Free software and its' history

Shahriar Ghasempour
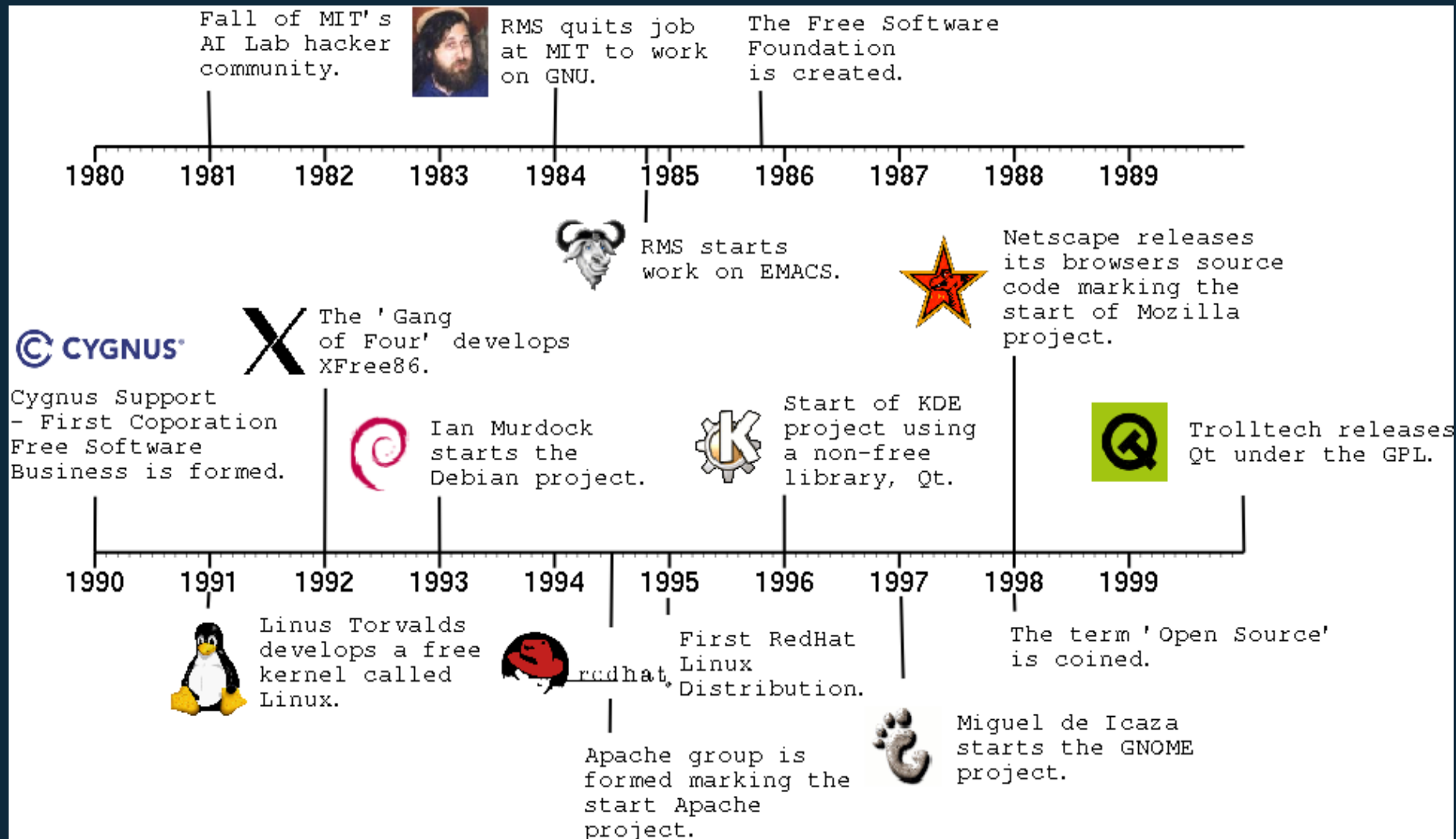
Subjects

◇ Unix

◇ GNU

◇ Famous outputs of the GNU project

◇ GNU/linux

◇ Copyleft

◇ Advantages and disadvantage of free software

◇ Introducing some free software

Fall of MIT's AI Lab hacker community.

RMS quits job at MIT to work on GNU.

