

Android Application for Notifying Leftover Food

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ABSTRACT

The Most people throw away leftover food from our most people throw away leftover food from our households in dustbins. However, this leftover food can still be accustomed satisfy hunger of the many underprivileged people. This paper presents a software solution to assist notify available leftover food from our households. Our goal is to develop an Android application to permit willing food donors to notify availability of leftover food through Google Maps API. If a donor intends to donate left over food, the appliance will record his/her pickup location (i.e. within the type of through GPS). Once the pickup locations of donors are recorded in database, we will plot them on Google Maps API within the type of markers. This marked map can then be employed by various NGOs to gather leftover food from their respective destinations and so distribute it among underprivileged people.

Index terms -- Android, Google Maps, latitude, leftover food longitude, NGOs.

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I. INTRODUCTION

In a heavily populated country like India, food wastage may be a disturbing issue. India's global hunger ranking is 67[1]. Areas where standard of living is high are the most sights from where plenty of leftover food is expelled.

This food can surely be wont to meet the hunger of the many poor people. Collaboration with different NGOs will help us serve the community in an exceedingly better way. Building a platform to ascertain the link between NGOs and therefore the food donors within the most effective and simple way may be a primary goal. Thereby, an Android application has been developed through which individuals can donate food items rather than throwing the food into the trash. Presently, to scale back the wastage of leftover food many NGOs like The system that almost all of the NGOs are currently using may be a helpline based system. The donor needs to call the NGO on their respective helpline number and notify availability of food. The NGO records donor's address. Using this address they are going resolute spot the donors and collect leftover food from them. Since the quantity of food collected from households is in very less quantity, the NGOs usually give priority to requests from places like hotels, banquet halls, auditoriums from where more fruitful collection is made.

II. DRAWBACKS OF CURRENT SYSTEM

The current system is barely enough if the donors are fixed and the number of donor requests is less. Spotting and navigating through sizable amount of donors won't be feasible just by using donor address. Moreover proper planning of journey for NGO vehicles won't be possible. As the NGOs aren't very heavily funded, it'll be better if they will plan their journey well earlier and spend less on fuel. This is often the matter that this product has tried to tackle.

III. SUGGESTED IMPROVEMENTS

Using GPS location of donor to line pickup location rather than his/her address and plotting them within the variety of markers on Google maps API. This may facilitate NGO vehicles to trace donors easily. Feature of warmth map to seek out areas with high density of donors.

IV. PROPOSED METHODOLOGY AND IMPLEMENTATION

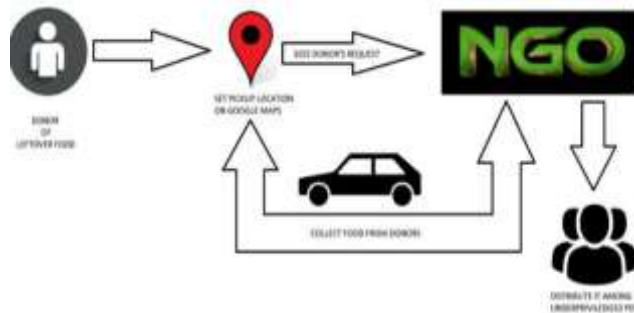


Fig 1 : System flowchart

The system will have two user interfaces:

1. Donor's side.
2. NGO's side.

On donor's side we've the android Application that needs to trace donor's current GPS location. While on the NGO's side we've the Database which is employed to plot markers on Maps.

NGO should incur the value of outsourcing vehicles and volunteers to gather leftover food from donors and distribute it among underprivileged people.

In order to scale back the value of transport there's a feature of "Heat Maps" that indicate the region on map with high density of donors. This may help NGO to create an informed choice about the count of vehicles to be outsourced supported the concentration of donors.

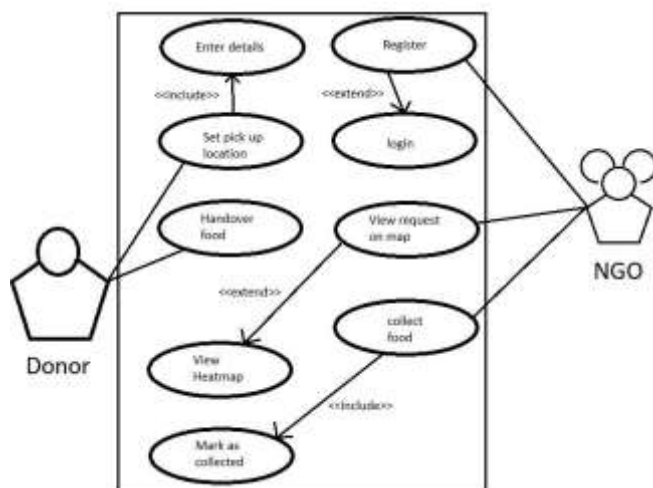


Fig.2 : Usecase diagram

The process of donation starts from donor notifying about leftover food using this app. The app will first record donor's current GPS location, his/her name and contact number. GPS provided values of latitude and longitude take a long time to be fetched. Hence, network provided values are used to track donor's pickup location.

