The Monthly GNU Column

Brave GNU World

Welcome to another issue of the Brave GNU World. This time we will be looking at two major topics – a discussion of Java and its relationship to free software, and the definition of software. Recent developments at the Debian project, in particular, have lent even more weight to the political and social aspects of the question of defining what software is.

This column looks into projects and current affairs in the world of free software from the perspective of the GNU Project and the FSF. In this issue, we will be focusing on: free software and Java, GCJ Web Plug-in, amendments to the Debian Social Contract, the definition of Software. **BY GEORG C.F. GREVE**

Free Software and Java

Java is a subject of continual debate in free software forum and chaired discussions. The view expressed by many representatives of Sun, that Sun's Java implementation is Open Source, also confuses the issue.

Unfortunately, there has been little change to the situation described last year [2]. Both popular Java implementations (by Sun and IBM) are still proprietary and many free software programs written in Java depend on them.

Although the programs are free themselves, the environment they run in is not. A GPL application definitely provides more freedom than a purely proprietary program, but if you want to completely avoid non-free software, you cannot use this application. Richard Stallman discusses this issue in more detail at [3].

Fortunately, some developers are working on removing this dependency. One of them is Michael Koch. Michael's GCJ Web plug-in project [4] is working on creating a plug-in for Mozilla, and Mozilla-based Web browsers, that allows users to run Java applets. Simple applets will run with GCJ, says Michael.

GCJ Web Plugin

The project is based on the GNU Java Compiler (GCJ) [5], a GNU Compiler Collection [6] component. At present, the major problems are the AWT/Swing implementation, and the lack of a security audit for libgcj. In other words, the current plug-in version allows applets full access to the client computer. When testing the plug-in, you should thus create a separate user account, or use a separate machine.

The Debian project's Social Contract amendments ([7] and [8]) are a far more political issue than the Java problem. The amendments have caused a wave of related issues (see Projects on the Move in this issue).

Debian Social Contract

The discussions so far have centered on procrastinating until the next Debian release has been successfully negotiated. However, there are more important issues at stake that the amendment touches on, although there has been no public debate.

The original Social Contract referred to "software" and the term unambiguously referred to executable programs. The new Social Contract replaces the term with "works", and leaves it up to the Debian Free Software Guidelines (DFSG) to decide what free "works" are.

Debian developers have discussed the imminent amendment in great length in mailing lists. The reason for the step was the disagreement within Debian on the meaning of "software". Not using the term solved the dispute. The terminology debate itself was a useful tool in that it achieved the aim of allowing the Debian Free Software Guidelines (DFSG) to apply to content of any kind – after all this is what the supporters of the amendment intended from the outset.

What triggered the debate was the discussion surrounding the GNU Free Documentation License (GFDL). Debian developers have been unsure as to whether the license was free or not for quite a while. There are several arguments that justify an evaluation of the license as "unsuitable", but classifying the license as "non-free" seems to be overshooting the mark to my mind. However, I must admit that both Debian and the Free Software Foundation are partly to blame for the debate arising in the first place.

What Is Software?

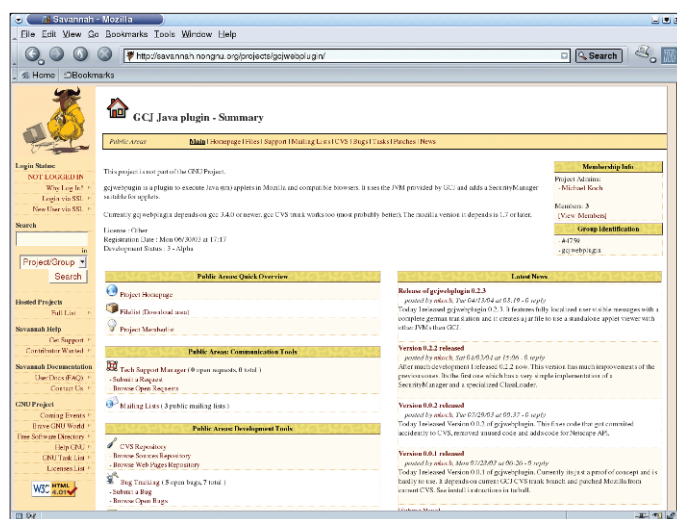One of the central questions belonging to this issue is:

Figure 1: GCJ Web Plugin project homepage. This GPL-licensed software is designed to replace the proprietary Java plug-ins by Sun and IBM.

"What is Software?" Most opinions tend to define software as computer executable programs. At Debian – and probably not only there – there are some developers who have a different definition. For them, software is whatever happens inside a computer. Thus, software can be anything digital, including documentation, firmware and music.

Debian developers often cite the definition of the term "software" by the statistician and amateur linguist, John Tukey [9], which appeared in the American Mathematical Monthly in 1958. This definition was coined to refer to the programs running on an electronic calculator and served the purpose of distinguishing "software" from "hardware". According to Tukey's definition, "hardware" is anything related to "tubes, transistors, wires, tapes and the like".

