
A Quick Survey of OSS Licenses, Tools, and Compliance
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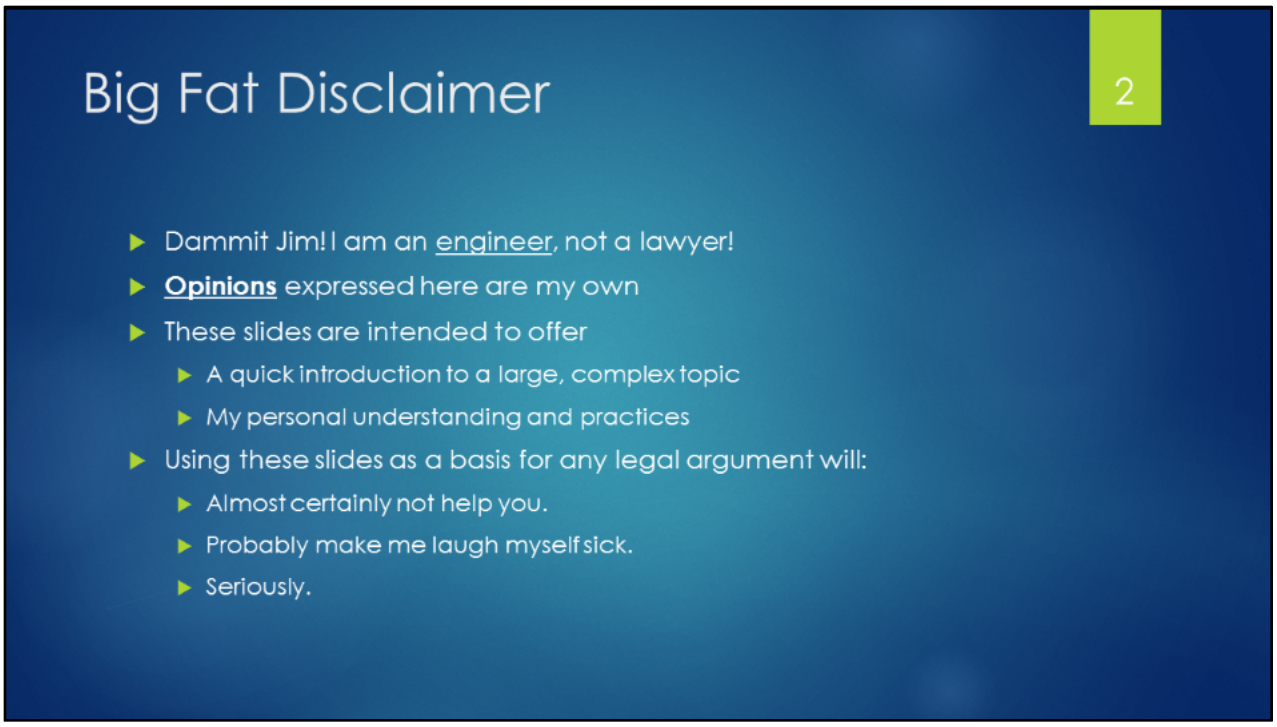
EMBEDDED LINUX ARCHITECT


Big Fat Disclaimer
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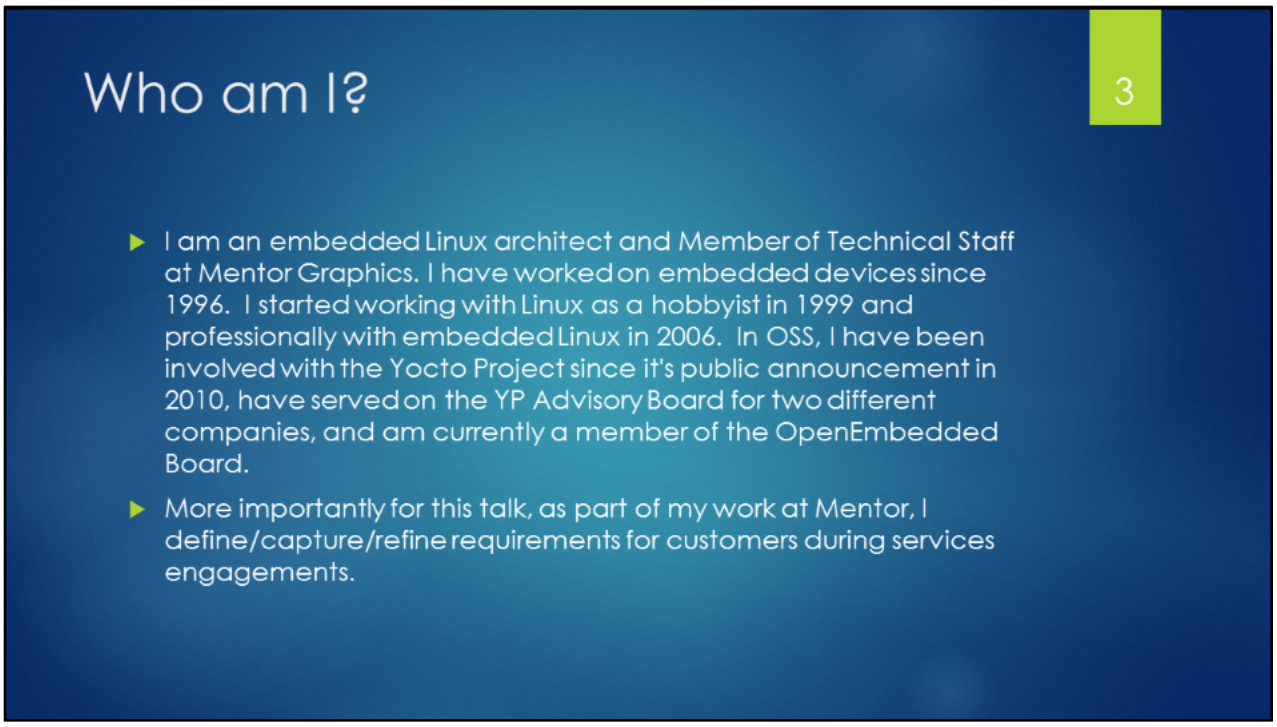
Dammit Jim! I am an engineer, not a lawyer!
Opinions expressed here are my own
These slides are intended to offer
A quick introduction to a large, complex topic
My personal understanding and practices
Using these slides as a basis for any legal argument will:
Almost certainly not help you.
Probably make me laugh myself sick.
Seriously.


