



# Introduction to open-Source Software (OSS)

# Concepts, strategies, and methodologies related to open-source software development

# Week 02 – Lecture 03



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# Recap



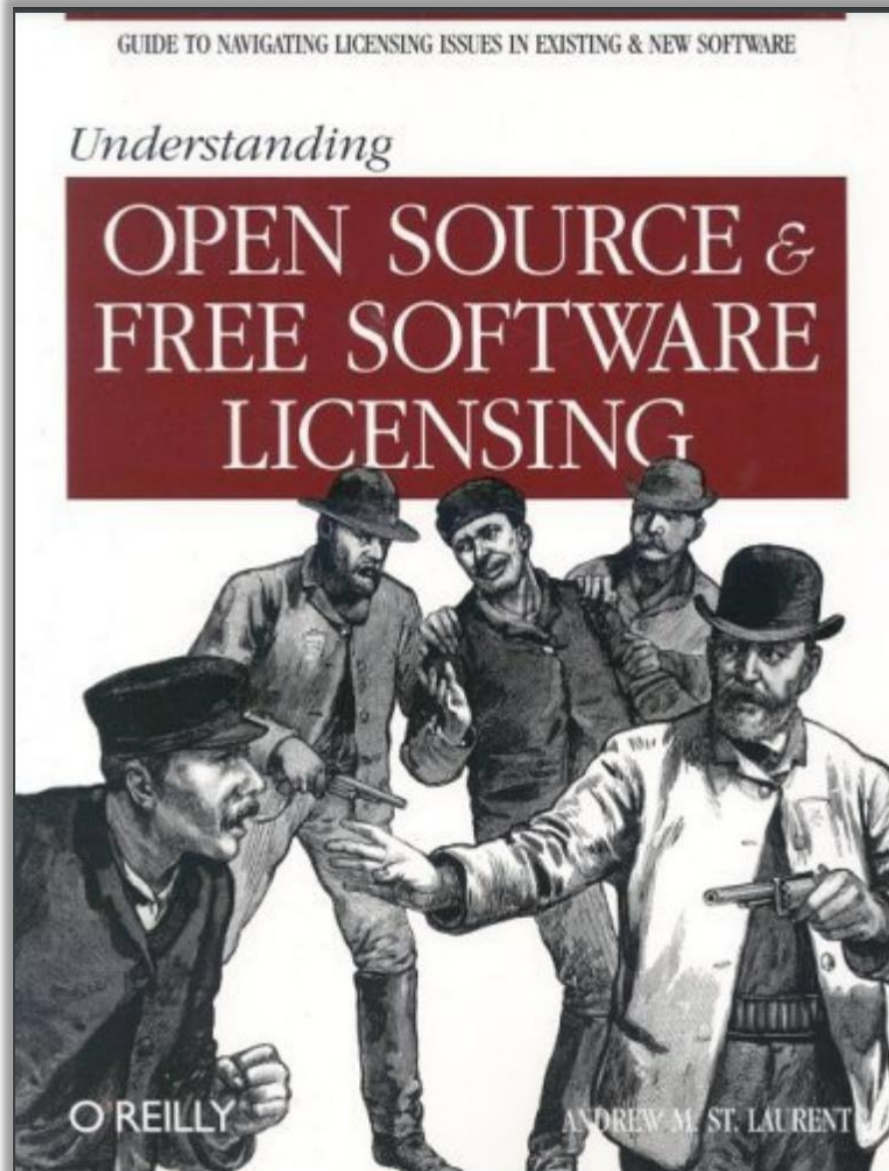
- History of Free and Open Source
- GNU and the Free Software Foundation (FSF)
- Open Source Initiative

# Today, Agenda

- Overview of Copyright and Licenses
- Understanding the legal implications of open-source
- Licenses in a Nutshell
- Software license categories



# Additional recommend book



## Understanding Open Source and Free Software Licensing

Andrew M. St. Laurent -

# Intellectual property, copyright and licensing

- Intellectual Property (IP) are legally protected rights that one has over new ideas or creations.
- Common types of intellectual property include
  - copyrights,
  - trademarks,
  - patents
  - Industrial design rights and trade secrets.