The Free Software Foundation is created.

1980 1981 1982 1983 1984 1985 1986 1987 1988 1989

RMS starts work on EMACS.

Netscape releases its browsers source code marking the start of Mozilla project.

CYGNUS

The 'Gang of Four' develops XFree86.

Cygnus Support – First Coporation Free Software Business is formed.

Ian Murdock starts the Debian project.

Start of KDE project using a non-free library, Qt.

Trolltech releases Qt under the GPL.

1990 1991 1992 1993 1994 1995 1996 1997 1998 1999

Linus Torvalds develops a free kernel called Linux.

redhat

First RedHat Linux Distribution.

The term 'Open Source' is coined.

Apache group is formed marking the start Apache project.

Miguel de Icaza starts the GNOME project.

Before we begin, we should know about the state of the computer business between the 1950s and the early 1970s

UNIX

◇ By Ken Thompson, Dennis Ritchie

UNIX

◇ Unix is an OS

◇ Developed by AT&T at Bell Labs(1969)

◇ In 1972 Unix rewritten in the C programming language
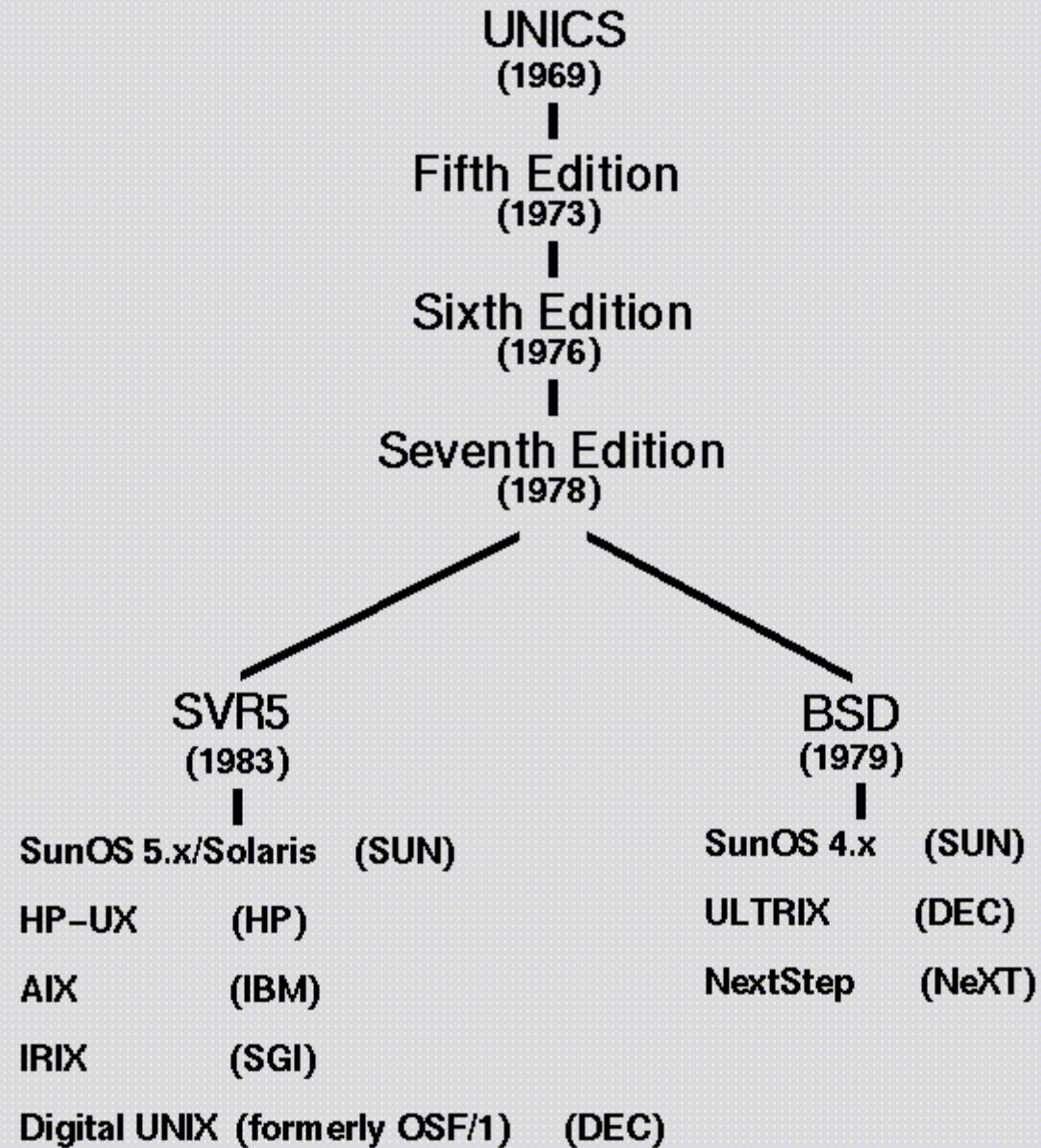 ▪ C was developed for Unix

