Food for All

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Abstract: Food that was not consumed for any reason and was left to spoil is referred to as food waste, or what should properly be called wasted food. It comprises any edible that was not consumed, such as food that was left on plates, cooked food that was thrown out, vegetable peels, bits of food that were improperly cooked, spoiled food, unsold food, or leftover food. Food waste occurs when food doesn't make it all the way through to the consumption phase. As a solution to this , our team has developed an mobile application (app) called "Food For All" that offers a universal platform where users are able to see available food resources in their neighbourhood and correspondingly gain access to food, thus addressing two significant problems, namely hunger and food waste. By decreasing hunger and food waste, respectively, this act has a positive impact on social groups, people who participate in social activities, healthcare, and the environment.
Keywords: Food Waste, Healthcare, Application, Leftover, Impact.

I. INTRODUCTION

Management of food waste is essential since it can increase our ability to sustain our economy and environment. Food waste has negative economic effects on both producers and consumers in addition to wasting resources and contributing to greenhouse gas emissions.For this We have developed an Android mobile application that enables users to give and share their food and leftovers with people in need after realising the effective use of mobile technology to reduce food waste management.Users of this app will be able to sign up, log in, add stuff, and log out.An application called food for all assists in donating leftover food to an organisation(NGO), that feeds the hungry and assists in donating extra food.

II. LITERATURE SURVEY

Ayesha Anzer, Hadeel A. Tabaza, and Wedad Ahmed ,Hassan Hajjdiab[1] Wasting food is a common problem in our society. Food waste management is crucial since it can improve our environmental and economic sustainability. We have identified the use of mobile technology to reduce food waste management and built an android mobile application that allows restaurants to donate and share their foods and leftovers with people in need. This app will enable users to register, login, view items, add items, add items to cart, remove an item from the cart, and log out. This app is using the firebase storage and real-time database. Any user in need can see all the food images donated by different users and add it to his or her cart.

Irini Spyridakis ,Madison Holbrook , Brent Gruenke [2] Food waste is a prevalent issue worldwide. Close to 15 percent of households in the U.S. are food insecure. The U.S waste up to 40 percent of food, disposing not only food, but also wasting precious resources ranging from land, water, labor, and energy in the production and transportation of food from farm to consumers. At the University of Washington (UW), a research group in the department of Human Centered Design Engineering (HCDE) designed a solution to food waste by creating an interactive, responsive open source website (Meal Matchup) to facilitate food donation and connect dining hall managers, local shelters, and student deliverers. This paper focuses on the consequences of food waste as well as how Meal Matchup manages resources and helps deliver leftover food to those in need through the use of technology, volunteerism, and civic engagement.

Ian G. Fernandes[3] wasting food is common among the students in colleges, hostels, and workplaces. This results in a great demand for food products in the future, which may lead to food scarcity for future generations. As food waste management is a tedious process. In this paper we have mainly focused on measuring the food waste and providing rewards for the users, where it shows the real-time food wastage of every individual on a screen and in a website for future reference. This research mainly focuses on monitoring the food wastage of everyone. Our model proposed over and created a parallel result to give a detailed report to the managing and the user about their amount of food excess each time. This helps to analyze and generate the list of users who fall under the non-food wasting criteria and reward them for their noble act. We can do this either manually or automating the process using the Internet of Things as a key tool. We use an RFID sensor to monitor the wastage of individuals.

They can be opened only by using the RFID card provided by the management. Basically, we are automating the method of identifying the amount of food wastage in the areas, where we are sure that the amount of food waste can be decreased by the analysis of food wastage by every individual and awarding them with rewards and prices by the reports generated by the system.

