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Department of Computer Engineering

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Division & Batch:	Division - D & Batch - D
Experiment No:	07
Title:	Implementation of Theatre Management System

Project Abstract

The Theatre Management System (TMS) is a comprehensive, full-stack web application designed to streamline theatre operations. It provides a seamless interface for both customers and administrators. The system is built using modern web technologies, including React for the frontend, Node.js and Express for the backend, and MySQL for the database.

The primary goal of TMS is to offer a complete solution for movie browsing, ticket booking, and reservation management. For users, it offers an intuitive interface to browse movies, view details, watch trailers, select seats using an interactive map, and book tickets securely. The system supports payment processing and automatically generates PDF tickets with QR codes for verification. Users can also manage their profiles and booking history, including the option to cancel reservations.

For administrators, TMS provides a powerful dashboard with analytics on bookings, revenue, and theatre occupancy. It allows for easy management of movie listings, show scheduling, and monitoring of all customer bookings. The system incorporates role-based access control to ensure that only authorized personnel can access administrative features. This project aims to provide a robust and user-friendly platform that enhances the movie-going experience and simplifies theatre management.

Screenshots and Feature Explanation

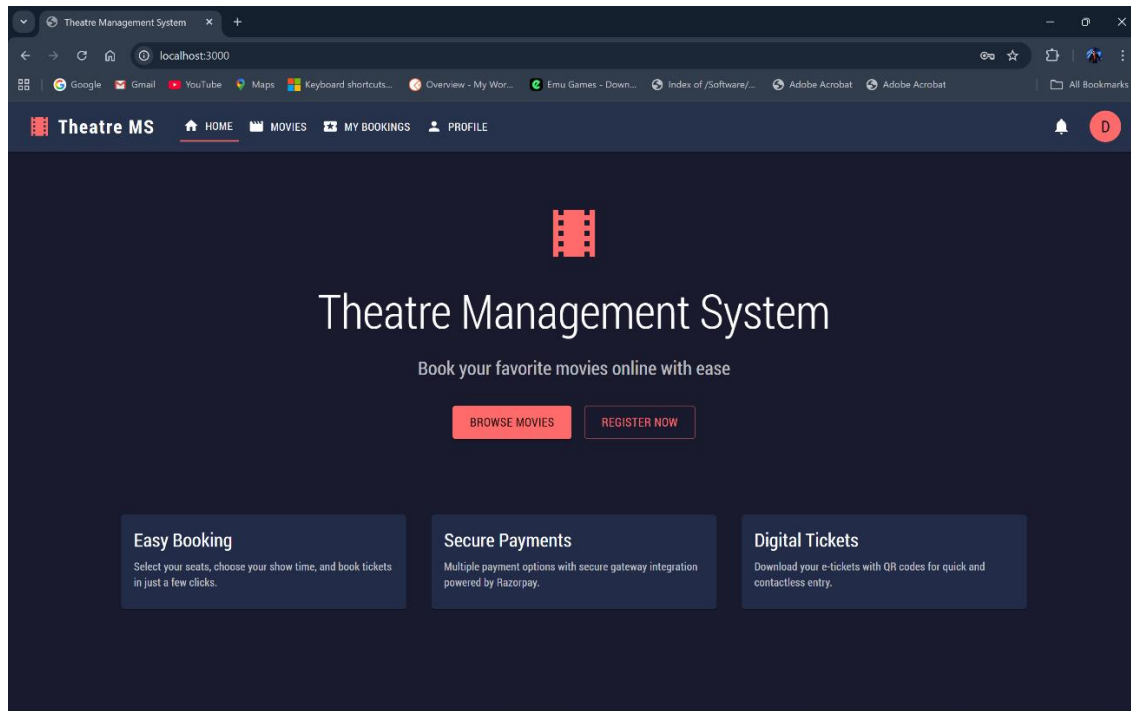
Here are some screenshots of the application, illustrating its key features and workflow.

1. Home Page

- **Screenshot:**



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Explanation: This screenshot displays the main landing page of the Theatre Management System. The design is clean and modern, featuring a prominent title and a clear navigation bar with links to "HOME," "MOVIES," "MY BOOKINGS," and "PROFILE." Below the main heading, two call-to-action buttons, "BROWSE MOVIES" and "REGISTER NOW," guide users toward the primary functions of the application. The three distinct feature cards for "Easy Booking," "Secure Payments," and "Digital Tickets" effectively communicate the system's key advantages to the user upon their arrival.

