A Guide to Embrace Digital Freedom

Salem Warde

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### Introduction

I've always wanted to spread the word of free content, so I wrote this book to do so.

But what exactly is "free content"?—Well, think of "free" as in "free speech", not as in "free beer"—because content deserves to be freely used in any way the user wants—but unfortunately, most of the content we know & love are copyrighted, so they can enforce restrictions on using them.

But thankfully, there are many projects that are considered free content. Take the most popular internet encyclopedia known as **Wikipedia** for example—it was founded two guys named *Jimmy Wales* and *Larry Sanger* in 2001. Wikipedia is now maintained by a community of volunteers known as **Wikipedians**.

But what about software? Well, sadly, most of the software we use in our daily lives are proprietary, & they can impose bad stuff (Restrictions, Surveillance, DRM, etc.) on their own users mostly for profit.

But thankfully, there is a popular type of software that is considered free content called **Open Source**. Open Source software open their source code for anyone to contribute. Example software that are open source include **the Linux Kernel**, **OBS Studio**, & **VLC Media Player**.

### Purpose of this Book

This Book is made for those who want to set their content free. It will go through many topics related to free content such as **Creative Commons**, **Free Software**, etc.

The book will also give you guides on how you can set your content free & move away from restrictive licenses by replacing them with free content licenses.

From now on, I don't really want to put that put that much into the introduction. You can feel free to continue.

"As we enjoy great advantages from the inventions of others, we should be glad of an opportunity to serve others by any invention of ours, and this we should do freely and generously."

— Benjamin Franklin

## Chapter I

### Intellectual Property Basics

What I think is the best way to start is to learn about **Intellectual Property** (**IP**), it's a category of property that consists of non-physical creations originating from human thought & creativity.

Its modern concept developed in the  $17^{th}$  &  $18^{th}$  centuries in England, but the term began to be widely used in  $19^{th}$  century, it wasn't until that the IP became commonplace in the majority of the world's legal legal systems in the late  $20^{th}$  century.

There are a lot of topics related to IP, here are some of them explained:

### 1. Copyright

**Copyright** is a type of IP where work cannot be used without the owner's permission—it's like saying "This work is mine, if you wanna use it, you have to ask me first!".

It all started in 1710 when England passed a law called the **Statute of Anne**—The law said that the person who made the book can control what happens to it.

In 1790—14 years after its independence in 1776—the United States passed a similar copyright law to protect books, maps, & other stuff for 14 years.

Copyright nowadays covers a wide range of works—including art, videos, audio, etc.—but it can also expire after a few decades after the owner's death, the decades depend on the county the work is created in. for most countries, it's 50 to 70 years, but for Mexico, well, it's 100 years. If the copyright has expired, then the work is in the public domain.

Example media that are currently protected by copyright (at the time of writing this book) include **Spongebob Squarepants**, the **Trollface**, & the modern design of **Mickey Mouse**.

#### 2. Public Domain

**Public Domain** includes all creative works where no exclusive IP rights apply. Since no one holds the exclusive rights, anyone can freely use those works without permission—it's like saying "anyone can use my work without my asking me!".

Public domain works include Romeo & Juliet, Mona Lisa, & Für Elise.

### 3. Copyleft

**Copyleft** is a legal technique for licenses to grant users the freedom to do anything with the content under one circumstance, which is that you cannot change the license of the content.

It all started when an American computer engineer named *Li-Chen Wang* wrote "@COPYLEFT ALL WRONGS RESERVED" in his program called **Palo Alto Tiny BASIC** for the intel 8080 in May 1976. It appeared in a monthly computer magazine called **Dr. Dobb's Journal**.

Copyleft is popularized by an American computer programmer named *Richard Stallman*. An influential activist of the free software movement.

These are just the basic topics of intellectual property. There's more to read in this book, so feel free to continue!

"For to be free is not merely to cast off one's chains, but to live in a way that respects and enhances the freedom of others."

