

Food Waste Management System

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Abstract: *The problem of food waste and community hunger needs to be addressed right away. Today, there is an oversupply of food waste in the restaurant, hotel, supermarket, and even the household. The main problem of this project was complicated donation methods; thus, my main goal was to design a food waste management system that will standardize and simplify the donation process for the donor and recipient.*

The program was designed in a web application form; thus, the donor can post available surplus on the system. The system was designed for authorized NGOs to manage the NGO network, distributing food to NGOs and households. Administration supervises the process and keeps the database clean. The following languages and tools were used for the creation of this system: HTML, CSS, Bootstrap, JavaScript, PHP, MySQL. The responsive website was designed with a user-friendly interface; thus, the application has a great performance and low error rate..

Keywords: *food waste*

I. INTRODUCTION

List of problems most essential for every living being is not so attractive for almost everyone, so that a lot of people come to the first place to find out how to solve this or that problem. Over thousands of tons of food on daily basis being thrown away by many organizations like, for example, Restaurants, Caterers, Hotels, Supermarkets and etc., on the family's scale, there is no sense to throw it away because it is not only considerable amount of food that could be used instead of being thrown away and it is not harmful for health.

Much of our surplus is thrown away and only a small part of it is donated to those who need it. Donation and Waste are to two various points and we have an intermediate line between them, and we are those who made it. Humanitarian aspect of this issue is clear that we have enough surplus and there are still people who don't have enough food, so it is time to stop being ignorant and try to find the way to solve the problem once and for all. Moreover, we will save a lot of energy and water and other various resources.

Thus, among other things, we offered our solution to the problem of food waste. For instance, when food is thrown away and being decomposed in landfills, it emits gas, which is called greenhouse gas, that doesn't allow our planet to cool down as infrared radiation can't penetrate through it. All that makes us understand that it is time to take care of our planet and its wasteland and we offer a working prototype of web application aimed to connect donors and recipients of surplus food.

II. METHODOLOGY

Step 1: Registration and Authentication

Every user starts by registering and providing their details, after which the system authenticates them before granting access. This step matters because everything else in the application – posting, requesting, tracking – depends on knowing who the user is and confirming they're allowed to be there.

Step 2: Food Donation Registration

Donors enter details about the food they want to give away: type, quantity, pickup date, expiry date, and pickup places, along with any other relevant notes. This information is stored in the database and made visible to other authenticated users, giving the system an organized, searchable record of what's currently on offer.



Step 3: Food Verification and Availability

Once submitted, a donation's details are checked and marked as available in the system. NGOs can see this listing until the item is picked up or its expiry date passes – keeping the available inventory both accurate and current, so NGOs can choose donations that genuinely fit their needs.

Step 4: Food Request and Collection

Registered NGOs log in and submit a request for a listed donation. The donor is then notified of the NGO's interest, and the two parties coordinate a pickup at the agreed time and location.

Step 5: Food Distribution to the Beneficiaries

After collecting a donation, the NGO records where the food is ultimately distributed – an orphanage, elderly home, shelter, or another group in need. The system logs this distribution step so that the full journey of the food, from donor to end recipient, stays on record.

Step 6: Inventory and Donation Record

The system maintains ongoing records of all donations, requested items, and related activity – quantities, collection details, and distribution outcomes – along with a log of each user's activity. This keeps the full lifecycle of every donation, and of the users involved, properly tracked.

Step 7: Administration and Monitoring

The administrator oversees the system, checking that donors and NGOs are properly authenticated and authorized before they're allowed to use it, and keeping an eye on overall platform activity.

Step 8: Report on Generation and Analysis

Finally, the system generates reports covering donations, collections, user activity, and distribution outcomes. Activity reports help gauge how the platform is being used, while distribution reports help confirm that donated food is reaching its intended recipients efficiently.

