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Overview on: An Andriod-based application for Farmers to Trade and Predict crops

Hitesh Punjabi¹, Prasad Naik¹, Divyajoyti Pandey¹, Chintan Marvaniya¹, Prof. Naresh Thoutam², Dr. Amol Potgantwar³.

¹Students, Department of Computer Engineering, Sandip Institute of Technology and Research Centre, Nashik, India.

²Associate Professor, Department of Computer Engineering, Sandip Institute of Technology and Research Centre, Nashik, India.

³Professor and Head, Department of Computer Engineering, Sandip Institute of Technology and Research Centre, Nashik, India.

Abstract- Humankind has met its basic need for food production through agriculture. Decades ago, farmers mostly grew food for their consumption or sale with others in the same village or neighborhood. They were mostly independent. However, in the present era, the manufacturing environment is changing significantly from self-sufficiency to commercialization. Scientific advances in crops, the use of fertilizers, pesticides, pesticides, and mechanization of agriculture have resulted in a significant increase in agricultural production and thus an increase in commodities and commodity surpluses. Advanced production is accompanied by increased urbanization, changes in incomes, consumer lifestyles and eating habits, and strengthening ties with external markets. Consumers today are not limited to rural areas where food is produced. In addition, as the demand for processed food or semi-finished products increases, the cost of agricultural products is required to rise. These changes require food commodities to move from producers to consumers in the form of value-added products. As one of the most important fields for human endurance. Farmers are people who support agriculture. Agriculture has proven disadvantageous to small farmers as there are agents who earn significantly more than farmers.

Keywords: *Agricultural sector, Trading, Local market, weather forecasting, yield prediction, authentication, Middleman problem.*

1. Introduction

In India, most of the population is dependent on farming for survival. Agriculture is the main sector in India where development is required in this digital era. There are many cases where farmers are illiterate or we can say ignorant about the cultivation of crops to maximize their harvest which is suitable for the land. Various agricultural news, government schemes and subsidies, agricultural research and experiments, and newly developed techniques and methods are still not known by the farmers. To design an Android-based application that will allow farmers to trade and predict crops, and on the other hand provide beneficial information regarding weather, news, and prices of

the current market to the user. Farmers have been confronting the aftermath of selling their food crops in the marketplace due to intermediate individuals, who got profit by setting low prices while buying from farmers and later selling the same at a higher price to the customers.

The overshadowed face of the market relies on capitalizing on farmers. The middlemen make a profit out of the farmer's hard work, which is one of the reasons why farmers aren't economically growing. Thus, there is a need to eliminate these middlemen so that the farmers can get their rightful partake. The aim is to develop an application that directly unites the farmers and the consumers by eliminating any link with middlemen. The goal is to improve the marketing network of agricultural produce between the producers and consumers by eliminating the middlemen.

In the present day, in this world of technological advancement, people use a smartphone and the internet for completing their daily tasks like shopping, payment of bills, managing work, etc. The crowning aim of this project is to add features to the lives of people so that the food they can purchase will be bought from farmers without a middleman. To interrupt this supply chain of indirect sales, we can make use of this application, so that farmers can be linked to the customer directly and the selling can be done adequately. Since the farmer will be dealing directly with the customers, the prices of the products offered by the farmers to the consumers will make them affordable, which will help both farmers and customers where customers can save money and farmers will get the extra profit that they deserve.

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Today mobile devices are used commonly by everyone, including farmers and countryside people. Agriculture is the support of the Indian economy so information sharing in the knowledge-intensive agriculture area is upgraded by mobile-enabled information services and the speedy growth of mobile telephony. The mobile application provides varied information services to farmers which are helpful for the management, controlling, and monitoring of the farm. This mobile app is very helpful for farmers to increase their farming to yield more profit. The chronological succession in the crop growing production directly increases the Indian economy and vice-versa is also correct. To modernize farmers' lives, it is necessary to give the finest technological solutions to the farmers. Plenty of techniques and methods are being developed to assist the agricultural routine activities.

