Internet-based Smart Agricultural Product Distribution System

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Abstract: *E-Agriculture is a platform for farmers to promote their products. All farmers who want a specific value for their agricultural products, as well as end customers who require precise pricing for each product, will benefit from this. This would help them improve their daily lives while also aiding those in need by giving meals. Various government-based non-governmental organizations (NGOs) collaborate with them to reach out to people who have surplus food (that they previously squandered) and can share eatable food with the NGO to address their basic requirements while also preventing food waste. The system's purpose is to build a community where all intermediaries are removed and the estimated value of agricultural products is sold directly to farmers. Finally, we provide leftovers to underprivileged individuals through a non-profit organization. As a result, this strategy can increase end-user product confidence while also developing consumer-producer trust. The remaining food is distributed to the less fortunate, NGOs, and wastage/extra food is used for various purposes.*

Keywords: E-Agriculture, Non-profit Organization, Wastage/ Extra Food, Community, etc.

I. INTRODUCTION

India is predominantly an agricultural country, with farming employing the majority of the population. Despite the fact that we require food as a primary need, which all overcomes from farm and farmer's headwork, and despite the fact that there is nothing useful for their betterment in today's date, the sad truth is that Indian farmers are the most ignored, even if we call it a country of farmers, and technological importance has been a great support in overcoming this. The primary purpose of this approach is to address the needs of farmers while also enabling them to become financially self-sufficient. E-agriculture is a stage that aids farmers in marketing their goods. All farmers who want a precise value for their agricultural products, as well as end customers who require a well-defined rate for each product, will benefit from this. It will also aid impoverished people who cannot afford food for more than two days in obtaining food through this platform through a government-based NGO, as well as customers wanting to share their excess food to reduce waste.

Using data science approaches, the purpose of this online mart system, as detailed in this paper, is to assist farmers in selling agricultural products to consumers on a regular basis using a simple and easy-to-use application. Improve the farmer-consumer interaction by evaluating product value properly and offering fresh, direct delivery of produce up to a certain distance.

II. LITERATURE SURVEY

Across various points of the supply chain, they described their experience with technologies to change the logistics of food surplus. When technology is used with volunteer action, it can effectively boost the recoverability of food excess while lowering the Management Intensity of collecting gifts. However, since food is accessible in limited quantities and frequently close to expiration, it is vital to work on reducing food waste through increased awareness [1].

The type of supply chain involved and the individual corporate attitude toward extending responsibility for product quality into social and environmental performance inside their own supply chains are mentioned as crucial variables in developing more sustainable supply chains [2].

The proposed [3] System outlines a technique for estimating donations to non-profit hunger relief organizations. They created a simulation model to predict how much food will be donated each month in a multi-warehouse distribution network. The simulation model is based on an exponential smoothing state-space model.

In [4] Restaurants and food delivery services have benefited from the development of a software system. The web interface allows users to create individual or group orders. The administrators can control the menus, restaurants, users, and orders. The Android application assisted in the distribution process.

The goal of Proposed Systems [5] was to build an Automated Food Delivery System to solve this challenge. The new planned system structure comprises colour lines drawn on the restaurant floor that function as a leading track, connecting all tables to the kitchen; a robot in sync with the ordering system will serve. When clients use the ordering system to place an order, the system sends the order to the kitchen. Once the food is ready, a signal will be sent to the robot, who will then carry it to the designated table, return to the kitchen, and send a delivery confirmation signal to the ordering system.

Proposes [6] The smartphone-based no food waste supply chain is for cities with the possibility of communicating with the waste food supply chain and reacting using mobile and online technologies. This could aid in the delivery of food to those in need in a timely and effective manner.

III. PROPOSED SYSTEM

Farmer Module, Consumer/Client Module, and Support Entity Module are the three components that make up the proposed Agricultural Product Delivery System. Farmers join the system by completing a registration form and giving basic information. They can enter their product details into the system. Consumers must also be registered with the system. A customer can see the product and place an order after examining it. The method focuses on the relationship between the farmer and the customer by ensuring complete supply chain transparency. Organic food fertilizer firms that rely on waste food items for organic manure production to utilize waste food output are among the supporting organizations. Similarly, non-profit groups are notified and can collect food that is ready to be thrown away.

