Assignment 1

Task 2

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**Question 1: What are the three most important quality attributes for the system under test from a user’s perspective? Justify each choice.**

*Write one paragraph of justification per quality.*

Quality 1: Usability

Justification: Usability determines how easily users can interact with the system. A system with high usability allows users to complete their tasks efficiently with minimal frustration. This is beneficial for users who are learning to use the system because they may not have the patience or skill to navigate a complex interface. By being intuitive and user-friendly, the system reduces the learning curve and increases overall user satisfaction, leading to higher adoption rates and more positive feedback.

Quality 2: Performance

Justification: Performance impacts the user experience directly as a slow response time can lead to frustration and reduced productivity. The users expect systems to perform tasks swiftly and efficiently especially in the environments where time is essential, for example, financial transactions and communications. A system that performs well under various conditions that include processing high loads of data, ensures that users can depend on it to function without delays to promote user trust and satisfaction.

Quality 3: Reliability

Justification: Reliability is essential because users need to be confident that the system will function correctly and consistently over time. A reliable system minimizes downtime and errors and ensures that the users can depend on it to meet their needs whenever required. For systems that handle critical operations, failures can result in significant financial loss, safety risks, or data corruption. A reliable system contributes to user confidence and provides them with assurance that the system will continue to be stable and predictable.

**Question 2: What are the three most important quality attributes for the system under test from a developer’s perspective? Justify each choice.**

*Write one paragraph of justification per quality.*

Quality 1: Maintainability

Justification: Maintainability is prioritized by the developers because it concerns how easily can the system be updated, debugged, and extended. A maintainable system is well documented, modular, and adheres to coding standards, this allows developers to understand, modify and even expand the codebase. As such, maintainability is a vital aspect for collaboration projects where multiple developers may work on the same codebase. High maintainability reduces the time and cost associated with updates and ensures that the system can adapt to new requirements and changes.

Quality 2: Scalability

Justification: Scalability determines the system's ability to handle increasing workloads without compromising performance. As user demand grows, the system must be able to scale up operations either by upgrading existing resources or adding new ones. The developers are to make sure that the architecture supports scalability to avoid bottlenecks or system failures under load. By securing scalability a system not only meets current needs but also positions itself well for growth.

Quality 3: Testability

Justification: Testability concerns the level of difficulty with which the system can be tested to ensure quality. A system that is easy to test allows developers to identify and fix defects early in the development process, reducing the risk of bugs unnoticed occurring in the production phase. A testable system typically involves clear separation of concerns, well defined interfaces, and the use of automated testing tools. These attributes make for a convenient process of maintaining high standards throughout the development lifecycle and leads to more reliable software.