Flex Team

Van Lang University

TEST PLAN

12 / 23 / 2014

# Document Audience

|  |  |
| --- | --- |
| **Target Audience** | **Recommended Section** |
| Project Mentors | All of Document |
| Project Sponsor & Customer | Section 2nd & 3rd |
| Development Team | All of Document |

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# Tables of Content

[Document Audience 1-2](#_Toc419881692)

[Version History 1-2](#_Toc419881693)

[Tables of Content 1-3](#_Toc419881694)

[Table list 1-6](#_Toc419881695)

[Figure list 1-6](#_Toc419881696)

[1. Introduction 1-7](#_Toc419881697)

[1.1. Purpose 1-7](#_Toc419881698)

[1.2. Scope 1-7](#_Toc419881699)

[1.3. References 1-7](#_Toc419881700)

[2. Test Strategy 2-8](#_Toc419881701)

[2.1. Test Objective 2-8](#_Toc419881702)

[2.2. Test Principles 2-8](#_Toc419881703)

[2.3. Level of Testing 2-9](#_Toc419881704)

[2.3.1. System Testing (Functional Testing) 2-9](#_Toc419881705)

[2.3.2. User Acceptance Testing 2-9](#_Toc419881706)

[3. Features to be tested 3-11](#_Toc419881707)

[3.1. Sale Management 3-11](#_Toc419881708)

[3.1.1. Customer 3-11](#_Toc419881709)

[3.1.2. Product 3-11](#_Toc419881710)

[3.1.3. Quotation 3-12](#_Toc419881711)

[3.1.4. Sale Order 3-12](#_Toc419881712)

[3.1.5. Invoice 3-12](#_Toc419881713)

[3.2. Warehouse Management 3-13](#_Toc419881714)

[3.2.1. Warehouse 3-13](#_Toc419881715)

[3.2.2. Inventory 3-13](#_Toc419881716)

[3.2.3. Import Product 3-14](#_Toc419881717)

[3.2.4. Export Product 3-14](#_Toc419881718)

[3.3. User Management 3-14](#_Toc419881719)

[3.4. Report Management 3-14](#_Toc419881720)

[4. Test Process 4-15](#_Toc419881721)

[4.1. Overall Process 4-15](#_Toc419881722)

[4.1.1. Process 4-15](#_Toc419881723)

[4.1.2. Description 4-16](#_Toc419881724)

[4.2. Test Plan 4-17](#_Toc419881725)

[4.2.1. Process 4-17](#_Toc419881726)

[4.2.2. Description 4-18](#_Toc419881727)

[4.3. Test Design 4-19](#_Toc419881728)

[4.3.1. Create Functional Test Case 4-19](#_Toc419881729)

[4.3.2. Create Acceptance Test Case 4-20](#_Toc419881730)

[4.4. Execute 4-21](#_Toc419881731)

[4.4.1. Run Functional Test Case 4-21](#_Toc419881732)

[4.4.2. Run Acceptance Test Case 4-22](#_Toc419881733)

[4.5. Evaluate 4-23](#_Toc419881734)

[4.5.1. Process 4-23](#_Toc419881735)

[4.5.2. Description 4-24](#_Toc419881736)

[5. Defect Tracking 5-25](#_Toc419881737)

[5.1. Process 5-25](#_Toc419881738)

[5.2. Description 5-26](#_Toc419881739)

[5.3. Status of Defect 5-26](#_Toc419881740)

[6. Test Schedule 6-27](#_Toc419881741)

[7. Human Resource 7-29](#_Toc419881742)

[8. Test Environment 8-30](#_Toc419881743)

[8.1. Software 8-30](#_Toc419881744)

[8.2. Hardware 8-30](#_Toc419881745)

[8.3. Test type 8-30](#_Toc419881746)

[9. Test Deliverables 9-31](#_Toc419881747)

[10. Entrance and Exit Criteria 10-32](#_Toc419881748)

[10.1. Entrance Criteria 10-32](#_Toc419881749)

