

“Waste Food Management and Donation App”

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Abstract— Food waste is something that affects us all. It affects people everywhere like in our homes, at schools, at restaurants, the grocery store, in production and even in transportation. This application uses mobile technology to reduce waste food and allow hotels to donate leftover food to needy people. Using this app, users can register, login, and also view, add, remove items from the cart and then logout in a system. This app also stores real-time database. In this app, donors can add the food details and volunteers of the NGO can see the food images donated by the different donors.

Keywords— Food Wastage; Mobile App; Firebase; Authentication; Storage; database

1. INTRODUCTION

The sharp increase in huge amount of wastage of food makes the need for donation of food. In highly populated countries like India, food wastage is a big problem. Waste food is a major issue that causes food shortages; we can see that many people throw food in the dustbin even when the food is edible. This issue is not only a waste of food but also a waste of money. It causes many environmental problems such as pollution, causing global warming and climate change. Food wastage is not only a sign of pollution or hunger, but also of many economic problems. This product is an Android-based application for NGOs; it is a platform for donating remaining food for needy people. This app developed a common combination by connecting to a donor and a volunteer from the NGO where the donor adds all the food information which contains food type, location where the food is available, cooking and expiry date/time of food. Selecting a Template.

1.1] Motivation

As per the knowledge, the technology is going to advance and grow day by day. The main motto is to help needy people. The idea behind the project can be used by many people who wish to donate things to needy organizations. Also, many organizations like to ask for various things required by them such as clothes, food grains, books, utensils, etc [7].

[1.2] Basic Concept

In this mobile app, we have tried to reduce restaurant food wastage by giving waste food to NGOs. NGOs will add to a request, in case of any leftover food hotels have. This request is sent to the restaurant manager of that specific

restaurant. The NGO Manager then accepts the request and assigns it to one of the NGO employees for takeaway and forwards the request to the restaurant. The remaining food at the hotel can be given to NGOs at the end of the day. The admin can detect the history of restaurants and NGOs for the leftover foods. Orphanages, old age houses, etc. can give a rating of food items which will help other persons to select the food item. Sentiment analysis using the `scikit_learn` library, NLP algorithm, and Python are used to store the sentiment of each review given by the owner. [10]

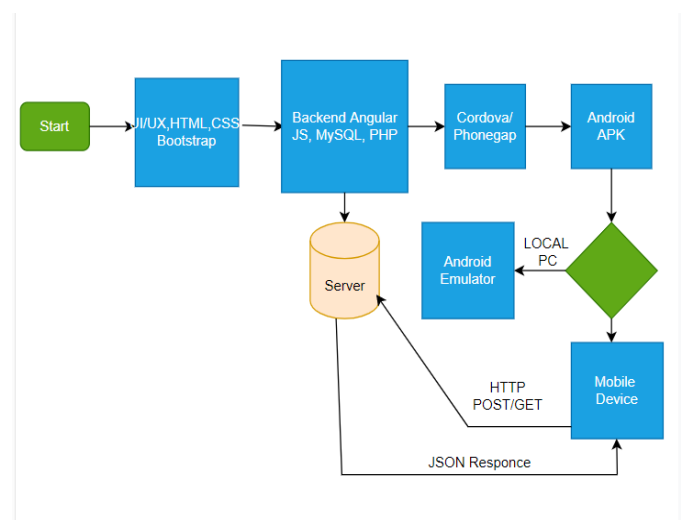


Fig 1: Block Diagram

2. LITERATURE SURVEY

According to [2], food waste is an important issue around the world. It is predicted through a survey that more than 58 percent of food that people generate for consumption is wasted every day. Thus, 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 articulating more on this issue. Therefore, that limited food can be wasted and can be distributed to the needy people. According to the age of the modern era, where we are developed through artificial intelligence, people are more dependent on the smartphone. There are different applications, which are developed to control the more wastage of food, and it gives the opportunity to send that extra food to the people who need it. There are many applications, which control food waste.

'Mobile phone Based Waste Food Supply Chain for Aurangabad Using GIS Location Based and Google Web Services', published in 2014, it combine the client-server GIS and mobile application to make a craving free city. The application for client side gives the option to donate food to the people in demand. Donors enter the easy information such as quantity of food and what type of food it is with amount and their respective contact number. NGOs or any social working organization can take up that food and deliver to hungry people. When the registration will be finished it will be placed on the server side database from where the organizations can store the data of donors and the optimal path of donor's location to the nearest NGOs or any establishment along with direction will be shown. So that hungry people can get food on time [3].

