



ONLINE SHOPPING ANDROID APPLICATION FOR AGRICULTURAL REQUIREMENTS FOR FARMERS

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Abstract: The agricultural sector provides employment to over two-thirds of the population of the country. This project is aimed at solving some of the major problems related to farmers. Farmers have been facing problems such as spending a lot of money on the requirements at the stores, time-consuming to reach the stores, and also they are not getting a fair enough price at the selling time of their agricultural produce. Our Application has been designed as completely user-friendly, to facilitate access even to a farmer with minimum education. It enables farmers to purchase tools and seeds directly from sellers and Farmer can also sell the agricultural produce online cutting middlemen. It helps farmers to improve their productivity and profitability.

Keywords: Agricultural Sector, Android Application, Profitability, User-friendly.

1. INTRODUCTION

These days technology is at its best. People also making the best use of it. Why won't it be the same with the farmers? Usually, they go far away from their native village to the town in order to buy their agricultural requirements. For this, they have to spend time of a whole day approximately. So we can make use of today's technology in order to save that time for farmers. The application that we came up with enables the farmers to buy their requirements such as seeds, tools, pesticides, fertilizers, etc online by sitting in one place without even making a plan of travel. This reduces the time consumption and also decreases the price of goods comparatively. This application also gives exposure to a wide range of varieties in particular categories to the farmers so that they can buy as per their requirements.

2. PROBLEM STATEMENT

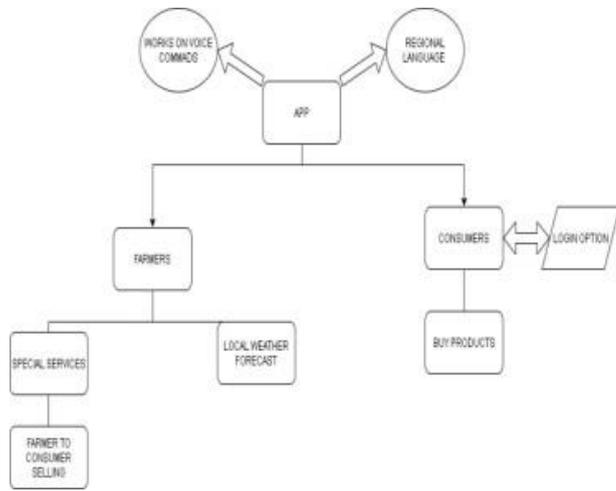
Farmers usually need to spend the whole day getting their agricultural requirements from the shops even sometimes they wouldn't be getting their desired products in a day. They also need to travel all the way from their village to the town to get those products from the shops. They even can't get exposure to the wide range of varieties in the shop as the storekeeper sells only the brands in which he is profitable and available in the shop as of then. At the stores, they've to purchase them at a higher price than the actual price. Also, Farmers are not getting a fair price while selling their farm products. Besides, People or customers also are not able to get the products at a reasonable price.

3. RELATED WORK

It is difficult for the farmers to buy necessary items for yielding their crops in their hectic farming activities.

Niketh Chauhan, M Krishna Kanth, and G Praneeth Kumar [1] proposed an application that enables farmers to sell their products online and get better profits than usual.

KT Ganesh Kumar and Gunna Kamal Abhishek [2] implemented an application. Through this application, farmers can be able to know about government schemes and weather conditions in their location. They have used a simple database and a mic option to record the product details of farmers. The details entered by the farmers are stored in a database with timestamps so that the one who registered first is displayed first at the consumer's end. They have implemented a phone call option, log in, and regional language in the application and these are the additional features to the system to make this application user-friendly.



But ultimately the major concern is that they are unable to make the price profitable for both the general public and retailers as well. Because the general public will buy limited quantities whereas retailers will buy in bulk quantities. As of them, both are going to buy at the same price per unit quantity. Whereas this method of selling will be profitable to the retailers but not to the general public.

A report in the Times of India says:

“Crop is far more than the last year, but crashing won't pick up unless farmer sells their harvest.”

Due to the presence of middlemen the farmer is not able to sell at the price even nearer to the price that the end-user actually buys at.

