# ABC’s Inventory Management System

## Master Test Plan

## Introduction

This document is used to define the details of the master test plan. Once the test plan is outlined, the document must be reviewed and approved by the lead technical representative of the project as well as the lead business representative of the project. If anything related to the test plan changes during the execution and testing phase of the project, this document should be updated and re-approved by both parties. The document introduces:

* Test Strategy: rules the test will be based on, including the givens of the project (e.g.: start / end dates, objectives, assumptions); description of the process to set up a valid test (e.g.: entry / exit criteria, creation of test cases, specific tasks to perform, scheduling, data strategy).
* Execution Strategy: describes how the test will be performed and process to identify and report defects, and to fix and implement fixes.

## Test Scope

This test plan will test all the requirements for ABC’s Inventory Management System, which will be tested by the ‘Fellowship of the’ team for testing purposes. This Master Test Plan covers unit, integration, user acceptance, and regression testing. It will not include user certification testing, which will be performed by the Finance Team.

## Test Features

This is a description of the features that will be tested within the scope of the test plan.   
The following list represents what will be tested along with the individuals/groups involved with the testing activities. (Note: Integration Test and User Acceptance Test will be conducted once Unit Test for each feature is completed and the whole application is developed. Alpha level User Acceptance Test for the core Use Case (Search Product) will be conducted once Unit Test for Search Product is completed):

|  |  |  |  |
| --- | --- | --- | --- |
| **BR #** | **Feature** | **Description** | **Responsible party or groups** |
| 1. | Login/out | Unit Test, Integration Test and User Acceptance Test to ensure users can log in and out of to use the application as a unit, in an integrated environment and in the production environment respectively. | Store Staff, Warehouse Staff, Hieu Hanh Tran |
| 2. | Search Products | Unit Test, Integration Test and User Acceptance test to ensure users can search for products using product code or product item code as a unit, in an integrated environment and in the production environment respectively. | Store Staff, Warehouse Staff, Shirish Maharjan |
| 3. | Manage Product | Unit Test, Integration Test and User Acceptance test to ensure warehouse staff can add, remove or edit products as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Arik Maharjan |
| 4. | Request Items | Unit Test, Integration Test and User Acceptance Test to ensure users can request for a stock from other locations as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Store Staff, Hieu Hanh Tran |
| 5. | Send Stock | Unit Test, Integration Test and User Acceptance Test to ensure users can send stock to other locations as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Store Staff, Shirish Maharjan |
| 6. | Accept Stock | Unit Test, Integration Test and User Acceptance Test to ensure users can accept stock sent from other locations as a unit, in an integrated environment and in the production environment respectively. | Store Staff, Shirish Maharjan |
| 7. | Manage Cart | Unit Test, Integration Test and User Acceptance Test to ensure users can add/delete/edit items in a cart to request or send stock as a unit, in an integrated environment and in the production environment respectively. | Store Staff, Arik Maharjan |
| 8. | Check Notification | Unit Test, Integration Test and User Acceptance Test to ensure users can check notification when a stock request is sent from a location as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Hieu Hanh Tran |
| 9. | Manage Staff | Unit Test, Integration Test and User Acceptance Test to ensure Warehouse Staff can add, delete or edit staff and staff details as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Shirish Maharjan |
| 10. | Create Report | Unit Test, Integration Test and User Acceptance Test to ensure users can generate a report of stock transfers as a unit, in an integrated environment and in the production environment respectively. | Warehouse Staff, Store Staff, Arik Maharjan |
| 11. | Scan Barcode | Unit Test, Integration Test and User Acceptance Test to ensure users can scan barcode to get delivery details when accepting stock as a unit, in an integrated environment and in the production environment respectively. | Hieu Hanh Tran, Warehouse Staff, Store Staff |

## Test Inputs/Outputs

This is a description of the inputs that will be used to assist with the testing effort and a list of the outputs that will be delivered from the testing effort.

|  |  |
| --- | --- |
| **Inputs** | **Outputs** |
| * Business Requirement Specifications * Software configurations * Search Product Test Case * Search Product Input Data * Login/ Logout Test Cases * Login/ Logout Input Data * Manage Cart Test Cases * Manage Cart Input Data * Send Stock Test Cases * Send Stock Input Data * Accept Stock Test Cases * Accept Stock Input Data * Request Stock Test Cases * Request Stock Input Data * Manage Product Test * Manage Product Input Data * Check Notification Test Cases * Check Notification Input Data * Create Report Test Cases * Create Report Input Data * Scan Barcode Test Cases * Scan Barcode Input Data * Manage Staff Test Cases * Manage Staff Input Data | * Test Results * Result Screenshots * Defect Log * Issues Log * Change Request Log * Search Product Test Script * Login/ Logout Test Scripts * Manage Cart Test Scripts * Send Stock Test Scripts * Accept Stock Test Scripts * Request Stock Test Scripts * Manage Product Test Scripts * Check Notification Test Scripts * Create Report Test Scripts * Scan Barcode and Test Scripts * Manage Staff Test Scripts |

## Test Strategy

Test Objectives

The objective of the test is to verify that the functionality of ABC Inventory Management System works according to the specifications.