Mobile apps in the field of farming can be the most superior option to boost farming production in the country. The innovation in technology in agriculture areas is not easy getting to the farmers due to lack of knowledge. They don't know the seed from which they can get valuable information. Hence, no farmers are successful to gain a probable production rate. Therefore, it is necessary to develop a user-friendly system from which the essential information is accessible to farmers.

Amidst deploying programs for increasing farmers' revenue, the authorities are unable to provide the benefits to farmers as middlemen take away a major chunk of profits. The middlemen pay lower for the crop value on the pretext of quality factors. Most Indian farmers have tiny farms that yield miserable incomes. They face numerous risks, which endanger even these low incomes.

The monetary value farmers receive for their yield varies substantially across farmers and commodities. There is an array of elements (timing of sale, site, volume) and transaction processes (grading, quality assessment, price determination, weighing method, and timing and mode of payment) that impact the final price.

The results showed that climate and weather are known constraining factors of production in agriculture. Also, middlemen intercession raises monetary value for consumers. The result showed that farmers encounter soaring production costs in their efforts to encourage production but hardly get fair costs of their products from the middlemen, the wholesale farm gate buyers. The real earnings go to the middlemen who buy up the farm products at almost giveaway prices and trade them at hideous amounts prices to the customers. This mental attitude of middlemen has discouraged bona fide investors from getting into agriculture because of the marginal profit associated with it as the middlemen drag away the majority of the profits. Thus, the activities of middlemen seem to be a terror to food security.

2. Problem Statement

Middlemen function in all the continents of the world, particularly where the economy is booming. These groups of people act as brokers between the farmers and the consumers. In the process of letting food or other agricultural materials

reach the final consumer, the price is marked up to cover transportation, storage, and profit.

The real profit goes to the middlemen who buy up the farm products at almost giveaway prices and sell them at hideous prices to the consumers. This mental attitude of middlemen has discouraged genuine investors from getting into agriculture because of the marginal profit associated with it as the middlemen cart away the bulk of the profits. Thus, the pursuits of middlemen seem to be a menace to food security.

The middlemen make a profit out of the farmer's hard work, which is one of the reasons why farmers aren't economically growing. Thus, there is a need to eliminate these middlemen so that the farmers can get their rightful partake.

To overcome this crisis our goal is to design an Android-based application that will allow farmers to predict and trade crops, and on the other hand provide beneficial information regarding weather, Prices to the user.

3. Related Work

In [1], a comparative study of different algorithms was performed to determine which is the best predictor of crop yield for Precision Agriculture. All algorithms are set for testing in a set of soybean crops collected within a few years. The comparison algorithms used in this paper are the Random Forest, Vector Support Machine, Bayes, Bagging, and Decision Tree.

In [2], the problem among Indian farmers regarding their choice of the best yield based on the quality of their soil is solved. The recommendation system is developed using various classification algorithms. The system works with the GUI.

In [3], the BRAC University developed an automated farming guessing system. Developed on the Android Platform and recommends to farmers the best crops according to their geographical location even before they start the farming process. The context of a highly recommended yield depends on the Performance Path parameter.

Aman Bafna et al [4] developed a system that uses a farm location to predict the weather in that area using the Weather API. Along with soil moisture sensors, the current climate is also used to draw up an irrigation plan as during the rainy season a very small amount of outdoor irrigation is required. The program also suggests the use of soluble fertilizers in water to make the fertilization process automatic.

[5] features, mixed responses, soil characteristics, fertility requirements, climate forecasting, weed, and pest quantity, crop growth response, harvest yield, post-harvest analysis, and marketing assumptions. Accurate growers should find, analyze, and apply the information found in each step in the crop system.

[6] A.G. Abishek & et al. [1], it has been suggested that with the use of the web and mobile technology, agricultural products grown by farmers can be marketed directly to retailers or

consumers without the addition of middlemen everywhere, and once sold, a group of retailers. agricultural experts assess the quality. This 'online market' concept of the Department of Agricultural Marketing and Agricultural Business allows farmers to get the right share of their products and the freedom to sell the prices of farm products by removing traders. This allows farmers to quote an amount that will not cause losses and that will be of great benefit to them. This will boost the local economy. The development of an online auction system has become a priority. The campus network-based e-auction program provides a trading platform for students and discusses the buy and sale process. Therefore, an online auction program should increase its service quality to attract students.