Since middlemen are actually the price deciders these days so we have to overcome this process by cutting middlemen so that farmers can sell their crops at the best price and also end-user can be able to buy the products at lower prices than that of usual.

In the case study by Manav Singhal, and Anupam Shukla [4] an android application is introduced in which location-specific information regarding weather conditions, etc will be updated. Farmers can information for business reports using this app, which includes configurable news feeds. The farmers can get the contact address of Krishi Vigyan Kendras all over India. In this app, the credit programmes of many governmental and rural banks have been hardcoded. But there are some limitations.

Abhishek A.G, Bharadwaj M [3] proposed agricultural marketing in which the price of the products is calculated using some techniques so that an accurate and fair price will be displayed on the app. This is not the case if the farmer sells the harvested crop at the market. This also ensures a profitable price for the farmers since they are directly selling to the customers without middlemen. Also, the farm products are tested quality-wise by some agricultural experts, and then the price will be fixed. On this platform, not only the general public but also retailers can make a purchase for their business. These people also consider the aqua products such as mushrooms, fish, etc. So this platform also enables aqua retailers to buy their stuff from them at some less price.

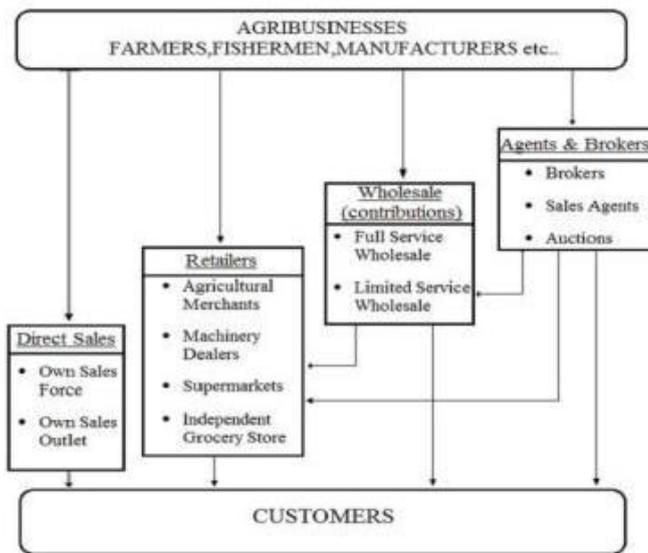


Fig. 1: Flow of farm products from farmers to consumers (Actual)

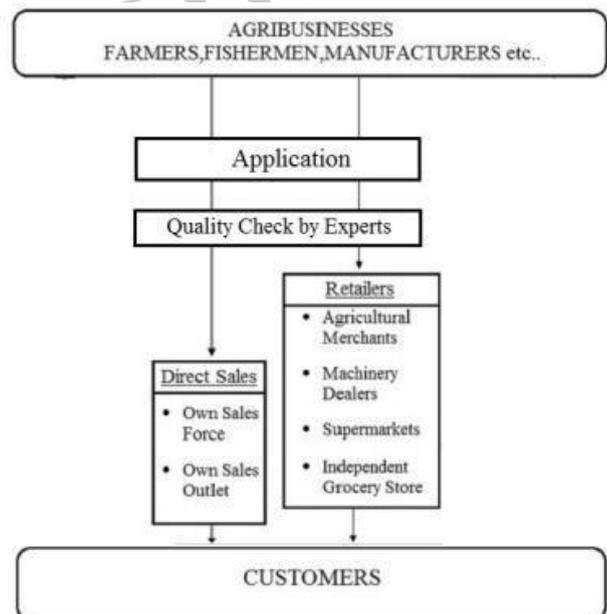


Fig. 2: Flow of farm products when our application is used

According to an analysis of agricultural Android apps, the sudden increase in telecommunication services and the launch of smartphone information services give a way to address the current informational asymmetries in the agricultural sector.

3.1 EXISTING SYSTEM

As of now, Farmers are purchasing their agricultural requirements such as seeds, fertilizers, etc manually i.e going to their respective shops and purchasing. This is how the existing system of farmers purchasing their agricultural requirements. In the existing system, purchases are made manually, which means that the farmer must go for purchase and then select the things he desires from that shop. Since he is purchasing from the storekeeper who is not the actual seller of those products, he obviously charges some extra taxes which also include his profit on that particular product so this makes the farmer buy those products at a higher price than the actual price. It's an absolutely time-consuming process, not giving exposure to a wide variety of products, and also not cost-effective for the farmer. Thus, the system has to be automated.

