

Freeloaders, Slackers and Pirates: Arrrrggghhhh!

By

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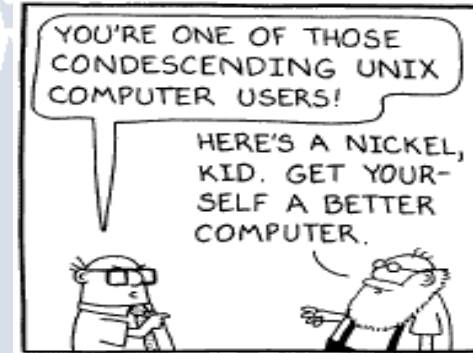
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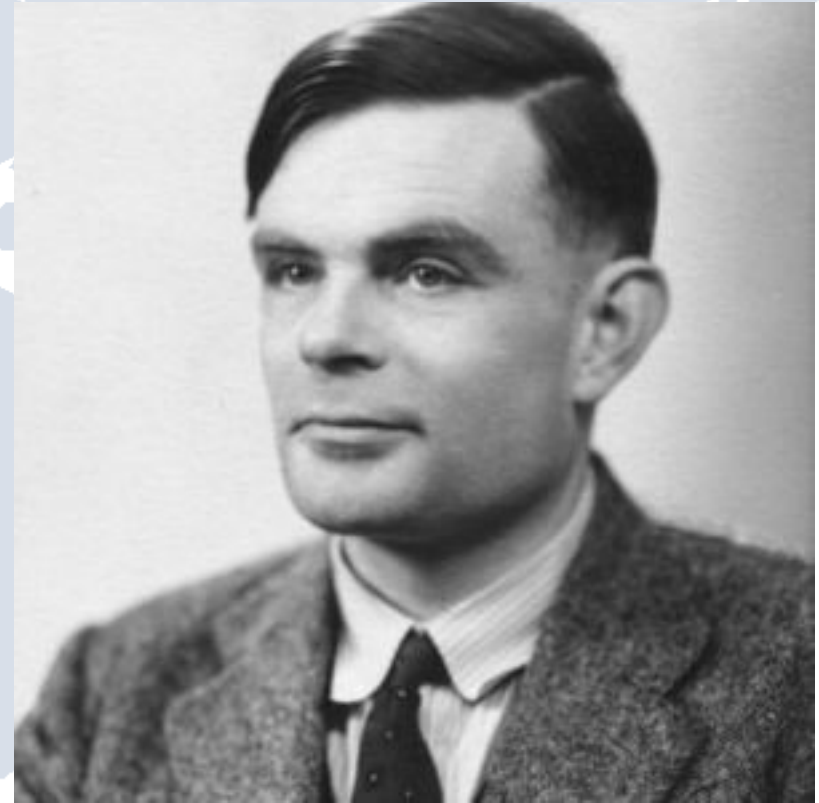
maddog Is REALLY OLD!!

- *Half* Electrical Engineer, *Half* Business, *Half* Computer Science
- “Open Source” since *1969*
 - Mainframes 5 years
 - Unix since 1980
 - Linux since 1994
 - *Latin America since 1996*
- Companies (mostly large): Aetna Life and Casualty, Bell Labs, Digital Equipment Corporation, SGI, IBM, Linaro, Caninos Loucos
- Programmer, Systems Administrator, *Systems Engineer*, Product Manager, Technical Marketing Manager, University Educator, Author, *Businessperson*, Consultant
- Taught OS design, database design and compiler design
- *Extremely* large systems to *extremely* small ones
- Vendor *and* a customer
- *Pragmatic*



Dedicated to Alan Turing (1912-1954)

- Mathematician
- Cryptologist
- War Hero
- Father of Computer Science
- Father of AI



Warning!

This talk is to give some history around “Intellectual Property” and computers as well as an overview of how you can protect your rights and the rights of others.

I am NOT a lawyer, and while this presentation is believed to be accurate, I highly recommend you talk to actual lawyers.”

Before the Beginning....

