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LEFTOVER FOOD DISTRIBUTION SYSTEM

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Abstract

The Leftover Food Distribution system addresses the critical issues of food waste and hunger by providing a streamlined platform for surplus food providers and individuals in need. The System leverages real-time listings and a sophisticated location-based algorithm to connection between restaurants, caterers, and events with local charities and individuals seeking food assistance. Users can create profiles with preferences and availability, ensuring a personalized and efficient matching process. This System promotes accountability through a feedback system, fostering trust within the community. With a user-friendly interface, this innovative solution minimizes food waste by facilitating timely and targeted donations the Leftover Food Distribution system contributes to building more sustainable and compassionate communities, aligning with the global effort to alleviate hunger and reduce food waste. Reducing food wastage can significantly contribute to environmental sustainability. Food wastage has both environmental and social impacts, as it leads to the inefficient use of resources, such as water, land, and energy, and contributes to greenhouse gas emissions.

Keywords: Excess Food, Donation, Food Waste, Healthy Environment

1. Introduction:

The basic concept of this project Leftover Food Distribution System is to collect the excess/leftover food from donors such as hotels, restaurants, marriage halls, etc, and distribute to needy people .We are focusing mainly on food wastage in the office premises, weddings, events etc. This system is used to manage waste foods in a useful way. The system has three modules. They are

- User
- Administrator
- Delivery

The User module is designed for people who wish to donate their excess or leftover food to help reduce food wastage. The User module is responsible for

accepting food donations from users who have excess food, such as marriage halls, restaurants, or individuals. The module provides users with the ability to register, login, and donate food. Users can select the type and quantity of food they want to donate, and the system will match their donation with the nearest needy people or organizations. The module also allows users to view their donations. The User module provides the information to the Admin module for further processing.

The Administrator module is for trusts, NGOs, and charities that are registered on the platform. The Admin module is designed for system administrators who manage the food distribution process. The Admin module receives information about the food donation from the User module and lists it for NGOs and charities to choose from Admins can view and manage the list of donations received, including the type and quantity of food donated. NGOs and

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charities can select the food donation they need from the Admin module and request a pickup to the Delivery module. The Admin module is responsible for tracking the requests and keeping track of which organizations have taken which donations.

The Delivery Person module is for individuals who wish to participate in the food donation process by providing pickup and delivery services. Delivery personnel can register themselves on the platform. The Delivery Person module provides pickup and drop-off services for NGOs and charities who have requested a food donation. The Delivery Person module shows the pickup location and drop location of the food donation.

Overall, the Leftover Food Distribution System is designed to efficiently manage excess food and ensure that it is distributed to those in need. The User module accepts food donations, the Admin module lists them for NGOs and charities to choose from, and the Delivery Person module provides pickup and drop-off services. This system benefits the community by reducing food waste and helping those in need.

2. Discussion:

The project, "Leftover Food Distribution System," tackles the pressing issues of food waste and hunger by creating a platform that connects surplus food providers with those in need. Here's a discussion about the project

Strengths:

Addresses a critical problem: Food waste and hunger are significant global issues, and this project offers a practical solution to help alleviate both.

Comprehensive approach: The system includes modules for users (donors), administrators (NGOs, charities), and delivery personnel, creating a complete ecosystem for food distribution.

Technology-driven efficiency: The use of a web-based platform streamlines the process, making it easier for donors to list their surplus food, for recipients to find what they need, and for delivery to be coordinated efficiently.

Focus on user experience: The project emphasizes user-friendliness, with features like real-time listings, location-based matching, and clear communication channels.

Potential for scalability: The system is designed to

be scalable, allowing it to accommodate a growing user base and expand to different communities. Areas for improvement:

Dependency on Internet access: The system's reliance on Internet connectivity could limit its reach in areas with poor Internet infrastructure.

Geographic limitations: Reaching remote areas with limited delivery services might pose a challenge.

