktop environment that can be tailored to your requirements; unlike KDE, it has followed a defined set of Human Interface Guidelines almost from the beginning, so many users find the experience of using the environment more intuitive and refined. The GNOME project is also less determined to cater for every user's needs and so, for instance, it doesn't have a fully integrated office suite or portfolio of communication applications – those functions are covered by *OpenOffice.org*, *Evolution* and *Galeon*.

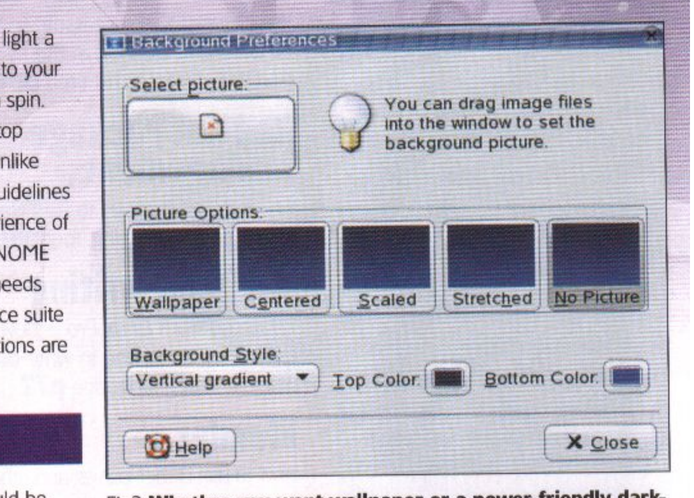


Fig2 **Whether you want wallpaper or a power-friendly dark-coloured desktop, GNOME is easily configurable.**

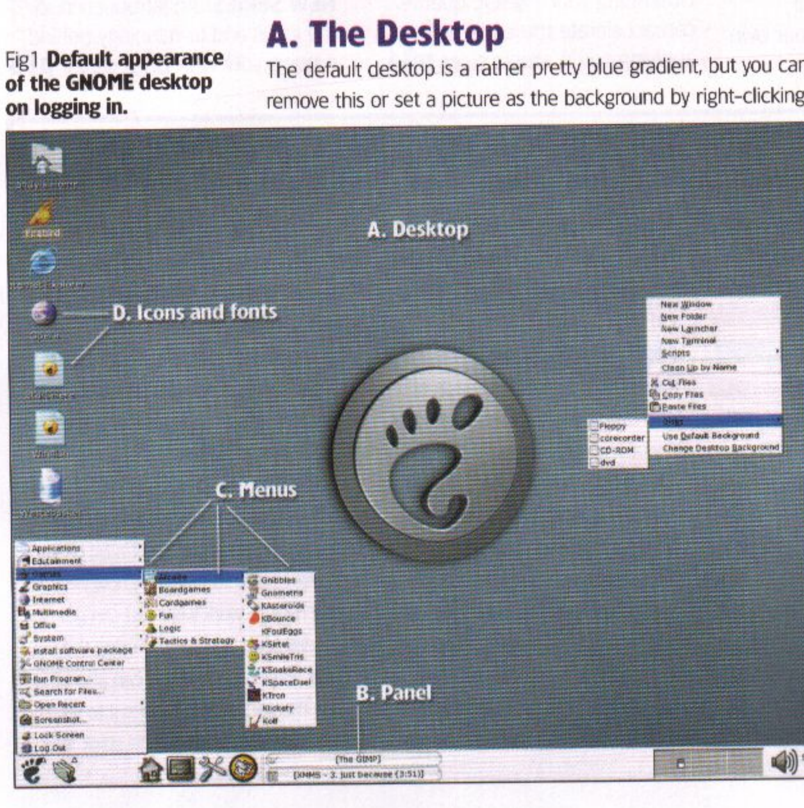
FIRST STEPS

Once you've logged in to your GNOME system, you should be presented with a screen similar to **Fig1** below. You'll notice it follows the same conventions as most other OS shells such as Windows and KDE, with a taskbar ranged along the bottom of the screen and icons on the desktop.

A. The Desktop

The default desktop is a rather pretty blue gradient, but you can remove this or set a picture as the background by right-clicking anywhere on the desktop and selecting 'Change Desktop Background'. You can also get to this dialog via the GNOME Control Panel as can be seen in **Fig2**. By default changes made here will be reflected across all of your virtual desktops.

