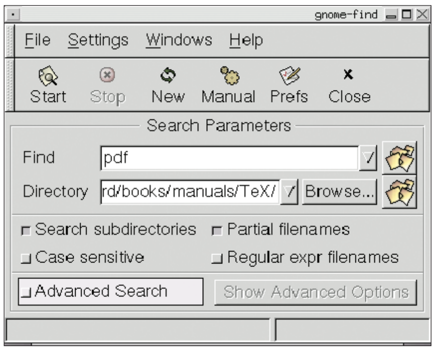
Gnome Tools

The lost shall be found

Want to find something on your system? Ask the Gnome. Richard Smedley peers into dusty corners of his filesystem with Gnome-find.

BY RICHARD SMEDLEY



Find: pdf
Directory: rd/books/manuals/TeX/
Search subdirectories [✓]
Partial filenames [✓]
Case sensitive [ ]
Regular expr filenames [ ]
Advanced Search [ ]

Figure 1: A simple interface with hidden depths.

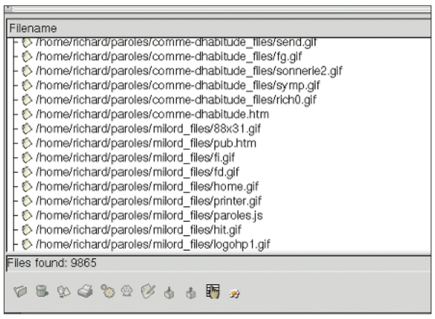

```
Filename
/home/richard/paroles/comme-dhabitude_files/send.gif
/home/richard/paroles/comme-dhabitude_files/fg.gif
/home/richard/paroles/comme-dhabitude_files/sonnerie2.gif
/home/richard/paroles/comme-dhabitude_files/symp.gif
/home/richard/paroles/comme-dhabitude_files/rich0.gif
/home/richard/paroles/comme-dhabitude.htm
/home/richard/paroles/milord_files/88x31.gif
/home/richard/paroles/milord_files/pub.htm
/home/richard/paroles/milord_files/fi.gif
/home/richard/paroles/milord_files/fd.gif
/home/richard/paroles/milord_files/home.gif
/home/richard/paroles/milord_files/printer.gif
/home/richard/paroles/milord_files/paroles.js
/home/richard/paroles/milord_files/hit.gif
/home/richard/paroles/milord_files/logohp1.gif
Files found: 9865
```

Figure 2: A search for .* in /home/richard reveals just how quickly the home directory grows.

Those GUI-mad people at Gnome seem to want to make a graphically-interfaced version of everything. Even humble shell utilities like *find*.

Well naturally Gnome developers want the GNU Network Object Model Environment to be a *complete* desktop interface to your computer, whether you're running it on your Sparc station, Linux shuttle box or NetBSD on a games console. However there are practical reasons for the Gnome "embrace-and-extend" of GNU find.

Gnome-find is a graphical version of the GNU find utility, which aims to provide all the power of its command line equivalent, in an easy to use package. The default dialog gives scope for all the most commonly-used searches and a second, more advanced dialog allows for greater search parameters.

Gnome-find takes the original GNU find source code from findutils-4.1 and integrates it in the GUI component. This integration may seem *contra* the "spirit of Unix" (discrete, re-usable component programs, piped together to make useful applications), but carries important advantages for the environments in which Gnome operates. You may be using this desktop on systems without GNU find. Also, keeping down the number of forked processes, pipes and temporary files can have advantages.

Another advantage of bringing GNU find within the Gnome embrace is that it brings it within the control of Gnome's accessibility tools, enabling those with visual- or motion-impairments to gain the power of this utility from an environment that supports screen magnifiers,

Ask the GNU

The GNU version of find is one of the computer users' greatest friends. Unlike grep, which looks for patterns within files, find looks for files that match a given pattern. The syntax is as follows:

```
find [location to start from]
[options]
```

For example, to find a postscript file who's name and location you have forgotten:

```
 find . -name "*.ps" -print
./ac-uk/ACSSyllabus.ps
```

Here the dot asked find to start the recursive search from the current directory ("."), and to print it to std-out (the terminal).