# Overview of Copyright and Licenses

- Whether software is FOSS depends on its license.
- A license can only be applied by the copyright holder.
- So ...
  - **What is copyright?**
  - **What is a license?**
- The next few slides answer these questions.

# Copyright in a Nutshell

- Copyright gives the **creator** of the **original work exclusive rights** in terms of **usage, distribution**, and **customization** of the work.
- Roughly, copyright is the **legal right granted** to the creator of a creative work to the exclusive **publication, production, sale, or distribution** of that work.
- By default, the creator has **All Rights Reserved**, meaning no one has the right to do anything with the work except to use it as is **allowed**.
- When all rights are reserved by the **copyright owner**, others cannot **copy, reuse, redistribute**, or do **anything** other than **use the work**.

# Copyright definition

Legal right that grants the creator of an **original work**



*literary works*



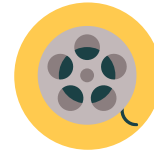
*music*



*photography*



*paintings*



*motion pictures*



*software*

Copyright definition



*reproduce*



*perform*



*modify*



*distribute*

**The copyright owner controls what can be done.**



# Rights of copyright holders

- Copyright owners can:
  - Reproduce the work
  - Adapt or derive other works from the original work
  - Distribute copies of the work
  - Display the work publicly
  - Perform the work publicly

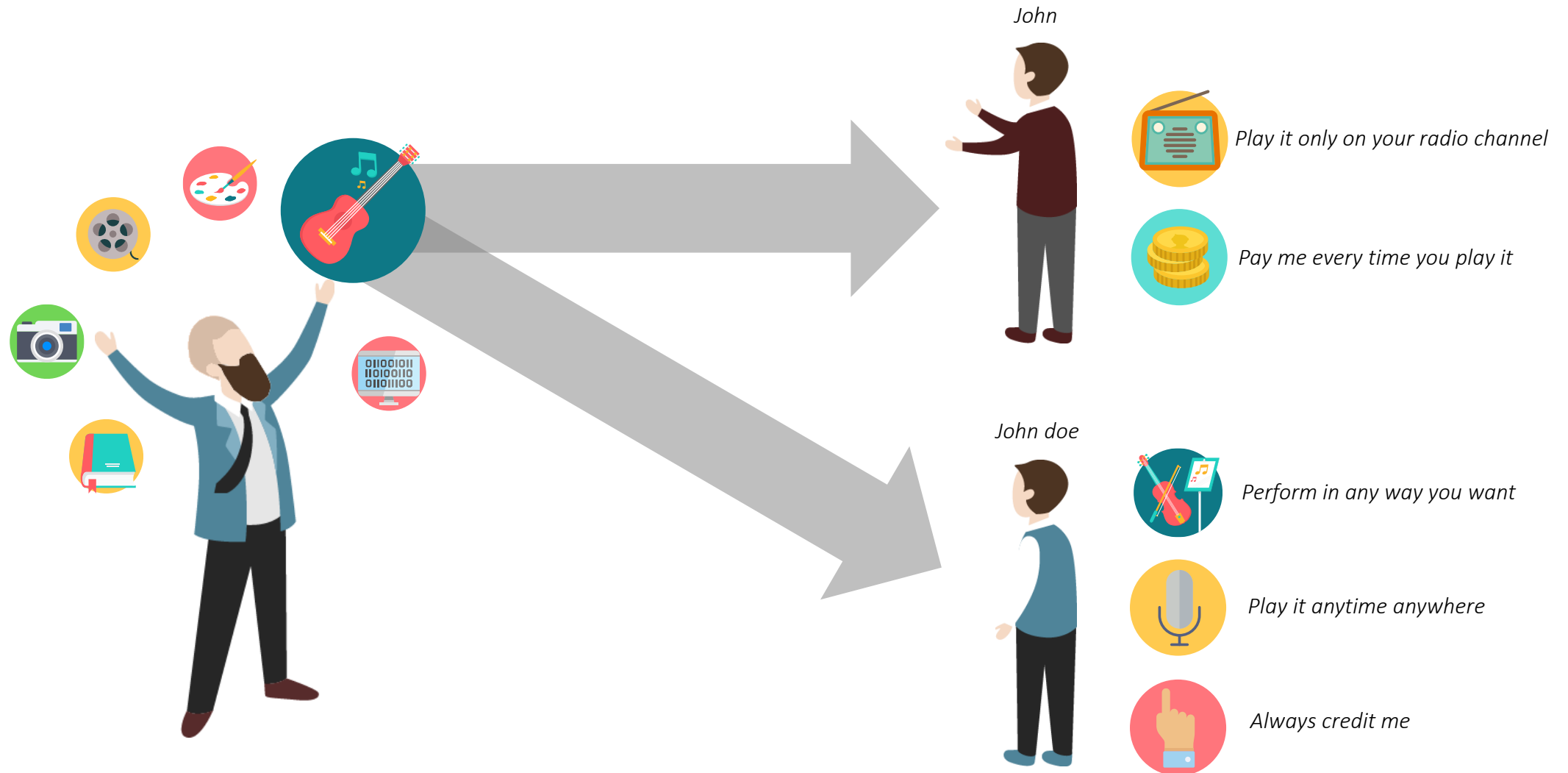
# Rights of copyright holders (cont'd)