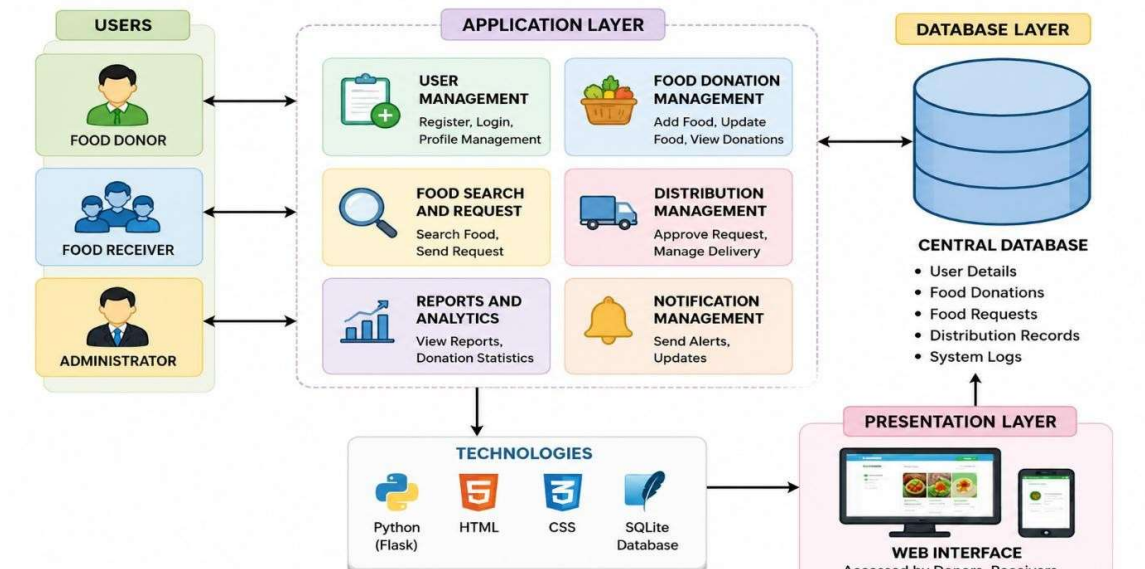
III. MODELING AND ANALYSIS

Table 1. Tools and usage

Technology	Purpose
HTML	Define page structure
CSS	Styling
Bootstrap	Responsive design
JavaScript	Client-side logic
PHP	Server-side logic
MySQL	Database
XAMPP	Local server
Visual Studio Code	Code editing and debugging
Google Chrome	Testing and running the app



