

Open Source Software and Open Licenses – A practical approach

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Licenses

(or How I Learned to Stop Worrying
and Love the Code)

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- [@fergunet\[@mastodon.online\]](https://mstdn.social/@fergunet)
- Computer Engineering lecturer at the ETSIIT-UGR
- I do research in AI for videogames, bio-inspired and distributed algorithms.
- I head the OSLUGR osl.ugr.es
- I like photography, cinema and urban sketching.

What is this talk about?

- Licenses
- How to choose a license?
- How to apply a license?
- How to combine licenses?
- FLOSS?



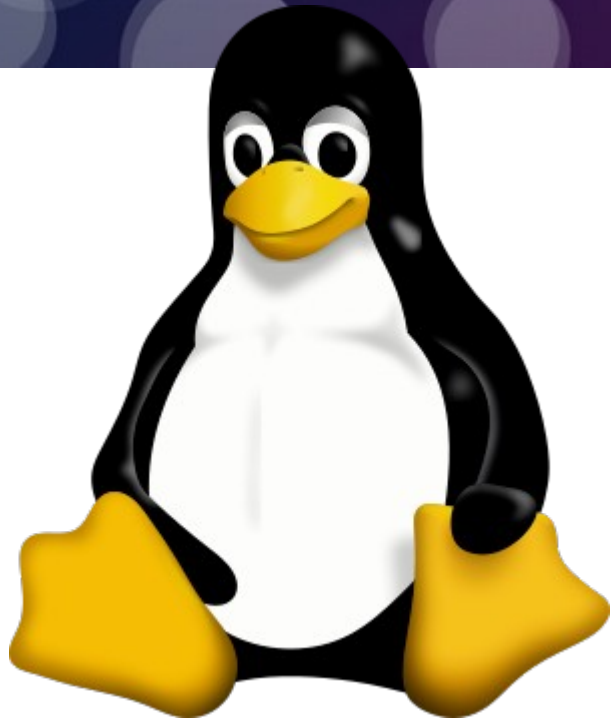
"Tux... in... SPACE!" by L Gnome is licensed under CC BY-SA 2.0

Free Software or Open Source? FLOSS



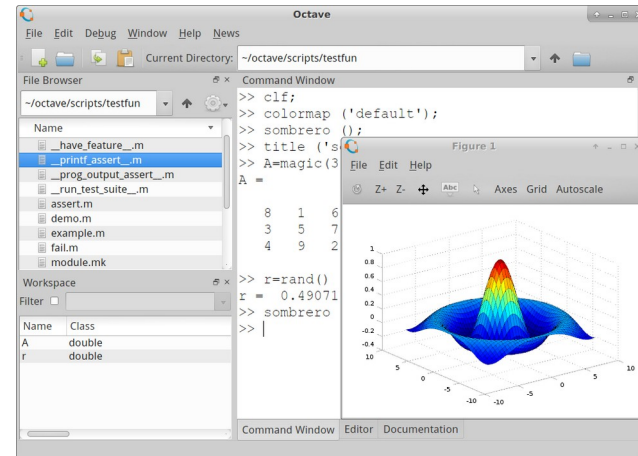
<https://www.flickr.com/photos/47691521@N07/5392982221>

What FLOSS do you know?