— Nelson Mandela

## Chapter II

#### Creative Commons

Imagine if you had an image of a cat, you post it on the internet, & it somehow goes viral, and some people will ask for your permission. There are two scenarios, the first one is if there are only few people, you can do it in a short time. The second one is if there are many people, it will be a tedious task to do it one-by-one.

This is where **Creative Commons** comes in—it's a non-profit organization that offers copyright licenses to use for your content. It was founded by a legal scholar named *Lawrence Lessig*.

Here are all the licenses provided by Creative Commons, sorted by the most open:

- 1. CC0
- 2. CC BY
- 3. CC BY-SA
- 4. CC BY-NC
- 5. CC BY-NC-SA
- 6. CC BY-ND
- 7. CC BY-NC-ND

Here are all the rights in the licenses explained:

**BY (Attribution)**: The user must give credit to the author.

**SA (ShareAlike)**: The user must not change the license when making derivatives of the material.

**NC** (NonCommercial): The user must use the material for non-commercial purposes only.

**ND** (**NoDerivatives**): The user must not change something in the material when sharing.

The only two rights that can clash with each other are ND & SA—because ND prohibits derivatives while SA talks about derivatives.

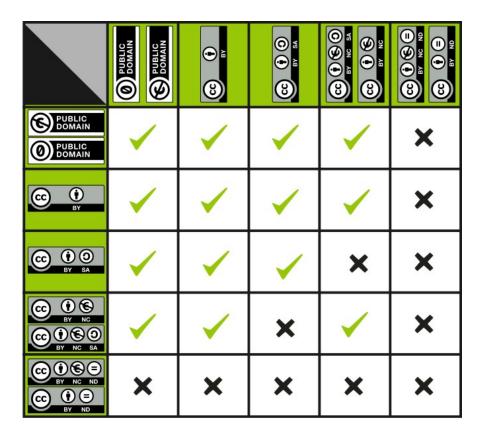
But what about CC0? Well, CC0 is a legal tool for relinquishing copyright & dedicating the material into the public domain.

CC0, CC BY, & CC BY-SA are considered "free culture licenses" & therefore they're highly recommended to use.



An Example of a CC BY-SA image of a kitten (Taken by Leijurv)

But what if we want to mix two differently-licensed works? Well, here's a license compatibility chart for it:



as you may see from the chart, you cannot mix a free culture license with an ND License, because ND prohibits derivative works.

### Licensing Guide

I will provide you steps on how to license your content under your desired license. It doesn't matter if it's an image, a book, a video, or an audio file. It can be anything!

here are the steps:

- 1. Pick a material of your choice.
- 2. Upload the material to the platform of your choice.
- 3. Write a statement that says that the material is licensed under a creative commons license of your choice—for example, you can say "This work is licensed under CC BY-SA 4.0".<sup>2</sup>

You can perhaps edit the material using your desired editor & write the statement inside it.

And you're done! Now you have licensed your work under your desired creative commons license. Anyone can use it under certain circumstances of your desired license!

<sup>1</sup> Software is not recommended to be licensed under Creative Commons licenses for many reasons.

<sup>2</sup> If you want to use CC0, then it's recommended to say "is marked with CC0" instead of "is licensed under CC0".

"Freedom is never voluntarily given by the oppressor; it must be demanded by the oppressed"
— Martin Luther King, Jr.

## **Chapter III**

### Free Software & the GNU Philosophy

The software industry nowadays is mostly a cesspool of proprietary software—proprietary software often imposes malicious functionalities on its own users. The companies of these software might say "We respect your privacy" or "Your data is safe with us", but that's all excuses to justify such malicious functionalities. If you were a software software developer at these companies. You've likely helped out developing these malicious functionalities.

But thankfully, there's something called **Open Source**—open source is a type of software that opens is source code for anyone to help out & contribute, its ecosystem is huge & you can use them without getting spied on. But there's a philosophy of software that what I think is superior is the **GNU Philosophy**.

The **GNU Project** is a mass-collaboration project announced by Richard Stallman in September 27, 1983. Its main goal is to give computer users freedom & control of their computing by collaboratively developing & publishing software that lets users freely run, copy, distribute, study, & modify it. Stallman also founded the non-profit organization called the **Free Software Foundation** in October 4, 1985.



