Test plan Documentation - parts unlimited

1 Introduction

1.1 Purpose

The purpose of this document is to outline the test plan for the *PartsUnlimited* application. This document specifies the testing approach, scope, objectives, and deliverables to ensure the application meets the specified requirements and provides a seamless user experience.

1.2 Scope

The *PartsUnlimited* application is an e-commerce platform that enables users to search, browse, and purchase automotive parts. The testing will focus on validating core functionalities, ensuring seamless user interactions, and verifying performance, security, and reliability.

1.3 Objectives

- Verify that the application meets functional and non-functional requirements.
- Identify and resolve defects before release.
- Validate compatibility across supported platforms and devices.

1.4 References

- Requirements Document: [PartsUnlimited Functional Requirements Document]
- UI Design Document: [PartsUnlimited Wireframes]
- Test Case Repository: [Azure DevOps Test Suite]

2. Functional Overview

The system is divided into several modules. The testing will cover the following:

- **User Account Management**: Registration, login, password recovery, and profile updates.
- **Product Search and Browse**: Search by keywords, categories, and filters.
- **Shopping Cart and Checkout**: Add/remove products, apply discounts, and complete transactions.
- **Order Management**: View order history, order tracking, and cancellation.

3. Functional Requirements for Testing

Automation Test cases Allocation:

Feature/Requirement	Description	Allocate To
User Registration and Login	Users must register and log in to access features.	Jeevana
Product Search	Users can search products by name, category, or SKU.	Divya
Add to Cart	Users can add products to their shopping cart.	Madhumita
Navigation Bar	All the navigation bar related activities	Jayaaksharaa
Home page	User can see all the contents in the home page	Anudharshini

4. Non-Functional Requirements for Testing

1. **Performance**- Application must handle 100 concurrent users without performance degradation.

2. **Security** - Data must be encrypted during transactions (e.g., HTTPS, secure payment gateways).

3. **Usability-** The application must provide an intuitive and user-friendly interface.

4. **Compatibility-** The application must work on major browsers (Chrome, Edge, Firefox, Safari) and devices.

5. *Test Approach*

5.1 Test Levels

- **Integration Testing**: Validate interactions between different components and modules.
- **API Testing:** Validates the functionality of the API to ensure it performs as expected based on the defined requirements.
- **System Testing**: Comprehensive testing of the entire application.
- **User Acceptance Testing (UAT)**: Validates the application meets business requirements.

5.2 Test Types

- **Functional Testing**: Validate features work as expected.
- **Regression Testing**: Ensure changes do not introduce new defects.
- **Performance Testing**: Validate speed, responsiveness, and stability.
- **Security Testing**: Identify vulnerabilities and verify data protection.

5.3 Test Tools

i. Test Management Tools:

a. JIRA – For agile planning, issue tracking, and team collaboration.

ii. Automation Tools:

a. Selenium – For UI automation and browser compatibility checks.

b. Postman – For API testing and validation.

c. JMeter – For simulating concurrent users and assessing performance.

d. LoadRunner – For enterprise-grade performance and scalability testing.

5.4 Test Schedule

Phase	Start Date	End Date
Test Planning	2025-05-14	2025-05-15
Interface creation	2025-05-16	2025-05-19
Testcase Creation	2025-05-20	2025-05-22
Test Implementation	TBD	TBD
Verify Testcase	TBD	TBD
Test Completion	TBD	TBD

6. Test Environment

Environment component	Specification
Hardware	Windows/Mac/Linux machines with 8GB RAM and SSD storage.
Operating Systems	Windows 10/11, macOS, Android, iOS.
Browsers	Chrome (latest), Firefox (latest), Edge, Safari.

7. *Risks and Assumptions*

Risks

- Delays in feature development may impact test execution timelines.
- Test environment availability issues may hinder testing progress.

Assumptions

- Requirements are stable and finalized before testing begins.
- Adequate time will be allocated for fixingand retesting defects

8. *Test Deliverables*

- Test Plan Document (this document).
- Test Cases and Test Execution Report.
- Bug Reports.
- Final Test Summary Report.

9. Test Schedule

Total time = 5*7=35 hrs

Action	ExpectedTime (hrs)	Remaining Time(hrs)	Allocate to	Day
UAT Test cases	3.5	31.5	All	Monday
Project set up, Environment	1.5	30	All	Monday
Automatio n Test cases	15	15	All	Monday- Wednesday
Api testing	6	9	Any 2 members	Wednesday
Performance testing	6	3	Remaining members	Thursday- Friday
Project Review C Presentation	3	-	All	Friday

10. Approval

Role	Name
Project manager	Suresh nanjan
QA Testers	Anudharshini Kamaraj
	Divya Senthilkumar
	Jeevana Selvan
	Jayaaksharaa Mohanraj
	Mathumithaa Pugalendhi