

# Chapter 2

## Legal Framework and Software Licenses

### 1 Introduction to Copyright Applied to Software

Copyright automatically protects software as an intellectual work. It covers the source code, object code, documentation, and graphical user interface from the moment of creation, without the need for registration. It grants the author economic (exploitation) rights and moral rights, which are essential for preventing software piracy and infringement.

#### 1.1 Key Principles of Copyright Applied to Software

**Object of protection:** Software code (source and object code) is protected as a literary work. Protected elements include the code, technical documentation, and the user interface.

**Originality:** Software must reflect the author's intellectual contribution to be protected.

**Automatic protection:** No registration is required; protection is automatic upon creation. However, deposits (INPI, APP) are recommended to prove authorship.

**Rights of the holder:** Authors have exclusive rights to reproduce, modify, and distribute their software.

**Employee-created software:** Unless otherwise stated in a contract, the economic rights to software created by employees within their professional duties belong to the employer.

**Duration:** Protection generally lasts for the author's lifetime plus 50 years (or 75 years after publication for companies).

**Licenses:** Use, copying, or modification requires authorization, usually granted through a license agreement.

#### 1.2 Important Distinctions

- Copyright protects the form (code), not the functional idea or algorithm.
- Software is generally not patentable in France unless it provides a technical contribution.
- Free software uses copyright to guarantee the freedoms to study, share, and modify code.

## 2 Licenses: Legal Tools of Free Software

### 2.1 What Is a Software License?

A software license is a legal contract through which the author authorizes or restricts certain uses of their work.

It defines:

- Copying rights
- Modification rights
- Redistribution conditions
- User obligations

In the absence of a license, copyright applies by default: **All rights reserved.**

### 2.2 Free Software Licenses

Free licenses (GPL, LGPL, BSD, MIT, Apache) govern software use and distribution.

They are divided into:

- Copyleft licenses (obligation to preserve freedom)
- Permissive licenses (very few constraints)

### 2.3 Main Licenses Overview

**GNU GPL (General Public License)** A strong copyleft license. Any derived software must remain free under the same license.

**LGPL (Lesser GPL)** A weak copyleft license mainly used for libraries. It allows linking free code with proprietary software.

**BSD (Berkeley Software Distribution)** A permissive license without copyleft allowing modification and redistribution with minimal obligations.

**MIT License** A highly permissive license allowing commercial use and closed-source distribution with attribution.

**Apache License 2.0** A permissive license including an explicit patent clause.

### 2.4 Comparative Table

License	Type	Sharing Constraints	Commercial Use
GPL v3	Strong copyleft	Mandatory (same license)	Yes
LGPL	Weak copyleft	Library only	Yes
BSD	Permissive	None	Yes
MIT	Permissive	None	Yes
Apache 2.0	Permissive	None (patent protection)	Yes

## 2.5 The Copyright Model

- Principle: All rights reserved
- Users may not copy, modify, or redistribute without authorization
- Typical of proprietary software (Windows, Photoshop, etc.)

## 2.6 The Copyleft Model

Copyleft reverses copyright logic: users may modify and redistribute software, but must preserve the same freedoms.

### 2.6.1 Strong Copyleft

- All derived works must remain under the same license
- Prevents integration into proprietary software
- Examples: GNU GPL, AGPL

### 2.6.2 Weak Copyleft

- Only certain components are protected
- Allows integration into other software
- Examples: LGPL, Mozilla Public License

## 2.7 Permissive Licenses

These licenses grant broad freedom to reuse and integrate code even in proprietary software.

Examples: MIT, BSD, Apache 2.0.

# 3 Creative Commons Licenses

## 3.1 Definition

Creative Commons licenses are intended for cultural, educational, and artistic works such as texts, images, and videos.

They allow authors to define conditions such as:

- Attribution
- Sharing
- Non-commercial use
- No modification

## 3.2 Main Conditions

Symbol	Name	Meaning
BY	Attribution	Author must be credited
NC	NonCommercial	Commercial use prohibited
ND	NoDerivatives	No modification allowed
SA	ShareAlike	Same license for derivatives

## 3.3 Possible Combinations

License	Meaning
CC BY	Free use with attribution
CC BY-SA	Attribution + same license
CC BY-NC	Free non-commercial use
CC BY-ND	No modification allowed
CC0	Public domain

# 4 License Compatibility

License compatibility determines whether elements under different licenses can be combined.

- Permissive compatibility: BSD, Apache, MIT
- Copyleft compatibility: GPL, CC BY-SA
- Upward compatibility: some licenses allow newer versions

## 4.1 Key Rules

- Composite work principle: the most restrictive license applies.
- Multi-licensing increases compatibility.
- Always read license compatibility clauses.

# 5 Implications for Institutions and Companies

## 5.1 Educational Institutions

Advantage	Explanation
Low cost	Free software reduces expenses
Legal use	Avoids piracy
Educational value	Students can study source code
Localization	Adaptation to Arabic/French

## 5.2 Companies

Advantage	Explanation
Cost reduction	No license fees
Flexibility	Software can be modified
Innovation	Build products on open-source tools
Legal safety	Compliance with licenses

## 6 Simple Summary for Students

License Type	Best For
GPL	Open projects and communities
LGPL	Shared libraries
MIT / BSD	Commercial and academic projects
Apache	Large projects with patent protection

## 7 Questionnaire

1. How many fundamental freedoms does free software guarantee? a) 2 b) 3 c) 4 d) 5
2. The word “Free” in “Free Software” means: a) Free of charge b) Freedom c) Public d) Private
3. The founding organization of the Free Software movement is: a) FSF b) OSI c) UNESCO d) GNU
4. The OSI was created to promote: a) Commerce b) Ethics c) Code quality d) Copyright
5. A copyleft license requires: a) Keeping the same license b) Payment c) Closing the source code
6. The GPL is a: a) Strong copyleft license b) Weak copyleft license c) Permissive license
7. The MIT license is: a) Strong copyleft b) Permissive c) Proprietary
8. The Apache License allows: a) Integration into proprietary software b) Mandatory payment
9. “All rights reserved” means: a) Copyright b) Copyleft c) Public domain
10. Free software is based on: a) A moral philosophy b) Code quality