Team Mission Statement

To develop an efficient and user-friendly movie ticket reservation system (MTRS) tailored to a single movie theater, allowing users to easily view showtimes, reserve seats, and purchase tickets, while streamlining management operations for theater administrators.

Mission Objectives

1. **Show Management**
   Provide a system to manage movie show schedules for the theater.
   - Objectives:
     - Add, update, and manage show details such as timings and prices.
     - Ensure seamless scheduling without overlapping shows.
2. **Seat Management**
   Implement a real-time seat reservation system to enhance user experience.
   - Objectives:
     - Display seat availability dynamically.
     - Prevent seat overbooking during simultaneous transactions.
3. **User Management**
   Allow customers to create accounts for personalized services and history tracking.
   - Objectives:
     - Maintain records of customer bookings.
     - Enable login-based access to booking history and preferences.
4. **Booking and Payments**
   Facilitate an easy-to-use booking and payment system.
   - Objectives:
     - Allow users to book tickets for selected shows and seats.
     - Support secure payment processing and generate digital tickets.
5. **Search and Notifications**
   Provide features for users to search for movie details and receive updates.
   - Objectives:
     - Search by showtime, movie, or date.
     - Notify users of booking confirmations and upcoming shows.
6. **Report Generation**
   Generate detailed reports for the theater's management team.
   - Objectives:
     - Provide insights into ticket sales and seat occupancy.
     - Help track revenue and customer preferences.

Proposed Database Structure

1. Tables and Entities:

- **Movies:** MovieID, Title, Genre, Language, Rating, Duration, Description.
- **Shows:** ShowID, MovieID, ShowDate, ShowTime, TicketPrice.
- **Seats:** SeatID, ShowID, SeatNumber, Status (Available/Reserved).
- **Users:** UserID, Name, Email, PhoneNumber, Password.
- **Bookings:** BookingID, UserID, ShowID, SeatID, BookingDate, PaymentStatus.

2. Relationships:

- **Movies ↔ Shows:** Each movie can have multiple shows in the theater.
- **Shows ↔ Seats:** Each show manages its seat availability.
- **Users ↔ Bookings:** A user can make multiple bookings.

Key Functionalities

1. **Admin Features:**
    - Add and update movie details.
    - Schedule and manage showtimes.
    - Monitor seat reservations and generate revenue reports.
2. **User Features:**
    - View available shows for the theater.
    - Select seats and book tickets in real-time.
    - Pay securely and receive digital confirmation.

Sample Workflow

1. **For Admins:**
    - Log in to add/update movie and show details.
    - View occupancy reports and booking trends.
2. **For Users:**
    - Search for movies or showtimes.
    - Select a show and view seat availability.
    - Choose seats, confirm booking, and pay online.