- Some of the privileges copyright provides to the author of the software include:
  - The right to produce and sell copies of the work
  - The right to create derivative works
  - The right to sell, transfer, or reassign any of the rights granted by copyright to others

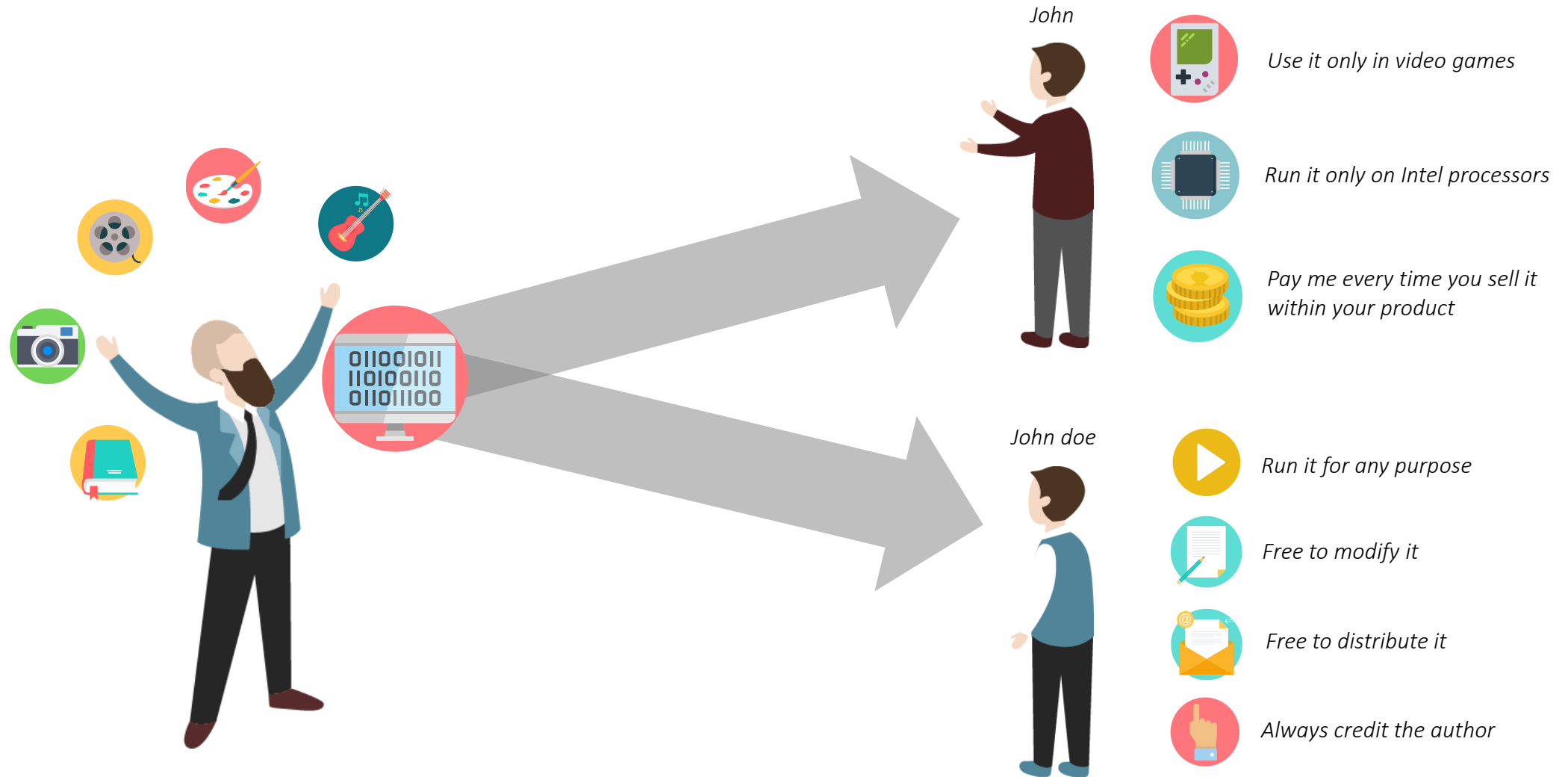
# Copyright limitations

- Copyright is time-bound - normally a number of **years (70)** after the death of the author
- Two general limitations:
  - **Fair use** - limited use of copyrighted work is allowed, for commenting, news reporting, research, teaching etc.
  - **First sale** - copyright holders who have sold copies of a work cannot interfere with subsequent sales of those copies

# Exclusive rights exercise – example 01 (Music)



# Exclusive rights exercise – example 02 (Software)



# Derivative work

Expressive creation that includes mayor copyright-protected elements of an original previously created first work (underlying work)

