ShareFoods- Food Donation Network

Submitted in partial fulfillment of the requirements of the degree

B.Tech. (Computer

Engineering)

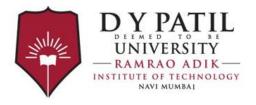
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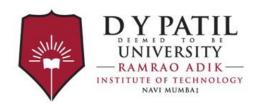
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Certificate

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"ShareFoods- Food Donation Network"

Is a bonafide work done by

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and is submitted in the partial fulfillment of the requirement for the degree of

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Mini Project - I Approval

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Abstract

"ShareFoods" is a pioneering initiative designed to bridge the gap between surplus food sources, such as restaurants, and food shelters, thereby addressing the critical issue of food waste while aiding those in need. This abstract serves as a concise overview of the entire project, offering readers a clear understanding of our core objectives and the methodology employed to attain them.

The fundamental objective of ShareFoods is to create an efficient food-sharing network that connects food establishments, like restaurants and cafeterias, with local food shelters and charitable organizations. By doing so, our project aims to reduce food waste, alleviate hunger, and contribute to a more sustainable food ecosystem.

To achieve this objective, we have developed a user-friendly website that enables participating restaurants and food providers to notify the system when surplus food is available. The website then matches these surplus food items with the needs of nearby food shelters and organizations, ensuring timely and efficient redistribution.

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Chapter 1

Introduction

1.1 Overview

In the current working scenario, many NGOs are struggling with some issues mainly communication with their member, heads, and volunteers while NGO are donating. One of our members is a volunteer of an NGO and main objective of the NGO is to feed the poor people. As a volunteer, our member has to visit the restaurants, make individual donations, and some processed foods. He is facing many problems like communication issues, Missing some places for picking up food, being unable to find the location for volunteering, and much more.

Hence, we came up with our website, this website is for every NGO available in the particular city and donates things like Clothes, food, stationery items, and much more.

1.2 Motivation

In highly populated countries like India, food wastage is a disturbing issue. Food wastage is not only an indication of hunger or pollution but also of many economic problems. Instead of wasting these things, we can put them to use by donating them to various organizations such as orphanages, old age homes, etc. The product is an internet-based website that basically aims at charity through donations. The definition of this website is to 'Spread A Smile' was well thought out and discussed by us. One of the members is a volunteer of an NGO and the main objective of the NGO is to feed the poor people. As a volunteer, our member has to visit the restaurants, make individual donations, and some processed foods. He is facing many problems like communication issues, Missing some places for picking up food, and much more. Hence, we came up with our website.

1.3 Problem statement and objectives

It is crucial for all the NGO volunteers to communicate with each other in order to give proper delivery to the needy people. It is also important for people to know about NGO's, so that they can donate their items with ease.

Our website tackles the main communication problem by providing an interface between the donors and the NGOs or the NGO volunteers, making the interaction easy and the donation easy.

1.4 Methodology

The methodology of our achievement revolves around a three-pronged approach:

1. Technology Platform: We have designed a robust and user-friendly website that simplifies the process of food donation and ensures secure and efficient transactions. This platform is accessible to both food providers and food shelters, facilitating seamless communication and coordination.

- 2. Outreach and Partnerships: ShareFoods has established collaborations with local restaurants, food providers, and shelters to ensure a steady influx of surplus food and create a network of trust. Through effective outreach and partnerships, we have successfully onboarded a significant number of establishments.
- 3. Impact Assessment: Continuous monitoring and assessment of the project's impact, in terms of food waste reduction and increased access to nutritious food for underserved communities, have been integral to our approach. We use data analytics to measure our success and make necessary improvements.

ShareFoods represents an innovative and sustainable solution to the problem of food waste, addressing a crucial societal issue while fostering collaboration between the business and nonprofit sectors. This abstract encapsulates the essence of our project, demonstrating how we have endeavored to connect surplus food with those in need, ultimately striving to create a more food-secure and environmentally conscious society.

