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**Testing Process**

**Foxes Project**

**Abstract**

This Testing Process describes the activities to be performed by the testing team during the software development lifecycle of Foxes Project.

**Table of Contents**

[1. Introduction 3](#_Toc428060923)

[1.1. Purpose 3](#_Toc428060924)

[1.2. Scope 3](#_Toc428060925)

[2. Testing Process Visual Diagram 4](#_Toc428060926)

[3. Roles & Responsibilities 4](#_Toc428060927)

[4. Entry Criteria 6](#_Toc428060928)

[5. Inputs 6](#_Toc428060929)

[6. Process Description 7](#_Toc428060930)

[6.1. Requirement Analysis & Test Estimation 7](#_Toc428060931)

[6.2. Test Plan 8](#_Toc428060932)

[6.3. Test Analysis & Design 10](#_Toc428060933)

[6.4. Test Execution 11](#_Toc428060934)

[6.5. Test Report & Evaluation 12](#_Toc428060935)

[7. Exit Criteria 13](#_Toc428060936)

[8. Outputs 13](#_Toc428060937)

[Revision 14](#_Toc428060938)

**Table of Figures**

**Table of Tables**

# Introduction

## Purpose

This document describes the activities to be performed by the testing team during the software development lifecycle of Foxes Project. This document serves as a guideline for choosing the testing levels for different types of projects and the testing process to be followed in the project.

## Scope

The scope of this document is to describe the Entry Criteria, Inputs, Testing Process, Outputs and Exit Criteria for the following testing team activities.

* Requirement Analysis & Test Estimation
* Test Plan
* Test Analysis & Design
* Test Execution
* Test Report & Evaluation

# Testing Process Visual Diagram

The following figure describes a big picture about activities which will be implemented in the phase of Testing.

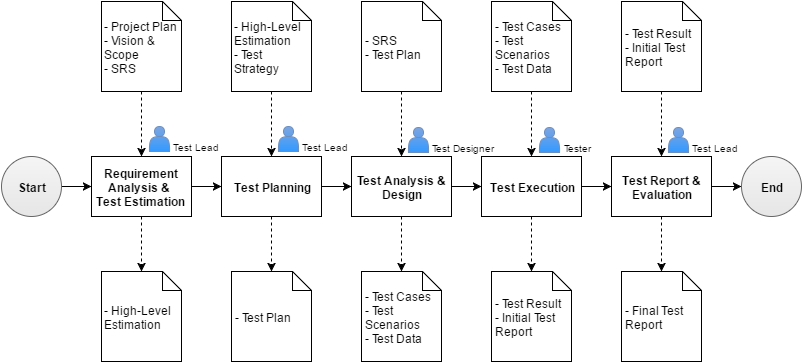


Figure - The overview of Testing Process

# Roles & Responsibilities

The following table describes participator who will be the participants of the software testing process in Foxes Project.

|  |  |  |
| --- | --- | --- |
| No. | Role | Responsibility |
| 1 | Project Manager | * Responsible and accountable for the successful execution of the Test Phase. * Leading the Integrated Project Team that accomplishes the Test Phase activities and deliverables. |
| 2 | Test Lead | * Defining the testing activities for subordinates – testers. * All responsibilities of test planning. * To check if the team has all the necessary resources to execute the testing activities. * To check if testing is going hand in hand with the software development in all phases. * Prepare the status report of testing activities. * Required interactions with customers. * Updating project manager regularly about the progress of testing activities. |
| 3 | Test Designer | * To read all the documents and understand what needs to be tested. * Develop test cases and prioritize testing activities. |
| 4 | Tester | * To read all the documents and understand what needs to be tested. * Execute all the test case and report defects, define severity and priority for each defect. * Carry out regression testing every time when changes are made to the code to fix defects. |
| 5 | Technical Lead | * Support test team about the product and technical. |

Table 1 – Roles & Responsibilities of Testing Process

# Entry Criteria

* Project Kick-off meeting conducted.
* Testing Team identified.
* All relevant requirement documents are available.
* Requirement artifacts are available for review. Tester should have access to requirement artifacts for requirement analysis provided by the Customer or any requirements document prepared at Foxes Team.

