

Food Donation And Management App

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Abstract Food wastage is one of the most critical challenges faced by society today, especially in regions where celebrations, events, and large-scale gatherings frequently occur. Despite the abundance of food produced and available globally, countless individuals from underprivileged communities remain unable to access even a single meal in a day. Addressing this glaring disparity, this paper introduces a socially-driven web-based platform designed to bridge the gap between excess food availability and those in need. The platform provides an innovative solution to mitigate food wastage by enabling seamless interaction between food donors and local NGOs. Built using user-friendly technologies like HTML, CSS, and JavaScript, the platform allows food donors to input essential details, such as their location, estimated food quantity, and contact information. The information is then made accessible to NGOs, who can take swift action to collect the surplus food and ensure its redistribution to communities in need.

By adopting a digital-first approach, the platform supports existing humanitarian efforts and contributes to sustainable development goals aimed at reducing hunger. The system prioritizes social impact over commercial gain and strives to foster a culture of mindful food consumption and waste management. This paper delves into the motivational factors behind its development, the technical framework employed, and the potential implications of its widespread implementation. By highlighting the importance of community collaboration and leveraging technology for a greater cause, the platform aspires to become a vital step forward in tackling global food waste and hunger.

Keywords: Food wastage , Web based platform .

I. INTRODUCTION

In societies that take pride in vibrant cultural traditions, social occasions, and frequent celebrations, food often serves as a central, unifying element. From lavish festivals to formal gatherings and large-scale events, the abundance of food prepared symbolizes prosperity, generosity, and joy. However, the aftermath of such festivities often paints a starkly different picture. Large amounts of perfectly edible food are discarded, filling trash bins and contributing to a growing global issue of food wastage. This not only poses environmental challenges, such as increased landfill waste and greenhouse gas emissions, but also raises moral concerns, as millions of underprivileged individuals continue to grapple with hunger and malnutrition daily.

This contrast between the abundance of leftover food and the scarcity experienced by the most vulnerable populations highlights an urgent need to address the gap in resource allocation. Vulnerable groups, including children, the elderly, and homeless individuals, face dire consequences due to insufficient access to nutritious meals. While numerous NGOs are dedicated to combating hunger, their efforts are often hindered by logistical barriers and a lack of real-time communication with potential food donors. Such gaps result in missed opportunities to redirect surplus food to those who need it most.

In response to this societal challenge, this research presents a transformative digital solution: a web-based platform designed

to connect food donors with NGOs efficiently. This platform empowers individuals and organizations to share details about surplus food, such as location, estimated quantity, and contact information. NGOs can utilize this information to streamline the collection and redistribution processes, ensuring that edible food reaches those in need promptly. By leveraging simple yet effective technologies like HTML, CSS, and JavaScript, this system enhances accessibility, fosters collaboration, and supports ongoing humanitarian initiatives.

Ultimately, this platform aims to bridge the divide between food excess and scarcity, mitigating waste while alleviating hunger. It underscores the importance of digital tools in amplifying social impact, advocating for a collective effort to nurture a culture of mindful consumption and resource sharing.

II. LITERATURE REVIEW

2.1 Food Waste Statistics According to the Food and Agriculture Organization (FAO), approximately one-third of all food produced globally is wasted. In India alone, millions of tons of food are wasted annually, much of it during weddings, religious festivals, official parties, and social gatherings.

2.2 Impact on Society Food wastage has both environmental and social consequences. While food production consumes vast natural resources—land, water, energy—the wastage of this food means the wastage of all associated resources. Simultaneously, millions go hungry, with children suffering from malnutrition and related health issues.

2.3 Existing Solutions Several organizations have taken steps to combat food wastage. Initiatives like Feeding India, Robin Hood Army, and Food Rescue US have shown that technology can play a key role in food redistribution. However, most of these systems are either app-based or require user authentication, limiting accessibility.

2.4 Identified Gaps The need remains for a lightweight, easy-to-use web platform that does not require downloads or registrations. A localized solution focusing on small-scale donors and real-time NGO coordination can fill this gap effectively.

systems in industrial settings, aligning closely with the project's objectives of improving efficiency, safety, and manipulation capabilities. Overall, the literature review underscores the importance of integrating advanced technologies and adhering to safety standards to enhance the capabilities and versatility of industrial robotic arm systems.

