Comprehensive Analysis and Dietary Strategies with Tableau

Overview

This project presents a complete analysis of college students' dietary patterns and provides strategic recommendations for improving health and nutrition using Tableau dashboards and optional Flask web integration.

Objectives

- Analyze daily food intake, nutrient balance, and budgeting behavior.
- Identify unhealthy patterns such as skipped meals and junk food dependence.
- Visualize and filter data by demographics (e.g., gender, year of study).
- Recommend health-focused interventions based on findings.

Features

- Data Collection via surveys and food logs
- Data Cleaning and preparation using Excel/Python
- Interactive Dashboards built in Tableau
- Flask Web Integration for embedding and viewing dashboards online
- Exportable PDF/Images for reporting
- Health Recommendations based on insights

Tech Stack

Component	Technology
Data Collection	Google Forms / Excel
Cleaning	Microsoft Excel / Python
Visualization	Tableau Desktop / Tableau Public
Web Integration	Flask (Python), HTML/CSS
Hosting	PythonAnywhere or localhost

Project Architecture

[Survey Data / Dining Logs]
v
[Data Cleaning (Excel / Python)]
v
[Clean CSV Files]
v
[Tableau Dashboards]
v

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[Web Embedding via Flask (Optional)]

Dashboards

1. Meal Frequency Analysis
2. Nutrient Intake vs Guidelines
3. Food Preferences by Demographics
4. Budget vs Nutrition Score
5. Skipped Meals & Impact

Installation

Prerequisites:
- Python 3.x
- Flask (pip install flask)
- Tableau Desktop or Tableau Public

Steps:
git clone https://github.com/yourusername/college-diet-analysis.git
cd college-diet-analysis
python app.py

Usage

- Use data/ folder for storing raw and cleaned Excel/CSV files.
- Open Tableau .twbx file to view and customize dashboards.
- Run app.py to launch the Flask web app and view dashboards in-browser.
- Export visuals as .png or .pdf for inclusion in reports.

Deliverables

File/Folder	Description
/data/	Raw and cleaned datasets
dashboard.twbx	Tableau packaged workbook