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An Improvised Farmer to Consumer Mediator Application Through Poshinda

Sonali Chaudhari[1], Sayali Rupekar[2], Anushka Mandve[3], Shraddha Pund[4],

Prof. Sarika Rathi[5]

Diploma Student, Computer Engineering Department, MGM's Polytechnic, Chhatrapati Sambhajinagar (MS), India[1-4]

HOD, Computer Engineering Department, MGM's Polytechnic, Chhatrapati Sambhajinagar (MS), India[5]

Abstract: The vision of this application is to provide a platform which will help farmers from Indian villages to sell their products to different cities. It will make easy for farmers to sell their products without much effort. This application will provide a huge and accurate information for farmers as well as consumers, in terms of maybe reasonable prices of products sold, ensuring good quality crops / products, schemes provided by governments regarding for the welfare of farmers. It will provide the list of items with its favourable or reasonable costs including each and every tax factors. It will also reduce the main huge chain between farmers and consumers such as transportation costs, wholesaler market costs, etc. It will also show details of each government policies announced for farmers.

Keywords: Mobile Application, Farmers, Consumers, Agricultural Product, KVK Verification

I. INTRODUCTION

We have basically developed the Android application i.e. this application is used for managing the communication between farmer and consumer related about the selling of products without much effort and in reasonable costs. The farmer to consumer mediator application's feature reduces the mediator chain when farmer sells their product to the consumer who buys it. This chain not only consumes much effort of farmer but also sells their product to consumers at greater rates which it buys from farmers at cheaper rates. The farmer to consumer mediator application provides other very vital features like it provides farming tips, provides suggestion about when which type of crops should be grown in fields, etc.

The main objective of this paper is to let the consumer know about the depth of agricultural mediator chain. As this application gives transparency and benefits to the farmers as compared to get involved in this mediator chain. Farmer can register, login and can provide the different various of farm products to sell. Without getting into any mediator chain, the farmers can sell their products and can get much profit. This application is useful for farmers that are beginners to get knowledge into technology.

II. OBJECTIVES

A. Ensures transparency of market rates for both farmers and consumers

Through the proposed system, it ensures transparency between farmer and consumers in terms of farm product rates. As traditionally, the rates at which farmer sold products are very different from the rates at which consumers buys it.

B. Platform Independent

Because of the restful API we can perform test on any platform such as MAC, Windows, Android, Linux, etc. Farmers can check that its products are bought or not which enables the transparency between farmers and consumers on a single fingertip.

The major feature which adds up to the net marketing is expandable over a larger region. Technology made it very easy to use the online farmer to consumer mediator application.

C. Data Security

A bigger farmer database and consumer database with a lot of fields can be produced in this application, so that each consumer and farmer can store their information into this application.

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III. LITERATURE SURVEY

This chapter provides an overview of technical research regarding the application and effectiveness of various types of transportation projects to support agriculture chain and recreational activities.

The existing platforms and applications are developed for farmers, to reduce their work of selling farm products to customers[1]. It will be also useful for customers whether they are consumer or any agriculture engineering student who are using this application. As it displays the different techniques regarding crop plantation, crop treatment, etc developed regarding agriculture purpose. This application will share market price for consumer and farmer, beneficial videos will share to farmers for farming like which fertilizers should they use and new technologies introduced for smart farming[2]. Agriculture e-commerce benefits by enabling them to promote their goods on a bigger market and reach the end customer regardless of their locations. Many questions arise, mainly due to the lack of expertise and security that consumers have become used to while utilizing old techniques of accessing daily buying services.

A farmer is someone who provides meals for us but does not get enough money to pay their costs of production[3]. Due to influence of third parties who buy the goods at a cheaper price and sell it to the consumers at a higher price. Once agricultural e-commerce is effectively implemented, it will help the producers economically and contribute to the country's economic development[4]. For this reason, we created an application on android that would benefit both parties while also providing the highest level of security. Farmers and customers may connect with one another without the need for an intermediatory using this approach.

The approach uses the combination of IoT and cloud computing that promotes the fast development of agricultural modernization and helps to realize smart solution for agriculture and efficiently solve the issues related to farmers[5]. Using innovation could be a key way to live within the rural area. The advancement of ICT may be used for providing correct and timely relevant info and services to the farmers, thereby facilitating an environment for remunerative agriculture[6]. Agricultural items are frequently blocked off, and furthermore they have the restricted data about this selling cost of products. Consequently selling the items at public business sectors, nearby business sectors are fizzled 100% of the time. Subsequently this paper tends to these difficulties through the Android-based Mobile Application [7].

