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Software Testing Plan

Van Lang Admissions

# Revision Table

|  |  |  |  |
| --- | --- | --- | --- |
| Author | Date | Reason for changes | Version |
| Hien Xuan Nguyen | 22/10/2016 | Test Process | 1.0 |
| Hien Xuan Nguyen | 1/11/2016 | Test Process, Test Execution process | 1.1 |
| Hien Xuan Nguyen | 2/11/2016 | Test Process, Test Execution process | 1.2 |
| Hien Xuan Nguyen | 2/11/2016 | Method, Metrics | 1.3 |
| Hien Xuan Nguyen | 10/11/2016 | Impact, Schedule | 1.4 |
| Khoi Nguyen | 24/5/2017 | Fix template | 2.0 |

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# INTRODUCTION

## Purpose

This test approach document describes the appropriate strategies, process, workflows and methodologies used to plan, organize, execute and manage testing of software projects within Van Lang Admissions.

## Scope

## The test scope includes the following:

## Testing of all functional, application performance, security and use cases requirements listed in the Use Case document.

## Quality requirements and fit metrics Van Lang Admissions.

## End-to-end testing and testing of interfaces of all systems that interact with the Van Lang Admissions.

## Objectives

* A primary objective of testing application systems is to: assure that the system meets the full requirements, including quality requirements and fit metrics for each quality requirement and satisfies the use case scenarios and maintain the quality of the product.
* The secondary objective of testing application systems will be to: identify and expose all issues and associated risks, communicate all known issues to the project team, and ensure that all issues are addressed in an appropriate matter before release. As an objective, this requires careful and methodical testing of the application to first ensure all areas of the system are scrutinized and, consequently, all issues (bugs) found are dealt with appropriately.

# Test project

## Process flow



## Activities

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **No.** | **Activities** | **Description** | **Input** | **Output** | **Roles** |
| 1 | Test Planning | * Analyze various testing approaches available. * Finalize on the best suited approach. * Preparation of test plan/strategy document for various types of testing. * Test tool selection. * Test effort estimation. * Resource planning and determining roles and responsibilities. | Requirement Document | Test Plan | Test Leader |
| 2 | Test case Development | * Create test cases. * Review and baseline test cases . * Create test data | Test Plan | Test Cases, Test Data | Tester |
| 3 | Environment Setup | * Understand the required architecture, environment set-up. * Prepare hardware and software requirement list. * Prepare environment setup checklist. * Setup test Environment and test data | Architecture Document, | Hardware software Environment | Tester |
| 4 | Test Execution | * Execute tests as test plan. * Document test results, and log defects for failed cases. * Update test plans/test cases, if necessary. * Map defects to test cases. * Retest the defect fixes. * Track the defects to closure | Test Cases, Test Plan, Test Data, Hardware software Environment | Test Report | Tester |
| 4.1 | Analysis | * Analysis test cases result. * Evaluate the test case * Impact the bugs | * List Result of test case executed | * List Metric Result | Tester |
| 4.2 | Document Test Result | * Statistical the test case had been ran. * Tracking bugs * Statistical error test cases, test cases had been tested through | * List Result of test case executed, * List Result of test case failed | * Test Report | Tester |
| 4.3 | Fix bug | * Prepare bug | * List Metric Result | * Fixed bug | Coder |
| 4.4 | Track Defect | * Evaluate cycle completion criteria based on - Time, Test, Cost. * Qualitative and quantitative reporting of quality of the work | * Test Report | * Test Closure | Tester |
| 5 | Test Report | * Evaluate cycle completion criteria based on - Time, Test coverage , Cost , Software Quality , Critical Business Objectives. * Prepare Test closure report. * Qualitative and quantitative reporting of quality of the work product to the customer. * Test result analysis to find out the defect distribution by type and severity | Test Report | Test Closure Document | Test Leader |

*Table 1: Activity in Test process*

## 2.2 Test Report Template

BSS\_TestReport.exe

## 3 Analyse Impact template

|  |  |  |
| --- | --- | --- |
| **No.** | **Influences** | **Bug affecting (Yes =1, No=0)** |
| 1 | Requirement |  |
| 2 | Design Interface |  |
| 3 | Affect Users |  |
| 4 | Database |  |
| 5 | Source Code |  |
| 6 | Structural Design |  |
| 7 | Affect Other Functions |  |
| 8 | Schedule |  |
| 9 | Cost |  |
| 10 | Team Morale |  |

