**Movie Theater Management System**

**CSE327**

**Section 8**

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**Brief Description:**

The Movie Theater Management System (MTMS) aims to streamline and automate cinema operations by providing a comprehensive digital platform. This system will facilitate online ticket booking, seat reservations, movie scheduling, and payment processing, ensuring a seamless experience for both customers and administrators.

**Objectives:**

Enable users to browse movie schedules and book tickets online.

Provide an intuitive seat selection interface with real-time availability.

Allow admins to manage movies, showtimes, and seating arrangements.

Implement secure online payments and generate booking confirmations.

Offer real-time reports on ticket sales and occupancy trends.

**End Users:**

Customers – Users who browse movies, book tickets, and make payments.

Administrators – Theater managers responsible for adding movies, scheduling shows, and monitoring sales.

Staff – Employees handling ticket verification and customer support.

**Functional Requirements:**

**User Authentication & Authorization:**

Registration/Login for users (Customers, Admins, and Staff).

Role-based access control (RBAC).

**Movie Management:**

Add, update, and remove movies.

Manage movie details (title, duration, genre, etc.).

**Show Scheduling:**

Define showtimes and associate them with movie screens.

Assign different pricing for each show.

**Ticket Booking & Payment:**

Users can select movies, choose seats, and make payments.

Generate booking confirmation via email/SMS.

**Reports & Analytics:**

Revenue tracking and occupancy reports for admins.

**User Reviews & Ratings:**

Customers can rate and review movies.

**Non-Functional Requirements:**

**Scalability:** The system should support multiple theaters and thousands of users.

**Security:** Ensure secure authentication, encryption of sensitive data, and compliance with payment security standards.

**Performance:** Quick loading times and optimized database queries.

**Availability:** 99.9% uptime for an uninterrupted experience.

**Usability**: A user-friendly UI for smooth navigation and accessibility.

**GitHub Link:**  <https://github.com/Refat81/CSE327-Movie-Theater-Management>

**USE-CASE:**

generate reports

Verify tickets

schedule shows

Manage movies

select seats

Browse movies

book tickets

rate movies

make payment

**Class diagram:**

|  |
| --- |
| USER |
| userID  name  email  password |
| register()  login()  logout() |

|  |
| --- |
| Customer |
|  |
| browseMovies()  bookTicket()  makePayment()  rateMovie() |

|  |
| --- |
| Admin |
|  |
| addMovie()  scheduleShow()  generateReport()  verifyTicket() |

|  |
| --- |
| Ticket |
| ticketID  showID  seatNo  status |
| confirmBooking()  cancelBooking() |

|  |
| --- |
| Movie |
| movieID  title  genre  duration  description |
| getMovieDetails()  updateDetails() |

|  |
| --- |
| Showtime |
| showID  movieID  screenNo  time  price |
| getShowtimeDetails() |

|  |
| --- |
| Payment |
| paymentID  ticketID  amount  status  paymentMethod |
| processPayment()  refundPayment() |