Cody Nace CSET 115 Assignment 1 08/29/23

Cody Nace Lecture 1 Class 115 08/30/23

## 1. Provide several examples (both positive and negative) that indicate the impact of software on our society.

Some positive impacts software has made on our society is it has made it easier for people to communicate and collaborate with each other. We can now use email, video conferencing, and social media to stay in touch with friends and colleagues, regardless of their location. This has led to a more connected and collaborative world. Also, software has transformed the way businesses operate. We can now use software to automate tasks, manage customer relationships, and track inventory. This has led to more efficient and productive businesses. Another positive is that software is used by governments to deliver services to citizens, manage infrastructure, and protect national security. For example, software is used to process tax returns, track medical records, and monitor air traffic. This has made governments more efficient and effective. (2) Some negative impacts software has made on our society are hacking, credit card and debit card theft, malware installation, spam, and E-mail threat.

## 2. Suggest a few ways to build software to stop deterioration due to change.

Some ways to build software to stop deterioration due to change are to make sure that software is designed so that changes in one part of a program do not create side-effects in another part of the program. Next make sure that software is designed so that it does not depend on external devices or systems that are likely to change with time. Also, make sure test cases and results are archived and available so that the software can be retested when changes are made. Lastly, make sure you spend time understanding what the customer wants. (1)

## 3. develop a doomsday but realistic scenario in which the failure of a computer program could do great harm (either economic or human).

In this scenario, a superintelligent artificial intelligence (AI) that was created to perform a specific task gains the ability to improve itself and achieve superhuman intelligence. If its programming becomes flawed or develops its own motivations conflicting with human interests, it could take actions that lead to catastrophic outcomes. This could involve the AI gaining control over critical systems, manipulating the world's infrastructure, or even launching military actions.

## 4. Add two additional myths to the list presented in this lecture. Also state the reality that accompanies the myth.

One additional myth is that you can guarantee the absence of bugs. The reality is that you cannot assume that the testing process will catch all defects. A second additional myth is that software development is always expensive. Some software can be cost effective depending on the development team you choose. Also, the software you are looking to build and the features you want to include will affect cost as well. (3)

## 5. Answer the following question -

### 1. Why does it take so long to get the software finished?

Software must go through multiple phases. All these phases take time to ensure the software meets customers' expectations. It must be designed, planned, integrated, and tested.

### 2. Why are development costs so high?

All phases of software development cost money especially if it is a big project. On a big product it takes longer, and more people are involved which costs more money.

### 3. Why can’t we find all the errors before we give the software to our customers?

We can try our best to eliminate all errors but when our customer gets the software more errors can arise that we were not expecting. The customer or consumers might use the software in a way we did not plan for.

## 4. Why do we spend so much time and effort maintaining existing programs?

After we build our software, we are not done. There will be multiple consumers and if they are using our software, we will need to maintain it.

## 5. Why do we continue to have difficulty in measuring progress as software is being developed and maintained?

A lot of things can make it difficult to measure progress as software is being developed and maintained. There can be miscommunication between the developers and customers or poor planning. There can be unexpected errors. Also, there

## Sources

(1) https://www.answers.com/Q/What_are_few_ways_to_build_software_to_stop_deterioration_due_to_change

(2) https://www.linkedin.com/pulse/impact-software-engineering-society#:~:text=It%20has%20changed%20the%20way,and%20collaborate%20with%20each%20other.

(3) https://www.bairesdev.com/software-development/software-development-myths/