[10.1.1. Functional Testing 10-32](#_Toc419881750)

[10.1.2. User Acceptance Testing 10-32](#_Toc419881751)

[10.2. Exit Criteria 10-32](#_Toc419881752)

[10.2.1. Functional Testing 10-32](#_Toc419881753)

[10.2.2. User Acceptance Testing 10-32](#_Toc419881754)

# Table list

Table 1: References Document 7

Table 2: Testing Process Description 16, 17

Table 3: Test Planning Process Description 18, 19

Table 4: Create Functional Test Case Process Description 19, 20

Table 5: Create Acceptance Test Case Process Description 20, 21

Table 6: Run Functional Test Case Process Description 21, 22

Table 7: Run Acceptance Test Case Process Description 22, 23

Table 8: Evaluate Testing Process Description 24

Table 9: Defect Tracking Process Description 26

Table 10: Status of Defects 26, 27

Table 11: Test Schedule 27, 28

Table 12: Roles & Responsibility in Test Phase 29

Table 13: Hardware Description Table 20

Table 14: Artifact for Test Deliverables 31

# Figure list

Figure 1: Overall Testing Process 15

Figure 2: Test Planning Process 17

Figure 3: Create Functional Test Case Process 19

Figure 4: Create Acceptance Test Case Process 20

Figure 5: Run Functional Test Case Process 21

Figure 6: Run Acceptance Test Case Process 22

Figure 7: Evaluate Testing Process 23

Figure 8: Defect Tracking Process 25

# Introduction

## Purpose

This specification describes detailed plan and approach to implement testing methods for the Capstone project. At the same time, personnel requirements, tools and materials needed for testing is also defined here. Test manager will ensure that software testing is performed according to the process defined in Test Plan and Project Plan.

## Scope

* This document describes the plan used by the Flex Team to perform test for Capstone Project.
* Scope of test plan is to help test members to do tasks following test plan and schedule that are defined and approved.
* This specification describes strategies and plan to implement phases of the testing in the Capstone Project.
* The detailed descriptions of test cases in each phase will be executed in the test specifications.

## References

|  |  |
| --- | --- |
| **No.** | **Name of Document** |
| 1 | *Flex – Testing Process – 2.0* |
| 2 |  |

*Table 1: References Document*

# Test Strategy

## Test Objective

The objective of the test is to verify that the functionality of **Vinapool - Internal Website** works according to the Odoo.

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

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.

## 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.

## Level of Testing

### System Testing (Functional Testing)

#### Introduction

* 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.
* Functional test cases and test reports must be completed fully. These documents will be updated continuously in the project development cycle.
* The status of the issue and issue life cycle must be reported regularly.

#### Objective

The goal of system testing is not find out faults but to demonstrate performance.

#### What

The system testing is actually a series of different tests, primary purpose of which is to fully exercise the system. All work to verify that all system element have been properly integrated and perform allocated functions.

#### When

Beginning Testing.

#### Who

Development Team.

#### Methods

Black Box Techniques.

### User Acceptance Testing

#### Introduction

* This test focuses on validating the business flow. It allows the end users to complete one final review of the system prior to deployment.
* A set of test cases are taken from System test cases and executed in the user working environment.
* In this type of test, the software will be tested by the user to find out whether it meets with their requirements and expectations.
* It is final step of testing, acceptance tests are generally performed as "black box" tests, and the tester uses specified inputs into the system and verifies that the resulting outputs are correct, without knowledge of the system's internal workings.
* Acceptance test cases must be executed fully at the work environment of user.

#### Objective

To verify that the system meets the user requirements. It is the system testing performed by the customer by him / herself after the product delivery to determine whether to accept or reject the delivered product.

#### When

After Functional Testing completed.

#### Who

Customer / End user.

#### Methods

Black Box Techniques.

