Empowering Humanity Through Food Donations To Combat Hunger

Ms.Catherine Deboral[1], Harini KV [2], Dhivakaran B[3], Muthu Sankar M[4], Jayalakshmi N[5]

[1]Assistant Professor, [2,3,4,5] Students,

Department of Artificial Intelligence and Data Science

Sri Sairam Engineering College, Chennai, India.

Abstract: An important goal in our world today is to eliminate food waste by reutilizing available food sources within local communities: leftover food items in restaurants, stores and food distribution centers that may be approaching expiration; and any perishable items not used in entirety within their desired period. This is highly significant, particularly during crises such as the COVID-19 pandemic. Our project focuses on creating an interesting mobile web application that provides a ubiquitous platform wherein users can visualize available food resources in their local area and consequently gain access to food, thereby tackling two major issues, i.e. hunger and food waste. This app is pertinent to the **UN SDG**s (**United Nations Sustainable Development Goals**)

I. INTRODUCTION

With some 200 million people suffering, India has relatively high rates of In a world marked by plenty, hunger remains an enduring challenge, affecting millions of lives across the globe. The grim reality of food insecurity juxtaposed against the abundance of resources underscores a profound moral imperative to empower humanity through food donations. While hunger persists as a multifaceted issue with socio-economic, political, and environmental dimensions, food donations stand as a beacon of hope, offering tangible relief to those in need.

However, malnutrition is not uniform throughout the country, and its prevalence corresponds to the uneven levels of economic development between different regions. Researchers have mapped opportunities for India to reduce hunger and improve overall nutrition by reorienting its agricultural policies in favor of more nutritious foods. Food scarcity isn't just about insufficient food; it's about unequal access to nourishment. Millions, including children, families, and the elderly severely face chronic hunger, depriving them of essential nutrients for health and well-being. Factors contributing to food scarcity include poverty, conflict, climate change, and inadequate infrastructure. These issues intertwine, creating a complex web of challenges that demand multifaceted solutions.

Another aspect of food insecurity is hunger, which is not just an expression of poverty; it brings about poverty. Hunger has chronic and seasonal dimensions. Chronic hunger is a consequence of diets persistently inadequate in terms of quantity and/or quality. Seasonal hunger is related to cycles of food growing and harvesting. Since Independence, India has been aiming at self-sufficiency in food grains. After Independence, Indian policymakers adopted all measures to achieve self-sufficiency in food grains. In the field of agriculture, India adopted a new strategy, which resulted in the 'Green Revolution'.

Food donations offer immediate relief, sustainable solutions require a holistic approach. This entails investing in agricultural development, empowering local farmers, and advocating for policies that prioritize food security. By addressing root causes of food scarcity, such as poverty and inequity, we can create lasting change and break the cycle of hunger for future generations. This paper expresses the technique to implement food donation technically through web development. The Food Donation Portal Proposed Program is an online resource that aims to connect donors with organizations and individuals in need. Specifically, it provides a platform for donating leftover food to those who require it. The program addresses the pressing issue of food waste by allowing people and organizations to donate surplus food that would otherwise go unused. It offers an efficient way to donate items over the internet, making the process more streamlined. The system tracks and reports how much food is donated by each restaurant, creating transparency and accountability.

