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 workplaces 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. Linus is there to stay.
• Other open source software continue to develop – developers around the world will continue to contribute.