**Software Engineering**

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Biography of an Influential Software Engineer - Linus Torvalds



Named by Time magazine as the ‘one of the most influential people in the world’, **Linus Torvalds** is a Finnish computer scientist who’s creative mind was the principal force behind the development of the [Linux](https://www.britannica.com/technology/Linux) operating system.

Linus Torvalds is the world's most famous computer programmer and also its most famous Finn. He is the founder and coordinator of [Linux](http://www.linfo.org/linuxdef.html), the [Unix-like](http://www.linfo.org/unix-like.html) [operating system](http://www.linfo.org/operating_systems_list.html) that is beginning to revolutionize the computer industry and possibly much else as well. His is truly one of the great tales in the history of the computers.

**Early Life**

Born on 28th December 1969 in Helsinki, Finland, Torvalds was named after [Linus Pauling](https://en.wikipedia.org/wiki/Linus_Pauling), the famous physical chemist and Nobel Prize winner. Many members of the family were journalists. His parents, Nils and Anna Torvalds, were both radicals at the University of Helsinki during the 1960s. His father was a Communist who spent a year studying in Moscow in the mid-1970s and later became a radio journalist. His mother worked for a Finnish newspaper as a translator and a creator of news graphics.

It was his maternal grandfather, Leo Toerngvist, a professor of statistics at the University of Helsinki, who had the greatest influence on the young Linus. In 1981, Toerngvist bought one of the first personal computers, a Commodore Vic 20. With the introduction of a Commodore VIC-20, his interested in computers began aged just 11.

**College life and the birth of Linux**

Initially he programming in [BASIC](https://en.wikipedia.org/wiki/BASIC), but later by directly accessing the [6502](https://en.wikipedia.org/wiki/MOS_Technology_6502) CPU in [machine code](https://en.wikipedia.org/wiki/Machine_code). After the VIC-20 he purchased a [Sinclair QL](https://en.wikipedia.org/wiki/Sinclair_QL). The QL was one of the first 32-bit home computers and it was an improvement from the commodore. Due to difficulty acquiring software for it in Finland, Linus wrote his own assembler and editor for the QL, he also extensively modified the QL, especially its operating system, which he was not overly satisfied with.

He studied at the University of Helsinki, from where he obtained a master’s degree in computer science. He belonged to the NODES research group. During his period of study, he became a part of the Finnish Army and attended an eleven-month training programme in order to meet the compulsory military service criteria of Finland. This interrupted his studies. After service in the army, he went back to university to continue his studies.

In early 1991, while a computer science student, he purchased an IBM-compatible personal computer with a 33MHz Intel 386 processor and a huge 4MB of memory. This processor greatly appealed to him because it represented a tremendous improvement over earlier Intel chips. As intrigued as he was with the hardware, however, Torvalds was disappointed with the [MS-DOS](http://www.linfo.org/ms-dos.html) operating system that came with it. That operating system had not advanced sufficiently to even begin to take advantage of the vastly improved capabilities of the 386 chip, and he thus TORVALD strongly preferred the much more powerful and stable [UNIX](http://www.linfo.org/unix_upper.html) operating system that he had become accustomed to using on the university's computers.

He tried to get a version of UNIX for his new computer, but it was too significance of a cost for him to afford, leading to the consideration of MINIX, a smaller clone of UNIX that was more capable than MS-DOS. However, although much more powerful than MS-DOS and designed to run on Intel x86 processors, MINIX still had some serious disadvantages. They included the facts that not all of the [source code](http://www.linfo.org/sourcecode.html) was made public, it lacked some of the features and performance of UNIX.

Torvalds created an operating system from scratch, based off a combination of both UNIX and MINIX. It was unlikely that Torvalds was fully aware of the significant amount of work required, and it is difficult to believe that Linus could have envisioned what his decision would result in for both his own life and on the rest of the world. With minimal pressure from his university to graduate, Torvalds effectively had more time to concentrate on his project and therefore decided to take a break and devote his full attention to his project. In 1991, after months of determined programming work, he yielded the beginnings of an operating system known as Linux, as he announced the first official version of Linux.

**Linux’s Acceleration**

The performance of the Linux kernel and Linux distributions continued to improve as more and more developers, initially individual and later corporate as well, joined the project and contributed their enthusiasm, effort and programming skills. This was paralleled by a swift growth in the number of users.

In 1994, Torvalds began promoting the porting of Linux to additional processors. The first of the new processors was the Alpha, which was used in Digital Equipment Corporation's (DEC's) workstations. This was greatly facilitated by DEC's investment of both money and engineering talent, and it was soon followed by porting to the SPARC and MIPS processors.

The use of Linux continued to grow rapidly as a result of these and numerous other advances as well as due to its spreading fame. By 1997, conservative estimates were placing worldwide Linux installations at more than three million computers. Two years later this had soared to in excess of seven million.

Torvalds' financial situation changed dramatically in 1999. Red Hat and VA Linux (now VA Software), both leading developers of Linux-based software packages for large enterprises, had presented him with stock options in gratitude for his creation. Torvalds suddenly became a millionaire when Red Hat went public, and his net worth temporarily soared to roughly $20 million when VA Linux went public later that year.

**Linux’s Success Today**

Linux use has grown rapidly not only in terms of the total number of installations but also in terms of the diversity of the systems on which it is operated. Particularly impressive has been its growing share in the market for servers, the centralized computers that power corporate networks and the Internet. Many industry experts are convinced that it is only a matter of just a few years before Linux replaces the proprietary UNIXs as the dominant operating system in the world's largest corporate data centres.

Moreover, Linux is finally reaching the point where it is suitable for use as a low-cost alternative on the desktop and notebook computers of ordinary people who have little understanding of computers but who need them for their work or personal use.

This phenomenal success is undoubtedly due in very large part to Torvalds' brilliance and dedication. Also important is the fact that he made a series of wise strategic decisions, not only about the technical aspects of the operating system but also about how it would be developed and licensed, including that very early decision to make Linux free software.

**Torvalds Today**

Torvalds is now working on the Linux kernel full-time for [Open Source Development Lab](http://www.linfo.org/osdl.html) (OSDL), which is based in Beaverton, Oregon. Founded in 2000 and supported by a global consortium of computer companies, including IBM, OSDL describes its mission as "becoming the recognized centre of gravity for Linux and the central body dedicated to accelerating the use of Linux for enterprise computing."

In contrast to many leading advocates of open source software, Torvalds maintains a low profile and attempts to avoid debates that are not closely related to the Linux kernel, and he generally avoids commenting on competing software products. In fact, his public stance is so neutral that it has even been criticized by other free software advocates. Yet, Torvalds has occasionally reacted with strong responses to anti-Linux (and anti-free software) tactics employed by some proprietary software companies.

**Links**

<https://www.britannica.com/biography/Linus-Torvalds>

<https://en.wikipedia.org/wiki/Linus_Torvalds>

<https://www.computerhistory.org/fellowawards/hall/linus-torvalds/>

<https://www.thefamouspeople.com/profiles/linus-torvalds-3972.php>

<http://www.linfo.org/linus.html>

<https://www.linuxjournal.com/content/25-years-later-interview-linus-torvalds>