Find is often used in conjunction with xargs, to carry out changes to the files found. Thus to change permissions on all the HTML files in a subdirectory, to make them readable by all:

```
find htdocs -name '*.html' -
print0 | xargs -0 chmod a+r
```

The real power of find lies in the available switches. Piping to xargs is useful, but unnecessary for most operations thanks to the switch:

```
-exec command {} \;
```

which will execute the command on all the files found. The {} argument substitutes the current file when the command is run, and an escaped semicolon (\;) must follow. For example:

```
find ~/Documents -name "*.bak" -
print -exec rm {} \;
```

will remove all of the .bak files created by your word processor in the directory ~/Documents. The -ok switch asks find to check before removing each one:

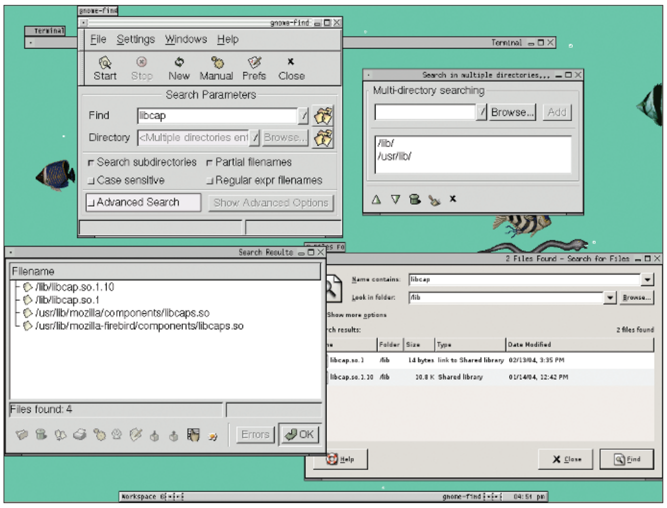
```
find ~/Documents -name "*.bak" -
print -ok rm {} \;
```

Other notable options include -user, to find files owned by a particular user; -perm *nnn*, to find files which match octal permission *nnn* (very useful for a quick search of files you inadvisably changed to 777 when you were trying to overcome a permissions problem); and time sensitive arguments such as:

```
-mtime +n | -n | n
```

to find files modified more than *n*(+*n*), less than *n*(-*n*), or exactly *n* days ago. -atime looks at when files were last accessed, and -ctime picks up files with any changes, including those to permission or ownership. The man and info pages are quite comprehensive, and will soon point you to quicker and more powerful ways of doing quite complex searches.

For those coming to *nix from a more graphical OS, Gnome-find will soon become an indispensable utility. However it will pay you to learn your way around GNU find as you may well be on a system without Gnome one day – or even temporarily break your Gnome setup as your love of all things Gnome leads you to experiment with alpha Gnome software from CVS.

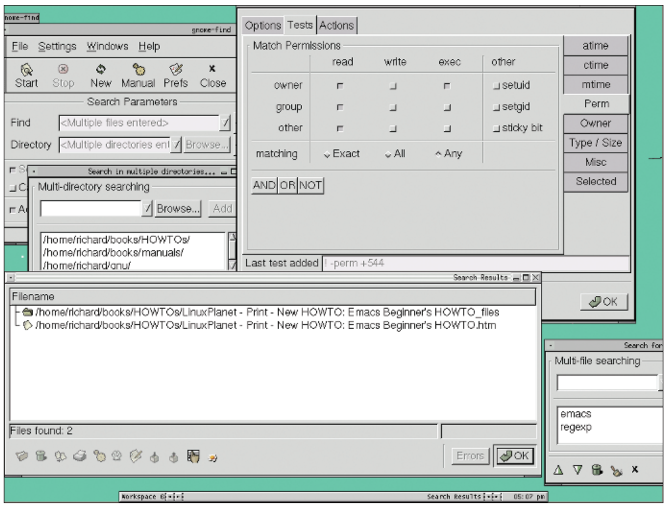


/lib/
/usr/lib/

/lib/libcap.so.1.10
/lib/libcap.so.1
/usr/lib/mozilla/components/libcaps.so
/usr/lib/mozilla-firebird/components/libcaps.so
Files found: 4

2 Files Found - Search for Files
libcap.so.1 /lib 14 bytes link to Shared library 02/13/04, 3:35 PM
libcap.so.1.10 /lib 10.8 K Shared library 01/14/04, 12:42 PM

Figure 3: Searching on multiple directories is straightforward in Gnome-find (but not the Gnome Search Tool).



