



WASTE FOOD MANAGEMENT AND DONATING WEB APPLICATION

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Abstract: Food waste is rising at a never-before-seen rate, which is having a detrimental effect on the elements that drive economic expansion. Individuals waste a lot of food every day. Online apps are what we need to stop food waste. A hotel or individual must fill out the application with their address and the quantity of food they have wasted. Subsequently, the administrator will oversee the food donor and orphanage data. If the donor is wasting food, they can register, log in, and submit requests to the administrator at any time. Once the administrator has reviewed the contribution request and message, the buyer's information (old age home, orphanage, etc.) is also kept on file. Using a local agent, the administrator gathers food gifts from contributors and delivers them to the nearest orphanages or nursing facilities. As soon as the agent delivers the food, the administrator notifies the donor via alert message.

Keywords: Food donator, Food wastage problems, collecting foods.

I. INTRODUCTION

Food waste is a serious worldwide issue that has an impact on society, the economy, and the environment. The Food and Agriculture Organization (FAO) estimates that every year, almost 1.3 billion tons, or one-third, of the food produced for human consumption is wasted. In addition to adding to poverty and malnutrition, this waste depletes natural resources, increases greenhouse gas emissions, and aggravates issues with food security. Given this issue, the goal of our project is to provide a complete system that incorporates sales forecasting and food donation in order to reduce food waste. By connecting excess food from events, parties, and restaurants with organizations and people who can provide it to those in need, the main objective is to reduce food waste. Furthermore, we employ machine learning techniques to help with effective inventory management and precisely forecast food sales, such as Random Forest, Gradient Boosting Regressor, and XGBoost. Our project aims to provide workable solutions to reduce the food waste challenge through the use of technology and data-driven techniques. Our goal is to close the gap between people in need and extra food by integrating cutting-edge machine learning models with a web-based platform. We may also learn more about the underlying causes of food waste and pinpoint regions that need focused attention by examining worldwide trends in food waste. One way to end food waste in the modern world is to use the readily available food sources in nearby communities, such as perishables that are not consumed within the allotted time limit and unsold food in stores, restaurants, and food distribution centres that may be about to expire. This is very important, especially in times of crisis like as the COVID-19 pandemic. It focuses on developing the engaging smartphone application SeVa, which offers a well-liked platform where users can explore the food resources available in their town and then buy food, addressing hunger and food waste as two significant challenges. This app is relevant to the larger topic of AI for Smart Living in Smart Cities and fits well with it.

II. PROBLEM STATEMENT

In addition to lowering hunger and food waste, this effort makes use of ubiquitous computing and the Internet of Things, which is advantageous for the environment and healthcare. The implementation of AI principles, particularly those pertaining to HCI (Human Computer Interaction), and how to evaluate it through user input are covered in this SeVa app development tutorial. It contains a list of open issues and an outline of future development. The service that is being suggested is called the Food Donation Portal, and it is an internet tool that allows organizations and the poor to donate unsold food. The product is regarded as a potent online means of donating products to nonprofits and other organizations. Food contamination is a concerning occurrence in industrialized countries such as India. At weddings, bars, canteens, social and family gatherings, and other occasions, a lot of food is wasted. The idea is to donate these items to other groups, such as orphanages and senior homes, rather than discarding them. Certain individuals and companies would wish to provide goods to organizations that aid the impoverished. Many organizations frequently ask for various requirements, like clothes, food grains, books, cutlery, and so forth. Through the food donation app, users and people in need can connect with one another through the proposed effort, the Food Donation Portal, an online resource. Additionally, users can contribute extra food without it going to waste. By informing local users about the food information that is available, it motivates us to donate the extra food. The notice is being demanded by the users who submitted the request. The machine distributes food based on priority, providing a space for groups to donate surplus food. The product is regarded as a potent online means of donating products to nonprofits and other organizations. Although food contamination is a problem, etc., there isn't a source that satisfies their needs. Consequently, a smartphone application has been developed that allows people to contribute food items according to their ability and often allows groups to apply for food goods, or items that they may need, if any.

