

# Food Donation Application: Food Share

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**Abstract** - — This paper presents 'Food Share', a new internet-based android application that provides a platform for donating leftover food to all needy people/organizations. It provides information about the motivation to come up with such an application, thereby describing the existing donation system and how the proposed product works for the betterment of society. This app will enable users (informer/donor) to register, login, view items, add items, send a request to donor, share the address/location of hunger spot, and log out. This app is using the firebase storage and real-time database. Any user/Informer in need can see all the food details uploaded by different donors and can send a request to the donor.

**Key Words:** Donor, Informer, Hunger spot, Food wastage, Mobile App, Firebase Authentication

## 1. INTRODUCTION

In highly populated countries like India, food wastage is a disturbing issue. The streets, garbage bins and landfills have ample proof to prove it. The major Cause of Food wastage is, excess food produce by restaurants, home kitchens catering business. Many restaurants tend to throw the leftover food at the end of the day even though the food is perfectly fine to be eaten, which means that huge amounts of food is wasted. While all that food is being wasted, some families can barely afford proper meals with their limited money. The possible way to reduce food wastage and to feed hungry people is to donate excess food left at restaurants, home kitchens, and functional gatherings to needy people.

Therefore, we have decided to create an android application to link the restaurant with the unfortunate people, so instead of throwing the food, the application will help to donate the food to the needy person. The application allows the restaurants to log in, and upload an image of the meal they have as leftovers along with a description of that meal. The user(informer) then can log in and can choose the meal suitable to their choice, share the hunger spot location and can pick it up or can ask for delivery if the restaurant(donor) provides a volunteer once they send a request to the donor.

The majority of the population today uses Android smart phones with active internet connection, which is the basic requirement for this product to function properly.

## 2. LITERATURE SURVEY

According to [1], food waste is a significant issue around the world. It is predicted through a survey that more than 58% of food that people produce for consumption is wasted every day. According to an estimate of Food and Agriculture Organization of the United Nations 1.3 billion tons of food produced in the world gets wasted [2]. Whereas, more than 60 percent of people in the third world countries are dying in malnutrition without proper food for a living. Therefore, the technologically developed countries are emphasizing more on this issue.

Indians waste as much food as the whole of United Kingdom consumes. The count of hungry people in India has increased by 65 million more than the population of France. According to a survey by Bhookh (an organization working towards reducing hunger) in 2013, 20 crore Indians sleep hungry. India has a serious hunger problem and ranks 102th out of 117 countries on the global hunger index [3]. 200 million of people go hungry while 1.8 million tons of food get wasted [4]. India wastes Rs 244 crore worth of food a day.[5]

### 2.1 Android Technology

We decided to make an android application because, mobile applications have seen wide use in recent years. Android is that the most installed platform for mobile, and therefore the number is increasing rapidly since almost 1 million users everyday buy new android devices and use it immediately to urge digital content like games, application, and lots of other services [6]. Due to that, we developed an android app "Food Share" using android studio because it'll reach a wider range of audience since most of the people nowadays use android phones.

### 2.2 Existing Applications

There are different applications, which are developed to control the food waste, and it provides the opportunity to send that extra food to the people who need it. The most useful food waste application for android and apple are discussed below:

**1. Flash food: (US and Canada)**

The app prevents wastage of food within the U.S. and Canada in two ways: It re-sells grocery foods approaching their best-before date at a discount, and it saves “not good enough” retail items and ships them to customers. Farmers and growers also can give Flash food items that were rejected by grocers, which will be delivered to environmental conscious consumers.[7]

**2. Food for All: (New York city, Us)**

Food for All eliminates last-minute restaurant food waste in Boston and New York. It 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 that they devour their order at a time specified by the restaurant. Users also can donate food to people in need through the app. [7]

**3. No Food Wasted: (Netherlands)**

This app stimulates demand for discounted products with a best before date. It alerts supermarket shoppers which items are approaching their expiration date. Users do not even need to go to the supermarket to explore the deals, as they can check them online. So far, more than 77,000 users downloaded the app, which achieved 13 percent of its waste reduction goal.[7]

**4. Aahaar Application: (India)**

It’s a platform where in people who want to donate food can connect with volunteers, NGOs actively working in procuring such food and distributing to the needy ones.[8]

**3. PROPOSED SYSTEM**

Since the existing food donation system does not allow instant donation of excess food to the needy people as well as it is difficult for them to find needy people around them. The informer will share the location of needy people nearby and donor will donate the food to the needy people. Thus, it becomes easier for the donor to know the needy people around them.

