Hayden Ivatts

15-10-19

Biography of an influential software engineer

**Git**ting to know Linus Torvalds

Linus Torvalds was born in Helsinki, Finland on December 28th, 1969 to his parents Nils and Anna Torvalds. From a young age he was constantly surrounded by academics. His parents were both journalists who actively participated in university life. Even his grandparents were involved in raising him as a thinker. His grandfather worked as a statistician and his grandmother as a poet. He was first exposed to computing when he was 11 years old and given a Commodore VIC-20. He initially coded in BASIC, but soon got bored of that and began directly accessing the 6502 CPU without assembly. This amount of customization at a young age shows some of Torvalds advanced skills early on in his computing life. He claims that “Because it was so hard to get software for it in Finland” he wrote his own assembler and editor for his new Sinclair QL machine. Torvalds attended the University of Helsinki between 1988 and 1996 graduating with a masters in Computer Science from the NODES research group. After university he briefly served in the army as a ballistic calculation officer.

His professional career began with the development of Linux when he was working at Transmeta and the GNU project. While this was obviously a huge accomplishment for open source programming and the software engineering field in general, his work with Git personally had more impact on my programming. Git was created when the Linux foundation could no longer use their source management software and there were no other options available that met their needs. Torvalds took it upon himself and developed the first version of Git software over the weekend and came back the next week with a solution to the foundation’s problems. His incredible persistence and ability to solve problems quickly is one of the things that makes him one of the best software engineers of all time. He recently said in an interview that he never wanted to get into source control because it was so boring and he hated all the SCM software he had ever used. The release of Bit Keeper inspired him to want to make something more useful and streamlined. When talking about the development process he stresses that the code itself was not terribly complicated and only took about 10 days to get the kernel to the point where he could use the kernel to start committing code for the Git project. He says most of the development happened over years of working with other SCM that he didn’t like. He had learned what worked and what basic functions are needed to make a useful software. He also talks a lot about how the beauty of Git was how the system itself was used to constantly improve the system. In the beginning the kernel and interface were very complicated and hard to use but as more things were committed it continuously improved. Self committing is a perfect example of what makes Git so useful and groundbreaking.

Torvalds work is especially impressive and important to me because of my path to becoming interested in software engineering. I started out college as an economics major who wanted to go into finance. I took an introduction to computer science freshman year of college and really loved it. I enjoyed how logical and thought provoking the problems were. I gained immense satisfaction from finally finishing a seemingly impossible problem. The next year I took another CS class and liked it even more then the first one. This was when I began to rethink my career path and considered switching majors all together to train to be a software engineer someday. I quickly decided to switch and with that came the start of my new career path. I began searching for internships for the summer so I could prepare for the pinnacle Junior year internship that everyone says is the most important step to getting an entry level job in the ultra-competitive tech industry. I spoke to some alumni in the industry and the first recommendation they gave me was to get on Github and start looking at the work of others doing open source development. I began pouring over the infinite projects that people were constantly updating and improving. It was fascinating to watch the Git system work like magic to connect developers from all over the world. Watching the community thrive in real time solidified and reassured me that software engineering was the place for me.

The flexibility and collaborative nature of Git is what makes it one of the most impressive feats of development. It encourages organized development between countless numbers of people in any corner of the globe. It allows beginners like me to work side by side with some of the best engineers in the world. It allowed me to learn by watching and it inspired me to work harder towards my goal of refocusing my career aspirations. While I learned so much from researching and studying large projects that got tons of attention on Git, the part that affected me the most was being able to contribute to open source projects. After learning how the whole system worked, I started to feel confident enough to get involved. The ability to work on your own version of anyone’s code proved invaluable to me because it allowed me to work on any project, no matter how complex, without worrying about messing up someone else’s hard work. Contributing to open source projects and meeting people in the community helped me to prepare for interviews more productively then just writing practice code in a vacuum. Torvalds work with Git is one of the reasons that I have stayed keen on changing my career course into technology and its shown me how diverse the software engineering community is.

References

“Linus Torvalds.” *Wikipedia*, Wikimedia Foundation, 16 Oct. 2019, en.wikipedia.org/wiki/Linus\_Torvalds.

Mcmillan, Robert. “Linus Torvalds Invented Git, But He Pulls No Patches With GitHub”, Wired, 11 May 2012, <https://www.wired.com/2012/05/torvalds-github/>

“10 Years of Git: An Interview with Git Creator Linus Torvalds”. Linux Foundation, 6 April 2015, https://www.linuxfoundation.org/blog/2015/04/10-years-of-git-an-interview-with-git-creator-linus-torvalds/