Mitigating Food Waste through Charitable Giving: An App-Based Solution

Bhuvana B[1], Ms. Sandhya N[2]

PG Scholar, Dept. of MCA, National institute of Engineering (NIE), Mysuru, Karnataka India[1]

Assistant Professor, Dept. of MCA, National institute of Engineering (NIE), Mysuru, Karnataka India [2]

Abstract: It is a sad reality that many people across the world are unable to access food, while countless meals are wasted every day. India, in particular, has reached a high level of economic status where a significant amount of edible food is thrown away as waste. This wastage of food is not only bothersome but also evident in garbage bins, landfills, and streets. Canteens, restaurants, weddings, and family gatherings contribute to the problem by wasting a lot of food. Furthermore, food waste not only leads to hunger and pollution but also highlights several economic issues. The rapid changes in lifestyle and high standards of living have resulted in the wastage of food, clothing, and other resources.

I. INTROUDCTION

As food waste continues to increase, it becomes necessary to donate to charities. With the Food Wastage via Donation app, users can donate their excess food to those in need, instead of throwing it away. The app allows for donations to be sent to orphanages, retirement homes, and other organizations that require assistance. It operates on smart phones equipped with internet connectivity.

This app connects restaurants with charities and needy families to provide them with excess food. Additionally, it rewards restaurants with goodwill points for their generosity, which they may use to promote themselves as socially responsible businesses.

Problem Statement

Food wastage is a pressing issue affecting millions of people worldwide, including in India where a significant amount of edible food goes to waste. This wastage not only reflects hunger and pollution but also signifies economic problems and changing lifestyles. This project will create a mobile app to fix this.The application serves as a platform for individuals and businesses to donate leftover food to needy organizations such as orphanages and old age homes. By establishing a link between restaurants and charity homes, the app facilitates the seamless donation of excess food. Smartphones with internet connection make the programme accessible to most people, allowing them to cut food waste and assist charities.

II. LITERATURE SURVEY

The paper "Food donation portal":

Which was released in 2015 and summarises food donation efforts and links donors with NGOs. A food donation network is proposed and its social effect is discussed. No GPS service is a drawback in this article. The organisation or charity must manually discover the closest contributor since the technology does not enable it.

The paper "Helping Hands":

Launched in 2016, a new online software for giving outdated things and surplus food to needy people/organizations. It describes the donation system and how the suggested product improves society, as well as the reason for such an application..The disadvantage of this project is that there is no dashboard available that is, at the end of the month the system don' t get all the records that how much is donated or received by the receiver

### The paper "Beyond food sharing:Supporting food waste reduction With ICTs":

In 2016, food security is essential to increasing the quality of life for everybody. The current economic crisis has worsened food poverty, particularly in industrialised countries. Despite an increasing awareness of waste reduction and food excess management, ICTs' involvement in this sector is ambiguous and infrequently reported.This paper describes the use of ICT tools to recover food surplus at different stages of the supply chain and also describes the way forward for an integrated set of ICT tools to reduce waste from producers to households.

The paper " Food donations using a forecasting-simulation model":

A 2016 technique estimates contributions for non-profit hunger relief groups. These organisations work to eradicate global hunger with donor support. The number and frequency of gifts they get vary with time, making it difficult to alleviate hunger. A simulation model estimates monthly food contributions in a multiwarehouse distribution network. The simulation model uses a state-space exponential smoothing approach. A non-profit hunger relief organization's data is analysed numerically. The findings suggest that this method can estimate accurately. Non-profit hunger relief groups may also utilise this paper's technique to forecast contributions for proactive planning.

