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Test Plan

Project Name: Flipkart Web Application

Flipkart
Explore Plus

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Introduction

This Test Plan defines the strategy, scope, objectives, and processes for conducting end-to-end testing on the **Flipkart** platform. The goal is to validate that each feature, from product discovery to payment and delivery tracking, works seamlessly, providing users with a consistent and satisfying experience. This document outlines the testing activities required to ensure the application meets its functional, performance, and security requirements before going live.

AUT: https://www.flipkart.com/

Objective

The primary objective of testing the **Flipkart web application** is to ensure that all functionalities perform as expected and the application is ready for production release. This includes:

- **User Experience Consistency:** Maintain consistency in UI/UX design, accessibility, and functionality across different devices, screen sizes, and regional language options to cater to Flipkart's diverse user base.

- **Functional Validation:** Verify that Flipkart's core functionalities (product searches, checkout, payment processing) work without errors across web and mobile.

- **Data Integrity:** Ensure that information regarding product availability, pricing, and user data remains accurate and updated across all stages of the user journey.

Scope

The scope of testing for the **Flipkart** includes functional testing, compatibility testing, performance testing, and usability testing across different browsers/devices.

Testable Features

❖ **User Authentication and Profile Management**
- Register
- Login
- Logout
- Profile

❖ **Search & Filtering**
- Product Search
- Search Suggestions
- Filter & Sort Options

❖ **Product Details Page**
- Product Information
- Image Gallery & Zoom
- Add to Cart & Wishlist

❖ **Cart Management**
- Add, Update & Remove Items
- Price Calculations

❖ **Checkout Process**
- Address Selection & Management
- Payment Options
- Order Summary & Configuration

❖ **Order Tracking**
- View Orders
- Order Status Updates

❖ **Coupons and Discounts**
- Display Offers
- Apply Discount Codes

❖ **Notifications and Alerts**
- In-App Notifications (Alerts, Order Updates, etc.)

Testing Approach

❖ **Testing Types**
- Usability Testing
- Functional Testing
- Performance Testing
- Compatibility Testing
- Accessibility Testing

❖ **Testing Methodologies**
- Manual Testing
- Automated Testing
- Data-Driven Testing
- Black-Box Testing
- User Acceptance Testing (UAT)

❖ **Testing Environment**
- UAT
- Pre-Prod

❖ **Operating System**
- **Web OS:** Windows 10 & above
- **Mobile OS:** Android
- **Browsers:** Chrome & Firefox

Roles & Responsibilities

Name	Role	Responsibility
Pooja Yadav	Test Manager	• Oversee the entire testing process. • Ensure proper resource allocation and timelines. • Manage communication between the testing team and stakeholders. • Review and approve test plans and results. • Handle risk management.
Geethika Kommuru	Test Lead	• Guide the team in developing test strategies. • Set up automation frameworks and tools. • Coordinate and monitor the test execution. • Ensure the quality of the test scripts. • Review and report on the test progress.
Redhul K R	Test Engineer 1	• Develop and execute automated test scripts. • Identify and report defects. • Analyze test results and log defects. • Provide support to the team in troubleshooting. • Ensure that the test cases align with business requirements.
Abhishek Kolapkar	Test Engineer 2	• Write and execute automated test scripts using Cypress. • Report test results and defects. • Ensure high test coverage and maintain test scripts. • Participate in test case design and reviews. • Collaborate with the team to improve test coverage.

Test Schedule

Following is the test schedule planned for the project:

Task	Time Duration
Test Plan Creation	13-Nov-2024
Test Cases Identification	14-Nov-2024
Test Script Development	15-Nov-2024
Result Analysis & Reporting	16-Nov-2024

Test Deliverables

Deliverables	Description	Responsible Owner	Target Completion Time
Test Plan	Outlines the testing approach, objectives, scope, schedule, and resources needed for the project.	Test Lead	Day 1
Test Cases, Test Data	Test Cases & Data sets required for executing automated tests (e.g., login credentials, product IDs).	Test Engineer 2	Day 2
Test Script	Automated test scripts for identified functional features and critical workflows.	Test Engineer 2	Day 3
Test Execution Report	Summary of test execution results, including pass/fail statuses, errors, and overall progress.	Test Engineer 2	Day 4
Defect Report	Detailed log of defects found during test execution, including severity, description, and status.	Test Engineer 2	Day 4
Test Summary Report	Final report with insights, identified issues, and recommendations based on testing outcomes.	Test Engineer 2	Day 4

Entry & Exit Criteria

❖ **Requirement Analysis:**
  ➢ **Entry Criteria:** Requirements are defined and reviewed, and all required documentation is accessible to the test team.
  ➢ **Exit Criteria:** Test team has analyzed the requirements and developed a RTM to ensure test coverage, confirming that all requirements are clear, complete, and testable.

❖ **Test Planning:**
  ➢ **Entry Criteria:** The requirements are thoroughly analyzed, and initial project scope, timelines, and resources are defined.
  ➢ **Exit Criteria:** A detailed test plan is created, specifying the testing scope, objectives, resource allocation, risk assessment, schedules, and entry/exit criteria for each phase. The test plan is reviewed and approved by stakeholders.

❖ **Test Designing:**
  ➢ **Entry Criteria:** The test plan is finalized, and the RTM is available to guide test case creation.
  ➢ **Exit Criteria:** All test cases are created, peer-reviewed, and mapped to requirements in the RTM. Test data is prepared, and all test cases are approved and baselined for use during test execution.

❖ **Environment Setup:**
  ➢ **Entry Criteria:** Required hardware and software resources are procured, configured, and ready for test environment setup based on the requirements outlined in the test plan.
  ➢ **Exit Criteria:** The test environment is fully configured, validated, and approved by the testing team, ensuring it mirrors the production environment for accurate test execution.

❖ **Test Execution:**
  ➢ **Entry Criteria:** The test environment is ready, and all test cases are baselined and prepared with required test data.
  ➢ **Exit Criteria:** Test cases are executed, and results are documented. Defects are reported, tracked, and closed based on test execution outcomes. A test execution report is prepared, covering pass/fail rates and defect status.

❖ **Test Closure:**
  ➢ **Entry Criteria:** All test cycles are completed and all critical defects are closed or deferred with stakeholder approval.
  ➢ **Exit Criteria:** All deliverables are finalized, and the project is formally closed with a final sign-off.

Tools

- **Test Reports:** Google Docs, Google Sheets
- **MindMap:** X-MindMap
- **Automation:** Cypress
- **Cross-Browser:** BrowserStack
- **CI/CD Integration:** GitHub
- **Bug Tracking:** Jira
- **API Testing:** Postman

Risks & Mitigation Plan

Risks	Mitigation Plan
Flaky Test Cases due to Dynamic Web Elements	- Use robust, unique locators for dynamic elements - Apply Cypress's retry-ability and wait mechanisms - Regularly review and update locators to align with UI changes
High Test Maintenance from Frequent UI Changes	- Use Page Object Model (POM) to centralize element locators - Keep close communication with the dev team on UI updates - Automate regular UI checks to identify changes early

Approvals

The following documents must be reviewed and approved by the relevant stakeholders:

- Test Plan
- Test Scenarios & Test Cases
- Test Reports (Test Execution Reports & Defect Reports)
- Test Summary Report