**Automated Testing for an E-commerce Website**

The purpose of this document is to provide the overall strategy and plan to test out the E-Commerce Website. The Test Strategy and Plans are discussed in detail in the further coming sections of this document.

The progress and updates should be tabulated below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **S.NO** | **DATE** | **DRAFTER** | **UPDATE HISTORY** | **CHECKER** | **APPROVER** |
| 1 | 26-Dec-2023 | MILAN PATEL | INITIAL DRAFT | TEST LEAD | DEV LEAD & STAKEHOLDER. |
|  |  |  |  |  |  |
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# ***Test Strategy***

This section will outline the required strategies that shall be taken into consideration during the Lab testing process.

# Objectives of testing

The main objective of the testing is to have a both manual as well as automated approach to test out the implemented features based on the provided Software Required Specifications document (Document Number/Link) for the E-Commerce Site’s features.

# Scope of testing

* Scope of testing in this stage (Lab Test) shall be limited to Black box testing from end user perspective on PC\Desktop setup only.
* To carry out testing on the E-testing site with both manual and automation approaches.
* This testing shall focus on Functional, Performance and Security of the application.
* Automation Scripts shall be prepared on the 3 critical functionalities.
* Two Browsers compatibility will be checked during the testing (Google Chrome and Microsoft Edge).
* JIRA Xray Tool to be used for the overall testing activity.
* All the Tests will be carried out only on Virtual Machines.

# Testing levels

# Below are the levels of testing planned.

* System Testing (Overall System Testing)

# Testing types

Below are the types of testing to be carried out in this phase.

* Sanity Testing (To be done on Every New Build)
* Functional Testing (3 Critical Scenarios will be automated others will be manual)
* Performance Testing (Load Testing & Memory Leak Check)
* Security Testing
* Regression Testing

# Entry and Exit Criteria

The Lab Test can only be started only when the following Entry Criteria is met.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **ENTRY CRITERIA CONTIONS** | **ACCEPTED BY DEV LEAD** | **ACCEPTED BY LAB TEST LEAD** | **FINAL STATUS/ REMARKS** |
| 1 | All the Integration Test Cases to be passed. |  |  |  |
| 2 | All the defects should be verified and fixed. There should not be any open defects. |  |  |  |
| 3 | Integration Test Report should be reviewed with all stakeholders and should be approved. |  |  |  |
| 4 | System Test Plan should be reviewed and accepted by the Product owner. |  |  |  |
| 5 | Software Required Specification document should be freeze and there should not be any further updates to be done on the same. |  |  |  |
| 6 | System Test Cases Should be reviewed and accepted by the Dev and Test Leads. |  |  |  |

The Lab Test will be terminated if any of the following criteria is met.

* If defects (Software Bugs) logged are 25% of the defects logged during the Unit and Smoke test phase.
* If any Crash or memory leak issue is reported during the performance testing.
* If there is any SEVERE\CRITICAL data breach security issue during the Security testing phase.

The Lab Test Shall be considered complete based on the following Exit Criteria.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **EXIT CRITERIA CONDITION** | **ACCPETED BY TEST LEAD** | **ACCEPTED BY DEV LEAD** | **ACCEPTED BY PRODUCT OWNER** |
| 1 | All the test cases should be PASSED (MANUAL) |  |  |  |
| 2 | All the test cases should be PASSED (AUTOMATION) |  |  |  |
| 3 | All the logged Defects should be accepted and FIXED. |  |  |  |
| 4 | Lab Test Report Should be reviewed & accepted by the stakeholders. |  |  |  |

# Test Environment and Tools

The entire Lab Test to be carried out on the following test environment and the tools to be used along with are tabulated below.

# Environment Details

**Environment 1: (To be acting as a client for accessing the application in local browsers)**

|  |  |
| --- | --- |
| **REQUIREMENT** | **SPECIFICATION** |
| Operating System | Windows 11 Pro (64-Bit) English-UK Build 23H2. |
| RAM Capacity | 8 GB |
| Hard Disk Capacity | Minimum of 100 GB |
| PROCESSOR Specs (NON-GPU) | Minimum of Intel i3 11th Gen QUAD Core Processor |
| OTHER SOFTWARES | 1. Adobe Acrobat Reader v20.1.2 2. Microsoft Office 365 English-UK. |
| BROWSER | 1. Google Chrome (Latest Version). 2. Microsoft Edge (Latest Version). |

**Environment 2: (To be acting as a Server for hosting the application)**

|  |  |
| --- | --- |
| **REQUIREMENT** | **SPECIFICATION** |
| Operating System | Windows Server 2022 (64-Bit) English-USA OS Build 20348.2159 |
| RAM Capacity | 12 GB |
| Hard Disk Capacity | 500 GB |
| PROCESSOR Specs | Intel i5 12th Gen CPU with Octa Core Processor. |
| GPU Details | Nvidia RTX 40 4GB (Toolkit version 474.14) |
| OTHER SOFTWARES | 1. Adobe Acrobat Reader v20.1.2 2. Microsoft Office 365 English-UK. |
| BROWSER | Google Chrome (Latest Version) |