Who am I?
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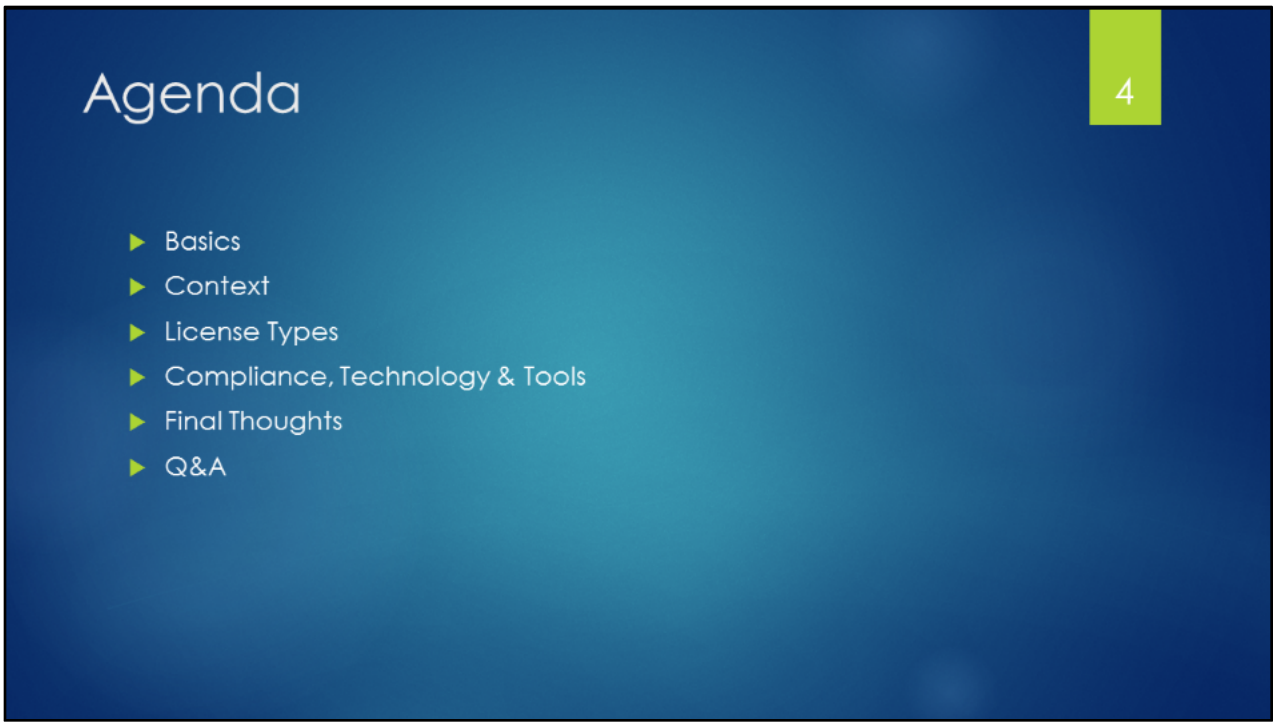
I am an embedded Linux architect and Member of Technical Staff at Mentor Graphics. I have worked on embedded devices since 1996. I started working with Linux as a hobbyist in 1999 and professionally with embedded Linux in 2006. In OSS, I have been involved with the Yocto Project since it's public announcement in 2010, have served on the YP Advisory Board for two different companies, and am currently a member of the OpenEmbedded Board.
More importantly for this talk, as part of my work at Mentor, I define/capture/refine requirements for customers during services engagements.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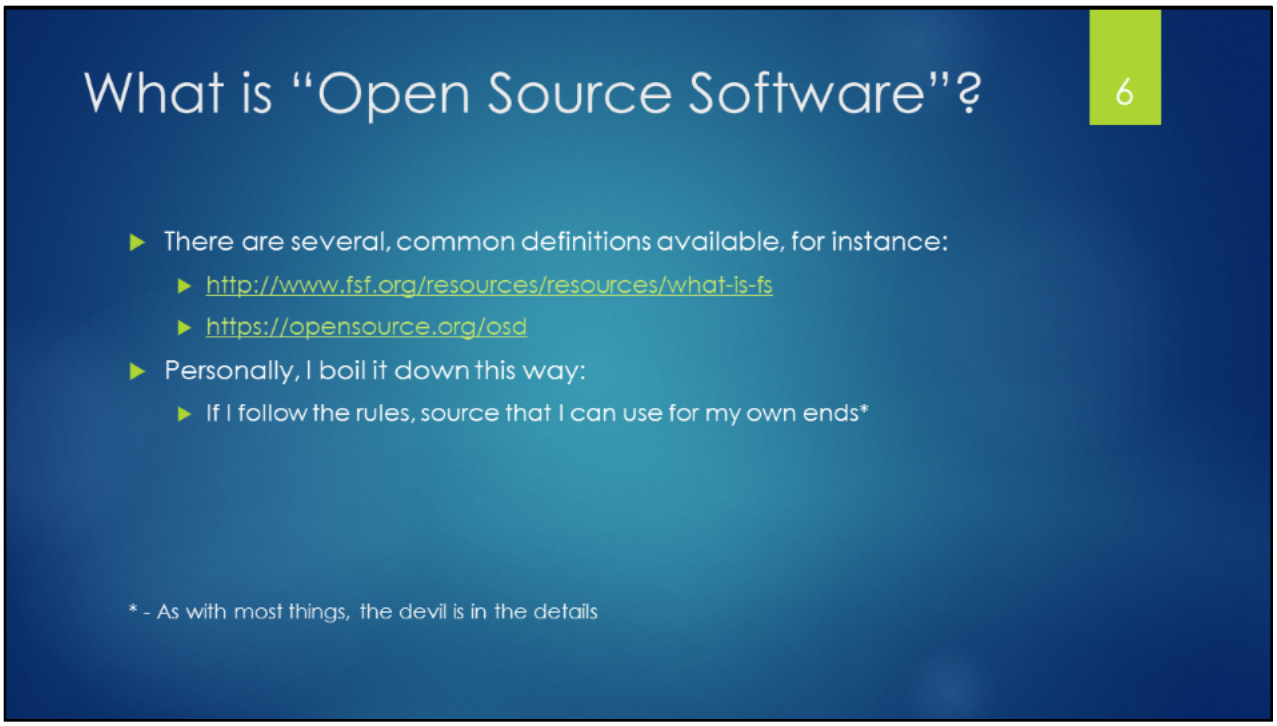
Basics

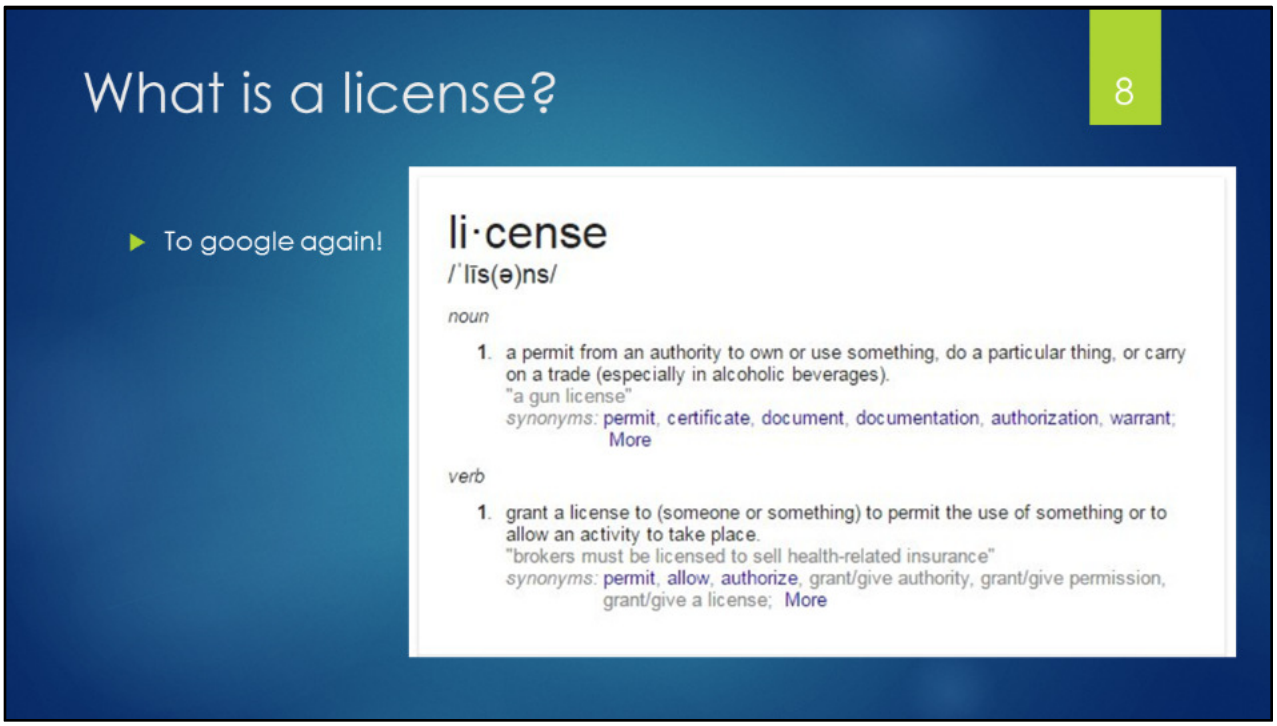


Additional References:

1. https://en.wikipedia.org/wiki/Free_and_open-source_software
2. https://en.wikipedia.org/wiki/The_Free_Software_Definition

References:

1. http://www.copyright.gov/circs/circ01.pdf



My first thought here, was do I really need to spell this out? However, I want to make it clear.