IV. SYSTEM ARCHITECTURE

In our Project, we have developed an Android Application. For creating this android application, we have used different programming languages like Android language and Firebase database and MySQL Room database. By using these languages and use of database, we learned the actual implementation of these languages and we learned how to apply this language in real life i.e., we learned real - time applications of languages.

The application for farmers and consumers mediator can be considered to be the best ideas on ride-hailing business which allow the farmers to sell their products at reasonable prices without any compromise. This application also allows the farmers to watch over their sales even when they are not physically available.

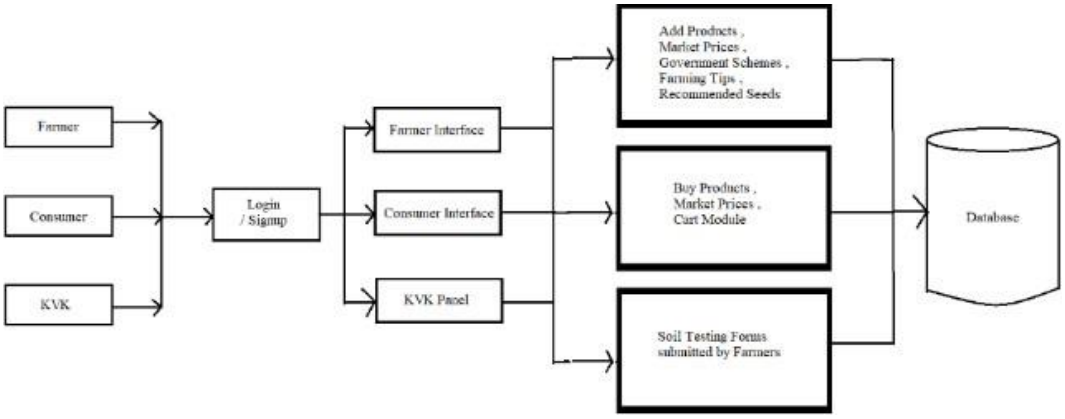

Figure 1 System Architecture

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A. Modules

The implementation of farmer to consumer application i.e., "Poshinda" is based on latest trends that are used nowadays for web application and development. After examining, the technical and economical feasibility of farmer to consumer mediator app, perquisites for proposed system are collected. These requirements are used to divide the entire application into three sub problem statements. One of the problems is used to develop admin (KVK) access and second problem is used to work for farmer's access and third problem is used to work for consumer's access. In this proposed system, Android is used as a front-end language and Firebase is used to store database regarding admin, farmers and consumers. The proposed work depends on three important modules i.e., farmer and consumer and KVK module.

1) Farmer module:

Farmer module consists of login and registration page where farmers have to enter phone number, if farmer have not register first then they have to fill registration form with all necessary and valid details. After login, app will directed to farmer dashboard where farmer can add their farm products where farmer can sell their products to consumers. Here farmer can also apply for soil testing by filling soil testing form and this form is sent to the KVK for verification.

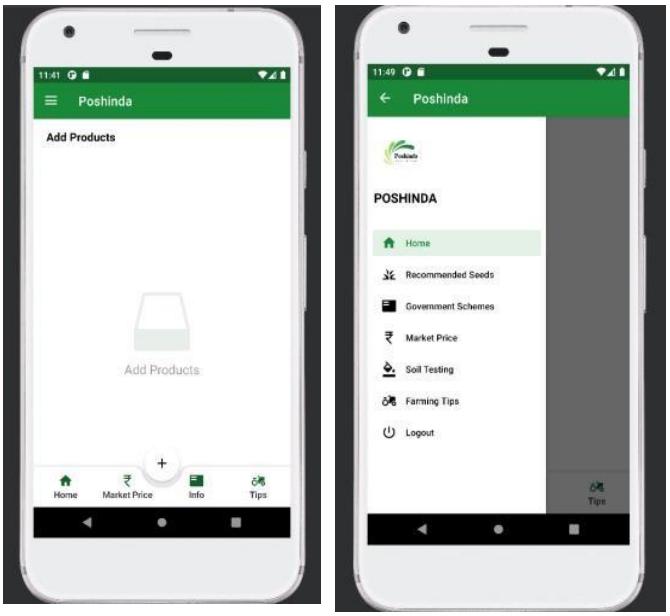

Figure 2 Farmer module

Figure 2 is farmer dashboard after login farmer is directed to farmer dashboard. The left menu shows the sub modules of farmer dashboard. The centre "+" sign helps the farmer to add farm products in this application. The below navigation bar shows different necessary sub modules of farmer module.

2) Consumer module:

Consumer module consists of login and registration page where consumers have to enter phone number, if consumer have not register first then they have to fill registration form with all necessary and valid details. After login, app will directed to consumer dashboard where consumer can buy farm products as they can add products to cart page and can perform payment process for buying products from farmers. Consumer can also verify the rates by the website provided in market process sub-module.