Chapter 2

Literature Survey

Introduction

This chapter aims to provide a comprehensive literature survey pertaining to ShareFoods, a food-sharing network designed to facilitate communication between restaurants and various establishments and food shelters. The objective of this literature review is to introduce readers to the existing solutions and technologies in this domain, highlighting their salient features, limitations, and the perspectives of potential users. Furthermore, it will also examine the methodologies employed in these existing systems, offering an overview of the landscape. The chapter will conclude by presenting general observations derived from this survey.[5]

Existing Solutions

1. Food Donation Apps:

Many existing solutions, such as food donation apps, enable food providers to donate excess food to shelters. Apps like "Food Rescue Hero" and "ShareTheMeal" have established networks connecting restaurants and shelters, streamlining the donation process.[8]

2. Communication Platforms:

Various communication platforms like Slack and WhatsApp have been used informally by restaurants and shelters to coordinate food donations. While these platforms are easily accessible, they lack specialized features and automation for efficient food sharing.[8]

3. Food Waste Reduction Initiatives:

Some non-profit organizations and government initiatives focus on reducing food waste and redistributing surplus food. ShareFoods can draw inspiration from such programs and incorporate their successful strategies.[12]

Salient Features of Existing Solutions

- Real-time communication and coordination between food providers and shelters.
- Tracking and reporting features to monitor the quantity and types of food donated.
- User-friendly interfaces for easy registration and donation processes.
- Integration with mapping and geolocation services to optimize food pickup and delivery.[16]

Limitations of Existing Solutions

- Lack of a dedicated platform like ShareFoods tailored to the unique needs of food-sharing networks.
- Limited scalability in ad-hoc communication platforms, making them unsuitable for large-scale operations.
- Uneven distribution and awareness of existing solutions, resulting in uneven food redistribution.
- Privacy and data security concerns in some solutions.[19]

User Perspectives and Requirements

Understanding the perspectives of potential users is crucial for designing an effective food-sharing network like ShareFoods. A survey of restaurants, shelters, and beneficiaries can reveal insights into their requirements and expectations. Key findings may include the need for a simple, intuitive interface, streamlined donation processes, and reporting tools to track the impact of their donations.[21]

Technologies and Methodologies

Existing food-sharing solutions leverage technologies like mobile apps, web platforms, geospatial mapping, and messaging APIs to enable communication and coordination.

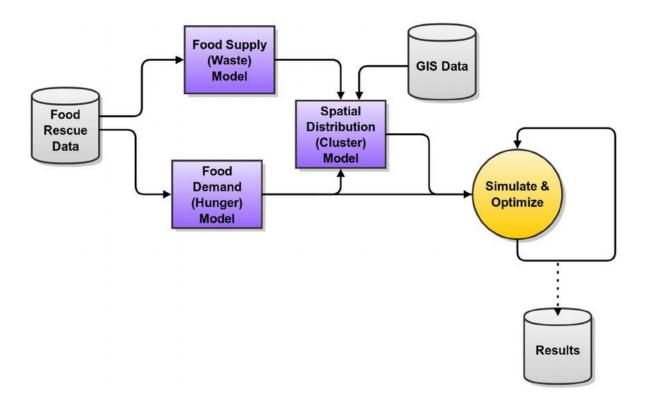
ShareFoods should consider the adoption of modern technologies, like AI for demand forecasting, to enhance efficiency and responsiveness.[24]

The literature survey highlights the diverse landscape of existing solutions in the realm of food-sharing networks. These solutions offer valuable features, yet they have limitations that ShareFoods aims to address. Understanding the perspectives of potential users is essential for shaping ShareFoods to meet their specific needs. By integrating modern technologies and methodologies, ShareFoods can enhance food-sharing efficiency and bridge the gap between food providers and shelters, ultimately contributing to the reduction of food waste and the alleviation of hunger.[23]

Chapter 3

Proposed System

3.1 System Design



3.2 Problem Statement

It is crucial for all NGO volunteers to communicate with each other in order to give proper delivery to needy people. It is also important for people to know about NGOs so that they can donate at their items ease.

