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WASTE FOOD MANAGEMENT AND DONATION APP

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ABSTRACT

Wasting food is a common problem in our society. Food waste management is crucial since it can improve our environmental and economic sustainability. We have identified the use of mobile technology to reduce food waste management and built an android mobile application that allows individual user or restaurants to donate and share their foods and leftovers with people in need. In order to reduce that food wastage problem through android application we planned to do this project.

In this project the guest can login & enter their Location, amount of food and type of food available. Then a simple notification is given to the agent. After seeing the notification the agent among that location can login & can gather the details of the donor. The donor can hold an account in this application & whenever there is food wastage he can login and enter the details of food and location. The agent can also hold an account and can retrieve the details. After retrieving the details the agent can collect food from the donor and can redistribute to the orphans or others.

This project is food redistribution is an enormously successful social innovation that tackles food waste and food poverty. The user's details are maintained confidential because it maintains a separate account for each user.

INTRODUCTION

About Project

These days, in highly populated countries like India, food wastage is a big issue. A lot of food is thrown away in garbage bins, streets, and landfills have proof to prove it. Marriages, canteen, restaurants, social and family get- together and functions expel out so much of food. Food wastage is not only an indication of pollution or hunger, but also of many economic problems. Instead of wasting food we can put them in use by donating them to various organizations such as orphanages, old age home, NGOs, etc. participants to ensure the food delivery.

This is an internet based mobile application for the NGO named Jan Visas Singh This system creates a common collaboration between a donor and a volunteer from the NGO where the donor uploads all the food details at the same time volunteer receives a notification of availability of the food once the donor uploads its successfully.

This system will create a common collaboration portal for hotels/restaurants and charities, charity can directly contact restaurants who have food remaining and report generation which will show how much food is donated by which restaurant and providing reward points for them.

This paper introduces the basic architecture and application framework of Android operating system, gives a detailed description of main structure of Android applications and the methods of developing applications based on Android application framework.
This research project aims to create an app that the encourages smart use of food in the consumer's household, reducing food waste and its effects on budget, energy & bringing attentions to consumer's food. This is achieved through alerts on expiration dates, allowing input of groceries, & providing tips on food storage.
It has become a habit to waste food exceeded from the large amount of preparation in hotels and similar areas without giving a second thought. It sounds normal just because it happens everywhere, so its no longer a problem. But the truth is that it has a huge impact on many lives.
Food wastage happens because there is no alternative to save them at ease. We people must pay attention to this issue and bring possible improvement over it cause it greatly concerns today unprivileged people and also our successors on this planet. That is where our project shows up and solves the major problem. Thus, this application is not only useful for avoiding wastage of foods but also to feed those people in need.

1.2 Objective of the project

Food Donation Project System is a mission to end hunger and no wasting of food to make a hungry-free world. .According to the latest survey, 1.3 billion tons of food is thrown as waste every year. Additionally, one-third of the food consumed is stated as leftovers. The focus of this project is to reduce the amount of food wasted and being used to the needy people.
Therefore, an android-based application is developed by which a person can donate food with their capacity and at the same time the application lets the organization to put their request on their requirements. The basic prerequisite to use this Food Donation Project System application is a smartphone.

1.3 Scope of the project

India is a developing nation and problems such as hunger and other issues are still prevalent to a large degree. We shall try to contribute out best by connecting the people in need with the providers and donors. We shall try and expand our application scope to other platforms such as IOS and also shall try to expand our reach and the amount of help we provide.

LITERATURE SURVEY

Food is the using up for resource for both animals and humans, but if we did not eat which is said to be food waste. The main cause of food waste is over production, over purchasing and rotten of foods. Some food waste occurs due to lack of transparency and inadequate supply facilities.
More than 40% of food is manufactured which is expended carelessly with no purpose said by “The United Nations Food and Agriculture Organization (FAO)”. 18.7 Kilograms of food is wasted daily in India.

One third of the food produced in the world for human consumption every year — approximately 1.3 billion tonnes gets lost or wasted. Food losses and waste amounts to roughly US$ 680 billion in industrialized countries and US$ 310 billion in developing countries.

Of the processed/eatable food that gets thrown out 80% is simply because it's not sold at the end of the day and charities have challenges in redistributing due to: small quantities, nature of food, logistical challenges etc.

2.1 Existing System

Presently people who wish to donate items need to personally visit the organizations and donate foods or other items. Otherwise, they have to search for some websites to donate surplus food. In general, the large manufacturers, wholesalers, and organized community provide food items to food banks or waste tons of foods daily. They have to search for some organization that needs food.