The code for seeking current GPS location involves use of Location Manager Class in Android Studio[3][5]. This information will be stored in NGO's Database. Screenshots of the app are shown in (Fig. 3).



Fig 3 : App Screenshots

Using these records, markers are plotted on Google maps API which may be seen by NGO vehicles. The attribute `COLLECTION_STATUS` (Fig. 4) is accustomed signify the gathering status of donor on Google maps API. Donors who haven't been serviced yet are plotted to bouncing markers. Once the NGO reaches the donor and collects food, they were updated the gathering status of donor and also the corresponding marker will stop bouncing. This can help the NGO to differentiate between serviced and other donors.

The `Date_of_Required` Attribute is employed to create sure that only donors whose request has come on the current day are plotted on Google Maps API. The `REQUEST_ID` is employed to spot each donor request uniquely while updating his/her collection status.

NAME	REQUEST_ID	lat	lng	COLLECTION_STATUS	CONTACT_NO	Date_c
shubham		44.19.012592	72.842316	1	998647547	2017-1

Fig. 4 : Database Schema

In order to access and use Google Maps JS API, the developers first have to get an API key for their project [6]. The `Map()` method is used to create the map and provides facility to :

- Set map centre
- Set zoom
- Add event Listener for info window.

On clicking the marker on Google maps API, an info window will pop up displaying details about the corresponding donor like donor's Name, Request ID and Contact No (Fig. 5).

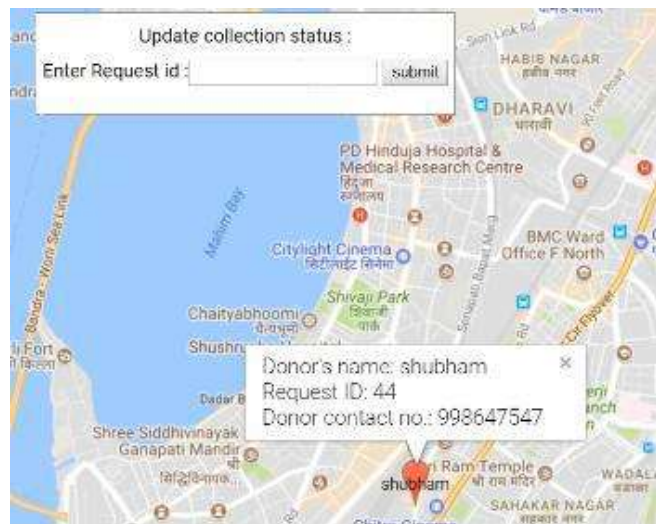


Fig. 5 : NGO's interface

Fig. 5 shows map after plotting marker together with a floating panel to update collection status. On clicking the marker on Google maps API, an info window will appear displaying details about the corresponding donor like donor's Name, Request ID and phone No. which can be helpful while updating collection status.

Fig. 6 shows heat map conveying concentration of donors in specific regions. Different shades with various remain green, yellow and red are wont to signify intensity in heat map [7].The heat map are often adjusted to indicate intensity supported either current day's requests or historical requests. This can make visualization of historical data possible. Here the green shade suggests low concentration of donors, yellow suggests medium concentration and red suggests high concentration of donors in this area. Places with none stains of these shades signify areas from where no donor requests have come. Heat maps will are available handy in situations where the NGO vehicles need to decide which region on map should be prioritized for collection process to be more efficient.



Fig 6 : Heatmap

V. ADDITIONAL FEATURE

This feature will attempt to increase the magnitude of collection. This may be done by alerting past donors who have unintentionally did not notify available leftover food. System will generate a report of donors together with their contact no. who have donated previously but haven't requested to donate on the current day. Reminders will be sent to such donors within the kind of SMS or through app notifications.

VI. CONCLUSION

The proposed system shall reduce wastage of leftover food and supply an environment for its easy donation and collection within the following ways:-

- Google Maps makes it easy to locate donors and helps NGO in planning their journey well.
- Knowing Intensity of Requests specifically region using heat maps can help save vehicle fuel.
- System facilitates NGO to remind past donors for donation, thus increasing their magnitude of collection.

However, this method doesn't provide any facility to test quality of donated food.

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