Fig1 **Default appearance of the GNOME desktop on logging in.**



The simplest option (and one that is especially useful for notebook PCs with limited battery life) is to have a single colour background. You can select this by clicking on the Background Style button and selecting 'Solid color'. You can then select the hue that suits you best. If you are using a notebook, choosing darker colours (as well as being easier on the eye) will improve battery life. You can, of course, keep the vertical gradient (selecting start and end colours as appropriate) or choose to have a horizontal one.

The more popular option is to put some Wallpaper (family photos, art *etc*) on the desktop. This not only personalises the computer for you, but can also provide some visual distraction for tired eyes if you spend long hours at the computer. To set a background image you can either hit the 'Select Image' button and navigate to the required picture, or drag and drop the image from the file manager (*Nautilus*) or desktop into the 'Select Image' space.

This latter method is a great way of demonstrating GNOME's dynamic update features; as you drop the image in, the background is changed immediately. There are no 'Apply' buttons to click, and no wait to see the effect of your alterations, and this is reflected in all of GNOME's configuration options. There are a number of options for images: they can be either Wallpaper (tiled), Centred, Scaled or Stretched.

B. The Panel

Along the foot of the screen is GNOME's panel on which, here at least, you can see the launcher (like the Windows start button), icons for launching individual applications, virtual desktops, tasks and the clock. The options available for customisation (without recourse to third-party scripts or applets) are not as extensive as those for KDE, but for some that may be a bonus; there's still plenty you can do though.

General options for the panel are access by right-clicking on any unused space. The first entry in the context sensitive menu allows you to add a number of applets to the panel, and these can range from the genuinely useful such as the mail notifiers, XMMS controls and keyboard layout switch, to the genuinely daft eyes and fish applets shown in **Fig4**. The second entry allows you to delete the entire panel. Use with care!

Next is the Properties dialog which is where you define the look and feel of your panel. The first tab covers position (top, bottom *etc.*) and size, and also allows you to add 'hide' buttons to the panel so you can slide it out of the way if screen real estate is getting tight. 'Autohide' makes the panel disappear when the mouse is not hovering over it – to bring it back, push the mouse pointer to the very edge of the screen. Autohide is a bit annoying on your main panel if you use lots of applications or virtual desktops, but comes into its own if, for instance, you add a top or side panel (see **Fig5** below) with your favourite applications and applets on it.

The next entry on the list is the New Panel menu, which – as expected – allows you to add various panels to the desktop. As well as the traditional edge panel, which can go along any edge of the screen, GNOME also introduces four others.

Corner Panels are anchored to one corner of the screen and expand and contract as needed.

Floating Panels can be positioned anywhere on the screen and, again, expand or contract to fit the contents. These are useful for creating a Mac OS X-style docker.

Finally there is the Menu Panel, of which there can be only one and it sits at the top of the screen. The Menu Panel's main task is replicating the applications and actions (shutting down, locking screen etc.) elements in the main GNOME menu, but you can also add any other panel content to it such as application or document short cuts or applets such as an embedded command line. This is done, as usual, by right-clicking on the panel and selecting 'Add to panel'.

If you don't manage to get everything you need onto a main panel (or you like to have an uncluttered desktop, GNOME also has a sub-panel system, called Drawers, which can hide away options within the main menu. To add a drawer, right click on any free space and select 'Add to panel > Drawer'. You can then add any panel content to the drawer. Left-clicking on the drawer opens it, giving access to your options. Drawers are excellent for grouping applications such as *OpenOffice.org* together in one easily accessible menu. As with the other panel, right-clicking on a drawer will allow you to change various attributes such as the size of the drawer panel, icon and background.

Fig4 **Not all panel options are that serious...**

Fig3 **Tailoring images to appear in an attractive fashion on your desktop is quite intuitive.**

C. Menus

GNOME's menu panel works in a similar fashion to that in KDE: you select items from the main menu or submenus by left-clicking on relevant icons. Most of the entries here are self-explanatory and a little experimentation will go a long way in your understanding of how things work. Clicking on Lock Screen will either make the screen go blank or fire up the screensaver, so that no one else can get access to your workstation or, more importantly, jump onto the PC when you go to make a cup of tea. To get access to the main desktop again, you will have to type in your user password.

Tip

You can get to the control centre from any *Nautilus* (file manager) window by typing preferences:/// in the URL/address bar.

