

Food Waste Management System

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ABSTRACT: *In recent years, there has been a serious progressive increase in food waste. One-third of the food produced by humans for human consumption, according to the Food and Agricultural Organization (FAO), World Health Organization statistics show that about 1.3 billion tonnes of food are wasted globally each year, while twenty percent of the global population is said to be facing serious food shortages. This website assists in gathering food donations from contributors and distributing it to those in need. This is the underlying idea behind the project, as well as its main goal.*

Keywords: *NGO, Logistics, Mapping*

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I. INTRODUCTION

The main idea behind this project, which is titled " Food Waste Management," is to collect extra/leftover food from donors like hotels, restaurants, wedding venues, etc. and give it to the less needy via NGOs. Organizations will gather the extra or leftover food from the mentioned locations for distribution to the needy. This web-based tool for managing food waste can help gather leftover food from hotels, restaurants, wedding venues, social gatherings, political rallies, and religious events for distribution to people in need. Via this programme, non-profit organizations (NGOs) that support underprivileged communities in their fight against malnutrition and starvation can request supplies of extra or leftover food from restaurants. The NGOs can pick up the food at the location for distribution once the request has been approved. In this manner, the web-based tool for managing food waste would assist the donors in reducing food waste and aid in feeding the needy and hungry.

II. EXISTING SYSTEM

Donors may only contact a small number of those they are aware are in need or a particular organization. But, there are many people who need meals who are not connected to any organization. To efficiently handle the chores of giving and receiving the meals, an internet platform is needed. Together with that, it's crucial that people participate actively and donate any leftover food rather than tossing it away. Also, after the restaurant closes, the staff simply discards any meals that the hotel or restaurant has already partially made. If this cuisine were made more affordable, it would benefit the less fortunate while also bringing in some money for the businesses.

III. PROPOSED SYSTEM

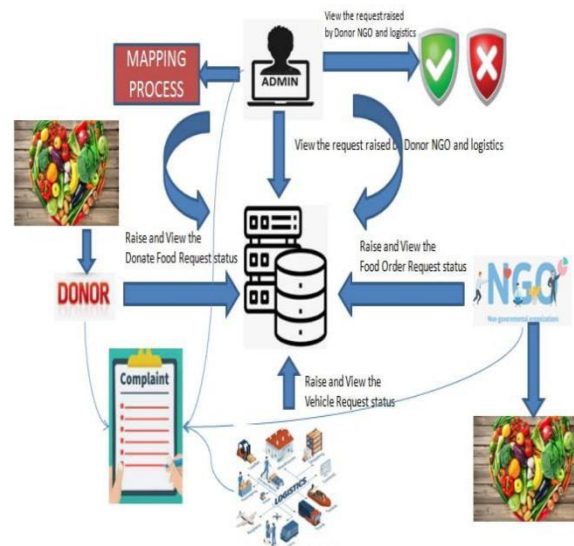
With the help of a number of characteristics, the suggested system allows for the proper implementation of websites. By the information provided by the admin, donors and NGOs (Non-Governmental Organizations) can easily discover one another in the suggested system. The food packages can be picked up from donors and delivered to non-governmental organizations using a separate logistical login. Knowing how much food the restaurants produce in excess each day is useful to them. Regularly giving away leftover or extra food to those in need also helps.

This web-based tool for managing food waste has four parts, including admin, donors, non-profit organizations, and logistics (delivery system). Each module has a registration form and a website login. To prevent scams, bogus requests, and fake supplies, the admin will verify donor and NGO registrations. Both will make a request for a gift or a need after verification. By sharing information based on the availability, kind, and quantity of food from the Donor to the NGOs, the administrator may view the requests and supplies and

facilitate communication between them. If NGOs need to manage their excess/leftover food, they can see the history of the restaurants and issue a request to them.

Users must register in several positions, such as Donor, NGO, or Logistics, on the home page. After registering, they can post requests with information about the vehicles, prerequisites for NGOs, and donor availability. The administrator can then log in to his environment and decide whether to approve or reject the requests from the donor and NGO. Also, he will use the website's mapping function to map the Donor, NGO, and logistics.

IV. SYSTEM ARCHITECTURE



1. Donor Registration: By giving their contact information, name, and address, donors can register for an account on the platform for food donations. Also, they have a choice in the kind and quantity of food they donate.
 2. Request Verification: The system administrator will check the request after the donor submits it. The administrator can verify the authenticity of the request and the quality of the supplied food.
 3. Notification to NGOs: After the request has been validated, the administrator will inform nearby Organizations of the food donation's availability. The message will contain information on the kind and quantity of food offered as well as the location of the donor.
 4. Acceptance by NGOs: Organizations have the option of accepting or rejecting the food donation depending on their requirements and the food's quality. If the donation is accepted by an NGO, that organization will inform the administrator.
 5. Mapping Logistics: The admin will map the logistics, donor, and NGO when the NGO accepts the donation. The admin will make arrangements for the food to be picked up from the donor's location and transported to the Organization.
 6. Feedback and Appreciation: The admin can gather feedback from the donor and NGO once the donation has been successfully given to the NGO in order to enhance the platform's service. The platform can also thank the donor and Organization for their support of the battle against hunger and the reduction of food waste.
- By bridging the gap between contributors and NGOs, this website can guarantee that food is delivered to those in need. Also, the website can inspire people to donate extra food to those in need and raise awareness of food waste.

V. METHODOLOGY

MODULES

1. NGO module:

This module involves NGOs who are involved in food waste management. NGOs can register and create their accounts. They can then view the donor's details and food donations available. They can also manage the logistics for food pick-up and distribution.

2. Admin module:

This module involves administrators who manage the overall system. Admins can manage the NGOs, donors, and logistics providers. They can also set up donation and pickup schedules, view donor information, track the amount of food donated, and analyse the data to improve the system.

3. Logistics module:

This module involves logistics providers who manage the transportation of donated food. Logistics providers can register, create their accounts, and view the available food donations. They can also manage the pickup and delivery of food to the designated NGOs. The module can track the food's status and location in real-time, providing transparency in the food waste management process.

4. Donor module:

This module involves individuals, organizations, or businesses who donate food. Donors can register, create their accounts, and provide details about the food they wish to donate. They can also choose the NGO that they want to donate to and the pickup schedule.

VI. CONCLUSION

The "food waste management" project provides a thorough account of how a website that benefits donors and NGOs was put into place. This website assists in gathering any extra or leftover food donated by Donors and distributing it to people in need. This web-based application functions properly and responds to users with accurate database retrieval. Also, all user logins have an assistance option that is answered by the admin. This website offers a number of options to help the needy consume leftover food effectively.

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