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Food Donation App - Helping Hands

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***Abstract*—Food loss is a common issue in countries with dense populations, such as India. The proof was abundant in the sidewalks, trash cans, and landfill. Ceremonies, cafeterias, restaurants, gatherings with friends and family, and other events remove such thousand dinners. Food waste is frequently a symptom of different money problems, starvation, or environmental deterioration. Occasionally, the elevated standard of living has resulted in meals, apparel, and other types of debris as a result of quick shifts in lifestyle. Instead of letting those things go to waste, we often manage to put them to good use by giving them to organizations like shelters, retirement communities, and so on. The object in question is a fully internet-based Android application that mainly aims to raise money by means of donations. As previously stated, there are numerous instances of food waste that occur daily in restaurants and cafes. Instead of being discarded like garbage, it will be used to provide food for the less fortunate.To get around this problem, we've set out to create an Android programme that will donate extra food to those in need or who are in poor circumstances, thus reducing the waste of food. The Android programme is sophisticated to address this issue by reducing food waste by providing extra food to the hungry.**

Keywords—Food waste management, Donor, Rider, Firebase, Geo-Location, Needy Persons, Android

I. INTRODUCTION

The Food Donation System is another initiative to end hunger and prevent food loss in order to create a world without hunger. he most current estimate states that 1.3 billion meals are wasted annually. Furthermore, it is said that a third of the food eaten remained leftover. This campaign's main goal is to reduce food waste and give leftovers to the hungry.As a result, an android-based programme was developed so that anyone could contribute their functionality and at the same time, the software would allow the company to place requests based on their needs. A phone might also be the essential requirement to use this Food Donation Android Application Project System programme.

One of the most significant issues that all nations face is without a doubt food waste. According to a survey, 40% or more of the meals produced in Asian nations go to waste every day. Much more waste occurs during weddings, galas, and other events in hotels. On the other side, malnutrition causes many children to pass away every day. There are numerous Charities working hard to ensure that such food reaches the underprivileged and destitute people.

Food waste is a sign of many other financial issues in addition to cravings or contamination. The loss of food is a result of the sole expectation of living in light of the quick changes in habits and lifestyle.

Instead of throwing these things away, we can make use of them by donating them to other organizations, such shelters, nursing homes, and so forth. The product is an android web application that primarily focuses on charitable donations. Many individuals are unaware of how much food they waste daily, including rotten and unconsumed excess. Almost 95% of the produce we throw away ends up in landfills or burning buildings. We settled the issue of food waste in 2013. Almost 35 million tonnes of goods are wanted by people to donate to charities.

Similar to this, a number of groups try to order different necessities like clothing, food, literature, cutlery, and other products, but there is no open source. That will meet their requirements.

In response, an Android framework was created that allows users to transmit items based on their capacity and frequently allows associations to set up their requests, assuming, for example, that they need certain items.Today's population uses sophisticated smart phones with intricate web connections, which is a necessary condition for this device to function well..

II. LITERATURE SURVEY

An Android mobile programme called "Aahar - Food Donation App"[1], paper released in June-2021, is offers a venue for food donations over the web. As Well As not only food but also other items like clothing, literature, kitchenware, and so forth were given for this application. It includes three distinct components, namely User Module, NGO module and Admin Module. After successfully logging in, users can donate food by providing information such as the type of food, the address, cooking time and date, and the availability of the donor. They are able to submit the inquiry, and in the NGO's module, those specific offering details will be stated. The NGO's will then collect that food by selecting the pickup time and date; if they do not wish to receive the food, they can simply refuse and quit. Other than food, everything else is packaged as a present before being given. On Android Studio, this programme was created via Java and XML.

A new android mobile application that uses IOT devices for food quality verification is called "Zero Hunger: Smart Food Donation System using IoT" [3], a study released in May 2021. Here, there are two Modules. One is the User module, and the other one is the NGO module. Here, after successfully logging in, the user donates food with the necessary information, including the type of food, how much is being donated, and the recipient's location. The specifics of the contribution can be viewed by NGOs, who can then designate a specific volunteer to pick up the food via a map link, inspect the food using smart devices in order to ensure it is in good condition, and disperse it to slum areas.