# Inputs

One or more of the following artifacts from a project are needed as inputs for this process:

* Detailed Requirements/Use Cases
* Software Requirements Specification
* Design Artifacts (GUI Prototypes, Database Design etc.)
* Change Requests
* Executable
* Any other relevant information

# Process Description

## Requirement Analysis & Test Estimation

### Requirement Analysis

|  |  |
| --- | --- |
| Participant | Test Lead, Project Management, Reviewer (Tester, Test Designer) |
| Entry Criteria | * Requirement artifacts are available for review. * Tester should have access to requirement artifacts for requirement analysis. |
| Input | One or more of the following artifacts from a project are needed as Inputs for this process:   * Detailed Requirements/Use cases * Software Requirements Specification * Design Artifacts (GUI Prototypes, Database Design etc.) * Change Requests and Impact Analysis * Executable * Any other relevant information |
| Activities | * A formal review notice should be sent to the Testers by Test Lead/Project Manager to review the available requirement artifacts. * Tester shall refer Project Plan and/or consult Test Lead /Project Manager for the time allocated for Requirements review. * Tester needs to follow the Review Process and review the artifacts, record questions/issues/clarifications in Issue tracker identified in the Test Plan. |
| Output | * Issues logged in Issue Tracker. * Reply to clarifications from the Client in the form of an email or Minutes of Meeting of Conference call/Discussion. |
| Entry Criteria | Requirement issues/clarifications answered in the Issue Tracker which is sufficient for Test Estimation or preparing Test Plan or preparing Test Cases. |

Table 2 – Activities in Requirement Analysis step

### Test Estimation

|  |  |
| --- | --- |
| Participant | Test Lead |
| Entry Criteria | Requirements are approved and prioritized. |
| Input | One or more of the following artifacts from a project are needed as Inputs for this process:   * Detailed Requirements/Use cases * Software Requirements Specification * Design Artifacts (GUI Prototypes, Database Design etc.) * Change Requests and Impact Analysis * Executable * Any other relevant information |
| Activities | The Test estimation technique consists of following steps:   * Identify different stages of test life cycle * Identify Work product for each test life cycle * Size Estimation for each work product * Effort Estimation for each work product * Effort estimation for Regression Cycle * Compute total testing effort |
| Output | Test Estimation document is completed. |
| Entry Criteria | Approved Test Estimation document. |

Table 3 – Activities in Test Estimation step

## Test Plan

|  |  |
| --- | --- |
| Participant | Test Lead, Reviewer (Test Designer, Tester, Project Manager, Customer…) |
| Entry Criteria | Approved Test Estimation, Requirement documents in the form of Use Cases/SRS. |
| Input | One or more of the following artifacts from a project are needed as Inputs for this process:   * Use cases * Software Requirements Specification * Design Artifacts (GUI Prototypes, Database Design etc.) * Change Requests * Environment Matrix * Testing Strategy * Executable * Any other relevant information |
| Activities | * The Test Lead should prepare the Test Strategy/Test Plan: * Defining the Test Scope, Test Strategies, Test Approach, Testing Schedule, Test Deliverables, Risks, Mitigation Plans and Acceptance Criteria. * Defining the test environment setup and resources used for testing the application. * Establishing the defect tracking mechanism. * Preparing traceability matrix covering all the requirements. (Mapping of each requirement to test case) * Metrics related to testing activities should be identified. * Test Lead needs to follow the Review Process and review the artifacts. * The Reviewer should log the review comments and send it to the Test Lead. * Test Lead will update the Test Strategy/Test Plan with review comments and baseline the Test Strategy/test Plan. The Test Strategy/Test Plan document should be sent to Customer for review if required and should be updated with client review comments also. * The approval proof of the Test Strategy/Test Plan should be taken from Customer or Project Manager. |
| Output | Reviewed and Approved Test Strategy/Test Plan Document. |
| Entry Criteria | Approved Test Strategy/Test Plan Document is available. |

