An up-to-date overview of free software and its makers

Projects on the move

Free software covers such a diverse range of utilities, applications and other assorted projects, that it can be hard to find the perfect tool from all that programming effort. We pick the best of the bunch for you. In this month's issue: Arch, GTetrinet and Thy. Also, we will discussing an XFree86 project.

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What's new? After focussing on the desktop in last month's issue, we will be discussing a CVS system that allows programmers to conjure up their own concoctions, a game, and a Web server. On the assumption that we have not bitten off more than we can chew, we will be asking: Is the X Server up for forking?

Thy

Large scale Web content relies on a professional server software such as Apache which is trimmed for areas that require maximized performance. However, a Web server for a private LAN that will serve up mainly static content is a completely different ball game.

In situations like this network administrators often consider it completely over the top to set up a full Apache [6] Web server. This is the motivation for projects that have been trying for quite a while now to create an extremely small footprint httpd server that, at the same time, provides as many features as possible. Boa [7], Roxen [8], or thttpd [9] are some examples.

The Thy [10] Web server is another contender. It was programmed by Gergely Nagy on the basic UNIX concept "Do a thing and do it well". Thy does not claim to be the quickest or smallest web server around, but it does have a few characteristics that make it stand out in the crowd.

For example, Thy supports much of the HTTP/1.1 standard – in contrast to many of other small footprint web servers. This includes resuming interrupted downloads, support for languages other than the default, and on the fly unzipping of .gz files.

Another of Thy's useful features is its support for so-called handlers. It can be set up to identify a file by its suffix and run a specific program for that file. This approach means that Thy is more or less infinitely extensible.

A typical example would be telling Thy to run files with the .php and .php4 extensions with the /usr/bin/php4 executable to add support for PHP scripts. This approach can be used to provide support for Perl or simple shell scripts.

In addition, Thy supports HTTP authentication, allowing the administrator to block unauthorized access to some areas on the server. Gergely Nagy even considered multi-homed computers when programming Thy. The program supports the el cheapo version of a virtual host mechanism. On top of all that, the Thy developer version even supports the new IPv6 protocol.

To conclude, it only remains to say that Thy is a Web server that fares well in comparison with its bigger brother, Apache, especially for websites with mainly static content. In fact, it even leads by a nose in the speed stakes. Thy's amazing extensibility and the fact that it supports most HTTP/1.1 features is just the icing on the cake. If you are looking for an http server for your LAN, do not forget to try out Thy.

GTetrinet

Hands up! How many of you out there have never played the classic GameBoy game, Tetris? Thought so, and it is common knowledge that the game has attracted a huge following since it was released, and one that continues to grow in times of action packed 3D shooters.

There are dozens of Tetris imitations for Linux – both for the X11 desktop and for the console. Many of these clones do not look like the "real thing" – for example, XWelltris [3] attempts to add a 3D effect to the falling blocks. But when all is said and done, none of the current bunch can deny its origins.

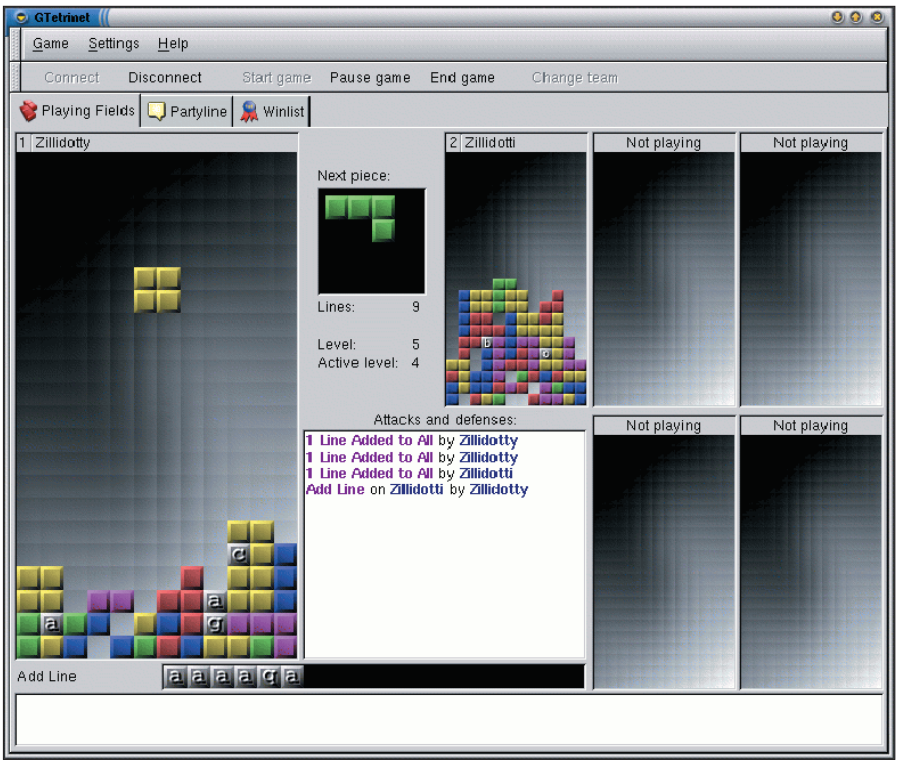

Figure 1: GTetrinet in action against just one player

The so-called TetriNET [4] was founded a few years ago, to allow users to play Tetris across the Internet. Its main claim to fame was a protocol that supports Tetris games across the Internet. The original client for this protocol was Windows only, but as the specification of the TetriNET protocol was published, it did not take long for the first Linux clients to start appearing.

