### Test Strategy

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| Name | Signature | Title / Responsibility | Date | Version |
| JP DuBouchard |  |  | 20/02/2019 | 1.1 |

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| Name | Signature | Title / Responsibility | Date | Version |
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### Distribution:

### Related Documents:

These documents will provide additional information.

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| Ref no | Doc Reference Number | Title | Version |

### Glossary of Terms:

List any terms used in this document.

|  |  |  |
| --- | --- | --- |
| Term | Acronym | Definition |
| TBD | To be determined | Remains to be confirmed after Execution |

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# Introduction

## Objectives

The objective of the testing is to automate the smoke Test cases of mobile application **Used.ca.** Used.ca is a family-friendly network of local websites that provides the opportunity to buy, sell, trade and search in a safe environment.

## Scope

This Test Strategy will cover the following:

* Objective and scope of the testing to be performed.
* Roles and responsibilities assigned to execute the test.
* Testing Overview defining the approach and standards to be followed. Also, it defines how the test will execute in different test stages and their entry & exit criteria.
* The sources of test data for different testing types.
* Test environment under which testing will be performed.
* Testing tools which will be required to support testing of proposed application.

The scope of this testing is that it will cover the following phases:

* Requirements review
* Developing test strategy and plan
* Designing test cases
* Creating test scenarios or scripts
* Test execution and reporting
* Final Delivery

# Roles and Responsibilities

|  |  |  |
| --- | --- | --- |
| **Role** | **Assigned to** | **Responsibilities** |
| Automation Tester | Meganathan Krishnamoorthy | Understand requirement, create test cases, execute test cases using automation tools. Testing all aspects like, function, regression, system, performance etc. |

# Testing Overview

## Test Lifecycle

Test lifecycle will have below stages:

1. Requirement Analysis: In this phase, all the requirements gathered will be analyzed from a testing point of view. This will help in identifying whether the requirements are feasible to test or not. Testers will then communicate the non-feasible requirements to the business and stakeholders so that a proper mitigation strategy can be planned.

2. Test Planning: This phase typically focuses on cost and effort estimation. Test plan will be prepared based on requirement analysis. Apart from this, resource planning and management, determination of roles and responsibilities, tools to be used for testing, etc. will be considered.

3. Test Design: In this phase, test team will create test cases, test data and test scripts for the requirements. These test cases will be reviewed by peers or test lead. Team will also create Requirement Traceability Matrix (RTM) that will map all the test cases to the requirements to ensure all the requirements are covered in testing.

4. Test Environment Setup: This phase will be started along with test design phase. Test environment will be set up according to the hardware and software specifications mentioned in the requirement document. Team will then perform a smoke test to check the readiness of the environment.

5. Test Execution: Test team will start executing the planned test cases once the environment is setup and test plan is signed off by business. All the failed test cases will be mapped to defects and the defects will then be reported to the developers. These fixes along with new requirements will then be received in the next build. The failed test cases will then be retested to ensure if the defect was fixed.

6. Test Closure: This will be the final stage of the lifecycle. Test team will prepare test closure report and test metrics. This report will then be submitted to business along with a formal sign-off document.

Each phase mentioned above will have a specific entry and exit criteria (*Refer section 3.8 in this document for details*)

## Standards

The following severity levels are proposed for issues arising throughout the Test Lifecycle:

* Level 1: A critical functionality of the Used.ca application has stopped working or the website has crashed due to showstopper defects.
* Level 2: all components of the Used.ca application can still function with an alternative flow, yet functionality or performance is highly affected;
* Level 3: all components of the Used.ca application can still function with an alternative flow, however some important functionalities in the test flow are impacted.
* Level 4: all major functionalities of Used.ca application are working with some impact on minor functionalities that can be deferred for next build.
* Level 5: end-to end functionality of Used.ca application is working with few cosmetic defects like improper spacing, etc. that has no impact on the functionality and users.

## Test Stages

Each test stage is a discrete form of testing with its own objectives, methods and requirements coverage and therefore a set of its own test scripts.

A coverage matrix of all the Test Stages / Test Areas to be covered in each Test Release is appended below

| Test Areas/ Test Type | Recovery Testing | Interface Testing | Usability Testing | Acceptance Testing | Smoke Testing | Regression Testing |
| --- | --- | --- | --- | --- | --- | --- |
| Functional |  |  |  |  | Yes |  |

## Test Documentation

Following are all the Test documentation that will be delivered during each of the Test Phases and test cycles:

| Document | Phase and cycle |
| --- | --- |
| Test Strategy | Test Planning |
| Test Plan | Test Planning |
| Test Cases | Test Planning |
| Test Execution | Test Case Execution |
| Bug Report | Test Case Execution |

## Test Execution

The test execution will be followed by the approach designed by comparing the actual results with the expected requirements of client.

The execution will be done running the test scripts and recording the results in a test report document. The defects which will pop up should be logged in an excel spreadsheet and sent to developer for further rectifications in the code.

The execution process will be done in a testing environment designed specifically to test the application following the tools defined in the requirements. Also, the testing will be done using the test data pre-processed from the production data to achieve the accuracy of results as the application will behave in real time environment.

