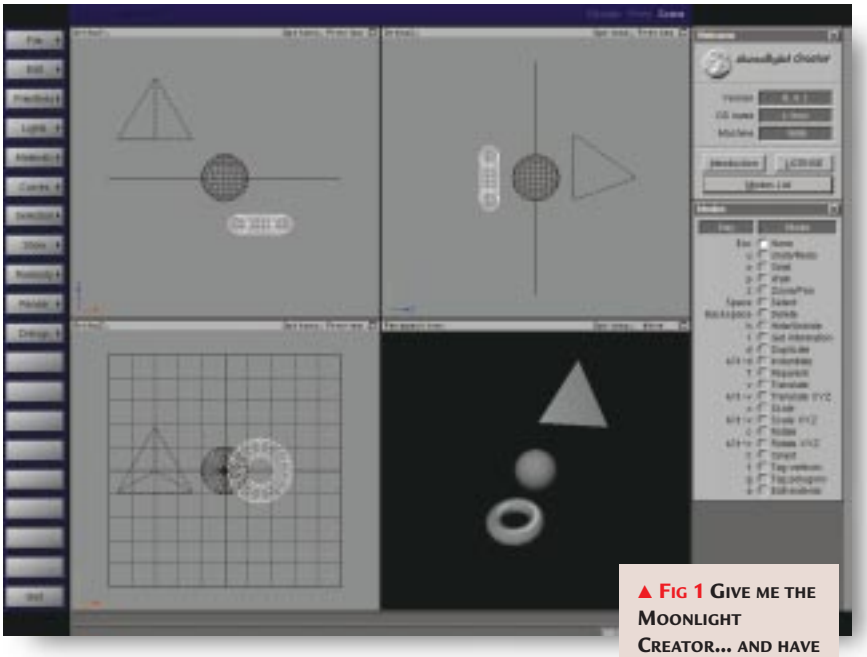
Taking the Linux line

Linux is a tempting, low-cost alternative to NT for 3D graphics people. Ben Woolley tries it out.

Encouraged by the good work of my neighbour a few pages down the magazine, Chris 'Unix' Bidmead, I have been eyeing-up Linux. It has particular relevance to 3D graphics enthusiasts and pros because it apparently offers the chance to set up a fully-fledged workstation operating system on a basic hardware platform, more or less for free. So, it seems like a tempting alternative to Windows NT. Most of the major 3D authoring packages for Intel systems — 3D Studio MAX, Lightwave, trueSpace and so on — run under Windows NT 4. Windows NT, however, costs over £200.



▲ FIG 1 GIVE ME THE MOONLIGHT CREATOR... AND HAVE SOME FUN WITH BASIC MODELLING TOOLS

Is Linux a serious contender? I got hold of a copy of SuSE Linux 5.3 — it is one of the 'official' distributions costing around £30 — to find out. Its CD case promised to 'turn your PC into a workstation'.

Many *Hands On* readers will have read Chris Bidmead's excellent *Workshop* feature (*PCW*, Jan-Mar '99) on setting up Linux, so there is no need to go into detail here. However, there are a few observations I would like to make. The SuSE user manual offers the option of a 30-minute installation. God may have created the universe in six days, but I think even He would have difficulty in setting up a Linux system in 30 minutes. By the time I had got to grips with partitioning, basic Linux concepts, and had sorted out all the device drivers I needed, a couple of days had disappeared.

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I installed Linux on a separate partition on my hard disk. Windows remained my primary OS and I booted Linux using a startup disk. There is a way of launching Linux from within Windows itself but I found that this created problems with some of the Plug'n'Play devices; particularly the network card.

One of the first things you notice about Linux is that the core or 'kernel' is small so you can get the lot onto a floppy, with room to spare. Because the source code is publicly available and conveniently supplied on the distribution CD, you can even compile your own kernel. This enables you to configure an extremely tight graphics system with all the drivers needed to deal with the hardware installed, included in the core code. It's just the thing for creating a rock-stable system.

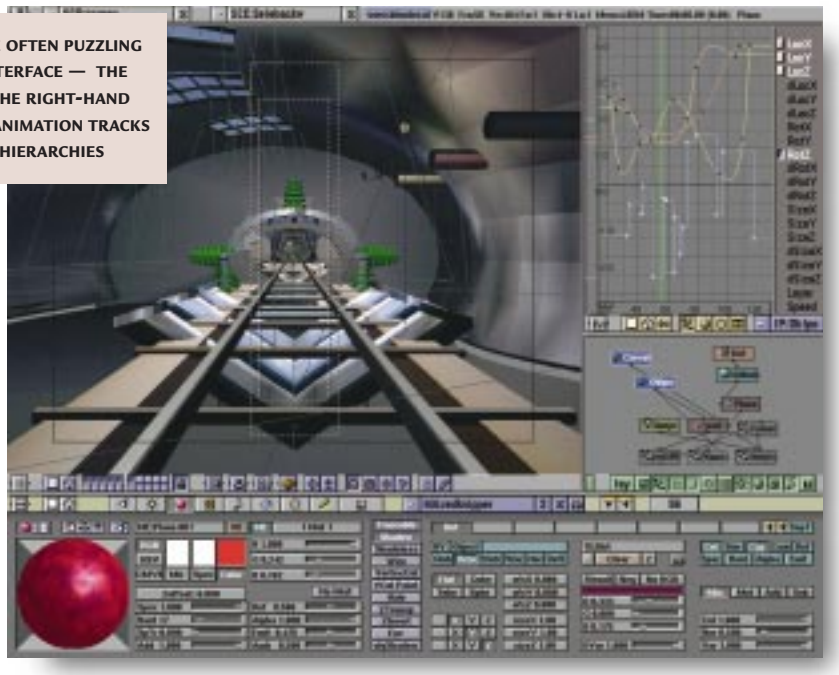
A crucial component for a 3D system is a fully-operational X Server. This provides the services nearly all graphics programs use to provide a Windows-like graphical interface. I configured the X Server on my system without too much difficulty. It ran smoothly on my Matrox Millenium II AGP card at high resolutions and in true colour.