This process involves a lot of time to contact the organization to check the requirement. If they do not need the food, then the person has to contact another organization. This makes the donor tired and exhausted.

2.2 Proposed System

The application for food donation acts as an interface between the users who are looking for a channel to give the excess food without wasting it. It enables us to donate the excess food by notifying nearby users with the details of the food that is available. The required users claim the notification. The system allocates the food items based on the priority.

The Food Donation Project System application is designed in such a way that the users have two options to select. If the user looking to donate food, login using username and password then add the below information in the application:

Name of the food item and the excess quantity.

Location of the user using GPS.

Contact address details to claim excess food.

The donor's information is posted on the application and any number of users can claim the food.

If the user is claiming for the food, then he needs to enter the contact details of the organization that he belongs to with the address. The system is designed in the way that one or more users can claim the food. If there is more than one user to claim the food, then the application does the job scheduling and the request is accepted to the user on a priority basis.

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PROPOSED ARCHITECTURE

3.1 Food Donation Project System Modules

Sign-up and login: The user has to sign in with the name, email ID, contact number, and address.
Donating the surplus food: The user has to choose the activity if donating or claiming the surplus food. It is required to fill the contact address where the food is available.
Claiming the surplus food: If the user claims for the surplus food, need to specify the organization name with address and contact details.
Priority-based sorting: If one or more user has claimed for food, the request is scheduled on priority bases.

3.2 System Architecture

The system will be developed using 3-tier architecture:

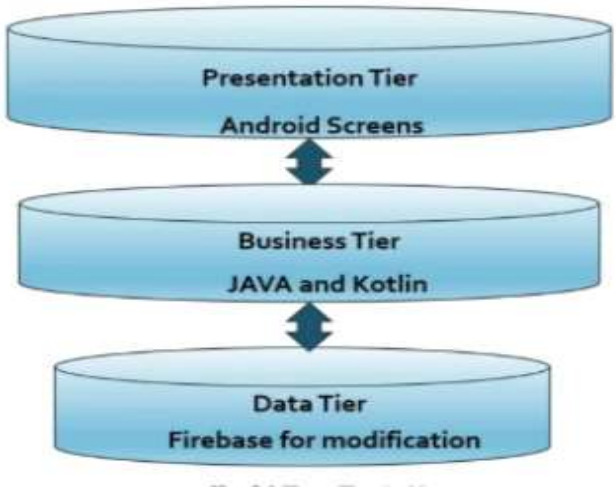

Fig. 3.1 Three Tier Architecture

Presentation Layer (UI): Presentation layer contains pages like .aspx or windows form where data is presented to the user or input is taken from the user.
Business Access Layer (BAL) or Business Logic Layer: BAL contains business logic, validations or calculations related with the data, if needed.
Data Access Layer (DAL): DAL contains methods that helps business layer to connect the data and perform required action, might be returning data or manipulating data (insert, update, delete etc).

We selected 3-tier architecture because the three important modules like the UI, logic and database are independent of each other and are clearly defined. Also modifying any one tier will not affect the other.

Along with it we get the following benefits for using 3-tier architecture:

Scalability: Each tier can scale horizontally. For example, you can load-balance the Presentation tier among three servers to satisfy more Web requests without adding servers to the Application and Data tiers.
Performance: Because the Presentation tier can cache requests, network utilization is minimized, and the load is reduced on the Application and Data tiers. If needed, you can load-balance any tier.
Availability: If the Application tier server is down and caching is sufficient, the Presentation tier can process Web requests using the cache.

