Project Design Phase-II
Technology Stack (Architecture & Stack)
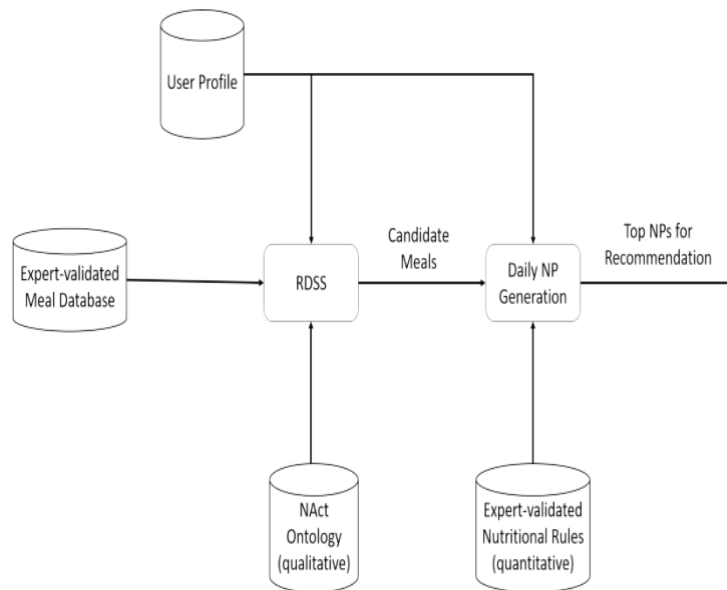
Date	24 January 2026
Team ID	LTVIP2026TMIDS66228
Project Name	Advancing nutrition science through geminiai
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

Example: Order processing during pandemics for offline mode

Reference: https://developer.ibm.com/patterns/ai-powered-backend-system-for-order-processing-during-pandemics/

Guidelines:

Include all the processes (As an application logic / Technology Block)
Provide infrastructural demarcation (Local / Cloud)
Indicate external interfaces (third party API's etc.)
Indicate Data Storage components / services
Indicate interface to machine learning models (if applicable)

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	Web-based nutrition dashboard	Streamlit
2.	Application Logic-1	Backend processing	Python
3.	Application Logic-2	AI prompt Handling	Langchain
4.	Machine Learning Model	Nutrition recommendation model	Google GeminiAPI
5.	Database	User profiles & meal history	MySQL, Firebase
6.	Infrastructure	Cloud / Local deployment	Localhost / Google Cloud

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	Framework used to build application	Streamlit, Langchain
2.	Security	List all the security / access controls implemented, use of firewalls etc.	Http, Jwt.
3.	Scalable Architecture	Handles multiple users	Cloud Deployment
4.	Availability	24/7 webaccess	Cloud Hosting
5.	Performance	Fasted AI response generation	Gemini AI

References:

https://c4model.com/

https://developer.ibm.com/patterns/online-order-processing-system-during-pandemic/

https://www.ibm.com/cloud/architecture

https://aws.amazon.com/architecture

https://medium.com/the-internal-startup/how-to-draw-useful-technical-architecture-diagrams-2d20c9fda90d