LibreOffice
The Document Foundation

FLOSS for Science

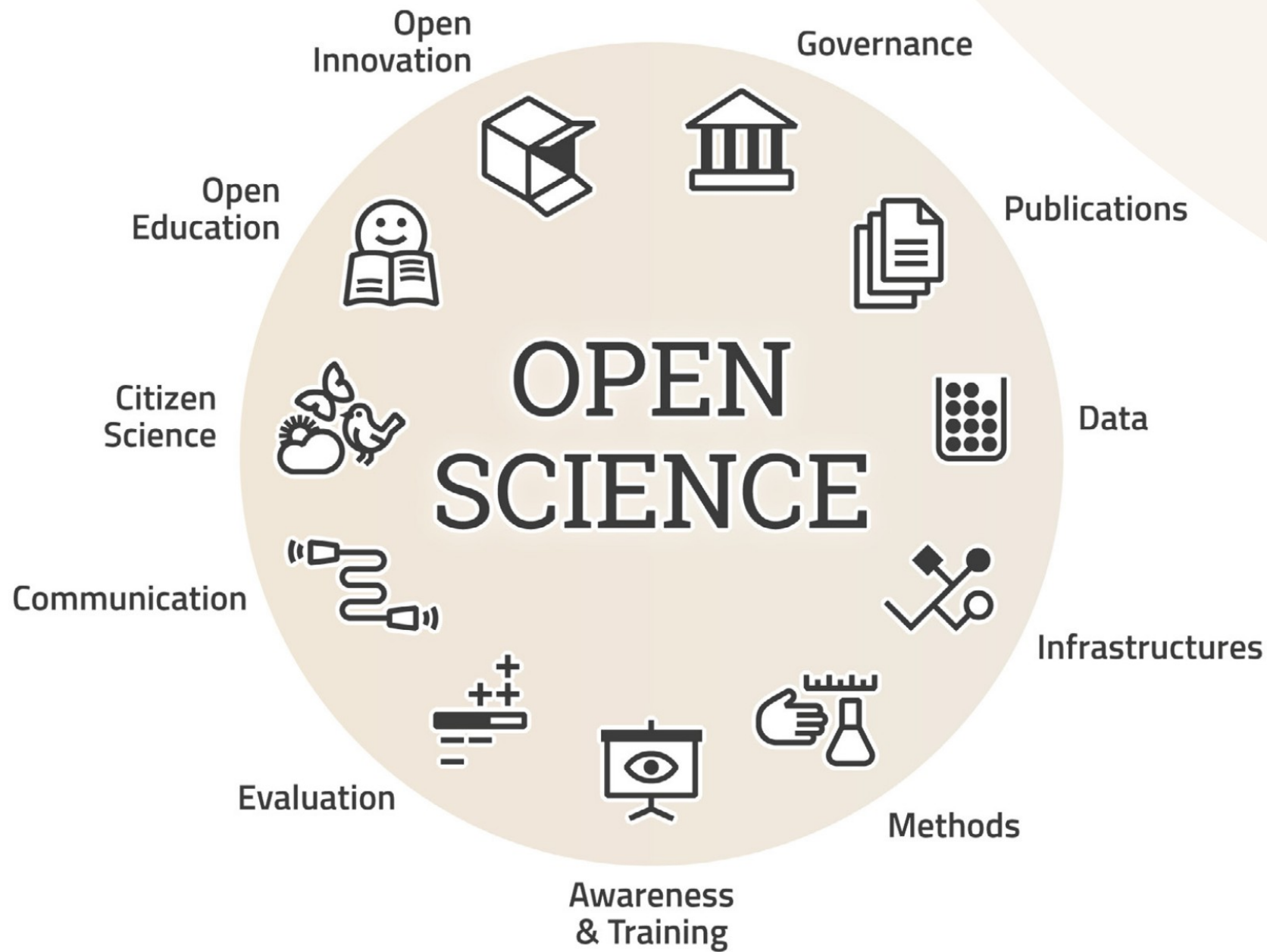


Why use/develop FLOSS in academia?

- Share
- Social/ethical responsibility
- Independence
- Learning
- Saving
- Standards
- Security



Photo by @fergunet Attribution-ShareAlike 2.0 Generic (CC BY-SA 2.0)



Arqus Alliance/quaint.ch.

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Why release? (outside academia)

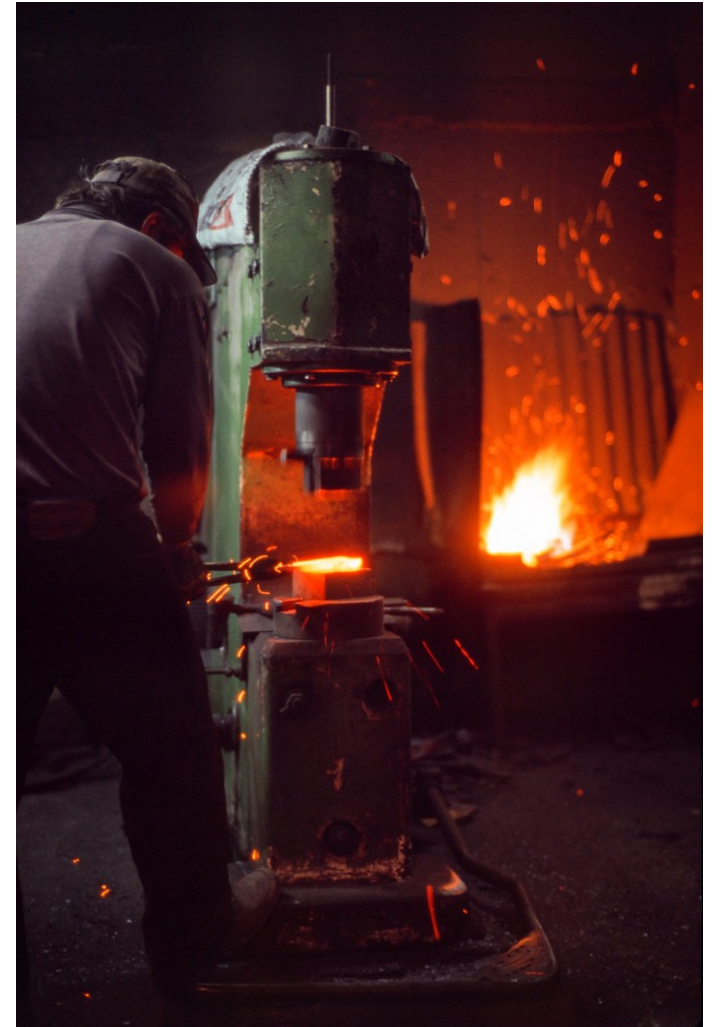
- Generates **good development practices**
- Builds **community**
- Generates **example**
- Serves as a **portfolio**



