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MOBILE APP FOR FARMERS TO PERFORM DAILY ROUTINE

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Abstract:
Problems abound for farmers. They grow crops and other agricultural products (fruits, flowers, vegetables), and they want to sell them at market prices. However, due to a lack of knowledge, they sell a large quantity of their products to local brokers for a small amount of money. Customers then go straight to these brokers, causing the farmers to lose a lot of money and get scammed. Thanks to a lack of information, farmers are selling their goods to brokers for a nominal fee. To alleviate this problem, we came up with the idea of creating an app that would allow farmers to sell their products directly to customers, bypassing brokers altogether. Farmers may sell their own goods directly to customers, either retail or wholesale, depending on the amount they produce in the fields. In order to raise awareness of these issues and provide farmers with the information they need, this application is necessary. It will also provide farmers of all types the option to build a market where they may sell or purchase their agricultural goods. Programming languages used: Java, supported languages: Hindi and English, and technology: Android App.

INTRODUCTION

Many engineering-related applications may be immensely useful in enhancing society as we progress into the present technological age. Here in the technological era, people use their cellphones for all sorts of mundane chores, including grocery shopping, bill payment, job management, and more. So that the farmers may keep more of their hard-earned money, this initiative aims to integrate its features into people's daily life in such a way that they can purchase food straight from the farm. For the simple reason that in India, the supply chain for agricultural goods is excessively convoluted, keeping farmers in poverty while the intermediaries amass vast fortunes. That being said, we can use this software to cut out the middleman in the supply chain of indirect sales and instead link the farmer directly to the consumer. Because the farmer is dealing directly with the consumer, he or she can set reasonable prices for the goods and services they provide. This is good news for everyone involved: the consumer gets a better deal, and the farmer makes more money.

The majority of India's workforce works in agriculture. The agricultural industry provides a livelihood for 60–70% of India's people. Accessing and managing the massive amounts of data and the intricate procedures involved in precision farming is the biggest challenge for farmers. There are many different sources for agricultural data, including but not limited to newspapers, printed media, audio and mobile, television, the internet, visual aids, etc., but the data structures and formats vary. This includes details about the crop's life cycle, seeds, crop selection, crop processes, weather, pesticides, fertiliser, and so on. Therefore, it is quite difficult for farmers to receive accurate information and to know a range of sites that disseminate information. It may be necessary to do many manual processes in order to convert data from one format to another before it can be distributed. Both the first and second statements are true; an upturn in agricultural output has a positive effect on India's GDP. Providing farmers with the best technical solutions is essential if we want to modernise their lives. There is

a lot of research and development going on to find ways to make farming easier. When it comes to increasing agricultural output in a nation, mobile applications may be the best solution. Due to a lack of understanding, new technological advancements in the agricultural sector are not reaching farmers readily. The best place for them to gather useful knowledge is unknown to them. As a result, all farmers are achieving their desired level of output. So, it's important to design a system that farmers can easily utilise to acquire the relevant information. For farmers, smartphone technology has opened them a world of new possibilities. With the agricultural mobile app on their smartphones, farmers have access to a plethora of resources that were before unavailable to them. Agriculture is assuming a pivotal role during this economic downturn. Agro Mobile, Krishiville, and a plethora of other agricultural-focused mobile apps have emerged in recent years. This paper focusses on researching current Android apps that farmers find useful, as well as designing and developing the best app for agriculture that offers a wide range of services to farmers.

LITERATURE REVIEW

now are a number of new mobile apps out now that aim to simplify farming. In order to better serve farmers, certain mobile apps have been developed with their information needs in mind. Several agricultural-related research papers and mobile apps have been analysed in this study.

Ghuge Sudarshan and Karkhile Santosh "A Contemporary Approach to Agriculture through the Use of an Android App" 2015[1]-In this study, the author lays out a comprehensive plan to build a mobile app that would aid farmers with management, increase agricultural yields, and facilitate farm upkeep. According to the researchers, modern farming relies on weather forecasts to offer predictable conditions, in contrast to traditional farming, which had to adapt to unpredictable environments. It takes a lot of work and a variety of tasks to do farming the traditional way. On the other hand, modern farming isn't labour-intensive at all since mobile workers, automation, and technology handle everything. With this smartphone app, users may get up-to-the-minute weather reports, news, and market prices in a variety of languages and places. Therefore, all of the results from the study are going to help farmers improve their farming practices so that they may make more money. The author enhances the farmer app's System Architecture to include other processes, such as farmer registration. A variety of languages are supported, market trading, weather forecasts, news, and feeds.

