

Project Design Phase

Proposed Solution Template

Date	18 February 2026
Team ID	LTVIP2025TMID42151
Project Name	Advancing Nutrition Science Through Gemini AI
Maximum Marks	2 Marks

Proposed Solution Template:

Project team shall fill the following information in the proposed solution template.

S.No.	Parameter	Description
1	Problem Statement	Manual construction site auditing and material counting (like rebar or bricks) are slow, labor-intensive, and prone to human error, leading to project delays and inaccurate inventory logs.
2	Idea / Solution Description	An AI-powered web dashboard that allows engineers to upload site images. Using the Google Gemini 2.5 Flash API , the system performs "Visual Reasoning" to automatically identify structural members, count materials, and generate technical audit reports.
3	Novelty / Uniqueness	Unlike standard digital logbooks, this solution uses Multimodal LLMs to "see" and interpret complex construction skeletons, providing technical insights and inventory data from a single photo without specialized hardware.
4	Social Impact / Customer Satisfaction	Increases site safety by ensuring structural members match design specs and significantly reduces the 4-5 hours typically spent on manual counting, leading to higher engineer job satisfaction and faster project completion.
5	Business Model	A SaaS (Software as a Service) model with tiered subscription levels for construction firms based on the number of site projects or active monthly users.
6	Scalability of the Solution	The cloud-based architecture (using Streamlit and GCP) allows the tool to support multiple concurrent site audits globally. Its decoupled design ensures that as more users join, the heavy AI processing is handled independently by the API.