A mobile application for Android that developed an alternative philosophy called "Food Donation Application: Food Share" [6], an article that was released in May 2021. Which is, in every other journal, the emphasis is on an alternate NGO, and food is given to that NGO. In contrast, in this case, anyone in need—whether they are an NGO or an individual—is explicitly recorded. As a result, when a user wants to give food, he is able to give to a particular individual or group.

A 2015 document titled "Food Donation Portal" briefly outlined the practices of food donation and provided a platform for donors and NGOs to interact. The document also proposed the use of this platform as a means to minimize food loss, eliminate food waste, and improve the food distribution network. In a 2016 article titled "Beyond Food Sharing: Promoting the Elimination of Food Waste With ICTs," it was noted that ensuring food security is essential for assessing the standard of living of individuals across different societal levels.

A 2014 report titled "Smartphone-based totally additional food delivery chain for Aurangabad City using location-based totally GIS and Google internet services" explains the client-server-GIS and mobile application for creating a city without hunger. Food donations to those in need are possible through the client-side programme. Dispensing devices provide straightforward information such as the amount of the food, its type, and its corresponding phone number. Any social organization or NGO can gather food donations and distribute it to the needy. When registration is complete, it is put on the server-side database, where organizations can keep records of donations and their best path from the donor's position to the next NGO or any other organization, along with addresses.So that hungry individuals can get food on schedule [1]

The document 'Beyond Meal Sharing: Promoting Meal Waste Reduction' With ICTs', which was released in 2016, assuring the high-satisfactory of meals is a key to maintaining an improved livelihood with appropriate exercise for inhabitants of all categories. As contemporary times monetary issues have grown, people have been confronted with new challenges, such as food insecurity, particularly in urban areas. Despite the growing recognition of the importance of reducing food waste among humans and coping with more food, the role of ICTs in this field remains unclear and rarely recorded.In accordance to this document, we rely on a variety of ICT equipment to get better meals extra at many levels of the supply chain, and it also explains the way forward for a combined set of ICT equipment to reduce waste from makers to families in need.

III. OBJECTIVES

a) Reduce food waste: By allowing individuals and businesses to donate their excess food, the app can help reduce the amount of food that goes to waste.

b) Combat food insecurity: The app can help connect people in need with available food resources, including non-profit organizations and food banks.

c) Convenience: The app can offer a user-friendly platform for food donors to quickly and easily connect with organizations that can benefit from their donations.

d) Increased awareness: By promoting the app and the issue of food waste and food insecurity, the app can help raise awareness about these issues and encourage more people to get involved.

e) Track donations: The app can track the amount of food donated and help organizations better understand their impact and make improvements as needed. the paper. Do not number text heads-the template will do that for you.

IV. EXISTING SYSTEM

Limited reach: Some food donation apps may only be available in certain regions or may only partner with specific organizations, limiting their reach and impact.Lack of coordination: Without a centralized system for coordinating donations and deliveries, it can be challenging to ensure that food donations are being distributed in the most efficient and effective way possible.Logistics: Coordinating the logistics of food donation can be complex, especially when it comes to picking up and delivering perishable items.User engagement: Some food donation apps may struggle to engage users and encourage them to continue using the app over time, which could limit its overall impact.

V. PROPOSED SYSTEM

The implementation of a food relocation system is a valuable development for reducing food waste and addressing the issue of food scarcity. The system works by having volunteers collect food donations from givers and delivering them to homeless or impoverished individuals through local experts. The proposed android-based application, built using jar and xml and featuring site connectivity, will offer a platform for donors and volunteers to register and participate in the program. Once a donor registers a donation, volunteers in the area will receive a notification and can choose to accept or reject the pickup based on their availability.

The User Interface of the application will be designed to be intuitive and easy to use, with a focus on the Android platform given its widespread adoption in India. Our goal is to eliminate the major waste problem in India and expand the system's effectiveness to include other types of donations, such as books, stationery, and clothing. By leveraging the growing popularity of Android, we believe the system can have a broad impact and reach a large user base.

Methodology in Donor and Volunteer Donor Side: If there is no account the donor can register by providing his Name, Address, Phone Number. If he is already a user hecan directly login and if he wants to add a donation donor can add the donation by adding the type of food whether it isfor animals or humans, the vehicle that is suitable for and the weight.