III. OBJECTIVE

- Technology reduces the need for manpower.
- Using leftover food to provide for the underprivileged.
- It also helps reduce food waste by utilizing food that is available for donation.
- Why The cost of developing a project is practically low because we use Google Maps and GPS.
- The gadget will keep working and provide a 24-hour service.
- The machine may provide food at a comparatively low cost.

IV. LITERATURE SURVAY

Worldwide food waste and food stockpiling are becoming major problems as the world's population continues to grow. A variety of approaches are currently being researched in order to handle and manage food waste for the good of society [4]. Most people give it up before and after they toss away the food. They don't care or stop to think about how the food they are discarding might save the lives of people going hungry. Global food loss and waste amount to approximately one-third of the food produced for human consumption, or 1.3 billion tons of food yearly [6]. A prototype-based food donation system was proposed by Shinta Oktaviana R, Lr. Payanta, Intan Yoshana, and Diana Ambarwati Febriani [7], in "FoodX, a System to "Reduce Food Waste." They created four distinct user types for the system: community managers, application managers, donors, and volunteers. All transactions involving volunteers, donors, and the community have to be overseen and managed by the application manager. Community managers are responsible for supervising the distribution of food donated by donors and informing them of the distribution's results. They created a Donor's application to distribute food because not all communities have volunteers; the Volunteer application was meant simply to help with the process of gathering and delivering food. Aaron Ciaght [8] "Smartphone Based Waste Food Supply Chain For Aurangabad City Using GIS Location Based And Google Web Services," released in 2014, provides details of the client-server GIS and smartphone application for the city without hunger. To help feed the hungry, users of the client-side app have the opportunity to give food to a non-profit. Donors enter basic information such latitude and longitude, the kind and amount of waste they are donating, its estimated worth, and their phone number. Charities can gather food waste and then provide it to starving people. Following registration, the data is uploaded to a server database so that donor entries can be tabulated and stored by charity. Donors can also find the best route and directions to the nearest charity in our database. Food waste can therefore easily reach hungry people. Yue Qui and Chunxian Liu proposed a study [9] that described an in-kind charitable giving system app that is powered by social innovation design concept. Yue Qui and Chunxian Liu developed the "Afu" smartphone app in this project, which enables users to donate to Chinese

individuals in need. It was developed with the intention of boosting the effectiveness of civil donations, promoting collaboration and respect among all parties, and making charitable giving an activity that everyone may engage in at any time. Using the design principle of "problem solving and meaning building," the AFU charity service design explores the relationship between the chaotic design objectives—poor information, distrust, and improving the philanthropic experience.

VI. PROPOSED SYSTEM

By employing the application in the recommended system, we are reducing food waste. Relocating food addresses both the need for food and food waste, which is a social development that is very beneficial. At that moment, the administrator dispatches a local expert to retrieve food from the donor and distribute it to the local shelters or impoverished people. After the administrator receives the food from the specialist and notifies the donor via pre-written letter, we will lessen the problem of food waste. The recommended app is an Android platform made with Java and XML using Android Studio. Assisting researchers and contributors after their successful registration inside the system, it is linked to the website © 2021 IJSRET 1258 International Journal of Scientific Research & Engineering Trends Volume 7, Issue 3, May–June-2021, ISSN (Online): 2395–566X. Should a client choose to contribute—which is improbable—they ought to include something unique in the text. This message appears as a note on the gifts page to different clients. The backend information base contains this message. The shelters that want to confirm the presents might reply and contact the giver if they receive a note. This framework, upon which Android is based, will feature an easy-to-use UI. That's important since we now expect to get rid of most of the waste that normally exists in India. Something like clothes, books, repairs, etc., that will increase the efficacy and usefulness of the application is what we are searching for and want to improve upon. Nevertheless, the software is limited to use with Android-powered handsets that are running Android OS or later. The application will still be profitable if contributors and searchers are similar to one other. Three actors are depicted in the usage case graph above: the administrator, the recipient, and the giver. The donor completes actions such as signing up and accessing the system. He will also see all gift criteria and arrange gifts (products that associations want to get). Both the administrator and the donor can see the recipient's region. Likewise, the knowledge base will be updated and filtered by the administrator. Both the administrator and the recipient will be able to see the donor's region. The Recipient will also be responsible for tasks including declaring objects, paying closer attention to products that are listed, and claiming donations.

