Project Documentation

Project Title: Local Food Wastage Management System Author: Akshay Pawar Tools & Technologies: Python, SQLite, Pandas, Streamlit, Plotly

1. Introduction

Food wastage is a growing issue worldwide... This project proposes a Local Food Wastage Management System to connect food providers with receivers.

2. Problem Statement

- Large amounts of edible food are wasted daily. - No proper system exists to connect providers with receivers. - Manual distribution is inefficient.

3. Objectives

- Minimize food wastage by redistributing surplus food. - Provide centralized database to track stakeholders. - Enable real-time monitoring. - Provide simple and user-friendly interface.

4. Literature Review

Existing solutions are manual or limited. This project improves with SQL dashboard, claims system, and data-driven insights.

5. System Design

Architecture: Streamlit frontend, SQLite backend, Pandas data handling, Plotly visualization. Database Schema: - Providers: Provider_ID, Name, Type, Address, City, Contact - Receivers: Receiver_ID, Name, Type, City, Contact - Food_Listings: Food_ID, Food_Name, Quantity, Expiry_Date, Provider_ID, Provider_Type, Location, Food_Type, Meal_Type - Claims: Claim_ID, Food_ID, Receiver_ID, Status, Timestamp

6. Methodology

1. Data Collection 2. Data Cleaning 3. Database Creation 4. Streamlit App Development 5. Visualization

7. Implementation

Tools: Python 3.11, SQLite, Pandas, Streamlit, Plotly Steps: 1. pip install -r requirements.txt 2. python load_db.py 3. streamlit run app/streamlit_app.py 4. Access http://localhost:8501

8. Results

Dashboard shows live data, SQL queries generate insights, management modules handle records, visualizations display interactive charts.

9. Conclusion

This project demonstrates how technology can minimize food wastage through real-time tracking, claims management, and dashboards.

10. Future Scope

- Mobile app - AI/ML predictions - Geolocation & maps - Notifications (SMS/email)

11. References

- Streamlit Documentation - Pandas Documentation - SQLite Documentation