The GNU Mascot & Logo, by Aurelio
A. Heckert

#### The Four Essential Freedoms

For a program to be free software, it must have the four essential freedoms, here they are:

**Freedom 0**: The freedom to run the program as the user wishes, for any purpose.

**Freedom 1**: The freedom to study how the program works, & change it so it does their computing as the user wishes.

**Freedom 2**: The freedom to redistribute copies so the user can help others.

**Freedom 3**: The freedom to distribute copies of the user's modified versions to others. By doing this, the user can give the whole community a chance to benefit from their changes.

Freedoms 1 & 3 requires access to the program's source code in order for the program to be free software, or else, its non-free.

### Free Software & Commercial Use

The term "Free software" does not mean "non-commercial". On the contrary, a free (as in freedom) program must be available for commercial use, development, & distribution. Or else the program does not qualify as free software.

#### The GPL License

The **GNU General Public License (GPL)** is a set of three copyleft licenses that strictly prohibit distributing proprietary versions. Here are all the three explained:<sup>3</sup>

- 1. **GNU GPL**: The GPL is a strong copyleft license that is published by Richard Stallman in February 25, 1989. The license strictly prohibits distributing proprietary versions of the programs licensed under it. It's best used for native programs.
- 2. **GNU LGPL**: The LGPL is a copyleft license that is published in 1991. The license allows developers & companies to use and integrate a software component released under it into their own software, even if its proprietary. It's best used for software libraries.
- **3. GNU AGPL**: The AGPL is a copyleft license that is published in November 19, 2007. The license is made for software that is designed to be run over a network. It's best used for websites & other programs that interact with network protocols.

### The Many Mistreatments of Proprietary Software

There are many reports of proprietary software doing bad stuff on its own users. Here are three examples:

- 1. **Volkswagen**: A group of masked thieves in Lake County, Illinois stole a Volkswagen SUV without knowing that there was a child in the backseat. When the mother found out, she called 911, & when the local sheriff came, they called Volkswagen & begged them to track the car, and Volkswagen refused—Because of the fact that the mother did not pay for her \$150/year find-my-car subscription. But thankfully, the car has been found & the child has been brought back.<sup>4</sup>
- 2. **Zoom**: The Zoom iOS app sends data to Facebook, even if the user does not have an account. Upon opening the app, it connects to Facebook's Graph API then collects the user's device model, timezone & the city they are connecting from, & more. <sup>5</sup>
- 3. **Apple**: Apple has Imposed DRM on the Mac Studio's removable SSD to prevent people from upgrading it.<sup>6</sup>

There are many mistreatments that are done by big companies such as Microsoft & Google. & unfortunately, this is at the heart of every tech giant out there.

### Liberty vs Price

You may think that the term "free software" is about price, but it's actually about liberty—you can also call it "libre software" to show that we're talking about liberty, not price. If we wanna call a program that is free as in price. We can call it "gratis software".

<sup>3</sup> The first L in "LGPL" stands for "Lesser" while the A in "AGPL" stands for "Affero".

<sup>4</sup> https://pluralistic.net/2023/02/28/kinderwagen/

<sup>5</sup> https://www.vice.com/en/article/zoom-ios-app-sends-data-to-facebook-even-if-you-dont-have-a-facebook-account/

<sup>6</sup> https://www.theverge.com/2022/3/21/22989226/apple-mac-studios-removable-ssd-blocked-software-replacement

#### **Tivoization**

**Tivoization** is a practice of creating a system that includes software under copyleft licenses but uses methods to prevent users from modifying or upgrading the software on the device. The term itself is derived from TiVo, a now-defunct company that widely used the practice.

### **Selling Free Software**

Many people believe that the spirit of the GNU Project is that you should not charge money for distributing copies of software, or that you should charge as little as possible. but this is a misunderstanding.

The GNU Project actually encourages people who redistribute free software to charge as much as they wish or can.