The donor will upload the food details to be donated. The User (informer) will share the location of hunger spot. Through mapping function, the list of nearby donors who has registered to the application and are willing to donate will be made available to the informer. The informer will send the request to the donor. Thus, the informer should pick up the food or the organization(donor) should deliver the food at the hunger spot. Our application provides simple and informative way to connect those who have extra food and those who need food.

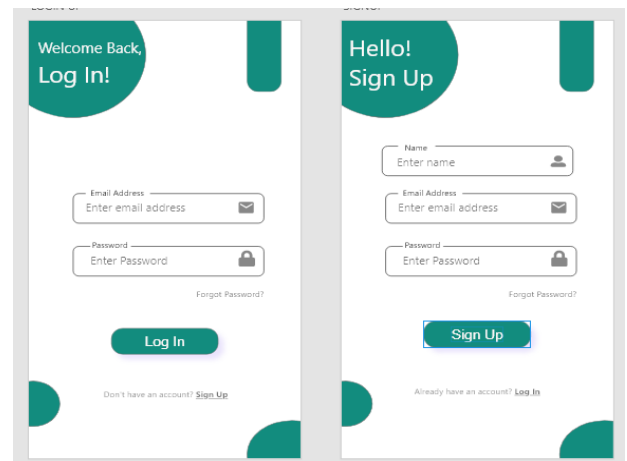


Fig -1: Login and Registration page

This app allows the user to have his/her account in the app using firebase email and password authentication. Both restaurant and users who need the food must register using the login page. During registration, some information about the users is saved to the real-time database such as age, name and gender under the unique user id generated by the firebase. So, each user profile information is saved into the database and when a user login we can get access to that user profile using its unique user id.

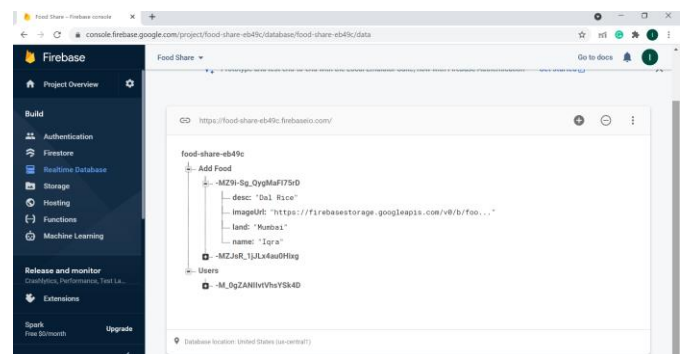


Fig -2: Authentication using Firebase.

Credentials of restaurant and user will be authenticated in firebase authentication.

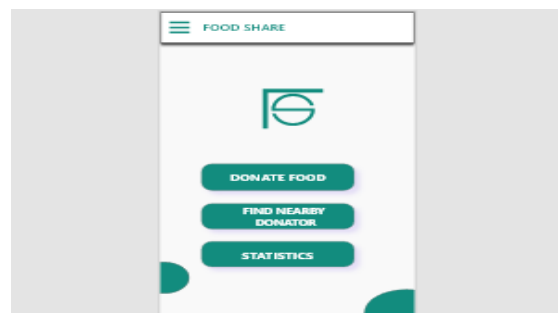


Fig -3: User will select his Role.