Table 4 – Activities in Test Plan Phase

## Test Analysis & Design

|  |  |
| --- | --- |
| Participant | Test Designer, Reviewer (Tester), Test Lead |
| Entry Criteria | * Base on Requirement documents in the form of Use Cases/SRS. * Design documents such as HLD/LLD and Implementation guide lines, Mockup screens, Test Plan. |
| Input | One or more of the following artifacts from a project are needed as Inputs for this process:   * Requirement documents in the form of Use Cases/SRS * Design documents such as HLD/LLD and Implementation guide lines * Mockup screens * Test Plan * Change Requests * Executable * Any other relevant information |
| Activities | * The Test Designer should start preparing the Test Case document after the requirement documents are base-lined. * The appropriate test cases will be prepared during this phase to address: * Coverage criteria as understood from the requirements. * Cover the functional/nonfunctional requirement validations, GUI validations. * Include all the basic Flows, alternate flows, error flows, and failure conditions for each requirement. * A formal review meeting notice should be sent to the Technical Leader, Test Team and Developers by Test Lead 3 days before the review meeting to review the Test Case documents. * The Reviewer should log the review comments. * The Test Designer will update the Test Case documents with review comments and baseline the test case documents. * The approval proof of the Test Case document should be taken from Test Lead. * Test Resources and Environments need to be set up and ready for test executing phase * Test Report templates need to be ready and deploy to the rest of team for updating during executing phase. |
| Output | * Baselined and Approved Test Case Document. * Test Environment and Resources, Report templates are ready for executing. |
| Entry Criteria | * Approved Test Case Document is available. * Test Environment and resources, report templates are available. |

Table 5 – Activities in Test Analysis & Design Phase

## Test Execution

|  |  |
| --- | --- |
| Participant | Tester, Test Lead |
| Entry Criteria | * Baseline Test Cases/Test Data/Test Environment is available. * Test Resources are available for executing test cases. * Application is ready for test. |
| Input | One or more of the following artifacts from a project are needed as inputs for this process:   * Requirements * Approved Test Plan * Test Cases and Test Data * Defect tracking tool is identified and available * Test Environment is setup * Installation Guidelines is baseline |
| Activities | **Before Testing:**   * Test Lead shall inform the Tester that the software is ready for test. * The Developers shall provide the Installation Guidelines. * The Test Lead shall use the Test Readiness criteria to check if the software is ready to be tested. * Testers shall identify the test cases that are to be executed for a build based on the Test Requirements for each build. |
| **During Testing:**   * All the tester shall do test as assigned by the Test Lead. * Testers should report the defects to the Defect Tracking System as soon as possible. The testers shall record the results of the testing in Test Report as the testing progresses. * The developers will fix the defects and the testing process continues for next test cycle. * The Test Lead shall determine to completely reject the software if many bugs are repetitive over multiple cycles of testing. |
| Output | Test Cases/Test Report with Result of each Test Case execution. |
| Entry Criteria | Testing completed with Acceptance Criteria met as mentioned in the Test Plan. |

Table 6 – Activities in Test Execution Phase

## Test Report & Evaluation

|  |  |
| --- | --- |
| Participant | Tester, Test Lead |
| Entry Criteria | Base on Requirement Test Result documents. |
| Input | One or more of the following artifacts from a project are needed as Inputs for this process:   * Test Results * Test Plan * Any other relevant information |
| Activities | * The Testers should start completing the Test Results and creating Test Report document after execute Test Case. * The Testers submit Test Report which are created to Test Lead. * Test Lead evaluates the Test Report with results for each test case and defines Final Test Report. * Defect Prevention meeting will be held and all the issues faced while scripting are discussed. An action item list prepared for next phase to avoid the same issues to be repeated in next iteration, which results in more productivity. |
| Output | Baseline Final Test Report Document. |
| Entry Criteria | Approved Final Test Report Document is available. |

Table 7 – Activities in Test Report & Evaluation

# Exit Criteria

* Change Requests (if any) are fixed, tested, closed and released to the client.
* The final release is accepted by the client.
* The project closure meeting is conducted.

# Outputs

* Baseline Test Plan
* Baseline Test Cases
* Test Reports
* Defect Tracking Reports

# Revision

|  |  |  |  |
| --- | --- | --- | --- |
| # | Date | Editor | Description |
| **7** | Nov 11th, 2015 | Tỷ Trần | * Reviewing document & updating Testing Process |
| **6** | Nov 11th, 2015 | Chi Tô | * Updating Testing Process |
| **5** | Aug 14th, 2015 | Hồng Nguyễn | * The document is reviewed |
| **4** | Aug 11th, 2015 | Tỷ Trần | * Update Output and Entry Criteria of Test Estimation |
| **3** | Aug 09th, 2015 | Tỷ Trần | * Update Roles & Responsibilities |
| **2** | Aug 02nd, 2015 | Tỷ Trần | * Update with new template * Update Participant & Activities items |
| **1** | Jul 30th, 2015 | Tỷ Trần | * Create Testing Process Draft Version |