*Leonardo da Vinci*

*1519*

*Mona Lisa*



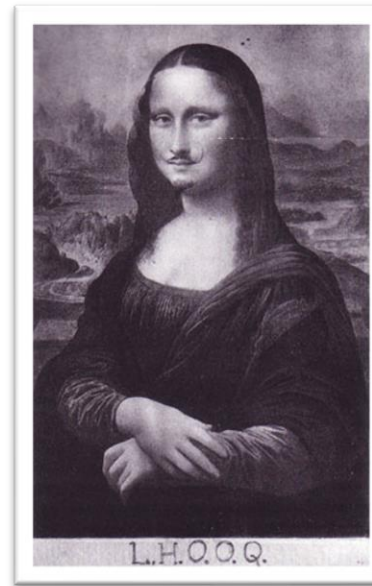
*Marcel Duchamp*

*1919*

*Additions to the Mona Lisa:*

*Moustache*

*L.H.O.O.Q.*



*\*Copyright protection = Authors life + 70 years (depends on )*

# Derivative work

Expressive creation that includes mayor copyright-protected elements of an original previously created first work (underlying work)



Q3: Can you publish the copyright content under your name?

**A** Yes

**B** No



Multiple Choice





# Copyleft

A form of licensing that was initiated by the Free Software movement.



## Copyright

*Legal right that grants the creator of an original work exclusive rights to its use and distribution*



## Copyleft

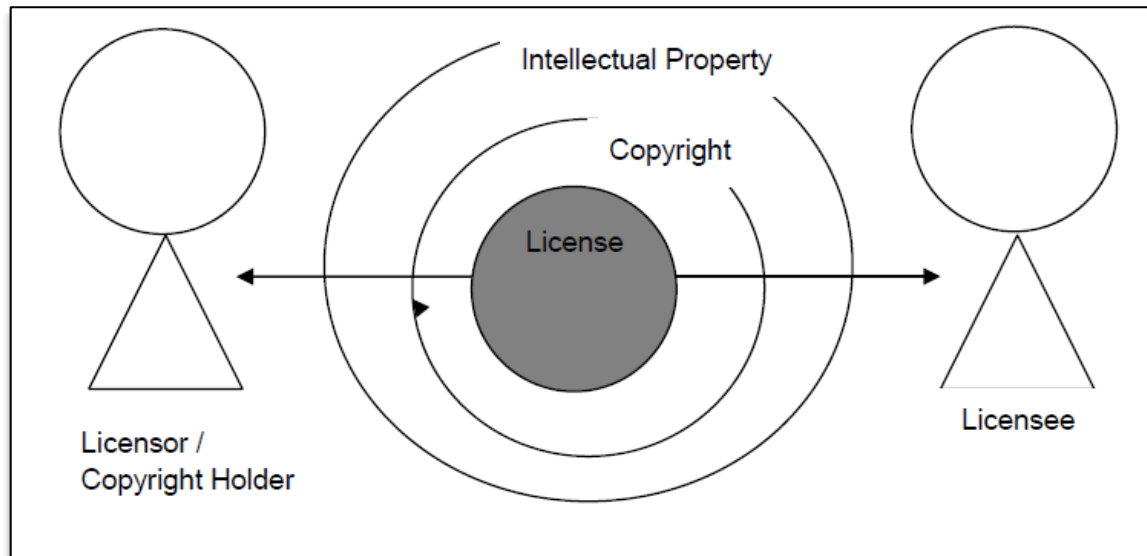
*Offering people the right to **freely distribute copies** and **modified versions of a work***