Also, Farmers are not getting a fair price while selling their farm products. Besides, People or customers also are not able to get the products at a reasonable price.

4. PROPOSED SYSTEM

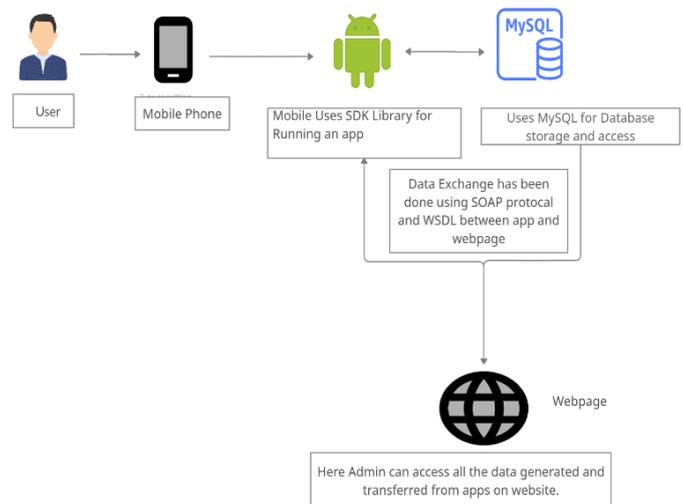
Our Application enables Farmers:

To buy all the necessary requirements and products through online on our application platform by sitting at one place rather than going all the way from their native village to the shops in the town. So that the farmers are able to save time and also buy the products cost-effectively. To get exposure to the wide range of varieties so that farmers can buy desired products as per their requirements and specifications.

This Application also enables:

The people buy fruits and vegetables directly from the farmer so that both can get a fair price respectively and be profitable as well, as we are cutting middlemen by connecting the customers directly to the farmers.

4.1 ARCHITECTURE DIAGRAM

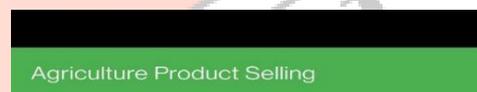


4.2 MODULE EXPLANATION:

4.2.1 User Interface

In our android application, we are using the XML programming language. Users can register and login the app and can access the data which is fetched from DB. The user can see the products list using the list view array adapter and he can also search the products. In array adapter, it stores all the elements which come from DB. After that the user can able to book the product, using the app wallet.

Our Application initial interface:



GreenGrocer

At Your DoorStep..

Here, in the above interface, we can see that two categories that are Farmers and People (that is the general public who intended to buy fruits and vegetables) can select their respective categories and get log-in with their credentials.

If the user is new to our app then he/she can select the category and sign up in order to create an account in our app.

The sign-up page for Farmers and general public:

4.2.2 Web Service

In this module, we implement the soap protocol for sending the client request to the server. Using SOAP protocol we need access to the Internet so we have to give the internet permission on the AndroidManifest.xml file. Here we are using KSOAP jar files for accessing the SOAP protocol properties and functions and carrying the client request to the server.

SOAP Protocol

Today, a variety of programming languages are used to create a variety of applications. For example, a web application could be written in .Net, Java, or PHP. Data communication between applications is crucial in today's networked society. Data transmission across these various apps, on the other hand, would be challenging. The

programming necessary to carry out this data exchange will be extremely sophisticated. Any programming language may understand the XML markup language. As a result, the data interchange medium was decided to be XML. However, there are no universally accepted specifications for using XML to share data across all computer languages. This is where SOAP software can help.

SOAP was created to deal with XML over Hypertext Transfer Protocol and to establish a standard that can be applied to any application..

Advantages of SOAP:

SOAP (Simple Object Access Protocol) is a data-transfer protocol for applications. The following are some of the reasons why Simple Object Access Protocol is used. You'll need to understand some of the technologies that can be used to interact with client applications via web services while creating SOAP-based Web services. SOAP is an excellent tool for achieving this purpose. This protocol is also recommended by the W3C, which controls all web standards. SOAP is a lightweight Protocol data exchange between applications.

