

Free to Needy Android Application for Urban Development

Zeeshan Qureshi¹ Zubair Khan² Aishwarya Shende³ AzraParveen⁴

^{1,2,3,4}Student

^{1,2,3,4}Department of Computer Science & Engineering

^{1,2,3,4}Anjuman College of Engineering & Technology, Nagpur, Maharashtra

Abstract— A problem of waste food becomes a critical issue and it affect the social and environmental problem. Food wastage is a big problem in India and directly affect the financial benefits. When huge quantity of food goes wasted instead of hungry mouths, it ends up in landfill means ultimately contributing to global warming by releasing methane gas. According to survey 40% of food is wasted from hotels and restaurant, marriage & family function and household estimated that millions of rupees food is wasted every year in a country. Yet millions of people are hungry and in need of nourishment to overcome this problem a new idea is proposed to facilitates the exchange in web based services where charity can easily find, secure and then deliver food to those who need it.

Key words: GUI, Android Application, WMS

I. INTRODUCTION

The idea is to help the Social Organization. Free to needy application is an urban development mission. Free to needy program is focused towards distributing raw food material, groceries, cloth and student scholarship to needy person of city. This application will help to enhance economic growth, sustainability, good quality of life. This is the Smartphone application for the hunger free city. At the client side App provide facility to donate food material, groceries to the charity for the help of hungry people. Donors enter basic information like quantity of waste food and type of waste along with the address and contact number. NGO can pick up that waste food and deliver food to hungers. Completion of registration will placed onto server database where NGO can store the entries of donor in table format and then wastage food can easily deliver to hungry people within a time. In this research paper the necessary tools are useful to find, secure and deliver food to those who need it. App provides services to provide large quantity of waste food from hotels, marriage and family function, canteens, household to the hungry people in a city through the charity. As a donor you can provide details about the excess food and useless cloths you have available and time required to pick.

According to the survey, near about 40 percent food is wasted, which would be through to feed 300 millions of hungry people in India per year. Stats studied by ministry of agriculture India, food worth 50k crore was wasted annually.

II. EXISTING METHOD

Senior citizen group and city- based NGO joined thirty party organizer, to donate excessive food, which usually got waste to admitted patients with their relatives outside the town. NGO already made these food available for 500 and more population free-of- cost who can't prepare their food by themselves. After initiation, NGO has been capable to serve 1k population. Every day serving by this organization include home baked food comprising all essential parts of meal.

Serving both lunch and dinner both they are contributing too much for society. Parcels for patients who are under-treatment also made available.

A. Different Method for No Food Waste

1) No Food Waste:

No Food Waste is a mobile app of the same name that allow sit to crowd sourced at a on hunger spots in India and take requests for donation of excess food. The app has identified 80 such spots in Delhi and the national capital region.

Anyone can pin point a place as a hunger spot on this app, and project team verifies it and updates application data base. Individuals can directly donate food or request us, through the app, to collect and distribute it, which can be done through organization volunteer.

2) Limitations

- No mechanism for notification
- No medium for interaction between volunteers

B. The feeding India: The Feeding India

The Feeding India App allows the user to fill in the quantity of food to be donated, the number of people it can feed, and the expected pick-up time.

Feeding India has 450 volunteers (it calls them hunger heroes) in Delhi who pick up and deliver food across 12 zones.

Most of these start-ups have partnered with restaurants, hostels, caterers and corporate houses to collect excess food every day, which is then delivered to orphanages, old age homes, shelters and so on.

1) Limitations

- Low utilization
- Only limited to food distribution

III. METHODOLOGY

It is a mobile based application which will consist a database system for all the registered users as well as track of fund and expenditure which will be transparent for all the members to their personal profile. registered members can donate directly to the organization bank account via e payment. Registered members will be verified by linking "Aadhar Card" number. Registered member can inform the NGO about the needy person/family by posting address and personal detail and NGO's verification team can verify whether they are actually needy or not. if they are legit person they will be benefited. Registered members can also chat directly in the application's chat section for discussion about particular cases.