2. User Authentication

- **Screenshots:**

- **Registration:**

Create Account

Full Name *
Dev Rai

Email Address *
dev.sample@gmail.com

Phone Number *
999995555

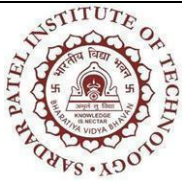
Password *

Password strength: Strong

Confirm Password *

REGISTER

Already have an account? Login



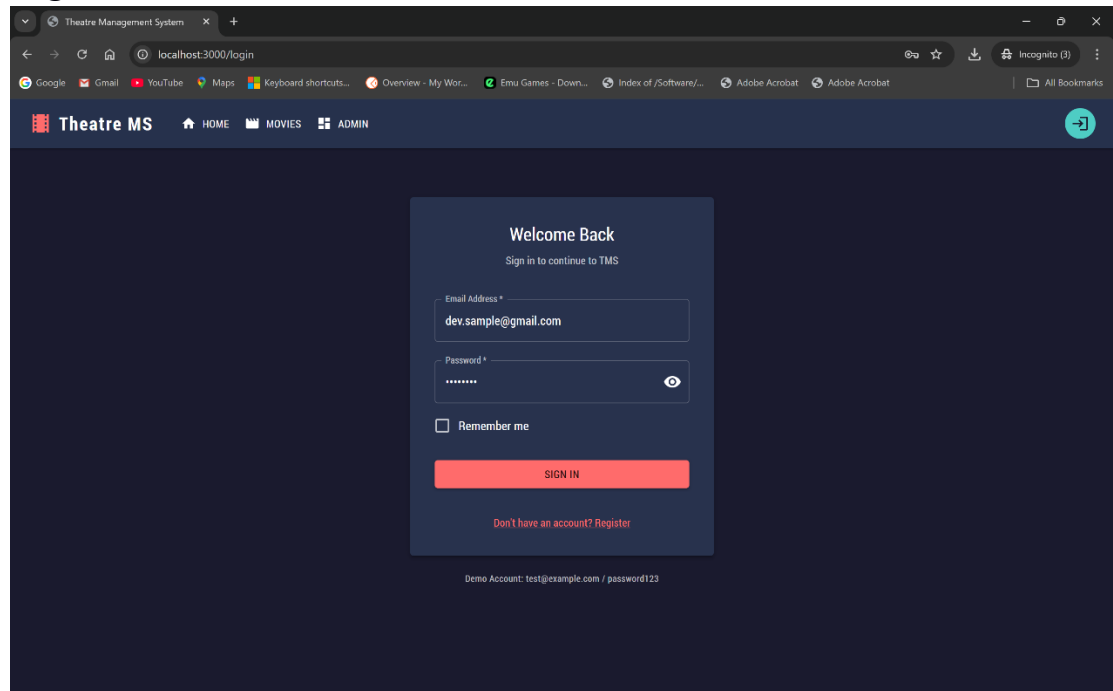
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Explanation: This image shows the user registration interface, titled "Create Account." The form is designed to be straightforward, requesting essential information from new users, including their full name, email address, phone number, and a password. A notable feature is the real-time password strength indicator, which provides immediate feedback to help users create a secure password. The clear "REGISTER" button and a link for existing users to log in make the sign-up process intuitive and user-friendly.

○ Login:



Explanation: This screenshot captures the user login screen, welcoming returning users with the message "Welcome Back." The interface is minimalist, requiring only the user's email address and password to grant access. For user convenience, a "Remember me" checkbox is included. The prominent "SIGN IN" button and a link for new users to register ensure a seamless and efficient authentication process for existing members of the platform.

