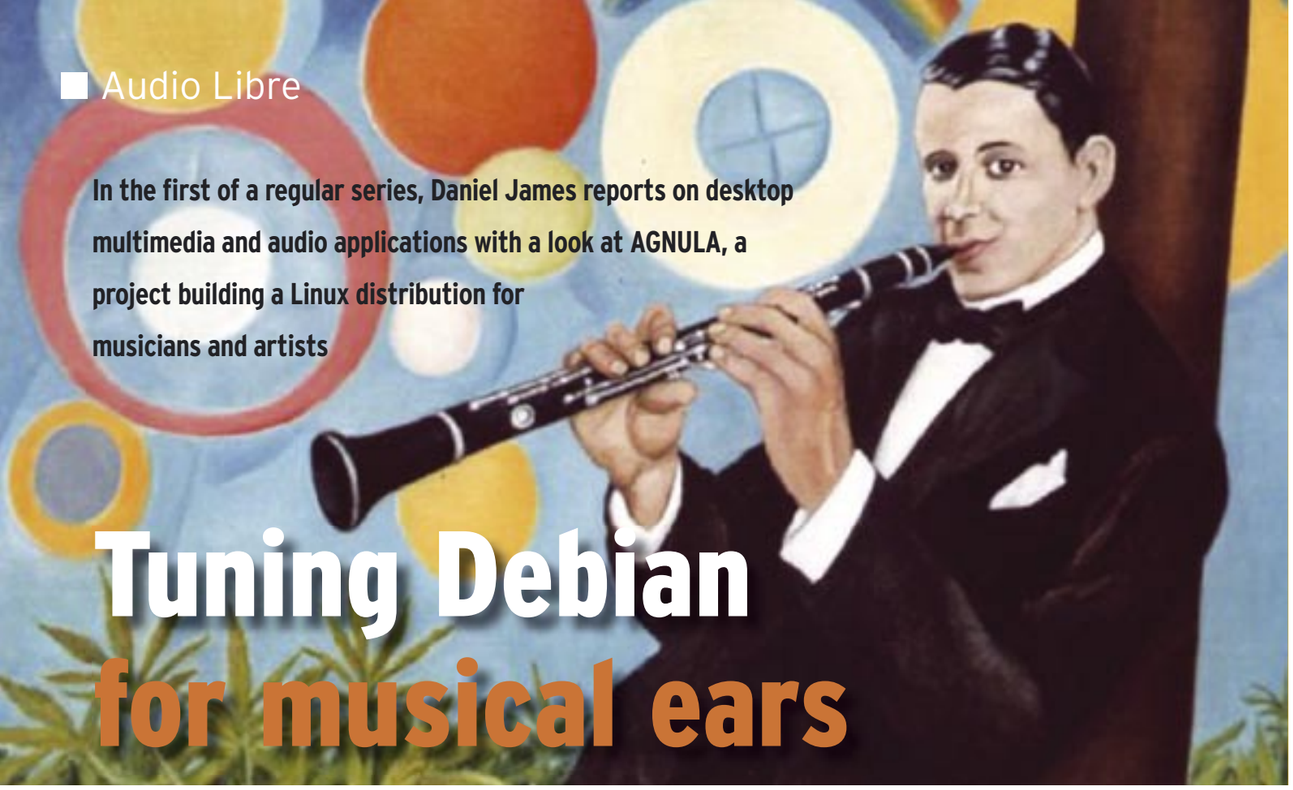

In the first of a regular series, Daniel James reports on desktop multimedia and audio applications with a look at AGNULA, a project building a Linux distribution for musicians and artists

Tuning Debian for musical ears

The AGNULA project - the acronym originally stood for A GNU/Linux Audio distribution - first drew attention when the European Commission announced that it would fund the development of an all-in-one free software bundle for musicians and other artists. Based at the Centro Tempo Reale musical institute in Florence, Italy for the two year funded period, the project has now found a home within the Media Innovation Unit at Firenze Tecnologia, an agency of Florence's Chamber of Commerce.

