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Ethics Paper: Software Testing

Going in for a cancer treatment expecting healing, only to receive a fatal overdose of radiation is something no one would want to face but something that happened because of untested software. The Therac-25 case is a prime example for this type of case. Whether Christian or non Christian making sure we're not putting human life and safety at risk is a moral obligation we all have as a person. This obligation can not be compromised for anything including cost and convenience.

Determining how much testing is enough is one of the biggest challenges. For medical devices or any item that could put someone's life in danger, testing should never be limited by budget. From a christian perspective, we are all made in the image of God (Genesis 1:27) which makes our life immeasurable. Safety is one of the things that should never be compromised even when the cost is too high. In fact there are some critical things that need testing until we are fully sure theywork correctly and do not put people's life in danger. The cost of not testing softwares can sometimes be more damaging and expensive than the testing, because it can damage the companies name and reputation.Although some might argue that raising the cost of testing makes the device itself expensive and less affordable, ethics and finding balance is making sure safety isn't being sacrificed. According to the ACM Code of Ethics, all computing professionals are responsible for avoiding harm to others indirectly and unintentionally and to report anything that might risk harming others. (ACM, Page 4-5).

There may be a controversial idea about whether it is ethical to release a system that may pose life-threatinng risks because it might help more people. But even the Bible says that it is unacceptable to do something evil to get something good. All professionals should be able to stop and think: "Would I want my brother, sister, daughter or anyone I love to be the person that is being sacrificed?"(Luke 6:31) If that is something that they would not be okay with then it is unethical to release the system. Sometimes releasing the system might be acceptable if the individual is aware of all the risks and is okay with it, just like how doctors inform their patients about the side effects of some drugs and treatments to ensure their safety.

Just like doctors and other engineering fields, software engineers should be held to high standards when they're working with something that will have a huge impact on public safety. We can help ensure this by requiring people in this field to have a certificate, which will also ensure the public that the software engineers who create the systems we use daily have met ethical and techincal requirments. In addition to certificates, the IEEE emphasizes the importance of working with otherts and, in cases outside our expertise, seeking help from other professionals(Principal 7).

The Therac-25 shows that even a single line of code can have a big impact if not tested thoroughly. Making sure the software is safe for people to use and does not have ang negative impact is worth more than the cost and convenienc. Engineers are called to serve others through their exhaustive testing to ensure safety, professional accountability and honesty about risk disclosure.

Work Cited

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