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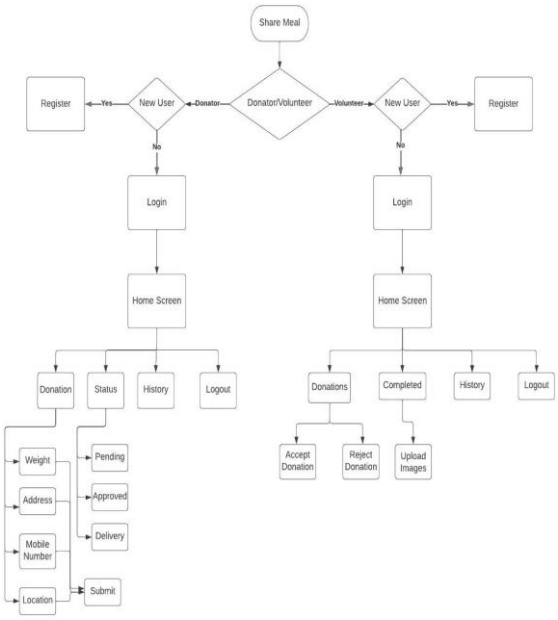
The Donor's Geo-Location can be directly accessed by the google Geo-Location through API's. Once he donateshe can see the status of the donation in the Status and once the order is completed he can also get the images of the donation for their self-satisfaction. Donor can see their past donations in the History.

Volunteer Side:

If there is no account the volunteer can register by providing his Name, Phone Number, any Government ID, Vehicle Type, Vehicle Number. If the volunteer already exists the volunteer can login and if there are any active donations to be made those are seen in his home page. If the locality is near by the volunteer can accept or reject. If the volunteer accepts they will be redirected to the Google Maps showing the pick up location. Once he completes the donation they can also add the images and complete the donation. They can also see their past volunteered Donations.



VI. IMPLEMENTATION

1. Splash Screen

In our project, we have implemented a splash screen at the start of our application. The purpose of our splash screen is to showcase our brand logo and provide users with a visual cue that the application is loading. Our splash screen design features our logo centered on a white background. We chose a color scheme that matches our brand identity to reinforce brand recognition.

The duration of our splash screen is set to 3 seconds. During this time, users are presented with our logo, which fades in and out, creating a subtle animation effect. This duration was selected based on user testing and feedback to ensure that it provides enough time for users to take note of our logo without causing frustration.

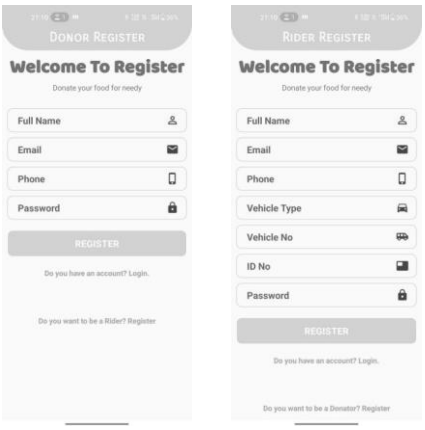
2. Register page

Donor Registration

If donor registration process requires users to provide their personal details such as name, phone number, and password. This information is used to create a unique account for each donor. During the registration process, donors are required to enter their contact information accurately as this will be used by the organization to reach out to them.

Rider Registration

The rider registration process requires users to provide additional personal details compared to donor registration, including vehicle type, vehicle number, ID number, and email address.

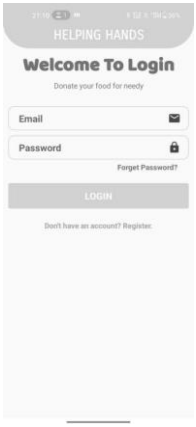


After successful registration, a unique account is created for each donor and rider. This allows them to access the services provided by the organization through its platform. The personal information provided by donors and riders is securely stored in the organization's database and is used only for the purpose of providing services to users.

3. Login page

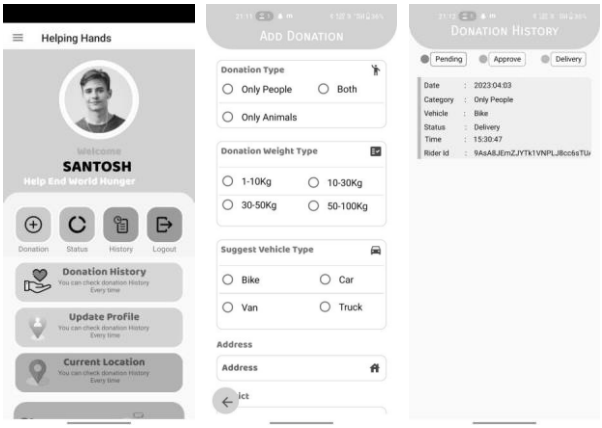
The Login page is designed to enable registered donors and riders to access their account information by entering their email address and password. Upon login, the system automatically detects whether the user is a donor or rider based on their registered email address and password.

