Objective

The purpose of this test plan is to check the functionality, performance, and integration of the student registration system, so we need to our system according to the scope.

Test Plan for Student Registration System with Stripe Payment Integration

Project Overview

The project is a django-based student registration system. Students register by providing personal details and pay a registration fee of $50 using the Stripe payment gateway.

Scope

1. **Functional Testing**: Ensures the registration process and Stripe integration work as intended.
2. **Integration Testing**: Confirms seamless communication between the Django application and Stripe's API.
3. **Performance Testing**: Evaluates the system's responsiveness during simultaneous user registrations.

Test Environment

- **Django Framework**: Version [Insert Version]

Test Scenarios

1. Functional Testing

- **1.1 User Registration**
    - **Preconditions**: Ensure the system is running and accessible.
    - **Steps**:
        1. Navigate to the registration page.
        2. Fill in the form with valid data.
        3. Submit the form without making the payment.

- **Expected Result**: The system displays an error message prompting the user to complete payment.
- **1.2 Payment Processing**
  - **Preconditions**: User fills the registration form.
  - **Steps**:
    0. Submit the form and proceed to the payment page.
    1. Enter valid Stripe test card details (e.g., `4242 4242 4242 4242`).
    2. Submit payment.
    - **Expected Result**: Payment is successful

2. Integration Testing

- **2.1 Payment API Validation**
  - **Steps**:
    1. Simulate a payment success response from Stripe.
    2. Simulate a payment failure response.
    - **Expected Results**: System handles both scenarios and updates the registration status accordingly.

3. Performance Testing

- **3.1 Concurrent Registrations**
  - **Steps**:
    1. Simulate 100 users registering and paying simultaneously.
    - **Expected Result**: The system processes all requests without significant delays or crashes.

Test Cases

Test ID	Description	Priority	Expected Outcome
TC-01	User fills form and submits	High	Form submission triggers Stripe payment.
TC-02	Valid payment	High	Registration confirmed;
TC-03	Invalid payment	High	Error message shown;
TC-04	Concurrent registrations	Medium	All transactions processed successfully.

Deliverables

- Test reports including passed/failed scenarios.
- Test reports valid and invalid payement details