Security and data privacy: Ensuring the security of user data and the platform itself is crucial, especially when handling sensitive information like food donations and recipient details.

Integration with existing food banks and charities: Collaborating with existing organizations could enhance the system's impact and reach.

Addressing potential food safety concerns: Implementing measures to ensure the safety and quality of donated food is essential.

3. Result

The leftover food distribution system is crucial in addressing food waste and supporting food-insecure communities. The first step involves engaging key stakeholders, including food donors such as restaurants, supermarkets, cafeterias, and event organizers, as well as recipients like food banks, shelters, and community kitchens. Logistics providers, either volunteer-based or through partnerships with transportation companies, play a pivotal role in ensuring the smooth collection and delivery of food.

A robust technology platform is essential for connecting donors and recipients efficiently. Developing a mobile app or website can facilitate real-time notifications, tracking, and scheduling of food pickups and deliveries. This platform should be user-friendly to encourage widespread use and ensure that all stakeholders can easily navigate the system. Additionally, incorporating features such as route optimization can improve operational efficiency.

Legal and safety compliance is paramount in a food distribution system. Understanding and adhering to local food safety regulations helps mitigate risks

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associated with food donations. In many places, laws like the Good Samaritan Food Donation Act provide liability protection for food donors, encouraging more participation. Providing clear guidelines and training for safe food handling to all participants ensures that the donated food remains safe for consumption.

Operational workflow is another critical component. Regularly scheduled collections and on-demand pickups can be organized to suit the donors' and recipients' needs. Proper storage facilities are necessary to maintain the quality of both perishable and non-perishable items. Efficient distribution requires careful planning of routes and schedules to ensure timely delivery to recipients, thereby minimizing food spoilage.

Raising awareness and educating the community about the food distribution system is essential for its success. Community outreach and partnerships with local organizations can help promote the program. Educating both donors and recipients about the benefits and procedures of food donation can lead to increased participation and smoother operations.

Securing funding is vital for the sustainability of the food distribution system. This can be achieved through grants, sponsorships, and donations. Partnering with local governments and NGOs can provide additional support. Regular monitoring and evaluation of the program's impact are necessary to ensure its sustainability and effectiveness, allowing for adjustments and improvements as needed.

Lastly, incorporating a feedback mechanism helps in continuously improving the system. Gathering feedback from all stakeholders, including donors, recipients, and logistics providers, can provide valuable insights into areas that need enhancement. Using data analytics to track the program's performance and impact can help optimize operations and ensure the maximum benefit to the community.

