

Verification Test Plan: Ticketing System

Unit Testing:

Test Set 1: Ticket Component Constructor

Test Vector 1.1: Create a new Ticket object with valid inputs for movie, time, location, and age.

Test Vector 1.2: Create a new Ticket object with invalid inputs (e.g. blank movie name, negative time value, invalid location, etc.).

Test Vector 1.3: Verify that the Ticket object is created with the correct attribute values.

Test Set 2: Payment System Calculate Total Price Method

Test Vector 2.1: Calculate the total price for a single-ticket purchase with no discounts applied.

Test Vector 2.2: Calculate the total price for a group ticket purchase with a discount applied.

Test Vector 2.3: Verify that the calculated price is correct and matches the expected result.

Functional Testing:

Test Set 3: Ticket Purchase Functionality

Test Vector 3.1: Select a movie from the Master Schedule and purchase a single ticket with a valid payment method.

Test Vector 3.2: Attempt to purchase a ticket for a movie that is sold out or unavailable.

Test Vector 3.3: Verify that the purchased ticket is added to the user's account and that the Master Schedule is updated with the correct availability information.

Test Set 4: Cancel Ticket Functionality

Test Vector 4.1: Cancel a ticket purchase before the movie start-time and receive a full refund.

Test Vector 4.2: Attempt to cancel a ticket purchase after the movie start-time and receive an error message.

Test Vector 4.3: Verify that the canceled ticket is removed from the user's account and that the Master Schedule is updated with the correct availability information.

System Testing:

Test Set 5: Registration and Login Functionality

Test Vector 5.1: Create a new registered account and verify that the user's personal and payment information is stored correctly.

Test Vector 5.2: Attempt to login with invalid credentials and receive an error message.

Test Vector 5.3: Verify that the user can access their account and view their purchase history and account details.

Test Set 6: Integration Testing with External Payment Systems

Test Vector 6.1: Test the Ticketing System with a valid credit card payment method.

Test Vector 6.2: Test the Ticketing System with a valid PayPal payment method.

Test Vector 6.3: Verify that the Payment System correctly processes the transaction and updates the user's account information.

These test sets target various features of the Ticketing System, including ticket creation, payment processing, cancellation, user registration and login, and integration with external payment systems. By testing at the unit, functional, and system levels, we can ensure that the system is working as expected and handling various use cases and scenarios.