"Portfolio Review (Dec '11)" by VFS Digital Design is licensed under CC BY 2.0

How to release

- First, choose an **adequate License**
- Use a forge from the beginning
 - Bitbucket.com
 - Github.com
 - Your own forge
 - Extra:  Software Heritage
- Git != Github

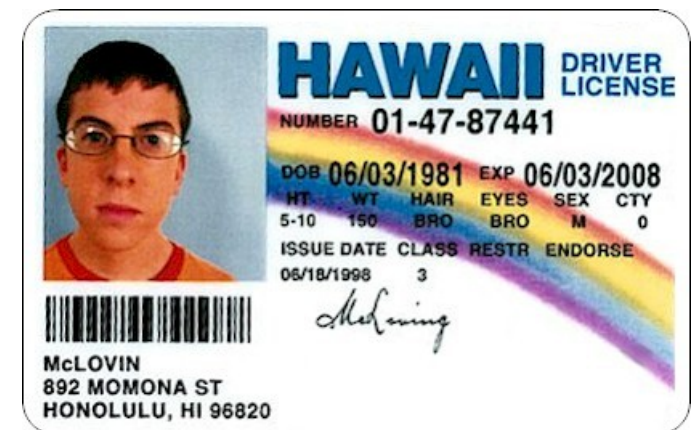


"Forging Hammer" by christian.senger is licensed with CC BY-SA 2.0. To view a copy of this license, visit <https://creativecommons.org/licenses/by-sa/2.0/>

Ok, but should I care about licenses
or not?

Licenses

- They are a **contract**
- It is chosen by the person who creates the work
- It can include permissions of use: dates, expiration, territories...
- No license → **all rights are reserved** and it is not Open Source or Free
- Protects the code, not the idea*



Some examples

BSD



THE
APACHE™
SOFTWARE FOUNDATION

Free as in Freedom

© creative
commons



Free as in Freedom

ECLIPSE®
FOUNDATION



How to choose a license?

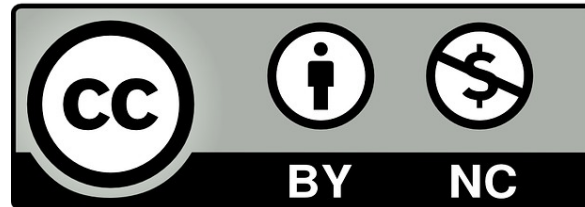
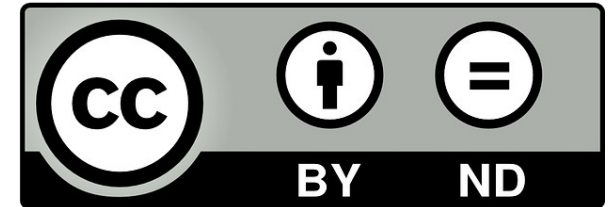
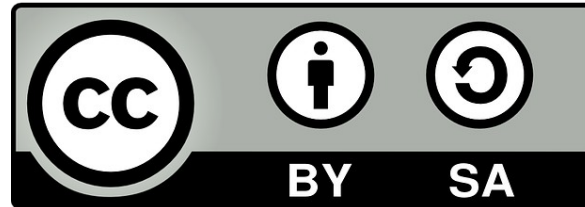
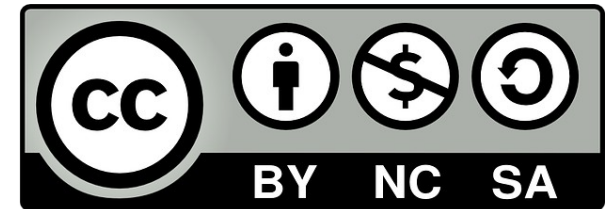
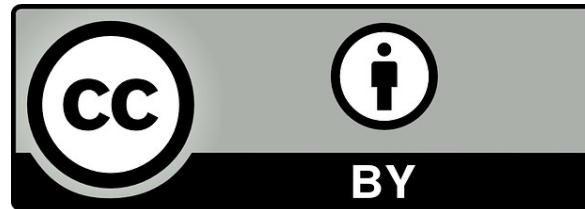
Depending on the community

