CASE STUDY

HUM 4441
Engineering Ethics

Hasin Mahtab
210042174
Department of CSE
B.Sc in Software Engineering

January 26, 2024

Abstract

A case study is a thorough, detailed investigation of a specific case in a real-world environment. Case studies are defined in a variety of ways, including the number of observations, the method, the thickness of the research, and the naturalism of the research. A case study can emphasise almost any person, group, organisation, event, belief system, or action. A case study does not have to be a single observation, but might encompass several.

Contents

1 Case study Overview

Rachel works as a quality assurance engineer at a large electronics company. She is responsible for the final testing of her company's servers and is part of a team which decides when new products will be shipped to distributors for sale.

The business model for this product is to release a new generation of servers. approximately every six months, meaning Rachel has a limited timeframe and cannot perform every possible test.

Rachel will not ship a product if there is any possibility that the server could malfunction and cause physical harm to the customer. However, she will ship a product that has minor likelihood of failure, resulting in data loss for the customer, because she knows that if she doesn't, her company's competitor will.

2 Possible Solutions

While trying to come up with a solution, we first need to address the problems that we are trying to solve. There are two main concerns for this situation:

- Physical well-being of the customers
- Staying competitive in the market

2.1 Optimising Test Time

One of the primary drawbacks is the length of time it takes the QA team to test a new product before shipping. The short timeframe between product releases needs the optimisation of testing processes to ensure speed and thoroughness.

- Identify and eliminate redundant or superfluous testing steps to improve the overall quality assurance process.
- Parallel testing on separate server components allows numerous tests to execute at the same time.

2.2 Prioritize High Risks

Because Rachel's limited time constraints restrict her from doing all tests, she must prioritise which tests are vital to ensuring the quality of the new server and that it does not cause bodily injury to the customer.

- Conduct a thorough risk assessment to identify potential areas of failure that could result in serious consequences, such as bodily injury to clients.
- Prioritize testing important functionalities that are directly related to the server's security and stability.

2.3 Customer Feedback

As the products are being shipped every six months, they should initiate a portal dedicated to customer feedback, which will help them improve the servers according to the needs of the customers, as well as are well aware of which tests they need to prioritize more for QA testing.

- Gather customer input on prior releases to help identify areas for improvement.
- Prioritize customer satisfaction and respond to any complaints voiced by customers about product quality or data security.

3 Chosen Solution

Among the possible solutions, I would choose to optimize the testing times. As Rachel has very limited time to test, she can identify and eliminate redundant testing steps to improve the overall quality assurance process. This makes sure that the customers are not at risk of being physically harmed, and they should not be worried about losing data. Parallel testing on separate server components allows numerous tests to execute at the same time. Which also makes up for the limited timeframe that Rachel has to test the servers in between ships.

References

- Case study - Wikipedia