*Exists within the legal structure of copyright*



# Copyright (cont'd)

- The transfer of rights by the author partly or wholly on his own terms is what we refer to as **licensing**.
- The term **license** means **permission**. The copyright holder, or licensor, grants another person, known as the licensee, specific permissions to use the work.



Relationship between licensor, licensee, and license

# Understanding the legal implications of open source

Sharing your creative work with the world can be an exciting and rewarding experience. It can also mean a bunch of **legal things** you didn't know you had to worry about. Thankfully, you don't have to **start from scratch**.

**Open-source projects** are made available and contributed to under licenses that include terms that, for the protection of contributors, make clear that the projects are offered **“as-is”**, without **warranty**, and **deny responsibility for damages** resulting **from using the projects**.

Why do people care so much about the legal side of open source?

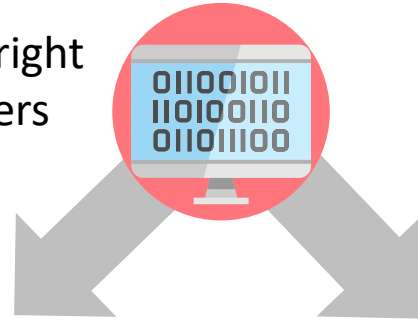
**When you make a creative work (such as writing, graphics, or code), that work is under exclusive copyright by default. That is, the law assumes that as the author of your work, you have a say in what others can do with it.**

# Licenses in a Nutshell

- If you want to give others the permission to do certain things with your work, you do that by issuing a license.
- A license is a legal document that gives people permission to do specific things with the copyrighted work.

# Software license categories

- Software is created by an author and is subject to copyright
- A license determines how software can be used by others



## Copyright protected

Open source

Proprietary

Free Software  
Copyleft

Open source  
Permissive

*\*FOSS, FLOSS, OSS*

## Public Domain

*Copyright protection expired*

*or*

*Anonymous authorship*

# Copyleft vs. Permissive

Both copyleft and permissive licenses require that anyone who uses works licensed under them must have permission to view, modify, and share the source.

## Copyleft

- Restrictive (copyleft) licenses require source code to be distributed along with binary code
  - aim to keep software free in the future

## Permissive

- Permissive licenses allow distribution of source code, but only require attribution.

This is a simplification. It is more complicated than this; some licenses are more permissive than others and there are other complications.

# Copyleft vs. Permissive

## Free Software - Copyleft

Governed by the  
Free Software Foundation (FSF)



They keep a list of accepted licenses

*GPL, LGPL, AGPL, MPL, EPL,...*

They are referred to as:

*Copyleft, Restrictive, protective, reciprocal...*

## Open Source - Permissive

Governed by the  
Open Source Initiative (OSI)



They keep a list of accepted licenses

*BSD, MIT, Apache License, ...*

They are referred to as:

*Permissive, Non-copyleft*



# License and Project Examples

## Free Software - Copyleft

License Examples:

**GPLv2, GPLv3** - *GNU General Public License*

**LGPLv2.1, LGPLv3** - *GNU Lesser General Public License*

**MPL** - *Mozilla Public License*

**EPL** - *Eclipse Public License*

Project Examples:



**Linux (GPL v2)** – *Most deployed OS*

**GCC (GPL v3)** – *Most popular compiler*



**Firefox (MPL)** – *Top 5 most used browser*

**Eclipse (EPL)** – *Most used IDE*

## Open Source - Permissive

License Examples:

**BSD License** - *Berkeley Software Distribution*

**MIT License** - *Massachusetts Institute of Technology*

**Apache License**

Project Examples:



**Android (Apache)** – *Most used mobile OS*

**Apache (Apache)** – *Most used web server*

**PHP (PHP)** – *Popular server scripting language*

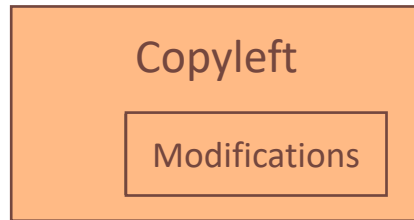
**Python (Python)** – *Popular high-level language*



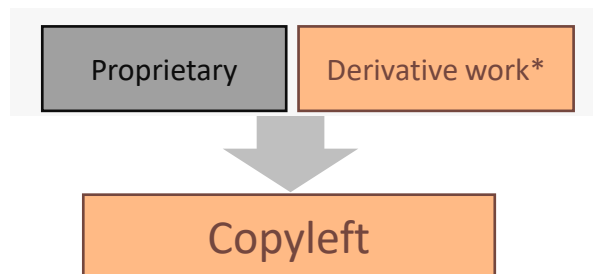
# Usage Examples

## Free Software - Copyleft

1. Derivative works (modifications) :



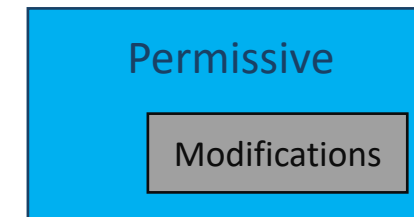
2. Combined works (linking) :



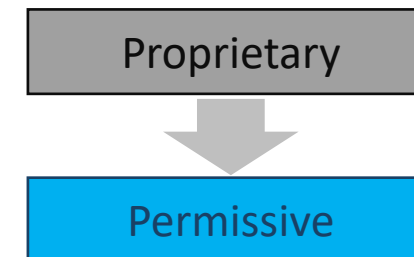
*\*License propagation, Copyleft effect*

