**Test Plan - Stripe Payment Integration**

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# **Introduction**

## **Purpose of The Test Plan Document**

The purpose of this document is to provide insight on testing scope, approach, schedule, resources and risks for Stripe payment gateway integration. This test plan will ensure that correct things are tested with defined test coverage and deliverables are quality checked as per the schedule. This will also outline some Risk factors associated with the feature testing/delivery and plans and alternative ways to mitigate these.

# **Test Strategy**

## Test Objectives

* + - The objective of the test is to verify that Stripe payment gateway integration works as expected.
    - The test will execute and verify the test scripts, identify, fix and retest all high and medium severity defects

The final product of the test is three fold:

* + - * The e-commerce site integrated with Stripe payment gateway allowing payments through Credit Card, Debit Card and Bank Transfer
      * Documented test cases with complete test coverage
      * Test reports like, TST, Bug Report etc.

## Test Assumptions

* + - There is a staging environment present where QA team can test integration with Stripe
    - QA team will be using the test card numbers and bank account details provided by Stripe for testing instead of using any real Credit / Debit Card or bank account information
    - Smoke Testing would be carried out once the build is ready for testing, before functional testing
    - Regression Testing Cycle would be carried out on staging environment once all the bugs are fixed
    - Performance testing is (Or “not”) considered for this estimation. If considered, please provide Performance Test Plan document reference within “Test Approach(s)” section
    - The effort estimation does not consider any downtime or staging environment issues
    - The system will be treated as a black box; if the information shows correctly on the UI, it will be assumed that the database is working properly
    - During Functional testing, testing team may use preloaded data which is available on the system at the time of execution
    - UAT test execution will be performed by Stakeholders

## Scope and Levels of Testing

* + - Exploratory Testing

**PURPOSE**: The purpose of this test is to make sure critical defects are removed before the next levels of testing can start.

**SCOPE**: Execute testing to touch critical and basic system areas/paths.

**METHOD**: This exploratory testing is carried out in the application without any test scripts and documentation

* + - Functional Testing

**PURPOSE**: The purpose of this test is to make sure the intended system functionality works correctly.

**SCOPE**: Execute testing for all the possible scenarios of the functionality of the system.

**METHOD**: The functional system testing would be carried out with formal test cases, steps and test data.

* + - Regression Testing

**PURPOSE**: The purpose of this test is to make sure that all other system functionality is not broken unexpectedly.

**SCOPE**: Execute the test cases of all the possible scenarios which can be impacted by this change.

**METHOD**: The regression testing is carried out in the application with a formal set of regression test cases.

* + - Acceptance Testing

**PURPOSE**: The purpose of this test is to have Stakeholder’s confidence in the system before production release.

**SCOPE**: Stakeholders can perform the testing of the system to ensure that the implemented feature is as per the expectations.

**METHOD**: Acceptance testing may or may not be carried out with formal test cases.

## Effort Estimation

| **Test Phase** | **Effort (Man Hours)** | **Comments** |
| --- | --- | --- |
| **Test Design** |  |  |
| Existing application familiarization /Orientation/KT for the team | 10 | **None** |
| Requirement Analysis | 5 | **None** |
| Test Plan / Test Strategy | 5 | **None** |
| Test Environment setup | 10 | **None** |
| Test case development including Peer review and updates | 30 | **None** |
| Test lead/Coordination/status reporting efforts | 5 | **None** |
| **Test Execution** |  |  |
| Test execution and Defect logging (Cycle 1) | 40 | **None** |
| Test execution and Defect logging (Cycle 2) | 10 | **None** |
| Regression Test Cycle | 40 | **None** |
| Final defect round to meet exit criteria | 81 | **None** |
| **Total Efforts** | **122** | **None** |

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# **Execution Strategy**

## Items to be Tested / Not to be Tested

* + - Items to be Tested

| **Item to Test** | **Test Description** | **Test Date** | **Responsibility** |
| --- | --- | --- | --- |
| Manage payment methods page | Testing of the manage payments page, UI, User experience | 10/06/2024 | Shravan Kumar |
| Payments page | Testing of the payments page, UI, User experience | 15/06/2024 | Ragini Vaishnav |
| Add, Update, Delete Payment method REST API | Testing of Add, Update and Delete payment method REST APIs using Postman tool | 20/06/2024 | Shiv Yadav |
| Make Payment REST API | Testing of Make payment REST API using Postman tool | 25/06/2024 | Raj Singh |

* + - 1. Items not to be Tested

| **Item Not to Test** | **Comment** |
| --- | --- |
| Retrieve payment REST API | This API is already implemented and should not be affected by the Stripe integration |
| Payment History Page | This is an existing page to display all the payments done by the user and it should work as it is with Stripe integration |

## 

## Test Approach(s)

Types of testing to be performed:

