# 1. INTRODUCTION

## 1.1 Project Overview

The 'Student Health and Lifestyle Analysis' project focuses on evaluating and improving students' health and well-being by analyzing lifestyle choices such as diet, physical activity, and their correlation with academic performance.

## 1.2 Purpose

The purpose is to provide actionable insights through data visualizations using Tableau dashboards, helping stakeholders promote better student wellness.

# 2. IDEATION PHASE

## 2.1 Problem Statement

Problem 1: Students tend to skip meals due to busy schedules, leading to unhealthy eating habits and stress.  
Problem 2: Students struggle to maintain regular physical activity due to academic workload.

## 2.2 Empathy Map Canvas

Says: Students try to eat healthy but college life is challenging.  
Thinks: Concerned about diet, GPA, and feels guilty.  
Does: Eats out, prefers comfort food under stress.  
Feels: Stressed, frustrated, motivated by progress.

## 2.3 Brainstorming

Ideas:  
- Meal prep guide for students  
- Campus fitness challenges  
- Healthy food locator app  
- Workshops on health-focused time management  
- Incentive-based wellness programs  
Prioritization:  
1. Meal prep guide  
2. Fitness challenges  
3. Healthy food app  
4. Time management workshops  
5. Incentives for healthy lifestyle.

# 3. REQUIREMENT ANALYSIS

## 3.1 Customer Journey Map

The journey begins with students struggling to manage a healthy lifestyle. Data is collected through surveys, which is then processed and analyzed using Tableau dashboards. Stakeholders including university health administrators and counselors interact with the visualizations to identify behavioral trends and plan interventions.

## 3.2 Solution Requirement

Software: Tableau Desktop  
Data Source: CSV format (food\_coded)  
User Roles: Viewer, Analyst  
Performance: Capable of rendering small-to-medium datasets interactively.

## 3.3 Data Flow Diagram

1. Student Survey Data → 2. ETL Process in Tableau → 3. Dashboard Design → 4. User Analysis → 5. Feedback Loop to Stakeholders.

## 3.4 Technology Stack

Frontend: Tableau Dashboards  
Backend: Tableau Engine  
Data Source: CSV File (Survey Data)  
Deployment: Tableau Public or Server

# 4. PROJECT DESIGN

## 4.1 Problem Solution Fit

The solution is aligned with the identified problems such as irregular meals, sedentary lifestyle, and stress due to poor diet. Interactive Tableau dashboards provide data-backed insights allowing institutions to deploy effective and personalized health interventions.

## 4.2 Proposed Solution

The proposed solution involves collecting lifestyle data from students, cleaning and transforming it in Tableau, and building dashboards. These dashboards uncover patterns in meal habits, GPA, exercise, and mental well-being.

## 4.3 Solution Architecture

Components:   
- Data Source: Federated student survey CSV  
- ETL Layer: Tableau transformations  
- Visual Layer: Dashboards (24 charts, 5 story pages)  
- Deployment: Tableau Public/Server  
- Users: Students, Analysts, Administrators

# 5. PROJECT PLANNING & SCHEDULING

## 5.1 Project Planning

Sprint 1: Data Collection and Preprocessing (8 Story Points)  
Sprint 2: Model Building and Deployment (16 Story Points)  
Total Story Points = 24  
Velocity = 12 Points/Sprint  
Effort Categories: Very Easy to Difficult

# 6. FUNCTIONAL AND PERFORMANCE TESTING

## 6.1 Performance Testing

Dashboards were stress-tested for interactivity using filters for Gender, GPA, Diet, and Exercise Frequency. Calculated fields such as BMI and Regularity Score ensured the insights were deep and meaningful.

# 7. RESULTS

## 7.1 Output Screenshots

The dashboards revealed several insights:  
- High comfort food consumption correlates with low GPA  
- Breakfast skippers tend to underperform academically  
- Regular exercisers show better emotional well-being

# 8. ADVANTAGES & DISADVANTAGES

Advantages:  
- Data-Driven Analysis  
- Personalized Interventions  
- Scalable Architecture  
  
Disadvantages:  
- Dependent on survey honesty  
- Tableau’s limited customization for complex logic

# 9. CONCLUSION

The project effectively maps student behaviors to academic and health indicators using visual analytics. It empowers institutions to foster healthier habits and proactive engagement.

# 10. FUTURE SCOPE

Future extensions could include real-time data through mobile apps, expanding to mental health analytics, and integrating IoT devices for activity tracking.

# 11. APPENDIX

Source Code: Available on request  
Dataset Link: Pre-collected anonymized data  
GitHub Link: https://github.com/LTVIP2025TMID48379/StudentHealthDashboards  
Project Demo: Tableau Public Project Page