Refugee Food Bank Management System

Background

Uganda hosts over 1.5 million refugees largely on humanitarian food aid for survival. Fair and efficient food distribution management is a major challenge due to the use of manual systems, causing duplication, delays, wastage, unequal distribution which leads to poor accountability, lack of real-time data and difficulty tracking beneficiaries and stock levels.

Problem

Inefficient food distribution management leads to wastages, fraud, and inequitable food allocation in refugee settlements.

Aim

To design a Python system that improves efficiency, transparency and accountability in refugee food aid.

Objectives

- Develop a centralized refugee and food inventory database.
- Implement a command-line based distribution tracking interface.
- Automate reporting and analytics for transparency.

Key Features

1. Inventory Management
   i. Track stock levels. Monitor food donations and supplies.
   ii. Expiration management. Track food items' expiration dates.
   iii. Stock notifications: Notify the manager when stock is low or nearing expiration.

2. Distribution Coordination
   i. Refugee records: Maintain a record of refugees or families receiving aid.
   ii. Allocation scheduling: Distribute food based on family size.
   iii. Attendance: Track which refugees have collected their rations to avoid duplication.

3. Records Management
   i. Track donors and donations: Record the name of the donor, type of donation, and quantity.
   ii. Donor reports: Generate reports on how donations have been used, to maintain transparency
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   iv. Track refuges details: Record family size, family head, family composition details like age, sex, ill alignments which can improve on the planning and projections.

Tools & Libraries

- VS Code / Google Colab Notebook (development)
- Python
- SQLite
- Pandas, Matplotlib (data analysis, visualization, reporting)

Outcomes

- Functional prototype to enable efficient refugee food tracking.
- Automated accountability and transparency through automated record keeping.
- Reduced manual errors through automated record keeping.
- Align with the SDG2 (zero hunger), SDG10 (reduced inequalities) and SDG16 (transparency and strong institutions)