# Software Test Plan (STP)

**Project:** E-commerce Software (Mini Flipkart)  
**Version:** 1.0  
**Authors: Nahush P Shetty, Machiraju Karthikeya, Gururaja Rao, Krishna Venkatesh**  
**Date:** 08-09-2025  
**Status:** Sample / Draft

## 1. Introduction

Purpose: This document defines the test plan for the Mini Flipkart E-commerce System v1.0. It outlines the objectives, scope, strategy, resources, schedule, and responsibilities for testing.

Scope: Testing encompasses all core functionalities of the Mini Flipkart system as defined in the SRS, including user management, product catalog, shopping cart, order processing, and seller/admin dashboards. This also includes non-functional requirements such as performance, security, and usability.

References: SRS for E-commerce Software (Mini Flipkart) v1.0, Design Specifications, PCI-DSS, WCAG 2.1 AA.

Definitions:

* SRS: Software Requirements Specification
* STP: Software Test Plan
* UAT: User Acceptance Testing
* API: Application Programming Interface
* PCI-DSS: Payment Card Industry Data Security Standard
* WCAG: Web Content Accessibility Guidelines

## 2. Test Items

* User Authentication and Registration Module
* Product Catalog and Search Module
* Shopping Cart and Wishlist Module
* Order Management and Payment Module
* Seller Dashboard and Product Management Module
* Admin Panel
* Notification System

## 3. Features to be Tested

Features mapped to SRS requirement IDs:

* **ECO-F-001:** User registration and OTP verification
* **ECO-F-002:** User authentication (email/password, social login)
* **ECO-F-003:** Session management
* **ECO-F-004:** Product categories and subcategories
* **ECO-F-005:** Advanced search and filtering
* **ECO-F-006:** Product details display
* **ECO-F-007:** Shopping cart operations
* **ECO-F-008:** Cart persistence
* **ECO-F-009:** Wishlist functionality
* **ECO-F-010:** Multiple payment methods
* **ECO-F-011:** Order confirmation and unique ID generation
* **ECO-F-012:** Real-time order tracking
* **ECO-F-013:** Seller registration and verification
* **ECO-F-014:** Seller dashboard functionality
* **ECO-F-015:** Admin panel functionality
* **ECO-NF-001:** Performance (95th percentile leq 3s)
* **ECO-NF-002:** Reliability (99.9 availability)
* **ECO-NF-003:** Scalability (10,000 concurrent users)
* **ECO-NF-004:** Usability (WCAG 2.1 AA compliance)
* **ECO-SR-001:** MFA for admin accounts
* **ECO-SR-002:** Data encryption
* **ECO-SR-003:** Audit logs
* **ECO-SR-004:** Input validation
* **ECO-SR-005:** Role-based access control

## 4. Features Not to be Tested

* Internal operations of third-party logistics providers.
* External banking system implementations.
* Third-party social login provider's backend (e.g., Google/Facebook authentication service).
* The underlying infrastructure of the cloud providers (AWS/Azure/GCP).

## 5. Test Approach / Strategy

**Levels:**

* **Unit Testing:** Individual components and modules.
* **Integration Testing:** Verification of interaction between modules (e.g., Cart and Order Management).
* **System Testing:** End-to-end testing of the entire Mini Flipkart system.
* Acceptance Testing: User Acceptance Testing (UAT) to validate against business requirements.

**Types:**

* **Functional Testing:** To ensure all features work as specified.
* **Regression Testing:** To ensure new changes don't break existing functionality.
* **Performance Testing:** To measure response times, load, and stress.
* **Security Testing:** To identify and mitigate vulnerabilities.
* **Usability Testing:** To evaluate user-friendliness and accessibility.
* Compatibility Testing: To ensure the system works across different browsers and devices.

**Entry Criteria:**

* The development build is stable and delivered to the QA team.
* All high-priority features are implemented.
* The test environment is fully configured and ready.
* All test data is available.  
  Exit Criteria:
* All high-priority test cases have been executed.
* All critical and major defects are resolved and verified.
* The defect density is within acceptable limits.
* Performance and security benchmarks are met.