GTetrinet [5] is one of these clients. Released in 1999 and under development ever since, GTetrinet was originally written for the GNOME desktop environment, as the G at the start of its name suggests. Of course you can launch it on KDE as well – provided you have installed the required GNOME libraries.

I would like to describe some of the basic rules, just to whet your appetites. Up to 6 players can compete in a TetriNET game. Their task is to complete as many rows as possible by skillfully manoeuvring falling blocks, just like a real game of Tetris. If a player manages to simultaneously remove 2 or more rows from his own playing field, these rows are added to the playing fields of all the other competitors.

So-called specials add some extra thrills and can be used against other players (and for oneself). Specials allow you to apply special functions, such as messing up a competitor's playing field. A game continues until only one competitor's playing field is left intact. Alternatively, players can join forces to create teams.

All of this functionality, which is provided by the TetriNET protocol, is hidden behind an extremely neat looking GUI in the case of GTetrinet. One particularly praiseworthy aspect of GTetrinet is the fact that it provides a neat dialog box that displays the playing fields, and thus allows the players to keep on top of a hectic gaming session.

For a quick diversion, it does not always need to be a complex graphical game like bzflag and consorts. GTetrinet is a great game to play on your lunch break and can make do with minimal hardware resources. A word of warning to all of you wanting to rush off and try GTetrinet – it is extremely contagious ;-)

Arch

When a number of people work on a single software project, sooner or later a source code management system will become necessary to permit several developers to work on the same source code at the same time, without ending up with broken code when their individual efforts are put back together.

To provide this kind of facility, a program called CVS [1] was written way back in 1989. For the first time CVS allowed a group of programmers to store code they had written in a central repository, thus ensuring that team members were knowledgeable of the development status at any time.

However, as CVS was the first program of this kind, it had a few design flaws that prevented many people from using it. For example, it is still impossible today to simply rename a file in a CVS

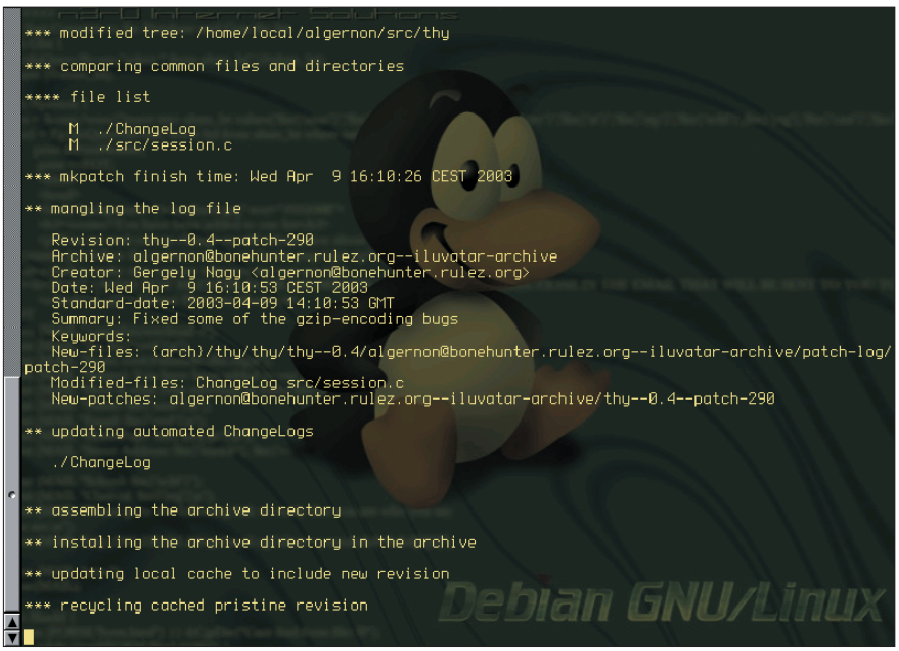

Figure 2: Managing source code with Arch

repository. Instead you have to delete the file and its whole revision history and check in a new file to achieve the same effect.

The fact that CVS does not allow distributed management of a source code directory is another issue. A central repository must be stored on a single computer and users will automatically require write access to that computer to check their own files in to the repository.