IV. FLOW DIAGRAM



V. SNAP SHOTS

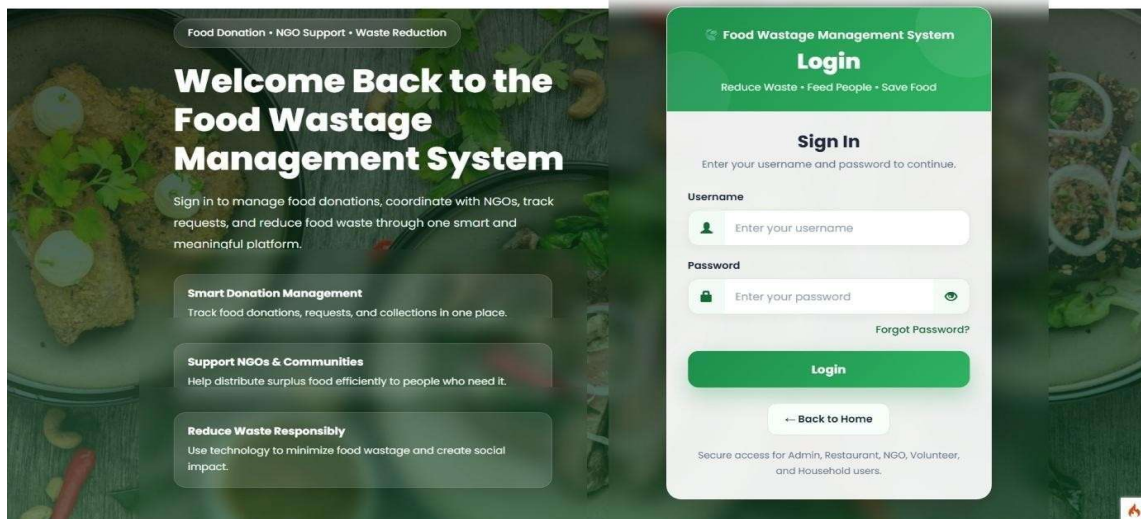


Figure 1: login Page



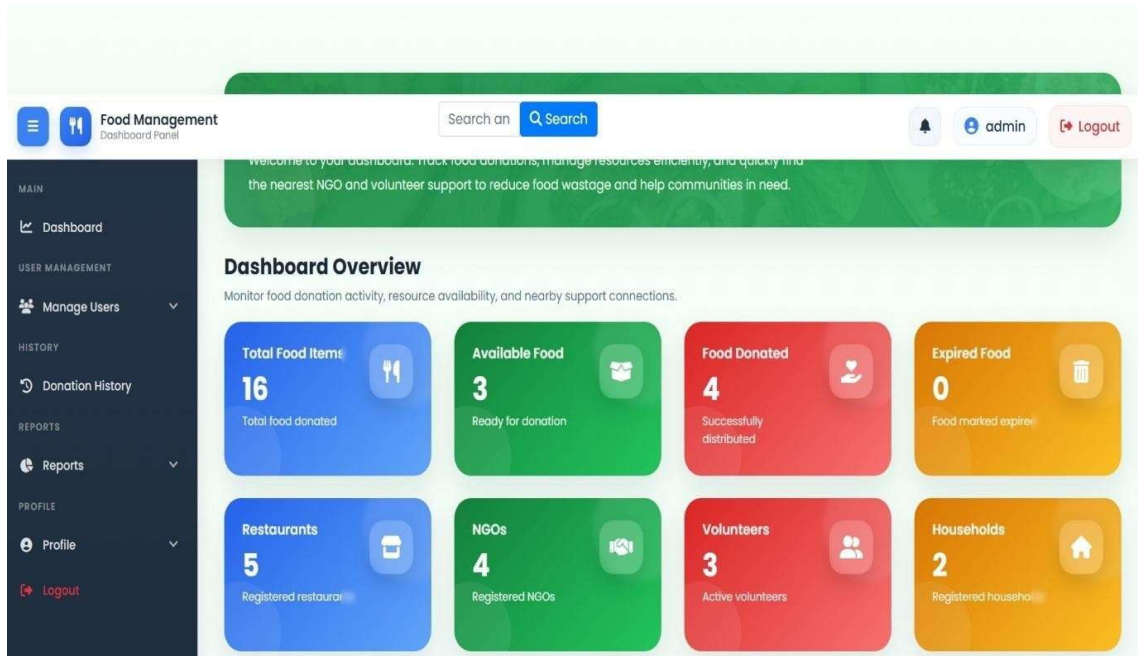


Figure 2: Admin Page

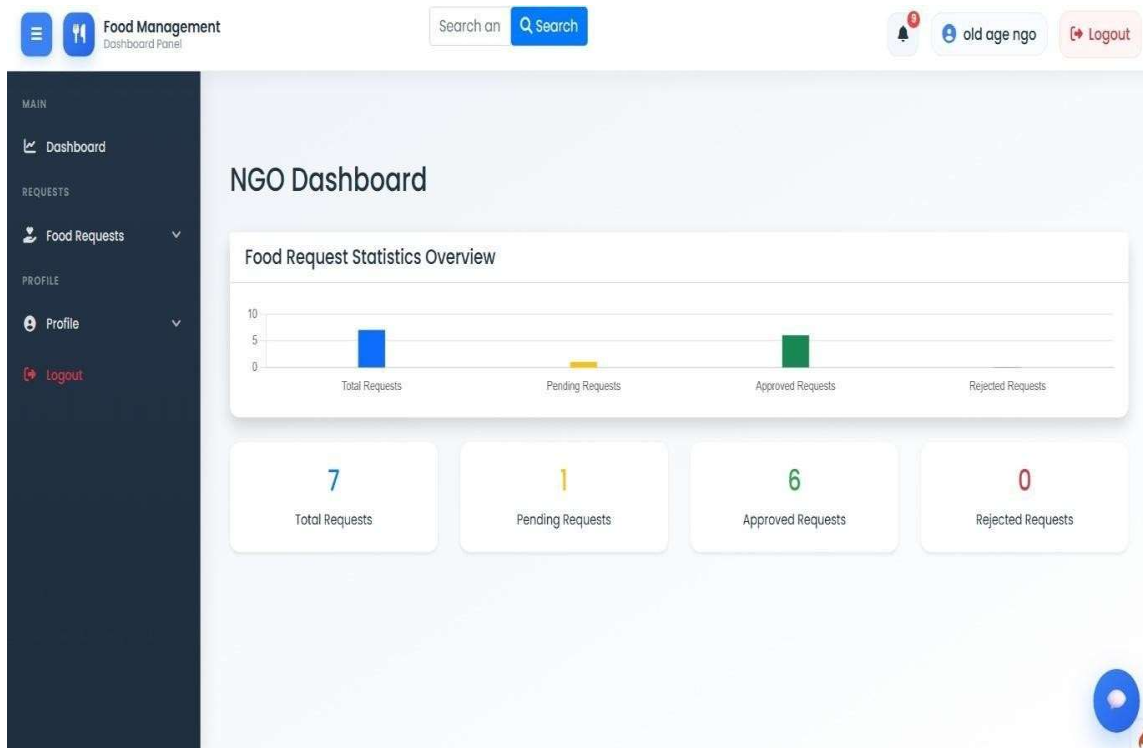
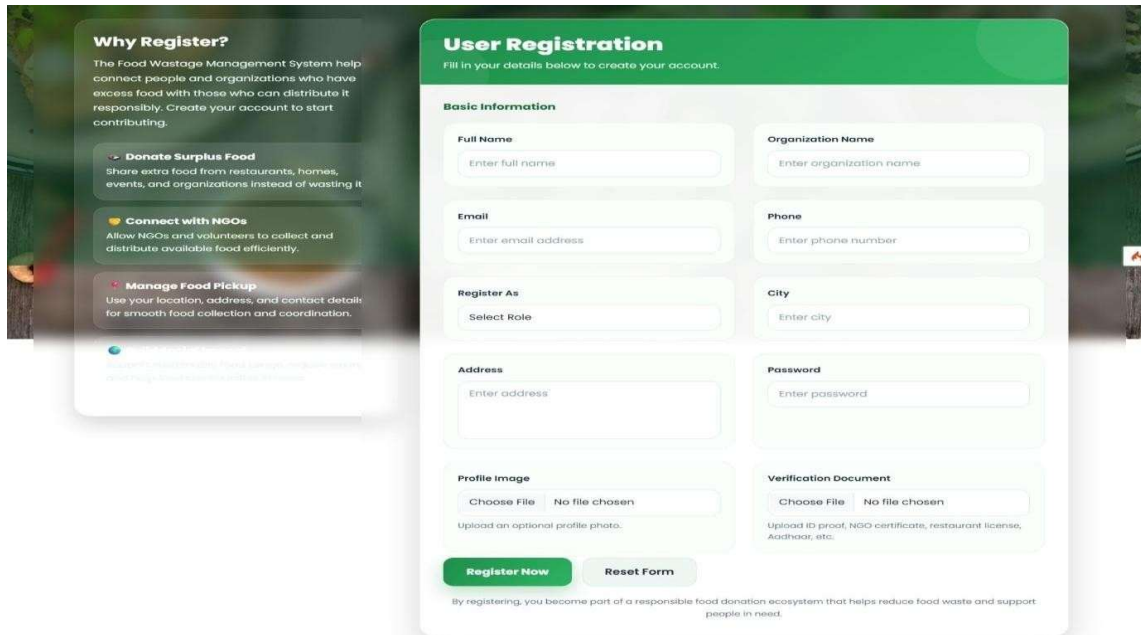


Figure 3: NGO'S dashboard





Why Register?
The Food Waste Management System help connect people and organizations who have excess food with those who can distribute it responsibly. Create your account to start contributing.

- Donate Surplus Food**
Share extra food from restaurants, homes, events, and organizations instead of wasting it.
- Connect with NGOs**
Allow NGOs and volunteers to collect and distribute available food efficiently.
- Manage Food Pickup**
Use your location, address, and contact details for smooth food collection and coordination.

User Registration
Fill in your details below to create your account.

