GNU Tools, Still Relevant?

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Often lost amid the focus on software you don't have to pay for—such as Linux and Eclipse—is any mention of the organization that started it all: the Free Software Foundation (FSF).¹

FSF was founded in 1984 by Richard Stallman. Then a programmer at MIT's Artificial Intelligence Laboratory, Stallman resigned to protest its restrictive copyright policy. He started the GNU (GNU's Not Unix) Project,² an effort to build a free Unix clone, and wrote the GNU (General Public License),³ which essentially said you could redistribute GNU code for free as long as you also gave away any modification you added—and the free software movement was on its way.

The GNU Project's success can be measured by the widespread use of its tools from the outset by cutting-edge software professionals. The most notable of those offerings include the GNU C compiler, GNU Emacs editor, and GNU symbolic debugger, all of which Stallman, not coincidentally, is principal author.

Today, the GNU Project continues with sorely needed efforts such as Classpath, which seeks to build a set of essential libraries for supporting the Java language, and DotGNU, a multiproject plan to craft a complete replacement for Microsoft's .NET strategy. Worthy work also surrounds GNU Glue, which aims to create a distributed groupware application framework based on emerging Internet standards such as XML and GNU Octal—a digital-music software effort.

Nevertheless, the GNU Project's efforts remain less high-profile in the public mind than other open source work such as Eclipse. (No doubt the reader here thought of perhaps an even better known example than Eclipse: Linux. As Stallman points out, however, Linux is itself a GNU project more correctly referred to as GNU/Linux.) And FSF, despite its status as parent to the code-producing GNU operation, is in many ways a political organization. Stallman himself acknowledges as much. "We developed GNU starting in 1984 as a campaign for freedom, whose aim was to eliminate non-free software from our lives," Stallman told me in an e-mail exchange.⁴

All of which raises the question of whether GNU will remain an important source of software for tool users. "I

The success of the open source MOVEMENT

**CALLS INTO QUESTION THE
FUTURE OF GNU TOOLS.**

believe GNU is and will continue to be technically relevant," David Sugar told me.⁵ Sugar, a 20-year free-software veteran, is the

chair of the DotGNU screening committee and principal author of the GNU Bayonne telephony server. "The best examples of cutting-edge development in GNU that come to my mind are Portable.NET and DotGNU, where new and original concepts in virtual machine implementations and Web services continue to be experimented with."

WHOLE IS BETTER THAN SUM OF ITS PARTS

But, as with many FSF adherents, Sugar believes that the whole of the effort is more valuable than the sum of its individual projects. "If you are asking if a specific GNU package is better or worse than a [non-GNU] package, then I think you are asking the wrong question," Sugar noted. "The technical value and relevancy of GNU is of GNU as a whole, not of the individual packages in isolation."

According to Eben Moglen, a professor at Columbia Law School who is known as the FSF's legal expert:⁶

"On the subject of the GNU Project relevance, I would say that technical vitality is in general best measured by breadth of use. Many components of GNU have no meaningful competition; others compete against both close substitutes and industry analogues on very favorable terms. I see no sign that GNU Emacs, GCC [GNU C Compiler Collection], GDB (GNU Project Debugger), Glibc, bash, gzip, GNU tar, and other primary components of GNU have become technically irrelevant. Ongoing development activities may or may not result in equally significant future products; time will tell. Certain products, like GCC, are unlikely to move to the commercial-toolbed context: In compiler development, we are essentially the honest-broker managers of an industry consortium.

When I queried FSF founder Stallman as to whether

FSF is still politically relevant now that we have widely available open-source toolbeds such as Eclipse, he replied that the question was “a non sequitur, like asking, ‘Now that we have a hospital, is the fire department obsolete?’”⁷

If Stallman sometimes seems to be an enigma wrapped inside a software zealot, he takes great pains to set precise parameters for any discussion of FSF. He emphasizes that FSF supports free code, but has nothing to do with open source. To some, this may seem confusing. But open source and GNU are not synonymous. Programs written by the GNU project are indeed “free,” and they’re covered by the GPL “Copyleft” licensing agreement, which allows them to be redistributed provided that the source code for any changes made by the user doing the redistributing are included. Open source programs do indeed tend to be offered under often strikingly similar terms, but they don’t come from the GNU folks, nor do they have the exact same license. Accordingly, open source software can perhaps best be thought of as an offshoot of GNU. According to Stallman, the open source folks are a “different group which was formed in 1998 specifically to reject the idealism of the Free Software Movement that I founded.”

THE GNU/LINUX DILEMMA

With regard to Linux, which is the most successful spawn of FSF, Stallman is in something of a dilemma. On the one hand, Linux would seem to be a powerful case in point for free software. In the public mind, however, Linux is an “open source” project associated with Linus Torvalds, not FSF.

The result is that Stallman may seem to have a case of sour grapes when it comes to Linux, since he spends so much of his time harping on the nomenclature issues that have become a particular sticking point for him. “One common error is calling the whole [Linux] operating system Linux,”⁸ he wrote in response to my recent e-mail requesting an interview for this column. “The system is basically GNU; Linux is actually the kernel, one program in the system. When people call the whole system Linux, they give the system’s principal developer none of the credit. A related error is the idea that GNU

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is a collection of tools; GNU is an operating system.” (Readers should know that Stallman declined to participate in my interview when I was unable to agree to a lengthy list of definitional ground rules, including referring to Linux as “GNU/Linux” at all times—using Linux only if specifically referring to just the kernel.)

While Stallman bangs the drum for credit on Linux, FSF may find itself drawn into an incipient battle: that of the legal rights surrounding free and open-source software. The issue has moved to the fore recently. Specifically, SCO recently sued IBM for \$1 billion, claiming that IBM misappropriated SCO Unix trade secrets by putting some Unix code owned by SCO into Linux. More generally, the lawsuits by the recording industry against file-sharing

downloaders have heightened legal concerns throughout the software world.

Stallman has manned the barricades in the SCO battle, distributing a statement to news organizations charging that SCO is conducting a “smear campaign” against Linux. “Our community cannot be defeated by this,” he vowed.⁹

Columbia professor Moglen sees FSF as “indispensable” to the fight for software legal rights. “When Microsoft’s Craig Mundie accused FSF last June of ‘destroying the global software industry,’ he was paying the Monopoly’s [Moglen’s term] respects to the effectiveness with which we perform our other functions, which are directed at breaking the paradigm relationship of ownership to technological innovation,” Moglen noted.¹⁰

The Monopoly and other “owners” [Moglen’s quote marks] have temporarily deluded the world into thinking that the free exchange of ideas, which has so successfully characterized Western science since the sixteenth century, is an inappropriate basis for technological, as opposed to basic scientific, progress. Our goal is to provide a mixed theoretical and practical demonstration that freedom is the only morally satisfactory basis for innovation in software, and beyond software in other forms of human intellectual effort. Far from being irrelevant, we are more important every day.

Moglen sees pervasive digitalization as creating an economy where information has a “zero marginal cost.” Old-line software and entertainment companies are trying to hold on to the monopolies that existed when software was distributed on disks and movies weren’t available outside of theaters. If they succeed, he contends, “the result would be vast profit margins for them, at the expense of exclusion for those who cannot afford knowledge and culture” at artificially high prices and “who ought to have free access to music, art, learning, software, and bandwidth.” ☹

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