But what was there to run? It is all very well having a nice, tight workmanlike OS, but it is obviously useless if it doesn't run the software you want. Neither 3D Studio MAX nor Lightwave run under Linux, nor do most other mid-range Windows packages. This is a disappointment and I would urge all the companies concerned to port their products as soon as possible. Still, until they do, there are other packages to be going on with and one of these is a fully-fledged commercial product called GIG3DGO — I will look at this in more detail in a future column.

The SuSE distribution CD actually includes at least three 3D packages. One of them is Povray <www.povray.org>, a raytrace renderer. I also found a modeller called Sced, which can be used to create and texture simple objects for rendering with Povray. Sced is an X application, which means it runs in an X window. There is also an X version of Povray which outputs the rendered scene to an X window. The real excitement began when I started to play with two fully-fledged authoring packages that were also bundled onto the SuSE distribution CD; Moonlight Creator and Blender.

Moonlight Creator [Fig 1] by Stephane C. F. Rehel is a simple but quite powerful OpenGL-based modeller and renderer which offers such luxuries as NURBS (see last month's column) and Radiosity

rendering. Given that it is still in development (I used version 0.41) it seemed to be remarkably robust and quite easy to use. The materials editor did not seem to be fully implemented and there is scant documentation, but what there was worked very well. The only problem was the website <www.cybersociety.com/moonlight/>, which seemed to be uncontactable.



▶ **Fig 2 The often puzzling Blender interface — the panels on the right-hand side show animation tracks and object hierarchies**

Blender is the other package bundled with the SuSE distribution of Linux [Fig 2]. This is a strange piece of 3D software. When you first launch it, you find yourself propelled into an alien world a little like trueSpace. There are none of the usual features to be seen: no top/front/side/perspective view of the scene being edited, just one large perspective window. And there is neither a menu, nor palette, nor toolbox, just a series of panels scattered with baffling buttons and charts. However, it does seem to be a very powerful package, with most of what you need to create impressive animations.

I will continue to work at it for the next few weeks to see whether I can make any sense of it as it seems likely to reward the effort because not only is it free, but also well specified. The documentation is scant and provisional, and there seem to be some inconsistencies with the version I was using. However, there is a very professional website at www.neogeo.nl from which you can order a manual.

Because the source code is publicly available, you can compile your own kernel

You can also download free tutorials as well as example files, and this helped me at least make a stab at mastering this strange piece of software.

In their current state, neither Blender nor Moonlight Creator would be suitable for professional work but they are nevertheless fascinating pieces of software. And, in conjunction with the very sophisticated Povray renderer, they perhaps provide a basis for doing some interesting work to build up a portfolio. At the time of writing, all are available to download from the web for free like Linux itself, or you can buy Linux on CD for £30-£40, with the packages bundled, from a company like SuSE or Red Hat.

I would recommend that those with some time to spare and a burning enthusiasm to experiment with both a powerful operating system and some interesting 3D software to have a go at Linux.

Questions & answers

Q I'd like to go on a course to learn 3D Studio MAX and would appreciate some details on this. I own an Intel Pentium II 233MHz with 64Mb RAM and an AGP card but want to buy a new card. Could you suggest one which would let me gain full control over Studio MAX?

Scott Bailey

***A** This is quite a common question. You can often find out about local courses from dealers who specialise in 3D graphics products. There are not that many around but in London, which is my neck of the woods, Rosswood seems to be the leader in the field, at least when it comes to 3D Studio. The company maintains a useful website at www.rosswood.com and has a training centre at Aylesbury, in Buckinghamshire. Some art colleges and universities also offer training but this is usually as part of a wider degree course.*

The second part of your question is difficult to answer because there are so many cards and the market is changing too quickly. One piece of advice I give to anyone who asks me about display adapters is to remember that support, and driver support in particular, is crucial. Before buying a card from a particular manufacturer, do check out the company's website to see whether it updates its drivers, particularly for older cards, on a regular basis. Also, if you go to one of the sites for Linux suppliers (SuSE and Red Hat, for instance) you can check out which cards are supported by the X Window System.

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