# ABC’s Inventory Management System

## Construction Phase Project Status Assessment

## Introduction

ABC is a retail company that sells men’s clothing all around New South Wales. The uprising company is building a software for the company called ABC’s Inventory Management System that will allow the staff to send the product from one location to another and also keeping a precise record of them. This construction phase status assessment aims to provide a brief explanation of the application state in the construction phase. This document will illustrate the status of the project, track of all its achievements and review the project for the evaluation. This document will help to understand the condition of the project in the construction phase.

## Expectations

The key goal of the construction phase is to create a beta version of an application with all Functionalities and Non- functionalities included, diminishing system and logical flaws. The following list contains expected tasks after completion of the Construction Phase.

* Generate the code synchronizing with overall functional requirements of the project.
* Include the features in the application prioritized after the Functional requirements i.e. Non- Functional requirements.
* Establish a user-friendly usability to the application with animation.
* Deploy the final version of server- side code to the cloud.
* Establish a validation report for all Use Case of the final application.
* Establish a fully developed implementation with minimal errors and bugs.
* Establish a Test Cases and Test Scripts for testing all the implemented use cases.
* Establish Unit Testing for the implementation done on the use cases with documentation.
* Conduct User Acceptance Test that includes all implemented use cases.
* Establish a User Manual that assist end-user beta testing.

## Evaluation Criteria

The following are the evaluation criteria for assessing the evaluation criteria phase:

* Implementation synchronized with overall Functional Requirements

The implementation developed should match proportionally to Project Plan with its supporting documentation such as:

* Full Use Case Description
* Architecture Notebook
* Use Case Diagram
* Design Class Diagram
* Non- functional Requirement
* Sequence Diagram
* Domain Model
* Entity Relationship Diagram
* Fully developed implementation

The presented implementation is needed to be final version of it. That means, it must be ready for release, free of any logical errors and favorable for user operation.

* Test Cases and Test Scripts

Scenarios for each functional use case is created. These scenarios covered a major part of the use case action. The output generated from the implementation were noted and compared with the expected results. Several test is conducted to satisfy the requirements from the result.

* Unit Testing

Number of individual test are executed for testing. The Functional Use Cases of the system are tested to determine the performance as well as to assure the success of the program.

* User Acceptance Test

A sample scenario of using implementation will be considered to test the system. The result that the implementation gives will then be compared with the expected results.

* User Manuals

The Manual is designed to provide users a general functional information of the application. This includes the basic operation of the application with specific details. User Manual helps to learn the use of application.

## Issues

There were several issues faced during the Construction Phase and has been dealt accordingly. Every problem faced during this period, they were handled and recorded with well scripted documentation to avoid the same scenario in the future. Following are the obstacles met during the Construction Phase.

|  |  |  |
| --- | --- | --- |
| Issue | Status | Notes |
| Team member unfamiliar with implementation concepts. | Solved | Team members had issues with REST API and Jersey as it was a new approach. The team members put extra time learning this concept as well as got some idea from other team members. |
| System may be vulnerable to SQL injection attacks. | Solved | This issue has been recognized and after discussing with the sponsor, the team member finally managed to prevent from different levels of SQL injection attacks. |
| Assessment load from other subjects caused delays in completing tasks during iteration 3. This caused adding more tasks to be completed during next iteration. | Discussed | Assessments from other subjects caused more time to spend outside of the project, however team members were aware of the situation and have discussed about what amount of time needs to be provided for the project regardless of the load from other subjects. Any task that was unable to complete on time was granted and pushed to the next iteration. |
| Conflicts in collaborating the codes between the team members | Solved | The team members were facing some difficulties during the merges in meetings. The team tried their best to find the cause behind it and executed many measures like: answers from Stack Overflow, consulting other groups, etc. The team finally found the solution for it and appropriate steps for merging which has been applicable procedure since then. This incident was all documented precisely for future reference. |
| The performance of program is not as good as expectation | Discussed | The final application built had some minor problems with the Non-functional requirements such as performance, Security, Accessibility, etc. These all were set to priority as it is important as functional requirements in the application. The latest version of the application will include all of the requirements. |
| Logical bugs in the application | Solved | During the testing, the team members found several logical errors in the implementation. This highly affected the normal action of the application. Due to which, it led the other assessment at halt. The team members put extra effort to review all the codes thoroughly and documented. The bugs were recorded properly in the testing documentation. After finalising the testing documentation, all bugs were fixed and documented in the testing document with the solution applied. |

