

PROJECT PLAN

HOSTEL FOOD WASTAGE MANAGEMENT

Problem Statement :

- Food wastage in college hostels is a significant financial and ethical issue. We believe a large amount of food is often discarded on daily basis due to a mismatch between the amount prepared and the amount consumed.
- This project aims to develop a Python-based software system to systematically track, analyze, and help reduce food wastage.
- The system will log daily food production and consumption data, generate analytical reports to identify wastage patterns, and provide actionable insights to the mess administration, ultimately promoting more efficient resource management and sustainability.

Scope :

- **Must have :**
 1. Record Daily Mess Data
 2. Daily / Weekly Wastage Report (Analysis)
 3. High Wastage Item Identification (Analysis)
 4. Wastage Trend Over Time (Graphical Analysis)
- **Nice to have :**
 1. Food Redirection Suggestion
 2. Track Plate Wastage (Student-Focused)
 3. Cost Analysis of Wastage
 4. Predict Preparation Amount (Analysis)
 5. A GUI using html and a backend(if time persists)

Timeline :

Milestone	Keytask
Backend Foundation	Implement file_handler.py for all CSV read/write logic.(Optional) Create a models.py for data classes.
Core Features	Implement functions in features.py to add and update meal records.Build the main menu loop in main.py.
Analysis Module	Implement functions in analysis.py using pandas Calculate wastage, identify top wasted items, and generate a plot with matplotlib.
Integration & Finalization	<ul style="list-style-type: none">• Connect analysis functions to the main menu.• Perform end-to-end testing and debug.• Write the complete project documenta
Submission	Final code review, add comments, Commit all files to Git and submit the project.

Risks & Mitigation Plan :

Risk	Impact	Strategy
Time Sink	High	Stick to the MVP. If a feature is taking too long, simplify it. A working, simple feature is better than a broken, complex one.
Technical Bug	Medium	Keep it simple. Use well-documented features of pandas. If we get stuck, consult the SIC tutorial for guidance or the official documentation.
Integration Issues	Medium	Test each part independently. Make sure the file_handler works before you write the features. Make sure the analysis functions work with a sample CSV before we connect them to the main.py.