- Some communities have strong preferences for particular licenses.
 - **Apache** → Apache License 2.0
 - **Cloud Native Computing Foundation** → Apache License 2.0
 - **GNU** → GNU GPLv3 for most programs
 - **Npm** → MIT or ISC
 - **OpenBSD** → ISC License
 - **Rust crates** → MIT and Apache License 2.0
 - **WordPress** plugins and themes must be GNU GPLv2 (or later)

Depending on the type to share

- Data and media
- Documentation
- Fonts
- Hardware
- Software

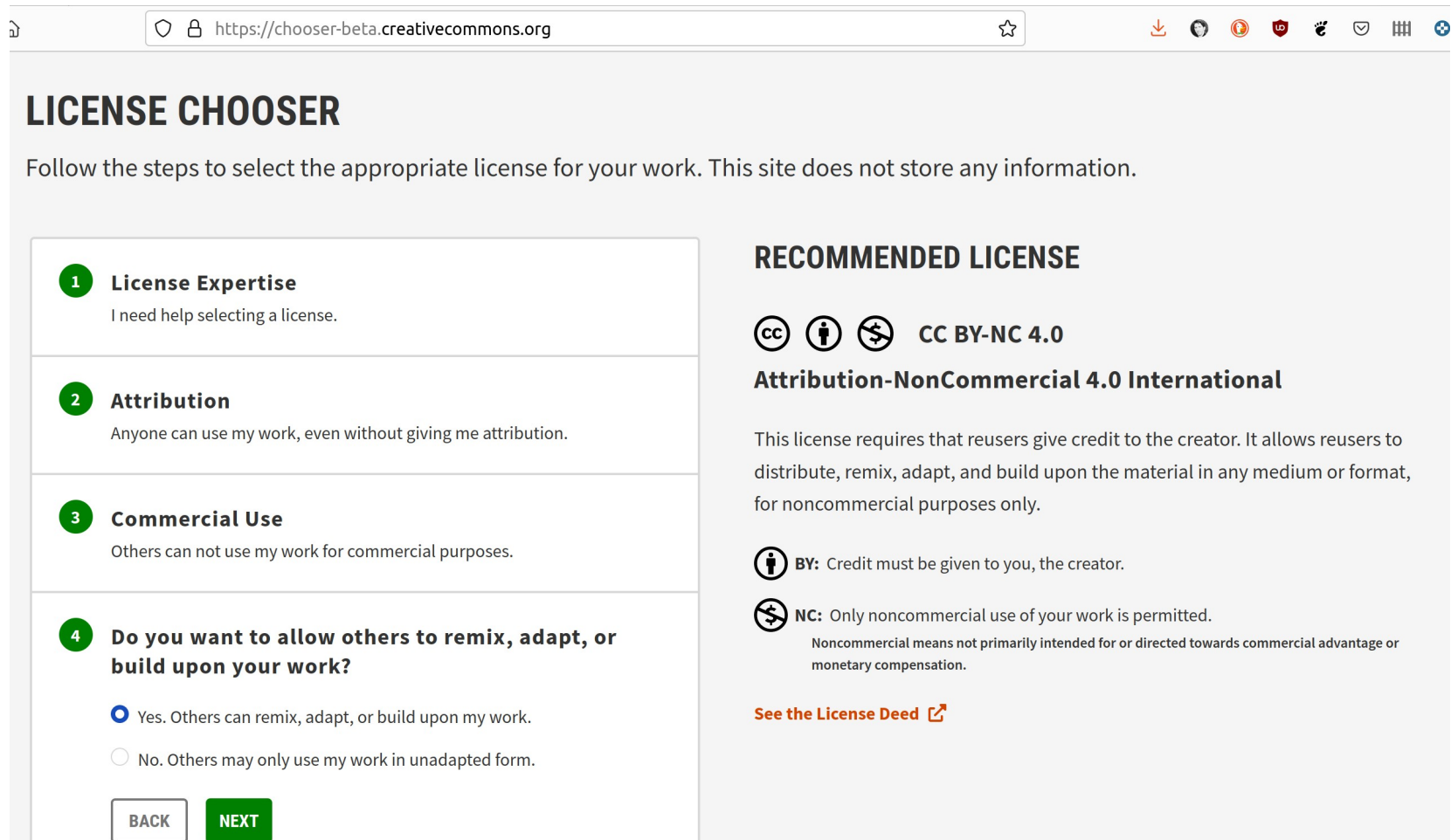
Data and media



- From 4.0 they cannot be used for software!