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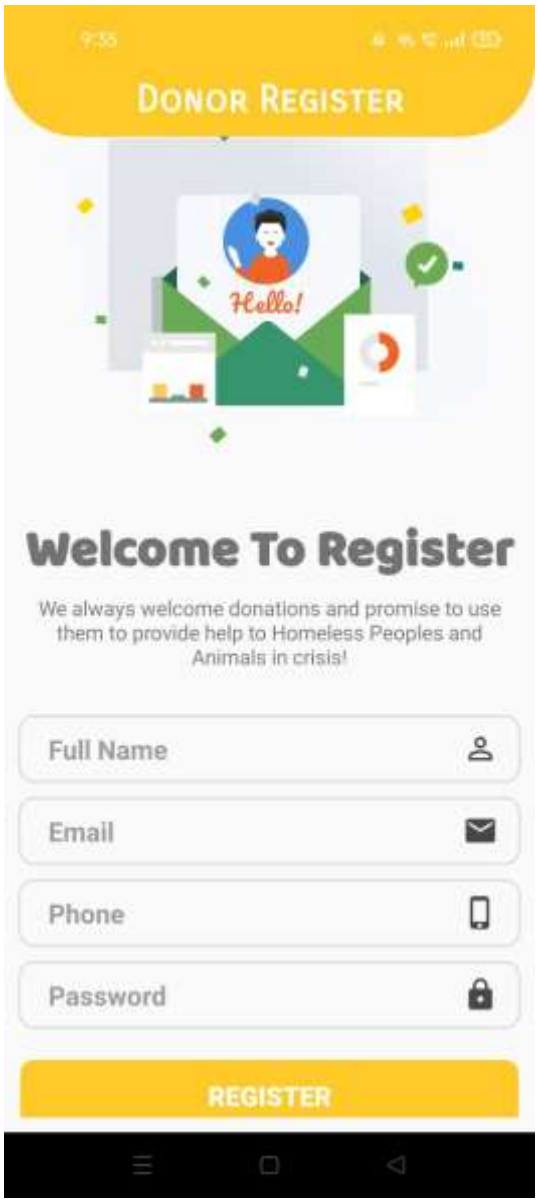
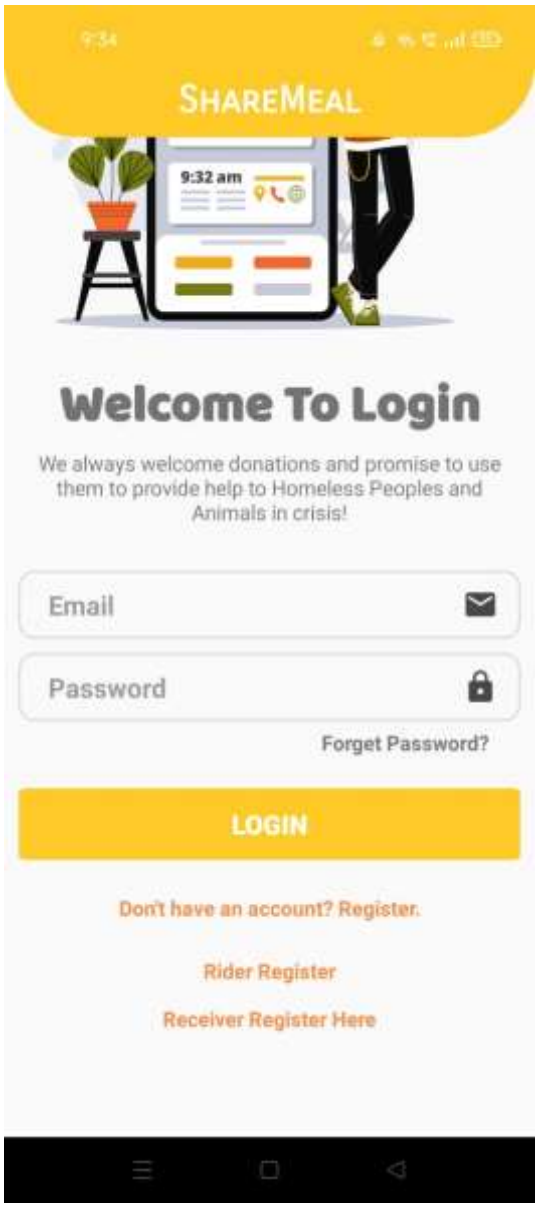
6. RESULTS

Donor's View:





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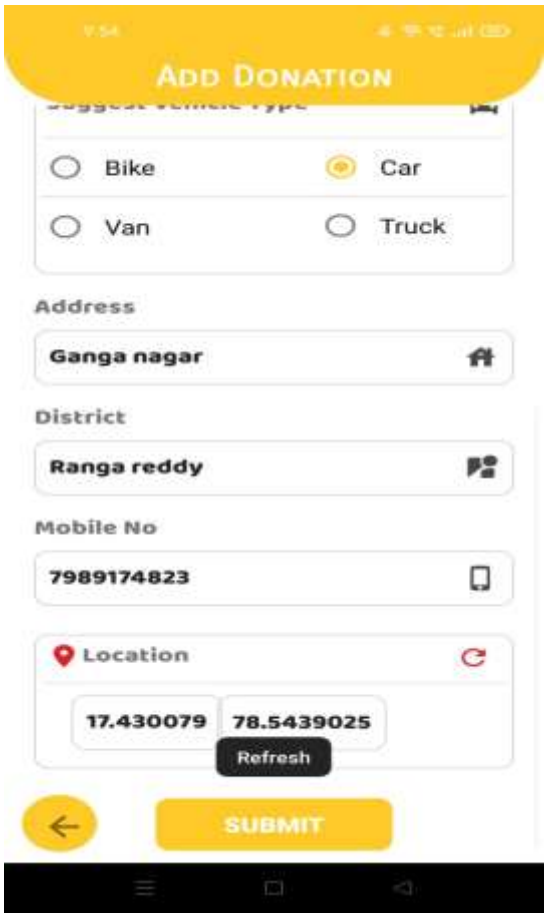