A systematic review of research on the applications of smartphone-based sensors in agriculture was conducted in 2015[2] by Suporn Pongnumkul, Pimwadee Chaovalit, and Navaporn Surasvadi. Apps for smartphones that provide agricultural solutions via the use of the devices' built-in sensors are the subject of this study. Applications are categorised based on their role in agriculture. Various applications in agriculture, such as farming, farm management, information systems, and extension services, are detailed in researcher literature reviews. Disease detection and diagnosis, soil studies, crop water needs estimation, human resource management, information system applications, and extension service applications are just a few of the many agricultural tasks made easier with this software. According to this research study, the two most popular sensors included in smartphone applications for farming are global positioning systems (GPS) and cameras. Barakabitze, Alcardo A., and

Kitindi, Edvin J. "Advancements in Information and Knowledge Communication Technologies: Obstacles Faced by Tanzanian Agricultural Research Institutes"March 2015[3]-Researcher in this paper delves into the ways in which ARIs make use of a plethora of information and communication technologies (ICTs) related to: crop diversity, land utilisation, irrigation, soil nutrient requirements, weather reports, pest and disease control, crop awareness, pollution control, and new farming techniques. Kalasudha K. and Hegde Swathi "Sensor-Based Smart Precision Agriculture" 2016[4] The author is a strong advocate for wireless sensor networks, which have the potential to automate the agricultural sector in a revolutionary way. In addition to simplifying the process of plant monitoring, this research study also decreases the amount of work that farmers have to put in on a daily basis. The plants may be given a unique setting by the user. Using a variety of sensors, this software determines the optimal circumstances for growth. "Smart Agriculture utilising Internet-of-Things (IoT), sensors, cloud-computing, mobile-computing, and big-data analysis" by Hemlata Channe and Sukhesh Kothari[5]-This study presents the five-module architecture of the suggested interdisciplinary model: 1) Module for the Sensor Kit. Part 2: The Mobile App. (3) Module for the Agro-Cloud. 4) The Engine Module for Big Data Mining, Analysis, and Knowledge Building. 5) Agro-Banks and the Government UI Researchers investigate mobile app usage by farmers in the second module. experts zero emphasis on the primary three components one user interface (UI) for farmers; two, for agro marketing agencies; and three, for agro vendors (including fertiliser companies). This module connects all the organisations involved in agriculture. It also allows farmers to access a variety of agricultural goods and services from agro vendors via the app, and it facilitates the delivery of harvested commodities to agro marketing agencies. Estimates of overall fertiliser needs, broken down by state and area, are also made possible by this approach. The price of food and other agricultural goods can be better managed with this in place. Notifications also kept farmers updated on current agricultural initiatives.

Both Anjali R. Kokate and Shailaja Patil The 2015[6]-published "Precision Agriculture: A Survey"The effects of various smartphone apps and precision agriculture services on farmers' day-to-day work in the field are investigated in this article. Android applications include advanced features that allow you to fully embrace technology. Mobile applications created for the aim of agricultural monitoring and essential information transmission provide additional advantages to farmers on the ground, similar to precision agriculture. Agricultural monitoring mobile applications are unique in that they include data such as weather conditions, market prices and availability, knowledge about government programs, and more. The author lists a few applications that are used for data sharing and monitoring. 1) Application for Mkisan: The team at CDAC Pune is responsible for creating this android app. Helping farmers out is the main use of this software. 2) The Shetkarimasik app for Android Since its launch in 1965, "ShetkariMasik" has been a monthly magazine that has garnered immense popularity among farmers.The Maharashtra Department of Agriculture released the Shetkarimasik app for mobile devices. One notable aspect of this software is that users may add information to the portal after registering, even without an internet connection. Farm-o-Pedia Thirdly CDAC, Mumbai, is the company behind this app. This program offers support for several languages. Anyone in rural Gujarat with a connection to agriculture, such as farmers, may benefit from this Android app. You may use this app in either English

or Gujarati. The app's features include the following: collecting data per crop, keeping tabs on which crops are best for a certain soil and season, keeping track of the weather, and controlling a herd's cattle, among other things. The fourth option is "Markets near me." With this app, users can see what crops are selling for in marketplaces within 50 km of their current location. By using the user's mobile device's sensor, it is able to track their precise position and show them the current market price of crops at nearby marketplaces.

Viraj Patodkar, Shubham Sharma, Sujit Simant, and Chirag Shah Sachin Godse, a professor An Android app called "E-Agro" that helps farmers with integrated farming management systems and their long-term success. in 2015[7] —The software program that is fundamental to farmers' long-term success is detailed in this study. When it comes to choosing the right pesticide, fertiliser, and when to conduct certain agricultural tasks, many farmers feel overwhelmed and unsure of themselves. Therefore, this app is great for farmers since it helps to reduce the occurrence of this kind of issue. A number of crops have their fertiliser schedules recorded. Farmers are reminded to apply fertiliser according to their plan based on the planting date of their crop. Based on factors such as soil type, climate, etc., further recommendations are also provided. This method integrates GPS with cutting-edge Internet technology and mobile communication networks to make farming easier and more efficient.