How to choose a CC License?

- <https://chooser-beta.creativecommons.org/>



The screenshot shows a web browser window with the URL <https://chooser-beta.creativecommons.org/>. The page is titled "LICENSE CHOOSER" and includes a sub-header: "Follow the steps to select the appropriate license for your work. This site does not store any information."

The interface is divided into two main sections: a step-by-step guide on the left and a "RECOMMENDED LICENSE" section on the right.

Step 1: License Expertise
I need help selecting a license.

Step 2: Attribution
Anyone can use my work, even without giving me attribution.


Step 3: Commercial Use
Others can not use my work for commercial purposes.

Step 4: Do you want to allow others to remix, adapt, or build upon your work?

Yes. Others can remix, adapt, or build upon my work.
 No. Others may only use my work in unadapted form.


Navigation buttons: **BACK** and **NEXT**.


RECOMMENDED LICENSE


 **CC BY-NC 4.0**

Attribution-NonCommercial 4.0 International

This license requires that reusers give credit to the creator. It allows reusers to distribute, remix, adapt, and build upon the material in any medium or format, for noncommercial purposes only.

 **BY:** Credit must be given to you, the creator.

 **NC:** Only noncommercial use of your work is permitted.
Noncommercial means not primarily intended for or directed towards commercial advantage or monetary compensation.

[See the License Deed](#) 

Documentation

- Any FLOSS software license or open license for media
 - (if code is used in documentation specify the specific software license)



Frisky
<https://flickr.com/photos/21031300@N02/6631339765/> CC-BY-NC

Fonts

- SIL Open Font License 1.1



Hardware

- Open source hardware is hardware whose design is made publicly available so that anyone can study, modify, distribute, make, and sell the design or hardware based on that design
- <https://ohwr.org/project/cernohl/wikis/Documents/CERN-OHL-version-2>
- <https://ohwr.org/project/cernohl/wikis/faq>
 - CERN Open Hardware Licence Version 2 – Permissive
 - CERN Open Hardware Licence Version 2 - Weakly Reciprocal
 - CERN Open Hardware Licence Version 2 - Strongly Reciprocal

Software Licenses

- Open Source of Free Software?

Free Software Foundation

- The freedom to **run the program** as you wish, for any purpose.
- The freedom to **study** how the program works, and change it so it does your computing as you wish. Access to the source code is a precondition for this.
- The freedom to **redistribute** copies so you can help your neighbor.
- The freedom to distribute copies of your **modified** versions to others. By doing this you can give the whole community a chance to benefit from your changes. **Access to the source code is a precondition for this.**
- <https://www.gnu.org/licenses/gpl-faq.html>



Sam Williams - Taken from the cover of the O'Reilly book w:Free as in Freedom: Richard Stallman's Crusade for Free Software CC BY-SA 3.0



FREE SOFTWARE
F O U N D A T I O N

Open Source Initiative



- Free redistribution: freely given or sold.
- Source code: included or freely obtainable.
- Derivative works: redistribution of modifications must be permitted.
- Integrity of author's source code: some licenses may require that modifications be redistributed only as patches.
- No discrimination of persons or groups
- No discrimination of initiative areas: commercial users cannot be excluded.
- The license **cannot require** that any other software that is distributed with the open source software **must also be open source**.
- Technologically neutral license (no one-click acceptance).

General Public License

- Permissions:
 - Commercial use
 - Distribution
 - Modification
 - Contributors have right to patent
 - Private use
- Conditions:
 - Reveal the code
 - Copyright and license notice
 - **Keep the same license**
 - Document the changes
- Examples: Ansible, Bash, Gimp



AGPL and LGPL

- If a **modified** version is used to offer a service over a network, the source code must be made available.
- If used (unmodified) via **interfaces**, another license can be used



APACHE

- Permissions:
 - Commercial use
 - Distribution
 - Modification
 - Contributors have right to patent
 - Private use
- Conditions:
 - **No** need to reveal the code (permissive)
 - License and copyright notice
 - No need to keep the same license
 - Document changes
- Examples:
Kubernetes, Swift



MIT

- Permissions:
 - Commercial use
 - Distribution
 - Modification
 - Contributors **do not** have right to patent
 - Private use
- Conditions:
 - **No** need to reveal the code (permissive)
 - License and copyright notice
 - No need to keep the same license
 - No need to document changes
- Ejemplos: Babel, .net core, Rails

Choose an open source license

An open source license protects contributors and users. Businesses and savvy developers won't touch a project without this protection.