A. Proposes Methodology

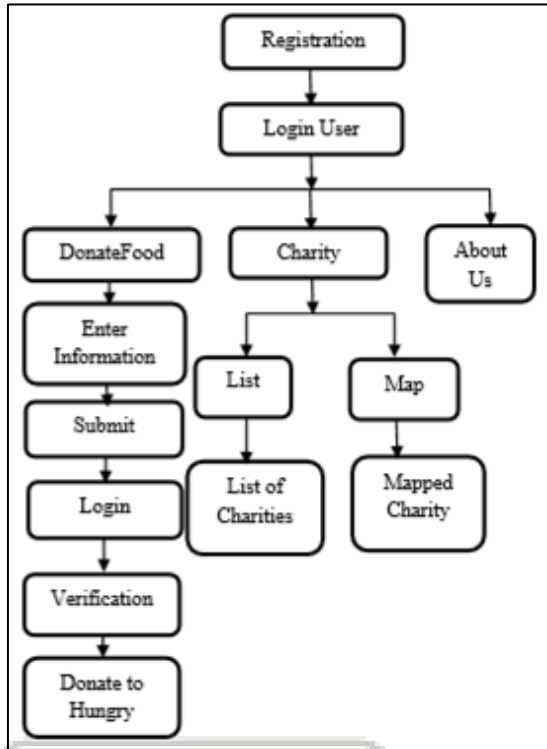


Fig. 1: Workflow for Client-Side

1) Brief Description:

- This module of the project will introduce the very first page of the application where user can sign in before using the application further.
- Application is embedded with one click sign-in.
- One click sign is used so that user can easily register themselves.
- User can see all the options regarding donation after registration to get an idea about the application.

Client side application workflow shown in fig.1.

It divided into three part. Donor can firstly register on app then login it. After completion of login there are three option donate food, charity and about us. First phase are donate food select the donate food option enter the whole information like food type, food quantity, latitude and longitude value, donor name and contact number. Data are saved on to the web server application then charity checks for the verification. After find the food deliver to the hungry people. Secondly click on charity it shows the list of charity and mapped charity on Google map select the nearest charity from donor location. Last is about us can provide the information about the application.

2) Server Side Methodology:

Server side application workflow shown in fig.2. On server side it stored the list of donor by date wise so we can easily analysis which type of food is more wastage and from where so it is beneficial for the future requirement. Secondly it is more important to show the optimal distance between donor to charity and donor to needy. Charity can contact to the donor and needy resp. and take responsibility for transportation and deliver to needy securely.

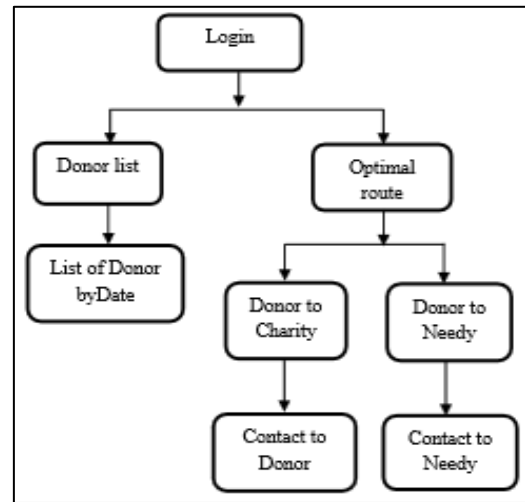


Fig. 2: Workflow for Server-Side

B. System Overview

The system architecture is divided into 3 parts, the development of the client side which is cross- platform Smartphone app which consist of by food donation part. Firstly they register and provide the information and submit. The Google web services used for getting the nearby search charities from the current location of donor in Smartphone app which provide mapping of the nearby charities on to the Google mobile maps along with fetching required information that user wants at the time of donate food such as geo-location of place, mapping facility to see on to the Google maps. The have sine equation is used to compute the distance between donors to charities and donors to needy geo-location by using geo-coded address form donor search current address and provide all services under required distance. Integrated steps involved to design the system are as follows.

1) Smartphone User Interface:

Waste application consists of cross-platform PhoneGap app which can run in all major operating system such as Android, iPhone, Windows. App consist of providing supply chain facility such as quantity of waste food. Web based services allowing quantity of waste food to be donated from the donor location (eg. Hotel, restaurant, wedding halls etc.) to charities. GIS location based services search nearest charities from the donor's location. Then Charities can easily find, secure and deliver food to those who need it.

2) Configuration of Map on Device using Google Web Services:

To use nearest location Google facility on to the Smartphone, we register onto the Google console, which provide different web services such as for used Google maps on to the mobile we need to generate server-key from console and used onto the device. To display maps onto the device we need to use Google maps followed by key and type of quantity of food charity wants too used.

