SDET - Capstone Project & Evaluation criteria Group - A

Introduction

Project Title: <https://bstackdemo.com/ >

BrowserStackDemo is a web-based application designed to demonstrate the functionalities and capabilities of an e-commerce platform. This application serves as a testing ground for various testing tools and strategies, enabling users to interact with a simulated shopping environment. It features a range of products, a shopping cart, and a checkout process, allowing users to experience a complete e-commerce workflow.Problem Statement & Expectation .

Problem Statement:

BrowserStack Demo is an electronic shopping portal, where users log in to browse by vendors or sort products by price. Users can add items to their cart or favorites, edit orders, and remove items in the cart. They can proceed to payment by clicking the Check Out button, entering shipping credentials, and submitting the order to download the receipt.

Objective:

The central aim of this capstone project is to construct a durable and streamlined test automation framework work for evaluating the E-commerce/learning store.The framework ingreates Selenium,TestNG,Cucumber,Apache POI,a hybrid methology,and advanced reporting tools

Project Components:

1. Test Case Design
2. Test Automation Framework Development
3. Test Execution
4. Reporting
5. Documentation

Project Requirements

1. **Test Case Design**
   - Identify and document test scenarios and test cases**:** Determine which scenarios and cases need automation.
   - Describe test scenarios**:** Use either the Page Object Model design pattern with TestNG or BDD(Behavior-Driven Development) style feature files to detail scenario
   - Prioritize test cases**:** Focus on critical functionality and coverage to prioritize which tests to automate first.

1.1.Test Case Requirement

- Browserstack URL
- Sign In
- Username Field
- Password Field
- Valid Login
- Invalid Login
- Vendors
- Apple

- Samsung
- Google
- OnePlus
- Oder By
- Highest to Lowest
- Test Favorites button
- Add to Favorites
- Add to cart
- Remove the product from cart
- Increase Quantity
- Decrease Quantity
- Checkout
- Shipping Details
- Submit
- Downloaded Receipt
- Continue Shopping
- View orders
- Offers
- Logout

2. Test Automation Framework Development

2.1.Framework Architecture

- Implemented a hybrid automation testing framework that combines Data-Driven and POM /BDD approaches.
- Using Page Object Model (POM) design pattern to maintain the test object repository.
- Structure the framework with modularity and scalability in mind.

2.2.Selenium & TestNG Integration

- Integrated Selenium WebDriver for web automation.
- Using TestNG for test case management, execution, and reporting.

2.3Data-Driven Testing

- Using Apache POI to read test data from Excel files.
- Parameterize test cases to run with different data sets.

3.API Automation Framework Development

3.1.Framework Architecture

- Implemented a hybrid API automation testing framework that combines different testing approaches, such as integration, functional
- Structure the framework with modularity and scalability in mind.

3.2.Rest Assured

- Using Rest Assured GET method we are retrieving the information from URL

4. Test Execution

- Executed the automated test cases on different browsers and platforms.
- Implementing test suites to group and manage test cases effectively.
- Handle exceptions and errors gracefully during test execution.

5. Reporting

- Implementing advanced reporting using tools like Extent.
- Generate comprehensive test execution reports with detailed insights into test results, includingscreenshots and log files.
- Ensure that reports are visually appealing and easy to interpret.

6. Documentation

- Create clear and concise documentation for your automation framework.
- Include setup instructions, usage guidelines, and troubleshooting information.
- Provide documentation on how to run the automated tests, generate reports, and interpret theresults.

Project Deliverables

- Complete Automation Testing Framework.
- Test cases automated according to the defined scenarios.
- Execution reports using Extent.
- User documentation for the framework and reporting tools.

Evaluation Criteria:

Functionality Testing:

- Completeness of features (Login,Home Page ,Add Favorites,Checkout, Downloaded Receipt,View Orders).
- Accuracy and reliability of each feature.
- Error handling and user feedback mechanisms.

Usability Testing:

- User interface design and ease of navigation.
- Clarity of instructions and information.
- User experience consistency across different devices and screen sizes.

Performance Testing:

- Load times and responsiveness under varying traffic conditions.
- Speed of transactions and updates within the app.
- Resource usage efficiency.

Compatibility Testing:

- Consistent performance across multiple browsers (Chrome, Firefox, Edge).

Project Timeline:

Start Date:12-06-2024
End Date:20-06-2024

Submission Guidelines:

- Submit your project code and documentation as a zip file or through a version control repository
  (GitHub Link: **https://github.com/TT1312/Wipro-CapStone-Project.git**).
- Ensure that all code and documentation are well-organized and clearly labeled.

Conclusion:

The BrowserStackDemo project successfully demonstrates a robust and comprehensive e-commerce platform suitable for testing various aspects of web applications. Through meticulous functional, usability, performance, compatibility, it provides valuable insights into ensuring an optimal user experience and system reliability. The detailed documentation supports users in effectively navigating and utilizing the platform, making it a powerful tool for testing and improving web-based applications. This project serves as a benchmark for future developments in e-commerce testing, contributing to higher standards of quality and performance in the industry.