Which of the following best describes your situation?



I need to work in a community.

Use the **license preferred by the community** you're contributing to or depending on. Your project will fit right in.

If you have a dependency that doesn't have a license, ask its maintainers to **add a license**.



I want it simple and permissive.

The **MIT License** is short and to the point. It lets people do almost anything they want with your project, like making and distributing closed source versions.

Babel, **.NET**, and **Rails** use the MIT License.



I care about sharing improvements.

The **GNU GPLv3** also lets people do almost anything they want with your project, *except* distributing closed source versions.

Ansible, **Bash**, and **GIMP** use the GNU GPLv3.

How to apply a license?

Applying licenses in Zenodo

https://zenodo.org/deposit/new



required

Access right *

- Open Access
- Embargoed Access
- Restricted Access
- Closed Access

Required. Open access uploads have considerably higher visibility on Zenodo.

License *

Creative Commons Attribution 4.0 International

Required. Selected license applies to all of your files displayed on the top of the form. If you want to upload some of your files under different licenses, please do so in separate uploads. If you cannot find the license you're looking for, include a relevant LICENSE file in your record and choose one of the *Other* licenses available (*Other (Open)*, *Other (Attribution)*, etc.). The supported licenses in the list are harvested from opendefinition.org and spdx.org. If you think that a license is missing from the list, please [contact us](#).

Applying Software Licenses


- Usually LICENSE or COPYING file in the root of the project
- Some licenses require document changes (CHANGES.txt)
- Some licenses recommend to add boilerplate notice to the top of each file
 - Tip: configure template in your IDE

Applying licenses in Github

Create a new repository

A repository contains all project files, including the revision history. Already have a project repository elsewhere? [Import a repository](#).

Owner *

 fergunet ▾

Repository name *

/

License

Filter...

None

Apache License 2.0

GNU General Public License v3.0

MIT License

BSD 2-Clause "Simplified"
License

BSD 3-Clause "New" or "Revised"
License

Boost Software License 1.0

Creative Commons Zero v1.0
Universal

Eclipse Public License 2.0

License: None ▾

memorable. Need inspiration? How about [special-fishstick?](#)

this repository. You choose who can commit.

mit to this repository.

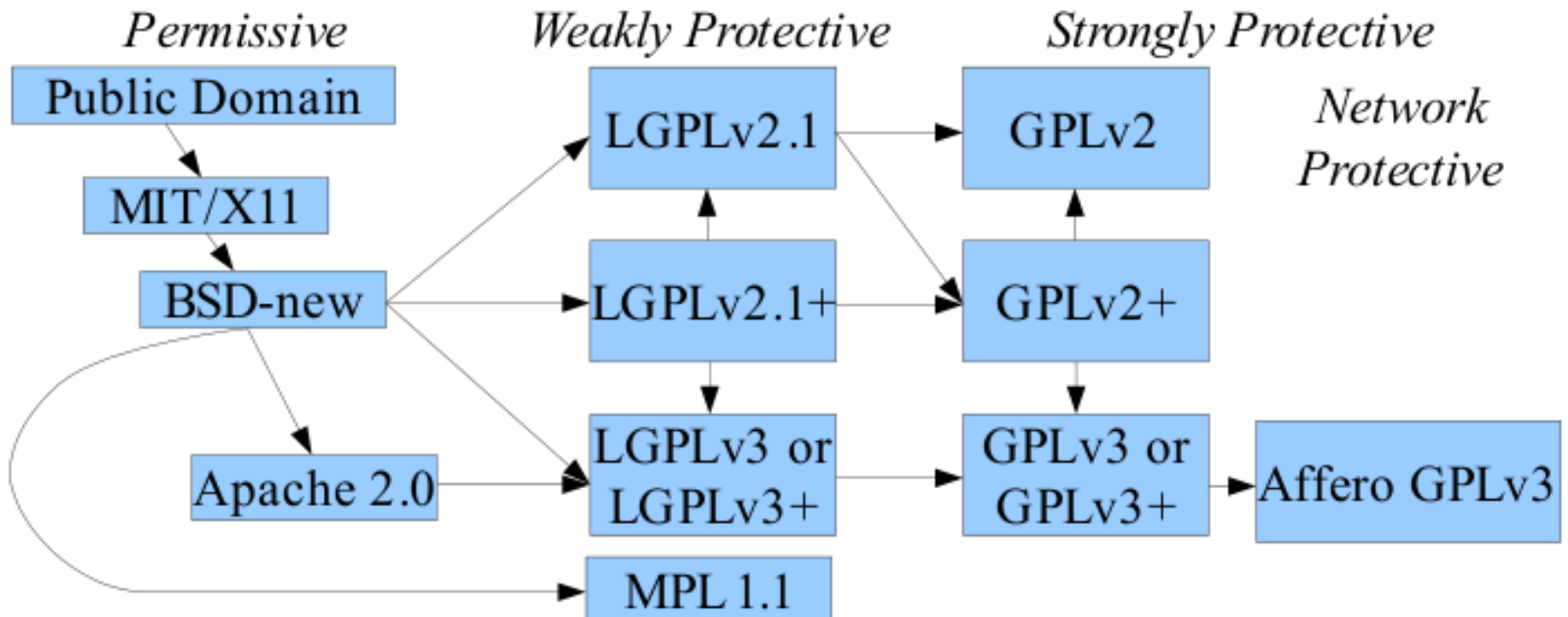
ption for your project. [Learn more about READMEs.](#)

