DESIGNING A MOBILE APPLICATION FOR FOOD WASTAGE REDUCTION

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Abstract— This project is used to manage wastage foods in a useful way. Every day, a lot of food is thrown away. As a result, we must address the issue of food waste online. If anyone has wastage food, they enter their food quantity details and their address in that application, and then the admin keeps track of the food donator's details. The donor can set up an account, and if they have leftover food, they may log in and submit a request to the administrator. The admin also keeps track of the buyer's information (orphanages, destitute persons, etc.). After the admin has reviewed the donor request, he or she will send an alert message with information such as the time to come and collect the food. And the admin collects food from donors through their local agent, which they then distribute to orphanages or impoverished individuals in the area. Admin will receive the meal from the agent and send an alert message to the donor. If a donor needs any information regarding the orphanage, they can submit a request to the administrator, who will gather the information. This food redistribution project is a hugely effective social initiative that combats food waste and poverty. Because it maintains a different account for each user, the user's information is kept private.

Index Terms - *Food donator, Food waste issues, Food collection, Food Quantity, Food.*

I. INTRODUCTION—

The rising amount of waste in terms of food, clothing, literature, and other items necessitates the need for charitable donations. This article introduces 'Helping Hands,' a novel web-based tool that allows users to donate unwanted items and leftover meals to anyone in need. It describes the existing donation system and how the suggested product works for the welfare of society, as well as the reasons for developing such an application. It shows that the product is an efficient way of donating things over the internet to organizations etc. It shows the potential to prevent food, clothing, books and other things being wasted.

Food waste is a serious problem in densely populated countries like India. The evidence can be found on the streets, in garbage cans, and in landfills. Weddings, canteens, restaurants, social and family gatherings, and functions all waste a lot of food. Food waste is a sign of not simply hunger or pollution, but also a variety of economic issues. Because of rapid changes in habits and lifestyle, the high standard of living has resulted in food, clothing, and other waste. Rather than discarding these items, we can donate them to various organizations such as orphanages, old age homes, and so on. The product is an android application that is based on the internet and is mostly intended for charitable purposes through donations.

The majority of people are unaware of how much food they waste on a daily basis, from uneaten leftovers to damaged fruit. Approximately 95% of the food we throw away ends up in landfills or incineration plants. We disposed of around 35 million tons of food waste in 2013.

Many people want to contribute items to charities that are in need. .Furthermore, many groups seek to request various items they require, such as clothing, food grains, books, cutlery, and so on, but there is no source available to meet their needs. As a result, an Android application has been created that allows users to give products according to their ability, as well as allowing organizations to post items on the app their requests, i.e. whatever products they require, if any. The vast majority of people nowadays have smart phones with active internet connections, which is a need for this product to work correctly.

II. REVIEW OF LITERATURE—

In the paper 'Smartphone Based Waste Food Supply Chain for Aurangabad City Using GIS Location Based and Google Web Services,' published in 2014, the client-server GIS and mobile application to create a hunger-free city are described. The client-side application provides the option of donating food to those in need. Donors provide basic information such as the quantity of food, the type of food, the amount, and their contact information. NGOs or any other social service group can collect the food and give it to the hungry. When the registration is complete, it is uploaded to a server-side database, from which organizations can keep donor entries and see the best route from their location to the nearest NGOs or other organizations, complete with directions. In order for hungry individuals to receive meals on time [6].
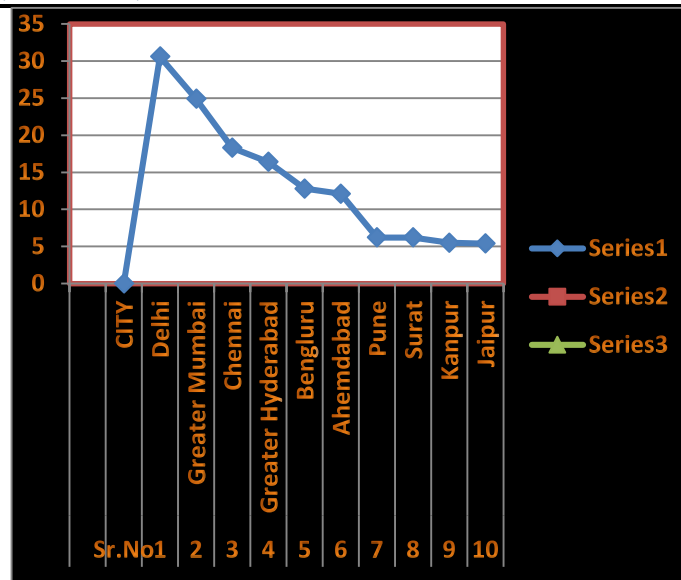
Food quality is a cornerstone to living a better life with excellent health for citizens at all levels, according to the study "Beyond food sharing: Supporting food waste reduction using ICTs," released in 2016. People are confronting additional problems like food poverty as current economic concerns worsen, especially in established regions. Despite increased public awareness of the necessity of reducing food waste and managing excess food, the role of ICTs in this domain remains ambiguous and unregulated. According to this study, we employ ICT technologies to recover food surplus at several levels of the supply chain, and it also provides the way forward for recovering food surplus for a suite of ICT tools for reducing waste from producers to low-income families [7].