III. BACKGROUND STUDY

Currently, individuals must physically visit various organizations multiple times to donate items. Food waste management involves contacting charities to collect and distribute food to those in need, which can be a lengthy process. Communicating between restaurants and charities can also be time-consuming. This manual system can result in difficulties for both charity groups searching for food and restaurants looking to contribute.
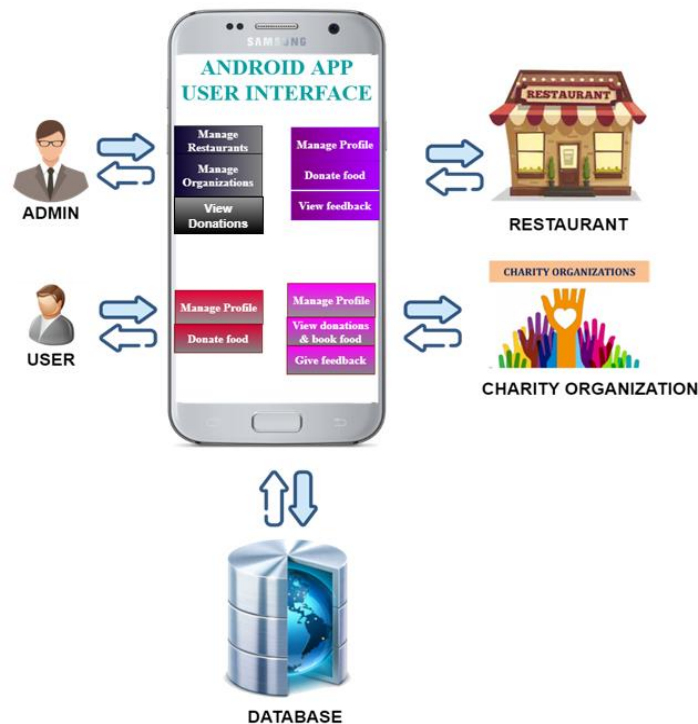
IV. METHODOLOGY

Creating an Android app involves a seamless integration of XML, Java programming, and SQLite Database. XML arranges widgets and components graphically in the app's user interface. The app's logic is written in Java, Android's main programming language.SQLite Database complements this by offering a database for data storage and synchronization. The XML files define the UI elements, while Java files handle user interactions and backend operations. By integrating SQLite Database with the app, data can be stored, retrieved, and updated. Java code can access the database using SQLite APIs, enabling dynamic synchronization across devices. This trifecta of XML, Java, and SQLite Database enables developers to craft feature-rich Android apps with intuitive interfaces, dynamic functionality, and seamless data management.

The suggested method would connect donors and searchers following registration. If a restaurant wants to give, it may apply. Charity organisations will get this notice under donations tab. The backend database will store this message. After receiving a notice, charitable groups may contact the contributor to claim contributions. This system will have an easy-to-use interface.

V.   CONCLUSION

When we waste food, we also waste resources such as water, energy, time, personnel, land, fertilizer, packaging, and money. That's why the proposed application is designed to cut down on food waste and ultimately help organizations that are in need.

FUTURE ENEHANCEMENT

1. App connects customers to restaurants one hour before they close, for meal discounts as high as 80 percent. Customers can enter their location and explore nearby deals, and they pick up their order at a time specified by the restaurant. Users can also donate food to people in need through the app.
2. Support for local languages

REFERENCES

[1]. H. Raut, S. Rajput ,and D. Nalavade, "Smartphone based food supply chain for Aurangabad city using GIS location based and google web services", https://ieeexplore.ieee.org/document/7580874/metrics, 2014.

[2]. A. Ciaght and A. Villafiorita," Beyond food sharing: Supporting food wastage reduction using ICT" , http://esatjournals.net/ijret/2016v05/i04/IJRET20160504 058.pdf, 2016.

[3]. K. Raut, N. Shah and A. Thorat, "Food donation portal", http://ijarcet.org/wpcontent/uploads/IJARCET-VOL-5-ISSUE-4-906908.pdf, 2015.

[4]. D.Shah, A. Ansari and R. Sharma, "Helping hands", http://ijsrd.com/Article.php?manuscript=IJSRDV4I11048 5, 2016.

[5]. Jadhav NH, Narendrababu CR and Banu Prakash GC " EA New Approach to Reduce Food Wastage using Ubiquitous Technique", J Food Process Technol 6: 496, 2015.

[6]. K.Anusha and R.Bhargavi,"Food Wastage Reduction through Donation using New Approach: Helping Hands " , Volume VIII, Issue III, March 2019.

[7]. A. Anzer, H. A. Tabaza, W. Ahmed and H. Hajjdiab, "A Food Wastage Reduction Mobile Application", 2018.

[8]. D. Jethwa, A. Agrawal, R. Kulkarni and L. Raut, "Food waste reduction through donation", International Journal of Recent Trends in Engineering & Research (IJRTER) Volume 04, Issue 03, March 2018.