UNIX

◇ 1975: Unix spreads outside AT&T because of court order and anti-trust case

  ▪ AT&T forbidden for entering software business

The Unix Family Tree

UNICS
(1969)

|

Fifth Edition
(1973)

|

Sixth Edition
(1976)

|

Seventh Edition
(1978)

SVR5
(1983)

SunOS 5.x/Solaris	(SUN)
HP–UX	(HP)
AIX	(IBM)
IRIX	(SGI)
Digital UNIX (formerly OSF/1)	(DEC)

BSD
(1979)

SunOS 4.x	(SUN)
ULTRIX	(DEC)
NextStep	(NeXT)

GNU project

◇ Richard Stallman believed that we need an operating system. The computers we buy aren't under our full control because the operating system and its programs are written by others. Therefore, we need to design an operating system.

"*Every computer user needs an operating system; if there is no free operating system, then you can't even get started using a computer without resorting to proprietary software. So the first item on the free software agenda obviously had to be a free operating system.*" gnu.org

GNU, which stands for Gnu's Not Unix, is the name for the complete Unix-compatible software system which I am writing so that I can give it away free to everyone who can use it.

— Richard Stallman —

AZ QUOTES

Famous outputs of the GNU project

- ◇ GCC ((GNU Compiler Collection))
  - ▪ At first it was just a standard compiler for the GNU.

- ◇ Emacs text editor

- ◇ Copyleft
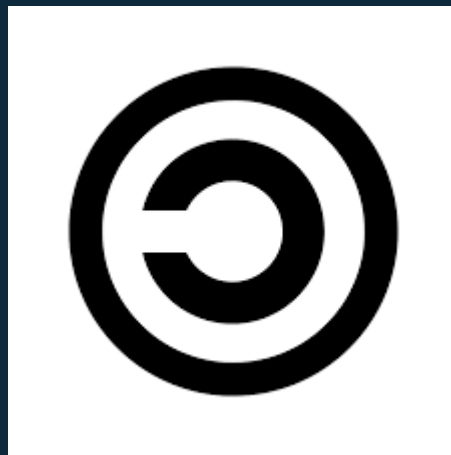
Copyleft licenses

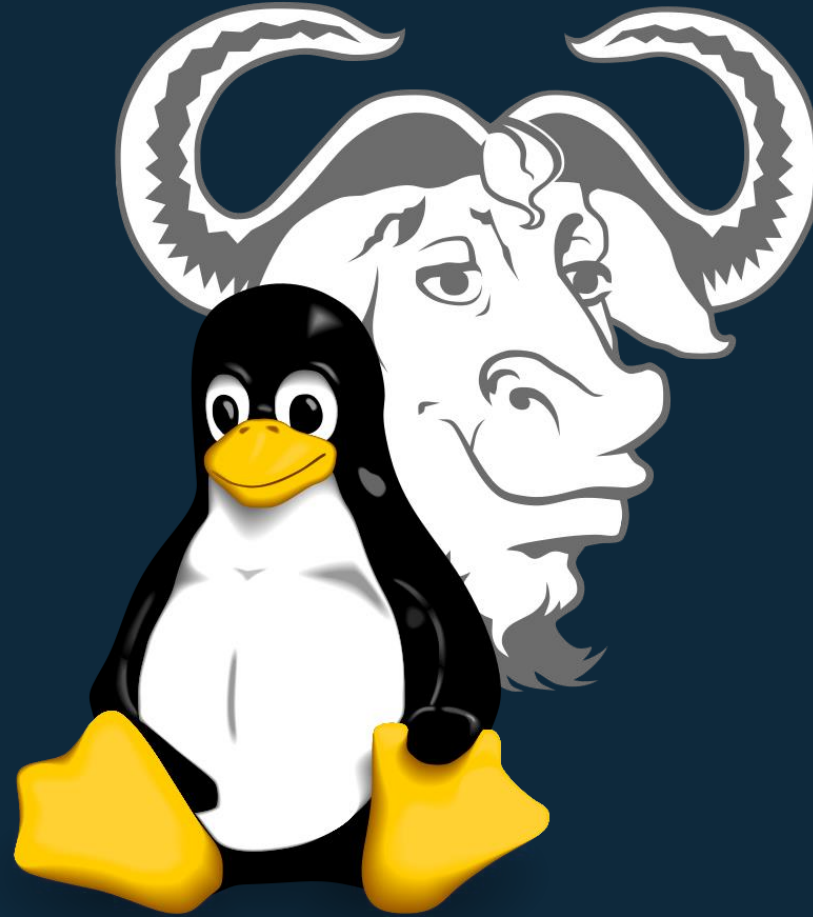◇ GPL ((GNU General Public License))