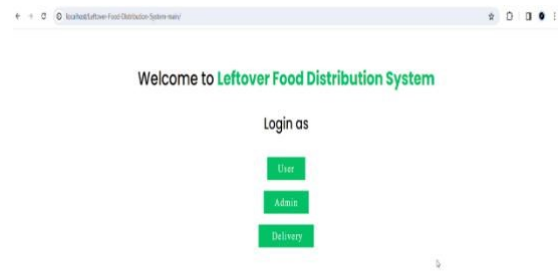


Fig-1: Login Page

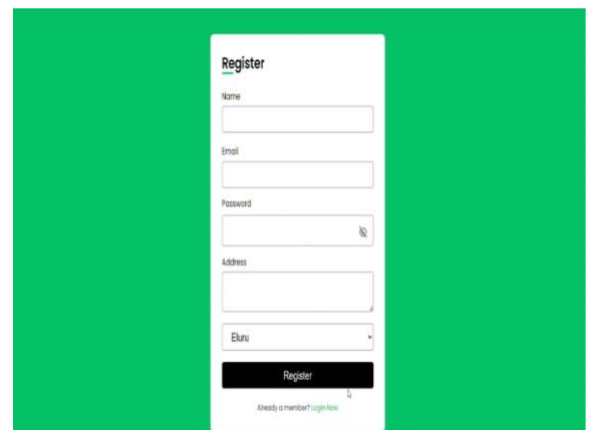


Fig-2: Register page

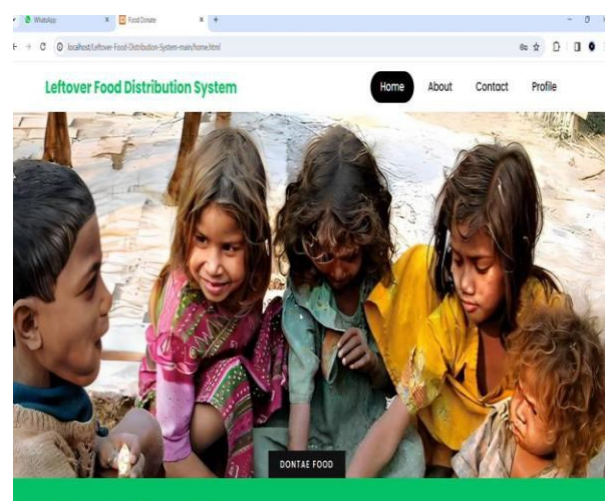


Fig3:-Home page

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Fig-4: Contact us

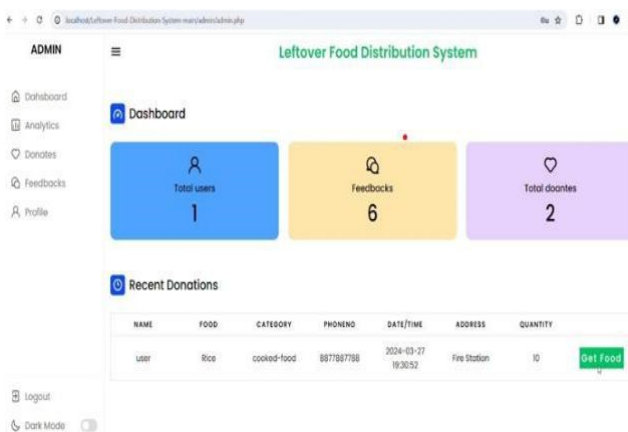


Fig -5: Admin Dashboard

4. Conclusion

The Leftover Food Distribution System offers a comprehensive solution for managing surplus food donations and facilitating their distribution to individuals and organizations in need. By leveraging technology and collaboration, the platform addresses both environmental and social challenges related to food waste and food insecurity, contributing to a more sustainable and equitable society.

5. References

[1]. John Amiel R. Morilla, Phillip Carl Bagsic, Mark Kenneth Dela Cruz, Carl Daniel A. Patio, Emeliza R. Yabut, "Foodernity: A Mobile and Web Application for Food Sharing", 2021 1st International Conference

in Information and Computing Research (iCORE), pp.90-95, 2021.

[2]. Yue Qui and Chunxian Liu, proposed a paper describing an in-kind charitable donation system app driven by social innovation design concept. In this paper, Yue Qui and Chunxian Liu developed a mobile app named "Afu" that enables the public to help those in need in China.

[3]. Food waste management by The CSR Journal.

[4]. An Android and Web-based Food Donation, Application to Reduce Food Waste by Vernekar Yogesh Vinayak, Gautum Rohith Mohanlal, Pawar Abhinav Kiran, Sasthe Ganpat, May 2002.

[5]. Food waste matters - A systematic review of household food waste practices and their policy implications, Journal of Cleaner Production, Volume 182, 2018, Pages 978-991, 2018.

[6]. R. Shinta Oktaviana, D. A. Febriani, I. Yoshana, and L. R. Payanta, "FoodX, a System to Reduce Food Waste," 2020 3rd International Conference on Computer and Informatics Engineering (IC2IE), 2020, pp. 361-365doi: 10.1109/IC2IE50715.2020.9274576.

[7]. Aaron Ciaght, Adolfo Villafiorita, "Beyond food sharing: Supporting food wastage reduction using ICT" IEEE 2014.