# Features to be tested

## Sale Management

### Customer



### Product



### Quotation



### Sale Order



### Invoice



## Warehouse Management

### Warehouse



### Inventory



### Import Product



### Export Product



## User Management



## Report Management



# Test Process

## Overall Process

### Process



*Figure 1: Overall Testing Process*

### Description

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No.** | **Phase - Activities** | **Description** | **Artifact** | **Role** |
| 1 | Planning – Create Test Plan | Making the detail plan to implement testing through Capstone Project | Input: Capstone Project Description, User Story Description, Project Plan  Output: Test Plan | Development Team |
| 2 | Design - Create Functional Test Case | Base on Test Plan document, User Story Description & Project Plan, Development Team to define test cases for system. Besides, priority for each test cases will be assign. | Input: Test Plan & User Stories Description  Output: Functional test case document. | Development Team |
| 3 | Execute - Run Functional Test Case | Developer run test case of Functional Test. After that, pass and fail test case will be recorded. | Input: Functional test case document  Output: Functional Test result, Defect List. | Development Team |
| 4 | Create Acceptance Test Case | Base on the test cases are passed, we create Acceptance Test Case to delivery to customer. Acceptance test case are defied base on business processes | Input: Test Plan document, User Stories document & Functional Test Case document, Functional Test result.  Output: Acceptance test case document | Development Team |
| 5 | Implement Acceptance Test | Developer run test case of Acceptance Test. After finish, pass and fail test case will be recorded. | Input: Acceptance test case document  Output: Acceptance Test result, Defect List. | Development Team |
| 6 | Evaluate | After run all test case and are approved, all test result will be submit to track status. This document describes the total number of pass and fails of test case after being executed. | Input: Functional test result, and Acceptance test result. All Defect List.  Output: Test Report document. | Development Team |

*Table 2: Testing Process Description*

## Test Plan

### Process



*Figure 2: Test Planning Process*

### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Identify Test Requirement | Identify components, parts of product will be test, purpose and scope of test. E.g. module to test, function to test…  The test requirement must be elicited from customer and drawn out of User Story Description document.  Identify entry and exit criteria for test. |
| 2 | Identify Test Strategy | Identify the approach to perform the test on product, propose technical support and test tools, and identify the method used to assess the quality of test conditions as well as to estimate the test time.  There are many strategy to test so we must choose correct the strategy such as: which test target necessary for our software? (E.g. System Test, Acceptance Test, Integration Test, Unit Test…)  Identify methodology to implement test type such as: black box test, white box test… |
| 3 | Identify Test Resource | Identify the software, hardware and tools to support for test implement.  Specify role and responsibility and assign for team member. Make clear about responsibility for each role to avoid confusion about role of own. |
| 4 | Detail Test Plan | Estimate time to test to provide a clear schedule about test phase and given works must to do for each phase.  Then we will determine detail of each work and who will be assigned about that work to provide all the time of dots of test process.  Specify metric to measure about test phase of project quality or not? |

*Table 3: Test Planning Process Description*

## Test Design

### Create Functional Test Case

#### Process



*Figure 3: Create Functional Test Case Process*

#### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Prepare Document | List all the necessary document need to have in functional test phase such as: Test Report, Test Result, Defect List…  Prepare template for these document to easy manage data in implement test progress. |
| 2 | Write Functional Test Case | Describe detail steps of functional test case as well as specify which data/pre-condition necessary to implement test. Besides that, expect result must be described clearly. |
| 3 | Review / Update Functional Test Case | After write test case for all, we need to review all of test cases to detect errors to ensure that test cases and documents are enough and exactly for test phase of project. |

*Table 4: Create Functional Test Case Process Description*

### Create Acceptance Test Case

#### Process



*Figure 4: Create Acceptance Test Case Process*

#### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Prepare Document | List all the necessary document need to have in acceptance test phase such as: Test Report, Test Result, Defect List…  Prepare template for these document to easy manage data in implement test progress. |
| 2 | Write Acceptance Test Case | Describe detail steps of acceptance test case as well as specify which data/pre-condition necessary to implement test. Besides that, expect result must be described clearly. |
| 3 | Review / Update Acceptance Test Case | After write test case for all, we need to review all of test cases to detect errors to ensure that test cases and documents are enough and exactly for test phase of project. |