According to the document 'Food donation portal,' released in 2015, it analyzes the change in food donation activities and provides a mechanism for food donors to engage with social working organizations or NGOs. The need of raising awareness for a food donation link is discussed, as well as the impact this path has on society. The defect is that there is no GPS tracking accessible in this study. As a result, supporters must manually locate the closest charities in their area [8].

This project is based on an internet application that offers an innovative approach for donating unwanted food to hungry people and organizations, and was published in 2016. It highlights the motive for submitting such an application, the goal of the donation, and how the suggested system will contribute to the development of society. The biggest fault of this application is that it lacks a dashboard on the system, which is why no record of donations given or received is kept at the end of each month [9].

In the paper 'A New Approach to Reduce Food Wastage Using Ubiquitous Technique,' published in 2015, the authors propose a new method for reducing food waste. Food waste is increasing on a daily basis, and it is becoming a severe social, environmental, and economical issue. Every day, a large amount of food is thrown away in restaurants and social gatherings. A large number of people in a country are excluded the basic essentials of life, such as food, clothing, and shelter. There are so many different organizations working on a cause to feed and care for the underprivileged, yet it's practically difficult to reach out to everyone in this densely populated country. As a result, the proposed system connects them so that food may be supplied quickly to hungry people without being wasted, and a larger number of people may be served [10]

TOP 10 INDIAN CITIES FOR WASTE GENERATION ANNUALLY		
Sr.No	CITY	In Lakh Tunes
1	Delhi	30.6
2	Greater Mumbai	24.9
3	Chennai	18.3
4	Greater Hyderabad	16.4
5	Bengaluru	12.8
6	Ahmedabad	12.1
7	Pune	6.2
8	Surat	6.2
9	Kanpur	5.5
10	Jaipur	5.4

TOP 10 IMDIAN CITIES FOR WASTE GENERATION ANNUALLY.

III. EXISTING SYSTEM & PROPOSED SYSTEM—

- **EXISTING SYSTEM :**

In the current system, if anyone has extra food due to a function or in their home, it will go to waste because there is no way to share it with anyone if they have a lot of food. Even if they wanted to donate the extra food to an orphanage or underprivileged people, they either don't have the time or don't know how. As a result, we've created an application to sponsor that additional food for underprivileged individuals or orphanages in the area.

- **PROPOSED SYSTEM :**

We are using that application to reduce food waste in the proposed system. This food redistribution project is a hugely successful social innovation that addresses food waste and food poverty. The administrator collects food from donors via their local agent and distributes it to nearby orphanages or poor people. We can reduce food waste by receiving food from the agent and sending an alert message to the donor.

The proposed application is android-based, developed on Android Studio with java and xml, and will provide a platform for donors and seekers after they successfully register in the system. If a user wishes to donate something, he or she can do so by sending a message through the application.

This message will be displayed to other users as a notification in the donations tab. This message will be saved in the database in the backend. Once a notification is sent, orphanages that wish to claim the donations can respond to the notification.

donor and make contact with him/her This system's user interface will be simple and user-friendly, and the target system is Android. At the moment, we are trying to avoid the major source of waste in India, which is food. We intend and anticipate updating and refining the same, which will increase the efficiency and utility of the application, which includes books, stationary, clothing, and so on.

However, the application is only available for Android phones running Gingerbread or higher. Furthermore, the application will be useful if donors and seekers are located close to each other. The use case diagram above depicts three actors: Donor, Receiver, and Administrator.

The Donor completes tasks such as System Registration and Login. He can also donate items and view all donation requests (items required by organizations). The Admin and Donor can both see the Receiver's location. The database can also be monitored and updated by the administrator. Both the Admin and the Receiver have access to the information.

IV. MODULES

- *Login &Registration*

    This section involves both the guest and the Agent logging in and registering. By creating a separate account for each user, the user's information is kept private. The agent can only view the details of the registered guest at the same time.

- *Notification*

    The guest must notify the agent during this phase. The user will send a notification containing the location of available food via the notification bar. This is accomplished by using the notification button.

- *Admin Module*

    The administrator manages both the agent and the donator details in the admin module. The food is collected by the administrator from the agent. The administrator provides the orphanage information directly to the donor.