System Proposed:
- Using a web application to develop a system that provides farmers and end consumers with product information.
- The system will be implemented using data servers that will be available to end-users every day of the week.
- To design a program that can run on any platform and in any environment.
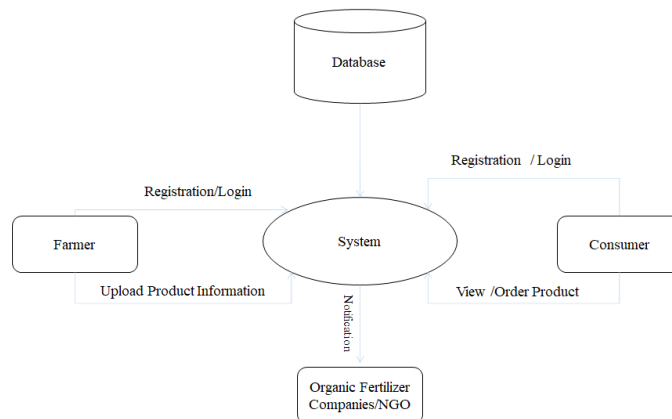

Figure 1: System Architecture

IV. IMPLEMENTATION RESULTS

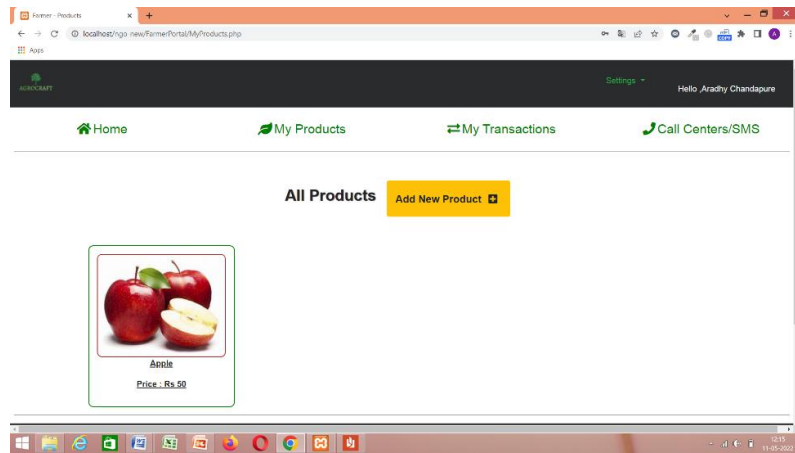**Figure 2:** Welcome Page
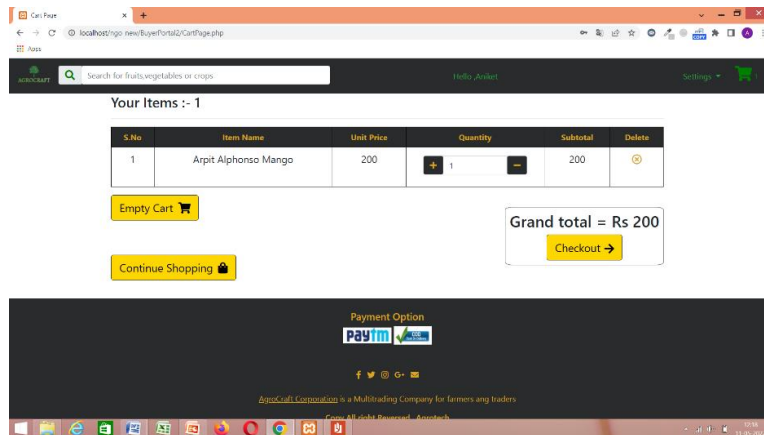

Figure 3: Farmer Page
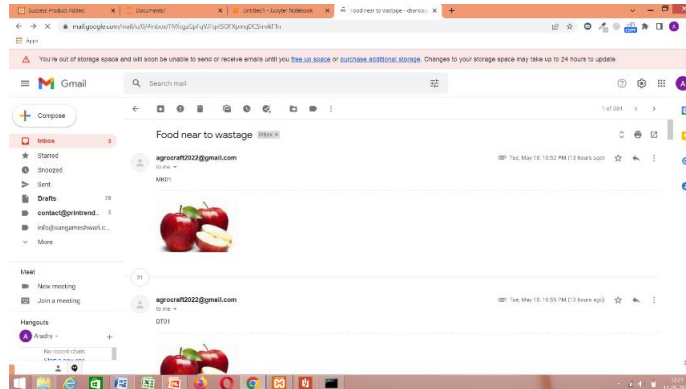

Figure 4: Consumer Order Page

Figure 5: Food Wastage Notification

V. CONCLUSION

We were able to implement an online system that will assist in the selling and buying of agricultural products with good cost estimation and safety aspects in mind, as well as good quality processed food for the needy, all while effectively using the required software for farmer consumers, NGO, and hotels/farmer selling products, ensuring that the food or selling product does not go to waste and reaches the needy with the proposed system.

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