Test Plan – UNICOURT: Support SRS Portal

**Revision and Signoff Sheet**

**Document History**

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| Version | Date | Author | Description of Change | Reviewer |
| 1 | 21/08/2023 | Gautham Shenoy | V1.0 | Anonymous |
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**Reference Documents**

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# INTRODUCTION

## Purpose

This test plan describes the testing approach and overall framework that will drive the testing of the “**UNICOURT: Support SRS Portal** “. The document introduces:

* Execution Strategy: Will include Functional and Non-Functional tests to be performed and QA Plans for the testing activities in the overall project schedule, tracks the performance of the test.
* Project team members perform tasks specified in this document and provide input and recommendations on this document.
* The Technical Team ensures that the test plan and deliverables are in line with the design, provides the environment for testing and follows the procedures related to the fixing of defects.

# TEST STRATEGY

## Test Objectives

The objective of the test is to certify “**UNICOURT: Support SRS Portal**” according to the expectations.

The QA Team will execute and verify the test cases, identify & report defects and retest all Blocker and Critical severity defects per the entrance criteria, prioritize lower severity defects for future fixing via CR.

The final product of the test is:

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

## Test Assumptions

### Key Assumptions

* + Functionality should be working as desired w.r.t SRS documentation.
  + Non-Functional testing will be carried out to satisfy 99.99% uptime.

**Unit Testing**

* Unit test report will be sent to QA team before starting functional tests.

**Test Case Writing**

* Test Cases will be written according to SRS Document.
* Test Cases will be reviewed within the team using PEER Review.
* Test Cases will be sent to Project Owners and sign off will be taken before Test Case execution.

**Functional Testing**

* As per sprint planning, modules released will be planned for Test Execution
* Test Cases will be executed in Test Management tool with build created specifically for functional module.

**Browser Specification**

* The portal should work seamlessly in Windows and Macintosh operating systems.
* The portal should support Windows – Chrome, Mac – Chrome and MAC- Safari.

**Non-Functional Testing**

* Performance testing using Apache JMeter will be conducted for User load and Server requests load for agreed on parameters.

**Regression Testing**

* Once all modules are released and certified**, Regression** testing will be done on Portal covering all modules to make sure all verified functionalities are intact.

**UAT Testing**

* After Regression Tests meets exit criteria, build will be released to Staging environment and basic sanity of modules will be conducted by QA team and then delivered to Client for UAT Sign off.

**Production Release**

* After UAT Sign off from Client, Build will be released to Production; basic sanity of modules will be conducted by QA team and then delivered to Client.

## Test Principles

* Testing will be focused on meeting the business objectives and quality.
* Testing will be divided into distinct phases, each with clearly defined objectives and goals.
* There will be entrance and exit criteria.

## Scope and Levels of Testing

### High Level QA activities breakup

PFB high level QA breakup including Functional and Non-Functional activities (as per assumptions made)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **QA Team Breakup** | | | | |
| **Environment** | **Team Definition** | **Items Planned on High Level** | **Team members** | **Tasks Details** |
| **QA** | **Functional Team** | 8 days | Junior - 4 Resource + Senior -1 Resource | 1. Understand requirement and TCs writing: **1 day** 2. Functional testing: **4 days 3.** Retesting: **1 day** [for Bug fixes given]3. Regression Testing: **2 days** |
| **Non-Functional Team** | 4 days | Junior - 2 Resource + Senior - 1 Resource | 1. UI Automation - Script writing and execution: **2 days** 2. Performance Automation - Script writing and execution: **2 days** |
| **Staging** | **Functional Team** | 1.5 days | Junior - 4 Resource + Senior -1 Resource | 1. Sanity testing for all modules- **1 day** 2. Retesting of fixes if any - **0.5 days** |
| **Non-Functional Team** | 2 days | Junior - 2 Resource + Senior - 1 Resource | 1. Performance test script execution: **1 day** 2. UI Automation script execution: **1 day** |
| **Production** | **Functional Team** | 1 day | Junior - 4 Resource + Senior -1 Resource | 1. Sanity testing for all modules: **1 day** |

### High level features for testing

Below features to be tested on high level:

1. Login
2. Authentication using Google auth or Social Login
3. Role access
4. Admin Access
5. Contracts functionality
6. Accounts functionality
7. Reports functionality
8. Dashboard functionality

### QA Validation Cycle

**PURPOSE**: The purpose of this test is to make sure critical defects are identified and fixed during the Functional and Non-Functional tests performed before the system is ready for the customer to start.

**Scope:** The excel sheet above provide details Functional and Non-Functional tests to be conducted by QA team.

**TESTERS**: Entire QA Team.

**TIMING**: Based upon Sprint Planning and Modules Released

#### TEST ACCEPTANCE CRITERIA

1. Test cases written against modules to be reviewed and signed off before functional testing.
2. Dev Unit test report will be required before functional tests will be kicked off.
3. Scope should be defined in JIRA dashboard from Release Management.

#### TEST FLOW

* + 1. Functional testing will be performed only after TCs are reviewed and Unit test report is received.
    2. UI Automation scripts will be written when modules: basic sanity is working.
    3. Performance Test scripts will be written when modules: basic sanity is working.
    4. Regression testing will be performed once all modules are released and certified without any open Blocker/Critical issues.
    5. Test Lead will overview overall progress on Functional and non-functional tests.
    6. Test Lead will send functional and UI Automation: Test Progress Reports on testing progress at regular interims to the required audience during testing from QA environment.
    7. Test Lead will send Sanity Test Reports & Performance and UI Automation Report from Staging environment.