The test will execute and verify the test scripts, identify, fix and retest all high and medium severity defects per the entrance criteria, prioritize lower severity defects for future fixing via Change Request.

The final product of the test is twofold:

* A production-ready software;
* A set of stable test scripts that can be reused for Functional and UAT test execution.

Assumptions

**Key Assumptions**

* Production like data required and be available in the system prior to start of Functional Testing
* In each testing phase, Cycle 3 will be initiated if the defect rate is high in Cycle 2.

**General**

* Exploratory Testing would be carried out once the build is ready for testing
* Performance testing is not considered for this estimation.
* All the defects would come along with a snapshot JPEG format
* The Test Team will be provided with access to Test environment via VPN connectivity
* The Test Team assumes all necessary inputs required during Test design and execution will be supported by Development/BUSINESS ANALYSTs appropriately.
* Test case design activities will be performed by appropriate team members
* Test environment and preparation activities will be owned by Dev Team
* Dev team will provide Defect fix plans based on the Defect meetings during each cycle to plan. The same will be informed to Test team prior to start of Defect fix cycles
* Team Leader/ BUSINESS ANALYSTs will review and sign-off all Test cases prepared by Test Team prior to start of Test execution
* The defects will be tracked through Github only. Any defect fixes planned will be shared with Test Team prior to applying the fixes on the Test environment
* Sponsor will review and sign-off all test deliverables
* The project will provide test planning, test design and test execution support ANALYST
* Team members have the knowledge and experience necessary, or has received adequate training in the system, the project and the testing processes.
* Cycle 3 will be initiated if there are more defects in Cycle 2.

**Functional Testing**

* During Functional testing, testing team will use preloaded data which is available on the system at the time of execution
* The Test Team will be perform Functional testing only on ABC Inventory Management Application

**UAT**

* UAT test execution will be performed by end users (L1, L2and L3) and QA Group will provide their support on creating UAT script.

Test Principles

* Testing will be focused on meeting the business objectives, cost efficiency, and quality.
* There will be common, consistent procedures for all teams supporting testing activities.
* Testing processes will be well defined, yet flexible, with the ability to change as needed.
* Testing activities will build upon previous stages to avoid redundancy or duplication of effort.
* Testing environment and data will emulate a production environment as much as possible.
* Testing will be a repeatable, quantifiable, and measurable activity.
* Testing will be divided into distinct phases, each with clearly defined objectives and goals.
* There will be entrance and exit criteria.

Data Approach

* In functional testing, ABC Management System will contain pre-loaded test data and which is used for testing activities.

Scope and Levels of Testing

Exploratory

**PURPOSE:** the purpose of this test is to make sure critical defects are removed before the next levels of testing can start.

**SCOPE:** First level navigation, warehouse staff and store staff interfaces.

**TESTERS:** Testing team.

**METHOD:** this exploratory testing is carried out in the application without any test scripts and documentation

**TIMING:** at the beginning of each cycle.

Functional Test

**PURPOSE:** Functional testing will be performed to check the functions of application. The functional testing is carried out by feeding the input and validates the output from the application.

**Scope:** Log In/Out, Search Products, Manage Product, Send Product, Accept Product, Manage Staff, Create Report

**TESTERS:** Testing Team.  
**METHOD:** The test will be performed according to Functional scripts.

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**TIMING:** after Exploratory test is completed.

**TEST ACCEPTANCE CRITERIA**

1. Approved Functional Specification document, Use case documents must be available prior to start of Test design phase.
2. Test cases approved and signed-off prior to start of Test execution
3. Development completed, unit tested with pass status and results shared to Testing team to avoid duplicate defects
4. Test environment with application installed, configured and ready to use state

**TEST DELIVERABLES**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **Deliverable Name** | **Author** | **Reviewer** |
| 1. | Test Plan | Test Lead | Team Leader/ Business Analyst’s |
| 2. | Functional Test Cases | Test Team | Business Analyst’s Sign off |
| 3. | Functional Test Scripts | Test Team | Business Analyst’s |

User Acceptance Test (UAT)

**PURPOSE:** this test focuses on validating the business logic. It allows the end users to complete one final review of the system prior to deployment.

**TESTERS:** the UAT is performed by the end users (L1, L2 and L3).

**METHOD:** Since the business users are the most indicated to provide input around business needs and how the system adapts to them, it may happen that the users do some validation not contained in the scripts. Test team write the UAT test cases based on the inputs from End user (L1,L2 and L3 users) and Business Analyst’s.