References:

1. https://en.wikipedia.org/wiki/Public_copyright_license
2. https://www.smashingmagazine.com/2011/06/understanding-copyright-and-licenses/

References:

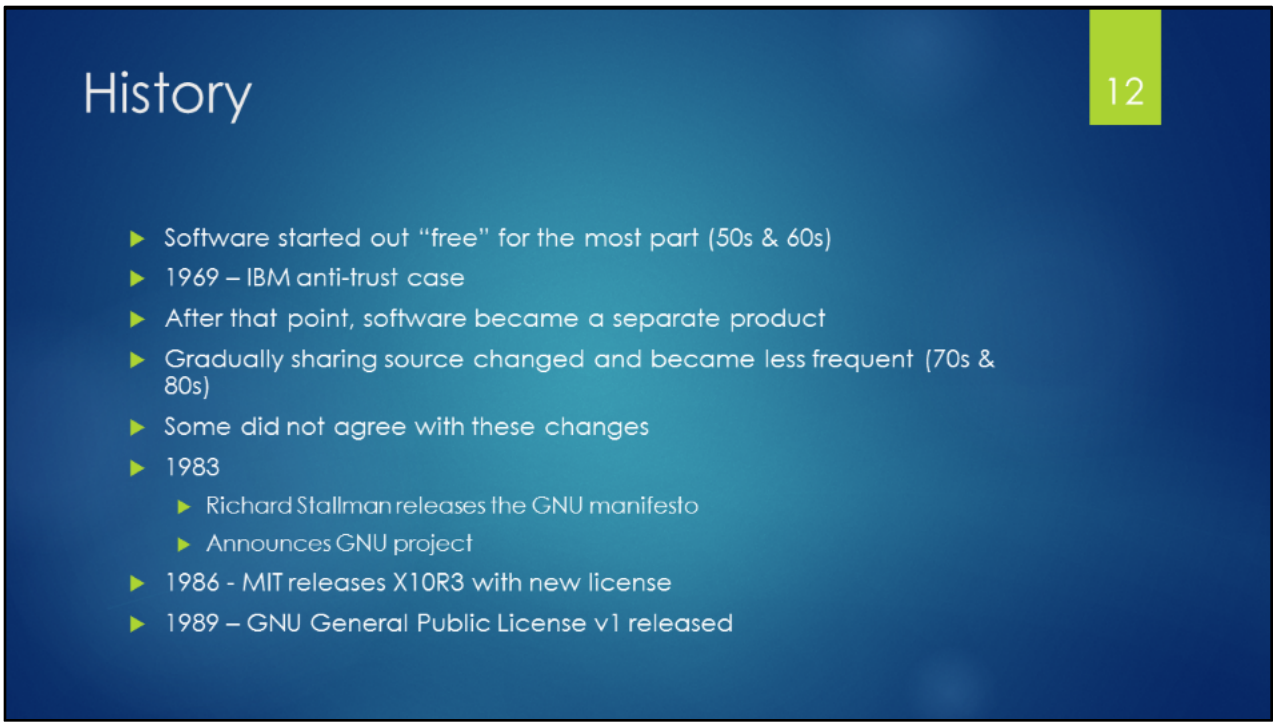
1. https://en.wikipedia.org/wiki/Public_copyright_license
2. https://www.smashingmagazine.com/2011/06/understanding-copyright-and-licenses/
3. http://www.gnu.org/licenses/copyleft.en.html
4. https://en.wikipedia.org/wiki/Beerware

Note: there are differences on how copyrights and patents are handled in each country. Some countries do not patent software.

History, Philosophy, Politics, Business, and Religion… Oh My!
Context is important to understand some of the nuances associated with OSS and OSS licenses, how they came about, and how they have evolved

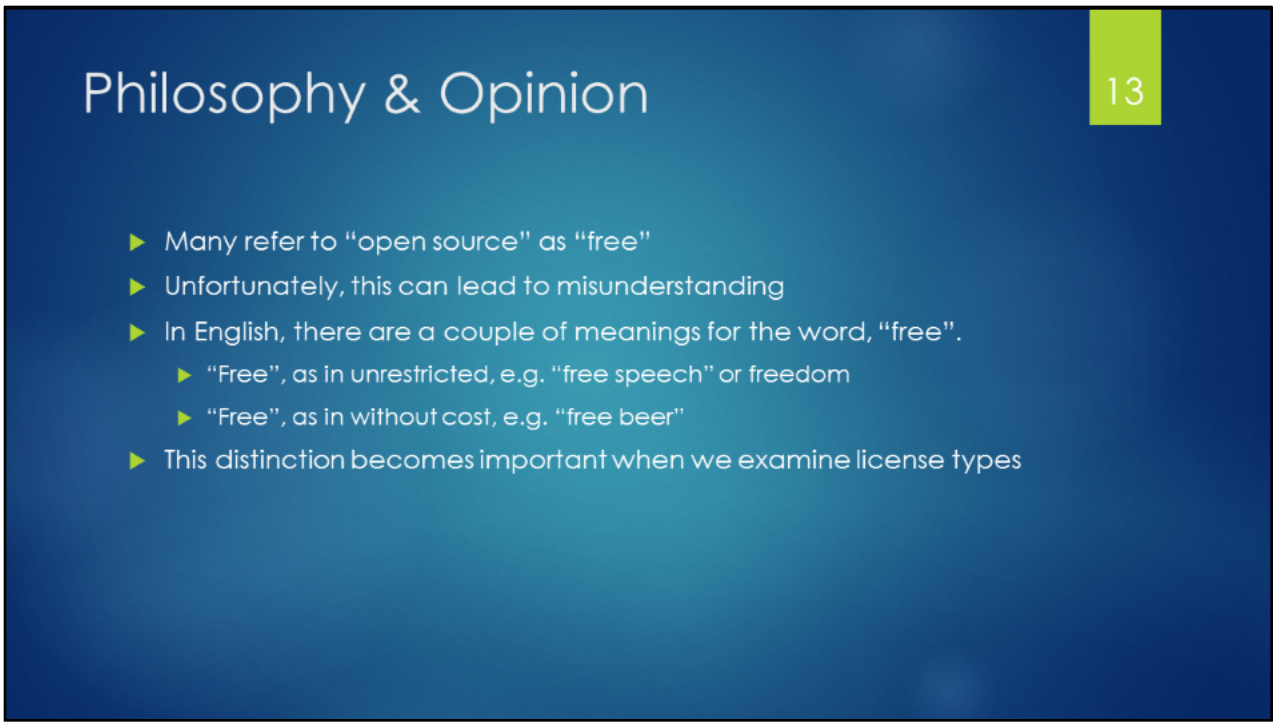
References:

1. https://en.wikipedia.org/wiki/History_of_free_and_open-source_software#Launch_of_the_free_software_movement
2. http://www.freebsd.org/doc/en_US.ISO8859-1/articles/bsdl-gpl/article.html
3. https://opensource.org/history
4. https://en.wikipedia.org/wiki/MIT_License
5. https://en.wikipedia.org/wiki/X_Window_System#History
6. https://en.wikipedia.org/wiki/BSD_licenses
7. http://www.linuxjournal.com/content/cisco-settles-where-here
8. http://www.howtogeek.com/howto/31717/what-do-the-phrases-free-speech-vs.-free-beer-really-mean/