The test execution process will be performed at Fanshawe college where all the resources will work together in a team and handle any issues efficiently with mutual understanding.

### Recording Actual Results versus Expected Results

The testing performed will be evaluated based on the Boolean result either “Pass” or “Fail”. The criteria deciding the result to pass the test or fail should be recorded and required to be updated in the test report document.

The test result will be tracked in an excel spreadsheet and should be kept in a shared drive to make it accessible to all the team members.

This test report document should be kept updated on the daily basis comparing the expected vs actual results and evidence supporting the results should also be recorded in an excel spreadsheet.

* the team and should be fixed by mutual decisions.

### Test Execution Roles

The test execution will be divided into small phases and assigned to different team members to keep the testing process on track and complete by the deadline assigned by client.

Below is the resource list with their roles which will be performed during test execution

|  |  |
| --- | --- |
| **Resource Name** | **Role** |
| Meganathan Krishnamoorthy | Automation Tester |

### 

## Entry & Exit Criteria

**Entry Criteria**: It is the criteria in which it is necessary to fulfil some requirements to initiate the project. It is the specific set of conditions which should be met before starting the process.

**Exit Criteria:** It is the arrangement of explicit conditions which allows a procedure to be authoritatively finished in the wake of concurring upon with stakeholders. It is done to keep an undertaking being viewed as finished regardless of whether it is still incomplete, it is utilized to report against and plan when to quit testing.

### Table of Entry and Exit Criteria

|  |  |  |  |
| --- | --- | --- | --- |
| **Sr. No.** | **Phases** | **Entry Criteria** | **Exit Criteria** |
| 1. | Requirements review | * Test team to perform testing * Requirement documents to analyze | * Identify tests to perform in later stage * Classify requirements as functional or non- functional. * Brief testing priorities and focus * Create RTM (Requirements Traceability Matrix) * Recognize and create test environments |
| 2. | Developing test strategy and plan | * Requirements document | * Test Plan * Test Strategy * Test Effort Estimation Document. |
| 3. | Designing test cases | * Requirements document * Test Plan | * Test Cases * Test Scripts (if automation) * Test Data |
| 4. | Test Environment | * Test Plan * Smoke Test Cases * Test Data | * Test Environment ready * Smoke Test Results |
| 5. | Test execution and reporting | * Test Plan documents * Test Cases * Test Data * Test Environment | * Test case Execution Report. * Defect Report. * RTM. |
| 6. | Final Delivery (Test Closure) | * Execution Report. * Defect/ fault Report | * Test closing Report. * Test metrices. |

## Test Results Capture

At the end of each Test Phase, there must be a post-test result review based on the exit criteria of every stage. All the members of the project must meet to discuss the status of the project.

|  |  |  |  |
| --- | --- | --- | --- |
| **Test Stage** | **Expected Result of Exit Criteria** | **Actual Result of Exit Criteria** | **Severity** |
| Smoke Test | Basic Functionality of the Application is working correctly | In-Progress | In-Progress |

**Process to follow for any *divergence between the expected and actual results***

## Progress Reporting

### Test Report

Different types of test reports are generated during test stages to measure the progress of testing. Some of them are generated weekly but Test Completion Sign-Off Sheet is generated at the end of the project. Weekly generated test reports are as follows:

* **Test Completion Report:**
* **Test Execution Report**
* **Defect Status Report**

### Test Completion Sign-Off Sheet

This Sheet depicts that all the project team members agree with final test deliverables of project “Used.ca” initial version. Signatures of the respective authorities prove that all the test stages of the project are successfully completed.

|  |  |  |  |
| --- | --- | --- | --- |
| **Stakeholder** | **Name** | **Signature** | **Date** |
| Quality Analyst | JP DuBouchard |  |  |
| Project Sponsor |  |  |  |
| Project Manager |  |  |  |
| Testing Manager |  |  |  |
| System Analyst |  |  |  |
| Business Analyst |  |  |  |
| Functional Testing Lead |  |  |  |
| Non-Functional Testing lead |  |  |  |

# Test Data

|  |  |
| --- | --- |
| **Test Type** | **Source of Test Data** |
| Smoke Test | Mock Up data |

# Testing Environments

## Specification

### Identification of the physical components, the communications, the system and middleware necessary

Test environment should be setup before the development is completed. Testing should be performed on local server, UAT and production. The application should be deployed on local server first for testing. For this, we need to install Apache tomcat as a acting server in laptop or computer. Physically there should be different servers setup for UAT and production environment.

User.ca test environments are as below:

* Appium Desktop
* Used.ca apk
* Android emulator

The test environments will be updated daily to allow testers test implemented features as soon as possible.

The project manager performs activities to maintain and update test environments.

Formal communication will be done between the team members for testing the build.

Time and date for test execution will be decided by project manager.

### Test tools and utilities required

* Microsoft Excel
* Android Emulator
* Appium Desktop
* Used.ca APK

### Any other testing needs

* Microsoft excel for list of test cases.

# Testing Tools

## Test Automation Tools

The open Source tool **Appium Desktop** will be used to automate the functionality of the system that remains unchanged and to automate smoke Test Scripts.

Pre-Requisites:

* Microsoft Excel
* Android Emulator
* Appium Desktop
* Used.ca APK