3.3 Proposed Methodology / Techniques

In developing ShareFoods, a specialized food-sharing network that addresses the challenges outlined in the problem statement, a range of techniques, methods, and algorithms will be employed. Each of these components, along with their theoretical underpinnings, customization, and modifications, will be explained in detail to highlight the innovative changes that set ShareFoods apart.

1. User-Friendly Interface and Experience:

- Theory: ShareFoods will employ modern user interface (UI) and user experience (UX) design principles to create an intuitive and user-friendly platform.
- Customization/Modifications: Customized UI/UX design will be implemented, focusing on an easy-to-use dashboard for food providers and shelters, allowing them to register, schedule donations, and track their contributions efficiently.

2. Real-Time Communication and Coordination:

- Theory: ShareFoods will use real-time messaging and notification systems to facilitate instant communication between food providers and shelters.
- Customization/Modifications: ShareFoods will integrate a real-time chat feature with customized notification settings, ensuring that messages are delivered promptly, and users are alerted to relevant updates.

3. Geospatial Mapping and Routing:

- Theory: Geospatial mapping and routing technologies will be used to optimize the pickup and delivery routes, reducing transportation time and costs.

- Customization/Modifications: ShareFoods will integrate customized mapping software, enhancing it with real-time traffic data and geofencing to provide optimized, location-aware routes for food pickups and deliveries.

4. Data Analytics and Reporting Tools:

- Theory: ShareFoods will employ data analytics to collect and analyze data on food donations, distribution, and impact.
- Customization/Modifications: Customized data dashboards and reporting tools will be developed, allowing users to generate reports on the impact of their donations, helping to track and measure the effectiveness of the system.

5. Community Awareness and Outreach:

- Theory: ShareFoods will utilize digital marketing and community engagement strategies to raise awareness and encourage equitable distribution of resources.
- Customization/Modifications: Tailored outreach campaigns will be developed, emphasizing the social and environmental impact of food sharing, with modifications to engage local communities effectively.

By integrating these techniques, methods, and algorithms into ShareFoods, we aim to create a platform that not only addresses the problem statement's challenges but also sets a new standard for food-sharing networks. The detailed explanations and customizations ensure that ShareFoods offers a unique and effective solution, maximizing the value added to solve the problem at hand.

3.4 Details of Hardware and Software Requirements

Hardware:

- 1. A computer or server for the hosting system.
- 2. Reliable internet connection.
- 3. Adequate storage for data and backups.

Software:

- 1. Operating System: Choose a suitable OS like Windows or Linux.
- 2. Development Tools (Visual StudioCode): A code editor for writing and editing your code.
- 3. Web browser: For testing and viewing your web application.
- 4. Optional security software: Firewalls and antivirus programs for protection.
- 5. Text editor: For configuring files.
- 6. Version Control System(Git): For code versioning.
- 7. Deployment server or hosting service: To make your system accessible online.

