Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	31 January 2025
Team ID	LTVIP2025TMID52061
Project Name	Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study
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

Here's your custom **Technology Stack** for the *College Food Choices* project, presented in a clear and structured table format:

Component	**Tool / Technology**	**Purpose**
Data Source Layer	food_coded.csv	Raw dataset containing students' dietary behaviors, preferences, and lifestyle indicators
Data Storage	SQL Workbench / CSV File	Centralized storage for cleaned and filtered datasets
Data Processing	Python (pandas, NumPy)	Cleaning, filtering, recoding variables, and transforming data for analysis
Data Filtering	SQL Queries	Custom filters based on GPA, calorie intake, gender, diet status, etc.
Statistical Modeling	R Programming (optional)	Advanced statistical analysis (e.g., ANOVA, regression)
Visualization Engine	Tableau Desktop / Tableau Public	Create interactive dashboards to visualize trends and behavioral patterns
Web Framework	Flask	Serve visualizations via a lightweight Python web app
Embedding Tool	Tableau IFrame Integration	Embed dashboards into the Flask application
Version Control	GitHub	Code repository, versioning, and collaboration

Component	Tool / Technology	Purpose
Deployment Platform	Render	Host the Flask + Tableau web application for external access
Frontend Interface	HTML / Bootstrap (optional)	Present dashboards in a responsive and clean user interface
Documentation	Markdown / Jupyter Notebooks	Track data flow, methodology, and decisions