## 6. Test Environment

**Hardware:**

* Client Devices: Desktops, laptops, tablets, and mobile devices (iOS/Android).
* Server Infrastructure: Staging environment mirroring the production setup on a cloud platform (e.g., AWS).  
  Software:
* Browser: Latest versions of Chrome, Firefox, Safari, and Edge.
* Backend: E-commerce application v1.0, Payment Gateway sandbox, Shipping API stubs.

**Tools:**

* Test Management: Jira, TestRail
* Automation: Selenium, Cypress (for web UI), Appium (for mobile)
* Performance: JMeter, Locust
* Security: OWASP ZAP, Burp Suite  
  Test Data:
* A comprehensive set of test accounts for customers, sellers, and administrators.
* Test data for products, orders, and payments.

## 7. Test Schedule

**Milestones:**

* **Planning and Design Test:** Sept 8, 2025 - Sept 30, 2025
* **Environment Setup:** Oct 01, 2025 – Oct 15, 2025
* **Test Execution (Functional & Regression):** Oct 16, 2025 - Oct 31, 2025
* **Performance & Security Testing:** Nov 01, 2025 – Nov 15, 2025
* **UAT:** Nov 16, 2025 – Nov 30, 2025
* **Final Report & Sign-off:** Dec 01, 2025

**8. Test Deliverables**

* Test Plan (this document)
* Test Cases (manual & automated)
* Test Execution Reports
* Defect Reports
* Traceability Matrix (RTM)
* Final Test Summary Report

## 9. Roles and Responsibilities

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| --- | --- | --- |
| Role | Name | Responsibility |
| QA Lead | **Nahush P Shetty** | Manages the testing process, reviews test plans, and coordinates with development and product teams. |
| Test Engineer | **Machiraju Karthikeya** | Design and execute test cases, report defects, and create test scripts. |
| Developer | **Krishna Venkatesh** | Support defect resolution and provide technical assistance. |
| Product Owner | **Gururaja Rao** | Reviews test results and provide final sign-off for UAT. |

## 10. Risks and Mitigation

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| --- | --- |
| Risk | Mitigation |
| Delay in stable build delivery | Implement a continuous integration pipeline for early, testable builds. |
| Critical defects found late in the cycle | Prioritize testing of high-risk modules and implementing a detailed defect triage process. |
| Integration issues with third-party APIs. | Use mock APIs or stubs for early testing and maintain a strong communication channel with vendors. |
| Test environment instability. | Have a backup environment and a clear process for reporting and resolving environment issues. |

## 11. Assumptions & Dependencies

* The SRS document is the final version and will not undergo major changes.
* The development team will provide timely bug fixes.
* Third-party APIs (payment, shipping) will be available in a sandbox environment.
* The project timeline and budget are sufficient to complete all planned testing activities.

## 12. Suspension & Resumption Criteria

**Suspend Testing If:**

* The test environment is unavailable for more than 4 hours.
* A new build causes more than 30 existing test cases to fail.
* A critical bug is found that blocks a major testing area.

**Resume Testing If:**

* The blocking issue is resolved, and a new, stable build is provided.
* The test environment is fully restored.

## 13. Test Case Management & Traceability

The RTM will be used to ensure every requirement from the SRS is mapped to one or more test cases.

* **Example:** ECO-F-005 (Advanced Search) will be mapped to a suite of test cases covering filtering by price, brand, rating, and availability.

## 14. Test Metrics & Reporting

**Metrics:**

* + Test case execution status (Passed/Failed/Blocked)
  + Defect count and severity
  + Test coverage by requirement

**Reports:**

* + Daily Test Execution Status Report
  + Weekly Test Summary Report

## Final Test Summary Report

## 15. Approvals

|  |  |  |
| --- | --- | --- |
| Role | Name | Signature / Date |
| QA Lead | **Nahush P Shetty** |  |
| Dev Lead | **Krishna Venkatesh** |  |
| Product Owner | **Gururaj Rao** |  |
| Test Engineer | **Machiraju Karthikeya** |  |