Group 8 Movie Ticketing System — Test Plan

1. Scope and Objectives

The purpose of this test plan is to define the approach, scope, and responsibilities for verifying and validating the Movie Ticketing System.
The objective is to ensure all critical system functions work as intended, including ticket purchasing, seat management, pricing and discounts, administrative scheduling, and refund processing.

The test plan focuses on:

- Ensuring core features function correctly
- Identifying failures early in development
- Validating the complete customer flow from seat selection to checkout
- Verifying administrative operations and constraints

Testing will be conducted at three levels: Unit, Functional, and System.

2. Features to Be Tested

- Seat availability and hold functionality
- Pricing and discount calculation logic
- Ticket purchase flow (hold → checkout → payment)
- Administrative showtime scheduling
- Refund and cancellation flows
- Email and receipt confirmation after purchase

3. Test Sets

ID	Level	Description	Feature Tested
U1	Unit	Seat hold and availability logic	Seat availability
U2	Unit	Pricing and discount calculation	Pricing & Discounts
F1	Functional	Seat hold to order commit flow	Ticket Purchase
F2	Functional	Admin showtime scheduling validation	Admin Scheduling
S1	System	End-to-end checkout with payment + QR email	Full Purchase Flow
S2	System	Refund and seat restoration	Refund & Cancellation

4. Detailed Test Scenarios

4.1 Unit Test Scenarios

U1 – Seat Hold and Availability

- Objective: Verify seats can be held if available and reject if already held.
- Steps:
    1. User selects an available seat.
    2. The system places a temporary hold.
    3. Another user attempts to hold the same seat.
- Expected Result: First hold succeeds, second hold is rejected.

U2 – Pricing and Discounts

- Objective: Verify proper discount calculation for students, seniors, and promo codes.
- Steps:
    1. Add a $12 ticket.
    2. Apply STUDENT discount (15%) and/or PROMO FALL10 (10%).

3. Confirm total.

- Expected Result: Final price reflects the correct discount combination.

4.2 Functional Test Scenarios

F1 – Seat Hold to Order Commit Flow

- Objective: Ensure users can convert a held seat into a confirmed order.
- Steps:
    1. Hold seat.
    2. Proceed to checkout.
    3. Complete payment.
- Expected Result: Order confirmed, seat removed from availability.

F2 – Admin Showtime Scheduling Validation

- Objective: Prevent overlapping showtimes for the same auditorium.
- Steps:
    1. Schedule ST100 at 7:00 PM.
    2. Attempt to schedule ST101 overlapping with ST100.
- Expected Result: Overlapping showtime rejected.

4.3 System Test Scenarios

S1 – End-to-End Checkout

- Objective: Validate complete ticket purchase, including email confirmation.

- Steps:
    1. Browse showtimes.
    2. Select seat and checkout.
    3. Complete payment.
    4. Receive email with QR code.
- Expected Result: Order marked “Paid,” confirmation email received.

S2 – Refund and Seat Restoration

- Objective: Ensure cancelled tickets return seats to availability.
- Steps:
    1. Purchase a ticket.
    2. Request refund within allowed window.
    3. Check seat map and transaction.
- Expected Result: Seat is released, refund processed.

5. Test Environment

- Database: Seeded with 2 showtimes (ST100 – 7:00 PM, ST101 – 9:30 PM)
- Auditorium: A1 with 5 rows × 10 seats (ADA seats: A1, A2)
- Discounts: STUDENT 15%, SENIOR 20%, PROMO FALL10 10%
- Test Accounts:
    - Customer: cust@example.com
    - Admin: admin@example.com

- Tools: Standard testing framework, sandbox payment provider, mock email service.

6. Deliverables

Deliverable	Description	Location (GitHub)
Updated SRS Document	Section 7 added with test plan summary	GitHub
Test Plan Document	This file (PDF)	GitHub
Excel Test Case Sheet	10 test cases with pass/fail tracking	GitHub

7. Responsibilities

Member	Responsibility	Contribution
Khalid Noman	Functional test sets (F1, F2)	Test Plan & Excel commit
Savel Moshi	Unit test sets (U1, U2)	Test Plan & Excel commit
Ali Nasr	System test sets (S1, S2)	Test Plan & Excel commit

8. Exit Criteria

- All P0 and P1 test cases must pass successfully.
- No critical or blocking defects remain open.
- End-to-end customer flow works without errors.
- All required deliverables are pushed to GitHub with commit links recorded in the SRS.