- Books were difficult to copy..
 - Scribes copied them with pen and ink
 - Most people could not read
 - Books were very expensive
 - Bibles
 - Laws
- Gutenberg changed all that
 - “Buy one book, copy by the thousands”
 - Original author made little (no) money
- Copyright was the answer

Before the Before the Beginning: Patents

- Patents to protect the ideas of the originator
- Before patents:
 - Trade Secrets
 - Loss of many techniques
- 1421 - First recorded modern patent:
 - Florence, Italy
 - Filippo Brunelleschi
 - Engineered Dome of Florence Cathedral

Patent Insights

- Must be original and novel (“not obvious”) idea
- Must be registered
- Limited lifetime
- Does not have to be “protected”
 - “Submarine” patents can occur
- Licensed or blocking patents
 - Bell Labs as a “utility”

Almost Still-birth of the Piano

- Bartolomeo Cristofori (1655-1731) of Florence
 - Instrument maintainer and maker for royalty
 - Invented “clavicembalo col piano e forte” ~1700
- Harpsichord was instrument of the day!
- Piano-Forte was expensive instrument
 - No music for it
 - No demand for it
 - No instruments made

Solution?

- Publish how to make Piano-Forte!
 - Eliminated ability to patent
 - But Cristofori was the inventor!
- No publishers in Italy
- Publishers in Germany
 - Instrument makers in Germany
 - Gave out “samples” to well-known artists
- Took 100 years for piano to replace harpsichord
- Today there are hundreds of patents on improvements of basic patent

Trademark

- Any word, phrase, symbol, design, or a combination of these things that identifies your goods or services
- Unique to a *class* of goods or services
 - Can not be “descriptive” or “generic”
 - Can not be used by someone else
- Must be protected
 - Can be lost if it becomes “generic”
 - “Kleenex” vs “facial tissues”
- Must be registered

In The Beginning....

- Computers were physically huge, logically small and slow
- Many different architectures
 - Few machines of each architecture
- Operating Systems (if there was one) specialized (Batch, time-sharing, real-time...)
 - Helped users make computers more efficient
 - Computers more valuable than humans
 - DEC PDP-11 had 11+ operating systems
 - No lock-in



Most Software Distributed In Source Form

- Few “professional programmers”
 - You wrote your program to do your job
- Many “points of sharing”
 - Vendor's user libraries (DECUS, SHARE, etc.)
 - Dial up Bulletin Boards
 - User groups
- No software copyrights or patents
 - Software IP protected by contract law or “trade secrets”
 - Months of negotiations and much money

Unix - 1969

- Bell Labs – “Just for Fun”
- Small kernel
 - Eas(ier) to “get it right”
 - Eventually written in “C”
 - Eventually portable across hardware
- Distributed in source code (at first)
 - *Allowed Universities, companies and governments to contribute*
- Was never “free”, and barely “open”
 - 160,000 USD per CPU (and serial #)
- Humans more valuable than computers

Fun And Games

- Game consoles produced by the hundreds of thousands
 - Relatively easy to reverse engineer game console
 - VERY easy to copy the “ones and zeros” in the ROM
- Game designers want copyright on contents of ROM
- Later wanted copyright for source code of ROM

Beginning Of The End

- 1982 – Sun Microsystems – commercialization of Unix
 - Binary only license
 - Cheaper
 - No serial #
 - Two user/unlimited user
- Other companies followed
 - Most “BSD oriented”

Speaking of BSD.....

- Mandated copyrights had consequences...
 - Now software needed a license
- Not just Berkeley...MIT, CMU, etc.
 - Giving rights to users and distributors
 - Limiting liability
 - “No purpose whatsoever”
 - “Even if your computer catches fire and burns”
 - Attribution – how and where
- A lot of work to give software away for free....

Speaking (Again) of Trademarks

- UNIX™ *is* a trademark of:
 - Bell Labs
 - Bell Laboratories™
 - AT&T Bell Laboratories™
 - Novell™
 - X/Open™
 - The Open Group™
- Everything else is “Unix-like”....

Whats GNU?

