

## **The Benefits of Copyrights in Programming**

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The internet is often a double-edged sword that allows people to connect and collaborate all around the world but opens the door to digital vulnerabilities in the process. It gives programmers the ability to share and learn from each other's code but risks stealing. This creates an ethical dilemma when sharing code goes too far, and it raises the question of how to prevent theft digitally. Luckily, copyrights provide legal protection against this, and resources like the ACM code of ethics outline clear guidelines to adhere to when interacting with the property of others on the internet. It is the responsibility of the programmer to be respectful of code that is not their own and wise when it comes to securing their property legally, utilizing various copyrights.

To begin this discussion, it is important to understand how copyrights in computer science work and how it differs from a typical patent law. According to Hamilton & Sabety (1997), "An important aspect of copyright law doctrine, and one that fundamentally distinguishes it from patent law, is that expression may be afforded copyright protection but the underlying idea embodied in that expression is not copyrightable" (p. 243). They continue on to say, "This means that processes and procedures described by a text (or a computer program) may not be protected by copyright even though the text (or the program code) itself can be" (Hamilton & Sabety, 1997, p. 243). In other words, the concept of a program is not covered, but the specific execution and lines of code are covered. This makes sense when considering the vastness of coding, meaning there is no inherent right or wrong way to do it. Everyone has different styles, ways of thinking, and execution methods. As a result of that, different people will come up with unique solutions even when given the same problem. The copyright laws address this in that they cover the specific and unique execution of one person rather than covering the solution entirely. From there, it is up to the programmer to select how they would like their work copyrighted.

Programmers have various copyright options available to them, one of which is traditional copyright. A traditional copyright restricts others from using the creator's work without special permission. This grants the creator full control over the specific distribution of their work if distributed at all. The opposite of that would be something like a copyleft, where the program is completely free for anyone to use and modify. An example of this specific to computer science would be the GNU General Public License, which allows anyone to copy and use, as long as modifications are filed under the license as well (The GNU General Public License, 2007). Other copyrights include permissive licenses, which are similar to copyleft but with a few restrictions, and proprietary licenses, which restrict any outside viewing or modification of the source code. In short, programmers have an abundance of copyrights to choose from for their code.

My selection of a copyright would depend on the type of work I would be producing at the time. For example, I would prefer to use a copyleft for any code I produce during my time in school, so that others could learn from it just as I did. However, if I coded something in a professional setting with money on the line, I would look for a stricter copyright, like a proprietary license, that did not allow reuse from outside sources. This would allow me to hinder those who may try to steal my idea and profit from it. In the end, I could utilize various copyrights depending on the situation to allow others to learn from my creations while also protecting my profitability.

When dealing with copyrights and reusing code, users need to act justly and respectfully. Since this involves the property of others, a higher standard should be in place. Luckily, resources like the ACM code of ethics provide helpful guidelines on how to approach these

situations. In fact, many principles of the ACM code of ethics align with the teachings of the Bible. For example, the ACM code of ethics states the importance of being honest, trustworthy, fair, and respectful while also avoiding harm. These principles appear in bible verses such as Proverbs 12:22, which states, "The Lord detests lying lips, but he delights in people who are trustworthy" (NIV Bible, 2011), and Matthew 10:16, which reads, "Therefore, be as shrewd as snakes and as innocent as doves" (NIV Bible, 2011). The given verses demonstrate the Bible's emphasis on traits like trustworthiness, harmlessness, and overall righteous living, which corresponds to the values held by the ACM code of ethics. As a result, Christians, assuming they are following the teachings of the Bible, will inadvertently adhere to the ACM code of ethics, which consequently means Christian users will act justly when interacting with the code produced by others.

In short, programmers can utilize various copyrights to effectively protect and redistribute their code. Options like a traditional copyright, copyleft, permissive license, and proprietary license are available to programmers depending on the intended redistribution of their work. If someone wanted to create an open-sourced program, copyleft would be best for them. However, if someone wanted a strict policy to secure their professional work, a proprietary license would suit them best. Nevertheless, programmers need to respect the guidelines of a chosen copyright and interact with outsourced code in a way that adheres to the ACM code of ethics. Ultimately, programmers should act responsibly with their own code, securing it under a copyright, and respectfully when dealing with other programs.

## References

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