Tom Lord must have been so fazed by these teething problems that he decided to write a program for source code repository management late on in 2001. He called this program Arch [2]; and it has grown to be quite a complex tool in the meantime, not only imitating CVS functionality and removing the original design flaws, but providing interesting functions that CVS simply does not possess.

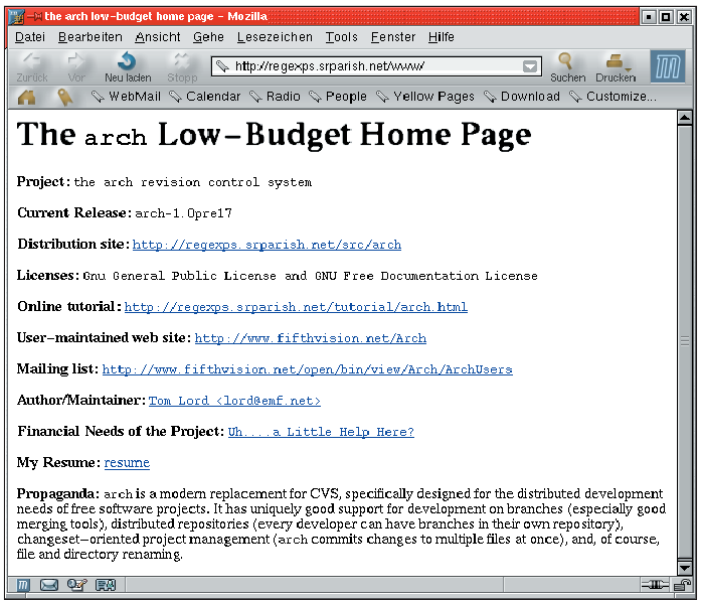

Figure 3: The Arch home page

The method used for logging changes to the source code is quite different from the CVS method, for example. Where CVS stores file modifications within the file itself, and uses a revision system to jump between versions, Arch stores changes in simple patch files.

Arch also supports a method for distributed source tree management – a function that has been sorely missed in CVS. This allows developers to maintain their own archive on their local machines and check in their changes to this location. An archive maintainer wanting to release a version of a program, simply pulls (that is downloads) the contents of the Arch archives and checks them in to a new Arch repository. Arch provides a facility for this purpose.

When all is said and done, Arch is an interesting source tree management system that definitely deserves closer attention. Developers interested in taking a look at Arch can download the program from the Arch website.

News from the XFree86 Project

The XFree86 øProject [11] is a convincing example of the success an Open Source project can have. The X11 server provided by Xfree86 dominates the world of Linux distributions and the Linux community has set great store in the project since the release of the innovative version 4.0 in 2000, that finally added accelerated driver support at a reasonable cost.

Sadly, the developer community that more or less runs the project looks as though might have fallen out almost simultaneously with the release of XFree86 4.3: some members of the BOD ("Board of Directors") have just discovered that one member of the core team, Keith Packard, has started to fork XFree86, and intends to split off a project that he will be maintaining himself.

As Packard has refused to supply any information on this project to the BOD, despite several requests, the BOD stated that Packard's membership was untenable and promptly removed him from the core team.

This led to resentment all over the Open Source community. XFree86's own Bugzilla system soon sported a bug repot demanding the reinstatement of Packard in the core team. On the one hand Packard's removal from office was criticized because, over a period of 16 years, he had put a lot of work into what is now commonly known as Xfree86. At the moment he is working on a new layout for rendering fonts.

Also, as some observers pointed out, the members of an Open Source project should be allowed the opportunity to start up projects of their own with the source code, without immediately letting the whole world in on the secret.

The situation seems to have calmed down in the meantime. A news item on the XFree86 website discussing Packard's removal has been deleted.

The mail message [12] in which the XFree86 BOD announced Packard's removal also contains another interesting "official" statement to the effect that a forum has been set up for XFree86 users to provide any interested parties the opportunity of discussing project specific topics or to present suggestions for future technical developments of the X server. If you are interested in participating, you will find the details you need at [13] ■

THE AUTHOR

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INFO

[1] CVS: *http://www.cvshome.org/*
[2] Arch: *http://arch.fifthvision.net/*
[3] XWelltris: *http://www.xnc.dubna.su/xwelltris/*
[4] TetriNET: *http://tetrinet.org/*
[5] GTetrinet: *http://gtetrinet.sourceforge.net/*
[6] Apache: *http://www.apache.org/*
[7] Boa: *http://www.boa.org*
[8] Roxen: *http://www.roxen.com/*
[9] thttpd: *http://www.acme.com/software/thttpd/*
[10] Thy: *http://bonehunter.rulez.org/Thy.html*
[11] Xfree86: *http://xfree86.org/*
[12] XFree86 BOD emails: *http://www.xfree86.org/pipermail/forum/2003-March/000001.html*
[13] Information on the XFree86 forum: *http://www.xfree86.org/mailman/listinfo/forum/*