Problem Planning

This section outlines the approach taken to define, structure, and solve the dietary behavior challenges among college students using data analytics and visualization tools like Tableau.

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1. Problem Identification

Key Questions:

- Why are college students making unhealthy food choices?
- What are the most common dietary deficiencies among students?
- How do budget, schedule, and lifestyle impact meal habits?
- What insights can we gather to improve campus food services?

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2. Goals and Objectives

Objective	Description
Understand Eating Patterns	Analyze how students choose meals across a week/month
Identify Nutritional Gaps	Highlight common deficiencies (e.g., fiber, vitamins)
Visualize Insights	Build interactive dashboards using Tableau
Recommend Strategies	Suggest practical dietary improvements

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3. Approach & Strategy

Step-by-Step Planning:

Phase	Task	Tools/Methods
Phase 1	Define problem scope	Surveys, feedback forms
Phase 2	Collect data	Google Forms, Dining Hall Logs
Phase 3	Clean & format data	Excel / Python
Phase 4	Analyze trends	Tableau dashboards
Phase 5	Interpret & suggest	Story points, written reports
Phase 6	Deploy (optional)	Flask app for sharing dashboards

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4. Scope of the Study

In Scope:

- Students across all years and genders
- Diet logs (breakfast, lunch, dinner, snacks)
- Lifestyle impact (exercise, sleep)

Out of Scope:

- Medical diagnosis
- Post-college dietary behavior
- Individualized clinical nutrition plans

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5. Assumptions

- Data collected is honest and self-reported accurately
- Nutritional information from food items is based on reliable sources
- Students represent a diverse sample of eating behaviors

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6. Risks & Limitations

Risk	Mitigation
Incomplete or biased data	Use large, anonymous sample size
Limited tech knowledge	Choose no-code/low-code tools like Tableau
Low student participation	Incentivize survey submission

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7. Success Criteria

- Data collected from at least 300 students
- Tableau dashboards are fully functional and insightful
- At least 3 major dietary improvement suggestions are supported by data
- Optional: Deployment of dashboard on a web platform using Flask