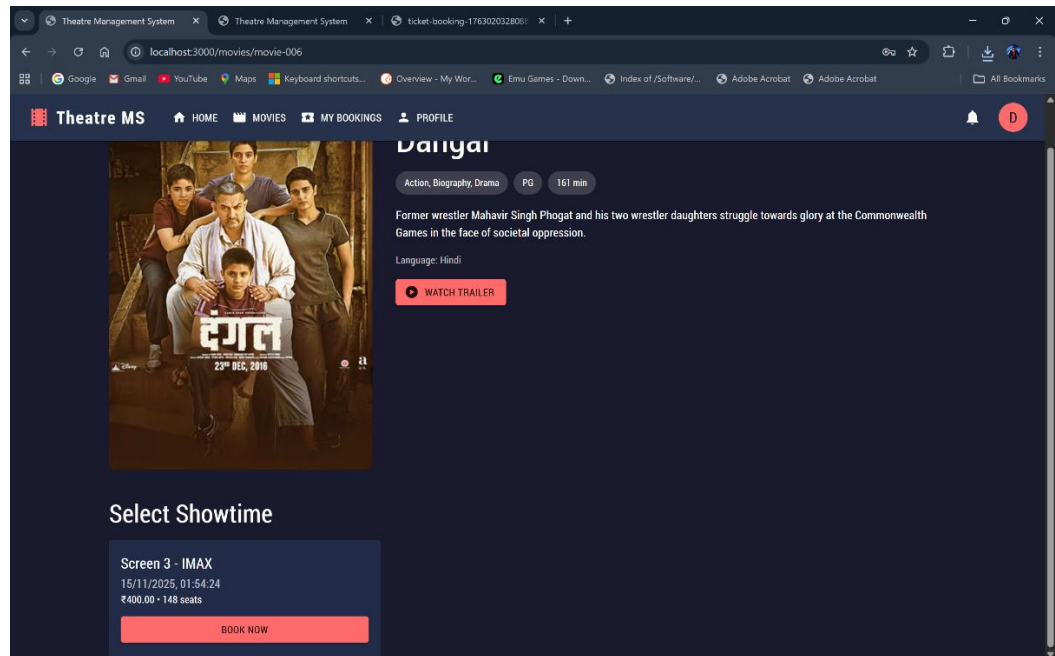
3. Movie Details and Trailer

- Screenshots:

- Movie Details:

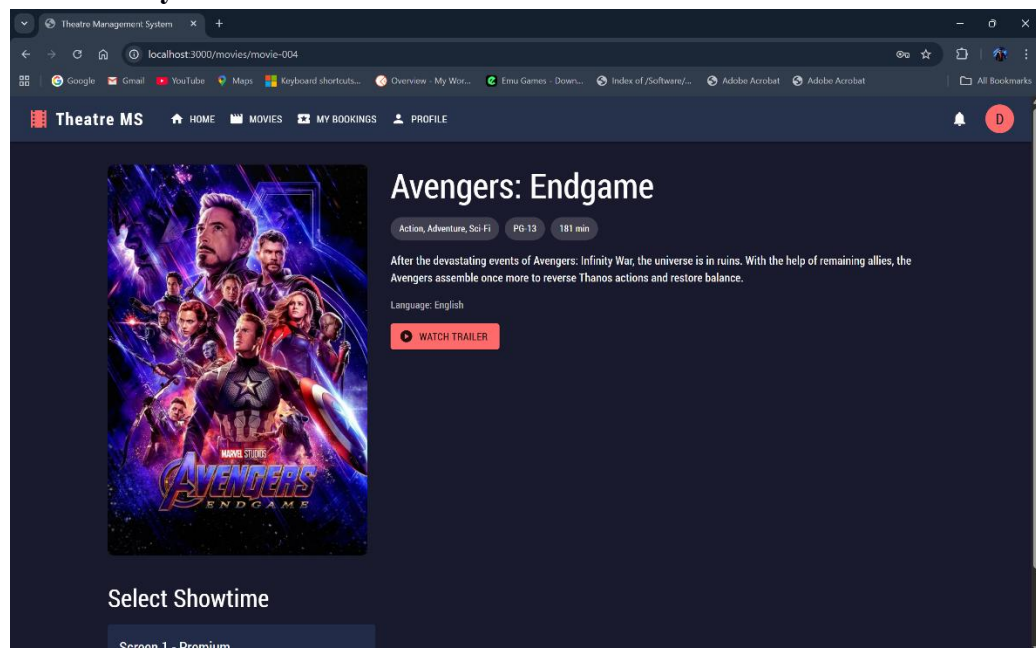


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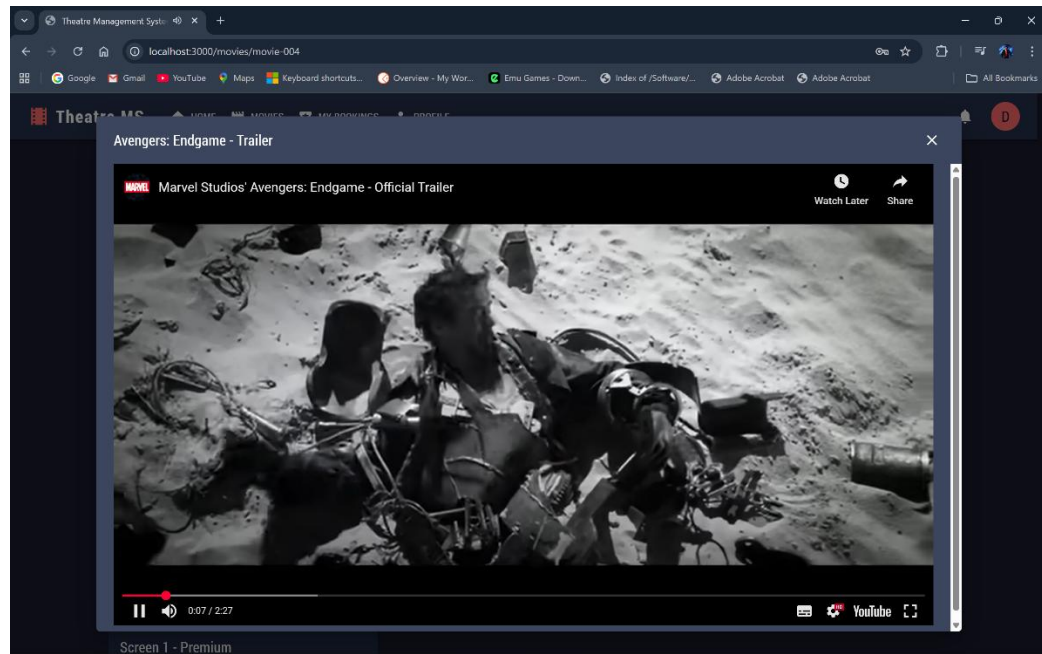
Explanation: This screenshot displays the detailed information page for the movie "Dangal." The layout effectively presents the movie poster on the left and comprehensive details on the right, including tags for genre ("Action, Biography, Drama"), age rating ("PG"), and duration ("161 min"). A well-written synopsis gives users insight into the plot, and the "WATCH TRAILER" button offers an interactive way to engage with the content. Below this, the "Select Showtime" section clearly lists available screenings, directly leading the user to the next step in the booking process.

○ **Trailer Playback:**





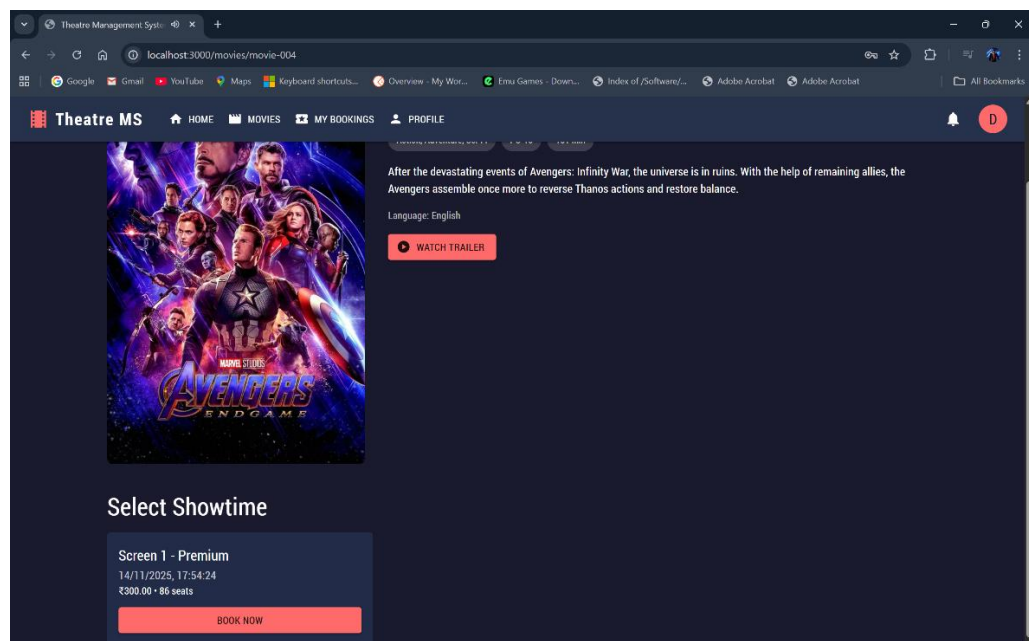
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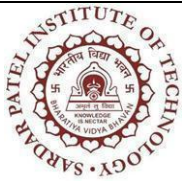


Explanation: This screenshot demonstrates the system's integrated movie trailer feature. When a user clicks the "WATCH TRAILER" button, an embedded video player appears as a modal overlay, as shown here for "Avengers: Endgame." This allows users to view the trailer directly within the application without being redirected to an external website, creating a seamless and immersive browsing experience that helps them make a booking decision.