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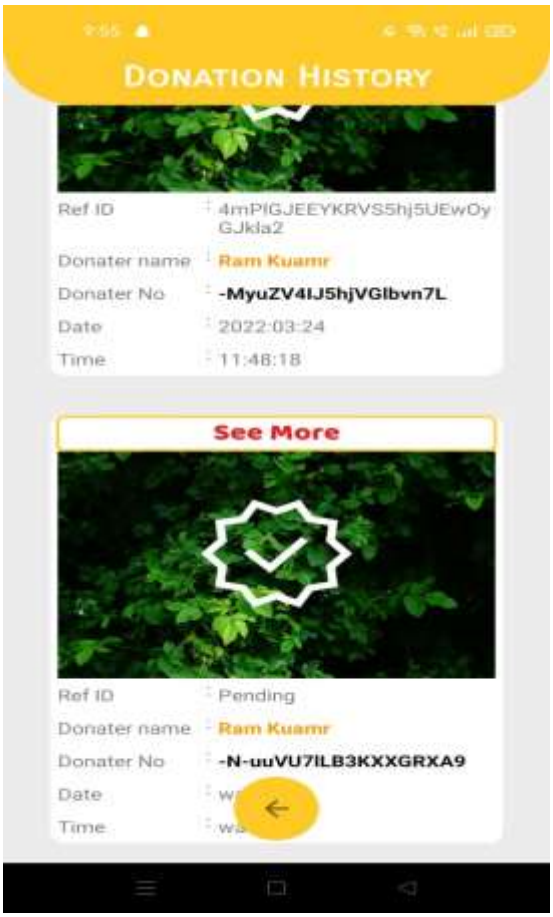

Receiver's View

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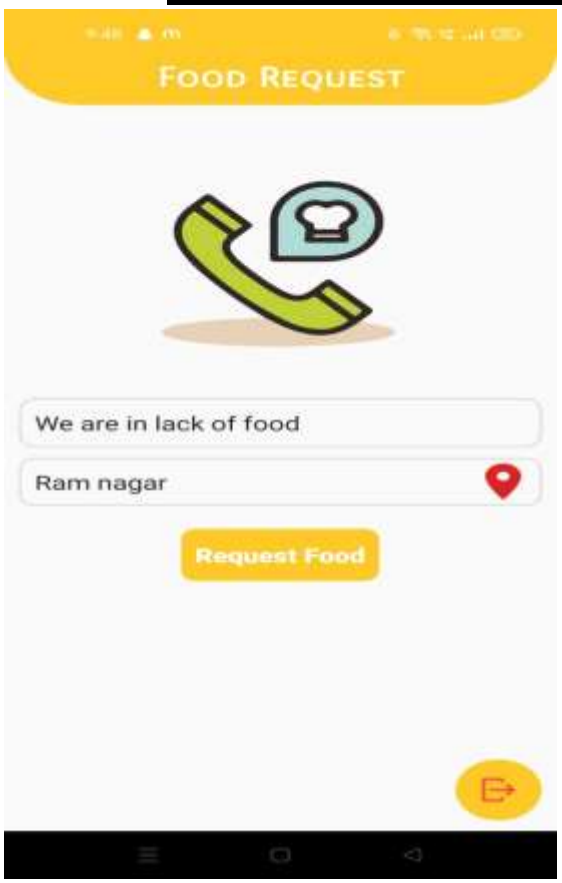