Existing System

The farmer cannot sell their goods using any computerised system. At the present time, the farmer sells his produce to a specific middleman at the local market. After a certain amount of time had passed, the agent instructed the farmer to go to the market and collect the money that had been earned from the sold commodity. At the going rate for that market, an agent sells the goods to either another agency or a dealer. From that, every agent strives to lower his commission. The farmers involved had no idea what the agreement was or how much their produce went for. Nothing is open and honest. There is now no way for farmers to find out how much their crops are selling for at other marketplaces, which prevents them from making a profit. The farmers are unable to reap the benefits of the many chances that keep knocking on their doors. Therefore, under the existing system, he is not making the most money possible.

Disadvantages:

Here, retailers will pay less for the goods from the farmers since they don't know what the market price is, and the farmers will charge more for their goods. Because farmers still have to sell their crops by hand, they aren't making as much money. Farmers' earnings are poor because of intermediaries and the fee they charge. They don't make their product pricing or demand known to the public.

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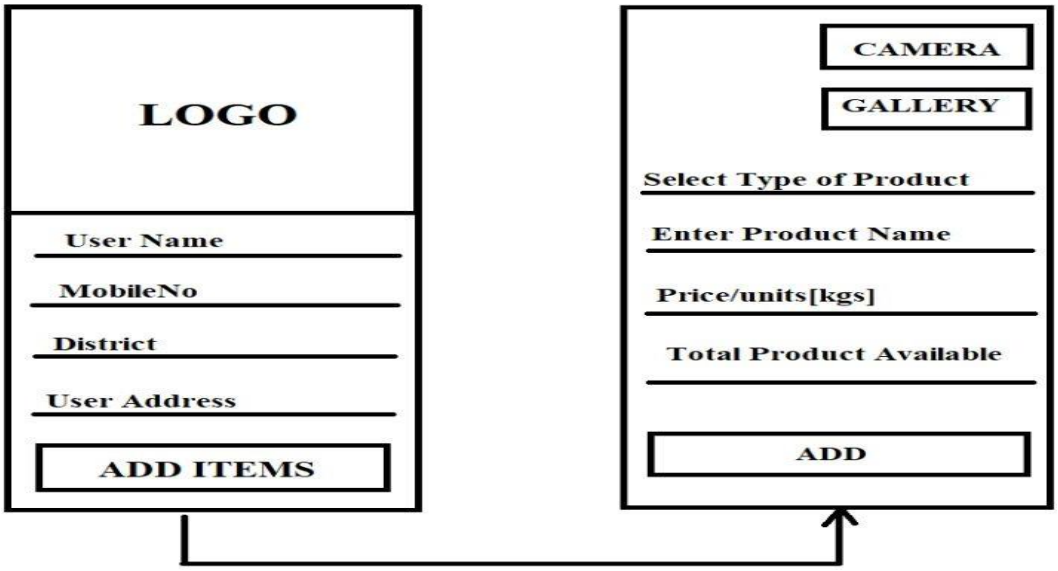
Proposed System

The primary goal of this project is to develop a smartphone app that would facilitate the sale of agricultural goods from rural Indian villages to various urban marketplaces. A more effective and transparent marketing strategy, it is computerised. In this smartphone app, farmers will have access to a one-of-a-kind interface that will allow them to do anything from learning about the market to promoting their goods and finding out what the current market prices are.

Advantages:

The farmers will learn how much their goods are selling for on the market right now. By selling their goods using my smartphone app, farmers may increase their earnings. Their items' current market pricing and demand will be openly disclosed. The removal of intermediaries and the commission they charge.

DESIGN



GAP ANALYSIS

Articles pertaining to farming and the creation of agricultural apps for mobile devices have been perused by the researcher. Researcher also discovered that there are numerous mobile applications developed for farmers in various countries that offer a variety of services. However,

in order to meet the demands of ruler farmers, the researcher will create a user-friendly app that combines multiple features, such as various information services, an interaction platform for farmers and agriculture professionals, and information about organic

farming. Having all the necessary information services and a platform for engagement in one app would be much more advantageous for farmers. No matter where the farmer is or what time of day it is, this mobile app will take care of all their agricultural demands with a single tap.

CONCLUSION

Mobile applications have emerged and become quite significant in the ever-growing digital economy. The agricultural industry is progressing thanks to the introduction of smartphone applications that assist farmers. The agricultural sector is vital to India's economy. A lot of new technology is being developed for the agricultural sector. The government of India also offers farmers additional resources to help them increase their yields. Unfair management prevents farmers from receiving critical information and plans for farming in a timely manner. When it comes to modern agricultural technology, most farmers are in the dark. Therefore, researchers will come up with a new approach to help farmers and modern technology work together, along with government subsidies, to boost agricultural development. Farmers will be made aware of new diversified information about agriculture and given the tools they need to enhance our nation's agricultural practices using this smartphone app, which will outline the required technique and model.

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