◇ MIT

◇ LGPL

◇ GFDL

◇ ...

By 1991, almost all the operating system components intended by the GNU project were ready

except for the kernel.

Birth of GNU/Linux

◇ In 1991, a Dutch teenager named Linus Torvalds started writing a Unix-like kernel for fun. After finishing the work, by sending an e-mail, he gives an explanation about his project and publishes the version 0.0.1 of his kernel and places it on an FTP server.

◇ *"By 1990 we had either found or written all the major components except one—the kernel. Then Linux, a Unix-like kernel, was developed by Linus Torvalds in 1991 and made free software in 1992. Combining Linux with the almost-complete GNU system resulted in a complete operating system: the GNU/Linux system. Estimates are that tens of millions of people now use GNU/Linux systems, typically via GNU/Linux distributions. The principal version of Linux now contains nonfree firmware "blobs"; free software activists now maintain a modified free version of Linux, called Linux-libre."* gnu.org

Does the software that is free mean that it is free?

Free software does not
necessarily mean that it is free

Free software does not necessarily mean that it is free

◇ *"The word "free" in "free software" pertains to freedom, not price. You may or may not pay a price to get GNU software. Either way, once you have the software you have four specific freedoms in using it. The freedom to run the program as you wish; the freedom to copy the program and give it away to your friends and co-workers; the freedom to change the program as you wish, by having full access to source code; the freedom to distribute an improved version and thus help build the community. (If you redistribute GNU software, you may charge a fee for the physical act of transferring a copy, or you may give away copies.)"* gnu.org

Advantage of free software

The credibility of this software is that thousands of independent programmers can test and fix software bugs. Finally, open-source software can be developed in line with purely technical requirements and does not need to consider the commercial pressures that often reduce the quality of software.

