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Data Structures

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Ethics Paper

What is the single most important step after developing a computer program? Testing, of course, is the most important post development stage of any program. How do we determine how much testing though? This question is dependent on what type of software is being written. A video game, for example, does not necessarily have to have a massive testing stage because if the game crashes, while not ideal, the repercussions are not tragic. Contrast this with software that a hospital uses because a failure in the software could have life-threatening consequences. If a system must be tested extensively the company developing the system must spend more money for a dedicated testing team, this in-turn makes the product more expensive. In the case of medical software it is vital that it is extensively tested and while that does make it potentially too expensive for a subset of consumers I think that people who cannot afford a medical system should not have to roll the dice with a potentially more dangerous product. This is a government issue because basic healthcare is somewhat of a right in my eyes. Proverbs 31:8-9 says this, “Open your mouth for the mute, for the rights of all who are destitute. Open your mouth, judge righteously, defend the rights of the poor and needy.” (ESV Bible). I would not use THERAC-25, unless I had an extremely low chance of survival and I was out of options.

A potential solution to faulty software and the need for testing is a certification to be a software engineer. If there is a standardized test, the caliber of software engineer will increase out of necessity. This would be good because as Christians we should strive to do our best work as examples of Christ. 1 Corinthians 10:31 says, “So, whether you eat or drink, or whatever you do, do all to the glory of God.” (ESV Bible). However, some types of professions within software engineering would be negatively influenced by a certification test. This is because there would be a price on the test and there would likely be information that would only be important to pass the exam that some software engineers would never use in their fields. Therefore, the certification should only be a requirement for types of software engineering that most heavily influence the rest of the world and have the highest potential danger involved. Companies that develop healthcare software or detection of environmental hazards, like global warming, should be the ones with mandatory certification tests. The Association for Computing Machinery says this, “When organizations and groups develop systems that become an important part of the infrastructure of society, their leaders have an added responsibility to be good stewards of these systems.” (ACM Code of Ethics and Professional Conduct).

In conclusion, determining how much software testing is necessary is dependent on what the software being written is going to be used for. Software engineering certification should be required for fields that hold the greatest weight on the rest of the world.

Works Cited

*ACM Code of Ethics and Professional Conduct.* https://www.acm.org/code-of-ethics. Accessed 29 October 2019.

*English Standard Version.* Bible Gateway, www.biblegateway.com. Accessed 29 October 2019.