*Table 3: Analyze Impact Template*

Impact: I = (Number of bug affecting/Total number influences)\*100

* High impact : 100 <= I > 70
* Medium : 70 <= I > 20
* Slow : I <= 20

# Process’s Method/Metrics

|  |  |  |  |
| --- | --- | --- | --- |
| **Goal** | | **Questions** | **Metrics** |
| Quality product | Increase software productivity | How effective is the inspection process? | Defect removal efficiency  Average faults detected per KLOC  Average inspection rate  Average preparation rate  Average lines of code inspected |
| Total Defect Containment Effectiveness | What is the currently known effectiveness of the defect detection process prior to release? | Number of prerelease defects/All defects |
| Improve Quality Product | How much number of defect founded | Number of defects found per KLOC  Defect rate (DR) = (Defect/KLOC) |
| Does Quality of project concern with: Defect executed?  How to track status of Defect in the system? | Closed defect rate (%) compared with the total defect in week |

*Table 4: Metrics and Methods Test process*

# Roles and responsibility

|  |  |
| --- | --- |
| **Roles** | **Responsibility** |
| Test Leader | * Create test plan and track progress of testing * Write test report * Assign task for tester * Report to developer when find out bug * Write test case for testing * Close bug when it fix |
| Tester | * Implement test following testing document * Report bug for Test Leader and developer to them verify the bugs and fix bug if the bug be accepted * Write test case for testing |
| Coder | * Fix bug * Report bug status to Bug Backlog * Contact with tester to get bug information |

*Table 5: Roles and Responsibility*

# Schedule

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Task | Task Description | Start Date | Finish Date | Assigned |
| Begin  (10/11-03/12/2016) | **Planning** | | | |
| Create Test Plan | 10/10/2016 | 13/11/2016 | Leader Test |
| **Design** | | | |
| Create Test Result Tracking Template | 14/11/2016 | 19/11/2016 | Leader Test |
| Create Test Report Template | 21/11/2016 | 23/11/2016 | Leader Test |
| Write System Test Case | 24/11/2016 | 01/12/2016 | Tester |
| Write Acceptance Test case | 02/12/2017 | 03/12/2017 | Tester |
| Release 1  (12-25/02/2017) | **Implement** | | | |
| Execute System Testing in Release 1 | 13/02/2017 | 18/02/2017 | Tester |
| Execute Non-Functional Testing | 13/02/2017 | 18/02/2017 | Tester |
| **Evaluate** | | | |
| Evaluate result of test in Evaluation Test Result | 20/02/2017 | 24/02/2017 | Leader Test |
| Update Test Case Specification. | 25/02/2017 | 25/02/2017 | Leader Test |
| Release 2  (27/03-01/04/2017) | **Implement** | | | |
| Execute System Testing in Release 2 | 27/03/2017 | 27/03/2017 | Tester |
| Execute Non-Functional Testing | 27/03/2017 | 27/03/2017 | Tester |
| **Evaluate** | | | |
| Evaluate result of test in Evaluation Test Result | 28/03/2017 | 31/03/2017 | Leader Test |
| Update Test Case Specification | 01/04/2017 | 01/4/2017 | Leader Test |
| Release 3  (24/04-27/04/2017) | **Implement** | | | |
| Execute System Testing in Release 3 | 24/04/2017 | 24/04/2017 | Tester |
| Execute Non-Functional Testing | 24/04/2017 | 24/04/2017 | Tester |
| **Evaluate** | | | |
| Evaluate result of test in Evaluation Test Result | 26/04/2017 | 27/04/2017 | Leader Test |
| The end | Review and update all of documents | 28/04/2017 | 29/04/2017 | Leader Test |

*Table 6: Schedule*

# Test Environment

## Hardware

|  |  |  |
| --- | --- | --- |
| No. | Test Item | Minimum configuration |
| 1 | PC | * CPU: Core I5 * Ram: 2Gb * Configuration: window 7 basic or professional, setup web browser (Firefox; Chrome; IE). |

Table 7: Hardware

## Software

|  |  |  |
| --- | --- | --- |
| No. | Test Item | Software |
| 1 | Test Manager | * Excel |
| 2 | Bug Manager | * Excel |
| 3 | Programming Language | * Nodejs |
| 4 | Develop Tool | * Mongo DB |
| 5 | Framework | * Angulajs |

Table 8: Software

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