PROJECT REPORT

Online Ticket Booking Platform

Subject Name: Project Based Learning in Java

Subject Code : 23CSH-304

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Abstract:

The *Online Ticket Booking System* is a web-based application designed to automate the movie ticket booking process.
It enables users to register, log in, browse available movies, select showtimes, choose seats, and complete bookings with a simple payment simulation.
The system eliminates manual ticket handling and provides a seamless digital experience to the users.

Objectives:

The main objectives of this project are:

- To design a user-friendly interface for movie ticket booking.
- To enable user authentication using email and password.
- To store and manage movie, showtime, and booking data using MySQL.
- To connect frontend and backend using REST APIs.
- To implement seat selection and payment confirmation modules.

System Architecture

The system follows a **3-tier architecture**:

1. **Frontend:** Developed using React.js — handles user interaction.
2. **Backend:** Built using Spring Boot — processes API requests and business logic.
3. **Database:** MySQL — stores user, movie, and booking details.

Flow:
Frontend (React) → REST API (Spring Boot Controller) → Repository → MySQL Database → Response back to Frontend.

System Requirements

Hardware Requirements

- Processor: Intel i5 or higher
- RAM: Minimum 8 GB
- Hard Disk: Minimum 500 GB
- Internet Connection: Required for API access

Software Requirements

- Operating System: Windows / Linux / macOS
- Backend Framework: Spring Boot 3.x
- Database: MySQL
- Programming Language: Java 17+
- Build Tool: Maven
- External APIs: Cloudinary API, Amadeus API
- IDE: IntelliJ IDEA / Eclipse / VS Code

Modules

Module Description

Module	Name	Description
1	User Authentication	Handles user registration and login
2	Movies Management	Displays list of available movies and showtimes
3	Seat Selection	Lets users choose seats for a show
4	Booking Management	Saves and retrieves booking data
5	Payment Simulation	Dummy payment confirmation & booking success

Backend Structure:

```
backend/
 ├── controller/
 |    ├── UserController.java
 |    ├── MovieController.java
 |    ├── BookingController.java
 |    └── ShowtimeController.java
 ├── model/
 |    ├── User.java
 |    ├── Movie.java
 |    ├── Booking.java
 |    └── Showtime.java
 ├── repository/
 |    ├── UserRepository.java
 |    ├── MovieRepository.java
 |    ├── BookingRepository.java
 |    └── ShowtimeRepository.java
└── BackendApplication.java
```

API USED:

HTTP Method	Endpoint	Description
POST	/user/register	Register new user
POST	/user/login	Login user
GET	/movies/all	Fetch all movies
GET	/movies/{id}/showtimes	Fetch showtimes of selected movie
POST	/bookings/create	Save new booking
GET	/bookings/user/{id}	Fetch bookings of one user
DELETE	/bookings/{id}	Cancel booking

Results and Output

The backend successfully performs:

- Successful user registration and login
- Movies and showtimes displayed dynamically
- Seats selection and booking confirmation working
- Bookings stored and fetched from database
- CORS and API integration between React and Spring Boot successful

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Future Enhancements

- Implement JWT authentication for secure login sessions.
- Add real payment gateway integration (Razorpay, Paytm, etc.).
- Include admin panel for adding/deleting movies.
- Implement seat-locking system for concurrency handling.

Conclusion

The Online Ticket Booking System successfully automates the movie ticket booking process.
It demonstrates effective use of full-stack technologies — React for UI, Spring Boot for backend, and MySQL for persistent data storage.
The system is efficient, modular, and extendable for future upgrades..