As John Tukey died at the age of 85 in the year 2000, we can not ask him if he imagined in 1958, that whole books, movies, music and other "works" would ever reside within the hardware of a computer, and whether he would thus refer to these things as "software".

Circumstantial evidence would indicate that Tukey was thinking of what resided within the hardware in 1958 when he referred to software. The current Wikipedia entry for software appears to support this interpretation [10]. If you ask artists, authors, or attorneys if they regard pictures, music, or books to be software, you will probably provoke a few surprised looks.

Everything is Software

Now the Debian developers have replaced the word "software" with the word "works" within the Social Contract to end the debate and allow for a non-ambiguous application of the Debian Free Software Guidelines. Sadly, the results are not satisfactory.

For one thing, those responsible for the guidelines forgot to rename them to "Debian Free Works Guidelines", insisting instead that other works are software, as the Debian Free Software Guidelines now explicitly

apply to them. For another, replacing "software" with "works" was classified as a so-called editorial amendment; in other words, it served only to clarify the original meaning. Replacing "software" with "works" does not imply any change in meaning to the developers, as the two words are purportedly synonymous.

In reality, the generic term "works" typically implies non-digital things. To put this more drastically, with this change, Debian just declared the Sistine Chapel a piece of software. As the change is merely editorial, the Debian project is saying that this interpretation has always been there.

All of these things are implied by the recent amendment to the Social Contract, which the majority of Debian developers supported. To avoid doing injustice to some developers, I must point out that some Debian developers were extremely surprised at the implications of the amendment, when pointed out to them personally. To the best of my knowledge, the question of minimal or proper freedom for digital works which are not software has never been discussed in earnest. The issue has never been resolved for lack of discussion.

Same Mistake

In anticipation of the debate which is sure to follow, Debian is obviously attempting to apply the minimum required freedom for software to all other digital works. One can only assume that this digression into the real

world was unintentional. The issue of applicability is still open to debate. This debate will almost certainly cross the borders of the debate on intellectual property, a term I reject for two reasons.

First of all, the term is highly dogmatic and suggestive. "Property" is unambiguous and has positive connotations, as it suggests wealth and power. It plays up to our individual vanity as it makes us believe that we, and we alone, have had a specific idea that others could not have had, due to lack of genius. It also implies that the idea was born in the owner's brain rather than being the result of a dialog with many others. This in turn prevents people from questioning the concept of owning an idea.

Secondly, the term suggests some kind of physical limitation of a commodity that necessitates controlled distribution of that commodity. People who use the term ignore the fact that it does not make sense to own an idea. You can only own an idea as long as it has not become manifest in some way. If you formulate an idea, nobody can control the reaction that the idea will provoke in other people's minds.

There is another fundamental problem with the concept of intellectual property. It lumps many different things together – including copyright, trademarks, and patents. Copyright is too general; after all, why should the operating manual for your new washing machine be treated the same way as John Grisham's latest novel? Software is also affected by this kind of egalitarianism. Software is subject to the same kind of proprietization as literature. If you are interested in more detail, check out [11] for more intriguing thoughts.

It may seem a good idea to apply the freedom regained for free software to other "works", but in my opinion, the unreasonableness of egalitarianism in one sense can not be canceled out by applying egalitarianism in the other direction. What we need is a dialog that allows us to establish a meaningful balance. We need to establish and recognize minimum levels of freedom in order to achieve balance.
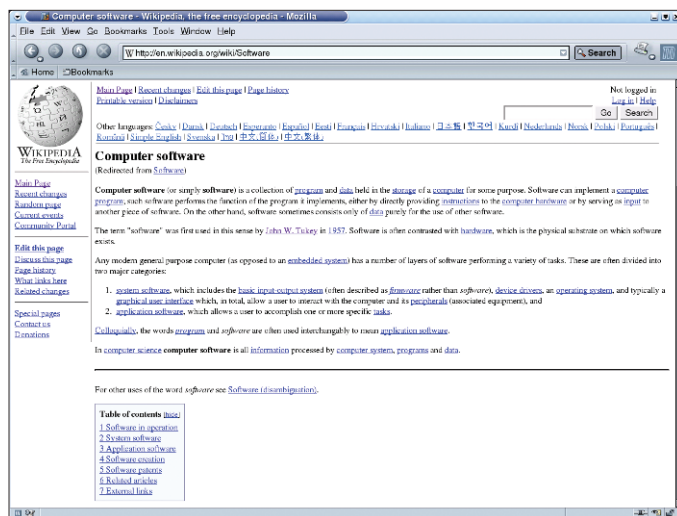

Figure 2: The Wikipedia entry for the term "software". This definition is unambiguous and applies to executable programs only. The Debian project has a different viewpoint.
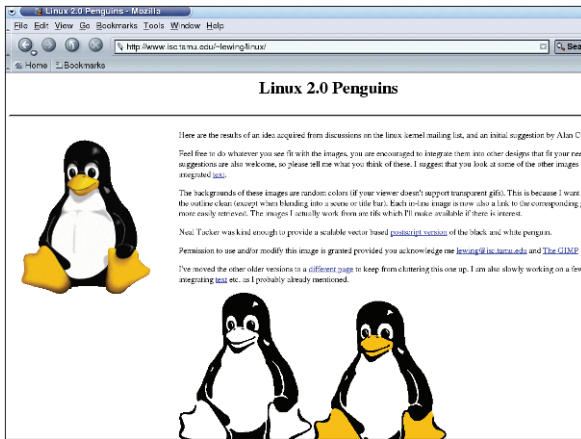
Figure 3: The amendment to the Debian Social Contract could mean that some logos and images need to removed from Debian. Larry Ewing's penguin, Tux, is not affected by this issue, thank goodness.