M.D.C.J Gunawardane, H.A.N Pushpakumara,[4] Food is the third most essential part of everyone's lives. But generally global food loss and wastage amount has been increased to an amount between one third and one half of all food produced. The reasons can be specified as a lack of appropriate planning, purchase and preparation of too much food, over the preparation of food in restaurants. As a solution, the project team has implemented a mobile application which is capable of capturing an image of a food and identifying it and measuring the weight. With the gathered data, the implemented system contains an intelligent agent providing suggestions of food recipes with leftover foods and several additional features such as guidance to the user to prepare any kind of food with the help of an interactive Chatbot as well as the user has been directed to get healthy meals by considering the previous meal plans and statistical report analysis. As the results, the implemented recipe generation algorithm of sentimental analysis has obtained 76% accuracy and moreover the team has obtained a more accurate unique technique for weight estimation than the currently available calibration techniques.

Martin-Rios, C., Demen-Meier, C., Gossling[5] There is growing evidence that a significant share of global food is thrown away, with concomitant detrimental repercussions for sustainability. Reducing food waste is a key sustainability challenge for the food service industry. Despite the significance of this issue to the global foodservice industry, the link between innovation practices and food waste management has received limited attention in the academic literature. This paper uses innovation management and social constructionism to investigate interrelationships of food service provisions and innovations in waste management. It is based on the evaluation of food waste solutions and innovations that combine strategic dimensions of waste management with practice-driven initiatives, including incremental (processes and technologies) and radical innovations. The paper presents a range of waste management initiatives, showing that their implementation in the foodservice sector varies depending on management's beliefs, knowledge, goals and actions. The concepts discussed here could help practitioners to become more aware of the factors that drive the adoption of food waste innovations.

III. EXISTING SYSTEM & PROPOSED SYSTEM

A. Existing System

In the current system, if anyone has extra food from a function or in their home, it will end up in waste because there is no way to share it with anyone. Even if they wanted to offer the surplus food to an orphanage or hungry people, they don't have time or don't know how. As a result We developed an application to sponsor additional food for underprivileged individuals or orphanages in the area.

B. Proposed System

We are utilising this app to decrease food waste in the planned manner. This food redistribution scheme is a hugely effective social innovation that addresses food waste and food poverty. The NGO's collects food from donors via their local agent and distributes it to neighbouring orphanages or underprivileged individuals. After receiving the food from the agent and sending an alert message to that donor, we may decrease the problem of food waste.

The regular donors can be hotels, or any person with smartphone at any place where the food is in excess can register and send notification about the food item, quantity and time prepared. Thus NGOs nearby can get notification about the availability of food. And thus NGOs accordingly can distribute food to the needy ones.

The proposed application is android-based, developed on Android Studio using java and xml, and would provide a platform for donors and seekers when they successfully register in the system. If a user desires to give something, he or she can do so by sending a message through the application's interface.
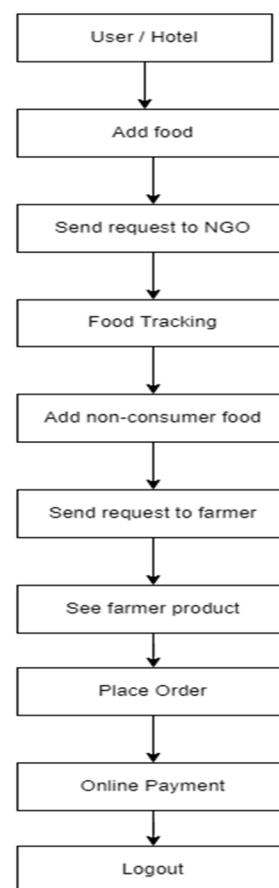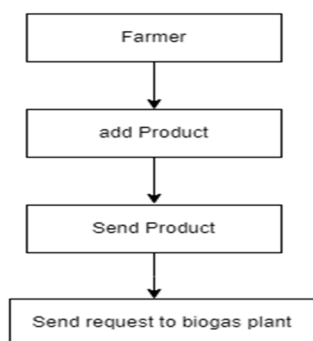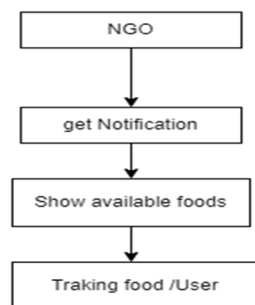
IV. IMPLEMENTATION

A. Modules

Modules contain your app's source code, resource files, and app-level settings, such as the module-level build file and Android manifest file. Each module can be produced, tested, and debugged individually.