**TIMING:** After all other levels of testing (Exploratory and Functional) are done. Only after this test is completed the product can be released to production.

**TEST DELIVERABLES**

|  |  |  |  |
| --- | --- | --- | --- |
| **S.No.** | **Deliverable Name** | **Author** | **Reviewer** |
| 1. | UAT Test Cases | Test Team | Business Analyst’s Sign off |
| 2. | UAT Test Scripts | Test Team | Business Analyst’s Sign off |

## EXECUTION STRATEGY

Test Cycles

* There will be two cycles for functional testing. Each cycle will execute all the scripts .
* The objective of the first cycle is to identify any blocking, critical defects, and most of the high defects. It is expected to use some work-around in order to get to all the scripts.
* The objective of the second cycle is to identify remaining high and medium defects, remove the work-around from the first cycle, correct gaps in the scripts and obtain performance results.
* UAT test will consist of one cycle.

## Test Environment

This is a list of the testing tools, systems, and databases.

|  |  |  |
| --- | --- | --- |
| **Tools** | **Description** | **Version** |
| Manual input | Manual entry of data onto screen or GUI. | n/a |
| JAX-RS (Jersey Rest Service) | Jersey dependency added in the project. | 2.26-b03 |
| MySQL Connector | MySQL Connector dependency | 5.1.38 |
| Java Development Kit | Standard Java Libraries | 1.8 |
| IntelliJ IDEA | IDE for conducting unit, integration and regression testing. | 2017.3 |
| System | At least 4 GB RAM i5 4th Generation processor. | n/a |

## Test Roles and Responsibilities

The following are the general test roles and responsibilities. These roles will be assigned to team members according to the feature that is being tested.

|  |  |
| --- | --- |
| **Role** | **Responsibility** |
| Test Manager/Project Manager | * Provides technical direction. * Acquires testing resources. * Assigns tasks * Communicates test results to management. |
| Test Designer | * Documents test plan. * Identifies, documents and prioritizes test cases. * Evaluates effectiveness of test effort. |
| Tester | * Executes test cases, logs defects, and documents test results. |
| Test System Administrator | * Ensures test environment and assets are installed, managed and maintained. * Includes administration of testing IDs. |

## Test Milestones

The following are the key test milestones:

|  |  |
| --- | --- |
| **Task** | **Milestone Date** |
| Setup Test Environment | 23/05/2018 |
| Prepare Test Cases and Test Scripts for most critical Use Case (Search Product) | 23/05/2018 |
| Conduct Unit Testing and UAT for the most critical Use Case (Search Product) | 25/05/2018 |
| Prepare Test Cases and Test Scripts for all Use Cases | 26/09/2018 |
| Complete Exploratory Testing | 08/09/2018 |
| Complete Functional Testing | 13/09/2018 |
| Complete User Acceptance Testing | 10/10/2018 |

## Document Approval

The signatures below acknowledge that the test plan outlined above is complete and accurate. Upon receiving written approval, the project team will proceed to the next step of the project.

If anything changes during the execution of the project, the test plan will be updated and re-approved accordingly. The assigned title below is subject to change according to the feature that is being tested.

|  |  |  |
| --- | --- | --- |
| **Approved by:**  **Printed name** | **Approved by:**  **Title** | **Approved By:**  **Signature/Date** |
| Hieu Hanh Tran | Business Analyst  Project Manager | https://lh6.googleusercontent.com/3ZTy9Hf8Vclg3L8_uURvwJHF_0JGS8AEpS0Lw5yA31yUxCNUPPf3MGMAuaIGgFZpIzIwjgm6bnyiwa55DHIBETjPIYSGUBpYR95OeRZSWwkskH-2zWWXjZf1N_0Twe_5MNT8bGB4 |
| Shirish Maharjan | Software Developer  Database Administrator  System Analyst | https://lh4.googleusercontent.com/l6NJjVuLgfbJbrkcBT5RE4SAiDb2cFr6UDhz4wf_vn5slONb3abn2nUlxKD-Kt4HCL0yfViM9rU7PFQoFRrBjF3Mo5bflB1ogE2QKy0jlmBLuXTwgRhGGFoydiIhk7WkqxWN5PZX |
| Arik Maharjan | Marketing Manager  Test Manager |  |

## Document Tracking

|  |  |  |
| --- | --- | --- |
| **Date** | **Action Taken** | **By Whom** |
| 29/03/2018 | Master Test Plan Established | Hieu Hanh Tran |
| 23/05/2018 | Master Test Plan Updated for Search Product Unit Testing in LCAM | Shirish Maharjan |
| 29/05/2018 | Added Test Case, Test Scripts on Input Output section and Test Milestone section in Master Test Plan | Shirish Maharjan |
| 07/09/2018 | Update Test Strategy, Test Milestones section in Master Test Plan | Hieu Hanh Tran |