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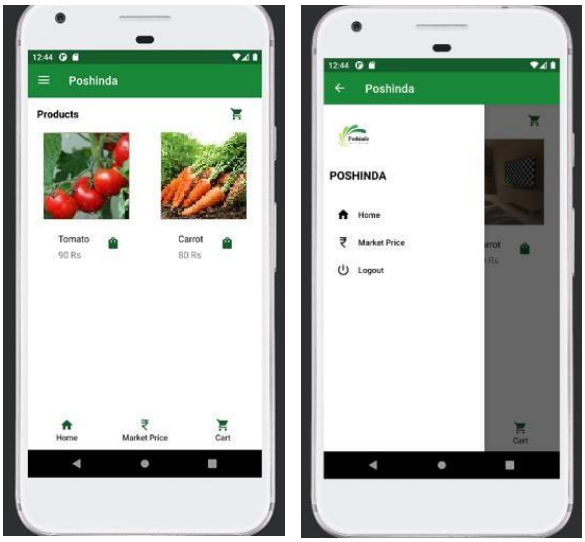

Figure 3 Consumer module

Figure 3 is consumer dashboard after login consumer is directed to consumer dashboard. The left menu shows the sub modules of consumer dashboard. The cart sign helps the consumer to add farm products to cart page in this application. The below navigation bar shows different necessary sub modules of consumer module.

3) KVK module:

KVK is a module which is an admin module as when any government agency sponsors this application so under them this module gets performed. KVK module consists of login page where KVK members have to enter login id. After login, app will directed to KVK dashboard where KVK members have access to form sent by the farmers for their soil testing. Further actions are taken by KVK members who will also give feedback about why they are checking soil.

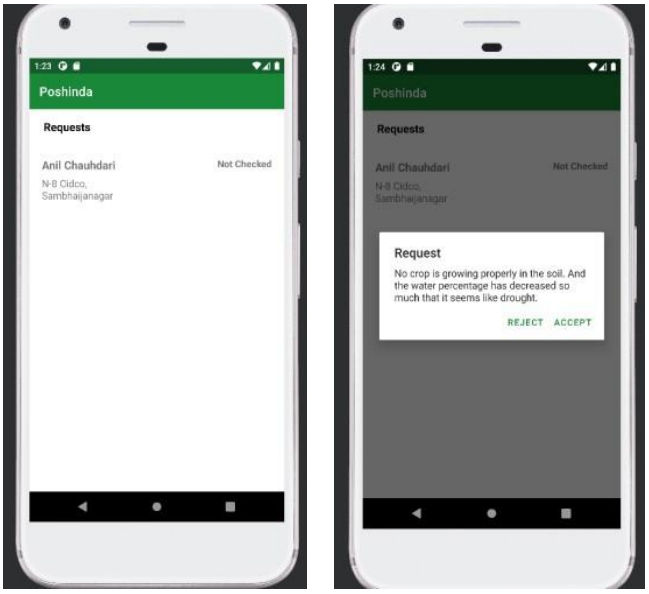

Figure 4 KVK module

Figure 4 is KVK dashboard after KVK members is directed to KVK dashboard. The homepage shows the list of soil testing forms submitted by farmers. And, also after clicking on that form KVK members will able to see the reason for what the form is submitted.

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V. PROPOSED WORK

Proposed application provides a platform for a set of common medium between farmer and consumer by providing well organized facilities. It also has a great reference value for other agricultural sectors.

As in state of affairs of pandemic, online farm products selling is very major application and it plays a crucial role for farmer's profit. Proposed work has made it easy for consumers to buy products from any farmers with the help of any decent device and internet. And for farmers, it's easy to check how much their products has sold, to verify the government schemes available and also has facility of soil testing.

This system provides a good platform to connect farmers with consumers, so that traditional agricultural chain by which farmers and both consumers were in loss can stop using this application.

VI. CONCLUSION

The application for farmers and consumers mediator can be considered to be the best ideas on ride- hailing business which allow the farmers to gain good price for their products without any compromise. This application also farmers and consumers to verify the rates as they can verify it by using Market Prices module.

The main purpose of our project is to develop an application that offers new aspects for agro-business area. Most of the available apps are for entertainment / informative-based, which mostly do not contribute any help for farmers and consumers. Agricultural E-Commerce seems to have the ability to considerably improve financial circumstances for farmers by removing intermediary costs and creating a direct relationship between producers and buyers.

This Poshinda app includes some main modules, namely Farmer module and Consumer module and KVK module. The farmer module contains sub- module like its homepage where we can add the products with its price, image and name of it. On the other hand, this products list can be visible to the consumer in the Consumer module's homepage. And there are many more features which are beneficial for farmers.

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