Coding Challenge: Cinema Ticket Booking System API

Welcome to the Cinema Ticket Booking System API coding challenge! In this challenge, you will be tasked with building a robust and user-friendly API for a cinema ticket booking system. The API will allow users to search for available movies, view showtimes, reserve seats, and complete bookings.

Objective:

Your goal is to implement a RESTful API that provides endpoints to handle the following functionalities:

Movie Management:

- Retrieve a list of available movies with their details (title, description, duration, genre, etc.).
- Add new movies to the system.
- Update existing movie information.
- Delete movies from the system.

Theater and Showtime Management:

- Create and manage multiple theaters, each having a specific seating arrangement.
- Define showtimes for each movie in each theater, including the date, time, and available seats.

Seat Reservation:

- Allow users to reserve seats for a particular showtime.
- Ensure that a user can only reserve available seats.
- Implement a reservation timeout to release unconfirmed seats after a specific duration.

Booking Confirmation:

- Enable users to confirm their reservations and complete the booking process.
- Provide booking details, including the movie, showtime, seats reserved, and total price.

Guidelines:

- Use latest stable version .Net + Entity Framework Core.
- Utilize proper API design principles to ensure clarity, consistency, and usability of the endpoints.
- Implement appropriate error handling and validation mechanisms to prevent unexpected behaviors and improve user experience.
- Would be great to see unit tests.

You are not required to implement user authentication in this challenge.

Submission:

Upon completion of the API, provide clear documentation outlining, how to build and run the api, the available endpoints (can be documented with Swagger), their functionalities, and example requests and responses. Share the source code and documentation in a GitLab (or GitHub) repository.

Remember, the primary objective is to create a working and well-documented API that demonstrates your coding skills and knowledge of API development best practices.

Good luck, and happy coding!