Last test added -perm +544

/home/richard/books/HOWTOs/
/home/richard/books/manuals/
/home/richard/gnu/

/home/richard/books/HOWTOs/LinuxPlanet - Print - New HOWTO: Emacs Beginner's HOWTO_files
/home/richard/books/HOWTOs/LinuxPlanet - Print - New HOWTO: Emacs Beginner's HOWTO.htm
Files found: 2

emacs
regexp

Figure 4: Searching multiple files in multiple directories and using the advanced configuration options.

speech output, and all manner of inputs built right into the system. Gnome accessibility is set to improve with Gnome 2.6.

Search tool

Anyone using Gnome soon calls upon the Gnome Search Tool, found under *Programs / Utilities* on the panel menu. This forks another process to execute find, but is limited in the control it gives. For example you can use "and" as an expression but not "or", meaning you can't search across files owned by one user *or* another user. You also can't easily search for multiple files, or in multiple directories. Many of the more powerful options in GNU find are omitted.

Gnome-find gives you all these missing options, and the option to enter your own customized search command, if you reach the limits of the powerful GUI. When you have your list of files from the search, Gnome-find enables you to copy, remove, print and perform other file operations and archiving commands on the list. Multiple windows allow multiple searches from the same instance of the program.

All this was available from the version one release of 2000, and little has needed to be added since, save a few bug fixes and the odd additional feature such as Drag 'n' Drop capabilities. A stable, complete program? How refreshing.

In use

Installation is pretty simple on any platform where Gnome is already up and running. The stability of the package means that there are no outstanding issues. Only the standard Gnome dependencies need be available.

If you are compiling from source, you will need the Gnome development packages from your distro disk: this contains header files and other packages needed for compilation.

As can be seen from the screenshot (Figure 1), the basic interface is straightforward. Click on the button right of the file dialog for the "find multiple files" option, or the button right of the Directory browse button for a search in multiple directories. Now the fun begins, and you get to do things far more quickly than you would without Gnome-find.

Buttons on the main interface disable regressive searching through subdirectories, and enable searching for partial filenames (I only need to type pdf, rather than *.pdf) and regular expressions. Advanced search options range from looking for a file containing particular text strings, through skipping recently searched directories, to setting minimum and maximum levels of directory descent. There are plenty more and, as has been mentioned, direct access to the command line options for anything missing from the GUI.

This is an good example of a properly implemented GUI-driven program. The most common search criteria are directly available, advanced options are easily reachable, and missing options on the command line are also attainable.

Disadvantages? – Documentation is not good. However the interface is so straightforward that it leads you into quite complex searches. Now "seek and ye shall find".

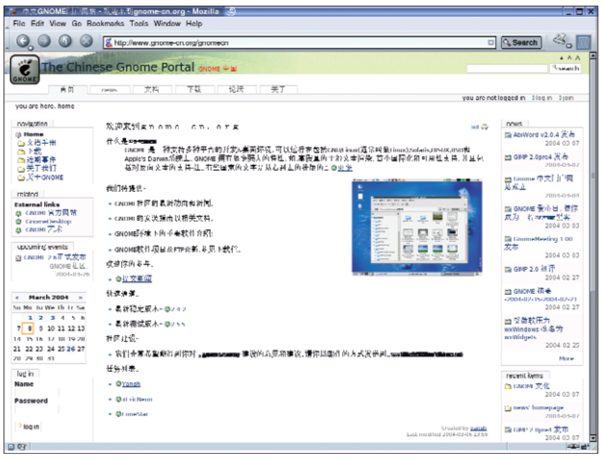

File Edit View Go Bookmarks Tools Window Help
http://www.gnome-cn.org/gnomecn
Search
The Chinese Gnome Portal
March 2004
Password
log in

Figure 5: Work still needed for a Free Chinese desktop.

Gnome news

A Chinese portal has been created to promote Gnome to the millions of Chinese computer users who are coming to GNU/Linux: *http://www.Gnome-cn.org/*. The site is dedicated to improving Gnome through addressing and solving issues related to processing Chinese. An area in need of some tweaking from nearly all desktop platforms – but where Free Software has the potential to leap ahead through both community involvement, and government-backed initiatives such as Red Flag Linux.