4. Seat Selection and Booking

- **Screenshots:**
 - **Seat Selection Interface:**



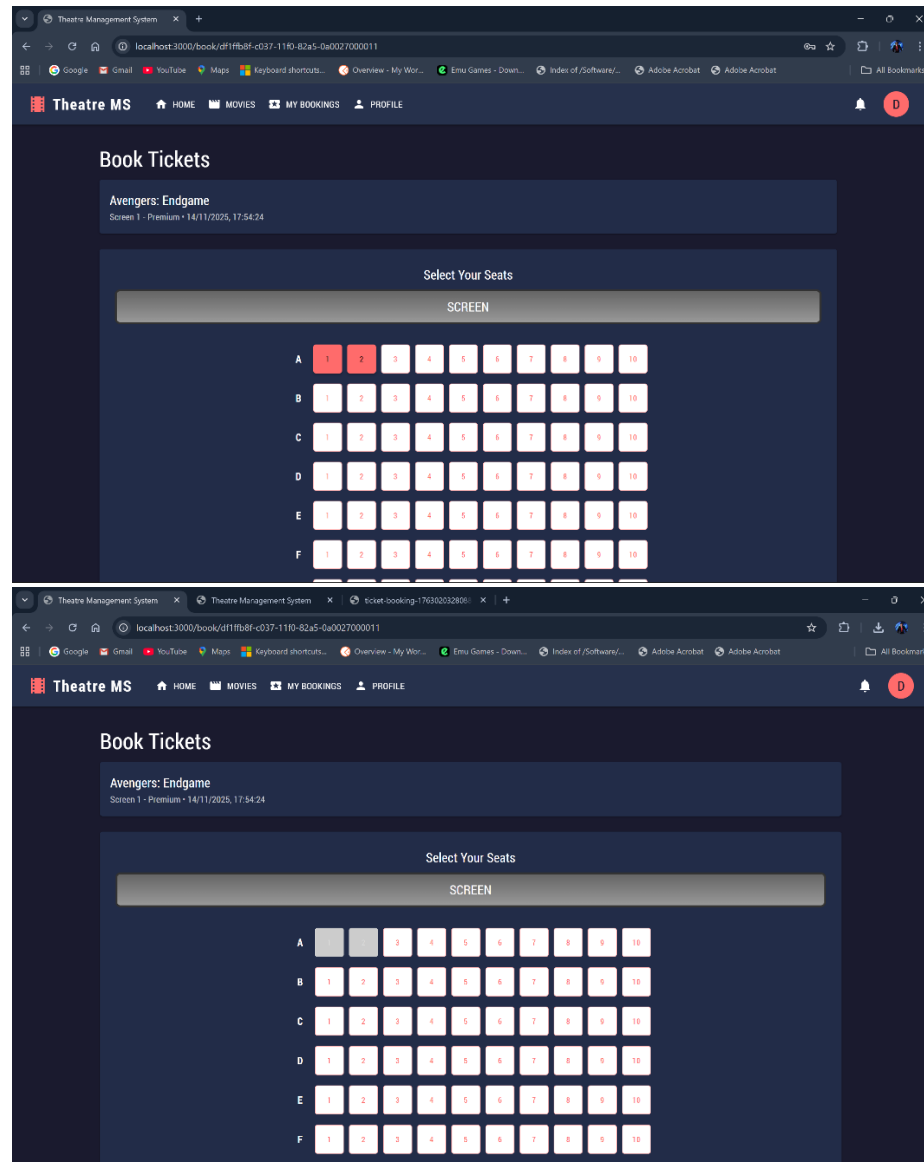


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Explanation: This image showcases the interactive seat selection map, which is a core component of the booking process. It presents a clear, graphical representation of the theatre's seating layout, with rows labeled alphabetically. Users can see the screen's position at the top for orientation. This interface allows users to simply click on their desired available seats, making the selection process intuitive and visually engaging, mirroring the experience of choosing seats in person.

