

Project Design Phase-II

Technology Stack

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| Date | 25 June 2025 |
| Team ID | LTVIP2025TMID51754 |
| Project Name | Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study |
| Maximum Marks | 5 |

Technical Architecture Guidelines

- User interface to display dietary patterns and health insights.
- Scripts and data logic to clean and analyze food behavior data.
- Integration with external survey tools or APIs if needed.
- Secure storage and sharing of data visualizations.
- Local/cloud deployment of dashboards for student and admin access.

Table-1: Components & Technologies

| S.No | Component Description | Technology |
|------|--|---|
| 1 | User Interface to visualize food data (charts, dashboards) | Tableau Public, HTML, CSS |
| 2 | Data Cleaning & Preparation logic | Python (Pandas, NumPy), Excel |
| 3 | Nutritional Analysis Logic (calories, nutrients, trends) | Tableau Calculated Fields, Python |
| 4 | Data Source (surveys, menus, dietary patterns) | CSV Files, Google Forms, Excel Sheets |
| 5 | Database (optional backend) | SQLite / Google Sheets (optional for scaling) |
| 6 | Cloud Storage for datasets and Tableau files | Google Drive, IBM Cloud Object Storage |
| 7 | File Storage for reports and screenshots | Local File System |
| 8 | External API-1 (optional: food nutrient database) | USDA FoodData API / Nutritionix API |
| 9 | External API-2 (optional: weather/mood tracking integration) | OpenWeatherMap / Google Fit API (optional) |
| 10 | Infrastructure for hosting and visualization | Local Systems, Tableau Public Cloud |

Table-2: Application Characteristics

| S.No | Characteristics | Description & Technology |
|------|--------------------------|--|
| 1 | Open-Source Frameworks | Python (Pandas, NumPy), Tableau Public |
| 2 | Security Implementations | File Protection, Google Drive Access Control |
| 3 | Scalable Architecture | Tableau Public (scalable), Cloud Storage (optional) |
| 4 | Availability | Tableau Public Cloud, Local Storage |