History

1. 1950's & 1960's - Most companies were in the hardware business and didn't see that software was valuable'
2. 1969 – IBM anti-trust case forced IBM to sell software separately
3. 1983 – Stallman's GNU Manifesto – Loosely marks the beginning of "Open Source"
    1. Response to some incidents, like printer that couldn't be fixed without source
    2. Access to Symbolics modifications to MIT's LISP machine
4. ~1986-1988 - MIT License
5. 1989 – GPLv1
6. 1990 – Modified BSD License (4 clause) original "BSD License"
7. Universities were some of most common early adopters
8. Software costs began to increase with the complexity of the software


Philosophy & Opinion
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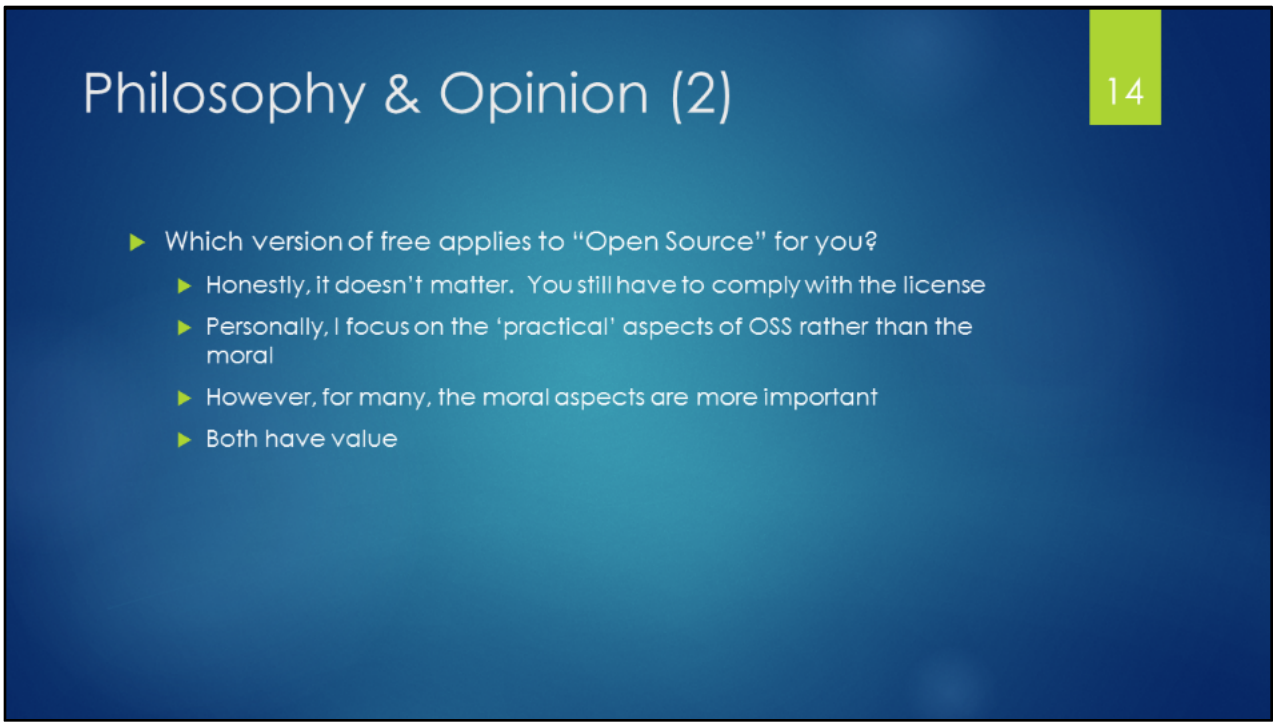
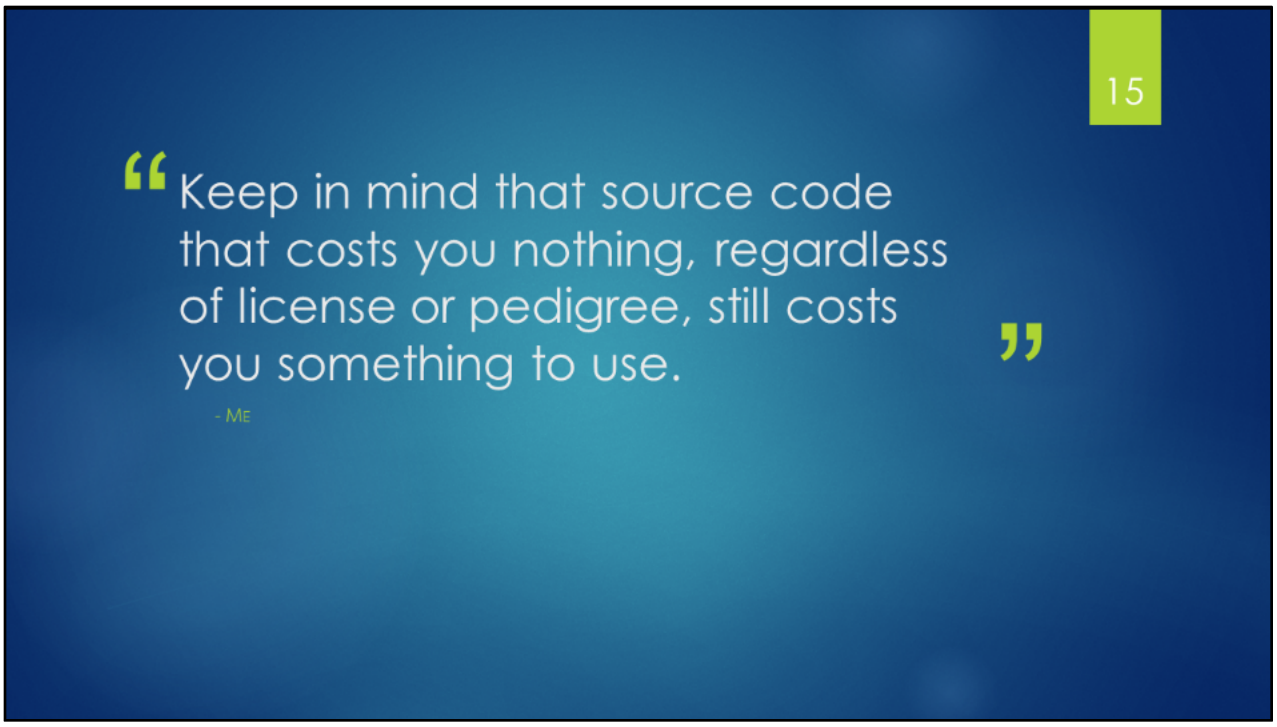
Many refer to "open source" as "free"
Unfortunately, this can lead to misunderstanding
In English, there are a couple of meanings for the word, "free".
"Free", as in unrestricted, e.g. "free speech" or freedom
"Free", as in without cost, e.g. "free beer"
This distinction becomes important when we examine license types



Understanding both sides, moral and practical, helps one to grasp the intent of the licenses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“Keep in mind that source code that costs you nothing, regardless of license or pedigree, still costs you something to use.”
- Me


