**Test Strategy**

**Revision History**

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| Date | Version | Author | Description |
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# Scope

**Document to be Viewed and Reviewed by: The Panel Members**

This project is to develop online shopping site for users to buy gifts from based on pre-selected gifts and other options. The user will be able to search, wishlist and purchase products from the website. The website also has access to the contact details of customer care and social media pages for the users to follow up easily.

Testing done on this website are unit testing, integration testing, authentication testing and performance testing .Unit testing done to check the functionality of each feature and if they are working properly and giving the expected results that the client asked for. Integration testing done to check the working of all the individual units together. Performance testing is done to check the speed at which the website will give response to the user while using in real world situations.

Scope of this document is to include all the stages of testing and types of testing done on the developed website. This document also includes the details and environment in which the application has been tested. The tools , requirements, risk analysis of defects and bugs found also mentioned in this document. By reviewing this document the functionality and correctness of the application can be known which is the main goal of testing an application.

# Test Approach

Process of testing:

* Test the individual units of the developed website (unit testing)
* Test the working of all the units together(Integration testing)
* Test the speed and response of the website interacting between one page to another.

Roles and responsibilities:

|  |  |
| --- | --- |
| Type of Testing | Team members responsible |
| Unit Testing |  |
| Integration Testing |  |
| Performance Testing |  |

## Unit testing

|  |  |
| --- | --- |
| Test Phase Purpose | The purpose is to verify the functionality of individual functions in the website |
| Test Items | Individual function units |
| Scope | All the individual units of the website like login, create account, add to cart, search bar etc. |
| Entry Criteria | Compiled, locally built source code committed by a developer to an integration build |
| Exit Criteria | Unit test coverage satisfies the target level. A tests run detects no errors |
| Test Automation Approach | Fully automated using a unit test frameworks and mocking libraries selected by the application team in our we are using selenium, cucumber. |
| Test Methods | * Control flow and data coverage * Test Driven Development |
| Responsible | Developers |

## Integration testing

|  |  |
| --- | --- |
| Test Phase Purpose | The purpose is to assure that functional and non-functional requirements specified at the level of entire application are met |
| Test Basis | * System Requirements Specification and other application level specifications, * Performance measurements baseline |
| Test Items | Developed website |
| Scope | All areas of the website |
| Entry Criteria | * Requirements to be verified are approved * An integration build of the application that implements new/changed requirements and/or bug fixes passes unit tests and static analysis and has code review issues resolved * Specification of the target deployment environment (hardware, software – OS, databases, browsers, cooperating systems) is approved * The environment that facilitates the tests is set up |
| Exit Criteria | * Tests that cover all requirements pass * Regression tests pass * All defects are addressed: re-tested and closed or postponed in a defect tracking system * Test reports are available and reviewed |
| Test Automation Approach | * A subset of functional tests should be automated for regression testing run after an integration build * Additional test cases could be automated for data-driven testing * Test tools usage for performance tests * Test tools usage for testing web services |
| Test Methods | Black-box test methods are used, such as boundary values tests, positive/negative tests, state based testing, operational profiles, etc. |
| Responsible | Testers |

## Performance testing

|  |  |
| --- | --- |
| Test Phase Purpose | The purpose is to verify the response time and fluidity of the developed application |
| Test Items | Developed website |
| Scope | Whole website and interaction between different components |
| Entry Criteria | Completely working website without any bugs and errors |
| Exit Criteria | The response time and working of the website meets the minimum requirement criteria. |
| Test Automation Approach | Fully automated using a unit test frameworks and mocking libraries selected by the application team in our we are using selenium, cucumber |
| Test Methods | * Load testing * Stress testing |
| Responsible | Testers |

# Test Environment

**Hardware Specification:**

|  |  |
| --- | --- |
| Processor Name | Intel(R) Core(TM) i5-3470S CPU @ 2.90GHz 2.90 GHz |
| Memory | 8 GB RAM |

System type 64 bit

HDD 500 GB

Display resolution 1920\*1080 pixels

**Software Specification:**

Operating System: Windows 10 Pro

Browser: Google chrome, Microsoft Edge

**Network specification:**

Connection type: WiFi

Connection speed: 30 mbps

Connection bandwidth: 2.4ghz

# Testing Tools

Testing tools required by the tester to carry out all the phases of testing.

1. Eclipse IDE - To write automation scripts to test out all functionalities of the developed website
2. Selenium- selenium uses the scripts that the tester writes and automates them reducing the time in testing.
3. Cucumber framework- To automate the testing in BDD way to make everyone understand the flow of the testing process
4. Testng- To order and manage the flow of execution of the test cases
5. Log 4j- To write logs during execution of the product which will help the tester to identify the place where bugs or error exists and to make reporting easier.
6. Jenkins – To schedule and implement the scripts continuously
7. Git- To upload the project code and configure it in Jenkins

# Release Control

* Release management plan with appropriate version history that will make sure test execution for all modification in that release

# Risk Analysis

**Risk 1: Writing review**

While testing we found out that a user needs to enter only his/her email to write a review about a product. This can lead to fake reviews and unnecessary bad reviews about a product.

Plans to avoid the risk :

When a user wants to write a review about a product the website must ask the user to login to his/her account and verify the purchase of the product to ensure a fair review.

**Risk 2: Return policy and exchange policy**

While testing we found out that if a user purchases a product that is eligible for exchange/return the user doesn’t know the terms and conditions of the exchange/return which will lead to confusion and satisfaction of the user will be affected.

Plans to avoid risk:

When a user purchase that is eligible for return and exchange the user must be presented with the terms and conditions about the return and exchange policy so that it’ll reduce the confusions and give a better shopping experience.

# Review and Approvals

The developed software has been tested and all the errors and bugs found have been rectified. Risks in the application have also been identified and plans to avoid them have been mentioned in the document

**Approvals:**

**Business team Development team System administration**

**Date: 22/11/2021**

**Day: Monday**