# Tools

|  |  |
| --- | --- |
| **PARTICULARS** | **DETAILS** |
| JIRA (XRAY Tool) | For Test Management:  All Test Plans, Cases, Defect logging and Test Execution to be created, tracked, and maintained on this platform. |
| Confluence Repo (Bitbucket) | Test Automation Script to be maintained here along with other Readme Files. |
| Automation Tool | Ranorex Studio |
| Security Testing Tool | Vex Tool |
| Performance Testing Tool | Postman |
| API Testing Tool | Postman |

# Risk analysis

Below are the identified risks which can impact the overall execution and respective mitigations are also tabulated.

|  |  |  |
| --- | --- | --- |
| **S.NO** | **RISKS** | **MITIGATION PLAN** |
| 1 | New Major Requirement/Feature to be included in the Application. | Scheduled must be adjusted after understanding the complexity of the required new feature. |
| 2 | Unavailability of Resources | To be managed by Dev Lead and Test Lead. |
| 3 | Server unexpected\maintenance downtime. | To be supported by IT-Team at the earliest. |

# ***Test Plan***

This Section covers the actual plan to be followed during the testing process. In depth explanation of the same is given the respective headings below.

# Test deliverables

The following deliverables shall be the final outcomes of the testing activities to be performed on the E-Commerce Site.

* Test Plan Document (Link)
* Automation Scripts (Link)
* JIRA – Test Cases (Link)
* JIRA – Test Dashboard (Link)
* Test Report Document (Link)

# Test schedule

This Lab test shall be conducted based on the below efforts to be consumed.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **S.NO** | **PARTICULARS** | **PLANNED START DATE** | **PLANNED END DATE** | **ACTUAL START DATE** | **ACTUAL END DATE** | **PLANNED EFFORTS (Hrs)** | **ACTUAL EFFORTS (Hrs)** |
| 1 | Test Plan Draft & Review |  |  |  |  | 8 |  |
| 2 | Test Cases Design & Review |  |  |  |  | 16 |  |
| 3 | Test Data Preparation |  |  |  |  | 8 |  |
| 4 | Test Environment Setup |  |  |  |  | 8 |  |
| 5 | Automation Script Design |  |  |  |  | 24 |  |
| 6 | Test Execution |  |  |  |  | 40 |  |
| 7 | Test Report Review |  |  |  |  | 4 |  |
| 8 | Total Efforts Consumed |  |  |  |  | 108 |  |

# Test resources

The below tabulated personnel shall be part of the testing activity for the E-Commerce Site along with their individual roles and responsibilities.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S.NO** | **NAME** | **DESIGNATION** | **RESPONSIBILITY** | **CONTACT** |
| 1 | MR. A | PRODUCT OWNER | Outlines the user stories and explains it to the team. Tracks the test progress. | [a@abc.com](mailto:a@abc.com) |
| 2 | MR.B | SCRUM MASTER | Conducts review/progress meetings and JIRA Administrator. | [b@abc.com](mailto:b@abc.com) |
| 3 | MR.C | DEV TEAM LEAD | Defect fixing and Build Release. | [c@abc.com](mailto:c@abc.com) |
| 4 | MR.D | TEST TEAM LEAD | Test Cases, Plan and Strategy Review and Managing. | [d@abc.com](mailto:d@abc.com) |
| 5 | Mr. Milan Patel | TESTER | Test Cases Design, Test Execution and Reporting. | [Milan.patel@abc.com](mailto:Milan.patel@abc.com) |
| 6 | Mr. E | SECURITY TESTER | Security Testing and Reporting. | [e@abc.com](mailto:e@abc.com) |
| 7 | Mr.F | IT-TEAM | For IT Support | [F@abc.com](mailto:F@abc.com) |

# Test data

All the required Test Data are maintained at the below links.

* Different User Configuration (Link)
* Different Product List (Link)
* Various Payment Details (Link)

# Environment setup

Environment Setup to be done as per the following.

* Virtual Machines to be used which shall be hosted on inhouse VMware’s EXsi Servers.
* Two virtual machines shall be created and used throughout the testing activity. One shall act as a Client with the described Client Configuration and the other with the Server Configuration for the E-Commerce Site.

# Test Execution

Overall Test Progress Can be viewed from the below JIRA Xray Link.

* Test Progress **(LINK)**

# Reporting

* Test Progress shall be discussed with the team on daily basis.
* Weekly Team lead meetings shall be scheduled.
* Monthly Meeting to be scheduled with the respective Stakeholders.
* Test Final Report Document to be maintained at the following (**Link)**