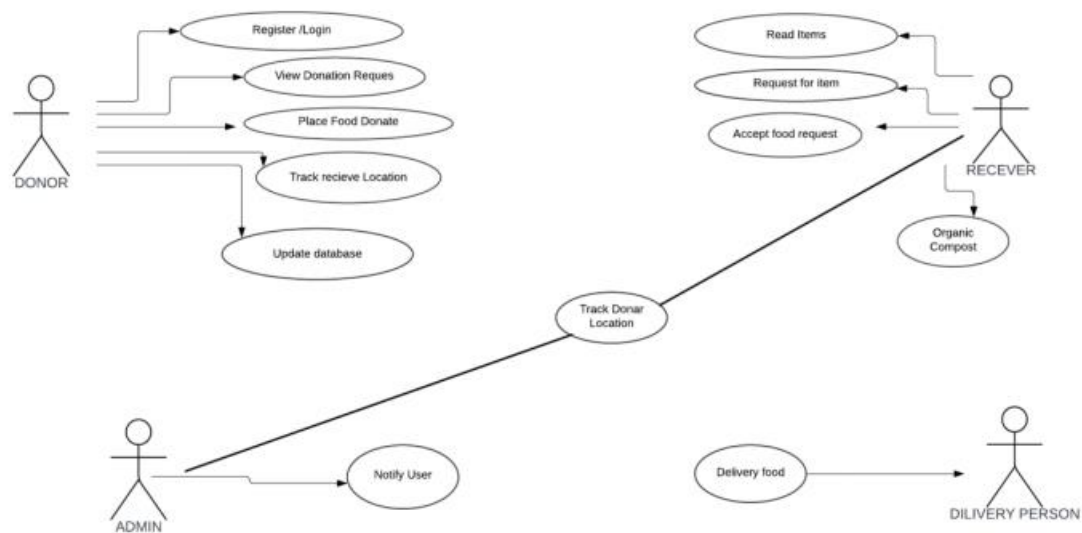
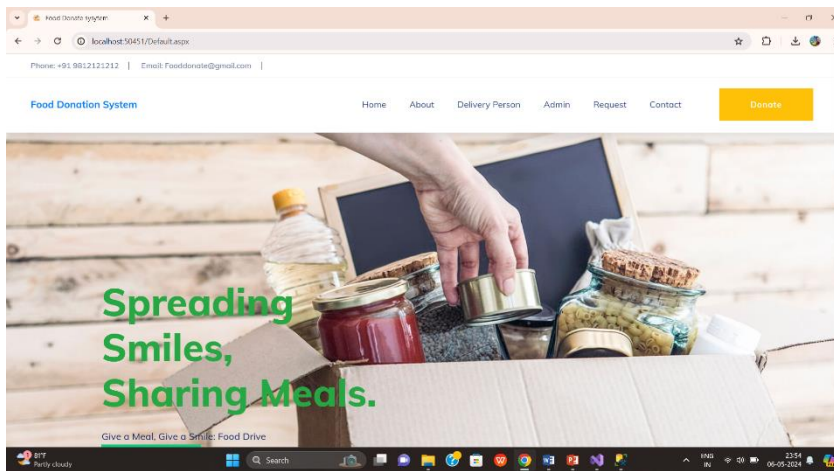


