

# **Effective Programming Practices for Economists**

## **Background**

### **A Brief History of Operating Systems**

Janoś Gabler and Hans-Martin von Gaudecker

# Two broad lines

1. Unix-based/inspired (Linux, MacOS)
2. Windows



# Unix

- Developed at Bell labs starting 1969  
(some history)
- Quickly evolved to become the main OS for servers.
- Became a commercial product in the early 1980s.
- Early OSS spin-offs: Berkeley Software Distribution (BSD) and GNU's Not Unix (GNU).



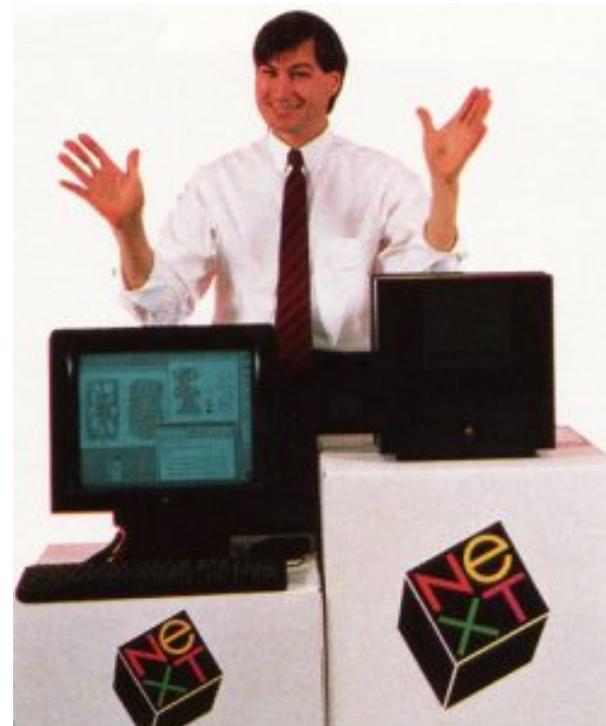
# Linux

- In 1991, Linus Torvalds wrote a new kernel inspired by the Unix kernel from scratch.
- Many flavours of Linux today: Debian, Ubuntu, Red Hat, Mint, Android, ...



# MacOS X / MacOS

- After parting ways with Apple in the 1980s, Steve Jobs founded a company called NeXT.
- Developed the OS NeXTstep, which was based partly on the BSD.
- NeXT was bought by Apple in 1996
- Eventually brought back Jobs as CEO.
- MacOS, iOS, ... all based on NeXTstep and thus BSD, Unix.

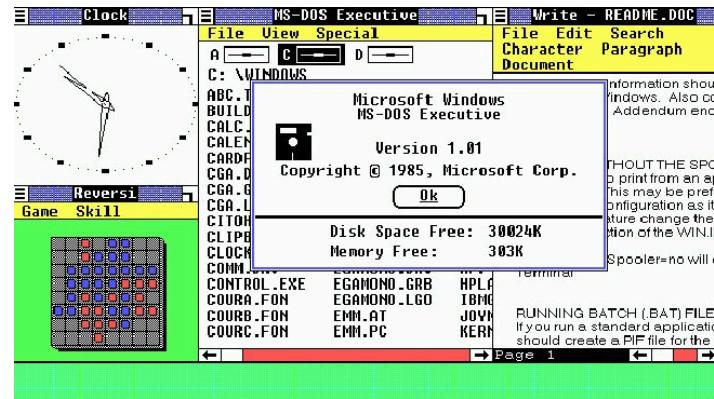


# POSIX

- Stands for Portable Operating System Interface
- Aims to establish a standard for Unix derivatives.

# Windows

- Complex history of corporate collaborations between Microsoft / IBM.
- Big break between MS-DOS / Windows 9x and Windows NT, XP, subsequent versions.



# Signs of convergence

- Most of Microsoft's cloud services seem to be running Linux
- Since version 10, Windows includes the Windows Subsystem for Linux (WSL)