

Open Source Software licensing - basics



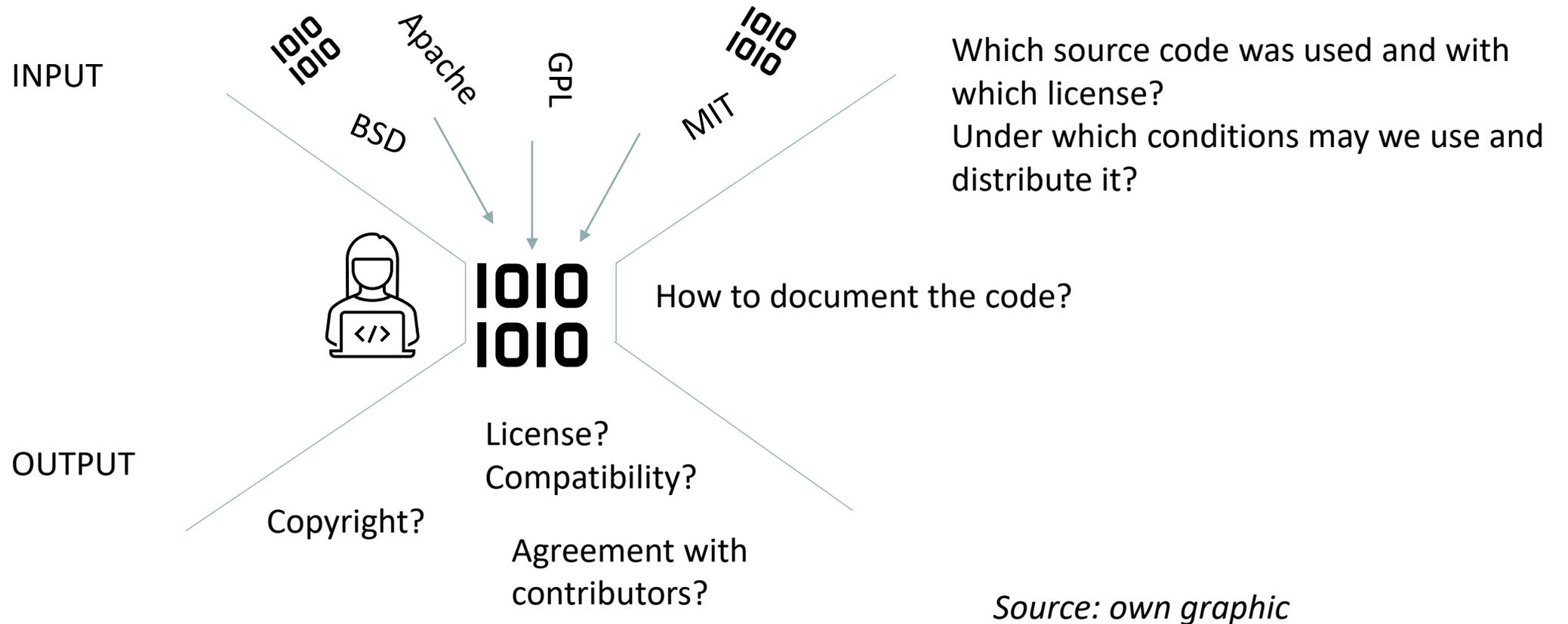
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- **Open Source Licensing Basics for Software Developers (LFC191):**
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Relevance



Software?



- **What is a software?**
 - “collection of instructions that tell a computer how to work.” [Wikipedia](#)
 - “Software as a program (Definition Linux foundation training):
“Software refers to a **document that represents a program** or firmware written by an author. The author of the software can be one or many people, and possibly doing the work on behalf of a company. A software program is meant to create a **machine executable** version of an algorithm or idea. Many computer languages can be used to write the software, which will get compiled or interpreted into machine language.”
- **Computer programming, coding, creating source code → produce software**



Why are there (open source) licenses?

- “**Copyright holders** make licensing decisions“
- “A license is a **granting of rights** from those producing the software to those who want to use it”
- A license “**lets people know how code can be used, and how it can be combined with other software.**”
- “The purpose of stating a license is to give people who want to use your work, **permission in advance.**”
- “**The license chosen is what permits project material to be considered as ‘open source’** ”
(also <https://opensource.guide/legal/> without a license, your work comes **without permissions** “If you want others to use, distribute, modify, or contribute back to your project, you need to include an open source license.”)

