Jessica Taylor

Dr. Lin

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Ethics In Programming

Modern day society in developed countries depend on the use of technology. As technology evolves, the programs which are the foundation of such technology must also evolve. Thus, programmers are challenged now more than ever in the use of critical and abstract thinking, and programming skills. Often, programmers must reach out to fellow programmers for help, which includes sharing source code, object code, algorithm, and/or look and feel of a program. This is where copyright, patent, and the ACM/IEEE code of ethics play an important role in maintaining balance between the sharing of source code, object code, algorithm, and/or look and feel of a program and protection of one's ideas/work. As a programmer and/or computer science professional, it is important that one must know and follow the legal, ethical, and moral stipulations of using and sharing source/object code, algorithm, and/or look and feel of a program.

To begin, there are two different types of intellectual property which are meant to protect the creator's rights to owning and receiving credit for the original design/creation of an invention or created work. These two types of intellectual property include patents and copyrights. Patents are beneficial to "Safeguarding inventions and processes from other parties copying, making, using, or selling the invention without the inventor's consent" (Trademark, Patent, or Copyright 2023). In contrast, a copyright "Protects your exclusive right to reproduce, distribute, and perform or display the created work, and prevents other people from copying or

exploiting the creation without the copyright holder's permission" (Trademark, Patent, or Copyright 2023). Ultimately, both types of intellectual property allow use of another's inventions/created works only with the original creator's permission. If an individual chose to use another's inventions/created works without permission, this is not only illegal, but also results in an ACM/IEEE code of ethics violation.

In addition, it is important to discuss the ACM/IEEE code of ethics and their relevance. the ACM and IEEE are both entities which maintain separate standards of professional code of ethics within the computer science and engineering communities. The general principles of the ACM code of ethics include responsibility to "contribute to society, avoid harm, honesty and trustworthiness, avoid discrimination, respect creativity and privacy, and honor confidentiality" (ACM 2023). Similarly, the general principles of the IEEE code of ethics include responsibility to "uphold the highest standards of integrity, responsible behavior, and ethical conduct in professional activities; treat all persons fairly and with respect; strive to ensure this code is upheld by colleagues and coworkers" (IEEE 2023). There are a couple differences between the ACM and IEEE code of ethics. One difference is the ACM code of ethics not only includes the general principles of the code, but also includes professional responsibilities, leadership principles, and code compliance. Secondly, the ACM code applies mainly to computing professionals, whereas the IEEE code applies to a broader group of individuals within the engineering and technology professions.

Lastly, many computer scientists and mathematicians argue against use of patents and copyrights because they are believed to be a threat to advancements in science. Indeed, it is true that science advances by building upon past creations and inventions; however, credit must

be given where credit is due. Science can certainly still advance with use of patents and copyrights, but the responsibility is on both the original creator and inspiring creator to ensure science moves forward while abiding by patent/copyright laws and the ACM/IEEE code of ethics. For a creator to adhere by the ACM/IEEE code of ethics, they must ensure the best for society which includes advancements in science. While a creator with a patent or copyright has the choice to approve or deny use of their creation/invention to another person, they should always consider the code of ethics and the importance of scientific advancement. Additionally, an inspiring creator should respect the code of ethics and intellectual property laws when using another's work. This includes asking permission of the original owner for use of their work and if permission is granted, giving credit to the original owner instead of attempting to take credit for the entire work.

In conclusion, as a programmer and/or computer science professional, it is important that one must know and follow the legal, ethical, and moral stipulations of using and sharing source/object code, algorithm, and/or look and feel of a program. Despite the concerns of some computer scientists and mathematicians, science will continue to advance with the use of patents and copyrights, but it will require cooperation from both original and inspiriting creators. The best scientists are the ones who are capable of incredible works, but also allowing those works to be improved upon. Thus, continuing the ever-evolving evolution of science.

Works Cited

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