*Table 5: Create Acceptance Test Case Process Description*

## Execute

### Run Functional Test Case

#### Process



*Figure 5: Run Functional Test Case Process*

#### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Prepare Test Environment | Established, startup environments and test conditions to ensure to that all related parts (such as hardware, software, servers, networks, data...) has been installed and ready before start of test execution.  We will set up a test environment in accordance with the Test Plan document. |
| 2 | Execute Functional Test Case | Base on Functional Test Cases Specification document that complete at Test Design phase, we will implement step by step with input and output value clearly and exactly.  And this step will be implemented repeated until the test result be achieved exit criteria. |
| 3 | Record Test Result | After implement steps of a test case, tester have to input the actual result of test case in Actual Result column and compare with Expect Result to determine that test case pass or fail.  If test case fail, tester have to record in Defect List to tracking and assign issue to fix it. |

*Table 6: Run Functional Test Case Process Description*

### Run Acceptance Test Case

#### Process



*Figure 6: Run Acceptance Test Case Process*

#### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Prepare Test Environment | Established, startup environments and test conditions to ensure to that all related parts (such as hardware, software, servers, networks, data...) has been installed and ready before start of test execution.  We will set up a test environment in accordance with the Test Plan document. |
| 2 | Execute Acceptance Test Case | Base on Acceptance Test Cases Specification document that complete at Test Design phase, we will implement step by step with input and output value clearly and exactly.  And this step will be implemented repeated until the test result be achieved exit criteria. |
| 3 | Record Test Result | After implement steps of a test case, tester have to input the actual result of test case in Actual Result column and compare with Expect Result to determine that test case pass or fail.  If test case fail, tester have to record in Defect List to tracking and assign issue to fix it. |

*Table 7: Run Acceptance Test Case Process Description*

## Evaluate

### Process



*Figure 7: Evaluate Testing Process*

### Description

|  |  |  |
| --- | --- | --- |
| **No** | **Step** | **Description** |
| 1 | Evaluate Test Result | Test team will be execute evaluate the result to determine that the result archive the exit criteria had provide in Planning Test phase.  Evaluate test result and ensure that all results are exactly |
| 2 | Create Test Report | Base on the Test Result document about results of test phase to report detail result in Test Report document.  It include charts about summarize result and detail result of each module and test target. These chart and data are store in Test Result document. |

*Table 8: Evaluate Testing Process Description*

# Defect Tracking

## Process



*Figure 8: Defect Tracking Process*

## Description

|  |  |  |
| --- | --- | --- |
| **No.** | **Step** | **Description** |
| 1 | Report Defect | Development Team implement tests, update defects to Podio management tool. |
| 2 | Validate | Determine the defect: kind of, locate, to affect, status … |
| 3 | Assign Defect | Defects are assigned to Developer who is responsible for the functions. |
| 4 | Fix Defect | Developer implement fixes defect. If the defect fix trouble in difficulties, Developer shall be responsible for reporting to Scrum Master to have solutions. |
| 5 | Retest the Product | After completion of the Developer fix defects, the update of the status tool defect on Podio and inform Development Team to retest the Product.  If the defect hasn’t been fix, Scrum Master will assign to task again for Developer to fix them. |
| 6 | Close Defect | Development Team updated Defect Tracking Report and Test Report |

*Table 9: Defect Tracking Process Description*

## Status of Defects

|  |  |  |
| --- | --- | --- |
| No. | Status | Description |
| 1 | Pending | Still not implement the “Action Plan”. |
| 2 | In Progress | Implementing the “Action Plan”. |
| 3 | Approved | The defect was completely resolved. |
| 4 | In Review | The Defects was fixed but haven’t approved. |
| 5 | Rejected | The defect wasn’t resolved. |