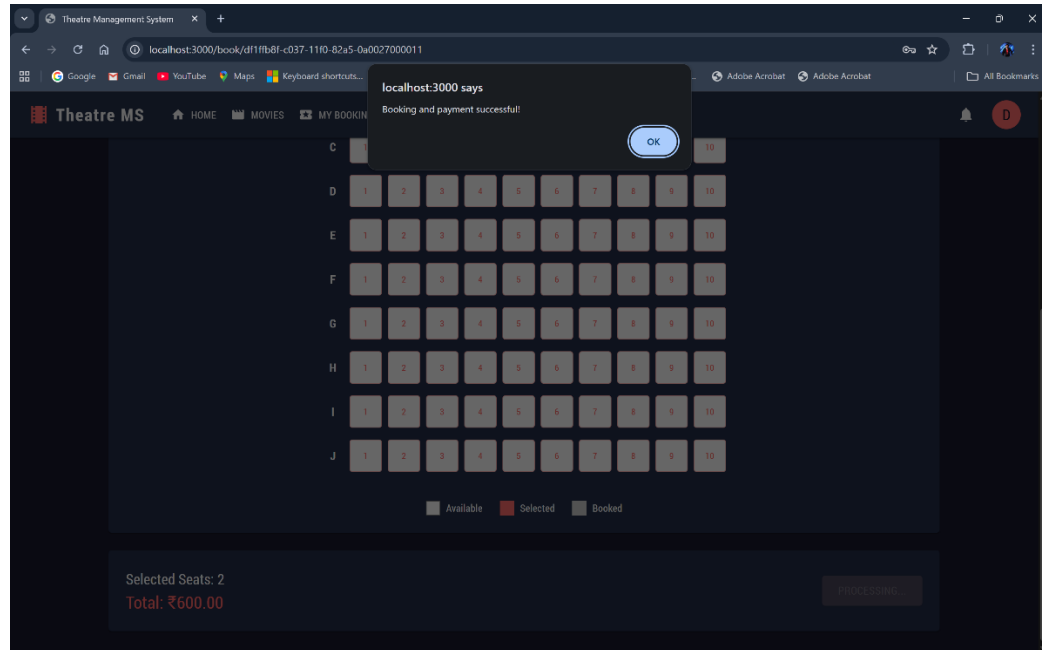


Explanation: This screenshot demonstrates how the system displays real-time seat availability to prevent booking conflicts. The seat map clearly differentiates between available seats (white) and already booked seats (greyed out and unavailable for selection). This visual distinction is crucial for providing users with accurate information, ensuring they can only select seats that are genuinely available and preventing any double-booking errors.



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- **Booking Confirmation:**

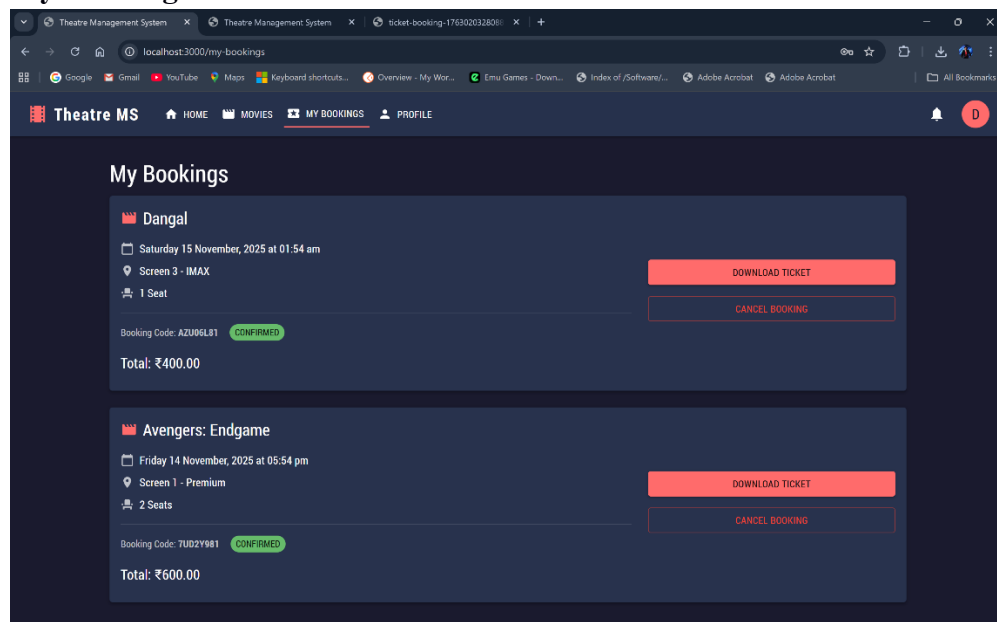


Explanation: This image captures the immediate feedback provided to the user upon a successful transaction. A system alert box appears with the clear and concise message, "Booking and payment successful!" This instant confirmation is a critical usability feature, reassuring the user that their booking has been processed and their seats are secured, thereby completing the booking loop on a positive note.