“Gnu is not Unix”

- 1983 – RMS announced GNU project
 - Complete OS with source code available
- 1985 – Free Software Foundation started

Top Down

- Software available across operating systems
 - Emacs (rms could have stopped there...)
 - Compiler Suite
 - Utilities
- Allowed people to be portable across OS
 - Not just “Unix-like”
- Allowed small companies to start up
 - Packaged software, ready to use
 - Support companies
 - Cygnus

Unix System Labs (USL) vs BSDi

- 1991 USL sued BSDi
 - BSDi using variant of BSD
 - BSDi sold binaries and sources for 995 USD
- Lawsuit dragged on for years, settled in 1994
 - “BSDlite” was distribution free of AT&T IP

1991 - The Start of Linux

- Linus Torvalds Math/Physics major University of Helsinki
- Received x386 system for Christmas
- Wanted “real” operating system
- Decided to write his own kernel
- Others joined in, then later added GNU tools and more

WHY Could This Occur?

- Powerful, cheap computers
 - 386 - Demand Paged Virtual Memory
 - 386 - being “retired” to hobbyist machine
- Fast(er) Internet to the home
- Much information on-line and easily accessible
- WWW (1989) was maturing
 - Even porn was eas(ier)

1994 Is Where I Came In

- DECUS having meeting in New Orleans
- I wanted a platform for research into use of 64 bit-address spaces
- Linus coerced me into making that Linux
- BSD still locked up in lawsuit



FOSS Licenses Exploded

- “Fred's License”
- “Open Source” became a phrase
- “Open Source Initiative”
 - Helped categorize licenses
 - Permissive/Restrictive
 - Lawyers rejoiced!

Lots of Licenses

- “Permissive Licenses”
 - BSD/MIT, etc.
 - Few restrictions on user of source code
 - Binary distributions without sources allowed
 - Very few “viral” restrictions
- “Restrictive Licenses”
 - Typically a “viral” license putting requirements of users downstream
 - Typically requires source code changes to be made available to binary users

Patents (Submarine and Otherwise)

- Huffman Encoding Technique (LZW algorithm)
 - Lossless compression
 - Simple to code
- Sperry Research Center/Unisys – patented it before it was published
 - In every textbook
 - `compress(1) => pack(1) => (g)zip(1)`
 - Gif files
- Patent royalties were required on LZW even in “free software”
- Patent expired in 2003

Red Hat

- Started in 1993
 - Three college buds
- Robert (Bob) Young
 - Selling Free Software
 - Linux is ketchup, Red Hat™ is Heinz™
- IPO
- Specialize in Enterprises
 - Red Hat ENTERPRISE Linux (RHEL™)

Enterprise Is *Difficult*

- Service Level Agreements
- Mean Time To Repair
- Develop and deliver training
- Develop and Deliver Support
- Different needs than desktop
 - <CTRL><ALT><DELETE>
 - Need 2999 System Administrators

Enterprise Is *Expensive*

Very Expensive...but downtime is more expensive

CentOS

- Just removed the trademark information and recompile
- But did you really “remove the trademark information”?
 - “CentOS is RHEL recompiled...”
 - “CentOS is doing something that RHEL does not....”

But, but, but...the GPL!

- There are parts of RHEL that are not covered by the GPL
 - BSD licensing
 - Written completely by Red Hat
- Projects are licensed separately, compilations have their own licensing
 - Prime Time Freeware, as an example
- Red Hat contributes upstream...and so does IBM

But, but, but....Red Hat *Promised*

I know many of the people in Red Hat who worked to make that promise...it was made in good faith

Who Loves Open Source?

- Developers and companies love Open Source
 - They get massive amounts of developed and tested software “for free”
 - They can often contribute exactly what they need
- Companies hate Free Software
 - They do not want to give their customers the ability to fix the software themselves
 - They do not want to give an alternate supplier of support

Microsoft

Has *never* invited a *Free Software Advocate* to their *user* meetings

So maddog likes the situation?

maddog does not think we need a clone of
RHEL...

.....maddog thinks we need a *better* enterprise
Linux...

Questions?



WORLD DOMINATION
THROUGH
WORLD COOPERATION

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