Reducing Food Waste in College Canteens with Smart Canteen App

An Innovative Solution by Shreesiri Kanderi

"Let's make our canteen smarter and greener! 🌱"

Problem Statement: Food Waste in College Canteens

College canteens face significant food waste due to over-preparation and improper portion control, leading to environmental and financial losses.

Key Challenges:

- Inaccurate Demand Prediction: Canteen staff lack data to estimate daily food requirements."

- Over-Serving: Students often take larger portions than they can consume.

- Lack of Awareness: Students are not incentivized to reduce food waste.

- Environmental Impact: Excess food waste contributes to landfill methane emissions.

Proposed Solution: Smart Canteen App

"I imagined a mobile app called 'Smart Canteen' to solve this problem! 📱"

- **Step 1:** Students pre-order their meals a day before (e.g., 'I want biryani tomorrow').

- **Step 2:** The app tells the canteen staff how much to cook (e.g., '20 biryanis needed')."

- **Step 3:** The app suggests portion sizes (e.g., '1 plate is enough!').

- **Step 4:** Students earn points for not wasting food, which they can use for discounts!

How It Works: Technique and Tech Stack

Technique:

- Data-Driven Prediction: Analyze pre-order data to forecast daily food needs.
- Behavioral Incentives: Use gamification to encourage sustainable eating habits.
- Feedback Loop: Collect user feedback to improve portion recommendations.

Tech Stack:

- Frontend: Android Studio (Java) for a user-friendly mobile app interface.
- Backend: Node.js with Express for seamless data processing.
- Database: SQLite for storing pre-orders, user profiles, and reward points.
- Analytics: Python for analyzing pre-order trends and optimizing predictions

•**How It Works:**

•Pre-Order System: Students order meals a day in advance via the app.

•Portion Guidance: The app suggests optimal portion sizes based on user preferences.

•Reward Mechanism: Students earn XP points for finishing meals, redeemable for discounts.

Thank you

"Small actions, big impact—let's reduce waste together."