

# Assignment 1

## Task 2

### Author Details

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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:

From a user-oriented perspective, the usability of the Borrowing Administration Terminal (BAT) is crucial in ensuring the system to be easy navigated and convenient to use. The users of the Anything Anytime Library (AAL) range from people from all walks of life with varying ages and technical proficiency, thus necessitating the system to be user-friendly to accommodate all patrons. For instance, a high usability of BAT interface facilitates the efficiency of tasks execution such as borrowing items, paying owed fees and accessing the makerspace facilities, having no need of extensive reading of handbooks before using BAT.

#### Quality 2:

Reliability

#### Justification:

From a user-oriented perspective, the reliability of the BAT system is upmost important as it guarantees the consistent performance of the BAT system. This allows users to be highly anticipated with the system that expects accurate tracking of borrowed items, on-time notification to users on the due-soon items and smooth process of owed fees. If the BAT system is unreliable, this results in significant data loss with incorrect charges and missed notifications along with significant inconvenience, having users to loss trust off AAL gradually.

**Quality 3:**

Availability

**Justification:**

From a user-oriented perspective, availability of the BAT system is crucial as it ensures the BAT system to be highly accessible whenever needed at anytime. This is due to the fact that AAL highly rely on the BAT system for its items booking and any downtime could hinder users from borrowing or returning items efficiently. For instance, a high availability of the BAT system ensures that the system is fully operational throughout the entire library hours, having users to enjoy all library's services whenever they visit.

**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:**

From a developer's standpoint, maintainability of the BAT system is utmost important as it allows developers to update or fix the BAT system with less effort and high efficiency. Given that AAL's version of BAT incorporates custom extensions and potentially buggy code, it is imperative for developers to ensure the system's maintainability. As AAL's BAT system consists of several customised features compared to other common library system, potentially having some different-than-ordinary bugs, necessitating the aspect of high maintainability of BAT system that allows developers to address the issues quickly and implement updates immediately for the benefits of effective long-term management of the software

**Quality 2:**

Testability

**Justification:**

From a developer's standpoint, testability of BAT system is a crucial quality that eases developers to effectively identify any issues within the system at a short period of time. Due to the high complexity of the BAT system with several logics of borrowing items and calculating owed fees, it is essential for developers to design the system that is favourable for easy checking and comprehensive testing. A testing-friendly design of BAT system facilitates developers to professionally and systematically carry out testing to the BAT system during its downtime by smoothly identifying the problem and resolve the issue immediately.

**Quality 3:**

Scalability

**Justification:**

From a developer's standpoint, scalability of BAT system is also an imperative aspect to accommodate growing data and new features without compromising the overall performance. As the AAL's community grows larger as time goes by, developer must consider the expansion of BAT system to manage larger group of users with their borrowed items and fees. A high scalability of BAT system facilitates the smooth development of BAT system with larger database management and new functionalities such as extra borrowing of books and extension of makerspace service, having no need of redesigning the entire system and only need to expand it.