5. Booking Management

- **Screenshots:**

- **My Bookings:**



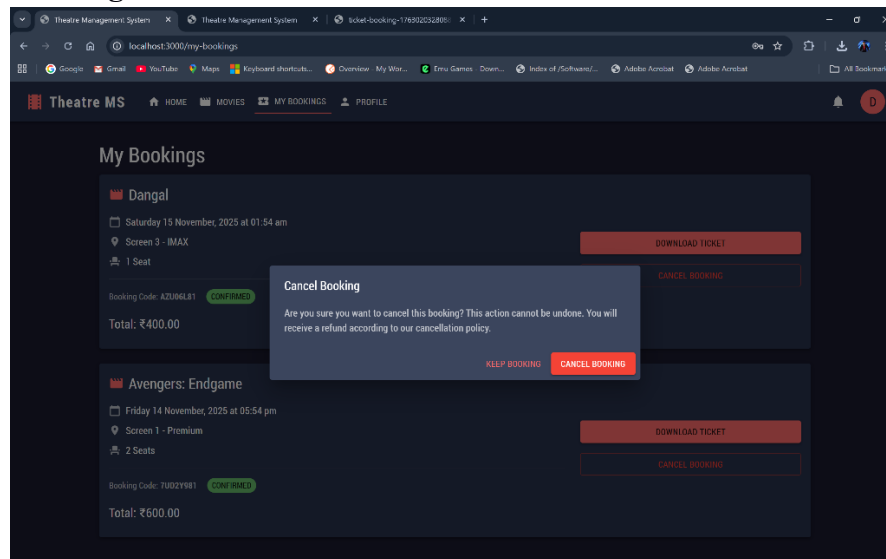
Explanation: This screenshot displays the "My Bookings" page, which serves as the user's personal booking management dashboard. It lists all confirmed



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reservations in a clear, card-based format. Each card contains essential details like the movie title, show date and time, screen number, and a unique booking code. Two prominent buttons, "DOWNLOAD TICKET" and "CANCEL BOOKING," provide users with direct control over their reservations.

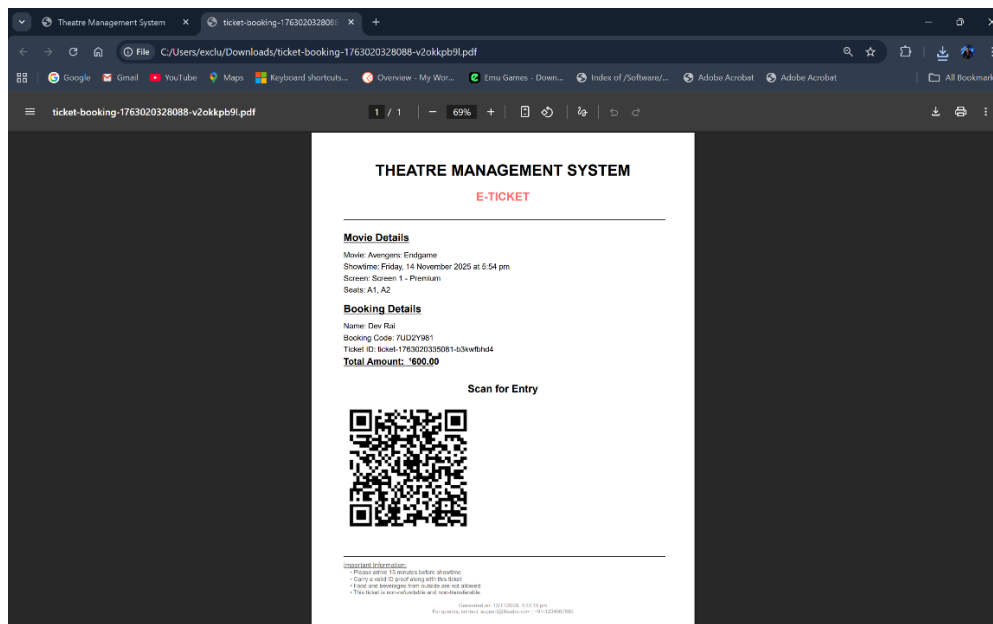
○ **Booking Cancellation:**



Explanation: This screenshot shows the confirmation prompt that appears when a user attempts to cancel a booking. The modal overlay asks, "Are you sure you want to cancel this booking?" and explains that the action cannot be undone. This is a crucial fail-safe mechanism designed to prevent accidental cancellations, ensuring the user is fully aware of their action before proceeding.