Modules are used by Android Studio to make it simple to add additional devices to your project.

There are 4 modules they are as follows:

| NGO |
| get Notification |
| Show available foods |
| Traking food /User |

| User / Hotel |
| Add food |
| Send request to NGO |
| Food Tracking |
| Add non-consumer food |
| Send request to farmer |
| See farmer product |
| Place Order |
| Online Payment |
| Logout |

| Farmer |
| add Product |
| Send Product |
| Send request to biogas plant |

1) Login Module

The first module via which the user can enter the application is login. If the user does not already have an account in the application, he or she can create one by entering their email address, name, phone number, and password.

The phone number is required to login to the application because, after sharing the donor's location, the food activist approaches the donor to collect the food. If the location is not appropriate, the food activist can contact the donor via the phone number provided during the sign-up process. This is how the login module works.
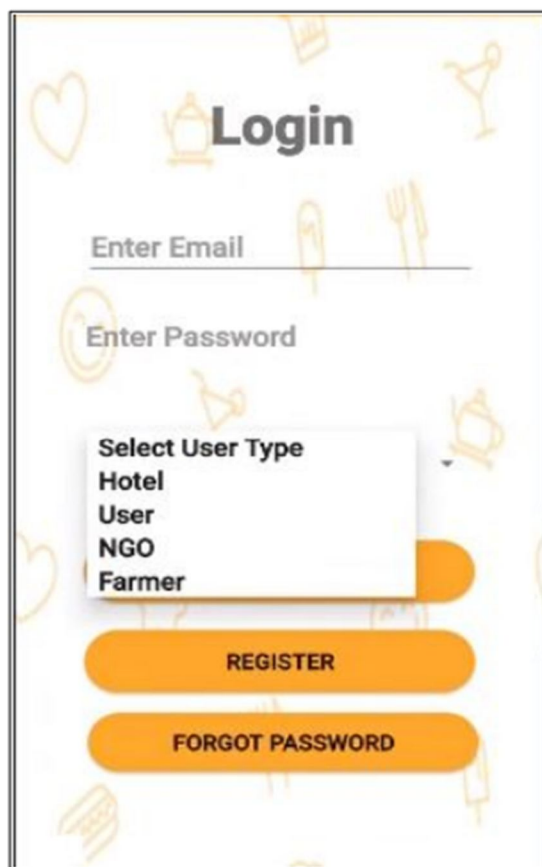
2) User/Hotel Module

a) *Login Credential:* This is used for HOTEL or user login using username and password if registered already.

b) *Add Food:* This is used to add a new food item with details like hotel/user name, location, quantity, address, contact information, time of food preparation.

3) NGO Module

a) *Login Credential:* This is used for ngos login using username and password IF registered already.

