

Open Source Software – Some perspectives

Introduction

- Who was DMR ?

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- Who was DMR ?
- Who was Steve Jobs?

Introduction

- Who was DMR ?
 - Dennis M Ritchie
 - Creator of C and Unix in 1970s
 - “Ritchie was under the radar. His name was not a household name at all, but... if you had a microscope and could look in a computer, you'd see his work everywhere inside. “

History

- In 50s and 60s software was written as public domain software and as such was shared.
- Hardware used to be sold with software and its source code.
 - Customers could update and fix bugs and share the updates with others
- Until 1974, software was not even copyrighted.

Three Phases of Free Software

Pre-PC era

- Before the Personal Computers, all software was developed and used at work places or educational institutions.
- Free Software was written and shared amongst these institutions.
- Limited production
- Limited Distribution
- Limited Access

Three Phases of Free Software

Pre-PC era

- From 70s onwards, companies started charging licensing fees on software.
- At this time Bell Labs gave Unix along with the C language for free to Educational Institutions and research labs.
- There was no concept of releases. DMR would send tapes of updated software on request.
- Thousands of graduates during these years joined the workforce trained in C and Unix.

Three Phases of Free Software

PC era

- Computer usage moved into homes.
- Many non technical people could use computer for simple tasks like writing, playing games etc.
- Free software for playing games, writing etc was available in many stores for just the cost of media (floppies etc).
- Many books contained free software.

Three Phases of Free Software

PC era

- For Technical people, Unix variants were available for free and came with source code and free C compiler.
- More people could write and share software.
- BBS (online Bulletin Board services) were used to share software.
- Non Software products like protocol standards were available on CDs (CCITT7)
- More widespread production
- Wider distribution
- Wider Access.

Three Phases of Free Software

PC era

- Installation of such software was hard – poor documentation
- Different platforms and versions required some sort of customization to install.
- Poor support for bug fixes.
- Help in case of problems was hard to get.

Three Phases of Free Software

Internet Era

- Internet has fueled massive expansion of all kinds of freeware.
- Any one can write software and share it.
- Web sites help in distribution of useful software.
- Any one can download many kinds of software for free with a click of mouse.

Three Phases of Free Software Internet Era

- Unix and C have become almost mainstream in Business world.
- Installation of most software is streamlined.
- In case of problems, help is available on line for most issues.

Three Phases of Free Software

Internet Era

- Almost all networking protocols are now open source and available for free online.
- Tutorials on most topics are available for free.
- Online copyright free streaming music is available for use.
- Streaming movies
- Free games

Motivation for free software

- History of software writing is rooted in sharing of source code for free.
- Sharing with colleagues provides a quick proof of concept.
- Helps in learning process.
- Open source means lots of developers can see the source code – prevents malicious code from getting in.
- The thrill of making something work.

Networking Software - PSTN

- One of the first I used was open source SS7 protocol suite.
- MTP2, MTP3, TUP, ISUP etc ..
- Provided a good learning experience

Networking Software - VOIP

- During the transition to VOIP many of the protocol stacks were available for free download
- SCTP
- SIP
- SIGTRAN
- Many startups used these free stack to develop products
- Softphones on the internet to test the VOIP products.
- Many commercial stacks were expensive and came with lots of bugs
- Customers had to help in solving the bugs for timely project development.

Photo/Video/Graphics

- Open source software for picture manipulation compares well with top of the line commercial software
 - GIMP vs Adobe Photoshop.
- Several good quality video editing software available for free download

Other software

- Open source office suite compares well to the Microsoft commercial Suite.
- Web Browsers like Firefox compare to google Chrome.

Efforts at UTD

- I currently work on two Open source software projects.
 - IOT based projects
 - Digital Forensics – recover deleted partitions/directories/files.

Open Source Future

- The battle between Open source vs Commercial will continue
- Open Source has made its presence permanent.
- Microsoft's efforts to sideline Linux have failed. Linux is there to stay.
- Other open source software continue to develop – developers around the world will continue to contribute.