[7]. The use of various fertilizers is also uncertain due to changes in seasonal climates and basic materials such as soil, water, and air. In this case, the yield rate decreases gradually.

[8] India is a nation where agriculture plays a major role. The prosperity of the farmers prospers the nation. Our work will therefore assist farmers in sowing the right seeds to the needs of the soil to increase national productivity. future work is aimed at an advanced data set with a large number of attributes and uses yield predictions.

[9] All the work was based primarily on the goal of providing farmers with a viable practical farming assistant who can communicate with farmers. The app is designed to be very understandable to the farmer. Not only does it help farmers to get the best crop recommendations but it also helps them to feed their crops better, keep their crops growing and grow their shelf life, as well as help them find the best prices they can sell their crops for nearby. markets.

[10] This research study introduced a mobile application for predicting agricultural production proposed by the agricultural sector. This serves as a mobile app for farmers to support the decision on the most important agricultural product currently in demand in the market. The development of an application for agricultural production forecasting systems is a solution for farmers to market their products without sacrificing quality and avoiding crop wastage. The application process has been assisted in monitoring the current price range used in the trading area. This also supports traders in ensuring that supply is adequate for consumers

[11] Agriculture is a sector where attractive technology is not compromised due to the unavailability of technology. Therefore, the author has tried to change this to have a positive effect on the development of technology-based farming in the rural areas of India and thus improve their livelihood opportunities.

[12] In general, a critical view indicates that global food production is sufficient to feed the global community, but sadly, hunger still exists and tens of thousands of people die of hunger and malnutrition each year worldwide. What makes matters worse is that economically developed countries dump waste at sea and some parts of the world are dying of chronic hunger. The question goes beyond how much the world produces but the right access to productive resources for people from the poorest economic sector. This issue requires the distribution of food to

all. It is highly recommended that intervention policies should be initiated by the government to reduce the potential impact of middle-aged men who may be major capitalists in the food distribution system and thus address food insecurity and food insecurity.

4. Proposed System

Initially, the user has to provide the basic credential for registering into the database, after authentication the user can access the functionalities of the system. For signing up the credential needed are First name, Last name, email, and phone number.

After the completion of the signup process, the User has to log in through the login page with the correct email and password. Later, on the home screen, there are 5 interactive buttons which are: 1. trading of crops, 2. Weather updates, 3. Crop Prediction, 4. APMC, 5. User Info.

In the first module, the user can sell as well as buy various crops from the vertically scrollable list. And to add crops for sale one has to mention details about the crop which include Title, description, quantity, and price

The second module consists of weather updates which show the weather-related report of 7 consecutive days with min and max temperature of the present-day with humidity level.



following the third module is Crop prediction and the four-module is APMC, Crop prediction shows the suitable crop for the farm, simply by entering details like state, region, rainfall, Soil PH, nitrogen, phosphorus, potassium, and temperature. In the fourth module, the District wise prices of various fruit and vegetables are shown in tabular form.

The last module shows the user account information. Therefore, by combining all the modules users can find a helpful solution to various problems regarding agriculture and after-year sales.

5. Conclusion

The main objective behind this project is to make the agriculture field profitable, creating a suitable application for farmers to not only sell their products through our trading platform but also get useful information and solutions to their problems

- To allow farmers in freedom to set the price
- To eliminate the involvement of intermediate persons in the market.
- To make agriculture a profitable zone.

main features:

- Trading of crops.
- crop prediction.
- weather updates.
- Crop prices (APMC)

Our goal is to create an Android-based mobile application to implement online trades to buy and sell crops without the interference of middlemen. Also helps farmers to predict suitable crops for their farm, with weather information and the latest agricultural district-wise crop prices. Our application provides a solution for buyers and sellers from different geographical locations to come together on a single platform and to host and participate in auctions at ease.

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