## Open Source - Permissive

1. Derivative works (modifications):



2. Combined works (linking) :

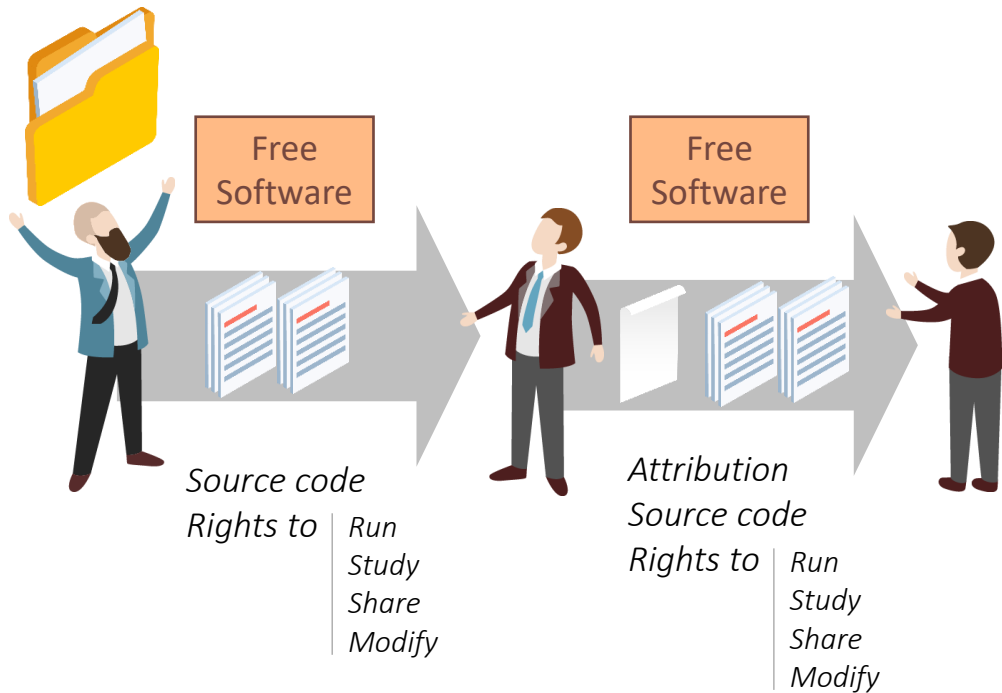


*No license propagation*

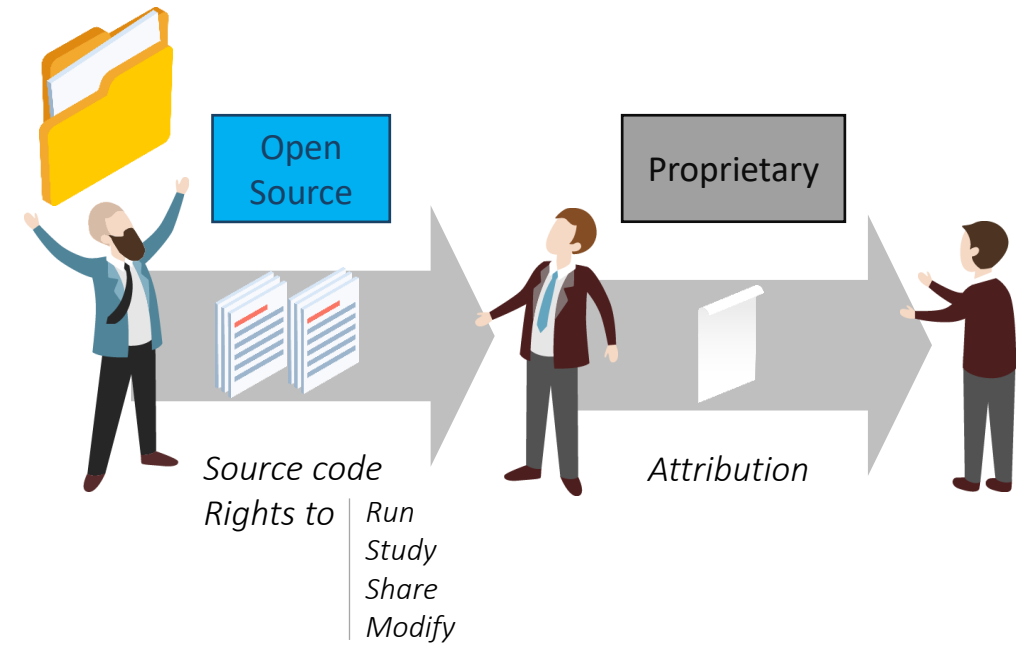
*\*Please do not refer to derivative works of software as **contamination**.*

# Distribution Examples

## Copyleft



## Permissive



Business friendly



# Community and Software Licenses

- When a software work has been written by many people, each person retains copyright over the portions that they contributed to the whole work.
- It would be hard for decisions to be made about what can be done with that software if each copyright owner had a different set of rights.
- Putting a project under a free and open source software license can simplify who can do what.

