Smart Event Planner with AI Suggestions - Documentation

1. Project Overview

An AI-assisted event planning web app where users can create and manage events. Based on event type, budget, location, and preferences, AI recommends the best vendors. Users can manage guests, send RSVP invites, and view event summaries.

2. Features

Core Features:
- User authentication
- Create/manage events
- Guest list and RSVP
- AI vendor suggestions
- Vendor listing with ratings
- Event summary
- Google Maps integration
- Public sharable link

Optional Features:
- Admin panel
- PDF download
- Email/SMS reminders
- Vendor payment
- Chat with vendors
- Calendar view
- QR check-in

3. Tech Stack

Frontend: React + Tailwind CSS + Axios
Backend: Node.js + Express.js
Database: MongoDB (Mongoose)
Auth: JWT or Firebase
AI: OpenAI API or custom rules
Maps: Google Maps API
Mail: Nodemailer / EmailJS
Deployment: Vercel (frontend), Render (backend), MongoDB Atlas

4. Folder Structure

smart-event-planner/
 client/ (React)
    src/components, pages, context, utils
 server/ (Node.js)
    controllers, models, routes
 .env, README.md

5. API Routes

Auth:
- POST /api/auth/register
- POST /api/auth/login

Events:
- POST /api/events/create
- GET /api/events/:id

Vendors:
- GET /api/vendors/
- POST /api/vendors/create

Suggestions:
- POST /api/vendors/suggestions

RSVP:
- POST /api/events/:id/rsvp

6. Timeline

Phase 1: Setup & Auth (23 days)
Phase 2: Event CRUD (23 days)
Phase 3: Vendors (23 days)
Phase 4: AI Feature (3 days)
Phase 5: RSVP & Email (2 days)
Phase 6: Maps (1 day)
Phase 7: UI & Share (2 days)
Phase 8: Optional features (46 days)
Phase 9: Testing & Deployment (2 days)

7. Deployment

Frontend: Vercel / Netlify
Backend: Render / Railway
Database: MongoDB Atlas

.env:
MONGO_URI
JWT_SECRET
OPENAI_API_KEY
EMAIL_PASS
GOOGLE_MAPS_API_KEY

8. Testing

Use Jest for backend API tests

React Testing Library for frontend
Postman for endpoint testing
Manual UI testing on multiple devices
Test with different user roles

9. Future Enhancements

- ChatGPT-based planning assistant
- SMS/WhatsApp reminders
- Voice input
- Event templates
- Multi-language
- Admin analytics