templates. [Learn more about ignoring files.](#)

A license tells others what they can and can't do with your code. [Learn more about licenses.](#)

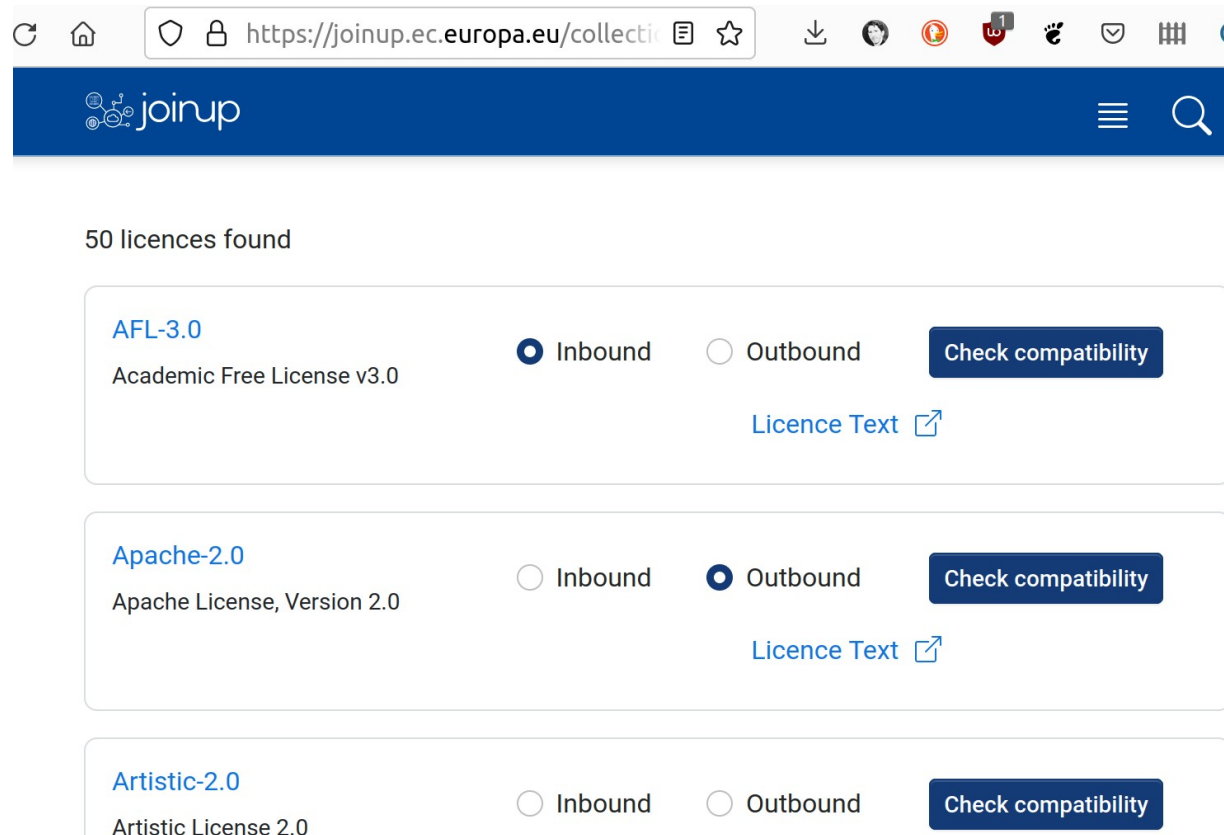
Combining licenses

- <https://dwheeler.com/essays/floss-license-slide.html>



JLA – Compability checker

- <https://joinup.ec.europa.eu/collection/eupl/solution/joinup-licensing-assistant/jla-compatibility-checker>