Chapter 4

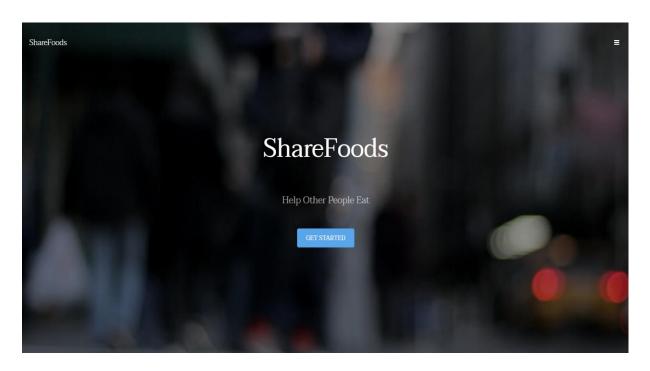
Results and Discussion

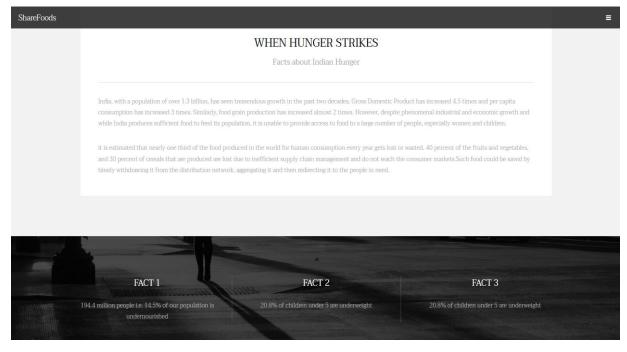
4.1 Implementation Details:

The implementation of "ShareFoods", a system project, is a pivotal phase where the detailed plans and designs are transformed into a fully functional Food Donation Network solution. In this stage, the development team ensures the setup of the required environments and configures servers and databases to support the system's operations. On the frontend, web-based or mobile applications are constructed with great attention to user interfaces that facilitate user registration, food sharing, scheduling, and other critical functionalities. A user-friendly and responsive design ensures that the system accommodates various devices and screen sizes.

4.2 Project Outcomes:

Fig 4.1: Home Page





Description:-

This is the homepage of our website Food Donation Network. It is a user friendly interface which can be easy to understand and handled by users.

Fig 4.2: Food Shelters

donate your food in EAST

FOOD ATM

contac :098308 78727t

address:Ladies Park, CIT Rd, Beniapukur, Kolkata, West Bengal 700014



Goonj food dropping centre contact:098301 30715

address:603/1B, New Alipore Rd, Block O, New Alipore, Kolkata, West Bengal 700053



Description:- It shows the location of food shelters in East.

NORTH

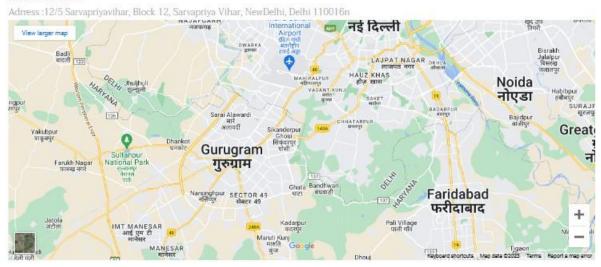
DELHI GURGAON NCR FOOD BANK

CONTACT:085859 95995

ADDRESS:C2/2200, C2 Vasant Kunj, Pocket 2, Sector C, Vasant Kunj, New Delhi, Delhi 110070



AWB FOOD BANK



Description:- It shows the location of food shelters in North.

WEST

AKSHAYA PATRA FOUNDATION

conatct:0141 307 3333

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New

ANNAMRITA

Adrress: 19, Jaywant Industrial Estate, 63 Pandit Madanmohan Malaviya Marg, Tardeo, Arya Nagar, Tulsiwadi, Tardeo, Mumbai, Maharashtra 4000



Description:- It shows the location of food shelters in East.

