# *Health Hub E-commerce Website - Test Automation Project*

***Test Plan:-***

## *1. Objective*

*The objective of this project is to develop an automated testing framework for the Health Hub E-commerce website using Selenium WebDriver following the Page Object Model (POM) design pattern. The framework will integrate* ***Extent Reports*** *for detailed execution reports, including pass/fail/skip statuses, screenshots, and logs.*

## *2. Scope of Testing*

### *2.1 Features to be Tested*

* ***Homepage:***
  + *Navigation to different categories.*
  + *Banner validations.*
  + *Category redirection.*
* ***User Authentication:***
  + *Login and signup functionalities with valid/invalid data.*
* ***Search and Filtering:***
  + *Product search functionality.*
  + *Product filtering (price, brand, rating).*
  + *Product sorting (low to high, high to low, popularity).*
* ***Product Details:***
  + *Product description validation.*
  + *Add to Cart functionality.*
* ***Cart and Checkout:***
  + *Add/Remove/Update product quantities.*
  + *Discount application validation.*
  + *Guest checkout and registered user checkout flows.*
* ***Contact Us Page:***
  + *Submission of the feedback form.*
* ***Footer Links:***
  + *Navigation to "Terms of Use," "Privacy Policy," etc.*

### *2.2 Features Not to be Tested*

* *Backend database integration.*
* *Third-party payment gateway functionality.*
* *Mobile responsiveness or cross-browser UI testing (only functionality will be tested).*
* *Email or SMS notifications post-purchase.*

## *3. Test Environment*

* ***Operating System:*** *Windows 11*
* ***Browsers:*** *Google Chrome*
* ***Automation Tool:*** *Selenium WebDriver (Java)*
* ***Build Tool:*** *Maven*
* ***Reporting:*** *Extent Reports*
* ***Test Framework:*** *TestNG*
* ***Version Control:*** *GitHub*
* ***IDE:*** *Spring Tool Suite*

## *4. Testing Tools and Resources*

* *Selenium WebDriver*
* *Extent Reports*
* *TestNG*
* *Maven*
* *GitHub (for code versioning)*
* *Java SDK*
* *ChromeDriver*

## *5. Deliverables*

* *Automated test scripts for all identified test cases.*
* *Extent HTML Reports (with screenshots for failed tests).*
* *Test Plan Document.*
* *Test Scenarios and Test Cases Document.*
* *Bug Report Document.*
* *Test Summary Report.*
* *Mind Map of Testing Process.*

## *6. Risks and Mitigation Plan*

| ***Risk*** | ***Impact*** | ***Mitigation*** |
| --- | --- | --- |
| *Changes in Website UI* | *High* | *Implement Page Object Model to minimize impact on scripts.* |
| *Unstable Website during Testing* | *Medium* | *Plan testing on stable builds and report issues to the development team.* |
| *Browser Compatibility Issues* | *Low* | *Perform basic validation on Chrome initially. Future scope can include cross-browser.* |

## *7. Entry Criteria*

* *Website under test is fully deployed on the QA environment.*
* *Test data is prepared and available.*
* *Selenium, Maven, TestNG, Extent Reports setup is completed.*

## *8. Exit Criteria*

* *All critical test cases are automated and executed.*
* *No critical or high-priority defects remain open.*
* *Extent Report is generated and validated.*
* *Final test summary report delivered.*

## *9. Roles and Responsibilities*

| ***Role*** | ***Responsibility*** |
| --- | --- |
| *Test Automation Engineer* | *Develop Selenium scripts, Implement POM, Configure Extent Reports, Execute test cases.* |
| *QA Lead* | *Review test plan, scenarios, and final deliverables, Track defects, Ensure testing is on schedule.* |
| *Project Manager* | *Manage resource allocation, Monitor progress, Handle risks.* |

## *10. Test Schedule*

| *Task* | *Start Date* | *End Date* |
| --- | --- | --- |
| *Environment Setup and Framework Development (POM + Extent Reports)* | *Day 1* | *Day 1* |
| *Writing and Automating Core Test Cases* | *Day 2* | *Day 3* |
| *Test Execution and Bug Logging* | *Day 4* | *Day 4* |
| *Report Generation, Review, and Final Delivery* | *Day 5* | *Day 5* |

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## *11. Acceptance Criteria*

* *All automated scripts must execute without errors on the defined test environment.*
* *Extent Reports must capture detailed step-by-step execution logs.*
* *Screenshots must be attached for all failed test cases.*
* *No critical or major functional bugs should remain open at project closure.*
* *Test coverage of at least 90% on the identified features.*

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