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Waste Food Donation Using Mobile Application

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***Abstract* - Waste Food Donation is an android mobile application developed to specialize in the supply of food for NGOs, adulthood homes, Orphanages to avoid the wastage of food. Wasting food may be a common problem in our society. Garbage management is crucial since it can improve our environmental and economic sustainability. Within the current situation, leftover food is thrown, daily on large scale from weddings, restaurants, college/school canteens, social events, and lots of other social functions [1]. But because of the continued covid pandemic, collecting information about leftover food physically isn't possible. So this may be a platform where we'll get the knowledge about the leftover food which may be donated.**

Keywords: Mobile Application, Covid Pandemic, Food Donation, Android, NGOs.

I. INTRODUCTION

Food wastage may be a significant issue within a previous couple of years. Consistent with the garbage Index Report, 2021 published by the United Nations Environment Program, 50 kg of food is thrown away per person per annum in Indian homes [4]. Nearly 40 percent of the food produced in India is wasted per annum because of fragmented food systems and inefficient supply chains. Restaurants and hotels are other stakeholders within the garbage, due to the massive portions served to customers. Since not all the portion is consumed, the remainder will find you within the garbage bin.

Garbage may be a major part of the impact of agriculture global climate change and other environmental issues. Garbage causes problems to sort of a Blue water footprint, increased carbon footprint, Economic consequences, Biodiversity loss, etc.

Android is that the hottest OS in the world, with over 2.5 billion active users spanning over 190 countries. Due thereto, we develop an android application using android studio because it'll reach a wider range of audience since most people nowadays use android phones.[7]

The objectives of this application that gives a platform for donating leftover food from different functions, hotels, and events to the needy people of the NGOs, adulthood homes, Orphanages and avoid wastage of food. It shows the potential for avoiding the waste of food.

II. LITERATURE REVIEW

Consistent with [2] within the age of recent era, where we are developed through AI, people are more hooked on the smartphone. There are various applications, which are developed to regulate the large wastage of food, and it provides the chance to send that extra food to the people that need it. There are multiple applications, which control garbage. The foremost useful garbage applications for android are as follows:

2.1 Indian Food Wastage Reduction Application (No Food Waste)

No garbage is an application from India that permits the restaurants, food stalls, and parties to tell about their excessive leftover foods so that needy people can collect them for his or her usage. This application collects those foods and distributes those among the homeless people, slum dwellers, and orphanages also as nursing homes. Consistent with [3], the users also can notify them by showing hunger points, and that they will distribute the foods there.

2.2 Food Cowboy Application

Food Cowboy arranges efficient communication between food donors and charities and fast delivery of excess food within us. Delivery drivers, caterers, and anyone working with large volumes of edible but rejected food creates alerts within the app. Food pantries, processors, and composters immediately receive these alerts and get in touch with the source for delivery arrangements. Food Cowboy charges a little commission for the service. for example, a bank can purchase the maximum amount as they will store for 10 cents per pound.[5]

2.3 Food Waste Reduction Application

Food Waste Reduction android mobile application that permits restaurants to donate and share their foods and leftovers with people in need. This app will enable users to register, log in, view items, add items, add items to the cart, remove an item from the cart, and sign off. This app is using the firebase storage and real-time database. Any user in need can see all the food images donated by different users and add them to his or her cart.

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III. PROBLEM STATEMENT

Daily tones of food are wasted by throwing leftover food within the dustbin, dumped in the dump yard. Because of this waste of food, dumping yard getting full day by day. It also affects nature and human health. So donating the leftover food from the weddings, restaurants, college/school canteens, social events, and lots of other social functions to the NGO, Orphanage, or adulthood homes through donation over the web[1]. Due to the ongoing covid pandemic, collecting information about leftover food, physically from the event isn't possible. So this application will provide that information to you. And also will help to scale back the food wastage very effectively.