* Manual Testing
  + Functional Testing
  + Smoke Testing
  + Regression Testing
  + Integration Testing
  + Usability Testing
  + Compatibility Testing
    - Web Browser Coverage
      * Google Chrome (Latest version)
      * Safari (Latest version)
      * Microsoft Edge (Latest version)
      * Android browser (Latest version)
    - Device Types Coverage
      * Desktop
      * Mobile
      * Tablet
* Automated and Non-functional testing not considered in the scope

## Test Pass / Fail Criteria

**Test Pass Criteria**

All the test steps are executed successfully

The end result matches the expected result specified

There is no server error observed

**Test Fail Criteria**

Any of the test step fails

The end result does not match the expected result

Any server error is observed

## Test Entry / Exit Criteria

**Entry Criteria**

Analysis of all the requirements should be completed

Test cases should be completed, reviewed and approved for each requirement

Test environment should be set up with the required hardware and software configurations

Test data should be prepared and validated

The feature should be developed, reviewed, and it should be ready for testing

Stripe APIs are up and running on staging environment

**Exit Criteria**

All the test cases should be executed and test coverage should be achieved for the requirements

Defects identified during testing that are logged into bug tracking tool should be resolved and retested

Regression testing should be performed to ensure that the changes made to the software have not impacted the existing functionality

Test case should include the documentation of both expected and actual results.

## 

## Test Deliverable

* Test Case Document
* Bugs logged in the Project management tool
* Test Summary Report
* Bug Summary Report

## Test Suspension / Resumption Criteria

* Testing activity may be suspended in below situations

At least one defect is found with “Blocker” severity

Two or more defects are found with “Critical” severity

When defect retesting fails

Test environment becomes unavailable due to any reason

Stripe APIs are not available due to any reason

Necessary resources become unavailable due to any reason (people, hardware, software etc.)

* Testing activity may be resumed in below situation

All the reported bugs are fixed except some cosmetic bugs

Test environment becomes available after downtime

## Staffing / Training Needs

* + - * None

# **TEST MANAGEMENT PROCESS**

## Test Design Process

Test Design Techniques to use

1. Positive Testing
2. Negative Testing
3. Boundary Value Analysis
4. Equivalence Partitioning
5. Migration Testing

Test Design Tools : Google Sheets, Zephyr

Test Case Review Process :

1. Prepare test cases in excel sheet
2. Share test case sheet for review to Test Lead
3. QA will create “Test Case Review” task in project management tool
4. Test Lead will add review comments in task
5. QA team member will implement the suggested changes
6. Test Lead will review changes and close the task
7. QA team member will import test cases to test case management tool

## 

## Test Execution Process

Execute a particular test case in test case management tool

Set test case status to Pass/Failed/Blocked

Create a bug for any failed test case in JIRA and link it to the main ticket

Attach screenshot or add supporting data for the test execution

# **Risks and Mitigation Plan**

## Test Risks / Issues and Mitigation Plan

| **Risk** | **Probability** | **Impact** | **Mitigation Plan** |
| --- | --- | --- | --- |
| Delay in testing start date | High | High | Early communication with the involved developers and Some added buffer in the efforts should help here |
| Not enough resources | Medium | High | Holidays and vacation have been estimated and built into the schedule; deviations from the estimation could derive in delays in the testing. |
| Non-availability of Independent Test environment and accessibility | Medium | High | Due to non-availability of the environment, the schedule gets impacted and will lead to delayed start of Test execution. |
| Change in Scope | Medium | High | Any change in scope need to be evaluated and then accommodated if it does not impact testing team’s efforts and schedules too much |
| Delayed Testing Due To new Issues or any unplanned tasks | Medium | High | Effort estimation includes some buffer to accommodate unplanned tasks |

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# **Test Environment and infrastructure**

## Required Infrastructure

Staging Server : Win Server 2016, 15 GB Ram, No load balancers

QA Team member machine : Ubuntu or MS Win 10 OS with basic tools and browsers like IE, Firefox and Chrome (Latest version)

## Availability Plan

As per current assumption, the test environment will be available throughout the testing schedule without any interruption.

# **Roles and responsibilities**

## Roles and assigned responsibilities

[Describe various roles and responsibilities given to them. E.g. Junior Tester, Senior Tester, Project Manager etc.]

| **Team Member Name - Role** | **Responsibility** |
| --- | --- |
| Ragini Vaishnav - Sr. QA Engineer | Test Planning, Test Case Design, Test Execution  for Distribution Logic, Load testing etc. |
| Shiv Yadav - QA Engineer | Test Execution for  Manage Payment Methods, Payments page |

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# **Test Schedule**

## Milestones and schedule

| **Milestone** | **Deliverable** | **Effort(Person Hour)** | **Start Date** | **End Date** |
| --- | --- | --- | --- | --- |
| Test Preparation | Test Cases in test case management tool | 16 | 10/6/2024 | 24/6/2024 |
| Test Execution | Executed Test Cycles in test case management tool | 40 | 25/6/2024 | 15/7/2024 |
| Test Reporting | TSR, Execution reports in test case management tool | 2 | 16/7/2024 | 31/7/2024 |