

# Linus Torvalds

## Early Years

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Torvalds is a Finnish-American software engineer who created and developed the Linux Kernel. He was born in Helsinki, Finland in 1969. Linus was named after Linus Pauling, the Nobel Prize- winning American chemist. Both of his parents were journalists and also campus radicals at the University of Helsinki in the 1960's. Torvalds interest in computers began at the age of 11, with a commodore VIC-20, initially programming in BASIC, but later directly accessing the 6502 CPU in machine code. He attended the University of Helsinki between 1988 and 1996, graduating with a master's degree in computer science from the NODES research group. His academics were interrupted after his first year of study when he joined the Finnish Army Uusimaa brigade, in the summer of 1989, selecting the 11 month officer training program to fulfil the mandatory military service of Finland. In 1990, he returned to his university studies, and was exposed to UNIX for the first time, in the form of a DEC MicroVAX running ULTRIX. His M.Sc. thesis title was 'Linux: A Portable Operating System.

## Linux

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Torvalds purchased an IBM computer with an Intel 386 processor and a 4MB memory. He was unhappy with the MS-DOS operating system that came with his new machine and had a strong preference for the powerful UNIX based computers that he had used while studying in University. He tried to get a version of UNIX for his computer but it was too expensive. He thought about using MINIX, which is a small clone of UNIX that was more capable than MS-DOS. MINIX had disadvantages compared to UNIX. It lacked performance and some features from UNIX, had a high licensing fee and not all of the source code was made public. From this Torvalds made the decision to create an operating system based on UNIX and MINIX.

The first prototypes of LINUX were publicly released on October 5, 1991. He uploaded the source code to a public network to be shared and refined by others. Linux was released under a GNU General Public Licence which is a free software licence that allowed anyone to study, use, modify, extend and redistribute the software as long as the source code for the modified versions are also made freely available. This resulted in many different programmers getting becoming involved in the improvement of Linux. Torvalds put his focus on further developing the Linux Kernel while others worked on the other components needed to make it a usable operating system. Version 1.0 was released on March 14, 1994. Linux continued to improve as more contributions were made by individuals and businesses. By 1997, there was nearly 3 million computers running Linux. By 1999 this figure had more than doubled with 7 million computers.

Linux can be found almost in digital life these days, from refrigerators to televisions to the international space station. The success of the Android mobile platform brought Linux to more than a billion devices. Android is based on the Linux Kernel and is a dominant operating system for smartphones. Linux is also the base operating systems for several smart device operating systems, such as LG who use the Linux based WebOS for their smart TVs.

Linux can also be used as the operating system for desktops and laptops instead of Windows or MacOS. However, the adoption of Linux-based computers are not as widespread as their Android counterpart. Although you will certainly find Linux in nearly every organization in one form or another, Windows and MacOS servers still persist in most companies. In 2011, Google introduced Chromebooks. These are cheap, lightweight laptops that run the Linux Kernel-based Chrome OS. Chromebooks dominate the k-12 market due to their low costs but still offering decent performance due to the low resource nature of Linux.

## Git

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Torvalds created Git in 2005 to further the development of the Linux Kernel. Git is a version control system for tracking changes in computer files and coordinating work on those files among multiple people. Its primary use is source-code management in software development. Similar to other distributed version control systems, and unlike most client server systems, every Git directory on every computer is a full-fledged repository with complete history and full version-tracking abilities, independent of network access or a central server. It is a free and open-source software distributed under the terms of the GNU General Public Licence.

## Awards & Achievements

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Linus Torvalds has been awarded for his role in the creation and adoption of the Linux platform. In 1999, Torvalds was given the title of 'one of the top 100 innovators, under the age of 35, in the world' by MIT Technology review TR100. Times magazine also recognised him as one of the most influential in the world in 2004. He received the 2012 Millennium Technology Prize by the Technology Academy Finland and the 2014 IEEE Computer Society Computer Pioneer Award.

Torvalds is working full time on improving the Linux Kernel under the sponsorship of the Linux Foundation which allows him to remain independent in his work.

## Sources

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- [https://en.wikipedia.org/wiki/Linus\\_Torvalds](https://en.wikipedia.org/wiki/Linus_Torvalds)
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