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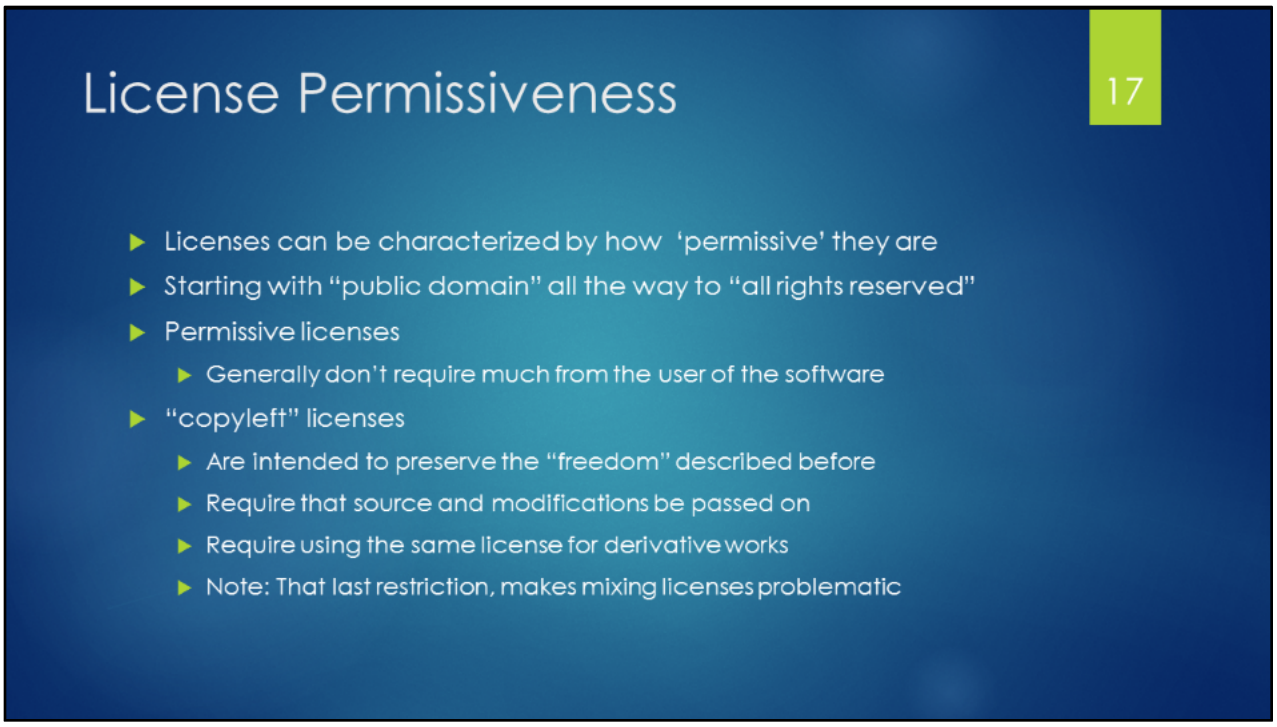
License Types

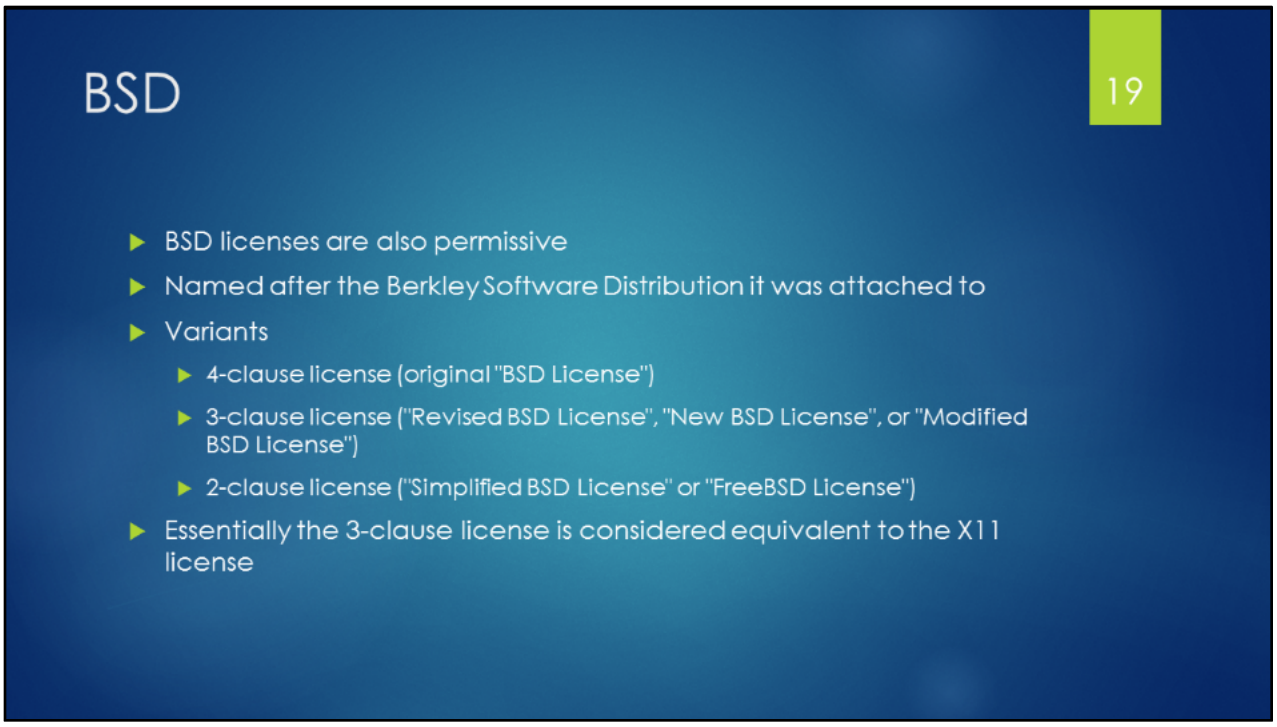


"copyleft" licenses attempt to preserve the ability of an end user to modify the source. It does this by requiring the use of the same license on derived products in order to use the software and requiring source disclosure with modifications.

Found the typo of ‘vey’ and thought it would be funny to leave it in, as in, “Oh vey!”

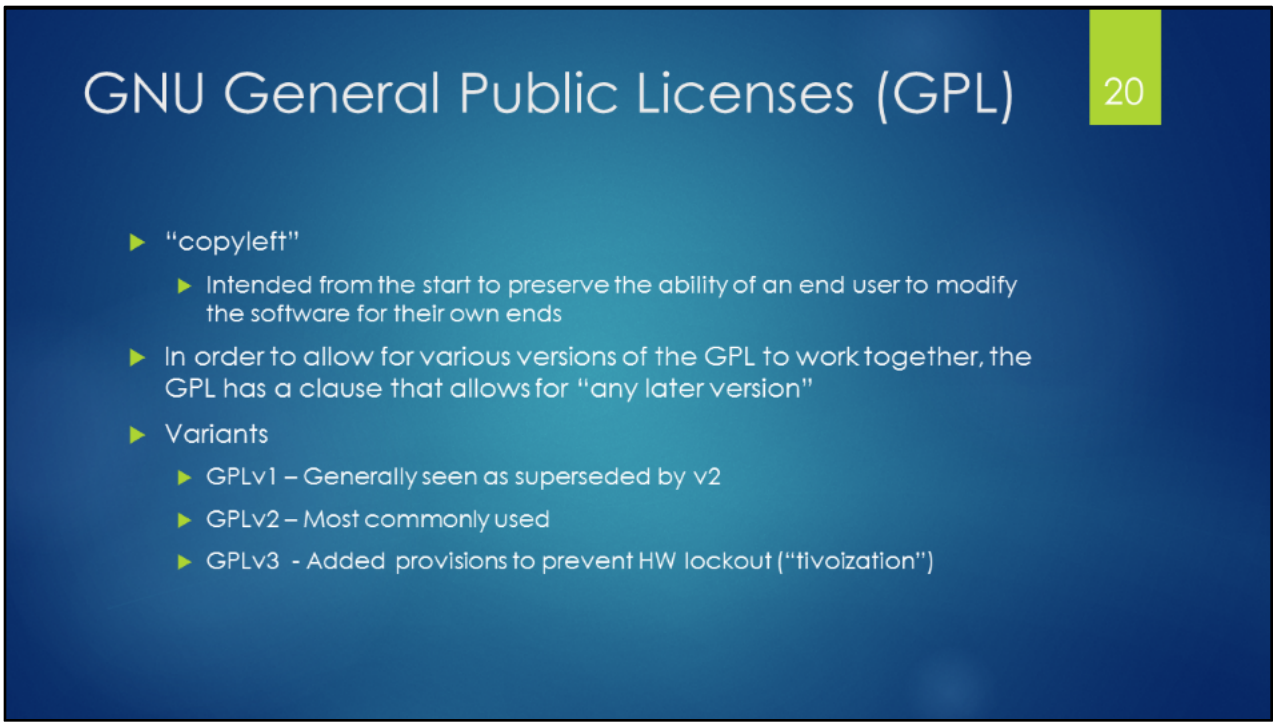
Reference:

