

## Project Design Phase-II Data Flow Diagram & User Stories

Date	16 June 2025
Team ID	LTVIP2025TMID59132
Project Name	Comprehensive Analysis and Dietary Strategies with Tableau: A College Food Choices Case Study
Maximum Marks	4 Marks

### Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.

### Data Flow Diagram: "College Food Choices" Project

#### 1. Data Collection

- Source: Student surveys, cafeteria POS systems, fitness tracker integrations.
- Format: Collected in CSV/Google Sheets via forms or API.

#### 2. Data Cleaning & Transformation

- Tools: Python/Excel for handling null values, categorizing food items, calculating daily intake, tagging dietary patterns.
- Fields derived: BMI Category, Nutrient Deficiency Index, Eating Frequency.

#### 3. Data Analysis & Visualization in Tableau

- Interactive dashboards for:
  - Nutritional intake trends
  - Snack preference patterns
  - Health perception vs. actual metrics
  - Predictive trends for deficiencies

#### 4. User Interaction

- Stakeholders explore dashboards with filters (age group, gender, course, meal type).

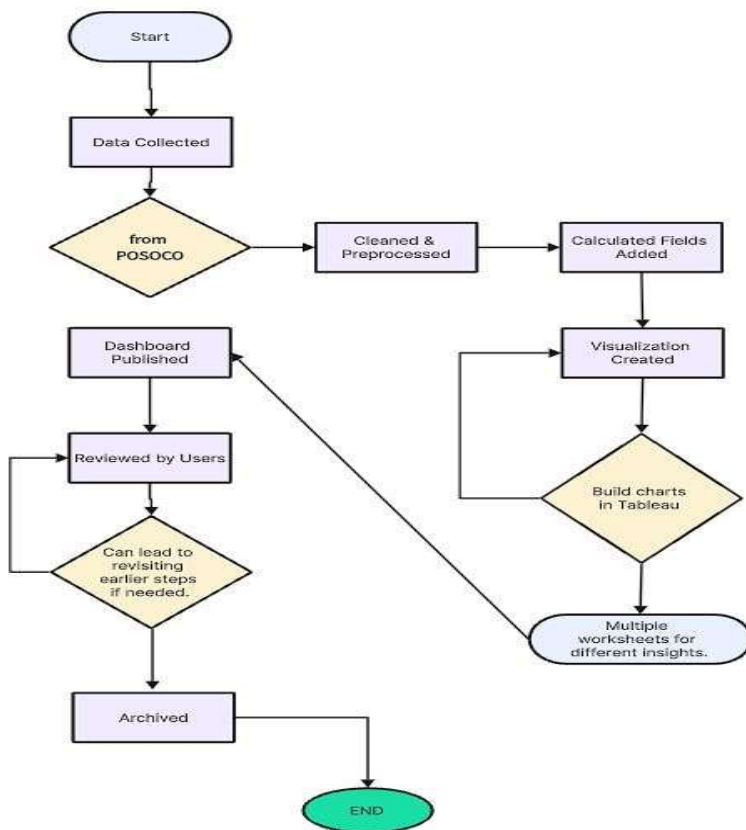
- Alerts set for threshold breaches (e.g., drop in vegetable intake).

## 5. Feedback & Iteration

- User feedback collected for usability and data clarity improvements.
- Dashboards updated regularly.

## 6. Archival & Reporting

- Final dashboards exported as PDF/interactive web views.
- Reports sent to Health & Wellness Departments.



### User Stories for “Enhancing Dietary Strategies”

User Type	Functional Requirement (Epic)	User Story No.	User Story / Task	Acceptance Criteria	Priority	Release
Health Officer	Monitor Diet Trends	USN-1	As a health officer, I want to view trends in fruit and vegetable consumption to monitor student health.	I can filter charts by food type and view weekly/monthly consumption patterns.	High	Sprint-1
Dietitian	Address Deficiencies	USN-2	As a dietitian, I want to identify students with low nutrient intake so I can provide dietary advice.	I can see lists or visual tags for students falling below daily intake thresholds.	High	Sprint-1
Academic Counselor	Link Diet to Academic Performance	USN-3	As a counselor, I want to explore GPA correlations with nutrition quality to guide student wellness plans.	I can compare GPA vs. calorie intake across departments or age groups.	Medium	Sprint-2
Fitness Coach	Integrate Physical Activity Data	USN-4	As a coach, I want to match exercise frequency with diet quality to create personalized improvement plans.	Dashboards show diet vs. activity heatmaps.	Medium	Sprint-2
Admin	Export Insights	USN-5	As an admin, I want to export the dashboard as reports for monthly wellness reviews.	I can export dashboards as PDFs or images for presentations.	Low	Sprint-3
Data Analyst	Predict Health Risks	USN-6	As an analyst, I want to forecast potential deficiencies based on diet trends to inform early intervention.	Forecast charts highlight likely deficiencies and affected student clusters.	High	Sprint-3
Student	View Personal Diet Summary	USN-7	As a student, I want to view my personalized nutrition dashboard to understand my eating habits.	A personalized tab shows weekly intake summary with visual suggestions.	Medium	Sprint-3