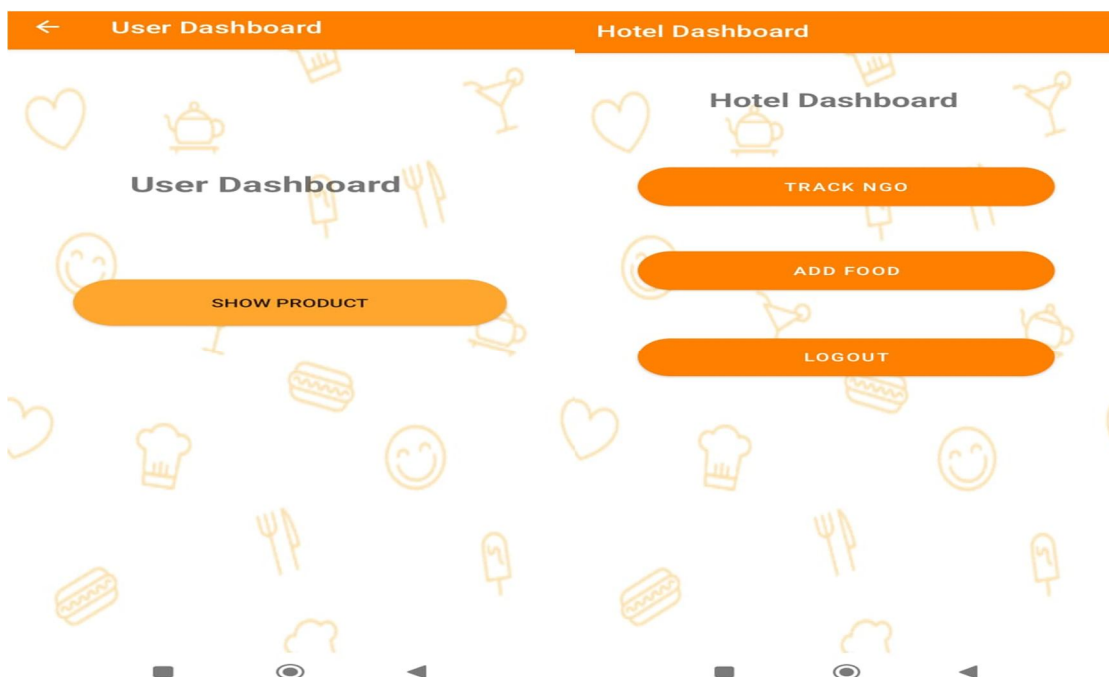b) *Food Available:* Request sent by the hotels/Users are visible to ngos which helps them to act accordingly.

4) Farmer Module

1) *Login Credential:* This is used for farmer login using username and password if registered already.

2) *Add Product:* Farmers can add food products/vegetables available with them which users can buy directly from farmers.

Fig. 1 Login Module

Fig.2 User Module
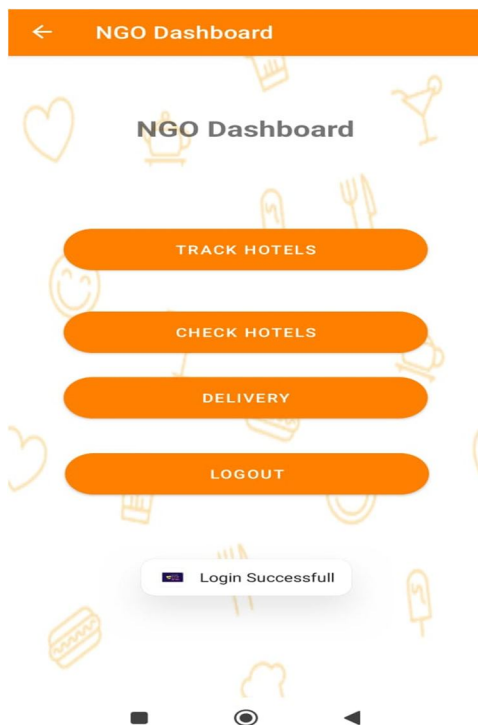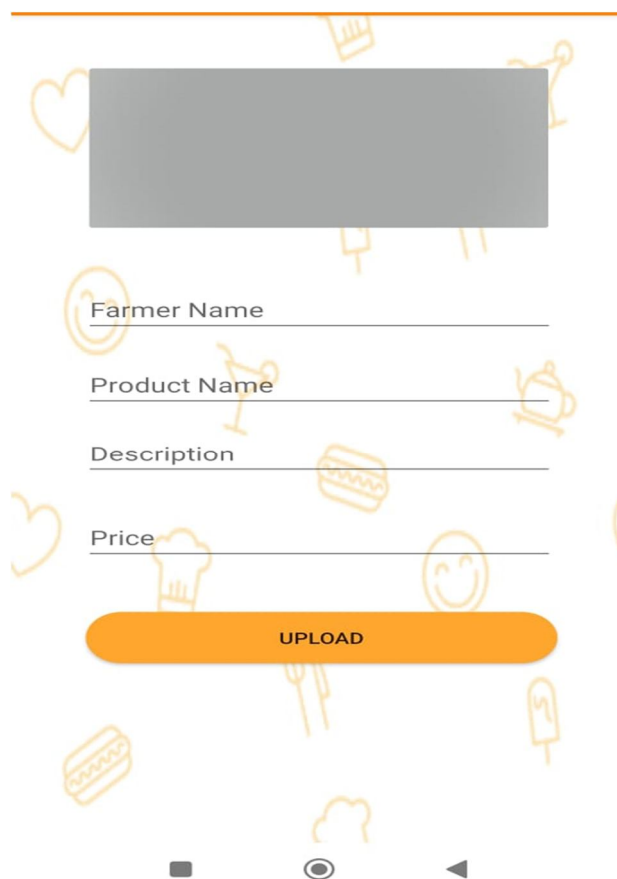

