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What every programmer should know about licenses

Create usable code while abiding by the law

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Learning Goals

- Why a license is important
- How to differentiate between
 - ▶ Public Domain Licenses
 - ▶ Permissive Licenses
 - ▶ Copyleft Licenses
- How to approach non-code licensing

Why you should care

What happens if you don't use a license? [1]

- If a repository has no license, then **all rights are reserved!**
- This means that normal copyright laws apply.
- Therefore, nobody is allowed to:
 - ▶ Copy
 - ▶ Modify
 - ▶ Distribute
- If someone else contributes, this includes you!

If you want to share your code, you need a license!

Overview of Code Licenses

Licenses can be divided into three categories:

- Public Domain-like
 - ▶ The Unlicense
- Permissive
 - ▶ MIT
 - ▶ Apache 2.0
 - ▶ BSD-3-Clause
- Copyleft
 - ▶ GPL

Public Domain (Gemeinfreiheit)

- Releases code into the public domain
- Thus, everybody can
 - ▶ Use (commercially)
 - ▶ Modify
 - ▶ Distribute / Copy / Publish
 - ▶ Sell
- No attribution required
- Changes can be kept closed-source
- Example: The Unlicense [2]

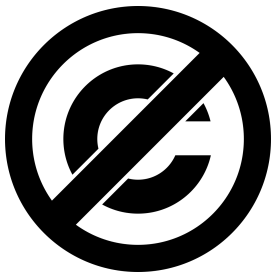


Figure: Unlicense logo [2]

Permissive Licenses

- Sometimes also called BSD-like [3]
- Also allow everybody to
 - ▶ Use (commercially)
 - ▶ Modify
 - ▶ Distribute / Copy / Publish
 - ▶ Sell
- Requires attribution, at least in the source code
- Example licenses:
 - ▶ MIT: Most commonly used
 - ▶ Apache 2.0 [4]: Like MIT, but with a patent clause [5]
 - If you are a contributor with a relevant patent, you grant a license to the patent
 - ▶ BSD-3: Similar to MIT but adds a no-endorsement clause
 - If you use our tool, don't use us to endorse or promote your product

Copyleft Licenses

- Allow for any usage and modification
- Source has to be made available
- Modifications need to have same license
- Example: GPLv3

Four Freedoms [6]

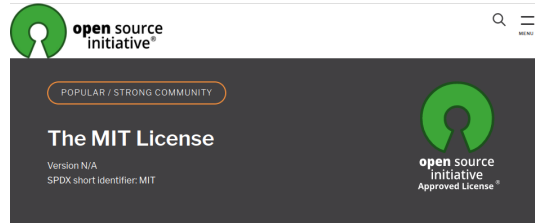
- 1 Run the program for any purpose
- 2 Be able to read the source code
- 3 Distribute the program as you wish
- 4 Distribute your modified versions

Copyleft Implications

- Without copyleft, open source projects can be forked to closed source
 - ▶ Chromium to Google Chrome (BSD-3)
- Without copyleft, people could sell your software
- With copyleft, less people can use your software
- If React (most popular Web Framework) were GPLv3, those would be open source:
 - ▶ Facebook
 - ▶ Netflix
 - ▶ Uber
 - ▶ Airbnb
 - ▶ Dropbox
- Big projects often need funding, getting funding for open source is hard
 - ▶ Many succeed, especially in IT infrastructure

How to Add a License

- 1 Find License Fulltext
- 2 Add name and year if required
- 3 Save as LICENSE file in repository
- 4 Commit and push to remote



Copyright <YEAR> <COPYRIGHT HOLDER>

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Figure: MIT license from OSI [7]

Font Licenses

- Most open fonts can be found at Google Fonts [8]
 - ▶ All of those fonts are licensed permissively
- Most used License [9]: SIL Open Font License [10]
- Other common licenses:
 - ▶ Apache license [4]
 - ▶ Ubuntu Font License [11]



Figure: Google Fonts logo [8]

Creative Commons Licenses

- Standardized licenses for creative works
- Used for non-code
- Can be mapped to code licenses
 - ▶ Unlicense (Public Domain) \Rightarrow CC0
 - ▶ MIT (Permissive) \Rightarrow CC-BY
 - ▶ GPL (Copyleft) \Rightarrow CC-BY-SA

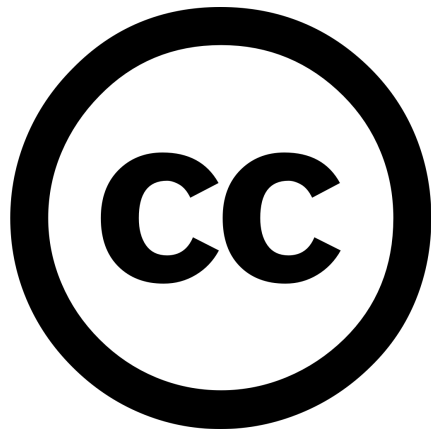


Figure: Creative Commons logo [8]

Conclusion

Summary

- Licenses are required so that people can use your work
- You can use the following code licenses:
 - ▶ Public Domain ⇒ Unlicense
 - ▶ Permissive ⇒ MIT
 - ▶ Copyleft ⇒ GPLv3
- Use Google Fonts for free fonts
- Creative Commons is used for non-code

If you need further help

- <https://choosealicense.com>
- <https://tldrlegal.com>
- <https://www.gnu.org/licenses/license-list.en.html>
- <https://opensource.org/licenses>
- <https://creativecommons.org/>

References

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The Unlicense. URL: <https://unlicense.org/> (visited on 08/21/2023).

Open Source Licensing Guide | New Media Rights. URL: https://www.newmediarights.org/open_source/new_media_rights_open_source_licensing_guide (visited on 08/21/2023).

Apache License, Version 2.0. URL: <https://www.apache.org/licenses/LICENSE-2.0> (visited on 08/21/2023).

Top 10 Questions About the Apache License. Mend. URL: <https://www.mend.io/blog/top-10-apache-license-questions-answered/> (visited on 08/21/2023).

What is Free Software? - GNU Project - Free Software Foundation. URL: <https://www.gnu.org/philosophy/free-sw.en.html> (visited on 08/21/2023).

The MIT License. Open Source Initiative. Oct. 31, 2006. URL: <https://opensource.org/license/mit/> (visited on 09/14/2023).

Google Fonts. Google for Developers. URL: <https://developers.google.com/fonts> (visited on 08/21/2023).