Quality Assurance Plan

Our Quality Assurance (QA) plan's aim is to keep the quality of the project that we are going to deliver at a specified level and to focus on each stage of development to make sure that there are no issues present. This document will also help our team ensure that the product delivered is fit for its purpose and enables us to allow continuous improvement and success throughout development of our project. An effective Quality Assurance Plan will also help us mitigate or reduce chance of costly mistakes and risks.

Quality Assurance Procedures for Project Phases

To ensure our team maintains or improves the quality of the work that we produce, we must follow these following procedures during these project phases.

Planning

For the planning phase, it is key that we use a consistent template for all documents that we make. Because we are the fifth team to take over this project, it may be useful to use templates that previous teams have used before to stay consistent to what the client is used to. We must also refer to the proposal guideline provided to us on blackboard for any documents we need to make for the project proposal.

To create this proposal and to ensure its quality, we must constantly have feedback from our mentor during the creation of it while also having multiple meetings with our client to gather the necessary information needed to identify the current state of the project and what is needed for further development for us to assess its feasibility for our project.

A checklist may be required to keep track of all the documents completed and ones that need attention to.

Analysis

Upon the completion of the planning phase, our primary task will be to take the project goals gathered from the previous phase and to convert them into a defined system function that our client intends to integrate within the app. Activities involved in this phase include:

- Gathering and creating high-level user stories through multiple meetings
    - To ensure the quality of our work, this procedure is one of the most crucial part as it sets a guideline that the system needs to meet in order to be successful.
- Conducting usability tests to refine any early prototyped design we have created to help us identify useful business requirements

Design

In the design phase, we start taking the business requirements gathered and begin planning out the architecture for the system that we will develop. This includes doing the following procedures:

- Designing the IT infrastructure which includes:
    - Creating an ERD diagram and/or identifying the current database for the current User and Admin schemas.
    - Creating a UML diagram based on the chosen design pattern that our team has chosen
    - Creating wireframes for user interfaces along with a user navigation diagram.

- Further refining the business requirements gathered and creating a product backlog which includes said business requirements.
    - These requirements will be sorted by consensus by estimating how long each task will take and how difficult it may be. These will be recognized through conducting a planning poker to assign story points to each user story.
    - Each user story must also have a user acceptance test to identify when said user story is done. This is defined by the product owner with the guidance of the client.

In the design phase, it is important that the IT infrastructure should be made carefully with a lot of thought into to have a solid foundation to avoid any incoming problems in the future like redesigning the systems architecture during developing which is a risk to the project timeline and cost.

Development

This phase is where we take all documents from previous phases and transfer it the system. This phase includes the following activities:

- Development of the IT infrastructure
- Following the coding guideline to keep code consistent
    - This helps reduce the potential risk for current or future teams when a problem arises, and the code is hard to understand; especially when the style/format varies from each file.
- Following the project timeline and prioritizing identified user stories for each sprint
- Conducting code reviews during and upon completion of sprints to ensure coding standards are being maintained during the development of each user story.
- Following the user acceptance test as a guideline of what needs to be completed for the user story being developed.

Testing

During the testing phase, all pieces of code developed must be deployed in a testing environment by a tester to check the system for errors, bugs, and issues that may not verify a user story from being completed as what was expected. This requires the following procedures to be conducted:

- Writing and executing test cases for each user story completed.
- Conducting usability testing with our client to ensure that the client is happy with the results for each deliverable. This may also be tested with a public user if the client allows (this ensures that users that will be using this product will be happy with the results).

This phase is a very critical part of the software development life cycle as it is, if not, the last step before deployment so carefully conducted unit testing is critical to ensure the quality of the software delivered.