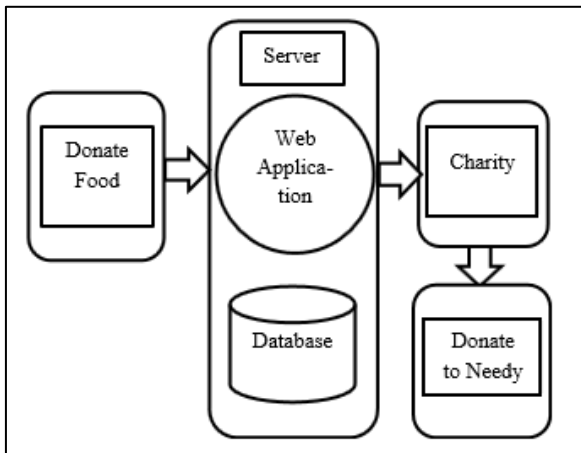


Fig. 3: System Architecture

3) Build Web Server:

The PHP and MYSQL are used to design the web application server which is used to display all the donor information are registered and submit to the charity. Web mapping Facility (WMS) is used to point all charities from the Google maps web services and GIS location based services are for displaying addresses from client position onto the maps.

4) Build Client-Server Intermediate:

JSON (JavaScript Object notation) is an insubstantial data exchange format along with AJAX request helps to make web service connection in between client and server. After the requirement is completed, the charity volunteer have been visited in place of donor person and deliver food to needy.

C. Experimental Work

1) Data Collection

The GPS data (geospatial locations) of charities and the needy place is collected by the field survey. The database of charities and needy place consist of various fields like name, address, quantity of requirement, area, pin and phone number. This database also consist of location information in the form of map coordinate as well as attribute data. Location of standard data was collected using handheld GPS monitoring device.

2) Working Flow of GUI

We design GUI for waste food supply chain to the hungry people with exact geo-location (latitude and longitude) using GIS Location based service technology.

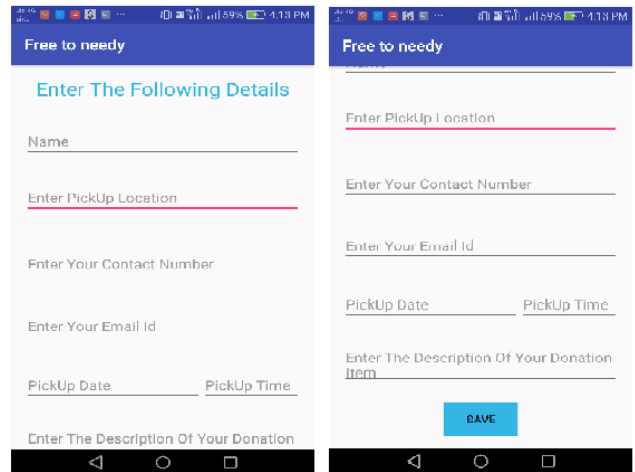
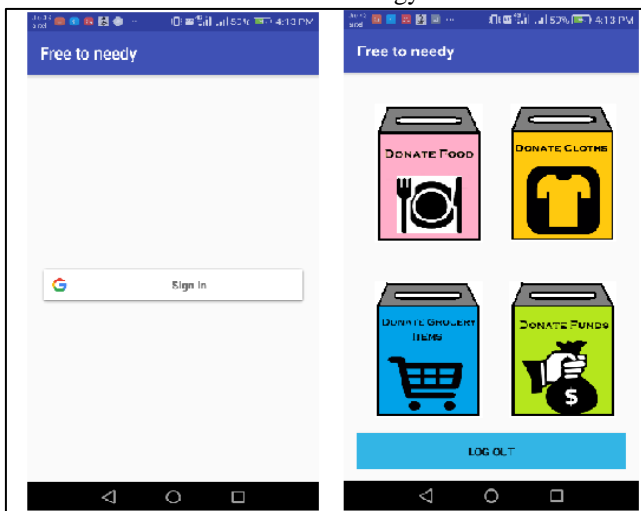


Fig. 4: GUI of Smartphone Waste Food Supply Chain App

- Register: Donor request a pickup of leftover food through app.
- Locate Donor: locate the optimal route between charities to donor.
- Quality Check: once we reach your pick point we check for food quality and deliver food to needy place.
- Locate Needy: we reach our spotted places like city slum area, medical hospital, ashrams, temples etc.
- Deliver Food: we then distribute the food pack to hungers and insist them not to waste food.