Why specific licenses for open source software?



- There are different open licenses: distinction between “open content licenses (such as Creative Commons), open source licenses (such as the GNU licenses, for example the GPL) and open data licenses (such as the Open Data Commons licenses).”
- Why?
 - copyright rules differ for software, databases, and content (such as text, images, movies, music, et cetera).
 - They have very different characteristics, resulting in different requirements and options for licensing models.
 - it is possible to use an open content license such as Creative Commons for software, but it is not advisable

Source: translated and summarized from “Rechtsfragen bei Open Science, zweite Auflage“

<https://dx.doi.org/10.15460/HUP.211>

<https://blogs.sub.uni-hamburg.de/hup/products-page/publikationen/183/>



Important definitions

- **Copyright:** “type of intellectual property that gives its owner the exclusive right to copy and distribute a creative work, usually for a limited time.”
“The author of the work is generally considered to be the copyright holder. In situations where there are multiple authors, each has a set of rights to use or license the work, and they are commonly referred to as rights holders. Often, when the work was created in the course of the author’s employment, it is considered as a “work for hire” and the employer is the copyright holder.” ([Wikipedia](#))
- **Copyleft (=share alike):** “practice of granting the right to freely distribute and modify intellectual property with the requirement that the **same rights be preserved in derivative works** created from that property (...) arrangement whereby software or artistic work may be used, modified, and distributed freely on condition that anything derived from it is **bound by the same conditions**“ ([Wikipedia](#))
- **Proprietary** (vs. Open source): “copyright holder keeps many or most of the rights to themselves, and often adds additional restrictions on what users can do with the software”.

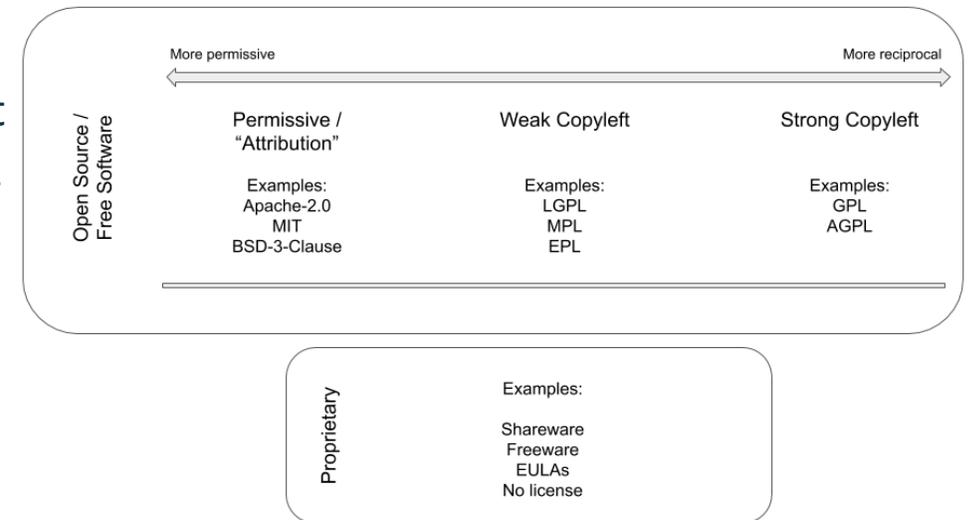


License types

- Proprietary vs. Open source/Free software
- Permissive (=non copyleft): “minimal requirements on what you must do when redistributing the software”

vs. copyleft:

- Weak copyleft: “licenses where not all derived works inherit the copyleft license” often used to create software libraries. This allows other software to **link to the library and be redistributed without the requirement for the linking software to also be copyleft-licensed. Only changes to the weak-copyleft-licensed software itself become subject to copyleft** provisions of such a license. ([Wikipedia](#))
- Strong copyleft: “(licenses) offering people the right to freely distribute copies and modified versions of a work, with the stipulation that the **same rights be preserved in derivative works down the line.**”