6. PDF Ticket Generation

- **Screenshot:**





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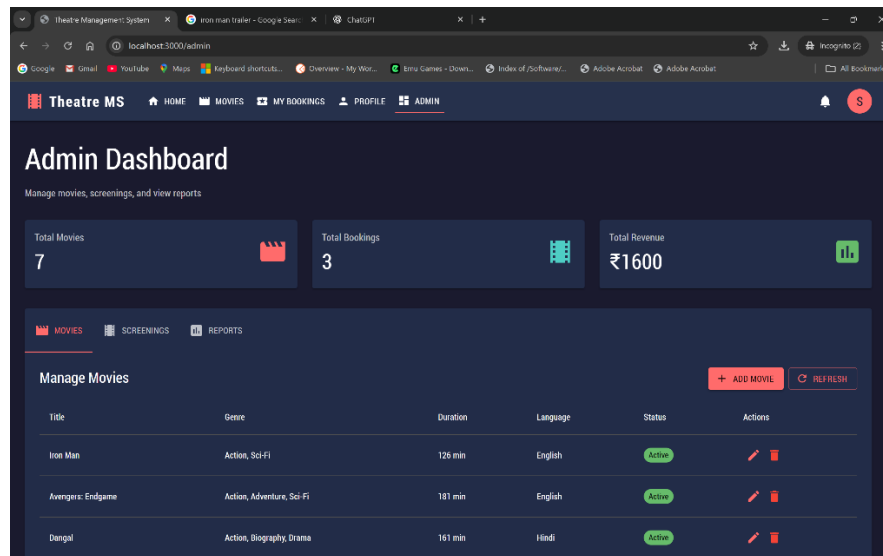
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Explanation: This image displays the final, auto-generated PDF e-ticket. The ticket is professionally formatted and contains all the essential information for the user: movie details, showtime, screen, and specific seat numbers. The most important element is the large, scannable QR code under the "Scan for Entry" instruction, which facilitates a quick, digital, and contactless verification process at the theatre entrance.

7. Admin Dashboard and Movie Management

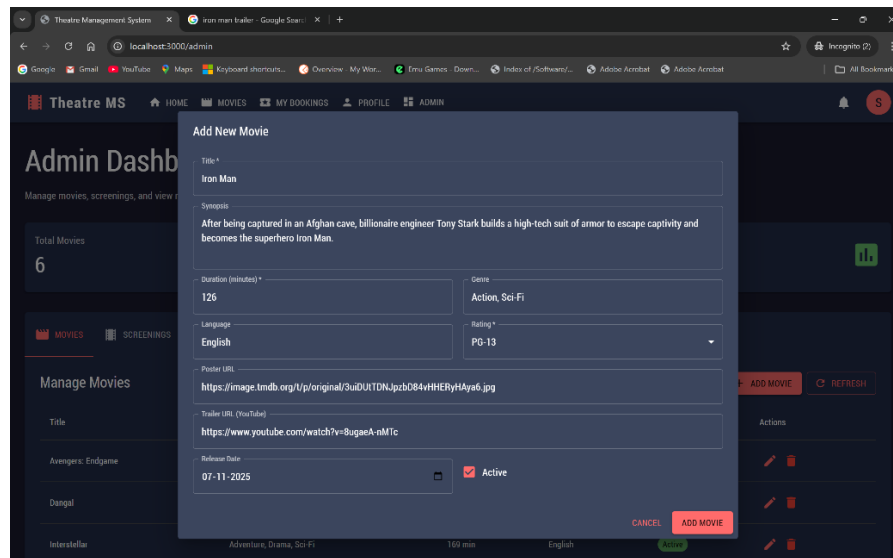
- Screenshots:

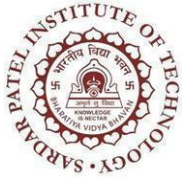
- Admin Dashboard:



Explanation: This screenshot provides a view of the administrator's dashboard, the central hub for managing the theatre's operations. The top section features key performance indicators, such as "Total Movies," "Total Bookings," and "Total Revenue," giving the admin an at-a-glance overview of the system's activity.

- Add New Movie:





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- **Explanation:** This screenshot showcases the "Add New Movie" form within the admin panel. This interface allows administrators to easily populate the website with new content. The form includes fields for all necessary movie details, such as the title, synopsis, duration, genre, poster URL, trailer URL, and release date. This streamlined process ensures that the front-end of the website can be updated quickly and efficiently with new film listings.

Conclusion:

The Implementation of the Theatre Management System project has successfully resulted in a comprehensive, full-stack web application that effectively streamlines theatre operations. The system successfully meets its core objectives by providing a seamless, dual-interface platform for both customers and administrators. For users, it offers an intuitive and engaging experience for browsing movies, selecting seats through an interactive map, and securing bookings with auto-generated PDF tickets. For administrators, it delivers a powerful dashboard with essential tools for managing movie listings, monitoring revenue, and overseeing all booking activities. By leveraging a modern technology stack—including React for the dynamic frontend, Node.js for the efficient backend, and MySQL for reliable data management—the project has produced a robust, scalable, and user-friendly solution. This system not only enhances the movie-going experience for customers but also provides a valuable tool for simplifying and modernizing the management process for theatre operators.