

# Project Planning Documentation for Advancing Nutrition Science Through GeminiAI

*A Gen AI-powered initiative by Google Research*

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A Research Project by Google Research – Health AI Division

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June 2025

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## Hyderabad, Telangana

### 1. Purpose of Planning

Effective project planning ensures timely delivery, resource allocation, risk mitigation, and scope management. This section outlines how NutriGen was planned, tracked, and executed, keeping quality and user-centric goals in focus.

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### 2. Project Timeline & Milestones

Phase	Key Deliverables
Phase 1: Ideation	Problem statement, team formation, feasibility report
Phase 2: Research	Literature review, technology exploration
Phase 3: Architecture	System design, module definition, API design
Phase 4: Development	Frontend + Backend coding, AI module integration
Phase 5: Testing	Unit testing, UI validation, bug fixing
Phase 6: Deployment	Hosting on Render/Firebase, domain linking
Phase 7: Documentation	Project report, GitHub repo setup, video demonstration

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### 3. Task Allocation

Task	Assigned To	Description
Frontend UI & React Routing	Palak Jethwani	Created dashboard, login, planner, and coach screens
Backend Flask APIs	Mohith P	Developed routes for auth, meal plan, chat, and food data
Firebase Integration	Saiyam Jain	Auth setup, Firestore read/write, JWT handling
AI Prompt Engineering	Ashutosh Gunjal	Crafted structured prompts for Gemini to ensure consistency

Task	Assigned To	Description
USDA FoodData API Integration	Mohith P	Implemented external food search and analysis module
System Testing & Bug Reports	All Members	Peer testing, validation, and logging for improvements
Report & GitHub Documentation	Ashu Sharma	Created project documentation, final formatting, and README.md

#### 4. Tools Used

Purpose	Tool / Platform
Code Repository	GitHub
Project Management	Trello / GitHub Projects
Design Collaboration	Figma
IDE & Code Editors	VS Code
Hosting Platforms	Firebase (Client) + Render (Backend)
Communication	WhatsApp / Google Meet

#### 5. Risk Management

Risk	Likelihood	Impact	Mitigation Strategy
Delay in API integration	Medium	High	Start early, use mock data first
Firebase auth misconfiguration	Medium	High	Use official SDK documentation, test frequently
AI prompt inconsistency	High	Medium	Maintain strict prompt format and limit open-ended inputs

Risk	Likelihood	Impact	Mitigation Strategy
Frontend build issues with Vite	Low	Medium	Clean builds, validate Tailwind setup early
Deployment failure on Render	Low	High	Maintain .env.example, use logs for debugging

## 6. Success Criteria

- Functional meal plan generation for all users
- Secure login and persistent sessions
- AI coach accurately answers personalized questions
- USDA-based food search yields valid nutritional data
- Project is hosted and live via working URL
- Mentor feedback incorporated in final documentation