A new online-based application that provide a platform for donating leftover food to all or any needy people/organizations [4]. It give details about the motivation to return up with such an application, thereby describing the prevailing donation system and the way the proposed product works for the improvement of society. The recent depression has grow the amount of individuals living in conditions of food poverty, especially in developed regions. At the client side App give facility to donate food to the charity for the assistance of hungry people.

'Aahar' is a Mobile phone Android program that gives donors and NGOs with a assembly to donate and collect food once they have successfully logged into the system. The system consists of three primary donor, NGOs and admin modules. The donor completes tasks like registration/login and adds items to the donation request to be contributed and viewed. The recipient does tasks such as requesting items, displaying requested items and declare donations. The manager will track the collection and improve it. The administrator and the donor also look the position of the recipient. The donor-donated items will be displayed to other users as a reminder in the donation tab and the message will be saved in the backend folder [5]. In the base paper, an automation is built with four modules which focus on accounting the quantity of food being wasted, it is focused on creating an awareness by feeding the live data on how much food is being wasted, it uses a database to store the quantity of food being wasted each day and later the presented data is represented in graphs in order to encourage the students to reduce the wastage of food[6]. The automation elements are connected to the central data store, the people counter module calculate the number of people eating followed by the weighing scale module records the weight of the food waste and forward the details to the central data store using the Wi-Fi dongle.

3. ANALYSIS OF EXISTING APPLICATION

At present, the requirement of the system is done using websites which are not accessible quicker and provide no awareness about the service to the world[4]. There is no actual interaction between the donor and NGOs since everything reveal by intermediates. Another reason includes there is no active mobile application available in place

4. PROPOSED SYSTEM

4.1] Implementation

Donor Side:

- Step 1: User can register using personal details.
- Step2: User can login in his personal account using id and password.
- Step 3: Create a new food item with details of quantity, location, address contact.
- Step 4: Add images to the food items.
- Step 5: Add multiple food items to cart for booking.
- Step 6: After adding details about food user can logout the system.

Volunteer side:

- Step 1: User can register using personal details.
- Step 2: User can login in his personal account using id and password.
- Step 3: Search location wise and book the food items with time.
- Step 4: After accepting the request from donor side
- Step 5:After accepting the food volunteer will give feedback about food taste and quality.
- Step 6: Volunteer can logout the system.

5. ALGORITHM

5.1] NATURAL LANGUAGE PROCESSING[NLP]

Sentiment analysis can be define as a process that automates mining of attitudes, judgement, views and emotions from text, speech, tweets and database sources through Natural Language Processing (NLP). Sentiment analysis involves classifying judgement in text into categories like "positive" or "negative" or "neutral". It's also referred as subjectivity analysis, judgement mining, and appraisal extraction. [8] Its often used by occupation to detect sentiment in social data, gauge brand reputation, and understand customers. Since humans express their thoughts and feelings more publicly than ever before, sentiment analysis is fast becoming an essential tool to monitor and understand sentiment in all types of data. Automatically analyzing customer feedback, such as judgement in survey responses and social media conversations, allows brands to learn what makes customers happy or frustrated, so that they can tailor

products and services to meet their customers requirement.