## Achievements

The following tasks that are listed below are completed in this Construction Phase. Only a brief description has been mentioned in the list. For further enquiry of the task, the version control document is available to examine each version of documentation and application with the brief description of the updates made in latest one.

|  |  |
| --- | --- |
| Tasks | Description |
| Generate the code synchronizing with overall functional requirements of the project. | All the codes that are developed matches the Project Plan and the flow of actions of the implementation synchronizes as mentioned in the Full Use Case Description of documentation. |
| Include the feature that are prioritized after the Functional requirements i.e. Non- functional requirements. | After all the main function of the project was included in the application. The remaining extra features i.e. Non- Functional Requirements were introduced to the system according to the Non- Functional Requirements Checklist. |
| Establish a user-friendly usability of the application with animation. | The UI were kept as simple as possible so that any user can operate it with basic instruction. The UI is designed with an extra feature of animation which make the application more appealing to use. |
| Deploy the final version of server- side code to the cloud. | After the server- side code was finalised, the code was uploaded to the cloud so that the application can be used by all the user. This was prioritized as it was important to test the server used via internet. |
| Establish a validation report of the final application. | A complete report validating all the Textfields from the implementation |
| Establish fully developed implementation with minimal errors and bugs. | When all the code was ready, the team meeting was held and run the implementation. During this course, there were few errors found in the implementation which were then discussed and solved during the meeting. |
| Testing documents for Unit Test and User Acceptance Test |  |

## Assessment Against Evaluation Criteria

Following are the assessment made against each evaluation criteria.

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| --- | --- | --- |
| Criteria | Description | Assessment |
| Implementation synchronized with Full Use Case Description | The implementation developed needs to match with the documentation documented i.e. Full Use Case Description and also Architecture Notebook. A thorough checking between the implementation and documentation was done to verify all the components were matched. | Completed |
| Fully developed implementation | The implementation was finalised after all the Functional and Non- Functional Requirements were included in the system. The implementation operates with the basic operation having user friendly design. Lastly, all the code forms the team members were merged together before deploying the implementation. | Completed |
| Test Cases and Test Scripts for all Use Cases. | After the implementation was finalised, a test was run before releasing the application to the user. A detailed testing, applying a short scenario for each of the Use Case that gave a certain output. Test Scripts were generated for following Test Cases. These mainly includes scenario and the expected result from the implementation. The results were compared after the Test and the conclusion was generated. | Completed |
| Unit Testing | A series of test were conducted for each functional use cases. | Completed |
| User Acceptance Test | A brief scenario was developed for testing that implements all the Use Cases of the system. The scenario was run through the application and numbers of the output is generated. As the Test Scripts, the results were compared with the expected result to check whether the application runs accordingly or not. | Completed |
| User Manuals | It is a detailed instruction notebook that includes each and every action of the application in terms of User’s perspective. The User Manual developed, it will guide a user to operate the application as well as assist during any queries. | Completed |

## Conclusion

In conclusion, the construction phase has been a great success. All the required task for the construction phase has been completed and checked. The team members were focused in their task and put extra effort to produce the best outcome from it. Although, there were some issues with the implementation and some technical issues during iteration 2 and 3, team members were able to find the depth of the problem and figure out the solutions for each of them. These issues were not easy to be dealt as the team needed to get some support from external source. By all the research and various solutions, team members have now enhanced their knowledge of technical terms and learned how to utilize them throughout the project. Furthermore, team members had to make a proper scheduling during the iteration as there were assessments from other subjects. The team member discussed and maintained a tight schedule and committed extra hours for the assessment. This led the members more dedication to the project and enhanced time management skill. By taking all the terms in focus, the team members will continue to take the project more carefully and achieve a great accomplishment.