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CSCI 301

10/3/2021

Ethical Computer Programming and Copyright

The concept of copyright in computer science is a complicated issue and, as with time, the code of ethics we apply to programming is consistently in flux. In the current age, hundreds of programs and scripts can be found with one internet search. This has made it easy to very often neglect our morals. In programming, things like open project repositories, forums, and stack overflow all blur the line of fair use. Furthermore, regulations on copyright differ between opposing countries, because ethics are prioritized differently by the general public. This makes creating programs difficult without adequate knowledge of the rules and ethics we abide by in society. Regardless, the intellectual property of programs must be preserved and can be accomplished through the application of ethics and copyright.

To start, what exactly is copyright, and how does it apply to computer science specifically in the U.S.? Examining the legal code, copyright is defined as laws that “protects expressions, not ideas”(The University of Law). Meaning that in terms of computer programming, the idea of a program itself can not be controlled. For example, my million dollar app is a financial calculator for homes. I can't monopolize that idea, because it's something anyone could come up with and create. A solution to an idea or problem can be created by anyone. However, the methods programmers use to reach the solution are protected under copyright. This would also prevent me from pulling code off Github because violating copyright would breach the ACM ethic of being “honest and trustworthy”(ACM) about my code source.

Plagiarism is something not tolerated, and shatters the trust placed upon you as a developer. To sum up, Copyright is often frustrating to deal with, but is necessary in the modern world.

Picking a license to allow your program to be both protected, and available comes down to its intended use. However, when creating my 'million dollar app', I would prefer to go with an open-source license. If I were to pick an MIT license, it "allows anyone to do anything so long as they keep a copy of the license, including your copyright notice"(Github). This is a very common license used and would be easy to implement within my Github code. Having anyone be able to utilize my code for projects would also align with the ACM code of ethics to "Contribute to society and to human well-being"(ACM). I want my code to push the boundaries of computing in society, and by allowing anyone to contribute I can get a lot farther than on my own. However, I would also be in charge of handling contribution licenses to online developers, which adds a potential layer of complexity to development. In addition, I realize that by being public there would be many copy-cat programs, but copyright would prevent them from using my jointly developed code directly. Their code either would have to be changed or taken down based on the legal percentage of use. Also, with the broad scope of contributors aiding in the development, my app could easily beat out other competitors while maintaining fairness and the code of ethics.

The reuse of code is an extremely important topic and what mainly matters is the intent of use. Every programmer has used code they have found off stack overflow or on educational sites like w3schools. However, when reusing code the three things you have to keep in mind is "what the intent, scope, and application of using code is"(Essig). Writing a small portion of a program for a school that just teaches a basic concept of programming would be an okay use of code reuse. The intent is education, the scope is small, and the application of the code is the reference

to meet license requirements. In addition, as long as your intent is not maliciously passing the code off as your own, your ethic of trust remains intact. However, if employed for a business or selling the program, the utmost care needs to be taken in not reusing code when possible. The scope of the project becomes significantly larger and so do the licenses needed. Instead of just one person needing approval suddenly the entire business requires it, including all employees utilizing it. That is why reuse of code is varied between scenarios, and why it can be much harder to adhere to the code of ethics when creating programs for different intentions.

In conclusion, the ethics of programming must be protected and followed above all else. Copyright is a necessary means to protect both the user and producer in computer programming. Without it, unique intellectual property would be scarce and far between on the internet. This would make it much harder to learn and push what is possible as a society. In addition, licensing and reuse of code are critical to any project that needs to legally use portions of other developer's code. Without proper protection of intellectual property based on ethics, the field of computer science would be a shadow of what it is currently.

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