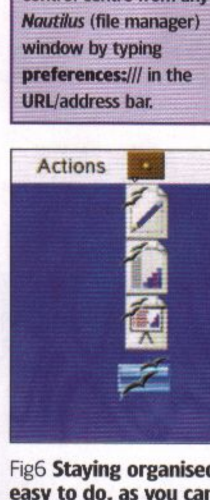


Fig6 **Staying organised is easy to do, as you can group apps together in user-definable drawers.**

D. Icons and fonts

Double-clicking on desktop Icons provide access to folders, applications or devices. GNOME ships with quite a large number of icon styles, and these can be changed in the *Control Center*, which is usually in the main menu under 'Settings'. Double-click the 'Themes' icon and select 'Details' and the Icons tab. You can either select from the pre-installed icon sets (and see the display updated dynamically) or install extra sets by either browsing to their location and hitting 'Install' or dragging and dropping icon archives straight onto the list.

The other important element on the desktop is fonts. Pictures may speak a thousand words, but icons can be pretty obscure on their own if there aren't any labels with your files so you can actually identify the contents! Font configuration is again through the GNOME *Control Center*.

In the font dialog you can configure the face and size of text on the desktop, in application menus, window titles and in the terminal. Almost as importantly as the physical characteristics of a typeface, the way it is rendered on screen affects its readability. GNOME offers four basic choices with a number of options for tweaking the effect. Users of desktop systems (with CRT monitors) will get the best results with the 'Best shape' selection, »

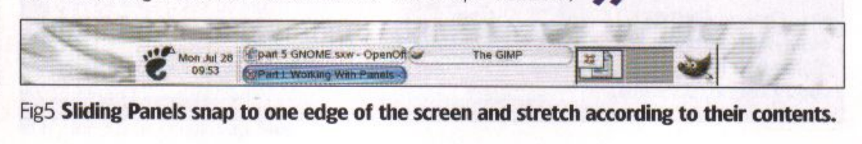


Fig5 **Sliding Panels snap to one edge of the screen and stretch according to their contents.**

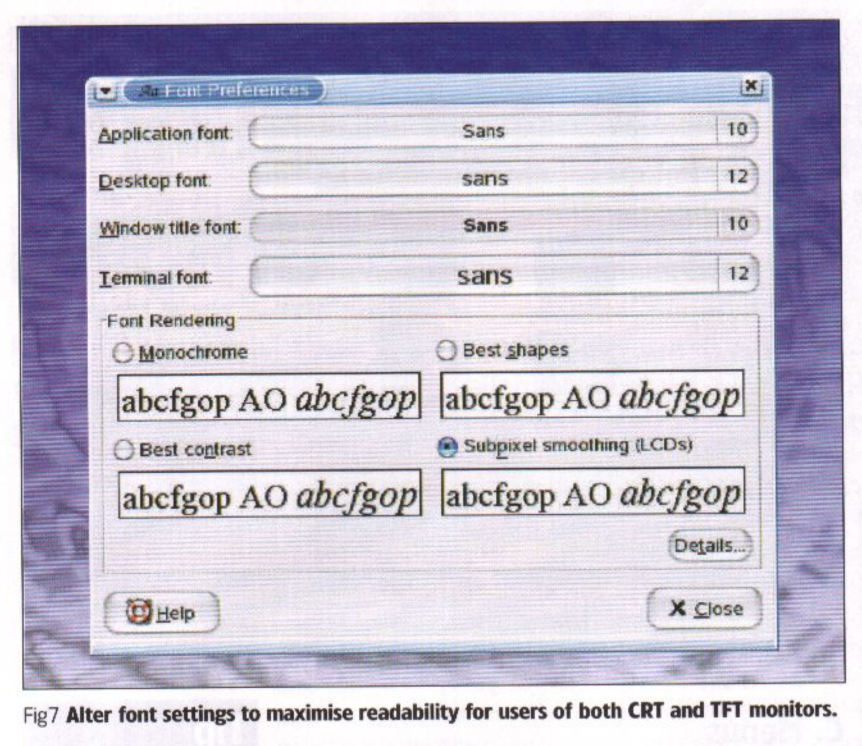


Fig7 **Alter font settings to maximise readability for users of both CRT and TFT monitors.**

« while laptop and TFT screen users will get a better view with the 'Subpixel smoothing' option. Further refinement can be made by hitting the 'Details' button, but for most users the basics will suffice.

