Biography of Richard Stallman

CS3012: Software Engineering

Richard Matthew Stallman is an American software engineer and activist. He is responsible for creating the GNU operating system as well as many of its tools, including EMACS and the GNU Compiler Collection (GCC).

Early Life and Education

Stallman was born and raised in New York City. He developed an interest in computing at a young age when he discovered and read a manual for the IBM 7094 at a pre-teen summer camp. He first gained experience with actual computers after his final year of high school when he was hired for the summer by the IBM New York Scientific Center and tasked with building a numerical analysis program in Fortran.

Stallman began attending Harvard University in 1970 where he studied mathematics and physics. He was noted for his strong performance in the notoriously difficult *Math 55* course. He began working at the MIT Artificial Intelligence Laboratory towards the end of his first year at Harvard. He received his bachelor's degree in 1974, graduating *magna cum laude*.

Career

Stallman pursued a doctorate in physics at MIT following his graduation from Harvard but left the program after one year to continue his work at the MIT AI Laboratory. In 1977, Stallman published a paper along with his research advisor, Gerry Sussman, on an AI truth maintenance system that they called *dependency-directed backtracking*. As of 2009, their technique is still the most powerful form of intelligent backtracking.

While at the MIT AI Laboratory, Stallman worked on the EMACS (Editor MACroS) family of text editors. The most popular version of EMACS today, GNU Emacs, was created by Stallman. Stallman became concerned with the importance of free software in the late 1970s and early 1980s when, among other things, many software manufacturers stopped distributing their source code and began using restrictive copyright licences - this concern would later lead to the development of the GNU operating system.

Stallman left MIT to work full-time on the GNU project in February 1984. He remained affiliated with MIT as an unpaid visiting scientist until his resignation in 2019.

The GNU Project

In September 1983 Stallman announced his plan to develop the GNU operating system (OS) and in 1985 he published the GNU Manifesto which described his motivation for developing the GNU OS: to give computer users total freedom and control in their use of their computers by giving them the right to freely run, copy, distribute and modify the software that ran on their device. GNU, which is a recursive acronym for "GNU's not Unix" was designed to be compatible with Unix, a family of computer operating systems whose variants include OSx, Linux and BSD. Stallman developed many of the necessary tools for the GNU OS, including EMACS (a text editor), the GNU Compiler Collection, the GNU Debugger and GNU make (a build automator). In October 1985 he founded the Free Software Foundation, a nonprofit corporation that employs free software developers and provides legal assistance vis-a-vis free software.

Activism

Stallman is the author of numerous essays on software freedom and is a frequent political campaigner for the free software movement. He has visited at least sixty-five countries, mainly to discuss free software and the GNU project. He has met with many politicians to discuss his projects, including former Venezualen president Hugo Chávez, former Indian president A. P. J. Abdul Kalam, former Ecuadorian president Rafael Correa and French presidential candidate Ségolène Royal. He has also participated in protests related to software patents, digital rights management (DRM) and proprietary software. Stallman is also responsible for popularising the concept of *copyleft*, a legal mechanism meant to protect modification and redistribution rights for free software .

Conclusion

Richard Stallman has undoubtedly been a monolithic force in the development and protection of free and open-source operating systems and software and much of the software that he's developed is still widely used today. As a software engineer and activist, he has clearly been an important and valuable figure in the computer science community.

References

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