

Smart Food Wastage Reduction Management System

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Abstract—The paper focuses on developing an android mobile application for reducing the food wastage. This smart system is used to organize and distribute the edible food. The management of wasting food is very crucial in the Covid situation, since it can improve economic sustainability. It also allows to donate food through the contact details of NGO's synced. If there is excess food available, at the events, notifications are sent to the NGO's. This system will enable the users to register, login, view items, add items, add items to cart, remove an item from the cart and logout. Needy people can view all the food images contributed by different users and add it to the cart. The proposed system checks regularly the unused eatable food wastages in local food courts and it automatically alerts the nearby social community service organizations to collect the unused food which helps other people who really needs. This is achieved through smart mobile applications.

Index Terms— Database, Food donor, Food wastage, Android, PHP, MySQL.

I. INTRODUCTION

In recent years mobile application have been widely used. As Android is the most popular platform that is installed in mobile technology, the android based food reduction system will reach many audiences since most people use android phones [1-3].

India is a densely populated country and food wastage is a disturbing issue. Many families can't afford proper meals with their limited money. They don't even get ample nutrition due to the shortage of having three meals in a day. Many restaurants, canteens, social and family get-togethers, marriages and functions discharge a large amount of food at the end of the day even though the food is perfectly fine to be eaten. The excess food wastage usually ends up in landfills, creating potent greenhouse gases which have rise environmental implications. This has been a problem for decades. In the wake of lockdown imposed last year, surplus stock of food continued to rot in the restaurants [4-7]. As an alternative to wasting food we can place them in use by contributing to many organizations such as old age homes, orphanages as per their capacity through Non-Governmental Organisation (NGO)[8-10]. An attempt has been made to control the huge wastage of food and provide an opportunity to send the extra food to the needy people.

The proposed system allows the organization, restaurants, canteens and marriages to login and upload leftovers food image with an explanation of the food, quantity of food, validity of food intake and the location where to pick it up. The users can then login, search for the food, add the food item to his/her cart and pick it up once they send a request to the system.

II. PROPOSED SYSTEM

If any extra edible food is left in restaurants, marriages or any functions, the food will be wasted. Instead of wasting the food we can donate extra food to orphanages, old age homes etc. In the proposed system food wastage has been reduced by food redistribution. This app can be extended to many type of donating users such as restaurants, family or a single user. The donor can login to the website, update the food details and the location where the food is available, adding the time and date of each food items. The needy people can login, search for the food, add food item to his/her cart and place an order. Notification is sent to the orphanages, old age homes and NGO's. They can claim the donations, reply to the donor and contact number of the donor. This system is simple and user friendly. This is an initial step towards designing a better system to reduce daily food wastage by facilitating food sharing in Indian community using mobile technology. User can register, login, view food items, book items, order the food. Hotel/Restaurants can register, login, upload food image and view the order.

III. SYSTEM OVERVIEW

Android is primarily for the open-source nature of the platform as well as the ease of development and deployment with the extensive supports provided on the official Android website and major developers' forums. It also has the native compatibility with tablets. It also supports cross platform application development, i.e. developers can develop Android application in Mac, Windows and many UNIX-based operating systems like Ubuntu.

The proposed model has a user interface and must be compatible with most Android devices. It has the ability to store data in the server. It meets all the requirements on the server-side i.e. database has dedicated food tables for users and it communicates with client-side application.

IV. TOOLS AND ARCHITECTURE

This work utilises various tools and technologies. They are MySQL database, Hypertext Preprocessor (PHP), Android, and phpMyAdmin. Architecture consists of PHPMySQL application on the server side and an Android application on the client side. PHP/MySQL-based server-side component serves as an interface between the Android application and the database on the server. The Android application is the part visible to the user.

V. SYSTEM MODULES

A. Users Registe

Figure 1 shows user registration page. User registration form is

Register

Name

Email
admin@gmail.com

Password
••••

Mobile 

Address 1

Address 2

Forgot Password Question & Answer
What is your pet animal name?

Figure 1. Registration Page

created using this module. User will be able to enter into the process after the registration. The user enters the name, email, password, mobile number, address1, address2, forgot password, question and answer.

B. Login

Figure 2 shows login page. User can login using username and password, If user forgets the password, reset the password.

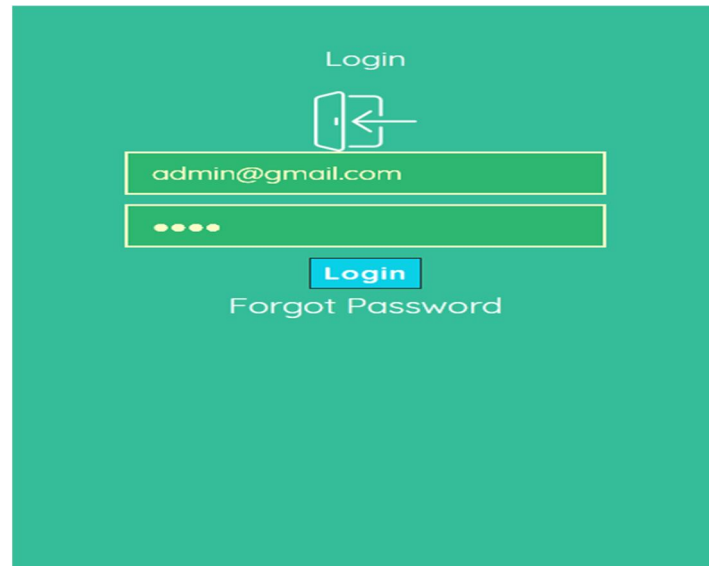


Figure 2. Login Page

C. Home Page

Figure 3 shows home page. User can view the website functionality in home page so that he can navigate to other pages. User can search for food, donate food, update food details, my cart, my order, create city, create place and create spot.



Figure 3. Home Page

D. Donate Food

Figure 4 depicts donate food. Donor has to enter the name of the food, description of the food which includes time, date, mobile number, quantity, address, select city, place, spot from the drop down. The date and time will help the needy people to know whether the food is edible or inedible.

Donate Food	
Items	
Description	
Mobile	
Quantity	
Address	
City	
Place	
Spot	

Figure 4. Donate Food

E. View Items

Figure 5 depicts search food page. User can view description, quantity, mobile number, add food images, detail information of the food can be obtained from more info. User can add the food items to his /her cart and place the order. Search the food location wise and book the food items. Item can be removed from the cart if not required.

Rice	
	
Description: Rice only can be served for 5 people	
Quantity: 6Kg/5people	
Mobile: 1234567895	
More Info	Add Cart

Figure 5. Search Food Page

F. My Order

Figure 6 depicts my order page. Consumer can view his ordered details. They can also view their recent order in new order page and delete the food items from the cart if not required.

VI. CONCLUSIONS

The proposed system reduces the food wastage by facilitating food sharing in Indian community using mobile technology. In this system any person can register themselves as a donor and receiver of the food. If a donor donates food it is stored in the real time database. The information is retrieved from the database every time, if a needy people wants to receive the food. The one who wishes to receive the food is then directed to goggle maps for the location of the donor. This system has many types of donating users either from organizations such as restaurants, family or functions. It also adds the time and date of each meal shared by the users. This effort is a primary step towards designing a better system to reduce daily food waste.

My Order

Rice1

Description: **rice alone**

Quantity: 11 kg

Mobile: 1234567890

Figure 6. My Order Page

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