Smart Event Booking System (MERN + MySQL)

Objective

Build a complete event booking application where users can browse events, book tickets, and manage reservations, while admins can create/manage events and track bookings.

Key Features

1. User Features
   - o   Browse upcoming events (list + search + filter by location/date).
   - o
2. Admin Features
   - o   Create/update/delete events.
3. Advanced Features
   - o   Real-time seat availability.
   - o   Animations for booking success/failure.

Database Design (MySQL)

Tables:

- events
  - o   id (PK)
  - o   title (VARCHAR)
  - o   description (TEXT)
  - o   location (VARCHAR)
  - o   date (DATETIME)
  - o   total_seats (INT)
  - o   available_seats (INT)
  - o   price (DECIMAL)
  - o   img (VARCHAR)
- bookings
  - o   id (PK)

- o event_id (FK → events.id)
- o name (VARCHAR)
- o email (VARCHAR)
- o mobile (VARCHAR)
- o quantity (INT)
- o total_amount (DECIMAL)
- o booking_date (DATETIME)
- o status (ENUM: confirmed, cancelled)

Backend (Node.js + Express + MySQL)

Core APIs:

1. Event APIs
   - o POST /events – Create event (admin only)
   - o GET /events – List all events (search, filter by date/location)
   - o GET /events/:id – Event details
   - o PUT /events/:id – Update event (admin only)
   - o DELETE /events/:id – Delete event (admin only)
2. Booking APIs
   - o POST /bookings – Book tickets

Frontend (React.js + Tailwind + Framer Motion + Parallax)

Pages & Features:

1. Landing Page
   - o Similar to https://summitra-flowz.webflow.io/
   - o
2. Event Listing Page
   - o Event search & filter (location, date).
   - o Animated event cards.
   - o Real-time seat availability indicator.
3. Event Details Page
   - o Event description, location (Google Maps integration).
   - o Ticket categories with dynamic pricing.
   - o Smooth ticket selection form animation.

4. Booking Flow
   o Animated checkout form.
   o Success screen with animated confetti + downloadable QR code ticket.
5. Admin Dashboard
   o Event management (CRUD).

Bonus Challenges

- Implement real-time seat locking (WebSockets).
- Deploy backend (Render/Heroku) + frontend (Vercel/Netlify).
- Mobile-friendly PWA (Progressive Web App) version.

Deliverables

- GitHub repo with client (React) + server (Node) folders.
- README.md with setup & DB instructions.
- SQL script (event_booking.sql) for schema.
- Screenshots/demo video (optional).

Technology

Backend: MySQL, NodeJS, Socket.IO

Frontend

React

Landing Page similar as

https://summitra-flowz.webflow.io/