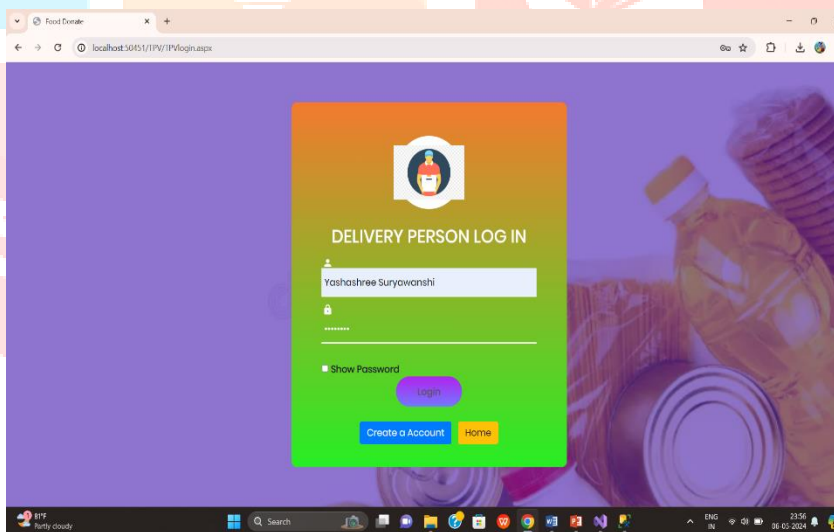
Fig. 1 Block Diagram of Food Donation System

VII. MODULE

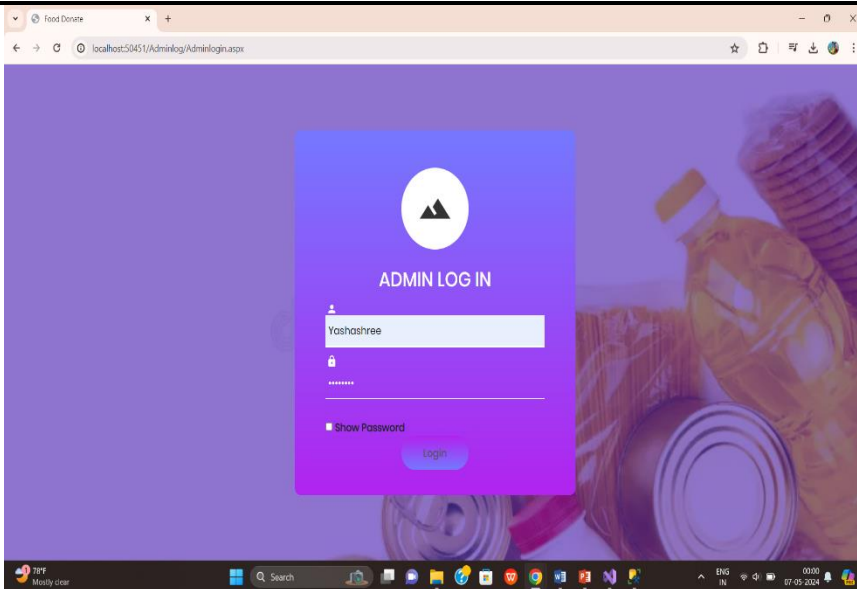
- 1) **Login & Registration:** This module requires the guest and agent to log in and register. The confidentiality of each user's information is preserved by keeping an individual account for each user. Only the agent has simultaneous access to the registered guest's details.