GNOME improvement

GNOME has a reputation for good looks, a reputation the developers are keen to build on with, amongst other innovations, support for alpha-blended desktop elements and SVG icons (which can be scaled to any size without loss of quality or increased file size). Fortunately these prettifying efforts are not undertaken at the expense of usability.

Almost all of GNOME's changeable elements can be accessed via the *Control Center*, and the most visible aspects of the environment can be changed in the Theme dialog. The three elements of a theme are Controls, which define how widgets such as radio buttons and scroll bars look, window borders and icons. Themes are stored in .tar.gz format and can be either installed via the browse menu or by dragging and dropping from *Nautilus*. Once you've tweaked and teased the desktop to your liking, you can hit the 'Save theme' button and give your theme a name. This approach positively encourages experimentation, so you can download extra icons, borders etc. and, in the tradition of Linux development, mix and match to your heart's content.

One other, often overlooked, part of the GNOME *Control Center* is the Window Preferences dialog. Here you can set windows to become active as the mouse passes over them (*ie* they become focussed without having to click on them) and have them to spring to the front after a defined time, should this suit your style of working. You'll also find in here an antidote to twin problems of window title bars falling off the top of the screen, so you can't reposition them, and the 'Windows' key on most keyboards being useless.

Tip!

Single-click or double-click?

If you're used to KDE's single click access to documents and applications (or your fingers just aren't as fast as they used to be), you may have looked in vain at GNOME's mouse menu for an option to change the default double-click. Well, as desktop behaviour is part of *Nautilus*, you need to open the file manager and select 'Edit > Preferences' and find the mouse behaviour options under, you've guessed it, the 'Behaviour' tab. You can set single-click access in here, or change the speed at which double-clicks are noticed, and also change the mouse for left-handed operation.

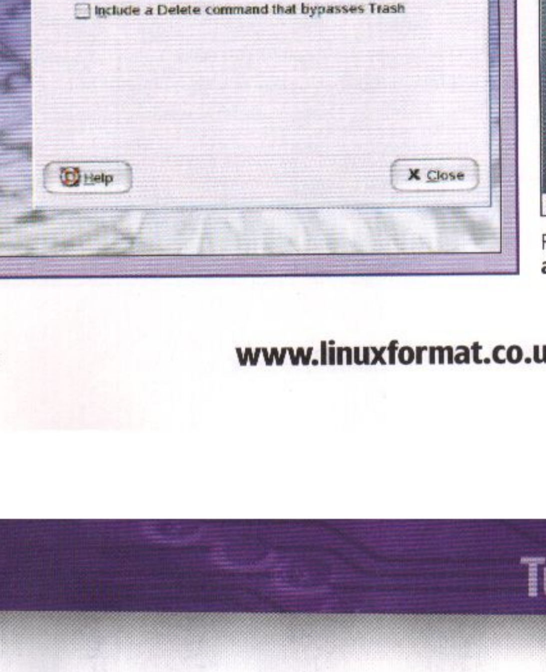


Fig8 **Change GNOME's behaviour with this dialog box for a more comfy user experience.**

Storage solution

Where KDE has *Konqueror*, GNOME has *Nautilus*; a file manager with a fine pedigree in both design and functionality. *Nautilus* follows the now standard two-paned model with the larger space on the right giving access to files and folders and, on occasion, displaying web pages or file previews. The thin pane on the left, which can be removed or reinstated by hitting F9, can display information about the currently selected folder/file, file system tree, browsing history, drag and drop emblems or a short note. This last can be very useful if, for instance, you are pulling together a CD of images (all helpfully called things like dcsf2024.jpg) for printing, as is shown in **Fig10**. Just make a note of the file name and the content and move on to the next folder. The great thing is that your notes are pervasive and will stay attached to that folder until you delete them. You can swiftly access these notes without navigating to every folder by right-clicking a folder and selecting 'Properties'. Look under the 'Notes' tab to view or edit your scribblings.