Fig.3 Hotel Module

Fig.4 NGO Module

Fig.5 Farmer Module

V. TECHNOLOGIES USED

A. Android Studio

Android studio is an Android focused IDE, designed especially for Android development. Android studio uses java and xml. Java is considered best for the development of mobile applications based on the Android platform. It is so because Android consists of its APIs and Java libraries. Thus, it is easy using java for Android applications, both android APIs and Java is used to write code for Android apps. Xml helps to design the application layout, how it will look, how components like buttons, text view, etc. will be placed and their styling.

B. JAVA

Java is a widely used programming language and it was developed by James Gosling at Sun Microsystem. The latest version of java is Java SE 14 which was released in March 2020.

The chief objective of java was to make it:

1) Portable
2) Secure
3) Simple

C. XML

XML stands for eXtensible Markup Language. It is a hardware and software tool which is used to store and transport data because it stores data in plain text format. It does not carry information regarding how to be displayed. Predefined tags are not needed for XML. Without losing data, it is very easy to upgrade to a new operating system, applications and browsers. XML is both machine and human readable. It is language and platform independent.XML is used in this application for designing the pages with backgrounds, image buttons, layouts, text boxes, etc.

D. Firebase

The Firebase is a real time database used to create applications without a back-end server. It can efficiently handle the complexity of real time Synchronization. Firebase has libraries for java, JavaScript, Android, IOS and a rest API. Firebase cloud messaging is used to send unlimited upstream/downstream messages. Firebase Authentication provides functionality like email verification, account linking and integration of existing accounts.

VI. CONCLUSION

People utilize mobile applications for a variety of functions, and the tendency is growing year after year.The proposed application will help to reduce food waste. Food waste occurs very often in our daily lives. Instead of tossing it out, it could be utilized to feed the homeless. This app specifies the location of excess food as well as the quantity of food available.It is an easy-to-use application.

VII. FUTURE SCOPE

Some features that could be added are:

1) Regional Languages can be included.
2) Making the app supports multiple platforms (cross-platform app).
3) Fulfilling additional essentials like books, clothes, and so on.

REFERENCES

[1] H. Hajjdiab, A. Anzer, H. A. Tabaza, and W. Ahmed, "A food wastage reduction mobile application," in 2018 6th International Conference on Future Internet of Things and Cloud Workshops (FiCloudW), pp. 152–157, IEEE, 2018

[2] I. Spyridakis, M. Holbrook, B. Gruenke, and S. S. Latha, "Smart resource management: Civic engagement and food recovery," in 2019 IEEE International Smart Cities Conference (ISC2), pp. 378–383, IEEE, 2019

[3] D. J. Attokaren, I. G. Fernandes, A. Sriram, Y. S. Murthy, and S. G. Koolagudi, "Food classification from images using convolutional neural networks," in TENCON 2017-2017 IEEE Region 10 Conference, pp. 2801–2806, IEEE, 2017.

[4] M. Gunawardane, H. Pushpakumara, E. Navarathne, S. Lokuliyana, K. Kelaniyage, and N. Gamage, "Zero food waste: Food wastage sustaining mobile application," in 2019 International Conference on Advancements in Computing (ICAC), pp. 129–132, IEEE, 2019

[5] C. Martin-Rios, C. Demen-Meier, S. Gossling, and C. Cornuz, "Food waste management innovations in the foodservice industry," Waste management, vol. 79, pp. 196– 206, 2018.

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