LINUS TORVALDS AND LINUX

Presentation by: Aava N,
Caio R, Karlos G

BASIC BIOGRAPHY

- Full name: Linus Benedict Torvalds
- Born: December 28, 1969, Helsinki, Finland
- Education: M.Sc. in Computer Science, University of Helsinki
- Family: Son of journalists and grandson of a mathematician — raised in an academic environment
- Current role: Fellow at the Linux Foundation, overseeing the Linux kernel

EARLY PROGRAMMING INTEREST

- Started programming at age 11 on a Commodore VIC-20
- Fascinated by computers and low-level programming
- Learned C and Assembly by himself
- Driven by curiosity and technical challenge

THE MOTIVATION BEHIND LINUX

- Dissatisfied with the limits of MINIX, a small teaching OS
- Wanted to explore how an operating system worked internally
- In August 1991, posted on Usenet:
- “I’m making a free operating system — just a hobby.”
- His goal: learn, experiment, and share

THE CREATION OF LINUX

- First version: Linux 0.01 (10,239 lines of C and Assembly)
- Released under the GPL license, ensuring freedom to use and modify
- Combined with GNU tools → formed the GNU/Linux system
- Dozens of contributors joined right away
- By 1994: Linux 1.0 released with 176,000 lines of code

DEVELOPMENT MODEL

- Anyone can contribute — code and discussions are public
- Code quality matters more than titles or companies
- Development happens in public mailing lists
- GPL license protects against privatization
- Success built on transparency + meritocracy + global community

THE CREATION OF GIT

- Created in 2005 to manage Linux’s massive codebase
- A distributed version control system
- Now used by almost every software project in the world
- Inspired platforms like GitHub and the DevOps movement

PHILOSOPHY AND VIEW ON FREE SOFTWARE

- FLOSS = Free/Libre and Open Source Software
- Linus is pragmatic — values efficiency and collaboration over ideology
- Unlike Richard Stallman (ethical focus), Linus emphasizes technical excellence
- The GPL ensures software stays open and accessible

LINUX STRUCTURE AND DISTRIBUTIONS

- Kernel: the core that manages hardware and processes
- Linux distribution: kernel + tools + interface (e.g., Ubuntu, Debian, Fedora, Arch)
- Each distro has a different goal:
- Ubuntu: beginner-friendly
- Fedora: cutting-edge and experimental
- Debian: stable and reliable
- Arch: full customization

GLOBAL IMPACT OF LINUX

- Powers over 90% of the Internet’s servers
- Forms the core of Android, running on billions of phones
- Used in supercomputers, IoT, cars, and robots
- Supported by companies like Google, IBM, Red Hat, Canonical
- Foundation of modern digital infrastructure

LINUS AS A LEADER AND PERSON

- Known for his direct and demanding communication style
- Took a break in 2018 to reflect and improve emotional communication
- Still leads the Linux kernel with technical precision
- Respected for honesty, clarity, and commitment to quality

CULTURE AND LEGACY

- Inspired a culture of open collaboration
- Foundation for platforms like GitHub
- Influenced movements like DevOps and containerization (Docker, Kubernetes)
- Proved that open-source software can be more reliable and scalable than proprietary systems

THE FUTURE OF LINUX

- Growing role in cloud computing and artificial intelligence
- Challenges: security, privacy, and fragmentation
- Linux remains vital for critical global infrastructure
- Maintained by thousands of developers and hundreds of companies
- Linus continues as a symbol of innovation and digital freedom

CONCLUSION

- From a personal hobby to a global revolution
- Changed the way the world builds and shares software
- His philosophy blends curiosity, collaboration, and code quality
- Linux is more than software — it’s a living global community

OBRIGADO!