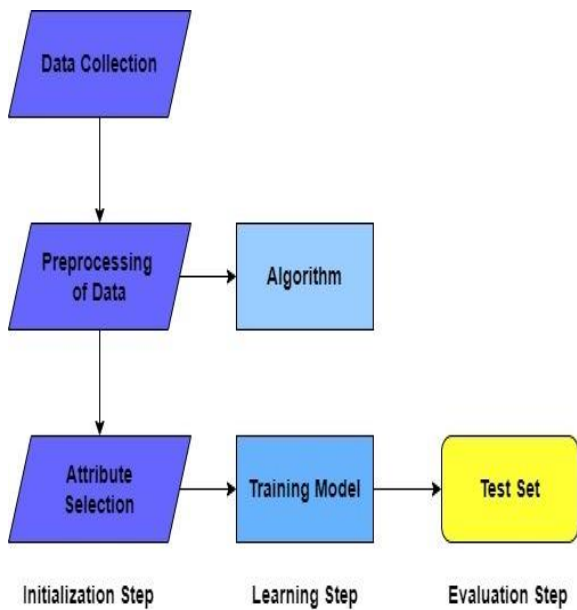


Fig 2 : Algorithm Step by Step Process

6. SYSTEM MODULES

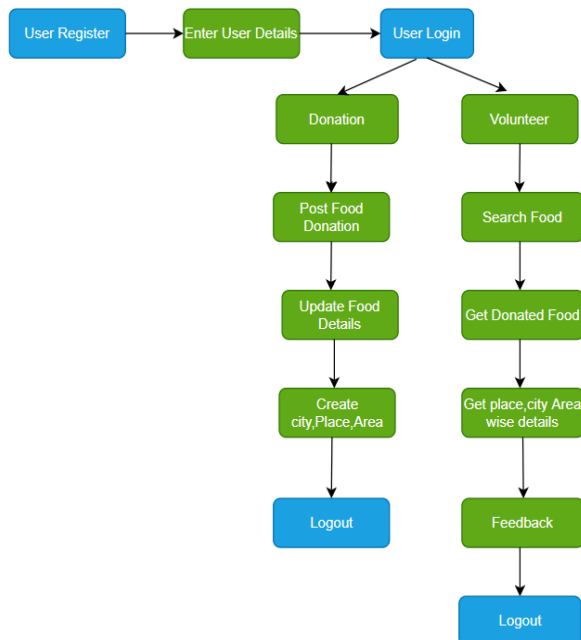


Fig 3 : Architecture Diagram

7. DESIGN DETAILS

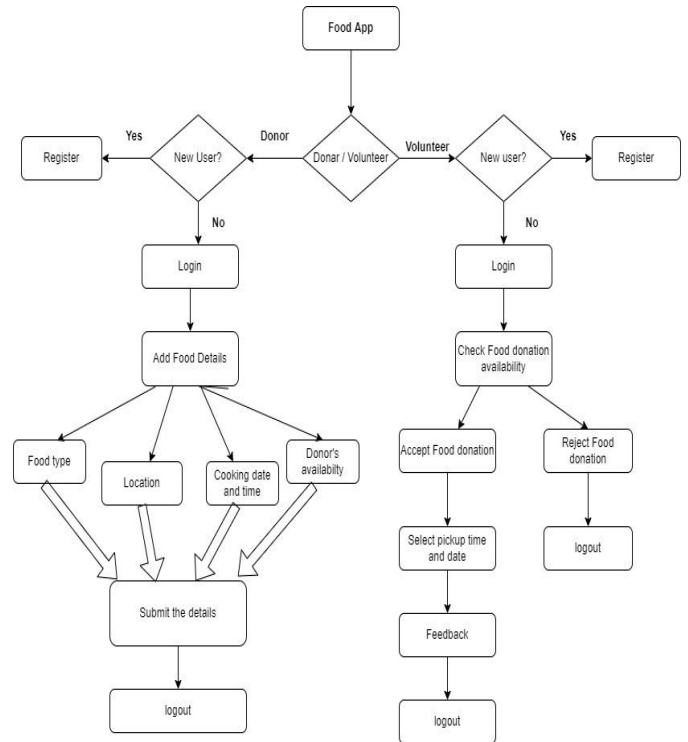


Fig 4 : Flow Chart

8. ADVANTAGES

- Advantage will be both the restaurant (reducing food wastage), and the needy .
- Keep track of waste food for restaurant.
- User can play character in saving food wastage and help the needy.
- You can gift food from home easily.
- Easy to used and user friendly.
- Food waste will be reduced.

9. FUTURE SCOPE

- Also we extend our app to have many types of donating users likewise from organizations such as restaurants, family or a single user
- Adding the location facility to our apps. The donating user should identify the location of the share food.
- Adding the time and date of each snack shared by users
- Making the app supports multiple platforms

10. CONCLUSION

Our study has look into the problem of food waste that has many serious side effects economically and socially. However, the waste of the food can be prevented or at lowest decreased using political rules and technology. Mobile application technology is helpful for food waste

management. The app objective to encourage better food management. Our proposed solution should reduce food waste by facilitating food sharing in group using mobile technology. This work is an first step towards design a better system to reduce daily food waste.

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