

# SDS Test planning Group 9,

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## Purpose

The purpose of this test plan is to ensure that the Movie Theatre Ticketer (MTT) system meets the functional and non-functional requirements defined in the Software Requirements Specification (SRS). Testing will help verify the correctness, usability, and robustness of the system through unit, functional, and system-level test cases.

## Scope of Testing

This test plan covers the major features of the MTT system, including:

- User account creation and login
- Movie search and selection
- Seat reservation
- Ticket purchasing using multiple payment options
- Refunds and exchanges
- Guest checkout
- Loyalty rewards
- Email confirmation system

## Test Strategy

We used a **three-level testing approach**:

### Unit Testing

Tests individual functions or methods, such as `buyTicket()`, `getFreeSeats()`, and `updateMovie()`.

### Functional Testing

Verifies whether major features (e.g., "Search Movie", "Purchase Ticket") behave according to the requirements.

### System Testing

Tests the entire flow from movie selection to payment confirmation including edge cases like payment failure.

## Test Design and Mapping to Requirements

Each test case is tied to one or more requirements from Section 3.2 of the SRS. We tested the following:

Feature	Requirement	Test Focus
Search Movie	3.2.1	Input validity, navigation to detail page
Select Seating	3.2.3	Seat availability logic
Purchase Ticket	3.2.4	Payment processing and error handling
Create Account	3.2.5	Data validation and confirmation
Guest Checkout	3.2.6	Temporary data handling
Refunds	3.2.7	Eligibility and flow
Rewards	3.2.8	Points calculation and usage
Admin Edits	SDS 6.2.5	Employee privilege functions

## Test Environment

- **Frontend:** Web browser (Chrome, Firefox, Safari)
- **Backend:** Local development server or test hosting environment
- **Tools:** GitHub for version control, Excel for test case tracking
- **Dependencies:** Email service API, Payment service API

## Test Cases Overview

The test cases are stored in the attached [TestCaseSamples.xlsx](#) file.

### Coverage Summary:

Test Type	# of Cases
Unit Tests	4 (e.g., <code>buyTicket()</code> , <code>changeLanguage()</code> )
Functional Tests	4 (e.g., Search, Checkout, Refund, Rewards)
System Tests	2 (e.g., Full booking + reward, Guest checkout with invalid payment)

## Responsibilities

- **Alex Franco** – Refund system, Class Diagram
  - **Nicolas Mendoza** – Email confirmation system, Seat selection
  - **Jackson Frankel** – User system, Full payment flow
- All members contributed test cases and pushed commits to GitHub.*

## Summary:

The test plan for the Movie Theatre Ticketer (MTT) system outlines the verification and validation process to ensure functionality, reliability, and security. The plan covers critical features such as user account creation, movie search and selection, seat reservation, ticket purchasing, refunds, guest checkout, loyalty rewards, and email confirmations. The test cases are categorized into unit, functional, and system tests, with a focus on testing individual components, feature-level interactions, and full system workflows. The test set includes specific test vectors targeting expected behaviors, input validation, error handling, and performance. Modifications to the system's design diagram may be used to indicate the scope and targets of these tests, covering potential failures like invalid inputs, system crashes, and payment errors. Testing will be conducted in a controlled environment using a web browser-based front-end and a backend server, incorporating third-party integrations such as payment gateways and email services. All test cases and results will be documented in `TestCaseSamples.xlsx` and stored in the GitHub repository for validation and grading.