### Binary Blobs & Obfuscated Code

**Binary Blobs** are binary files, especially firmware, with their source code being proprietary—While **Obfuscated Code** is "code" that is edited to make it hard to read.

Binary blobs & obfuscated code is not accepted on free software. Therefore protecting it.

### Non-free & Non-trivial JavaScript

Richard Stallman made an article called "The JavaScript Trap" for all the JS Developers to read at gnu.org. It says that people might be running non-free programs on their computer through their web browser without realizing. The current criterion by the FSF is to consider a JS program non-trivial if any of these conditions are met:

- it is referred to as an external script (from another page).
- it declares an array more than 50 elements long.
- it defines a named entity (function or method) that calls anything other than a primitive.
- it defines a named entity with more than three conditional constructs and loop construction.
- code outside of named definitions calls anything but primitives and functions defined further up in the page.
- code outside of named definitions contains more than three conditional constructs and loop construction, total.
- it calls eval.
- it does Ajax calls.
- it uses bracket notation for dynamic object property access, which looks like *object[property]*.
- it alters the DOM.

• it uses dynamic JavaScript constructs that are difficult to analyze without interpreting the program, or is loaded along with scripts that use such constructs. Specifically, using any other construct than a string literal with certain methods (**Obj.write**, **Obj.createElement**, and others).

Thankfully, there is an extension that is exclusive to Firefox-based browsers called **LibreJS**—it detects non-free & non-trivial JavaScript in pages you visit, & blocks it. LibreJS is included in **GNU IceCat** (GNU's own Firefox-based browser), & it's available as an add-on for Firefox.

There are a lot of articles at gnu.org, just go to the web site & click on the second red button that says "PHILOSOPHY". If you want to see all the articles, you can click on the first gray button that says "Essays & Articles" under the red buttons.

### **Licensing Guide**

I will provide provided you steps on how you can create a repository & license it under the GPL.

#### Here are the requirements:

- 1. Knowledge of Programming.
- 2. Knowledge of Command Line.
- 3. Knowledge of Git.
- 4. Git & your favorite code editor installed on your computer.
- 5. A GitHub Account

#### Here are the steps:

- 1. Create a folder & name it whatever you want.
- 2. Open you favorite code editor then go to the folder.
- 3. Initialize the git repository inside the folder.
- 4. Create a file named **LICENSE**
- 5. Go to choosealicense.com then click on the blue "GNU GPLv3" button under "I Care about sharing improvements".
- 6. Click on the "Copy license text to clipboard"
- 7. Go back to your editor & paste the license inside the LICENSE file.
- 8. Publish the repository to GitHub.

And you're done! Since it's an empty repository, you can add files to it so other people can view it!

"It is difficult to free fools from the chains they revere."

— Voltaire

## **Chapter IV**

#### Free Content Elsewhere

Free Content sometimes applies to other everyday stuff. Here are some of the stuff listed out below:

#### Hardware

According to Richard Stallman, **Free Hardware** refers to hardware designs that give users the freedom to control & modify the technology they use. It does not mean that the hardware is free of cost (though it could be), but rather that the designs of the hardware are freely available and can be used, studies, modified, & shared by anyone. The idea is similar to free software.

#### **Food**

You may think of "free food" as food that is free of cost. But remember that you should think of "free" as in "free speech".

My idea of free food that its ingredients & instructions must be shared on the internet & license it under a free license. For example, you can make ingredients & instructions for a simple cake & release them under CC BY-SA 4.0.

#### **Firmware**

**Firmware** is a type of software that provides low-level control of the hardware. But most firmware are unfortunately proprietary.

But thankfully, there's a popular free (as in freedom) firmware called **Libreboot**. Richard stallman uses it along with **Trisquel GNU/Linux** in his Thinkpad X200 as of 2022.

"Freedom lies in being bold."

-Robert Frost

## Chapter V

### My Proposal for Freedom

This is my proposal for all those who are working at companies that offer copyrighted content or proprietary software.

