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IANAL

- Especially, I am not *your* lawyer

The Story So Far

- (Almost) all software is copyrighted at birth
- Copyright is generally a Federal issue, with disputes handled in Federal courts
- Copyright holders have several *exclusive* rights
 - Make copies of the work
 - Prepare derivative works
 - Distribute copies of the work
 - Make public performances of the work
 - Publicly display the work
- Exceptions exist: fair use, first sale doctrine

What is a license?

- A copyright holder can authorize others to exercise his exclusive rights
- This is a grant of permission, not (necessarily) a contract - *Jacobsen v. Katzer* (Federal Circuit, 2008)
- Free/Open Source Software licenses allow others to exercise the rights to copy and modify, but impose conditions for doing so
 - Failure to observe conditions constitutes copyright infringement

Stallman's four freedoms

- Freedom to run the program
- Freedom to make and distribute copies
- Freedom to modify the program
- Freedom to distribute your modifications
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- The last three would normally be reserved to the copyright holder - to be Free, a license must permit all four of these

FreeBSD (2-clause BSD) license

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What about copyleft?

- Concept invented to guarantee users' freedom
 - Note emphasis on *user*, not the developer!
- One condition of any copyleft license is that derivative works must give all users the same rights as in the original code
- Often called “viral” or “infectious” by opponents

Popular copyleft licenses

- GNU General Public License (GPL)
- GNU Lesser General Public License (LGPL)
- GNU Affero General Public License (AGPL)
- Mozilla Public License
- Creative Commons w/ShareAlike provision

Popular non-copyleft licenses

- BSD licenses (2- and 3-clause)
- Apache licenses
- X11/MIT license
- Creative Commons CC0 or BY

Why copyleft?

- Although non-copyleft software can be Free, it can be relicensed and made proprietary
 - [https://technet.microsoft.com/en-us/library/cc749452\(v=ws.10\).aspx](https://technet.microsoft.com/en-us/library/cc749452(v=ws.10).aspx)
- Users no longer have freedom in this code
- People differ on whether this is a bad thing or not - reference 10,000 GNU vs. BSD flamewars
- Note that non-copyleft software can (often) also be relicensed under the GPL!
 - Linux source: `crypto/aes_generic.c`

Derivative Works

- Exactly what constitutes a derivative work is a... complex question
- Numerous court rulings, no consensus - Supreme Court has never ruled
- General agreement that statically linking someone's code creates a derivative work
- General agreement that a program interacting with another via public interface is not (web browser is not a derivative work of web server)
- Everything else (dynamic linking, plugins, etc.) subject to dispute

GPL versions

- Most is licensed under GPL, version 2 (GPLv2) or any later version
- Some (Linux kernel) is licensed under GPLv2 only
- GPLv3 is increasing in popularity, but still at about 10%*

*<https://www.blackducksoftware.com/resources/data/top-20-open-source-licenses>

GPLv2 requirements (1/2)

- Retain copyright notice/disclaimer, provide copy of the license
- Identify files you have modified
- License any modifications under same license
- Provide access to “complete source code”
 - Include with binary distribution
 - Include a written offer for source code
 - Pass along another's written offer (noncommercial only)

GPLv2 requirements (2/2)

- Don't impose additional legal restrictions
 - For example, condition license on payment of maintenance fees or limit hardware it may be run on
- If conditions exist (e.g., patents) that would contradict the permissions in the license, you may not distribute

GPLv3 requirements

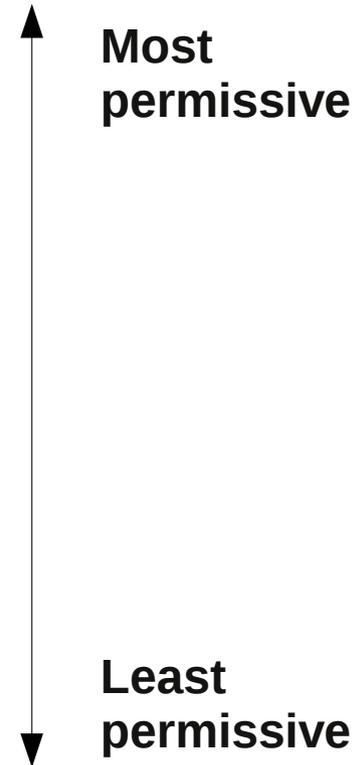
- Includes all GPLv2 requirements, except:
 - Online access to “Corresponding Source” is now explicitly recognized as valid
 - Now compatible with the AGPLv3
- Additional terms added:
 - If included as part of a physical product, must provide information needed to install and run modified versions (anti-Tivoization)
 - Explicitly must grant a patent license for everything your version of the software does
 - Any DRM implemented is not enforceable

Pick a license, any license

- Not applying a license to your code means that *nobody* has permission to copy and modify it
 - It also earns your project 100 points of FAIL
https://www.theopensourceway.org/wiki/How_to_tell_if_a_FLOSS_project_is_doomed_to_FAIL#Licensing
 - Less than 20% of repositories on GitHub have a license, despite their efforts to promote them:
<https://github.com/blog/1964-open-source-license-usage-on-github-com>

Which license for new code?

- Creative Commons Zero (CC0)
- BSD, MIT, X
- Apache 2.0
- GNU LGPL
- GNU GPL
- GNU AGPL



Which license for modifications to existing code?

- Simplest to just use the same one
 - Same goes if it's part of an existing ecosystem (e.g., Wordpress plugins)
- Otherwise, you must use a compatible license
- Compatibility with the GPL is indicated at <http://www.gnu.org/licenses/license-list.html>

Relicensing: two meanings

- Modifying a work having one license, and releasing your derivative work under a different one
 - License of derivative work must be compatible with the original license
 - Original license terms *still apply* to you and all downstream recipients
- Changing a work from one license to another
 - You must be the copyright holder of all code, or have permission from all authors
 - Does not revoke license from released code

Cases: *Westinghouse Digital*

- Software under GPL (BusyBox) included in HDTV sets and other electronics
- Source code not provided or made available
- Westinghouse Digital lost a default judgment and was subjected to
 - money damages
 - injunction from distributing binaries for which it could/would not provide source
 - turning over all the TVs containing infringing binary code for donation to charity

Cases: *Oracle v. Google*

- Google created Dalvik, a virtual machine that can run Java code, for Android
- The Oracle/Sun Java VM is under the GPL, but Dalvik is under the Apache 2.0 license
- A small amount of JVM library source code was copied, this was admitted by Google and has since been fixed; there were also patent claims
- The remaining issue is that Oracle claims that the Java *API* is subject to copyright, not just the code

Cases: *Hellwig v. VMware*

- VMware allegedly incorporated Linux kernel code written by Christoph Hellwig (SCSI, radix tree) into its ESXi vmkernel
- Some vmkernel code is kept proprietary and only delivered as binaries (some is released under GPL)
- Technical details at <http://sfconservancy.org/linux-compliance/vmware-lawsuit-faq.html>
- Copyright infringement lawsuit filed in Hamburg, Germany - things are just beginning