

Open Source Licensing

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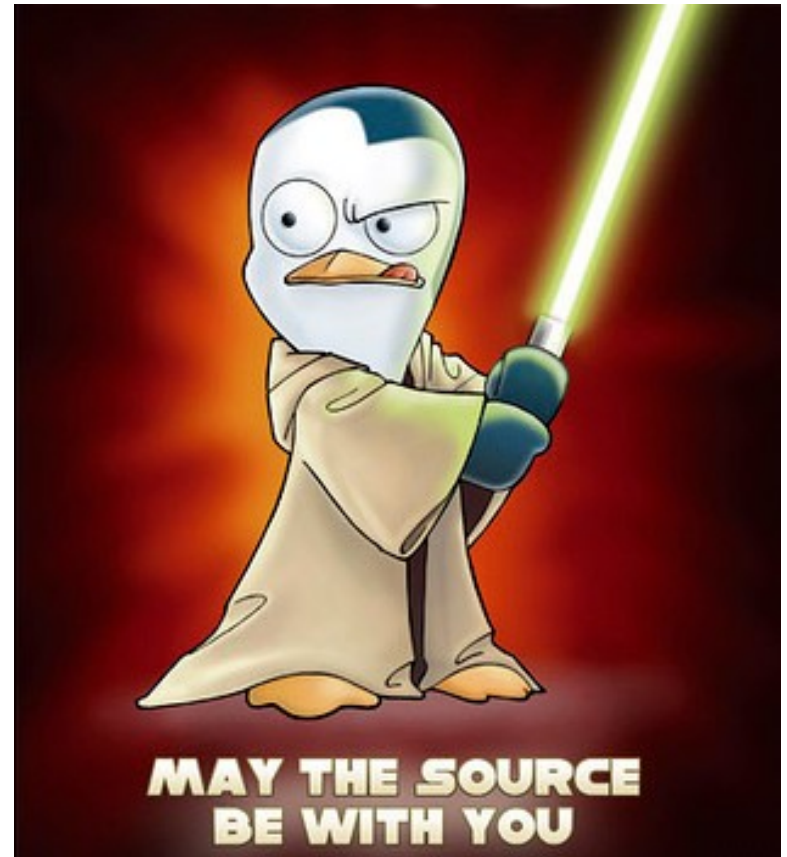
Agenda

1. What Is Open Source?
2. History of Free Software / Open Source
3. Open Source Licensing Considerations
4. Major Open Source Licenses
5. Recommendations

What Is Open Source?

What Is Open Source?

- Lots of Different Terms:
 - Free Software
 - Open Source Software (OSS)
 - Free/Open Source Software (FOSS)
 - Free/Libre Open Source Software (FLOSS)
- They all mean essentially the same thing



Free Or Free?

- “Free” as if Freedom and Liberty
- Think Free as in “Free Speech”
- Not (necessarily) Free as in “Free Beer”



Major Organizations

- Free Software Foundation

- www.fsf.org
- Grew out of GNU community
- Promoters of GNU Public License (GPL)
- Approves Licenses as “Free Software”



- Open Source Initiative

- www.opensource.org
- Grew out of disagreements with GNU/FSF
- Less dogmatic / more practical
- Approves Licenses as “Open Source”



Free Software Definition (FSF)

Essential “Freedoms” of Free Software:

- 0: Free to Run
 - Anyone for any purpose
- 1: Free to Study
 - Access to see and modify source code
- 2: Free to Redistribute
 - Share binaries and source code
- 3: Free to Improve
 - Make it better for the whole community

Open Source Definition (OSI)

1. Free Redistribution
2. Source Code
3. Derived Works
4. Integrity of The Author's Source Code
5. No Discrimination Against Persons or Groups
6. No Discrimination Against Fields of Endeavor
7. Distribution of License
8. License Must Not Be Specific to a Product
9. License Must Not Restrict Other Software
10. License Must Be Technology-Neutral

History of Free Software / Open Source

1960s - 1970s

- Software started out “open source” by default
- In the 60s/70s IBM and DEC included all the source code with computers
 - Supported and encouraged editing and customizing
- Bill Gates “An Open Letter To Hobbyists” 1976
 - Asserted copyrights to stop sharing source code
 - First to refer to it publicly as “stealing”
- By the end of the 70s most companies use restrictive End User License Agreements (EULAs)

Free Software Movement

- Free Software movement began in 1983
- Richard M. Stallman started the GNU Project
- 1986 coined term “Free Software” and established the Free Software Foundation
- 1989 published GNU Public License (GPLv1)
- 1991 GPLv2 published (minor changes)
- GNU projects (compilers, debuggers, editors) become popular in UNIX

GNU + Linux Kernel

- 1992-1993: GNU tools combined with Linux kernel – first complete FOSS operating system stack
- 1990s GNU/Linux rapidly gained mind-share and market-share
- Powerful commodity server operating system
- Became the first major FOSS success story

Internet & LAMP

- FOSS powered Internet boom & Dot-Com era
- LAMP Stack
 - Linux operating system
 - Apache web server
 - MySQL database engine
 - Perl or PHP as the scripting language
- Powerful, simple, stable, and free platform
- developing and running dynamic web applications

Apache

- Apache is mostly widely used web server in the world since late 90s
- Apache Software Foundation formed in 1999 (uses/promotes the Apache License)
- Now hosts a huge ecosystem of community open source software projects

Open Source Movement

- 1997 Eric S. Raymond published “The Cathedral and The Bazaar” - explores the ethos of free software and its developers
- Raymond and others looking to apply free software to commercial software
 - Strong ideology of FSF unattractive to businesses
 - Pragmatic approach focused on open source code
 - Raymond coined the term “Open Source”
 - Founded the Open Source Initiative to promote it
- Stallman and FSF disagreed strongly, but are allies in fight against proprietary software