The screenshot shows a web browser window with the URL <https://joinup.ec.europa.eu/collection/eupl/solution/joinup-licensing-assistant/jla-compatibility-checker>. The page header features the 'joinup' logo and a search icon. Below the header, it states '50 licences found'. Three license entries are visible:

License Name	Description	Inbound	Outbound	Action
AFL-3.0	Academic Free License v3.0	<input checked="" type="radio"/>	<input type="radio"/>	Check compatibility
Apache-2.0	Apache License, Version 2.0	<input type="radio"/>	<input checked="" type="radio"/>	Check compatibility
Artistic-2.0	Artistic License 2.0	<input type="radio"/>	<input type="radio"/>	Check compatibility

Each entry also includes a 'Licence Text' link with an external link icon.

What about using several at the same time?

- **Static** compatibility: components are combined at **compilation** time, copied into the application executable.
- **Dynamic** compatibility: components are combined at **execution** time, without being part of the application executable.
- <https://www.mancomun.gal/es/documento/matriz-de-compatibilidad-de-licencias-de-software-libre/>

Matriz de compatibilidad de licencias de software libre
Compatibilidad Dinámica

Autoría: Oficina de Coordinación de Software Libre (AMTEGA – Xunta de Galicia) <software.libre@xunta.gal>
Licencia: [Creative Commons 4.0 Internacional Reconocimiento Compartir Igual](#)

	MIT	BSD4	BSD3	ASL1	ASL2	LGPL2.1	LGPL2.1+	LGPL3+	MPL	DDL	CPL/EPL	EUPL	GPL2	GPL2+	GPL3	AGPL3
MIT	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
BSD4	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
BSD3	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
ASL1	Si	Si	Si	Si	Si	No	No	Si	Si	Si	Si	Si	No	No	No	No
ASL2	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
LGPL2.1	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
LGPL2.1+	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
LGPL3	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	No	Si	Si	Si
MPL	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	No	No	No	No
DDL	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	No	No	No	No
CPL/EPL	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	No	No	No	No
EUPL	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si	Si
GPL2	No	No	No	No	No	No	No	No	No	No	No	Si	Si	No	No	No
GPL2+	No	No	No	No	No	No	No	No	No	No	No	Si	Si	Si	Si	Si
GPL3	No	No	No	No	No	No	No	No	No	No	No	Si	Si	Si	Si	Si
AGPL3	No	No	No	No	No	No	No	No	No	No	No	Si	No	No	Si	Si

Nota: Esta matriz de compatibilidad de licencias para el trabajo previo realizado por el Centro Nacional de Referencia de Aplicaciones de las Tecnologías de la Información y Comunicación (CENATIC). La información aquí recogida tiene carácter informativo y no aporta garantía legal.

Other tools

- License Finder
 - <https://github.com/pivotal/LicenseFinder>
- Fossology
 - <https://www.fossology.org/>
 - <https://github.com/fossology/fossology>
- Qodana (JetBrains)
 - <https://blog.jetbrains.com/qodana/2022/05/keep-your-dependency-licenses-in-check/>

• *“This information is believed to be correct, but is not legal advice; for formal legal advice, please consult an attorney.”*

– David A. Wheeler

<https://dwheeler.com/essays/floss-license-slide.html>

More references

- <https://choosealicense.com/>
- <https://www.gnu.org/licenses/gpl-faq.html>
- María Isabel García Arenas: Curso Básico sobre uso docente del Software Libre, 2020 <https://osl.ugr.es/wp-content/uploads/2019/01/Curso-b%C3%A1sico-sobre-uso-docente-del-Software-Libre-Dia.pdf>
- JJ Merelo: Liberar software sin morir en el intento <https://www.slideshare.net/jjmerelo/liberar-software-sin-morir-en-el-intento>
- ARQUS Openness Position Paper <https://zenodo.org/record/5881903>

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Thank you very much!

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