Free Ekanayaka works full time for Firenze Tecnologia as the principal maintainer of the packages which make up AGNULA/DeMuDi, the project's Debian Multimedia Distribution. "I was working at Centro Tempo Reale and Nicola Bernardini, one of the initiators of the original DeMuDi project, proposed that I should work on AGNULA. AGNULA/DeMuDi sports all the basic facilities of a general-purpose distribution, but it's specifically tuned for audio work. The kernel is optimised for low-latency performance, the best sound applications available are selected and integrated with each other, and the menu hierarchy is intuitive and well organised."

apart, the Debian installer has greatly improved during the last few months and it's now reaching a mature stage. It's not graphical (yet), but it's really robust and simple to use, and I'm confident it will get even better in the future."

"Debian has been historically used and developed by system administrators for their own purposes, and that's one of the main reasons for the lack of some important user-friendly features. However efforts like Progeny, Knoppix, Morphix and Skolelinux show that these limitations can be overcome. Considering its unique characteristics of openness and flexibility, my opinion is that Debian is potentially the best base for building specialised distributions. The Debian Custom project is currently working to provide a generic framework to easily develop and maintain Debian based distributions, and I'm sure that to stick to it is a good choice in the long run."

"Personally, I find the 'Debian way' easier, because it's based on a few simple concepts. Of course there are many parts of the distribution that need to be improved, and that's where AGNULA/DeMuDi steps in, as it transparently deals with many configuration and installation issues. The great thing is that these

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Debian might not be the most obvious base for a distribution aimed at artists - who may not have any Linux experience at all - when other distributions have already incorporated user-friendly features, such as graphical installers. Ekanayaka argues that although Debian is perceived as difficult to get started with, this is no longer the reality. "Some Debian Developers when asked about the installer used to answer that having a wonderful package management system, they only needed the installer once in a lifetime! Jokes enhancements will eventually be integrated back in Debian, so that everybody can benefit from them, in the same way we benefit from many contributions that come from the other Debian based distributions."

DEBIAN INSIDE

The AGNULA project is not an official part of the Debian project, but it does coordinate its work with the Debian maintainers, as Ekanayaka explains. "We are trying to work as closely as possible, and I'm in the process of becoming a Debian Developer myself. We do not consider AGNULA/DeMuDi as a separate distribution, but rather a specialisation of Debian, built upon and not beside it. Ideally all the development should be carried out directly inside Debian, and AGNULA/DeMuDi should deal only with the presentation of what already exists."

Curiously, some of the Linux distributions with the highest proportion of proprietary components - such as Linspire - are also based on the free software Debian. Presumably there are practical advantages to using the volunteer-maintained Debian codebase rather than being a partner of a commercial distribution company such as Red Hat, Novell/SUSE or Mandrake. "My feeling is that, being completely and uniquely devoted to the distribution quality and user satisfaction, Debian has much more freedom of choice and is more reactive to the user feedback. I personally fulfilled lots of feature requests, sent by users directly on the mailing list. The latency between rising a issue and solving it might be really low, sometimes less than one hour. Note that I'm not talking about security holes or critical bugs, but just normal wishes. The link between developers and users (whose difference is getting subtle) is very tight. I doubt that this is possible with commercial distributions."

"On the other hand, even though most Debian Developers do a wonderful job with their packages, working with Debian can be frustrating at times. Sometimes a developer (myself included) can turn into a bottleneck, due to a busy life or a vacation. Moreover some tools are very well documented and others aren't at all. Deep changes in the Debian infrastructure or policy can take a long time as a common consensus must be reached. Last but not least, release cycles are long and schedules are often delayed."

The AGNULA project's work on DeMuDi has

It's important to always provide bleeding-edge versions of audio software, as things are moving so quickly

begun integration with the Custom Debian Distribution framework, which is designed to allow specialisation while preventing forks from the main Debian project. "AGNULA/DeMuDi has closely followed the CDD project from the early beginning. We've borrowed and suggested both ideas and techniques, and the coherence between different Debian-based distribution is increasing. However we can't call DeMuDi an actual CDD framework yet, as many things have still to be developed. The Media Innovation Unit at Firenze Tecnologia has understood the importance of pushing this, and is organising a workshop on CDDs, inviting all the major actors."

