

Project Initialization and Planning Phase

Date	19 Feb 2026
Team ID	LTVIP2026TMIDS39529
Project Title	Advancing Nutrition Science through GeminiAI – NutriGen

Project Proposal (Proposed Solution) template

This project proposal outlines a solution to address a specific problem. With a clear objective, defined scope, and a concise problem statement, the proposed solution details the approach, key features, and resource requirements, including hardware, software, and personnel.

Project Overview	
Objective	To develop a cloud-based web application that provides nutritional information, personalized meal plans, and virtual nutrition coaching using Google Generative AI.
Scope	Includes nutrition analysis, AI meal planning, barcode food scanning, and virtual coaching. Excludes medical diagnosis and hospital system integration.
Problem Statement	
Description	People lack access to affordable personalized nutrition guidance and accurate food nutrition data.
Impact	Helps users make healthy diet choices, improves lifestyle, and reduces dependency on costly nutrition consultations.
Proposed Solution	
Approach	Develop a Python-based web application integrated with Google Gemini AI to generate meal plans, provide nutrition insights, and offer virtual coaching.
Key Features	<div><input type="checkbox"/> Personalized weekly meal plans</div> <div><input type="checkbox"/> Macro &amp; micronutrient analysis</div> <div><input type="checkbox"/> Barcode food scanning</div> <div><input type="checkbox"/> AI nutrition chatbot</div> <div><input type="checkbox"/> Grocery list generation</div>

--	--

**Resource Requirements**

**Hardware**

Resource Type	Description	Specification / Allocation
Computing Resources	Cloud GPU/CPU	Google Cloud / AWS instances
Memory	RAM	Minimum 8 GB
Storage	Data and model storage	100 GB – 1 TB Cloud Storage

**Software**

Resource Type	Description	Specification
Frameworks	Python Web Framework	Flask / FastAPI
Libraries	AI / Data Processing	TensorFlow, PyTorch, Pandas, NumPy
Development Environment	IDE & Version Control	VS Code, Jupyter Notebook, GitHub
Cloud Services	Hosting & AI APIs	Google Cloud Platform, Gemini AI API

**Data**

Resource Type	Description	Specification
Data Source	Nutrition datasets	USDA Food Database, Kaggle Nutrition Datasets
Data Size	Approx dataset size	10K+ food records
Data Format	Structured data	CSV / JSON