**Testing Phase**

Introduction

Software Testing is an empirical investigation conducted to provide stakeholders with information about the quality of the product or service under test, with respect to the context in which it is intended to operate. Software Testing also provides an objective, independent view of the software to allow the business to appreciate and understand the risks at implementation of the software. Test techniques include, but are not limited to, the process of executing a program or application with the intent of finding software bugs. It can also be stated as the process of validating and verifying that a software program/application/product meets the business and technical requirements that guided its design and development, so that it works as expected and can be implemented with the same characteristics. Software Testing, depending on the testing method employed, can be implemented at any time in the development process, however the most test effort is employed after the requirements have been defined and coding process has been completed.

Unit Testing

The primary goal of unit testing is to take the smallest piece of testable software in the application, isolate it from the remainder of the code, and determine whether it behaves exactly as you expect. Each unit is tested separately before integrating them into modules to test the interfaces between modules. Unit tests are typically written and run by software developers to ensure that code meets it design and behaves as intended. Its implementation can vary from being very manual (pencil and paper) to being formalized as part of build automation.

Integration Testing

Integration testing is a software development process in which program units are combined and tested as groups in multiple ways. This can expose problems with the interfaces among program components before they occur in the real world. There are 2 major ways of carrying this out called bottom up and top down methods. Bottom up begins with unit testing followed by tests on progressively higher level combinations. In top-down integration testing the highest level modules are tested first and then progressively lower ones.

Validation Testing

At the validation level, testing focuses on user visible actions and user recognizable output from the system. Validations testing is said to be successful when software functions in a manner that can be reasonably expected by the customer. Two types of validation testing: Alpha testing is simulated or actual operational testing by potential users/customers or an independent test team at the developers' site. Alpha testing is often employed for off-the-shelf software as a form of internal acceptance testing, before the software goes to beta testing. Beta testing comes after alpha testing. Versions of the software, known as beta version, are released to a limited audience outside of the programming team. The software is released to groups of people so that further testing can ensure the product has few faults or bugs. Sometimes, beta versions are made available to the open public to increase the feedback field to a maximal number of future users.

**Test Cases**

General Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| S.no | Test Cases | Status | Remarks |
| 1 | Navigation between pages | Pass |  |
| 2 | No Broken Links | Pass | Cart Page was not working earlier as there was problem with a missing tag in PHP code. Problem Solved now |
| 3 | Images clearly visible | Pass |  |
| 4 | All the text are visible and aligned properly | Pass |  |
| 5 | Search for more relevant products | Failed | Feature not added |
| 6 | Filtering | Failed | Feature not added |
| 7 | Product count | Pass |  |
| 8 | Sign Up page properly working | Pass | Error message for invalid login was not appearing on screen earlier. Problem is fixed now. |
| 9 | Successful Logout | Pass | User session was not working properly. Logout session was not applied. Problem fixed now. |

Product Buy Test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| S.no | Test Cases | Status | Remarks |
| 1 | User can select desired product | Pass |  |
| 2 | User can add one or more products to cart | Pass | Stock is limited so user can buy only one piece per product |
| 3 | User can buy without registration | Failed | Compulsory registration and login needed to buy products. Searching through products can be done without login. |
| 4 | Managing payment and delivery options properly | Failed | Payment portal not added |
| 5 | Cart cleared after successful order | Failed | Payment portal not added, hence cannot order. |
| 6 | Confirm Order only after addition of products to cart. | Pass |  |
| 7 | Products from cart can be removed | Pass | Remove option was not working.  Problem solved now. |

User Registration and login test Cases

|  |  |  |  |
| --- | --- | --- | --- |
| S.no | Test Cases | Status | Remarks |
| 1 | Cannot skip mandatory field while registration or login | Pass | Field required message printed if not filled. |
| 2 | Validation of email id, password and phone number | Pass | If user uses invalid email format or phone number, error message is displayed. |
| 3 | Clicking submit button after entering all the required fields submits data to the server. | Pass |  |
| 4 | Security of user profile | Pass | Password is stored in hashed format. |
| 5 | Password matching for user session | Pass | Incorrect email or password message is printed if incorrect data is entered. |
| 6 | Duplicate Registration not allowed | Pass | Registration can be done only once with an email id. |
| 7 | Entering blank spaces in mandatory fields lead to violation | Pass | Improper format message displayed. |