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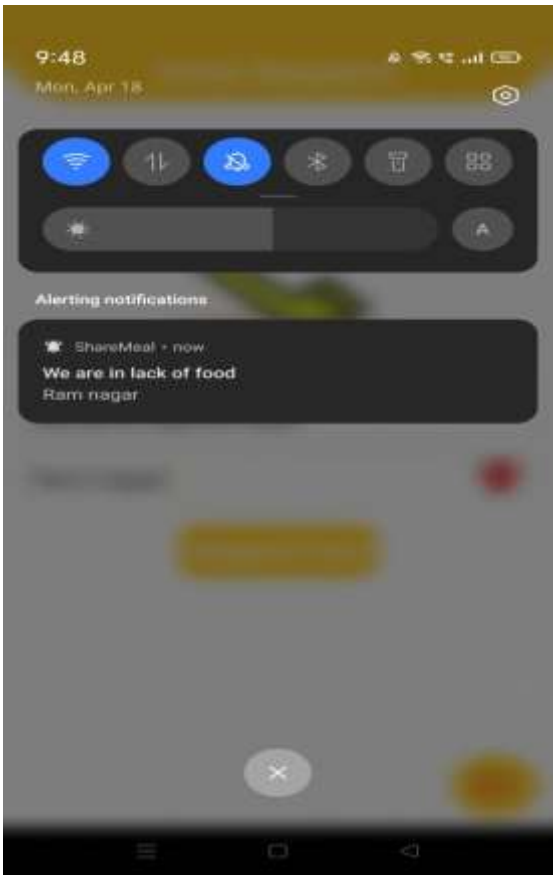

Rider's View

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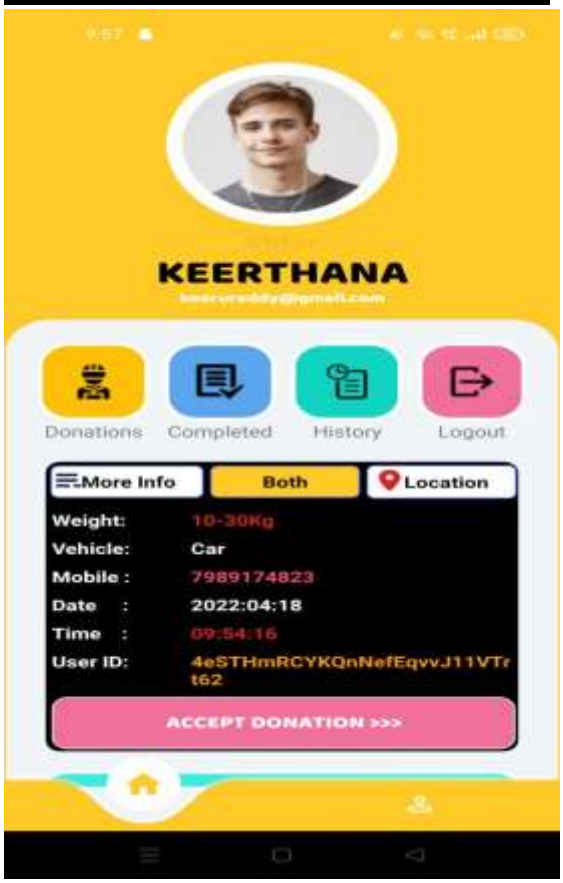

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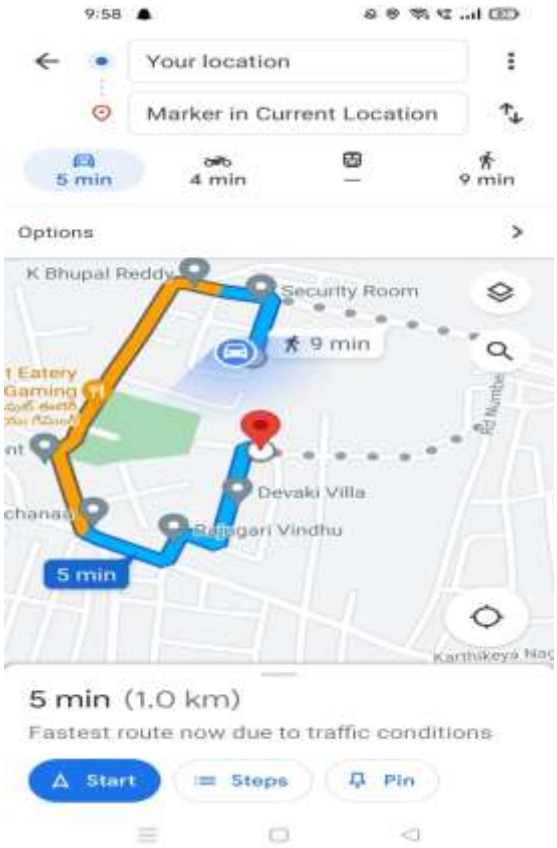

