

Movie Ticket Booking System – Project Report

Project Title: Movie Ticket Booking System

Programming Language: C Language

Project Type: Console-Based Application

Semester: First Semester

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Introduction

This project is a console-based application written in C that allows users to book movie tickets by choosing from available movies, showtimes, and seats. It mimics a basic version of a real-world movie ticket booking system like BookMyShow or PVR. The system ensures seat availability, calculates GST, and generates detailed receipts and individual tickets.

Objectives

- Simulate a real-time movie ticket booking environment.
- Manage movies, showtimes, and seating arrangements.
- Allow users to book multiple tickets with seat selection.
- Provide detailed price breakdown with GST.
- Print individual tickets with movie and seat information.

System Configuration & Features

- Movies: Up to 5 pre-defined movies with genre, language, and duration.
- Showtimes: 5 fixed showtimes, each mapped to a movie.
- Seats: 5 rows × 10 seats = 50 seats per showtime.
- Bookings: Customer details (name and 10-digit phone), seat selection with validation, booking receipt and tickets.
- Pricing: Base Ticket Price: ₹180, GST: 18%, Total Cost = Base Price × Tickets + GST

Project Structure

Data Structures Used:

- Movie: Stores movie ID, title, duration, genre, language.
- Showtime: Stores showtime ID, movie reference, time, seat matrix.
- Booking: Stores customer details, booking info, total cost.

Functional Modules:

1. initializeSeats() – Marks all seats as available initially.
2. displayMovies() – Displays list of available movies.
3. displayShowtimes(movie_id) – Shows showtimes of a selected movie.
4. displaySeatMap(showtime_id) – Displays seating map (A/B).
5. validatePhone(phone) – Validates a 10-digit phone number.
6. bookSeats(showtime_id, num, seat_nums) – Books given seats.
7. bookTicket() – Main function to perform the booking process.
8. printBookingReceipt(booking) – Generates full receipt.
9. printTicket(booking, ticket_num) – Prints individual tickets.

How It Works (Flow)

1. User launches the system.
2. Menu offers two choices:
 - Book Tickets
 - Exit
3. On selecting Book Tickets:
 - Movie list is shown.
 - User selects a movie.
 - Showtimes are displayed.
 - User selects a showtime.
 - Seat map is shown.
 - User selects seats (up to 10).
 - Validates seats and phone number.
 - Calculates total with GST.
 - Prints receipt and individual tickets.

Sample Calculation

If user books 2 tickets:

- Base Price = ₹180 × 2 = ₹360
- GST (18%) = ₹64.80
- Total = ₹424.80

Key Validations

- Movie/showtime must exist.
- Seat must be in correct format and available.
- Phone must be 10 digits.
- Cannot book more than 10 tickets at once.

Future Enhancements

- Add admin login to manage movies & showtimes.
- Implement payment simulation.
- Add file I/O to store and retrieve bookings.
- GUI-based version using C++ or Python.
- Include cancellation feature.

Conclusion

The Indian Movie Ticket Booking System demonstrates core concepts of C programming, including structs, arrays, functions, strings, input validation, and modular programming. It simulates a real-world system and is an excellent beginner-to-intermediate level project for students.

References

- ANSI C Documentation
- Stack Overflow (seat allocation logic)
- Movie titles inspired by Indian cinema
- GST calculation: Govt. of India Tax Rules