#### TEST DELIVERABLES

|  |  |  |  |
| --- | --- | --- | --- |
| **Si.No** | **Deliverable Name** | **Author** | **Reviewer** |
| 1. | Test Plan | Test Lead | QA Manager |
| 2. | Sanity & Regression Test Report | Test Team | Program Manager |
| 3. | Test Closure report | Test Lead | Program & QA Manager |
| 4. | Performance Report | Test Lead | Program & QA Manager |
| 5. | UI Automation Report | Test Team | Program & QA Manager |

## Automation testing

### UI Automation:

* UI Automation scripts will be written & stabilized against in QA environment.
* UI Automation scripts with minor modification w.r.t Staging environment will be run, and report will be executed.
* Selenium with JAVA using TestNG framework will be used for writing UI Automation scripts

### Performance Test Automation:

* Performance Test scripts will be written & executed with smaller test data in QA Environment.
* Performance Test scripts with desired input will be run against Users and Threads count will be executed in Staging Environment.
* Apache JMeter will be used for Performance tests.

|  |  |  |
| --- | --- | --- |
| **Performance Test against Users Count** | | |
| **No of Users as Input** | **Test Status** | **Analysis** |
| 50 | YetToTest | Provide comments for each run after analysis |
| 100 | YetToTest |  |
| 150 | YetToTest |  |
| 200 | YetToTest |  |
| 250 | YetToTest |  |
| 500 | YetToTest |  |
|  |  |  |
|  |  |  |
|  |  |  |
| **Performance Test against Threads Count** | | |
| **No of Threads as Input** | **Test Status** | **Analysis** |
| 25 | YetToTest | Provide comments for each run after analysis |
| 50 | YetToTest |  |
| 100 | YetToTest |  |
| 150 | YetToTest |  |
| 200 | YetToTest |  |
| 250 | YetToTest |  |
| 500 | YetToTest |  |

## Test Environment

* QA environment will be used for testing functional testing.
* QA environment will be used for executing UI Automation and basic Performance scripts.
* The staging environment will be used for executing UI automation and InDepth Performance tests.

## Risk Analysis

Below are possible risks which are involved:

* Unplanned leaves of team members
* Dev Support for fixing any blocker issues when testing is completely blocked after deploying builds in QA environment.
* QA team members will be working with 100% Bandwidth towards this project.

# EXECUTION STRATEGY

## Entry and Exit Criteria

|  |
| --- |
| **Exit Criteria** |
| 100% Test Cases executed |
| No open Critical and High severity defects |
| 95% of medium severity defects have been closed |
| All expected and actual results are captured and documented with the test cases |
| Test Closure Memo completed and signed off |
| Test environment cleanup completed and a new back up of the environment |

## Validation and Defect Management

Defects found during the Testing will be categorized according to the bug-reporting tool “Jira” and the categories are:

|  |  |
| --- | --- |
| **Severity** | **Impact** |
| 1 (Critical) | * This bug is critical enough to crash the system, cause file corruption, or cause potential data loss * It causes an abnormal return to the operating system (crash or a system failure message appears). * It causes the application to hang and requires re-booting the system. |
| 2 (High) | * It causes a lack of vital program functionality with workaround. |
| 3 (Medium) | * This Bug will degrade the quality of the System. However, there is an intelligent workaround for achieving the desired functionality - for example through another screen. * This bug prevents other areas of the product from being tested. However other areas can be independently tested. |
| 4 (Low) | * There is an insufficient or unclear error message, which has minimum impact on product use. |
| 5(Cosmetic) | * There is an insufficient or unclear error message that has no impact on product use. |

## Test Execution Process

As per Process, final sign-off or project completion process will be followed

## Test Risks and Mitigation Factors

| Risk | Prob. | Impact | Mitigation Plan |
| --- | --- | --- | --- |
| **SCHEDULE**  The testing schedule is tight. If the start of the testing is delayed due to deployment tasks, the test cannot be extended beyond the production scheduled timelines. | High | High | * The testing team can control the preparation tasks (in advance) and the early communication with involved parties. |

## Communications Plan and Team Roster

## 3.7 Role Expectations

The following list defines in general terms the expectations related to the roles directly involved in the management, planning or execution of the test for the project.

| SN0. | Roles | Name |
| --- | --- | --- |
| 2. | Test Lead/Test Manager | Gautham Shenoy |
| 3. | PGM | Anonymous |
| 4. | Development Team | Anonymous |
| 5. | Testing Team | 1.Junior QA - 6  2.Senior QA - 2  3.Lead QA - 1 |

### Test Planning (Test Manager)

* Ensure entrance criteria are used as input before starting the execution.
* Develop test plan and the guidelines to create test conditions, test cases, expected results and execution scripts.
* Provide guidelines on how to manage defects.
* Attend status meetings in person or via the conference call line.
* Communicate to the test team any changes that need to be made to the test deliverables or application and when they will be completed.
* Provide on-premises or telecommuting support.
* Provide functional (Business Analysts) and technical team to test team personnel (if needed).

### Test Team

* Develop test conditions, test cases, expected results, and execution scripts.
* Perform execution and validation.
* Identify, document and prioritize defects according to the guidance provided by the Test lead.
* Re-test after software modifications have been made according to the schedule.
* Prepare testing metrics and provide regular status.

### Test Lead

* Acknowledge the completion of a section within a cycle.
* Give the OK to start the next level of testing.
* Facilitate defect communications between testing team and technical / development team.