With a stable and very usable AGNULA/DeMuDi 1.2.0 release imminent, the project is making plans for the future - including a variant compiled for the PowerPC processor family widely used by musicians in Apple hardware. The update frequency of the distribution will also be addressed, as many free software music applications have yet to reach maturity and can improve on a daily basis. "It's important to always provide bleeding-edge versions of audio software, as things are moving so quickly. The key to this is probably the creation of a task force of Debian Developers dealing with audio. An official Debian Multimedia sub-project with a dedicated mailing list already exists, but I feel it could be even larger and more active."

THE ACID TEST

Tim Hall is a musician from Glastonbury, England and an active tester of AGNULA/DeMuDi. "I'm a composer first and foremost, and I came to computers late in life with no formal training. Being a musician I couldn't (and still can't) afford all the

I felt like 10,000 people had just clubbed together to answer my wishlist and deliver the tools of my trade

latest proprietary software. My first machine boasted a Pentium 100MHz CPU and 32MB RAM. Debian was the only OS that would install, and frankly I liked the GNU ethos of the distribution. I installed it in 2002 and I'm not ashamed to say I cried with joy. I felt like 10,000 people had just clubbed together to answer my wishlist and deliver the tools of my trade. I still feel like that."

"I read everything I could download off the net and soon discovered that there was music software available. I signed up for the mailing list and apt-got what I could fit into my already stuffed hard disc. Lots of it didn't work properly, but I was that awed by what my little machine was managing that I didn't care. The list turned out to be one of the friendliest, most helpful and inclusive lists on the net, and in under two years I've watched DeMuDi become one of the most stable and useable music-specific distributions available. Of course I've upgraded a few times since then!"

"Frequently I've found a fix or response to a problem in my mailbox the very next morning. This openness is part of the uniqueness of the project and really inspires my enthusiasm. The experience of making a suggestion and seeing it implemented in the next few days or weeks is quite magical. So even if AGNULA/DeMuDi doesn't quite do what you want right now, a few suggestions in the right places may make it happen. Even more excitingly, the distribution has all the tools you need to learn to Do It Yourself."

USER-FRIENDLY DEBIAN?

Conventional wisdom is that 'non-technical' users, without a command-line UNIX background, won't be able to make sense of the Debian way of doing things. Hall isn't so sure: "I don't think so, or maybe I became a technical user very quickly. I always found not being able to get under the bonnet of a system frustrating, as is particularly the case with the old MacOS, but also to a certain extent with Windows. Knowing that I am directly editing the file that the system is going to read is reassuringly simple to me. Having a GUI with limited options isn't much use if they're not the options you want."

"Most users get an 'expert' in to configure their Windows network, despite the supposed user-friendliness. Finding a file in /etc is no more difficult or easy than finding the right GUI in the control panel and clicking the right option in the right tab. You still have to know what you're doing to get it right. AGNULA's DeMuDi distribution does all kinds of funky things like autodetect your hardware; it practically installs itself and all the software you might need. All the dancing penguins in the world wouldn't make it any more user-friendly."

"My friends sometimes ask me to see if I can sort out their XP installs; looking into the control panel of

Debian is my friend - Windows doesn't even say 'Hi!' anymore

that scares the living daylights out of me and I'm soon advising them to get a system that's easier to configure, like Debian! I used Windows for five years, Debian for two. Debian is my friend, as they say, Windows doesn't even say 'Hi!' anymore. I do freely admit that some things are a pig to configure under Debian-based systems. But then Windows users have to put up with their systems slowly degrading, and becoming colonised by trojans and spyware. I'd sooner have a friend that occasionally refuses to do things unless you ask them the right way, rather than one who drinks all your lager and then passes out in your bed. Also, the availability of support makes a critical difference, but that's a fairly level playing field for most GNU/Linux distributions."

"I don't think Windows users are naturally stupid, and neither are musicians. I think AGNULA/DeMuDi systems, being designed by musical people, work in a way compatible with musical minds. How user-friendly is reading and writing sheet music anyway? It's a very subjective issue."

■ The latest version of AGNULA/DeMuDi can be downloaded from: **www.agnula.org/download/demudi**

AGNULA/DeMuDi 1.2.0-RC3 running the Fluxbox desktop with JACK Control, Hydrogen drum machine, Jamin mastering suite and JACK Meterbridge