III. OBJECTIVES

To develop a web-based platform that connects food donors with NGOs

This objective revolves around designing a practical digital platform that serves as a bridge between food donors and NGOs. Often after functions, festivals, or official parties, large amounts of food are left unconsumed. People willing to donate this food may not have a straightforward way to reach an NGO. Conversely, NGOs lack the tools to know when and where surplus food is available. The proposed web platform provides a central space for donors to submit key information such as locality and estimated food quantity. With this, NGOs can plan prompt pickups and redistribution. The platform's structure ensures clarity and ease of use, catering to both tech-savvy and less tech-literate individuals. By streamlining the communication between donors and NGOs, the system supports timely food recovery, minimizes waste, and ensures that food reaches those in urgent need—especially vulnerable children and families.

To minimize food wastage during events, functions, official parties, and festivals

The second objective is rooted in the cultural practices of communities where grand functions and official events are common. During weddings, religious festivities, and formal parties, food is often prepared in abundance to accommodate guests. However, unexpected changes in attendance or overestimation frequently result in substantial leftovers. These surplus quantities, though safe and edible, often go to waste due to the absence of timely redistribution channels. This platform provides an actionable solution by enabling hosts and organizers to immediately notify nearby NGOs about available food. Real-time submissions ensure that NGOs can respond quickly before the food deteriorates. By fostering awareness and enabling swift action, the platform transforms potential waste into valuable sustenance. It promotes a responsible approach to celebrations, encouraging a culture where sharing excess food becomes a norm rather than an exception.

To provide NGOs with real-time information about available food

NGOs engaged in food collection and distribution often face logistical hurdles stemming from unpredictable food availability. This objective focuses on overcoming these hurdles by offering real-time insights into where surplus food exists. The web platform functions as a live, dynamic notice board. Donors submit entries, and these immediately become visible to NGOs, allowing them to assess and act without delay. With details like food quantity, location, and type, NGOs can prioritize and plan efficient collection routes. The integration of real-time data significantly reduces the time lag between food availability and collection, thereby preserving food quality and increasing reach. This system not only saves food but also enhances the operational efficiency of NGOs, enabling them to extend their impact and deliver meals to underserved areas more effectively.

To support existing humanitarian efforts with technological tools

Many NGOs already dedicate resources to combat hunger, but they often operate under constraints, such as limited manpower, outdated communication methods, or lack of technological access. This objective underscores the importance of integrating modern web-based tools to bolster these humanitarian efforts. The platform introduced here complements existing frameworks by providing a free, lightweight tool that NGOs can use to connect with food donors more easily. There's no need for complex registration, downloads, or expensive software. The simplicity of the system ensures that it can be adopted with minimal training and resources. In doing so, it empowers NGOs to expand their network, improve their responsiveness, and deliver greater social value. By merging grassroots activism with digital accessibility, the project reinforces the impact of humanitarian work.

To create a socially beneficial tool without commercial intentions

The final objective is to emphasize the project's non-profit nature and its commitment to social good. In a world where most digital platforms are monetized, this initiative stands out by being purely altruistic. The platform neither collects personal data for resale nor integrates ads or paid services. Its goal is to build community involvement and civic responsibility. By removing financial barriers, the project remains inclusive and trustworthy. Anyone—from a household host to an event organizer—can contribute to reducing hunger simply by sharing excess food. This open-access, cost-free model encourages widespread adoption and fosters a sense of collective responsibility. The initiative sets a precedent for how technology can be utilized not just for profit but to solve pressing societal issues with empathy and efficiency.

III. METHODOLOGY

Technology Stack

- HTML: Used for structuring the web pages.
- CSS: Applied for styling and layout design.
- JavaScript: Used for form handling and interactive functionality.
- SQL : Used to Store Data

System Design

NGO-Interface

The NGO Interface displays real-time submissions from donors. It organizes the information in a sortable list based on location, helping NGOs quickly identify and prioritize food donations that are within their reach. This allows NGO volunteers to make fast, efficient decisions and coordinate food pickup seamlessly. It ensures the

smooth flow of communication and improves the logistics of food collection

Development Process

Requirement Gathering

In this phase, the focus is on understanding the needs of the key stakeholders: donors and NGOs. This involves collecting input on features, user expectations, and logistical considerations. By engaging with potential users, the development team ensures that the platform meets both technical and functional needs, laying the groundwork for an intuitive and efficient system.

Wireframe Design

Wireframing helps in visualizing the layout and user interface of the platform. It serves as a blueprint, illustrating the overall structure, content placement, and navigation flow. This design phase ensures clarity of thought and provides a framework for frontend development. It helps in addressing usability issues before development begins.

Frontend Development

During this phase, the design is translated into functional code using HTML, CSS, and JavaScript. HTML structures the content, CSS styles it, and JavaScript adds interactivity, such as form validation and real-time updates. Frontend development focuses on creating a responsive and intuitive user experience, ensuring the platform is easy to navigate on different devices.

