Web Application for Delivery of Near-Expiry Products to NGOs using Machine Learning

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ABSTRACT

E-Agriculture is a platform that helps farmers promotes their agricultural products. These benefits farmers by providing them with fair value for their products and helps end users get accurate prices for each product. This in turn improves their daily life and supports disadvantaged people by providing them with food. Government-based NGOs work with this forum to connect with people who have excess food that would otherwise go to waste. That excess food is then delivered to NGOs to meet the basic needs of the poor, thus preventing food waste. The platform aims to create a community where intermediaries are eliminated and the assessed value of agricultural products is sold directly to farmers. In addition, wasted food is directly used to support disadvantaged people through an NGO. This approach not only increases consumer confidence but also creates a trusting bond between producers and consumers. The rest of the food is donated to the poor and NGOs, while the waste and other unusable food is disposed of using appropriate methods.

Keywords: Agricultural Product, Food Delivery, Consumer, NGO, Web Application

INTRODUCTION

India is primarily an agricultural country, with a significant portion of its population engaged in farming. Despite the importance of farming for meeting our food needs, farmers in India face numerous challenges and often struggle to improve their livelihoods. To address this issue, technological advancements have played a crucial role. The E-Agriculture system aims to cater to the needs of farmers and empower them financially. It provides a platform for farmers to promote their products and enables both farmers and consumers to have access to accurate pricing information. Furthermore, the platform assists individuals who cannot afford food for more than two days by connecting them with government-based NGOs. It also allows consumers to share their excess food, preventing wastage.

The objective of this web-based shopping system, as outlined in this paper, is to create a user-friendly application that facilitates the sale of agricultural products from farmers to consumers. Data science techniques are employed to enhance the farmer-consumer relationship by accurately evaluating product prices and ensuring direct product delivery within a specified distance.

RELATED WORK

In previous studies [1], the authors described their experiences in handling food supplies during different stages of storage management. Techniques such as stock rotation were employed to increase the recoverability of food supplies and reduce the administrative burden of managing donations. It is essential to focus on reducing food waste by extending the shelf life, regardless of where the food is opened, in small quantities and close to the expiration date.

In another study [2], the authors emphasized the importance of supply chain collaboration in achieving better stock chains. They proposed a business mindset that extends the responsibility for quality into social and environmental performance within supply chains.

A framework presented in [3] aimed to estimate food donations for organizations involved in hunger relief. They developed a simulation model based on a state-space model for smoothing to predict monthly food donations in a multi-warehouse distribution network.

A system was developed in [4] to assist restaurants and food delivery services. The system allowed customers to place orders through a web interface, while administrators managed menus, restaurants, customers, and orders. An Web application facilitated communication and coordination.

Another proposed framework [5] focused on designing an Automated Food Delivery System. The system included colored lines drawn on the restaurant floor, connecting all tables to the kitchen. A robot, following the designated paths, served the tables.

A mobile waste food management system for urban areas was proposed in [6], which provided communication options through mobile and web technologies. This system aimed to facilitate faster and more efficient distribution of surplus food to individuals in need.
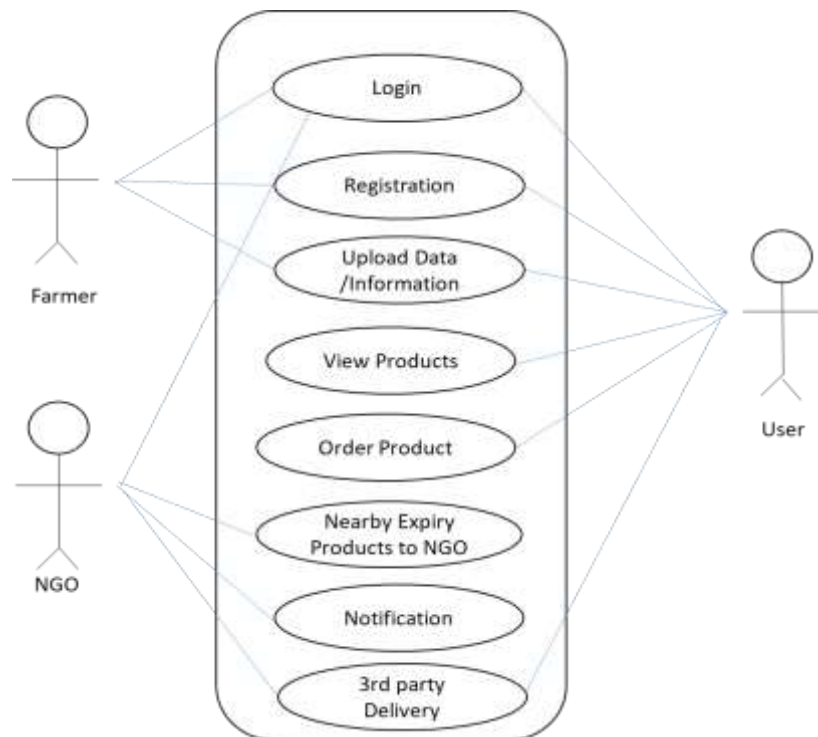
SYSTEM ARCHITECTURE

Fig: - System Architecture

METHODOLOGY

The suggested system was developed using Python and PHP programming languages. The system's modules were divided into different categories to cater to farmers, users, and NGOs. Farmers who are unable to use the system directly have an alternative option to sell their products.

CONCLUSION

The proposed system aims to establish an online platform that facilitates the buying and selling of agricultural products while considering cost estimation and safety aspects. It also ensures the provision of high-quality processed food to those in need. By effectively utilizing the necessary software, the system benefits farmers, consumers, NGOs, and hotels/farmers selling products, preventing food wastage and ensuring it reaches the underprivileged.

REFERENCES

 [1] Cristina-Edina Domokos and Barna Sera, "Netfood: A software system for food ordering and delivery", IEEE 2018

[2] Aaron Ciaghi and Adolfo Villafiorita, "Beyond food sharing: supporting food waste reduction with its", IEEE 2016

[3] Hitesh V. Raut, Swapnil R. Rajput, Dhananjay B. Nalawade, "Smartphone-based waste food supply chain for Aurangabad city using GIS location-based and Google web services ", International Journal of Research in Engineering and Technology 2016

[7] Pramod Dhamdhere "Semantic patent extended based on conceptual comparability of text with utilizing histogram arithmetic for illustrations to minimize trade mark", journal of data acquisition and Processing, ISSN: 1004-9037, vol. 37 (5) 2022.

[8] Pramod Dhamdhere "Semantic trademark retrieval system based on conceptual similarity of text with leveraging histogram computation for images to reduce trademark infringement", Webology (ISSN: 1735-188X), Volume 18, Number 5, 2021.