SINGLE SIGN ON AUTHENTICATION

**Test Strategy**

**Revision History**

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| --- | --- | --- | --- |
| Date | Version | Author | Description |
| 22/02/202 | V1.0.0 | Banumathy Sankaran | Rough Draft |
| 23/02/202 | V1.0.1 | Banumathy Sankaran | Final Copy |

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# Scope And Overview

The primary goal of the project is to create a sign in page which would replace the old existing legacy sign in page. It is an important page on the site with lots of traffic.

* Regression testing
* Progression Testing
* Proactive monitoring of tests based on the regression scope
* Monitoring the overnight job runs and generate reports based on the runs
* Sanity testing
* Manual Testing for the critical tests not covered by the Automation suite and in situations of tight timelines

**Reviewers and Approvers:**

|  |  |  |
| --- | --- | --- |
| Name | Designation | Role |
| PM1 | Project Manager | Reviewer |
| TM | Test manager | Approver 1 |
| SAT1 | Senior Automation Tester | Approver 2 |
| SAT2 | Senior Automation Tester | Approver 3 |

# Test Approach

1. The process of testing can be defined as follows:
2. Requirement Analysis
3. Converting the requirement into feature files in Gherkin framework in Cucumber
4. Translating the lines of feature files technically to code them in Java programming language followed in the team.
5. Functional review.
6. Technical code review
7. Merging the code into the framework suite after review and approvals.

**Test Level Responsibility:**

Details of the testing levels expected to be applied and who has the primary (P) and the secondary (S) responsibility of performing this testing:

|  |  |  |  |
| --- | --- | --- | --- |
| Test Level | External Party | Project team | Business |
| Unit Testing |  | P |  |
| System Integration Testing |  | P |  |
| User Acceptance testing |  | P |  |
| API Testing |  | P |  |
| Pre-prod Testing |  | P |  |
| Integration Testing | P | S |  |
| Performance testing |  | NA |  |
| Security testing |  | NA |  |
| Production Verification testing |  | S | P |

Test Type:

|  |  |
| --- | --- |
| Test Type | Objectives |
| Progression and regression testing requirements:  SIT and integration testing | The main objectives are   * validate that all software module dependencies are functionally correct * data integrity is maintained between separate modules for the entire solution in the SIT environment * Top down intervention testing to monitor the payment gateway by the use of stubs to mock up the payment gateways |
| UAT | * to test the application from the end users’ perspective to ensure it can handle tasks in the real-world scenarios * to check if data integrity is maintained between separate modules for the entire solution |
| Pre-prod | The system should replicate the exact nature as in production |
| API | To check if the APIs are up and if they provide the exact responses every time they are called. This is checked across SIT, UAT and Pre-Prod environments. |
| Regression testing | To run the suite of tests every time a deployment happens to check if the existing functionality is broken due to the changes in the features |

**Roles and responsibilities:**

|  |  |  |
| --- | --- | --- |
| Role | Assigned To | Responsibility |
| Project manager | PM | Oversees the development and QA process for Single Sign On Authentication |
| Test Manager | TM | Manages and coordinates with all the testers and the team and is the primary point of contact |
| QA Engineer | QA | To manage and track software planning and testing; Execute test scripts and log defects |
| Developer | SE | To carry out unit or code testing |
| Developer | SE | To carry out unit or code testing |
| DevOps Engineer | DEVOPS | To supervise the release, deployments and pipelining |
| Functional/Business Analyst | BA | Determine the requirements and provide data driven recommendations |

# Test Environment

A testing environment is a setup of software and hardware for the testing teams to execute test cases

* OS – Windows 8 or higher
* Browser - IE/Firefox/Chrome
* IDE - Eclipse

# Testing Tools

|  |  |  |  |
| --- | --- | --- | --- |
| **No.** | **Resources** | **Descriptions** |  |
| **1.** | Selenium | Need Selenium as part of Automation to execute Test cases it is a suite of tools that support multiple browsers, environments and can support different programming languages, it is cost effective as well as it is open source tool |  |
| **2.** | Cucumber framework | It is an effective automation framework tool based on BDD (Behavioural Development) that enables the features to be written in Gherkin a language that can be easily understood by the stakeholders who do not have any coding experience |  |
| **3.** | Java JDK Version 8 Update 241 | The perfect Run Time Environment to execute the test scripts that can be platform independent, robust and Object Oriented to create POM model at the framework level |  |
| **4.** | Jira | To manage the Agile Project management by working on the User Stories that leverage the acceptance criteria |  |
| **5.** | Test Rail | Test cases can be managed and maintained in Test rail, also has the ability to give the status of the successful runs |  |
| **6.** | Bitbucket | This is used for Code repository and it can be integrated with CI/CD pipelining tools as well |  |
| **7.** | Jenkins | The job scheduling part can be taken care by Jenkins that supports Cucumber and generated the run results as cucumber report |  |
| **8.** | Sonar Cloud | The cloud-based Service for code analysis that helps in the standardization of the code and   the visibility and transparency of the results can be increased. |  |
| **9.** | Oracle SQL developer | To manipulate with the basic queries in case of any API related failures |  |
| **10.** | Postman | To monitor the API testing to check the requests and the responses between the client and the server by monitoring the collections |  |

# Release Control

* Notifying the release Managers about the test executions so that release Management can be started across the respective environments.

# Risk Analysis

The Risk factors to be analysed while carrying out testing are mentioned as follows:

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Potential Hazard | Who is at risk | Existing Control Measures | Risk Rating | Preventive Measures | Response |
| User data leaked to third party entities | End Users |  | High | Vulnerability scanners can be implemented such as Intruder |  |
| Risky for multi-user computer | End Users |  | High | Can introduce Security testing tools like OWASP to cover Authentication, Authorization, Availability, Confidentiality, Integrity, Non-repudiation | This could be suggested with the required effort for the training in the OWASP tool |
| If one user’s account is hacked the other users are also endangered | End Users | Each customer is forced to have password authentication that is very complex and customers are forced to change passwords every 45 days | High | emphasise penetration testing |  |
| API Not responding | Testing | NA | High | Liaising with Data Base team to be well informed | Satisfactory |
| Shortage of Resources | Testing |  | Medium |  |  |
| Environment Failures in SIT, UAT such as 500 Bad Gateway | Testing and Developing | Liaising with the platform teams | High | Keep informed and updated |  |

# Review and Approvals

|  |  |
| --- | --- |
| Author | Banumathy Sankaran |
| **Reviewed By** | TM |
| **Approved By** | PM |