Alternatives

Debian definitely had alternatives to applying the Debian Free Software Guidelines (DFSG) to all "works". For example, I suggested assigning more responsibility to the Debian documentation team, allowing the team to decide which documentation is free enough to allow users to exercise the freedom proffered by free Debian software.

Another possible approach would be to discuss minimum levels of freedom in technical documentation. This would probably have returned useful results quite quickly. Debian could have based the Debian Free Documentation Guidelines on these results.

Practical Implications

The practical implications for Debian are fatal. First of all, it will drastically delay the release of the next stable version. What is far worse is the fact that a major part of the required documentation will be missing from future Debian versions.

There is another aspect that no-one has even mentioned so far. Besides documentation, the status of graphics and logos belonging to individual programs is also unclear. The Linux penguin seems to fall under a license with an advertising clause [12]. The Apache logo is less straightforward. There is some uncertainty as to whether we are permitted to use the original Apache logo, or a modified logo, for commercial or noncommercial purposes.

Trademarks alone would seem to imply that some images and terms are under licenses that can not be used without any restrictions. There is also the issue of the Debian trademark, for which there is no license.

Although I may be over-emphasizing the issues here, the trouble with the GFDL just goes to show that it pays to think about this kind of thing. If someone set about investigating the graphics in the Debian distro with the same kind of gusto that the developers applied to the GFDL, the waves could be even more far-reaching.

Viewed realistically, Debian maintainers at least will need to investigate their projects for documentation, graphics, sound clips, and other potentially copyrighted materials.

The Implications of the Amendment

The discussion on the subject of what software is shows some real potential for producing fresh ideas. At very least, it is not a mere interruption. The use of the term "software" in the Social Contract was definitely more than just an oversight that needs to be clarified.

The Debian developers have unwittingly put themselves on an island where specific legal terms have a different meaning inside of Debian than externally. The question is whether this scenario will strengthen or endanger Debian's position. No matter what, people should take care to consciously enter into isolated positions if so desired, and to communicate the decision. Otherwise, there is some danger of being misunderstood.

It would be a good idea for Debian to officially confirm the position implied by the amendment to the Social Contract. At least this is a fairly useful example. It shows that discussions on terminology are only superficial when viewed superficially. Closer inspection reveals their true importance.

That's All for this Issue...

Although I am sure that my friends at Debian will understand what I mean, I would like to assure those of you that do not know me personally that I genuinely appreciate the work done by the Debian project and the efforts of the Debian developers in the cause of freedom. My comments are meant to be a constructive contribution to an interesting debate, although I can not deny that I am somewhat skeptical of the amendment to the Social Contract.

Enough for this month. Let's close with a call to join in the demonstration against software patents. As this issue went to print, FSF Europe and FFII again called for an week of action [13].

Consistent long-term work on combating software patents is vital, as we can not expect patents to be the last threat to free software decided in halls of political power. I look forward to your ideas, comments, questions, suggestions, or whatever to the usual address [1].   ■

INFO

[1] Send ideas, comments, and questions to Brave GNU World: *column@brave-gnu-world.org*

[2] Georg C.F. Greve, "Brave GNU World": Linux Magazine, Issue 32 *http://www.linux-magazine.com/issue/32/Brave_GNU_World.pdf*

[3] Richard Stallman, "Free But Shackled – The Java Trap": *http://www.gnu-friends.org/story/2004/4/14/141959/792*

[4] GCJ Web Plugin: *http://savannah.nongnu.org/projects/gcjwebplugin/*

[5] GNU Java Compiler: *http://gcc.gnu.org/java/*

[6] GNU Compiler Collection: *http://gcc.gnu.org*

[7] Debian Social Contract Tally Sheet: *http://master.debian.org/~srivasta/gr_editorial_tally.txt*

[8] Debian Social Contract: *http://www.debian.org/social_contract*

[9] Wikipedia entry for John Tukey: *http://en.wikipedia.org/wiki/John_W._Tukey*

[10] Wikipedia entry for software: *http://en.wikipedia.org/wiki/Software*

[11] Article: "Fighting Intellectual Poverty" *http://fsfeurope.org/projects/wsis/issues.en.html*

[12] Larry Ewing's homepage: *http://www.isc.tamu.edu/~lewing/linux/*

[13] Call to join the SWPAT action week by the FSFE and FFII: *http://mail.fsfeurope.org/pipermail/press-release/2004q2/000057.html*