Sustainable Development Goal of this App

SDGs: 2 (Zero Hunger) and 12 (Responsible Consumption and Production)

Computational Problem: Efficiently matching food supply from food banks with demand from users and restaurants to minimize food waste and maximize food distribution.

Specific challenges:

- Optimizing food donation
- Managing food inventory and Volunteers

Goal: To create a system that effectively connects food banks, restaurants, and users to reduce food waste and improve food security.

Existing Solutions:

There are a few existing solutions and initiatives taken regarding this SDG already, they are the akshaya patra NGO which has a website of its own and a few other non popular NGOs and Govt schemes. Also some food bank management softwares are available online at a high pricing.

Shortcomings of the Existing Solutions:

These solutions are mostly outdated and not really efficient when we trying to tackle a situation such as food donation and feeding others. The most efficient solution of all akshaya patra itself has some issues such as only promoting its NGO and taking in monetary donations rather than food itself which is more direct and feasible for users. Also, the current system for food donation and distribution is fragmented and inefficient, leading to missed opportunities for addressing food insecurity. Food banks struggle with visibility and outreach, volunteers are not efficiently matched with opportunities, and donors lack clear insights into the impact of their contributions. Additionally, during crises, the coordination for urgent food aid is often slow and cumbersome.

HENCE WE PRESENT TO YOU.....

FEED FORWARD

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Proposed Solution

To address the challenges outlined, we propose a comprehensive mobile application that integrates food banks, restaurants, and users into a unified platform. Key features include:

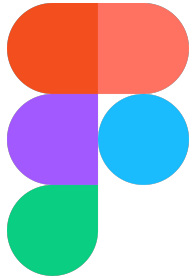
- Streamlined registration: Efficient onboarding process for food banks and restaurants.
- Volunteer management: Facilitates recruitment, scheduling, and tracking volunteer contributions.
- Geo-location based services: Enables users to find nearby food assistance resources.
- Gamification: Motivates user engagement through rewards and recognition for donations and volunteering.
- Crisis response: Provides a platform for rapid mobilization of resources during emergencies.
- Restaurant partnerships: Connects food banks with restaurants to reduce food waste and increase supply.
- Waste Recycle : We encourage the users to provide the donations in recyclable materials,they can use our ML based classifier for distinguishing.

  By combining these elements, the app aims to optimize food distribution, reduce hunger, and foster a stronger community.

Technologies being used for our solution

Core Technologies:

- Mobile app development: Flutter for cross-platform compatibility.
- Backend development: Dart code and Firebase APIs.
- Database and Authentication: FireBase.
- Mapping and geolocation: Google Maps API or similar for location-based services.
- Machine learning and Deep Learning: For predictive model using Tensorflow.
- Designing : Figma for layouts.



How will you evaluate the solution?

The true measure of our app's success lies in its ability to create a positive impact and foster a sense of community. By tracking metrics such as total meals donated and number of people fed, we can quantify the direct benefits to those in need. However, it is equally important to gauge the emotional response and motivation of our users. The gamification elements, leaderboards, and the ability to witness the collective impact of the community will inspire users to contribute consistently.

A strong sense of satisfaction and purpose will be cultivated as users see their actions directly translate into helping others. This positive reinforcement loop will encourage continued engagement and a growing user base. By prioritizing user experience and measuring their emotional connection to the app, we can create a sustainable platform that drives meaningful change. This positive loop idea is based on the principles of “Pay it forward” which justifies that the help to you by a person should be paid forward by helping someone else. Live tracking the impact using real time database is the best evaluation metric for the scalability of this app.