Disadvantage of free software

Disadvantage of free software

Lack of proper technical
support and reduced
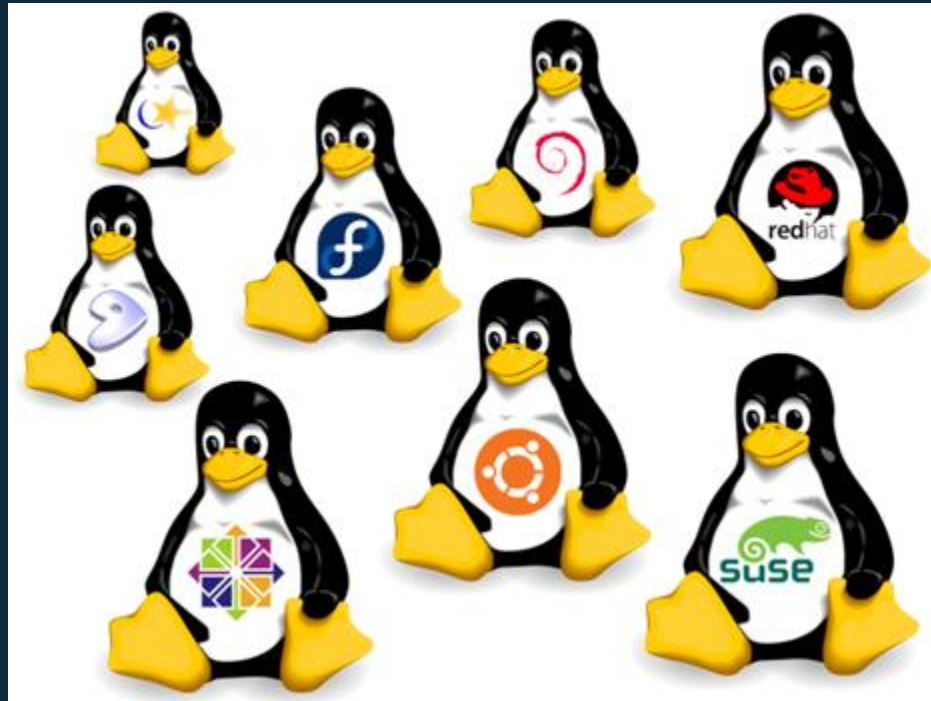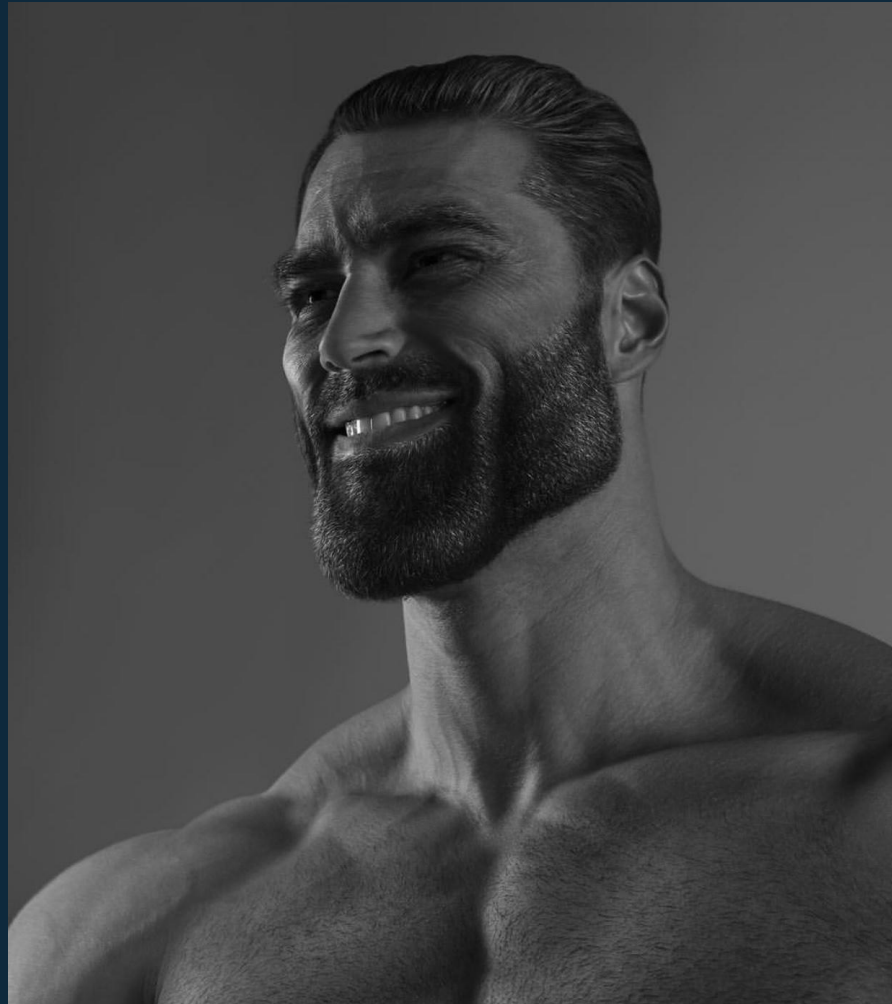software security

Introducing some free software

1 - LibreOffice

2-vim

3- some GNU/linux distributions

4 - puya.{university name}.ac.ir

5- Atom

6- Git

Resources

◇ https://Wikipedia.org

◇ https://gnu.org

◇ https://www.systemgroup.net

◇ https://medium.com

◇ https://unix.org

◇ https://youtube.com/@JadiMirmirani

◇ https://youtube.com/@ParsclickTV