### **Issues Regarding Sharing Content**

I always hated how the original content (e.g. Movies, TV Shows, Books, etc.) we all love are protected by copyright, restricting users from watching them until they pay a subscription. This is why **Piracy** (**Copyright Infringement**) exists—pirates simply download & distribute the copyrighted works without permission. But thankfully, I have a solution for that.

The solution depends on the type of content, here are some of them:

#### **Movies & TV Shows**

For production/animation studios: You can license your Movies/TV Shows under CC BY or CC BY-SA.

For streaming services such as **Netflix**, **Hulu**, & **Disney**+: You can let people that do not want to pay the subscription access the whole library for free (as in price)—But you can also implement a "Donate" Feature to either the streaming service or the studio—If the user donates to the streaming service, their money will go to them—but if the user donates to the production/animation studio, most of the money will go to the studio, but a small portion of the money goes to the streaming service. It's up to the streaming service to adjust the amount of the money's small portion.

If you think that donations are a bad idea, think again—because there's 8.2 Billion People in this world (at the time of writing this book).

#### Images & Other Media.

If you have an Image. You can straight up license them under CC BY or CC BY-SA.

For music producers: You can license your songs under the same licenses as above.

For music platform such as **Apple Music** & **Spotify**: Just like above, you can implement a "Donate" Feature to either the artist or the music platform.

For book Authors: you can license your book under licenses mentioned above.

### **Issues Regarding Software**

I always hated how most software we use in our daily lives are proprietary & often filled with malicious code—but as you may know from **Chapter III**, Free Software is a matter of liberty, not price.

But what I want for any proprietary software company out there is to make all their software & hardware free (as in freedom)—but you probably want to say "How are we gonna get revenue?"—well, just like from the previous page, we can set up donations for the company. keep that in mind that there are around 8.2 Billion people in this world (at the time of writing this book).

#### The Industry Standardization Phenomenon

The **Industry standardization phenomenon** is when a big company makes something groundbreaking, other companies follow the practice.

For example, when Apple announced the iPhone in 2007 with its multi-touch interface & app ecosystem, competitors such as **Samsung**, **HTC**, & others quickly jumped into the trend by making Android-based phones with similar features.

Another example is when OpenAI introduced the o1 reasoning model with much better reasoning capabilities, competitors such as **DeepSeek**, **Qwen**, & Others quickly jumped in by creating models to rival with o1.

The final example is when Snapchat introduced the concept of **Stories**, which allowed users to share temporary photos & videos that disappear after 24 hours. Other social media platforms such as **Instagram** & **Facebook** adopted the feature, integrating it to their platforms. The concept helped Instagram Stories become one of the most used features on the platform.

Using this phenomenon, we can let a big company to switch to free software, & others can follow the practice. But how can we do this?—Well, if you work for a big company such as **Apple** or **Microsoft**, you can tell the executives of the big company to read this book & let them decide if they want to make all of their software free (as in freedom).

### The Proposal for Software Freedom

So, how can we plan it out?—Well, we can tell Apple for example, to make a plan named **Apple Libre** (or whatever its called), the plan is to fully switch to free software & free hardware. Here's how it should turn out:

#### The Software

Apple can open up the source code for every software they've made (including the discontinued ones) & license them under a copyleft license such as the GNU GPL.<sup>7</sup>

#### The Hardware

Go to the next page.

<sup>7</sup> Copyleft licenses are always recommended for software to stay free (as in freedom).

Apple's biggest source of revenue is the **iPhone**, followed by other hardware products. But why not make all of them free (as in freedom)? Well, Apple can make all of the hardware designs freely available for anyone.

Apple can also keep selling pre-assembled products, & provide development kits of their products for advanced users.

Apple can also refurbish discontinued products & make them free (as in freedom) as well.

& when Apple does all of this, other companies might follow their practice as well. By making plans similar to Apple Libre to fully switch to free software.

& remember, this is only a proposal, I don't know if they will accept it or not.

## Conclusion

Congrats on reading this book! As you may know, this short book is just a cool guide made for those who want to set their content free!

I wrote the book in just a few days—So hopefully, big companies will wake up & embrace digital freedom & break the chains of copyrighted content & proprietary software!

The End