1. https://www.gnu.org/licenses/license-compatibility.html



Reference:

1. https://en.wikipedia.org/wiki/BSD_licenses



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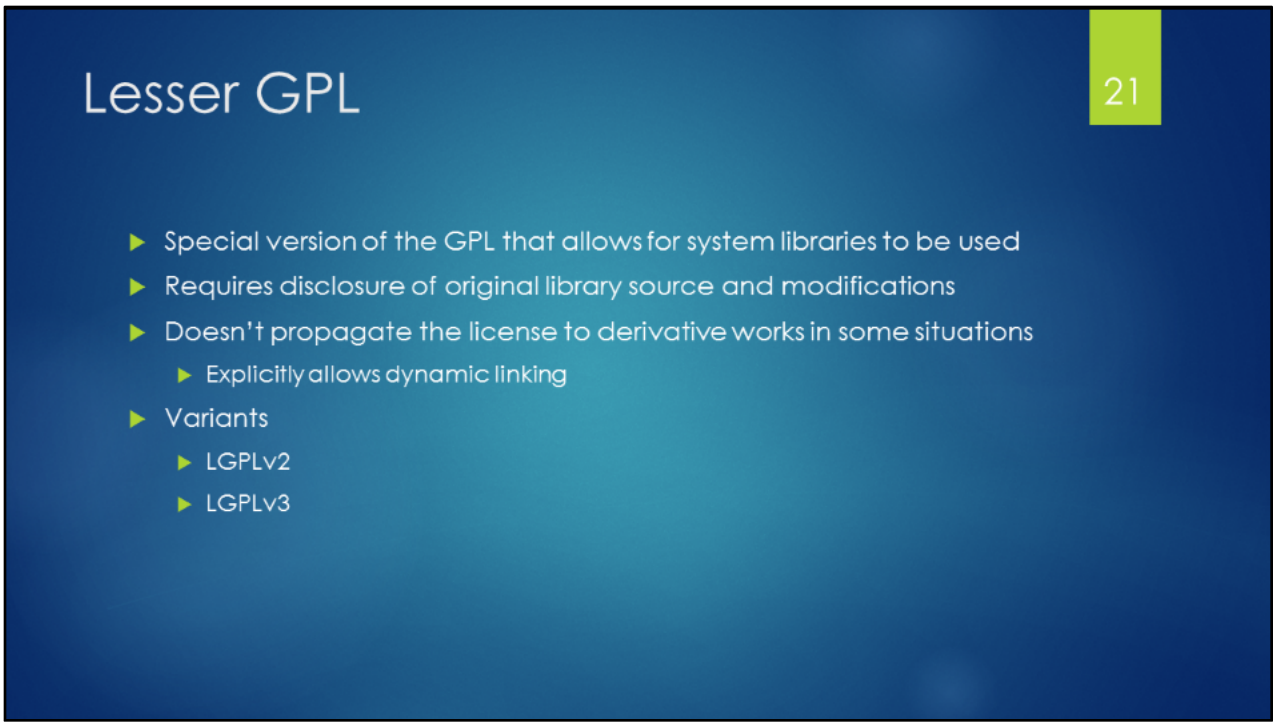

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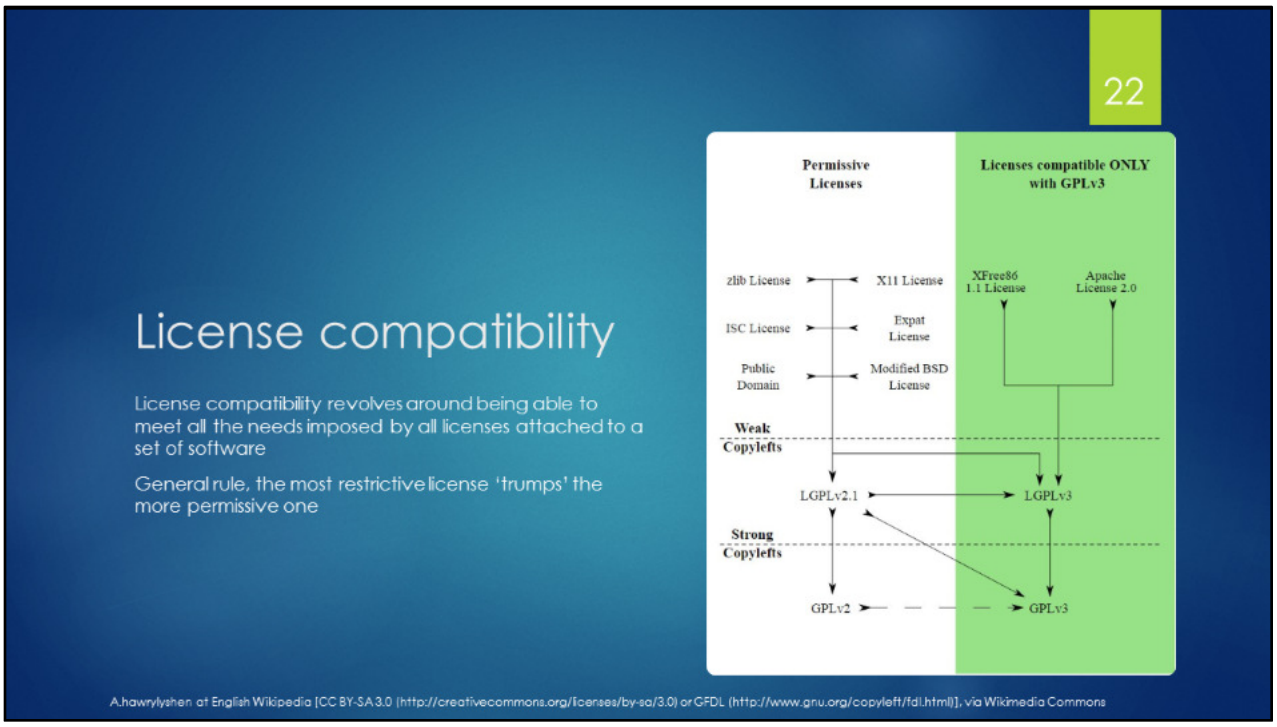


