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Software Ethics

Every single aspect of each and every person's life is governed by a code of ethics, yet those specific ethics may be different for each person. First, the word ethics according to the Merriam-Webster dictionary means, "the discipline dealing with what is good and bad and with moral duty and obligation," (Ethic). This means that a code of ethics is a list of what is good and bad. The creation of software also falls under a form of ethics. The testing of software should be based on the use of the software, and software engineers should have certification to work on certain types of software.

The testing of software has been a delicate tug of war between reliability of software and the cost of testing the software. Testing increases reliability but also cost, personally I would rather use something more reliable that may be more expensive than an unreliable machine especially if it is a medical device that could kill me. According to Nancy G. Leveson, "Between June 1985 and January 1987, a software-controlled radiation therapy machine called the Therac-25 Massively overdosed six people, resulting in serious injury and deaths," (Levenson). When speaking of machines such as the Therac-25 that provide a treatment that could kill a patient if used wrongly it should be tested extensively to mitigate negative effects on someone's life. As written in Romans 15:1, "We who are strong have an obligation to bear with the failings of the weak, and not to please ourselves," (ESV). This is saying that if someone has the power to

do something then they should not just please themselves but those weaker than them, so if a program is to help someone then the program should be tested extensively in order to make it reliable for the person that needs it not just having it less expensive, a person's life is worth more than a few dollars. If the device would truly be too expensive there are always ways to check if the program works properly, such as having a geiger counter next to the patient in the Therac-25 situation to read the level of radiation on the patient. If it is a program that does not affect anyone else no testing is fine since it would only affect the programmer. Other than testing being dependent on the use of the program, software engineers should have required certifications to create certain software.

Software engineers should have required certifications to create software that could affect people's welfare. According to the National Society of Professional Engineers, "The licensing of engineers began in Wyoming in 1907 to protect the public from untrained individuals practicing engineering and surveying. Today, all states and territories license professional engineers to protect the public health, safety, and welfare," (Licensing). Since software engineers can create programs for all different fields ranging from medical to entertainment, certain fields should require certifications. If it is a program that is important to the welfare of the public just like with the engineers licensing, only certain software engineers should be allowed to work create the program. No one would want someone that has only ever been programming small calculation programs to be programming a CT scan machine without some form of identification that they know what they are doing. So programs should be tested depending on what their use is and software engineers should have certification to work on certain types of software.

Works Cited

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