Basic Information

Full Name:

Organization Name:

Email:

Phone:

Register As:

City:

Address:

Password:

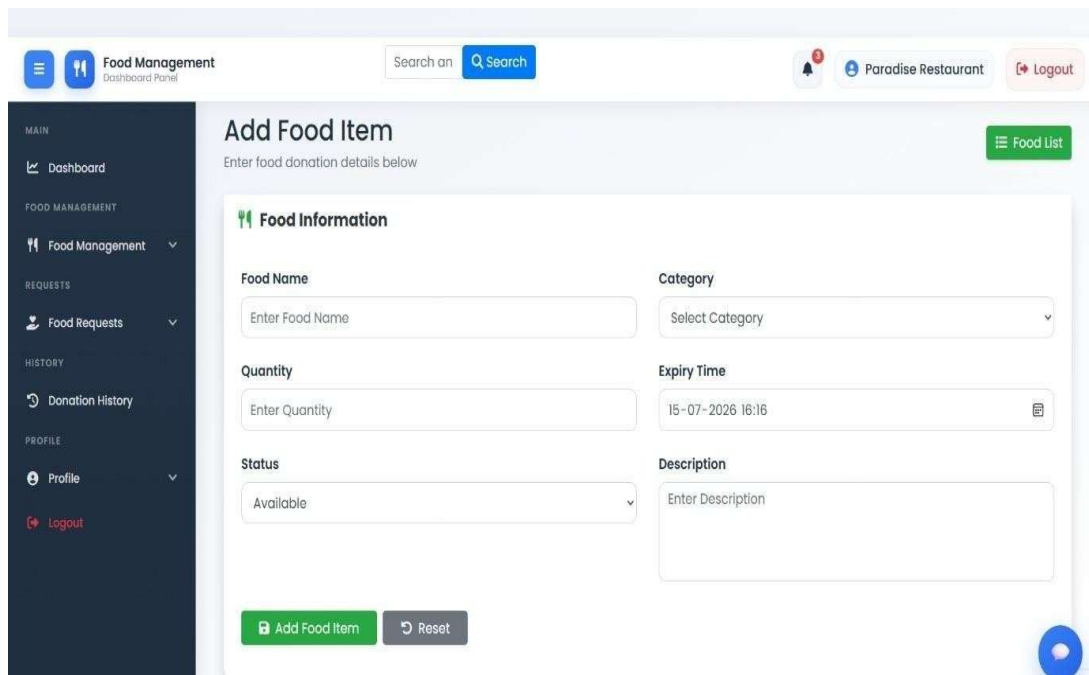
Profile Image:

Verification Document:

Register Now **Reset Form**

By registering, you become part of a responsible food donation ecosystem that helps reduce food waste and support people in need.

Figure 4: Register page



Food Management
Dashboard Panel

Search an

Paradise Restaurant **Logout**

MAIN

- Dashboard

FOOD MANAGEMENT

- Food Management

REQUESTS

- Food Requests

HISTORY

- Donation History

PROFILE

- Profile
- Logout

Add Food Item
Enter food donation details below

Food Information

Food Name:

Category:

Quantity:

Expiry Time:

Status:

Description:

Add Food Item **Reset**

Figure 5: Restaurant Dashboard



VI. RESULTS AND DISCUSSION

The food waste management system is web application projects. It reduces the food waste, and it helps to society, my project connect to food donor means hotel and restaurant's they are connected to Ngo and household's. Food Donor are helps need people to supply the extra food to Ngo's and household. Together, account management, donation, request, and administration features form a reasonably complete system for handling the full donation lifecycle. my project simple, fast and easy to use

VII. CONCLUSION

The Food Waste offers a practical response to a genuinely serious problem – excessive food wastage when many people are facing the problem– by giving donors and receivers a shared online platform to communicate, rather than relying on informal, ad-hoc coordination.

Through this platform, the tasks of recording donations, managing requests, and tracking distribution become far more manageable, removing much of the friction that comes with phone calls and manual messaging. Together, account management, donation, request, and administration features form a reasonably complete system for handling the full donation lifecycle.

Testing confirmed that the system performs as intended and holds up reasonably well in terms of simplicity, maintainability, and scalability, making it a genuinely useful tool for cutting food waste and directing donations to the people who need them.

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