Module 1.1 Home Page

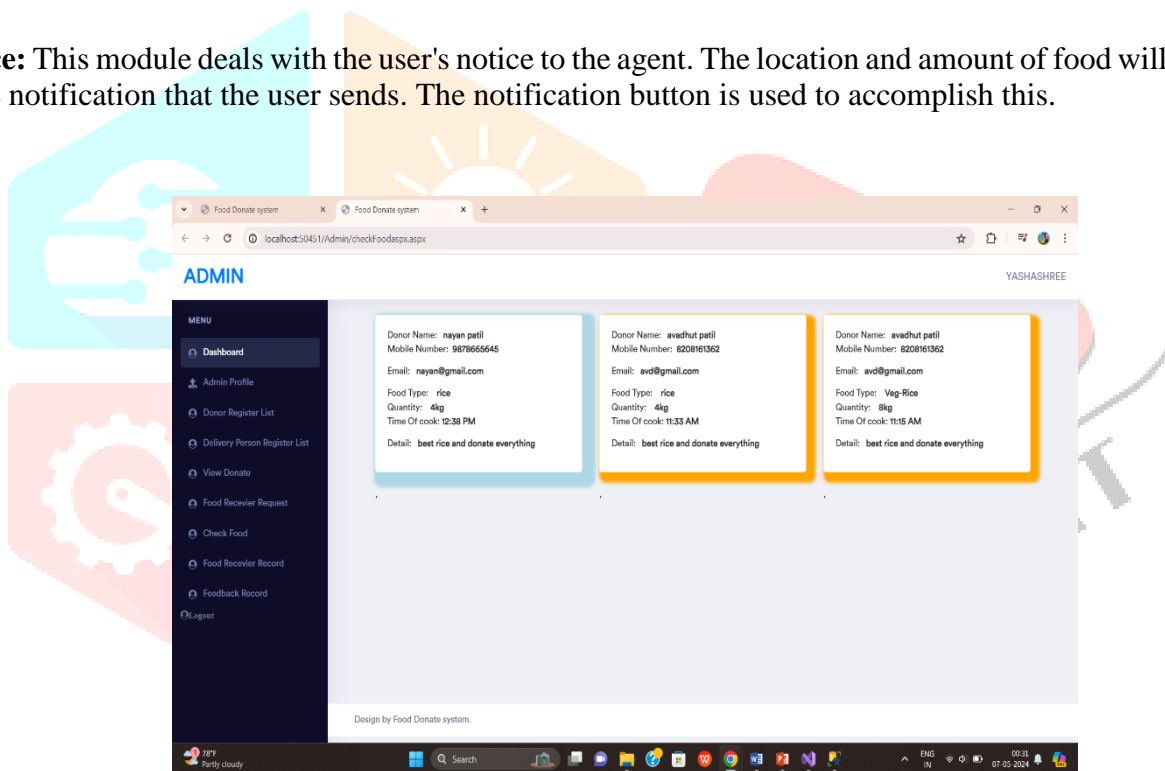


Module 1.2 Delivery Person Login Page



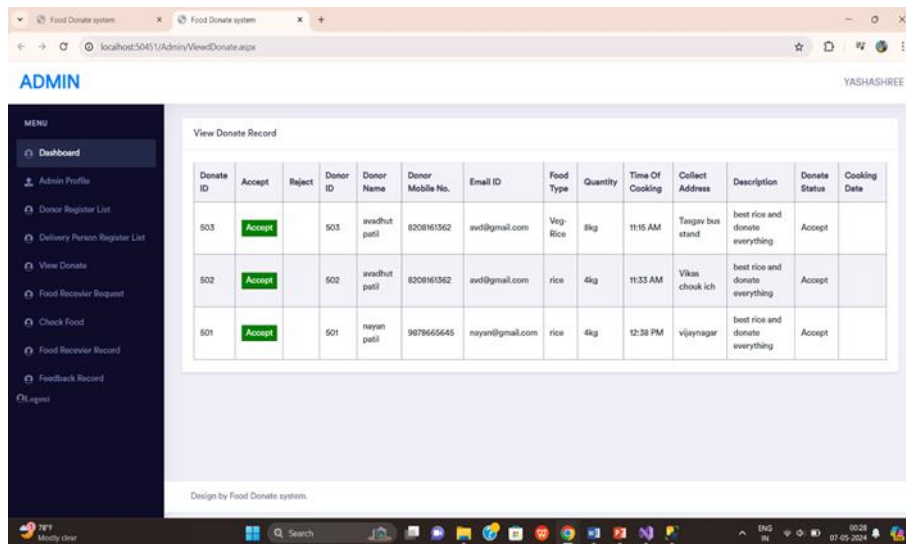
Module 1.2 Admin Login Page

2) **Notice:** This module deals with the user's notice to the agent. The location and amount of food will be included in the notification that the user sends. The notification button is used to accomplish this.