Functional Testing

Once the frontend is developed, functional testing checks if all features are working as intended. This involves testing all inputs, buttons, forms, and real-time data updates to ensure there are no errors. It also checks for bugs or glitches that may affect user experience,

ensuring the platform performs smoothly and meets user expectations.

Deployment on Local

Once the platform passes functional testing, it is deployed either on a local or cloud server. The deployment process ensures that the platform is accessible to users. Cloud deployment provides scalability, making it easier to expand and handle increased traffic. After deployment, users can access the platform in real time, allowing for real-world testing and further user feedback.

IV.ADDITIONAL PLATFORM FEATURES

More Involvement of NGO :

The platform could allow NGOs to create profiles, track food donation history, and set specific preferences for the type or quantity of food they can collect. This would foster better collaboration and enable NGOs to manage resources more effectively.

Faster Response Time:

Integrating real-time notifications for both donors and NGOs can reduce delays. Features like geolocation and route optimization for pickups could significantly improve response speed compared to existing apps, ensuring that food is collected and distributed while it's still fresh.

Accurate Measurement of Quantity and Quality-Check:

Donors could input detailed information on food type, quantity, and approximate weight. To ensure quality, the platform might include a checklist or guidelines for food safety (e.g., freshness, packaging standards). Alternatively, NGOs could update the quality status upon collection to maintain transparency

food, coordinate pickups, and redistribute the food without delay. This reduced the chances of food spoiling and ensured it reached those in need faster. The quick response time also highlighted the platform's efficiency in facilitating timely food recovery.

6.3 Positive Feedback

Donors provided positive feedback on the platform's purpose and ease of use. Many appreciated the simplicity of the system, which made it easy to donate without cumbersome processes. The social impact of reducing food waste and helping those in need resonated strongly with users, and they expressed satisfaction with contributing to such a meaningful cause. This positive feedback indicates strong support for the platform's objectives and future potential.

V. RESULT

6.1 Ease of Use

User feedback highlighted the simplicity and intuitiveness of the platform's interface. Donors found it easy to navigate, with clear instructions on how to submit information about available food. The absence of complicated forms or unnecessary steps made the platform accessible even to users with minimal technical experience. Overall, the straightforward design contributed to high levels of engagement, with users appreciating the simplicity of contributing to the cause.

6.2 Response Time

NGOs were able to act on food donations within minutes of them being submitted. The real-time nature of the platform allowed volunteers to quickly assess available

Using feedback surveys indicated over 85% satisfaction with the platform's usability and purpose. Though in a pilot stage, the platform showed potential for scale and customization.

VI. Future Scope

- Expansion to mobile applications.
- Partnership with government bodies and municipal corporations.
- Integration with food quality monitoring systems.
- Volunteer coordination features

VII. CONCLUSION

In conclusion, the development and implementation of the Industrial Robotic Arm System signify a groundbreaking achievement in industrial automation, effectively tackling challenges in material handling practices. Leveraging robotics and automation technologies, we've streamlined workflows, reduced human efforts, and boosted operational efficiency, leading to enhanced productivity and safety in Manufacturing facilities. Looking ahead, the success of our project paves the way for further innovations, including exploring advanced functionalities like machine learning for autonomous decision-making and enhanced sensor integration for environment perception. Moreover, the potential integration with IoT and cloud computing promises to create interconnected industrial ecosystems. Beyond manufacturing, our system holds promise for revolutionizing material handling across various industries, driving efficiency, agility, and innovation. Ultimately, this marks the dawn of a new era in industrial automation, where robotics and automation technologies reshape the future of manufacturing and beyond[9].

VIII. FUTURE SCOPE

In conclusion and future scope, our project opens avenues for enhancing the Industrial Robotic Arm System's capabilities. Firstly, we propose integrating advanced control interfaces like gesture recognition or voice commands to enable intuitive, hands-free operation, enhancing usability in environments with limited manual dexterity. Secondly, implementing sensor feedback mechanisms, such as proximity or force sensors, would screen enable real-time data on arm position and interaction forces, improving precision through closed-loop control. Additionally, exploring vision-based systems for autonomous navigation and object detection, along with cloud service integration, would enable remote monitoring and predictive

maintenance, enhancing reliability. Moreover, investigating collaborative robotics ensures safety alongside human operators, while a modular design allows scalability for diverse industrial applications, paving the way for a more adaptable and efficient robotic arm system[2].

IX. REFERENCES

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