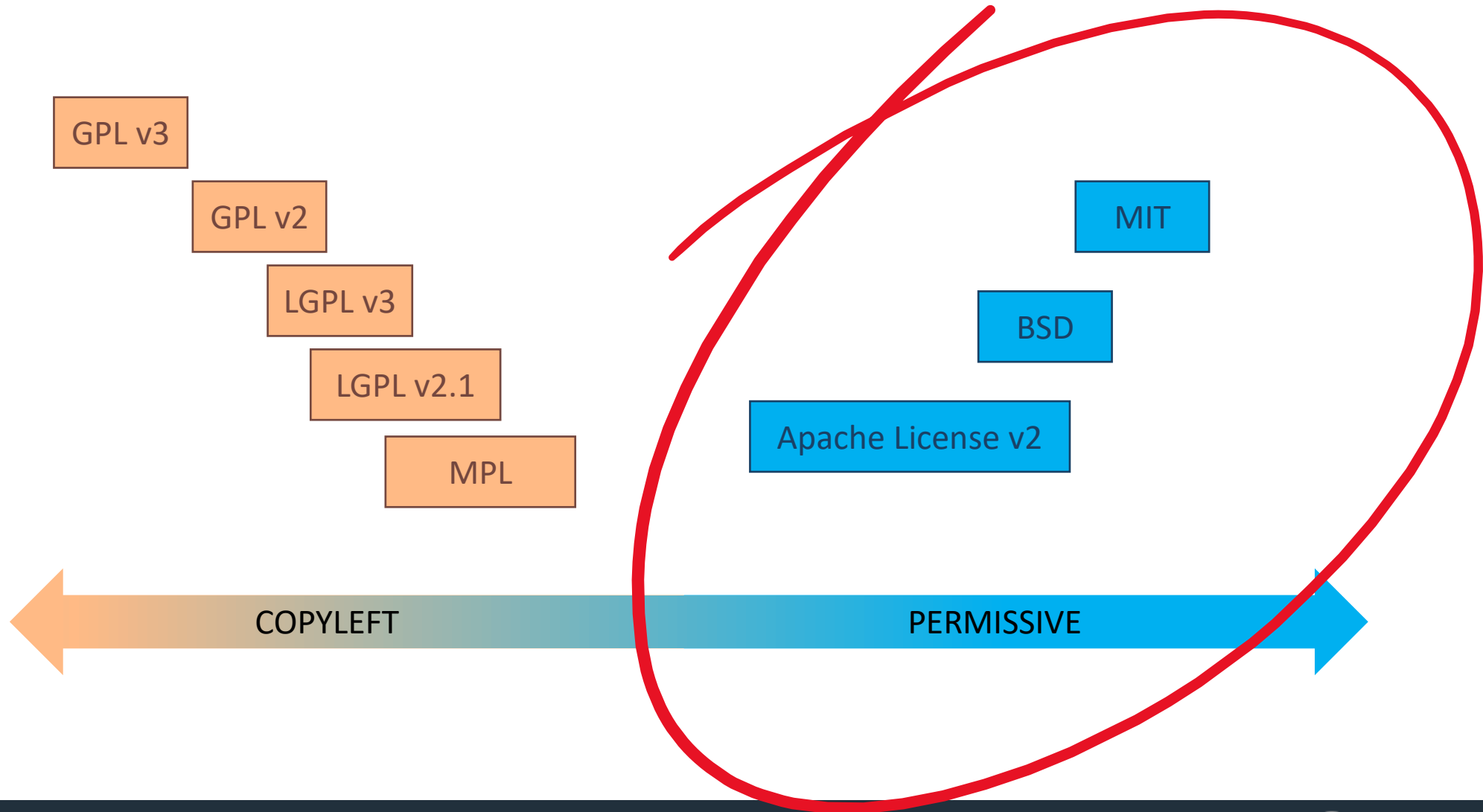
# Community and Software Licenses

- For example, most FOSS licenses require contributions to a project to be contributed and released under the same license as the original work.
  - If you contribute to a project with an OSI approved license, you still keep the copyright over your work, but your contribution is covered by the same license as the project and is open source.
  - This means your code is shareable, not secret.
  - It can be part of your portfolio.
  - You can show it to a prospective employer.

# FOSS versus Not FOSS

- If you write code for an employer, whether as employee, intern, or even sometimes as an independent contractor, it is work for hire, unless you have a contract that states otherwise.
- Work for hire is any created work that can be copyrighted like songs, stories, essays, sculptures, paintings, graphic designs, or computer programs.
- Beware:
  - You do not own the copyright.
  - You cannot share your code with anyone or put it in your portfolio.
  - You cannot show it to a prospective employer.

# License Spectrum



# Reading Materials

- Book
  - **Producing Open-Source Software How to Run a Successful Free Software Project** → Chapter 9
  - **Getting started with open-source development** → Chapter 3 – Licensing
  - **Understanding Open Source and Free Software Licensing** → Chapter 1: Open Source Licensing, Contract, and Copyright Law
- <https://opensource.guide/legal/>



# Thanks

Office Time: Monday-Friday (1000 - 1800)

You can send me an email for meeting, or any sort of discussion related to class matters.

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