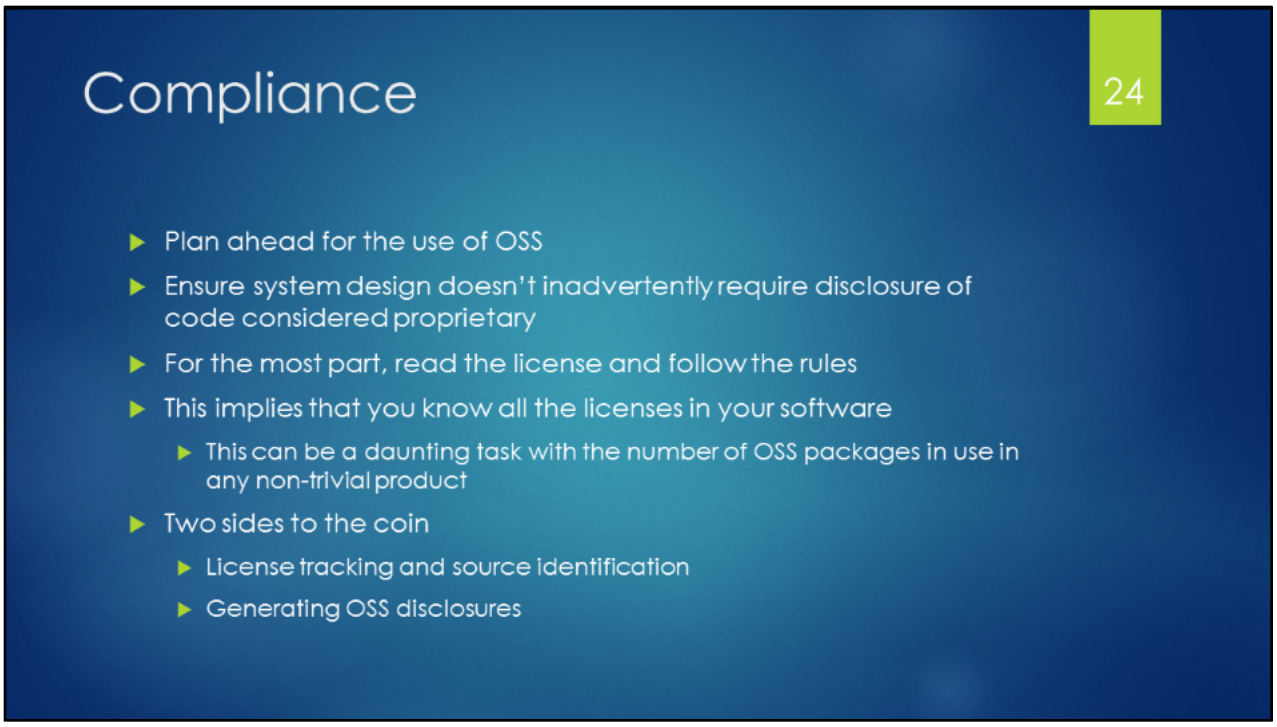
Graphic is from Wikipedia: https://commons.wikimedia.org/wiki/File%3AQuick-guide-gplv3-compatibility.svg (see attribution below)

Reference:

1. https://www.gnu.org/licenses/license-compatibility.html

References:

1. http://techcrunch.com/2012/12/14/open-source-software-compliance-basics-and-best-practices/
2. https://spdx.org/


Compliance
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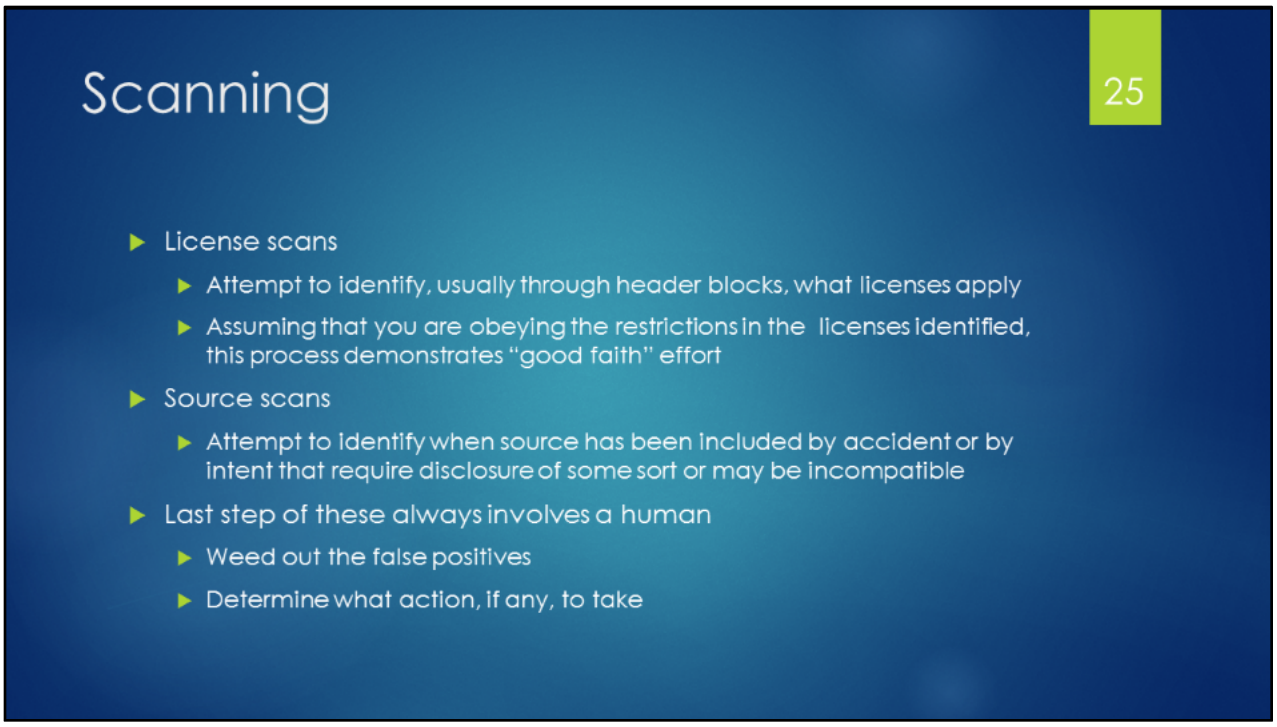
Plan ahead for the use of OSS
Ensure system design doesn't inadvertently require disclosure of code considered proprietary
For the most part, read the license and follow the rules
This implies that you know all the licenses in your software
This can be a daunting task with the number of OSS packages in use in any non-trivial product
Two sides to the coin
License tracking and source identification
Generating OSS disclosures


Scanning
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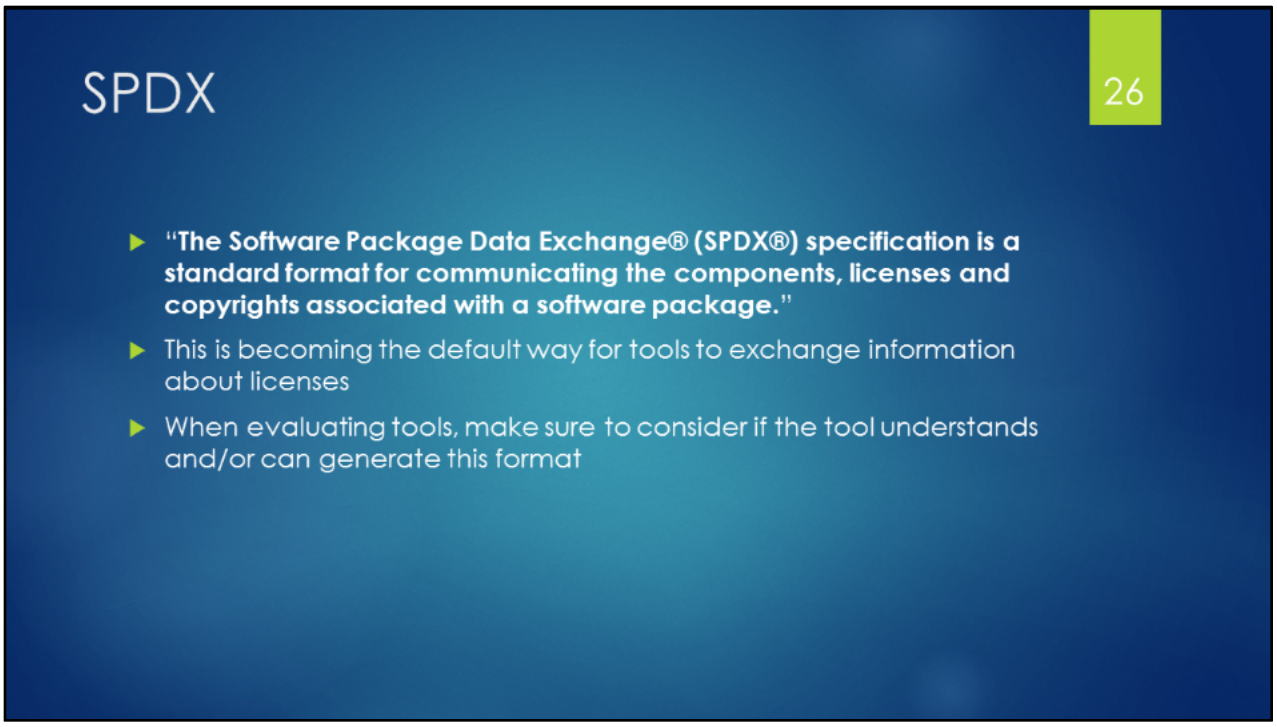
License scans
Attempt to identify, usually through header blocks, what licenses apply
Assuming that you are obeying the restrictions in the licenses identified, this process demonstrates "good faith" effort
Source scans
Attempt to identify when source has been included by accident or by intent that require disclosure of some sort or may be incompatible
Last step of these always involves a human
Weed out the false positives
Determine what action, if any, to take


