To Infinity and beyond
PENGUINS IN SPACE!

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There are thousands of tools and utilities for Linux. "Out of the box" takes the pick of the bunch and suggests a little program each month which we feel is either absolutely indispensable or unduly ignored. This month we honour two choice little morsels for the desktop, XPenguins and XCruise.

Following the release of *Pingus*, the open-source clone of the classic game *Lemmings*, the idea arose of making the cute little penguins romp around directly in the **Root Window** of the X-desktop. Robin Hogan has made it happen with *XPenguins*.

South Pole post

Before the penguins can start to romp around, the X11-**Header files** and the **XPM** library together with header files must be installed. In many distributions the corresponding packages are called *x11dev* or *x11-devel* and *xpm* and *xpmdev* or *xpm-devel*. With an RPM-based distribution, such as Mandrake, you can see if they're installed with:

```
rpm -qa | grep -i xpm
rpm -qa | grep -i x11
```

The XPenguins homepage *http://xpenguins.seul.org/* has the source archive *xpenguins-1.2.tar.gz* ready for download. Once this file is on your hard drive, you can move on to **compile** and install:

```
tar xzf xpenguins-1.2.tar.gz
cd xpenguins-1.2
make
su  (enter root password)
cp xpenguins /usr/local/bin
cp xpenguins.1 /usr/local/man/man1
exit
```

Go Penguins!

If everything has gone smoothly with the compiling, you can let the penguins out in a terminal window with the command *xpenguins -delay 100 &* (Figures 1, 2 and 3). Of course, you can also enter the same thing with a KDE or GNOME menu link. The option *-delay 100* makes sure the little Linux mascots don't move too hectically across the screen. The command *man xpenguins* displays additional options. If you unexpectedly get sick of the
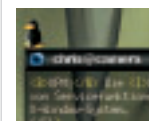

Figure 1: Who's that walking on the window?

Figure 2: Can penguins fly? - Yes, they can!

Root Window: *The background in the X Window system is managed as a separate window. This window is known as the Root Window.*
Header files: *Header files (also called Include files) list the functions available in a library together with parameters. The C-Compiler needs this information to compile a program. In the most common distributions a header packet for a library usually carries the suffix dev or devel in its name.*
XPM: *The "X-PixMap" library. A collection of service functions to display colour graphics (pixmaps) with the X Window System.*
Compile: *A program in source code form cannot be executed by the operating system. It is only by compiling (translating) it with a Compiler that it can be turned into a form which can be executed by the processor. One great advantage of the source code form is that the program can be compiled onto various platforms (Intel, Sparc, Alpha, etc.), if it has been programmed to be sufficiently portable.*
&: *The commercial "And" (ampersand), entered as the last symbol in the command line serves to execute a command in the background. Otherwise the shell stays blocked until the command is ended.*

Symbolic Link: *(Symlink for short) Unix file systems offer the option of making references to files; these references appear at different places in the directory tree and provided they have equal rights, allow access to the original file as long as this has not been deleted or renamed. With the command ln -s foo bar the file foo can also be accessed under the name bar.*

Alternatives: *A speciality of the Debian distribution. For example, when several clones of the* **vi** *editor are installed - such as elvis, vim and nvi - it is possible to use this mechanism to select an alternative (such as elvis) as default.*

vi: *The standard text editor under Unix systems. It is certainly not exactly intuitive to learn, but it does offer many useful functions. A vi reference sheet can be found at http://www.bembry.org/tech/linux/vi.shtml*

penguins, enter the deadly command *killall xpenguins*.

Deep Space

What was still a computer cliché in the film *Jurassic Park* is starting to become a reality with *XCruise*: flying through the file system. Yusuke Shinyama of Japan gives the user a three-dimensional view of the directory structure on the hard disk. Files are shown as planets, directories as galaxies and **symbolic links** as wormholes.

XCruise does not act as a real file manager, as no manipulations such as deleting, renaming or copying are possible. But anyone interested in just browsing the file system and seeing how files are linked by means of symlinks, can fly around to her heart's content. But - of course - the program must first be installed.

The requirements for compiling XCruise are even more modest than those for XPenguins. Only the X11 header files have to be installed. The source archive can be obtained from the site *http://tanaka-www.cs.titech.ac.jp/~euske/prog/index-e.html*. to compile and install, enter the following commands:

```
tar xzf xcruise-0.24.tar.gz
cd xcruise-0.24
xmkmf -a
make
strip xcruise
su  (enter root password)
cp xcruise /usr/local/bin ; exit
```

Navigation

Once installation is complete, start XCruise with the command *xcruise &* in a terminal window. Control it with the left and middle mouse buttons to fly back

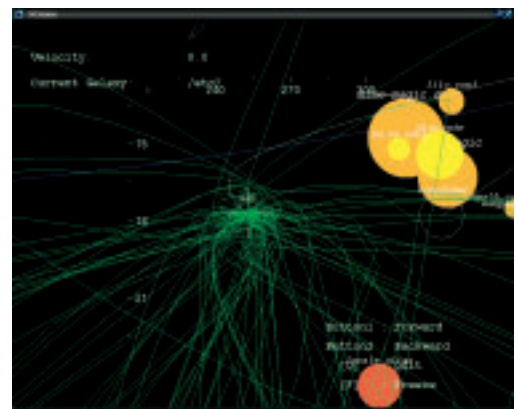**Figure 4: /etc in your visor**

Figure 5: All roads lead to /usr

and forth. Specify the direction of flight using the cross-hairs. You can also freeze the image with *f* and quit the program with *q*.

The file system is displayed according to a specific scheme: directories are white or blue rings (galaxies), and you can fly into these. Normal files are shown as filled-in circles (planets) with various colours and symlinks as green threads (wormholes), which link the respective file or directory objects together, even across vast distances. Once you fly close enough to a directory, its content becomes visible. In Figure 4 you can see the approach to the */etc* directory.

The size of a file defines the diameters of the planets displayed. If a planet appears coloured in violet, the user has no read privileges for the associated file. Files with similar names have the result that their planets are located close to each other. Figure 5 shows a whole bundle of symlinks, which all point from */etc/alternatives* to */usr*.

For anyone who has now acquired a taste for this and is on the look-out for more desktop gimmicks, Jo Moskalewski's Desktopia column is just a couple of pages away. ∎

Figure 3: A labyrinth can quickly be constructed out of xterms (Screenshot from the Project homepage)