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Application on Food Waste Management

Ranjeet Singh Suryawanshi [1], Shristi Singh [2], Prakriti Singh [3], Ketan Singh [4], Sneha Sanap [5], Shardul Situt [6]

Professor, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[1]

Student, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[2]

Student, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[3]

Student, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[4]

Student, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[5]

Student, Department of Engineering, Sciences and Humanities (DESH) Vishwakarma Institute of Technology, Pune, Maharashtra, India[6]

ABSTRACT: Food wastage is one of the main reasons for environmental issues as well as the loss of human lives. Management of food waste is a significant procedure for sustainability and economic growth. While landfilling and IoT-based sensors have been creating large difficulties by polluting surroundings and often their precise functioning, an android mobile application turns out to be effective and relevant in the contemporary world. The app will permit the user to log in, give details regarding the food items with their availability within a locality, and deliver them to the people in need with help of the volunteers who registered in our application. The purpose is to show the ability to convey a useful way to contribute to a social cause by providing food to indigent and feeble people. It also helps in eliminating the appetite of starving people.

KEYWORDS: android application, food wastage, social cause, starving people

I. INTRODUCTION

We live in a tech-driven era. A desire to confront and find solutions is what drives people to create and use technologies. Android is a favoured mobile operating system with a Linux-based platform released by Google. Android is open-source and Google distributes and modifies it for free by hardware manufacturers, wireless carriers, and application developers upgrade and sell them through Google Play or other third parties. Food waste is creating a lot of issues globally. The United Nations reports that Indian households produce 68.7 million tonnes of food waste annually. Based on this study, the UN estimates that nearly 40% of food produced in India is wasted every year.

II. RELATED WORK

Food waste generation includes a lack of awareness or concern, acceptance of food waste as a social norm, poor planning, and inappropriate and unbalanced storage practices. Comprehensive analytical models can improve our ability to predict food demand and food waste, and better adjust food waste [1]. The wastage of food causes a loss of capital, for children and adults. Now, it is time to think every time we purchase or make food in excess about how can we make the most of it without wasting a single piece of food [2]. Organic food was found to have a higher percentage of wastage the because of lower mass sold per article. Increasing shelf-life and minimum order quantities in stores and removing or limiting rejection on delivery options on online purchases were found to be the only solutions, but it is not much known by many food ordering and delivery platforms [3]. Hotels are a massive producer of waste. Hence it is

very important to work on the food waste management plan because this problem has turned out to be very crucial. So it is the need of the hour to work in the concerned area [4]. Proposal of up-gradation in food package processing, handling and preserving foodstuffs, and daily household food waste with the latest technology. Intelligent & interactive packaging and appliances with the help of the internet of things (IoT) enabled kitchen [5]. The use of sensor-based IoT network technology for restaurant food wastage. There are four steps involved in working this technology: i) Examination, ii) Configuration, iii) Installation, and iv) Evaluation. It was found to be helpful, had high accuracy and is cost-efficient, but it involves repeatability, distance limitations, and very low response [6].

By inspecting the above-specified problems, we thought that why waste food instead of providing it to needy people. We know many food pantries and soup kitchens provide food items to the vulnerable by collecting or asking to donate the leftover food from the restaurants, and hotels around us including parties and event places. However, the donor or distributor also the person in need does not have much access to it since the pantries and kitchens are either at permanent locations or mobile distributors. Next, we decided to develop an Android application for the management of food waste. Therefore, our app will be making a small contribution and help make difference by providing and asking for information from both distributors and donors.

III. METHODOLOGY

We target to prevent the wastage of goods by creating an interactive mobile application which will allow people with a surplus amount of goods from weddings, parties and other events, to contact individuals, NGOs, orphanages, old age homes, government schools, government hospitals or any individual who is willing to donate this food among the needy. The mobile application will enable the two parties to communicate effectively. Firstly the donor, who is willing to donate food and secondly the distributor, who is willing to distribute the surplus food amongst the needy. The project has been implemented in Android studio. At first, the background for the app was designed using Pinterest and then the front end of the app was created using XML built in Android studio. We have used a constrained layout for designing the front end. Also, the app's logo was designed using Designivo.

For the backend, we used a database and this application will run when connected to the internet. Used Android studio with the help of java language to design the backend. To read and store data firebase is used in which user's information like login details and other information is stored.

After installing the app user will be asked to log in and if the user is new, he/she has to sign up by clicking on the signup button. Later the user will be asked if he/she is a donor or distributor. The respective page will open for the donor or distributor and the user has to fill in all the information required. Later the user can access the list of donors and contact them. Thus preventing food wastage and contributing to this social cause.


Fig. 1 System Architecture

IV. EXPERIMENTAL RESULTS

Using the app an individual will be connected to a person who is willing to donate, with all his contact details and current location so that one can go there and collect the food. We have made this app because of its accessibility and also help at the same time. It will help people understand the importance of food. It will also make realize the owners and chefs' particular amount of utilization of organic food, dairy products as well as meat in restaurants and hotels.

Fig. 2 Outlook of the application
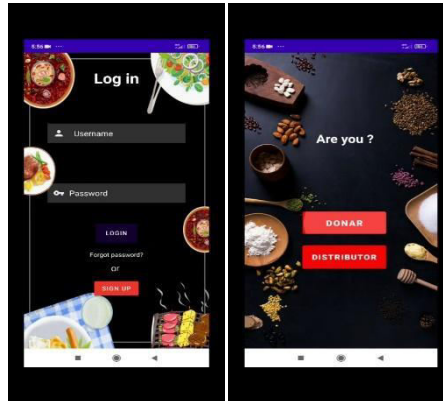
V. FUTURE SCOPE

In this application, it is possible to use the Google route map for reaching the posted location. The addition of an Admin module can be responsible for keeping track of food necessity and food pick-up count. If in the application, excess food is posted than required then this food needs to be stored without getting spoiled. This decision of storage of food is administered from the data displayed in the Admin module.

VI. CONCLUSION

In the ultimate analysis, the control of food wastage and reducing hunger is increasing daily considering the population of India. The bad policies, faculty design, lack of political will, poor governance, and, lack of appropriate monitoring and evaluation. Measures are needed to be taken on all fronts. Economic growth is not the only perspective for the malnourishment of children and old people, or to provide food to the poor. The app will be a helping hand to those who want to work for a social cause and a boon to those who go to bed empty stomach.

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📱 9940 572 462 🟢 6381 907 438 ✉ ijircce@gmail.com