

Student Health and Academic Performance Enhancement through Nutrition Analytics

2. Requirement Analysis

a. Customer Journey Map

The customer journey map outlines the steps students and administrators take from the moment nutritional data is collected to the generation of personalized recommendations and institutional insights. It highlights key touchpoints such as data submission via surveys or digital forms, data processing and analysis, and interaction with Tableau dashboards for visual insights and actionable outputs.

b. Data Flow Diagram

The data flow diagram illustrates the movement of data from input sources like student health records, cafeteria logs, and academic performance metrics. Data is then cleaned and processed through ETL pipelines, stored in a central database, and visualized in Tableau for end-user access. This provides a clear view of how raw data transforms into useful insights.

c. Solution Requirement

The project requires accurate data collection tools such as digital health surveys and integration with school databases. It also needs a secure storage solution, data cleaning and transformation pipelines, and Tableau dashboards designed for both students and administrators. The solution must comply with data privacy standards and be scalable to accommodate more students or institutions in the future.

d. Technology Stack

- Tableau for creating interactive dashboards and visualizations
- SQL databases for managing structured student and nutritional data

- Python for data cleaning, transformation, and integration with external systems
- Google Sheets/Excel for initial data entry and review
- Cloud storage (e.g., AWS S3 or Google Drive) for centralized access to data