Information also here <https://opensource.org/faq#copyleft>

Main differences



<https://www.exygy.com/blog/which-license-should-i-use-mit-vs-apache-vs-gpl>

License	Definition	„Use if you are afraid...“	--	++
MIT (also BSD, ISC)	Permissive, extremely short, "do whatever you want with this, just don't sue me."	..."of no one will use your code". → "you're making the licensing as short and non-intimidating as possible "	Risk: "someone else taking your software building another commercial closed-source application" Ex: Mac OSX used many parts of BSD. Apple could not have done that with Linux (GPL licensed).	"On the other hand, Apple has contributed things back to FreeBSD." " more people may end up using your software" "Hey, it's free, no legal restrictions, why not try it out?"
Apache 2.0	Permissive but with many more words, "contains a patent license and retaliation clause"	..."of no one using your code" ..." legal ambiguity and patent trolls "	<ul style="list-style-type: none"> • Same risk (others commercializing the work) • "Do I need to have my lawyer look at this?" comes up more with Apache than MIT." 	<ul style="list-style-type: none"> • larger organization/projects managing more contributors • "greater specificity about contributors' obligations (...) might help in a dispute" • "help bring on board organizations (...) concerned about software patents or patent trolls"
GPL (GPLv3, GPLv2, LGPL, Affero GPL)	Contain some kind of share-alike license → copyleft) = Derivative work and distribution under the same license.	..."of someone else profiting from your work (and ambiguity, and patent trolls)"	<ul style="list-style-type: none"> • "hurdle of doing legal-technical analysis" • "Some companies have blanket policies against the GPL" 	Fairness: "GPL provides assurance that other contributors will be held to the same licensing terms. " Ex: Linux, WordPress, MediaWiki.

Open Source criteria

<https://opensource.org/osd-annotated>



Open Source Definition maintained by the [Open Source Initiative](#) (OSI):

- 1. Free Redistribution** (“All Open Source software can be used for commercial purpose; the Open Source Definition guarantees this. You can even sell Open Source software” <https://opensource.org/faq#osd>)
- 2. Source Code** (program must include source code)
- 3. Derived Works** (must allow must allow modifications, derived works, distribution)
- 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**



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New project: choose a license

- Recommended: “choosing a **standard** and **commonly-used** open source license”
- “clarify the things that someone using the code is **required** to do (must), what they are **permitted** to do (can), and what they are **forbidden** to do (cannot). The license selected is your way of specifying this information.
- “be clear on your **goals** for releasing the code. Who (what types of people/organizations) do you want to adopt it? Do you want to see any changes people make to your code when they redistribute it? Do you want other people to be able to sell your code for a profit? “
 - “Publish license, copyright notices, change summaries?”
 - Disclose source?
 - Distribution of modified work?
 - Sublicensing?
 - Private or commercial use?
 - Patent grant?
 - Able to use trademarks?
 - Can code be warrantied?
 - Able to hold liable for damages?
 - Scope of license: work as a whole or only specific file?”



File notices

- “A **file notice** is the information included in a software source file, indicating the **copyright notice** and the **license**.” “By convention, file notices are usually placed at the start of the file.”
 - **License reference** (recommended): SPDX short identifier, OSI/SPDX URL, “If there is a standard license header, you can use it.”
 - **Copyright notice** (but it is “not required in order for a person or legal entity to own a copyright”!):

Copyright notice: Historical format	Newer format
<ul style="list-style-type: none">• the word "Copyright,"/ the symbol "(C)" or ©• a year or series / range of years• the name of the individual or legal entity who is the copyright holder. <p>Copyright (C) 2001, 2004-2006 Company ABC.</p>	<p>Newer open source projects which have (or expect to have) many different contributors, and where the contributors retain ownership of their contributions</p> <ul style="list-style-type: none">• Copyright The XYZ Authors.• Copyright The XYZ Contributors.• Copyright Contributors to the XYZ project. (where XYZ is the project’s name) <p>https://www.linuxfoundation.org/blog/copyright-notices-in-open-source-software-projects</p>
<p>Copyright 1998, Linus Torvalds © 2003, 2010, Free Software Foundation, Inc. Copyright (C) 2011, 2014-2019 Company ABC.</p>	<p>Copyright The Kubernetes Authors. Copyright Contributors to the OpenVDB Project. Copyright the Hyperledger Fabric contributors.</p>