- *Donator Module*

    The donator donates food waste to the orphanage in the donator module. The donator makes a request to the administrator to collect the waste food. The donator sees the orphanage and agent Information..
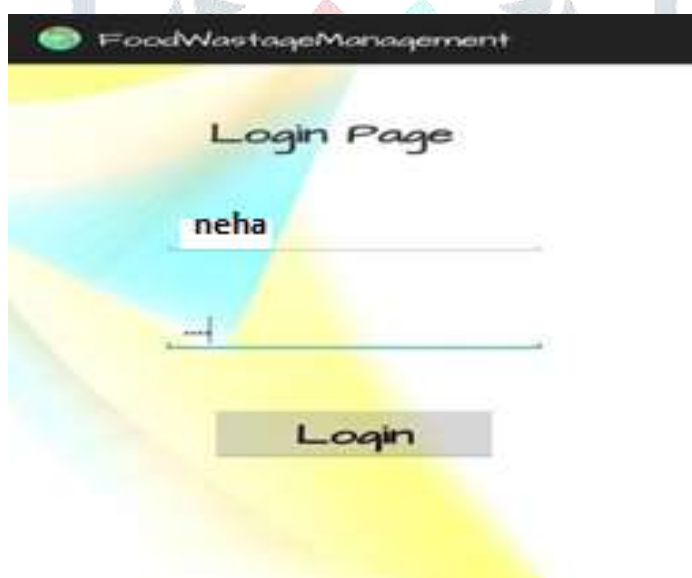
- *Receiver Module*

    The Receiver maintains the orphanage details in the Agent module. It can also keep track of the donor's information. The receiver requests that the admin collect the food from the donor. After collecting the food, the agent sends an alert message to the donor.
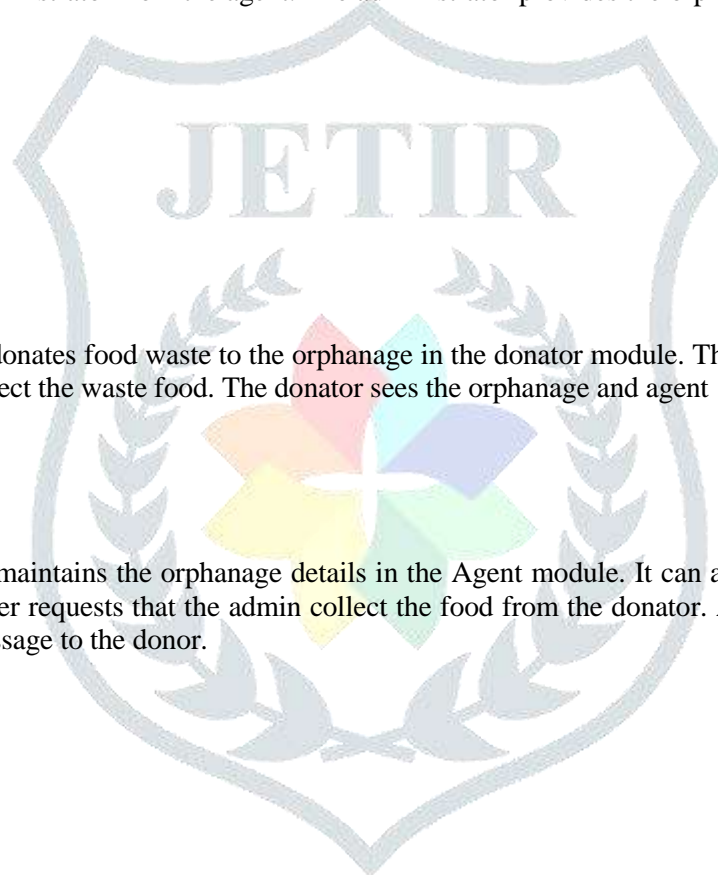
Fig.1.Home page

Fig 2: Admin Login page

Fig. 3: View Details

Fig. 4: Adding People

Fig 5: Food Wastage Details

V. THE BENEFITS—

• You can easily donate food from home;

• Food waste will be reduced; and

• A GPS system will make it simple to locate nearby organizations or restaurants.

• User-friendly and simple to use.

VI. CONCLUSION—

The proposed application will reduce food waste while also meeting the needs of needy organizations for clothing, books, utensils, and other items.

As stated earlier in the description, there is a huge amount of food waste that occurs on a daily basis in restaurants and cafes. Instead of throwing it away as trash (as is usually the case), it can be used to feed the homeless. Furthermore, because the enterprise arranges for the pickup, the restaurants/cafés do not need to worry about it. Restaurants and cafes will benefit (by lowering their carbon footprint and waste), as will the needy. There was no standard food information system on food packages in future work that provided the user with both the name of the food and its expiry date. A viable improvement would be to read the expiry date and the food name from the product bar code using OCR tools. However, the ease of use of this option is only slightly higher than that of manually filling out the food information.

Some companies have begun testing the use of QR codes on food packages to provide detailed information. Despite this, it still has a long way to go before it becomes a standard. However, for the time being, this application provides a viable and effective solution.

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