SPDX
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"The Software Package Data Exchange® (SPDX®) specification is a standard format for communicating the components, licenses and copyrights associated with a software package."
This is becoming the default way for tools to exchange information about licenses
When evaluating tools, make sure to consider if the tool understands and/or can generate this format


Tools
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There are a *ton* of tools out there to help with compliance
Some go well beyond the tracking of licenses and source scanning
Almost all take a lot of care and maintenance
These are generally complex, heuristic scanning tools
Personally, I've found that the most useful tools are the ones that help me to track licenses and produce reports
An OSS project, called, fossology, does this well
Still takes a lot of setup and maintenance


A comment on enforcement
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When violations occur, mostly, it is assume to be unintentional
Most copyright holders will work with an infringing party
In most cases, addressing the infringement and complying with the license terms will satisfy the copyright holder
Don't rely on this


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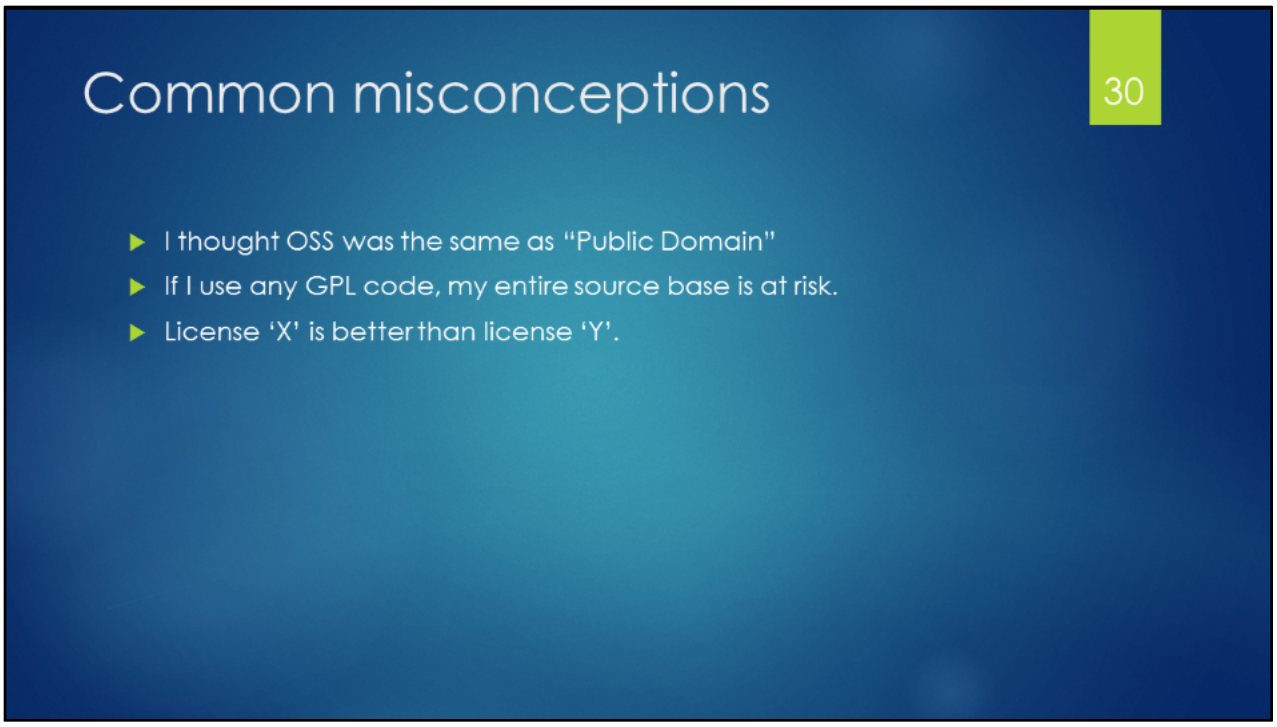
Final Thoughts


Common misconceptions
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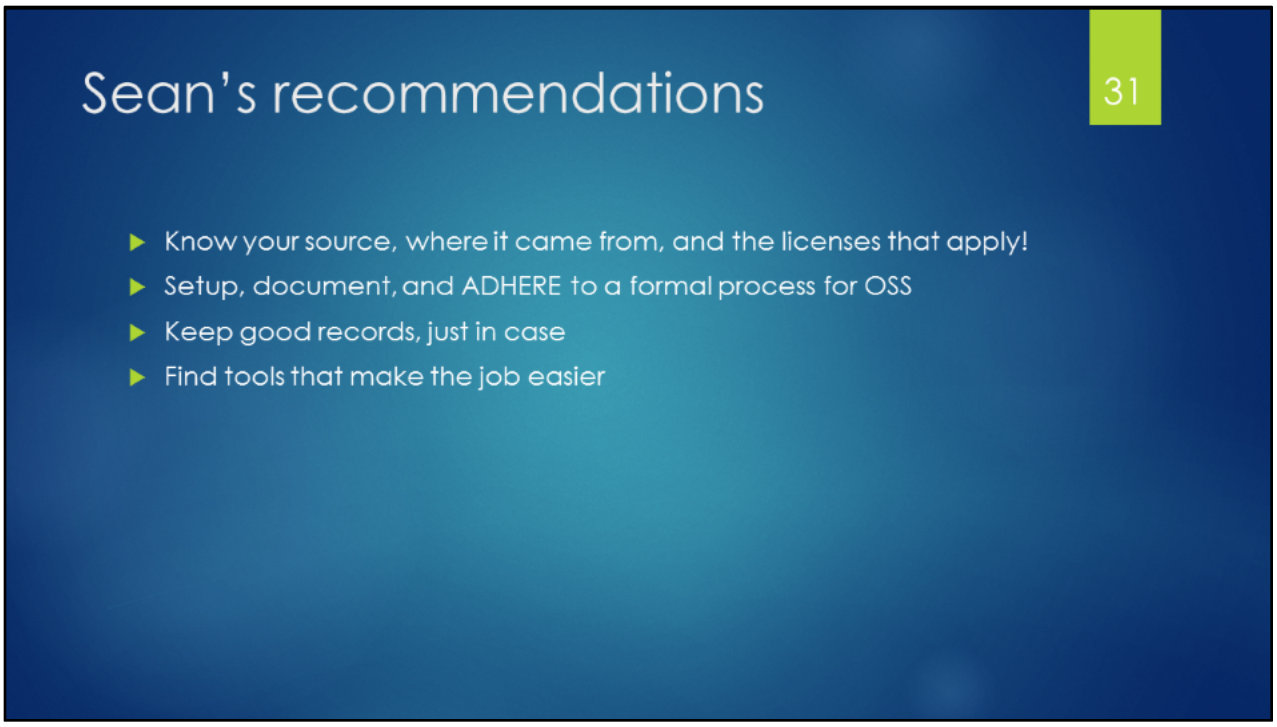
I thought OSS was the same as "Public Domain"
If I use any GPL code, my entire source base is at risk.
License 'X' is better than license 'Y'.



Although I had a reasonable understanding of OSS before, I learned a lot of the history behind the licenses while creating this presentation and broadened my understanding of FOSS in the process. This really is a large, complex topic and is worth continuing study.

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