*Table 10: Status of Defects*

# Test Schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **No** | **Task description** | **Start date** | **Finish date** | **Assigned to** |
| **Test documentation (Sprint 0)** | | | | |
| 1 | Create Test Plan | Dec 23 | Dec 23 | Chi To |
| 2 | Update / Review Test Plan | Dec 24 | Dec 26 | Ty Tran |
| **Functional testing (Sprint 1, Sprint 2)** | | | | |
| 1 | Create Functional Test Case | Jan 12 | Jan 23 | Development Team |
| 2 | Update / Review Test Case | Mar 14 | Mar 15 | Development Team |
| 3 | Run Functional Test Case | Mar 16 | Mar 20 | Development Team |
| 4 | Defect Tracking | Mar 21 | Mar 22 | Development Team |
| 5 | Retest | April 13 | April 14 | Development Team |
| **Acceptance testing (Sprint 4, Sprint 5)** | | | | |
| 1 | Create Acceptance Test Case | April 6 | April 14 | Development Team |
| 2 | Update / Review Test Case | April 14 | April 14 | Development Team |
| 3 | Run Acceptance Test Case | April 15 | April 15 | Development Team |
| 4 | Defect Tracking | April 15 | April 21 | Development Team |
| 5 | Retest | April 22 | April 22 | Development Team |
| **Evaluate (Sprint 7)** | | | | |
| 1 | Test Report | April 23 | April 27 | Development Team |
| 2 | Update / Review Test Report | May 2 | May 7 | Development Team |

*Table 11: Test Schedule*

# Human Resource

|  |  |  |
| --- | --- | --- |
| **No.** | **Role** | **Responsibility** |
| 1 | Scrum Master | Manages the Process  Supports the Team  Removes Organizational Impediments |
| 2 | Product Owner | Contributes to the Product Backlog and Sprint Goals  Prioritizes the Backlog  Typically a Product Manager, Marketing, Internal Customer, Real Customer, etc. |
| 3 | Development Team | Each members of Development Team can cross-functional groups like QA, Programmers, Analysts, UI Designers, etc.  Members should be full-time with some exceptions (e.g., System Admin)  Team should be focused where membership can change only between sprints. |

*Table 12: Roles & Responsibility in Test Phase*

# Test Environment

## Software

Website: <http://vinapool.bitnamiapp.com:8069>

## Hardware

|  |  |  |
| --- | --- | --- |
| **No.** | **Test Item** | **Reason for reading** |
| 1 | PC / Laptop | Hard disk space: About 2 GB (full installation incl. two language modules). About 1 GB (minimal installation incl. two language modules)  Memory: more than 512 MB free memory with default cache settings  CPU: Equal or more than Pentium 4-2.0 GHz |

*Table 13: Hardware Description Table*

## Test type

Manual Testing.

# Test Deliverables

|  |  |  |
| --- | --- | --- |
| **No.** | **Items** | **Description** |
| 1 | Test Plan | This document describes the strategy and plan for testing phases & review documents of ecommerce project (frontend). |
| 2 | Functional test specification | This document describes all functional test cases.  Describing number passed and failed system test case. |
| 3 | Acceptance test specification | This document describes all acceptance test cases.  Describing number passed and failed acceptance test case. |
| 4 | Test Report | This document describes the number of test pass and fails when executing test case. (Functional Test & Acceptance Test) |
| 5 | Defect List | This document describes all the test result and the defect status. |

*Table 14: Artifact for Test Deliverables*

# Entrance and Exit Criteria

## Entrance Criteria

### Functional Testing

* Test plan must be approved.
* Functional test case document must be ready.
* Environment must already.
* Resource already.

### User Acceptance Testing

* Test plan must be approved.
* User acceptance test case document must be ready, such as the information of Customer & Product are provided by Vinapool Company.
* Product is already for test.
* Environment must already.
* Resource already.
* All the modules committed for testing should be tested and test report should be handed over to client.

## Exit Criteria

### Functional Testing

* All the functional test cases should be executed.
* Don’t have bugs with severity high and critical.
* List of defects still remain.

### User Acceptance Testing

* All the user acceptance test cases should be executed.
* Get acceptance from user.
* Report on the defect.
* No critical defects found.