Example of file notice

```
/* Common hooks for AArch64.
```

```
Copyright (C) 2012-2015 Free Software Foundation, Inc.  
Contributed by ARM Ltd.
```

```
This file is part of GCC.
```

```
GCC is free software; you can redistribute it and/or modify it  
under the terms of the GNU General Public License as published  
by the Free Software Foundation; either version 3, or (at your  
option) any later version.
```

```
GCC is distributed in the hope that it will be useful, but WITHOUT  
ANY WARRANTY; without even the implied warranty of MERCHANTABILITY  
or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public  
License for more details.
```

```
You should have received a copy of the GNU General Public License  
along with GCC; see the file COPYING3. If not see  
<http://www.gnu.org/licenses/>. */
```



Contribute (contributors)

- **Contributor License Agreements (CLAs)** e.g. Apache Software Foundation, Google, Kubernetes: “agreement between the project and the owner of the contribution. (...) the contributor grants a **license** to the project.” “but **the owner of the contribution still owns its copyright**, and can use and license it to others in other ways.”
 - **Individual CLA (ICLA)**: for individuals who are contributing code that they own.
 - **Corporate CLA (CCLA)**: for companies and organizations, where an employee is contributing code on behalf of their employer.
- **Copyright Assignment** e.g. GNU toolchain: “**transfers ownership of the copyright from the contributor to the project**. The contributor will no longer own the copyright in the contributed code.” (unlike CLAs)
- **Developer’s Certificate of Origin (DCO)** e.g. Linux kernel, Zephyr: “the contributor indicates at the time they submit a contribution — via a **sign-off statement in the metadata provided together with the contribution** — that they have the right to submit the change under the indicated license, have it be public, and if it is based on a previous work, that too is ok to submit, to the best of the contributor’s knowledge”. “if you are submitting to a project that uses a DCO, you will be adding a "signed-off" statement in your patch.” (e.g. Github [DCO app](#))



- Handbooks
 - [Open Source License Compliance Handbook](#) from Jilayne Lovejoy and FINOS
 - [Producing Open Source Software: How to Run a Successful Free Software Project](#) from Karl Fogel
- Understanding the terms of some of the common licenses
 - <https://choosealicense.com/>
 - <https://tldrlegal.com/compare> (working?updating?)
 - <https://www.gnu.org/licenses/license-list.en.html>
- Standards for naming licenses, URLs and license text:
 - [SPDX License List](#)
 - <https://opensource.org/licenses>
- Guidelines on how to structure the license information into your project: [REUSE Software](#)
- Combine licenses/Compatibility: [JLA - Compatibility Checker](#)

SPDX license list

<https://spdx.org/licenses/>



Full name	Identifier	FSF Free/Libre?	OSI Approved?
Affero General Public License v1.0 only	AGPL-1.0-only		
Affero General Public License v1.0 or later	AGPL-1.0-or-later		
GNU Affero General Public License v3.0 only	AGPL-3.0-only	Y	Y
GNU Affero General Public License v3.0 or later	AGPL-3.0-or-later	Y	Y
Aladdin Free Public License	Aladdin		
AMD's plpa_map.c License	AMDPLPA		
Apple MIT License	AML		
Academy of Motion Picture Arts and Sciences BSD	AMPAS		
ANTLR Software Rights Notice	ANTLR-PD		
ANTLR Software Rights Notice with license fallback	ANTLR-PD-fallback		
Apache License 1.0	Apache-1.0	Y	
Apache License 1.1	Apache-1.1	Y	Y
Apache License 2.0	Apache-2.0	Y	Y
GNU General Public License v1.0 only	GPL-1.0-only		
GNU General Public License v1.0 or later	GPL-1.0-or-later		
GNU General Public License v2.0 only	GPL-2.0-only	Y	Y
GNU General Public License v2.0 or later	GPL-2.0-or-later	Y	Y
GNU General Public License v3.0 only	GPL-3.0-only	Y	Y
GNU General Public License v3.0 or later	GPL-3.0-or-later	Y	Y

Example of license text

<https://opensource.org/licenses>



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