II. Proposed System

Web development encompasses the tasks involved in developing websites or web applications. It typically involves several disciplines, including web design, front-end development, back-end development, and server administration. Technology stacks involved in this project are discussed below.
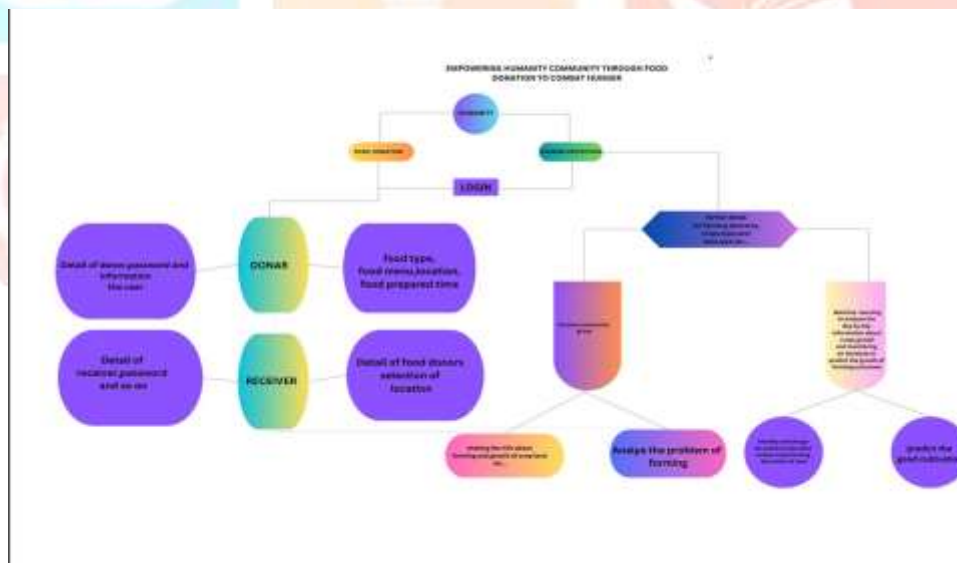
For Frontend Development:

This is the part of the application that users interact with directly in their web browsers. They use languages like HTML, CSS, and JavaScript to create web pages and make them interactive.

For Backend Development:

The code that runs on the server and interacts with the database, handling tasks like user authentication, data processing, and server-side logic is Backend Development. Common back-end languages include Python, Ruby, PHP, and Node.js, while frameworks like Django, Ruby on Rails, and Laravel provide additional tools and structure for building back-end systems. This project uses Node.js for backend development.

Working of Food Donation Portal:

Here , The demonstration of working of web portal as follows:

User Login is divided into two sections such as for food donation and farming protection. In the food donation part, there are two criteria such as donor and receiver. Donor side has various functionalities like details of the donor, information of the user ,food type, food menu, location and food prepared time. Receiver side has details of the receiver, details of food donors, selection of location and also displays the food's spoilage time based on time prepared and distance . Overall, food donation portals aim to streamline the process of connecting donors with surplus food to individuals or organizations that can benefit from it, thereby reducing food waste and addressing food insecurity in communities.

On the other hand, The Farming protection part was created for guiding farmers to predict crop price. In addition, The Farmer Community has also been created especially for communication regarding the price of food crops , problems faced by them and so on. Farmers can login into The Farmer Protection section and then details such as type of food crop, type of land area are to be filled by them. In order to predict the

price of food stocks, Machine learning models are used. Through this , farmers can analyze the price prediction of crops over different places and can understand the latest market trends, economic indicators, and other relevant factors.

Machine learning models can automate the price prediction process, reducing the need for manual analysis and potentially saving time and resources for businesses .it can be tailored to specific markets, regions, or product categories, allowing for more customized price predictions that take into account local factors and preferences. By providing insights into future price trends, machine learning models can help businesses identify and mitigate risks associated with price fluctuations, allowing for better strategic decision-making. It can scale to handle large volumes of data and accommodate growing businesses or markets without significant increases in computational costs.

By optimizing prices based on demand and other factors, businesses can offer competitive prices to customers, potentially leading to increased satisfaction and loyalty. It can provide forecasts for future price trends, allowing businesses to plan ahead and make proactive adjustments to their pricing strategies. One of the Machine Learning Algorithms , Regression algorithms are used for price prediction. This algorithm suits well for prediction. It works well when there is a linear relationship between the input features and the target variable (price).Overall, leveraging machine learning for price prediction can enhance decision-making processes, optimize resource allocation, and improve competitiveness in the market.

III. CONCLUSION

Empowering humanity through food donations is more than just charity; it's a statement of solidarity and compassion. By joining forces to combat food scarcity, we not only nourish bodies but also nourish hope and dignity. Let us harness the power of generosity to build a world where no one goes to bed hungry—a world where everyone has the opportunity to thrive.
Remember, every donation, no matter how small, makes a difference. Together, we can empower humanity and create a brighter, more nourished future for all.

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