IV. PROPOSED SYSTEM

The proposed system is an android application, developed on Android studio using Kotlin which needs an online connection and firebase to store the info. the most components of the appliance are the donor and therefore the volunteer of an NGO/Receiver. The donor can register/login into the system and enter the available food details within the food donation entries. The donor can enter the food type, cooking and expiry date of food, address (where the food is available), and therefore the details of the donor. Once the donor fills altogether the small print and submits the shape the volunteer will receive notifications regarding the food details.

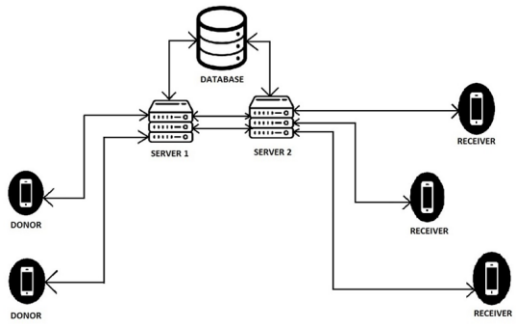

Figure 1: System Architecture of Application

The above diagram shows the system architecture of our application. During which donor will enter the info which can undergo server and can save in database. These data are going to be accessible by the receiver (NGOs, adulthood homes, etc.).

V. MODULES

In our application there are three modules:

1. Admin Login
2. Donor Login/Registration
3. Receiver Login/ Registration

Admin has access to donor list & receiver list during which he/she can add or delete a donor also as a receiver from the respective list. And can also see the report of donations done through the appliance so far.

In donor, if the donor is new he/she has registered and has got to provide some detail about them to make sure the donor is genuine. After login into the system, donors need to add food details like food making date, expiry of food, and quantity of food. Also will get notified about food requests accepted by the receiver and their details to the donor.

Receivers after login into the system will see the donor list. Which contains donor details, food expiry, food making date, and food quantity? The receiver decides whether to simply accept the food or reject the food.

VI. SOFTWARE REQUIREMENT

Sr. No	Software Component	Details(Technical details with Purpose)
1	Operating System	32bit Windows 7 and on words
2	Technology	Java Spring Boot
3	IDE	Android Studio
4	Database	MYSQL

6.1 Java Spring Boot

Spring Boot is an open-source Java-based framework wont to create a micro Service. It developed by the Pivotal Team and is employed to create stand-alone and production-ready spring applications. It's developed using Java programming language by pivotal software.

6.2 Android Studio

Android Studio is an IDE (Integrated Development Environment) developed and managed by Google, which is getting used to develop an android application. Android studio provides an auto-generated code editor which suggests that to write down your XML java or kotlin code you would like to not write it completely it generates it for you. Its Gradle feature helps you in compiling and building the appliance, within the short android studio is that the best IDE for Android app development. You'll connect your smartphone also as can download your smartphone in android studio for the simulation process.

6.3 MYSQL

It's developed, marketed, and supported by MySQL AB, a Swedish company, and written in C programing language and C++ programing language. MySQL is currently the foremost popular management system software used for managing the

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electronic database. it's open-source database software, which is supported by Oracle Company. it's a quick, scalable, and easy-to-use management system as compared with Microsoft SQL Server and Oracle Database. It's commonly utilized in conjunction with PHP scripts for creating powerful and dynamic server-side or web-based enterprise applications.

VII. REQUIREMENTS VALIDATION

Donor

1. If a Donor wants to donate the food, the donor has got to register within the application
2. The donor should have a valid10 digit mobile number for contacting
3. Email id must for registration
4. The donor has got to add food donation details

Receiver

1. If the receiver has got to see the available food donation, the receiver has got to register into the appliance
2. The receiver should have the valid 10 digits mobile number for contacting
3. Email id must for registration
4. The receiver has got to accept or reject from available food donation

VIII. CONCLUSION

Our study has investigated the matter of garbage that has many serious side effects economically and socially. However, this is often our initiative to stop the wastage of food. Mobile application technology is that the best technology for garbage management. Because using this technology we will work on an outsized scale. This application uplifts better garbage management. Our proposed system is to scale back food wastage.

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