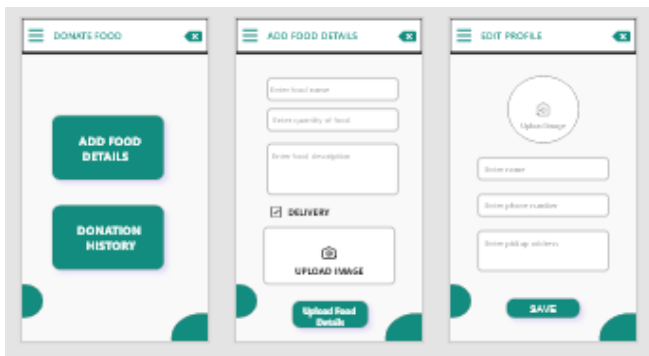


Fig -4: Donor's Role.

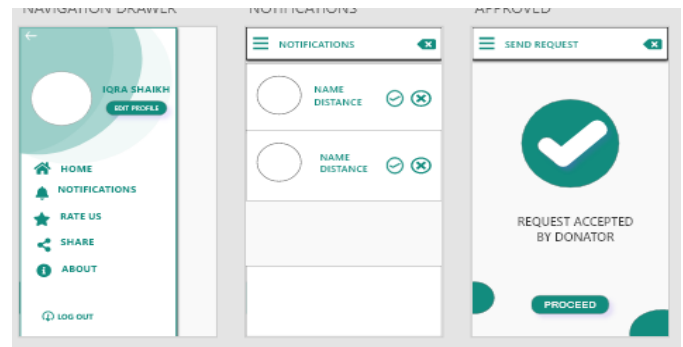


Fig -7: Notification Module.

The donor will be able to upload the food details to be donated. Such as delivery address, image of the meal/ food description, contact details. He will also be able to view the donation history.

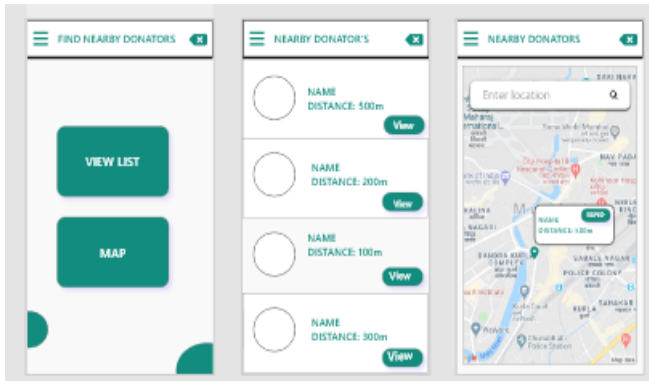


Fig -5: Details of Donor.

Informer will be able to view the details of donor through mapping function the list of nearby restaurant/donor who has registered to the application and are willing to donate food will be made available to the informer.

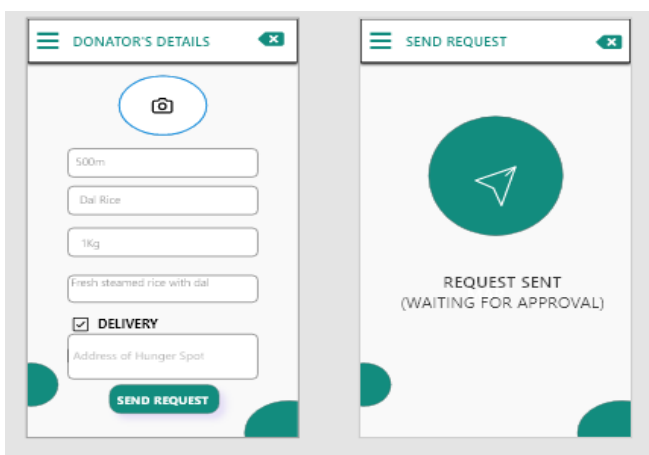


Fig -6: Sending Request to Donor.

The informer/user will send the request to the donor and will wait for the approval.

#### 4. CONCLUSIONS

The application aims at satisfying the requirement of needy people through donations. Our application provides simple and informative way to connect those who have extra food and those who need food. Our proposed solution should reduce food wastage by facilitating food sharing in local community using mobile technology. This work is an initial step towards designing a better system to reduce daily food waste.

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