SOAP is a lightweight protocol for exchanging information across programs. Take note of the term 'light.' SOAP programming is built on the XML language, which is a lightweight data-interchange language in and of itself, hence SOAP is a method that belongs to the same class.

SOAP is intended to be machine agnostic as well as operating system agnostic. As a result, the SOAP protocol may be used with applications written in any computer language on both platforms.

SOAP is based on the Hypertext Transfer Protocol, which is the standard for all web services. As a result, there is no need for any adaptation to run internet services based on the SOAP protocol on the World Wide Web.

- 1) An Enclosure component that recognizes the XML document like a SOAP message — This is the SOAP message's contained component, and it's used to enclose all of the document's information. In a SOAP message, this is the core component.
- 2) A header component containing header data — The header component can hold data like access privileges that the invoking program could use. It may include the specification of complicated kinds that may be applied in SOAP messages. By convention, attributes in SOAP messages can be of simpler objects like texts and integers, but they can sometimes be complicated entity types.

4.2.3 Server

The server will be running continuously because then only we can access the DB from the Android application. The server will receive the request from the SOAP protocol and receive the request with help of WSDL(Web Service Description Language). WSDL – response to the client request which is communicated with DB. The server Communicates with DB with the help of a JDBC(Java Database Connectivity Driver) connection.

4.2.4 Database

In this module, we have implemented the MYSQL queries for storing and retrieving the data from DB. DB will store all the details about the application such as user, admin, product, and location details. All the details will store depends on the table which is allocated.

4.2.5 Admin

In the admin module, he can see all the details. Admin has a web page for controlling and accessing the details. The page we design for the admin uses JSP HTML and CSS. And fetch the details from DB through JDBC and Servlets.

5. SYSTEM TESTING

Testing is essential as system failures can be expensive and even dangerous. Software errors can result in financial and personal losses. Tests in Software Development are simply a way of determining whether or not a program fits the required criteria. The screening technique entails assessing the technology product's parameters for missing specifications, faults, or errors, as well as confidentiality, dependability, and functioning.

6. CHALLENGES AND AWARENESS

Challenges are numerous in the marketing of agricultural requirements such as fertilizers, pesticides, tools, seeds, etc especially for the farm products as well. There is no proper guidance for the

farmers on where they can buy their requirements. With this, they can get a high and profitable yield. So this challenge was not at all encountered properly. The above challenge also made the farmers get wasted their investment.

There is a lack of availability of business expertise, poor levels of learning within peasants, and numerous distribution routes that drain both producers' and purchasers' purses. The farmers who are subsidized by the government are growing and the smallholder farmers are still working. It depends on the local lenders who are the brokers and the borrower's high-interest rates. Although they say technology has enhanced but it didn't yet arrive in remote areas as it is found only in town societies. Besides, a few loopholes in current law, and no system had a controlled marketing plan for agricultural products.

Market information awareness was frequently determined to be inadequate compared to farmers in comparison traders with access to market information in communication policies are the worst possible farmers. The condition of the goods in the visible sound once farmers' communication systems have clearly The only resources controlled by small peasants are broadcast and tv, as demonstrated.. Awareness of market information is about arriving only at local market prices in all categories of farmers. Other crucial production and marketing considerations such as catching after harvesting, grading, familiarity, etc. were unknown to the young and the middle farmers but a few great farmers knew them.

6. CONCLUSION AND FUTURE WORK

This application enables farmers to buy pesticides, tools, and fertilizers, and also they can sell the products such as fruits and vegetables. Farmers need to search for the products that they are looking for through the search button. After choosing their product they need to select the quantity of the product and our application itself will calculate the price of the products by taking the quantity required for the farmer as input and later farmer needs to complete the payment using card details.

Though there are a few apps that are implemented in regional languages, those are not effective in usage. So we are aiming to implement our application in regional languages with high efficiency.

we are also looking to implement our application in such a way that farmers can hire laborers by viewing the profiles of laborers in future

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