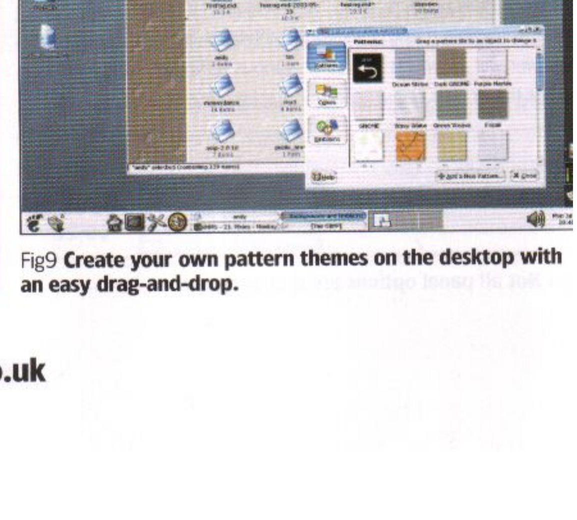


Fig9 **Create your own pattern themes on the desktop with an easy drag-and-drop.**

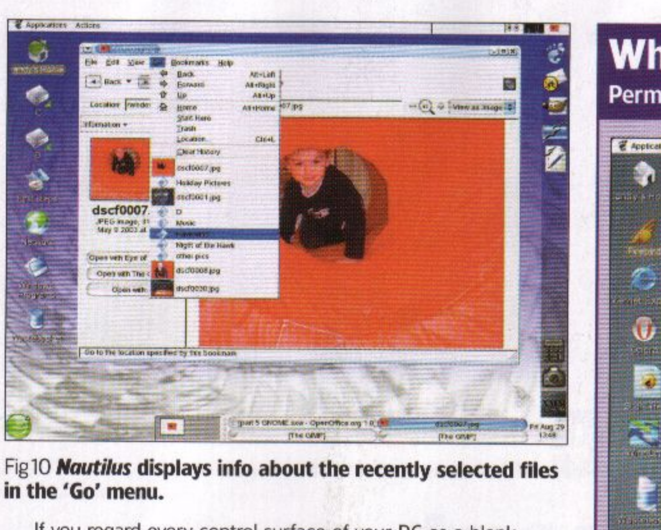


Fig10 ***Nautilus* displays info about the recently selected files in the 'Go' menu.**

If you regard every control surface of your PC as a blank canvas to be personalised, you can select 'Edit > Backgrounds and Emblems' to get ready access to a selection of drag-and-drop background patterns and colours that beautify *Nautilus*'s panes, like the example in **Fig9**. You can also drag these patterns onto any of your panels (except the Menu Panel) that have 'Pattern' set as the background.

Unique feature

The other element of this dialog, which can also be access via the Side Pane (hit F9 if you can't see it), is the unique Emblems feature. This allows you to associate extra icons to files and folders to denote their content or status. For instance, you may have a Family Photos folder, which would be important, so you could drag and drop a 'camera' icon and an exclamation point onto it. You can add as many as four emblems, and they can be removed or changed by right-clicking to get into the properties dialog. Hit the 'Emblems' tag and select or deselect the pictures you want displayed. The great thing about emblems is that they're just standard .png files, so if your needs are not met by the small selection of included ones, you can hit the net and download some more or even make your own!

Hey, good lookin'!

Having lots of photos and MP3s littering your hard disk is quite a common occurence, so the file manager is increasingly becoming the centre of users' computer universe, and media previewing can no longer be regarded as a nice addition – it is essential.

If you've opened a directory of photos in *Nautilus* only to be faced with a long list of file names, do 'Edit > Preferences' and click on the 'Preview' tab. Here you can set previews for text, image and audio files. You can choose from a number of options, including previewing local files only and setting a size limit on previews – by default, this latter should be 3MB.

Having done this, you should now see your images as thumbnails, which can be scaled with the magnifying glass icon on the toolbar. You can right click an image for a context sensitive menu which reveals the usual cutting/pasting options as well as an 'Open with...' entry that offers one or two applications that can be used to edit or view an image. If you need a closer look at the picture, double clicking will open the full image in Nautilus's right pane, while the thumbnail moves to the Sidebar, along with the 'Open with...' options so you can, for example, open the picture up in *The GIMP* for editing.

What on Earth are... Permissions?

