**TEST PLAN**

# **Test** **Objectives**

The primary goal is to ensure that the Automation Exercise application meets all functional and non-functional requirements. Specific objectives include:

* **Functional Validation**: Verify that all user interactions such as User registration, User login, Product Management, Checkout and Additional functionality are functioning as per requirements.
* **Usability Testing**: Ensure that the user interface is intuitive and meets the needs of end-users, focusing on navigation, accessibility, and consistency.
* **Cross-Browser Compatibility**: Confirm that the application performs correctly across different web browsers (e.g., Chrome, Firefox, Edge).
* **Automation Coverage**: Build Cypress test scripts to automate key test cases for faster regression testing in future releases.
* **Security Testing**: Basic validation of security vulnerabilities like input validation.
* **Regression Testing**: Ensure that code updates do not break existing functionality.

# **Scope and Boundaries**

## **Scope of Testing**

### **Functional Testing**

* + - **User Registration Flow**: Test the user registration process, including error handling scenarios (e.g., incorrect form inputs, missing fields).
    - **Login/Logout Flow**: Verify user login with valid and invalid credentials, session management, and logout functionality.
    - **Product Management:** Test product search and filtering functionality, ensuring relevant results appear correctly. Verify adding/removing items from the cart, updating quantities.
    - **Cart & Checkout**: Verify the products added in Cart are correctly displayed and user can perform checkout functionality. Ensure the payment gateway works as expected, including successful and failed payments.
    - **Additional Functionality:** verify Subscription, contact form and user is able to download invoice after purchase order.

### **Automation Testing (Using Cypress)**

* + - **Automate critical user journeys**:
      * User Registration
      * User Login

### **Cross-Browser Testing**

* + - Ensure application behavior is consistent across the following browsers:
      * Chrome (latest version)
      * Firefox (latest version)

### **Regression Testing**

* + - After each round of bug fixes or code changes, run the Cypress automated tests along with manual testing to ensure no existing functionality has been broken.

## **Boundaries**

#### **Out of Scope**

* Verifying profile information, changing passwords, and viewing order history.
* No performance testing.

# **Risk Assessment and Prioritization**

## **Risk Identification**

### **Technical Risks:**

* + - Automation Delays: Cypress setup or script failures could delay automation testing.
    - Cross-Browser Inconsistencies: Differences in rendering between browsers (e.g., Firefox vs. Chrome) may require more time to address.

### **Business Risks:**

* + - High-Severity Defects: Critical defects in the payment processes could be delayed if not identified and resolved early.
    - TimeConstraints: With only 5 days for testing, time management is essential to ensure all major functionalities are tested.

### **Operational Risks:**

* + - **Environment Issues:** Limited access to test environments could cause delays if deployment or configuration issues arise.
    - **Dependencies:** Delay in fixing bugs by the development team could impact regression testing and the overall timeline.

## **Risk Mitigation**

### **Automation Risks:**

* + - Prioritize automating the most critical user flows early in the testing cycle (registration, login).

### **Business & Functional Risks:**

* + - Focus initial manual testing on high-priority areas.
    - Ensure any discovered high-priority defects are fixed and re-tested immediately.

### **Operational Risks:**

* + - Ensure all necessary environments are ready before testing starts to avoid delays.
    - Maintain close communication with developers for faster bug fixes and retesting.

## **Priority Areas**

### **High Priority:**

* + - Automation of key flows (login, registration).
    - Manual testing of critical functionality (User registration, User login, Product Management, Checkout).
    - Cross-browser testing on Chrome and Firefox.
    - Regression testing after any major bug fixes.

### **Medium Priority:**

* + - Cross-browser testing on Edge and Safari.

### **Low Priority:**

* + - Testing older browsers and devices.