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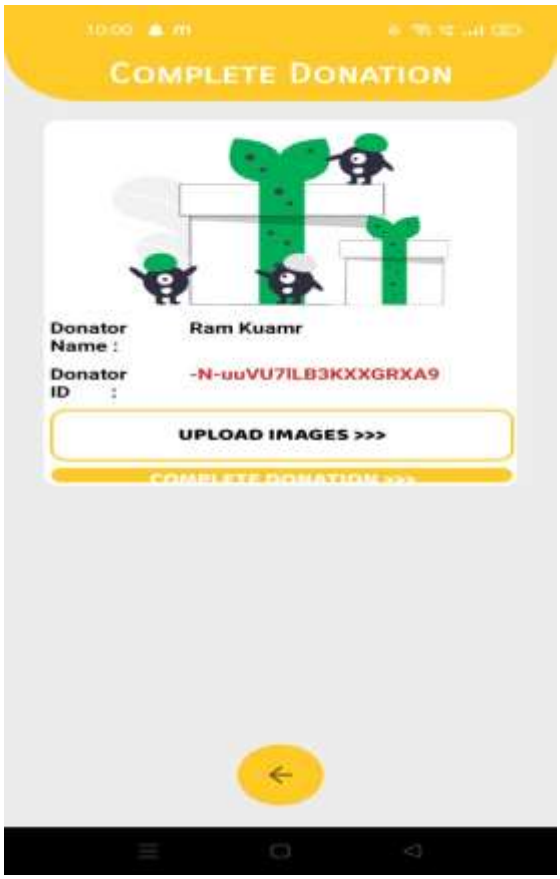

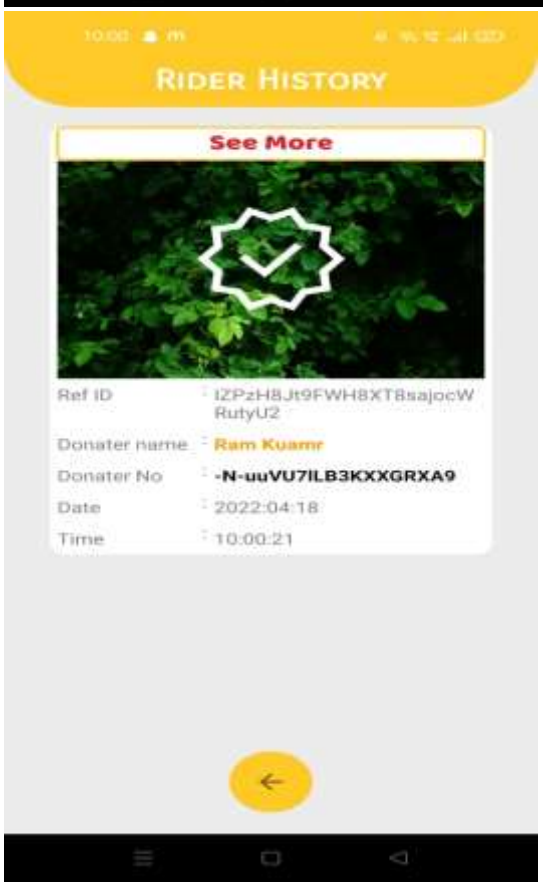

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6. CONCLUSION

Food waste is one of the issues currently facing the planet as a whole. Necessary steps should be taken to stop food waste, otherwise the people of the world will suffer from food scarcity. If you can save food from being wasted, we can feed the hungry people who has no food to eat.

We have built “Food Share” which is an android application to reduce food wastage through donation. Any restaurant or individual user who has food surplus, can donate food through our application. Our registered charity organization’s volunteer will collect the food and distribute them to hungry people.

We believe that food wastage will be reduced through our project. The surplus food can be donated by our project and also poor or hungry people will get food who have not enough food to eat. So our project can make a huge difference in the society by saving food from being wasted. Our goal is to establish a link between restaurants or individual users who has food surplus and charity organizations who has volunteer to collect the excess food.

7. FUTURE SCOPE

Our project shall aim at helping the needy by connecting them with the donors by using the NGOs as an intermediary who shall do their job aided by the application that we shall provide them.

Our application shall aim to mitigate issues like lack of awareness among donors, lack of transparency in the donation process and thus acts as a bridge between the people in need. India is a developing nation and problems such as hunger and other issues are still prevalent to a large degree. We shall try to contribute out best by connecting the people in need with the providers and donors. We shall try and expand our application scope to other platforms such as IOS and also shall try to expand our reach and the amount of help we provide.

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