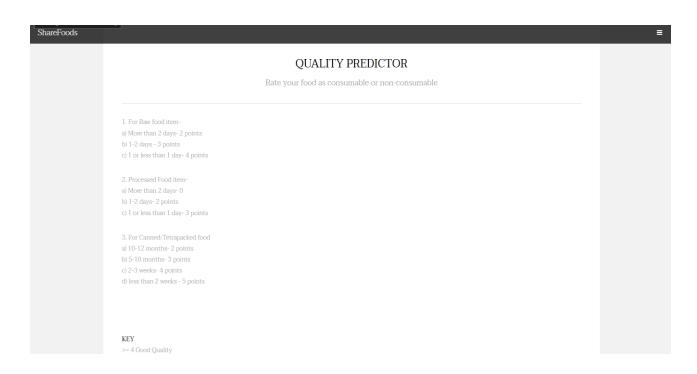
SOUTH

CHENNAI FOOD BANK

adrress: 12, Saravana St., Parthasarathi Puram, T. Nagar, Chennai, Tamil Nadu 600017 contact: 044 2431 2096 Chennai Foodbank 12, Saravana St, Parthasarathi Puram, T. Nagar, Chennai, Tamil Nadu 600017 bballi ey 🤻 4.9 **** 17 reviews ANDHRA PRADESH View larger map MARNATAKA Bengaluru ಬೆಂಗಳೂರು Vellore வேலூர் Ray of Bangal hennai Foodbank PUDUCHERRY TAMIL NADU Thenjevu 東級更可能す കൊച്ചി LAKSHADWEEP மதுரை KERALA

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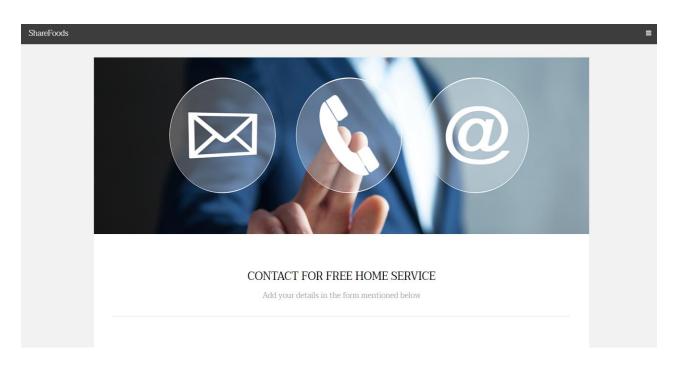
Fig 4.3: Food Quality Predictor





Description:- This page is the page which predicts the quality of foods.

Fig 4.4: Contact Us





Description:- This page is our contact page where a user can contact us.

Chapter 5: Conclusion and Future Work

The development and implementation of the "ShareFoods" system represent a significant milestone in addressing the Starvation challenges faced by our target community. This system has successfully provided a comprehensive platform for the food to overcome starvation efficiently.

The "ShareFoods" system is designed to bridge gaps in food sharing, streamline meal coordination, enhance food inventory management, and promote community food sharing services, among many other critical functionalities. By focusing on food safety and hygiene, the system ensures that food is shared safely and complies with regulatory requirements, instilling confidence in its users.

The implementation of this project represents a significant step forward in the quest for accessible, efficient, and community-centric food sharing. Nevertheless, we recognize that the field of food sharing is continually evolving, and there is still much room for improvement and expansion.

Future Work for ShareFoods:

- 1. Enhanced Features: As healthcare and nutrition needs evolve, the "ShareFoods" platform can continue to expand its feature set. This may include the integration of additional tools for personalized dietary planning, virtual consultations with nutritionists, and predictive analytics for early nutrition-related health issues.
- 2. Data Interoperability: Future work could focus on improving data interoperability by connecting the "ShareFoods" platform with a broader spectrum of health and wellness information systems, including fitness apps and dietary trackers.
- 3. Personalized Nutrition Recommendations: Developing machine learning and AI algorithms for personalized nutrition recommendations based on users' dietary preferences, health goals, and medical history can further empower individuals to make informed choices about their diet and overall well-being.
- 4. Scalability and Global Expansion: Preparing the "ShareFoods" platform for scalability and global expansion can facilitate its adoption in various health and wellness ecosystems, helping more communities around the world benefit from advanced nutrition and health-related services.
- 5. User Feedback and Continuous Improvement: Collecting ongoing user feedback and prioritizing iterative improvements is crucial to ensure that the platform continues to meet the ever-changing needs of individuals seeking better nutrition and health outcomes.

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