**Final Portfolio**

**Why Software Developers Should Take Ethics into Consideration**

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**What makes ethics important for software developers?**

Software is powerful and has revolutionized nearly every industry. Therefore, software has a huge impact on the world. If software were to be used unethically it could have an enormously negative impact on the world. Which is why software needs ethics. An article written by Santa Clara University states “ethics guides us to make the world a better place through the choices we make”. Without ethics people would essentially make substandard choices, leading to making the world a worse place. The article goes on to reinforce the idea that good ethics also leads to good business and greater sales for a company or any type of product. In the end, ethics guides every decision made and thus should be taken seriously. This can not be more true for software developers.

**Give examples of ethical considerations that a developer might face.**

A software developer may face the situation where they have the option to implement a machine learning algorithm to boost their platform’s performance. Also, the machine learning algorithm could make the platform more appealing to consumers. However, machine learning algorithms require data, and a lot of it. The developer would need to find quality data to feed the algorithm. Unfortunately the best data would come from the platform’s users. Therefore, leading to the question of whether or not to use the customer’s data. Unfortunately, proper consent where the users are fully aware of how their data would be used, has not been given. However, the platform would really benefit from it and a new update is due soon. Creating a dilemma where the developer could quickly implement the features for the new update. Would it be considered moral to go ahead and use the non-consensual data and implement the machine learning for the new update?

The moral outcome of a decision depends on the moral framework being used. In this case we will use Kantianism. Kantianism is very black and white with its determination of whether an action is moral or immoral. Since the data to be used in the machine learning algorithm is non-consensual Kantianism would deem the action immoral as it takes advantage of someone in order to help oneself. This is just under kantianism. Under the shroud of other moral frameworks such as utilitarianism the moral outcome may differ.

Utilitarianism is an action conducted for the greater good. Therefore, a potentially smaller immoral action could take place if it leads to a greater good outcome. Essentially, a yin-yang situation where the weights of the negatives and positives are weighed against each other in order to calculate a hopefully greater positive outcome. In the case of our developer feeding non consensual data to the machine learning algorithm, we would weigh the negatives and positives. Would the negative action of using non consensual data lead to a greater platform for all of its users. If the answer is yes, then under utilitarianism the action could be considered moral.

In summary a software developer may run into the situation of whether or not to use non consensual data in order to innovate a platform. The immoral action of using the non consensual data could lead to a greater outcome. Thus under utilitarianism the action could be considered moral. However, under kantianism there is not much moral wiggle room and the action of using non consensual data would not be considered moral. Therefore, the morality of a software developer's actions may be relative to the moral framework being considered. Thus, making morality, in a way, relative to one's own moral framework.

**What can developers do to incorporate ethical considerations into their work?**

One simple thing developers can do to incorporate ethical considerations into their work is to have other developers help out. Other developers may have different moral frameworks and can chime into ethical considerations with the development process. Also, another pair of eyes can help improve the performance of the code being used to build the software platform.

Another possible way software developers could incorporate ethical considerations is using them during the early planning stages. Ethical steps could be built into a platform's initial stages, in order to have them directly added into a build. That way ethics is front and center instead of being a potential afterthought. If ethics gets pushed off to an afterthought, the ethics may be skipped entirely.

**What type of questions should developers be asking?**

Software developers should always be asking who will be impacted by the software created. Also, is the impact going to be negative or positive? If people are positively impacted by one’s software then the software developer ought to continue ethically developing code. If people are negatively impacted by one’s code, the software developer needs to pause and think about how to fix the software or discontinue the software development altogether. By asking who will be impacted software engineers can plan out a build in order to make sure it is positive for whoever is impacted by the software.

Another question to ask with builds that require a lot of data to train, is to ask where exactly is the data coming from. Additionally, is the data being harvested ethically or is it potentially stolen data. Software developers need to stay on top of their data. They need to know where it is coming from and if the data comes with consent from those who handed over their own data. Knowing the data was gathered ethically and where the data comes from allows the software developer to morally build their software platforms for the users.

**What can the software community do to support coping with ethical issues?**

Coping with ethical issues can be challenging, especially in the software development world. Open source software gets the benefit of multiple people and teams working on the same product. With so many people working on the same thing, everyone can help with making the software ethically and ensuring the impact of the software will be a positive one. Therefore, the software community ought to adapt to a more open source software approach, instead of being so focused on private code making money with their proprietary software platforms.

Another potentially gray area the software community can keep companies moral is the use of Anonymous’s extensive “hacktivist” network. When a company conducts some shady business, Anonymous sometimes jumps in and shuts down their software until they decide to fix their wrongs and continue ethically. Take for example Playstation. Playstation upset tons of people and Anonymous jumped in, and tore Playstation apart with DDOS attacks. The so-called “hacktivist” may not have necessarily had the moral high ground, but it showed that a group of people can keep a giant company in check, just by working together on a common goal. Therefore, the software community ought to work together in order to keep large companies in check.

**Should there be consequences of unethical software? Why, or why not?**

With how powerful software is, the consequences should not be taken lightly. If software is free to immorally implement itself into nearly every industry it could bring the world to a screeching halt. Therefore, the use of unethical software ought to be punished justly and quickly. If we do not punish immoral software, companies would be able to take full advantage of their users without any retaliation. For example, we would still have Facebook sharing user’s data and using the data without consumers fully being aware of what was happening. If this were still happening sensitive data would be floating around everywhere. It may not be as big of a concern compared to say a hospital having sensitive data floating around. If a hospital’s software was unethically spreading data everywhere, people would be up in arms. Which is why there should always be consequences with the use of unethical software.

**References**

University, S. C. (n.d.). *Ethics in life and business*. My Own Business Institute - Learn How To Start a Business. https://www.scu.edu/mobi/resources--tools/blog-posts/ethics-in-life-and-business/ethics-in-life-and-business.html

Phillips, T. (2016, April 26). *Five Years Ago Today, Sony admitted the great PSN hack*. Eurogamer.net. https://www.eurogamer.net/sony-admitted-the-great-psn-hack-five-years-ago-today

*The ethics of Managing People’s Data*. Harvard Business Review. (2023, June 13). https://hbr.org/2023/07/the-ethics-of-managing-peoples-data

Ethical considerations in Data Collection. (n.d.-a). https://www.njhealthmatters.org/content/sites/njhc/Ethical\_Considerations\_in\_Data\_Collection.pdf

*3.1 understanding the ethics of data collection*. Centre for Innovation in Campus Mental Health. (2022, April 4). https://campusmentalhealth.ca/toolkits/evaluation/conducting/understanding-the-ethics/