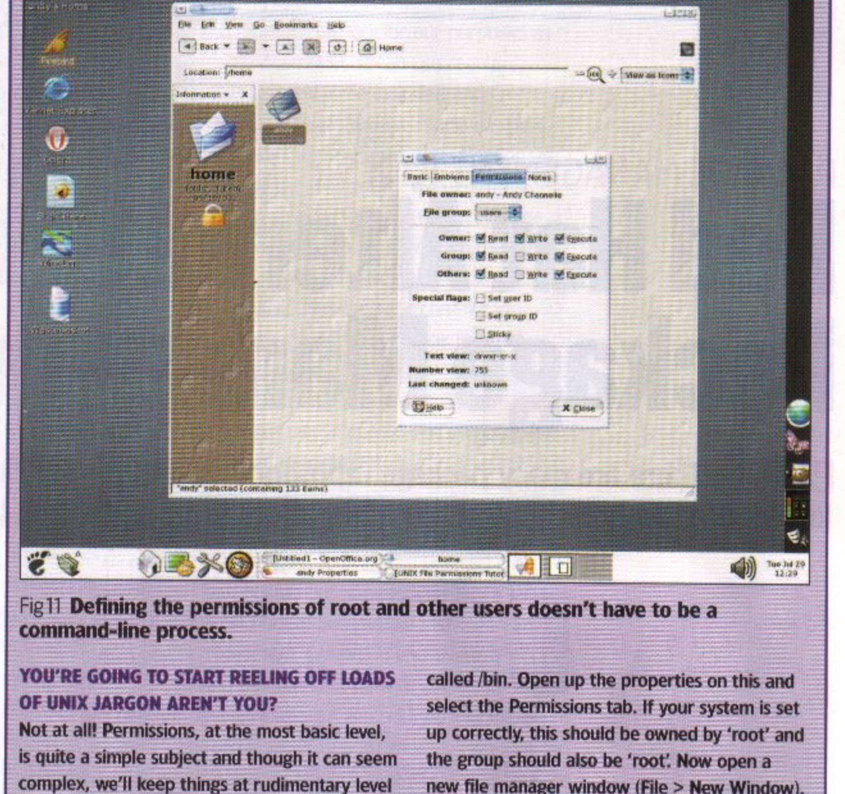


Fig11 **Defining the permissions of root and other users doesn't have to be a command-line process.**

YOU'RE GOING TO START REELING OFF LOADS OF UNIX JARGON AREN'T YOU?

Not at all! Permissions, at the most basic level, is quite a simple subject and though it can seem complex, we'll keep things at rudimentary level here. When you installed your distro, you would have set a 'root' password and also created one or more users. Permissions merely define what these users can and cannot do on the computer and/or network.

FOR EXAMPLE?

Andy's documents are kept in a subdirectory of /home called /andy. If he navigates his way to /home, right-clicks on /andy and selects 'Properties > Permissions', he ends up with the dialog shown in Fig11. From this you can see that the folder in question is 'owned' by Andy and is part of the 'Users' group. All other users on this machine would belong to that group. Below the owner details is the part of the system which defines who can do what. As the owner, Andy can read, write or execute files within the folder – that is, he has full access. Other users (and other groups) can read documents and execute files, but can't write anything back unless Andy – or root – changes the definition.

WHAT DOES THAT MEAN IN PRACTICAL TERMS?

It means that Andy's files, by default, can be viewed but not changed by other users of the machine. But it doesn't stop there. Navigate up through the file system until you see a folder called /bin. Open up the properties on this and select the Permissions tab. If your system is set up correctly, this should be owned by 'root' and the group should also be 'root'. Now open a new file manager window (File > New Window), go to your home directory and try to drag and drop a file into /bin.

IT DOESN'T LET ME DO IT.

No, because though you can scour through the directory and execute applications from within, you can't put anything in there. Not a sound file, image, programme, virus or trojan...

AH, IS THIS WHY LINUX HAS A REPUTATION FOR BEING SECURE?

Exactly! A virus or other malicious program (or user!) would have to navigate around your root password to get access to the guts of the system and do any damage. The really important point about all this is: don't run as root for your day-to-day tasks (and don't give your root password to anyone).

WHAT IS ALL THE OTHER INFORMATION IN THE PERMISSIONS DIALOG?

There are various ways you can define permissions, including using text and a numerical system, but they really need a full tutorial to explain. If you want to know lots more about permissions, point your web browser at www.dartmouth.edu/~rc/help/faq/permissions.html for a pretty comprehensive tutorial on the subject.

The only vital feature missing from *Nautilus* is a slide show, but this can be taken care of with a third party app such as *gThumb*, which is part of most standard GNOME distributions. Finally, if you need rapid access to your recent file browsing history and can't be bothered to use the Sidebar, just look under the 'Go' menu entry for a nice visual map. LXF