3) Result Analysis

The GUI of application contain the physical address in the form of visual map loaded on window of application, so user could pick up address of concern party. The location of both parties was accessed by maps in attributed and coordinates form. To access and identify the address a reverse geocoding algorithms was used with coordinates. The address of user location get in text frame boxin GUI form. Now it's on registered charity organization to choose places where food need to be deliver. Required information was fetched from the database on the server as per the demand by the service application with charity name and distance of order from present location in GUI form. Then willing donator could choose any registered charity organizer name as his ease to access them or according to order. After that application provide details information of nearest route with the direction. So it is easy for charity to collect waste food as much as possible within a time and deliver to the needy.

IV. CONCLUSIONS

- 1) This paper gives an idea about new waste food supply chain system using GIS Location based and Google web services using Smartphone's by providing the help by charity. It responds to hungry in our city and food waste management fulfils the requirement of ad-hoc communication between donor and charity.
- 2) Waste management never comes with prior information, using this location and GIS integrated mapping system we can automatically detect precise location (latitude and longitude) of the donor and needy and provide services from charity team.
- 3) In this paper, we add another option for communication using mobile and web technologies for waste food supply

chain and response. This will help for fast and efficient to deliver food to those who need it. Our goal is not just create supply chain and response protocol, in modern day we have enlarge the use of Smartphone's which a source act like a medium and to help peoples , save their lives and make our city hunger free.

- 4) In future, we can make more precise client-server application to help peoples by analysing from the previous database records and make predications on how much waste food is generated in a day and how much people are hunger in day. Even further we can make the provision of sending the pictures of waste food supply chain situations with geo-tagged images.

REFERENCES

- [1] Fuming Shih, OshaniSeneviratne, IlariaLiccardi, Evan Patton, Patrick Meier, Carlos Castillo, "Democratizing mobile app development for disaster management ", AIIIP '13 Joint Proceedings of the Workshop on AI Problems and Approaches for Intelligent Environments and Workshop on Semantic Cities, Pages 39-42.
- [2] Appdynamics,"https://www.appdynamics.com/media/uploadedfiles/White_Paper_Going_live_with_a_mobile_app_1.pdf" [Accessed: Oct 15, 2015].
- [3] Kumar, S. & Kevin, B. (2002). The Evolution of Global Positioning System (GPS) Technology. *Journal of Science Education and Technology*, 11, 59-80.
- [4] Vicentini, F. Giusti, A., Rovetta, A., Fan, X., He, Q., Zhu, M., & Liu, B. (2008). Sensorized waste collection container for content estimation and collection optimization. *Waste Management*. 29, 1467-1472.
- [5] Vivek S. Agrawal, Ambika Nag, "Sustainable Food Waste Prevention Strategies to Achieve Food Security in India", *International Journal of Agriculture and Food Science Technology* Volume 4: pp. 189-194, (2013).
- [6] Virrantaus, K., Markkula, J., Garmash, A., Terziyan, V., Veijalainen, J., Katanosov, A., and Tirri, H. Developing gissupported location-based services. In *Web Information Systems Engineering* (2001), IEEE, pp. 66_75.
- [7] Survey of location based wireless services Mohapatra, D.; Suma, S.B.; *Personal Wireless Communications*, 2005. ICPWC 2005. 2005 IEEE International Conference on Digital Object Identifier: 10.1109/ ICPWC. 2005.1431366 Publication Year: 2005, Page(s): 358 – 362.
- [8] Swapnil R. Rajput, MohdSohelDeshmukh, Karbhari V. Kale, "Cross-platform Smartphone Emergency Reporting Application in Urban Areas using GIS Location based and Google Web Services", *International Journal of Computer Applications*, Volume 130 – No.12, November 2015.
- [9] <https://onsen.io/blog/onsen-ui-tutorial-angularjs-essentials-for-using-onsen-ui-part-1/> [Accessed: October 2015].
- [10] <http://timesofindia.indiatimes.com/city/aurangabad/Caterers-NGOs-come-together-to-curb-food-wastage-in-city/articleshow/46570010.cms> [Accessed: October 2015].