Module 2.1 Food Quantity Check Record Page

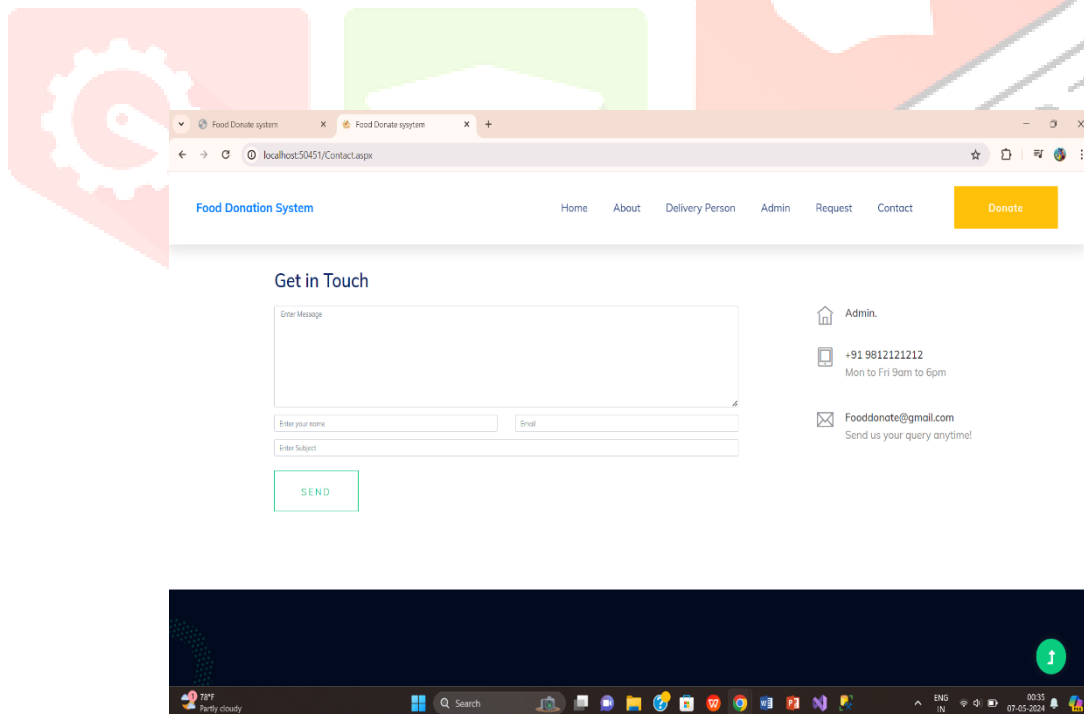
- 3) **Admin Module:** Here, the administrator keeps track of both the agent and donor details. The administrator gets food from the neighbouring agent and gives it to the elderly home or orphanage in the area. For any additional donations, the administrator provides the donor with direct access to the details of the old age home



and orphanage.

Module 3.1 Food Donate Record Page

- 4) **Donator Module:** By making an account on this website, the donor provides the orphanage with leftover food. The donor requests that the administrator pick up the food scraps. The agency and orphanage details are viewed by the donor. Module of Receivers. The Receiver maintains the orphanage details in the Agent module. The donor's details may also be retained. The request to retrieve the food from the donor is made by the recipient to the administrator. The agent notifies the donor of the alert after collecting the food.



Module 4.1 Contact Page

VIII. CONCLUSION

The suggested application prevents food waste while simultaneously meeting the needs of those in need for clothing, books, utensils, etc. Fast food businesses have a significant problem with food waste, which exacerbates social, environmental, and financial issues. Higher rates of food insecurity result from it, particularly for low-income households. We suggested a strategy to persuade fast food restaurants to give extra food.

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