This approach streamlines the login process for users and ensures that they are directed to the correct dashboard.



4. Donor Dashboard

The Donor Dashboard is designed to provide registered donors with access to their account information, donation history, and current donation status. The dashboard includes four primary features: Donation, Status, History, and Logout.



a. Donation

The Donation feature allows donors to make a new donation by selecting the type of donation they wish to make - whether it is for people or animals. Additionally, donors are required to provide the weight of the food they are donating and the suggested vehicle type for pickups, which can be a car, bike, van, or truck,Donors have to enter their address during the donation process to enable riders to identify their location accurately.

b. Status

The Status feature displays the status of the donor's current donation, including whether it has been accepted by a rider and delivered to the designated location. This feature helps donors stay updated on the status of their donation and ensures timely delivery of donations.

c. History

The History feature provides donors with access to their past donation records, including the images taken by riders after delivery. These images help donors ensure that their donations were delivered to the right place and that they are making a positive impact on society.

Logout

The Logout option enables donors to log out of their account securely once they have completed their donation or browsing session. This feature helps to protect user data from unauthorized access and ensures the security of user accounts.By providing these features in the Donor Dashboard, donors can conveniently donate and keep track of their donations' status and history while also ensuring the safety and security of their personal information.

5. Rider Dashboard

The rider dashboard consists of four main features: donations, completed, history and logout

a. Donations

This feature of the rider dashboard allows riders to view the details of potential donations and decide whether to accept them or not. The riders located closest to the donor location will be given priority in accepting the donations. This feature streamlines the donation management process for nonprofit organizations by allowing them to quickly and easily assign riders to pick up donations from donors.

b. Completed

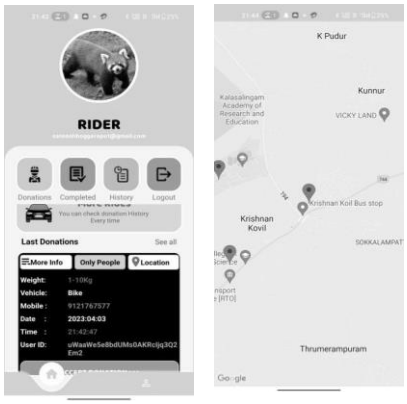
e. Once a rider has accepted a donation, they are required to upload images of the received donations in this tab. This ensures donor satisfaction by providing visual proof that their donation has been received. Once the images have been uploaded, the rider must click on the complete donation button. This feature also allows nonprofit organizations to keep track of completed donations and ensure that all donations have been properly received.

c. History

f. The history tab provides a summary of all completed donations. This feature allows nonprofit organizations to keep track of their donation activity and measure the impact of their fundraising efforts. By having access to a complete history of donations, nonprofit organizations can analyze trends in donation activity and identify opportunities for improvement in their donation management process.

d. Logout

The logout feature of the rider dashboard allows the rider to safely log out of their account once they have completed their tasks. This feature ensures the security of the rider's personal and account information, and prevents unauthorized access to the account.



VII. CONCLUSION

Individuals use cell phones for a variety of purposes, and the design evolves year after year. Food wastage must be reduced through the suggested apps. In our daily existence, there is a significant quantity of food waste. Instead of dumping it in the trash, it can be used to support the poor. It is an acceptable advantage. As a result, using this efficiency should be no issue. As a result, the Helping Hands smartphone application has the potential to draw a diverse range of clients, making it useful in addressing global hunger and food waste.

The software proposed aims to solve the food wastage issue by co-ordinating the volunteers and donors via application supported by the Google Location Service API's which is a major advantage to this application so that the pickup becomes easy for the volunteer. And even it also gives the freedom for the people who donate because they don't need to go anywhere for the food delivery which is stopping them to do this job but with the help of the volunteers this job is also made easy.

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