Biography of an influential software engineer

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Linus Torvalds

Personal Life

Linus Benedict Torvalds, born December 28th 1969 in Helsinki, Finland, is a Finnish-American software engineer. He and his family belong to the minority of Swedish speaking Fins. He is the son of Nils and Anna Torvalds and husband to Tove Torvalds, who is a 6-time Finnish national karate champion. Together they have three daughters, Patricia Miranda, Daniela Yolanda and Celeste Amanda. He describes himself as an atheist and became a United States citizen in 2010.[1]

Career

He is credited for creating and being the principal developer of the Linux kernel as well as the version control system Git, both of which are widely used around the whole world. In addition to this he also created the scuba dive logging and planning software Subsurface. At the age of ten, Torvalds started writing programs in BASIC on his maternal grandfather's Commodore Vic 20. This is when he discovered his love for computers and programming. Torvalds started going to the University of Helsinki in 1988, where he graduated with a master's degree in Computer Science from the NODES research group in 1996. His academic career was interrupted for one year in 1989, as he had to do the mandatory military service of Finland. After this, he resumed his studies and first got introduced into the Unix system. Subsequently he wrote his master thesis about Linux, the system he started developing during his studies. Torvalds released the first prototypes in 1991 and version 1.0 became accessible to the public in 1994. Three years prior to this he had first learned about the GNU Project, which he later used for his Linux kernel.

 In 1996, he accepted a job at the Transmeta Corporation in California. This was his workplace until 2003, before switching over to the Open Source Development Labs. Since then, the company has merged with the Free Standards Group to form the Linux Foundation, where Torvalds works to this day. From 1997 to 1999 he was involved in 86open, which was a project designed to form consensus on a standard binary file format for Unix and Unix-like operating systems on the highly common x86 architecture. Torvald is a big proponent of open source software, even saying that this "is the only right way to do software".[2] Because of this, he was highly criticised for his use of the proprietary version

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[1] https://www.thefamouspeople.com/profiles/linus-torvalds-3972.php
[2] https://en.wikipedia.org/wiki/Linus_Torvalds

control system BitKeeper. As a consequence of this, Torvalds wrote a free replacement for Bitkeeper, which is the nowadays widely used Git. As of 2006, around two percent of the whole Linux kernel was written by Torvalds, which is a large amount, considering the thousands of people who have contributed to the kernel.[3] He has the highest authority at the company regarding the implementation of new code, meaning he has the final decision what makes it into the Linux kernel.

Awards

Torvalds has several awards and achievements credited to his name. The asteroid 9793 Torvalds was named after him in 1996, a few years later the University of Helsinki, where he received his master's degree and his doctor status, named an auditorium after Torvalds and has his computer on display at the Computer Science department. In 1998 he received an EFF Pioneer Award, two years later he was awarded the Lovelace Medal from the British Computer Society. In 2001, he received the Takeda Award together with Richard Stallmann and Ken Sakamura, for Social-Economic Well-Being. Other awards of his contain the Vollum Award and an induction into the Hall of Fellows of the Computer History Museum in Mountain View, California. This was awarded to him due to his "creation of the Linux kernel and the management of open source development of the widely used Linux operating system". In the early beginnings of the current decade, he received the C&C Price by the NEC Corporation for "contributions to the advancement of the information technology industry, education, research, and the improvement of our lives". In 2012, Torvalds was one of the two winners of that year's Millennium Technology Prize, which is often referred to as technology's equivalent to the Nobel Prize. In the same year, Torvalds was one of thirty-three to be inducted into the Internet Hall of Fame, with ten of these being in the Innovators category Torvalds belongs to. Two years later, he received the IEEE Computer Pioneer Award, which is an award presented to "outstanding individuals whose main contribution to the concepts and development of the computer field was made at least 15 years earlier". Finally, in 2018 Torvalds received the IEEE Masaru Ibuka Consumer Electronics Award by the Institute of Electrical and Electronics Engineers, "for his leadership of the development and proliferation of Linux".[4]

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[3] https://topcoder23.wordpress.com/2011/10/25/linus-torvalds-developer-of-the-open-source-linux-kernel/
[4] https://en.wikipedia.org/wiki/Linus_Torvalds

Impact

Linus Torvalds has had a huge impact on the world of Computer Science. As the creator of Linux, which nowadays runs most of the internet, including Google and Facebook, and the inventor of Git, which is used by Software Engineers all over the world, his impact is hard to argue away. His importance is also acknowledged by the times magazine, who have recognized him three times. In 2000, he was voted 17th in their list of the 100 hundred most important people of the century. Four years later he was named one of the most influential people in the world. And finally in 2006, the magazine's Europe edition named him one of the revolutionary heroes of the past 60 years.

It was in the early 1990s, when Microsoft and IBM stopped cooperating with each other, and Linus Torvalds began his work on an alternative operating system to the then mostly used Windows 3.x, that his impact on the Computer Science World began to become visible. He made use of the first proper Intel 32-Bit processor, the 80386 and took advantage of its advanced features such as the 32-bit instruction set and paged memory. The key to success for Linux was, that it "represented the so-called industry standard architecture, on which operating systems and application software could run".[5] Starting out as an alternative to Unix, Linux developed into its own operating system, that would go on to impact the Computer Science world drastically. Without Torvalds open source system, it would not be possible to run things such as the cloud. With his work, Torvalds has "provided a low-cost base platform on which to run large internet applications".[6]

 In the 28 years Linux has been around now, it has established open source as a serious alternative to commercial software. Torvalds operating system is nowadays used by powerhouses like Google, PayPal, Amazon and Ebay, aswell as being the operating system of the two billion Android phones around the world. According to Martin Percival, senior solutions architect at Red Hat, an Enterprise which is credited for making Linux enterprise-ready with its Linux operating system, huge companies like "Facebook and Google would have had such a harder time getting scale". Aswell Percival says that "Open source has reached a point where it's relied upon to do substantial amounts of infrastructure we rely on". There are more and more open source jobs becoming available each year, and it has come to a point, that customers expect open source and are unhappy when they are told they are not allowed to fix the problems they have themselves. The development of open source has been so strong over the last few decades, that in 2016 Microsoft made a historic deal with Red Hat, "which was unheard of and pretty unimaginable five years ago" according to Percival.[7] Through the recent

[5] https://www.computerweekly.com/news/450400639/How-Linux-has-influenced-modnern-IT
[6] https://www.computerweekly.com/news/450400639/How-Linux-has-influenced-modnern-IT
[7] https://www.newstatesman.com/science-tech/technology/2016/08/how-linux-conquered-world-without-anyone-noticing

development Microsoft had come under pressure to respond to the uprise of open source and decided to start going into this direction aswell.

To this day, Torvalds still has the final say over the code that gets implemented, but he is helped by programmers paid by many different companies such as Google, IBM, Samsung and Intel, the last one of those contributing to around thirteen per cent of the 80.000 fixes produced in 2017. It remains to be seen, how long Linux impact, and with that Linus Torvalds impact, will go on, but it seems to be very likely that this open source project could still have a huge impact on IT in the future. Aswell, Torvalds version control system Git, which he invented in 2005, is used widely by many Software Engineers all over the world, and it is unlikely that it will be replaced very soon. So one can only conclude that Torvalds impact, which has been huge over the past 28 years, will still uphold in the near, and probably even distant future.

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