Netscape & Mozilla

- Netscape released its web browser as free software in 1998
- Mozilla project becomes major player
- 2003 the Mozilla Foundation was formed
- Firefox web browser and Thunderbird email client gain serious popularity
- Significant market share, second only to Microsoft's embedded equivalents

Pervasive Open Source

- By 2000s viable open source alternatives for all desktop / server infrastructure software
 - Powered by the Internet and distributed cooperative development
- Last five years: open source penetrates last major area: Enterprise Applications
 - Major areas all have at least one major open source project – frequently backed by a commercial company offering services
- Open source business models – VC funding exceeds \$200 million in Q1 of 2008

Expanding Beyond Software

- Concepts of Free Software / Open Source spilling over into other areas
- Creative Commons is leading voice
 - <http://www.creativecommons.org/>
- Licenses suitable for literature, photography, music, film, video, etc.

Open Source Licensing Considerations

Copyrights

- All FOSS licenses based in Copyright law
- Decisions used to focus on extremes:
 - Complete enforcement (“all rights reserved”)
 - Contribute to public domain (“no rights reserved”)
 - Open Source is “some right reserved”
- Publisher of open source retains copyright
- Copyright holder can do whatever they want
 - Do not have to follow terms of their own license
- Only those who receive software under the license are bound by it

Managing Contributor Copyrights

- Important to understand the copyright ownership of all source code
- Project with multiple contributing people/organizations may have multiple copyright holders
- Cannot tell by looking at the license
- Choice for handling copyrights (Intellectual Property Policy) is separate from License

Copyright Assignment

- Maintain complete central control over IP
- Require contributors to assign copyrights to a central organization
 - Could be legal entity created for the explicit purpose of holding project IP
 - Can be joint assignment or sole assignment w/ broad grant-back copyright license
 - Include a patent license to avoid interference with contributed code
 - May seem extreme / can discourage contribution
- Used by Sun for its open source projects

Broad Copyright License

- Require contributors to give broad copyright license to central entity
 - Include the right to sub-license and redistribute – broader than project license
 - Also has patent license
- Project can redistribute the source code under its FOSS license without any issues
- Nice compromise, less extreme
- Used by Apache Software Foundation for all of its projects

Use Project FOSS License

- Simplest policy is to accept contributions under the project license
- Largely the default – used on many projects
 - Used by the Linux kernel project
- Major potential problem: Cannot distribute under a different license without explicit permission from every copyright holder
- Two year effort by Mozilla project to relicense code from 450 contributors

“Copyleft”

- Requiring software freedom for derivative works based on free software
- There is no requirement for copyleft in “Free Software” or “Open Source” – Copyleft is a separate concern
- Two key dimensions:
 - when the copyleft requirements are triggered (usually redistribution)
 - How far the copyleft requirements reach (e.g. source files, compiled together, dynamic linking)



GPL Compatibility

- GPL is most important FOSS license
 - First to embody Free Software and Copyleft
 - 70% of FOSS projects use the GPL
- Key copyleft provision: Combined works that include GPL must be relicensed under GPL
- If other software cannot be licensed under the GPL then they are incompatible and cannot be combined

Major Open Source Licenses

GNU Public License (GPL)

- Best starting point – clearly FOSS leader and obviously GPL compatible
- Strong copyleft that defines “derivative work” as anything that runs in the scope of the process (including dynamic linking)
- Lesser GNU Public License (LGPL) has weaker copyleft that applies only to source code compiled together into binary (e.g. libraries)
- Affero GNU Public License (AGPL) has extended definition to trigger copyleft on network usage (e.g. web sites)

Apache License

- Comprehensive open source license – covers many of the same areas as the GPL
- No copyleft provisions (does require preservation of copyrights and disclaimers)
- Compatible with GPLv3, but not w/ GPLv2
- 2nd most popular FOSS license
- Used by projects that want comprehensive license without copyleft

New BSD License

- Very simple, permissive, non-copyleft (only 220 words long)
- Basic redistribution requirements
 - Must preserve the copyright and disclaimer
 - Forbid endorsement use of copyright holder name
- Similar variants:
Simplified BSD License, MIT License
- Easy to read and understand
- Doesn't address patents or trademarks
- Lacks language legal advisers prefer

Mozilla Public License (MPL)

- Compromise between GPL and BSD licenses
- Weaker copyleft than LGPL (applies to individual source code files only)
- Incompatible with the GPL (due to minor but complex restrictions)
- Popular derivatives:
 - *Common Development and Distribution License (CDDL)*: used by Sun, minor changes only
 - *Common Public Attribution License (CPAL)*: requires “attribution” of original developer – usually large logo / splash screen (“Badgeware”)

Recommendations

Pick The Right License

- Use an existing, major license
 - Choose the one that best fits your needs
 - Avoid “License Proliferation”
- Unless you have a really compelling reason to go another way, choose one of these:
 - Apache: no Copyleft
 - LGPL: weak Copyleft
 - GPL: strong Copyleft
 - AGPL: strong Copyleft that covers SaaS

Copyright Management

- Establish intellectual property policy for handling outside contributions
- Include Contributor License Agreement
 - Preserve right to relicense
- Use an existing CLA
 - Sun CLA for joint copyright assignment
 - Apache CLA for broad licensing

Clear & Complete Implementation

- Clearly list license on web page for downloads
- In every binary and source distribution:
 - “readme” file explains licensing of distribution
 - copy of all relevant license files
 - copy of all required notices for original works and other works being redistributed
- Comment header with copyright, license, and disclaimer in every source code file (licenses usually provide templates)
- Ensure headers are maintained and audited
- Document contributor policy on website and provide the CLA for download

Questions & Answers



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