

ANDROID APP TO CONNECT FARMERS TO RETAILERS AND FOOD PROCESSING INDUSTRY

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ABSTRACT

Farmer Trader Application is an android application developed for farmers/seller's and retailers. This application gives support to the village farmers who want to use this facility and who want to learn how it is possible and how they can use e-farming to sell their products. Internet will help the farming to sell their products directly to consumers and food processing industries. This paper provides market information to a farmer using its easy interface on the mobile application. The mobile application is intended to be used for fast and updated information delivering system for farmer. The intention behind this paper is to help farmer so they buy or sell their agriculture goods and products. To make browsing easy many filters can provide. Farmers face many problems while selling their goods and products, this system promises to provide an easy and recreational way to sell the products. Location is a one of parameter for consumer and producer while selling or buying their products it will help the user to get the product nearby their location. The basic objective of the system is to consider every one need and full fills their requirement with fair and transparent agriculture business.

Keywords: Mobile Application, Food Processing Industry, Card.

I. INTRODUCTION

Farmers work vigorously all through the session have to develop their harvests, they confront a lot of issues over the season like characteristic disasters, unpredictable rain, and Unavailability of water resources.

Farmers need more facility to tackle the issues. If they could manage all the issues

The farmer also manages other than farming like to handling the transportation, stockpiling or storage which is incorporated into the agribusiness market.

Develop Business Processes: To be able to use internet technologies to enhance the demand process and the provision of agricultural equipment. Online Reservation of Agricultural Equipment: A method by which a user may reserve available agricultural equipment online prior to the planned date or time of use.

Availability: Without even leaving the house, the tractor can be booked immediately. Transparency: Customers will receive information on agricultural equipment and will receive previous rental information that they have to pay according to the hour of service. User Friendly: In this app, we used two languages.

One of them is English, and the other is Marathi. For farmers, it will make it easy to use this program.

Flexibility: Depending on their requirements, the farmer can choose long -term or short-term hire and can choose any form of agricultural equipment they need.

As we know farming is a prime occupation in India, but as a trend all things are getting in mobiles and most of the peoples are getting there required information in phones, learning and updating them self. But in case of farmers this is not happening up to 100% compared to other fields, keeping this gap we are proposing new application.

If the farmers have knowledge of computer then they can directly register into the application and sell their product or else, they can contact professional who will help the farmers to teach them basics of computers.

II. LITERATURE SURVEY

Following articles are studied during the literature survey phase of this work.

2.1 Contract Farming-Partnership for growth

The Basic Objective Of The System Is To Consider Every One Need And Full Fills Their Requirement With Fair And Transparent Agriculture Business.

The prime advantage of a contractual agreement for farmers is that the sponsor will normally undertake to purchase all produce grown, within specified quality and quantity parameters. Contracts can also provide farmers with access to a wide range of managerial, technical and extension services that otherwise may be unobtainable. Farmers can use the contract agreement as collateral to arrange credit with a commercial bank in order to fund inputs. Thus, the main potential advantages for farmers are:

- Access To Credit
- Introduction Of Appropriate Technology
- Skill Transfer
- Guaranteed And Fixed Pricing Structures And Access To Reliable Markets.

2.2 Android App to Connect Farmers to Retailers and Agricultural Machinery Rental Business First, we have done problem analysis and we recognize the farmers' problem of renting agricultural equipment for different agricultural purposes and using our engineering skills, we have discussed and planned the solution to the problem by creating an android application. Different problems were faced while working on the solution, for which we conduct research on problems of our project, such as collecting information on different agricultural equipment used by farmers so that we can effectively meet the farmer's requirements. We have used the Marathi language to make the software easy for farmers to use. By upholding the ethics of application use, this application can be used by farmers. This software is created by cooperation and it is environmentally sustainable because it does not exist in physical form. To plan and build this project, we followed software engineering principles. We used the algorithm for concepts and languages for programming such as java. We followed the life cycle of software development to create our project. We also mastered the important aspects of working as a team after undertaking all of these tasks and completing all the procedures.

2.3 Farming Stock Trading Android Application

The idea is to develop an online bidding application that would help the farmers and the customers contact each other directly and do the business. This would include a cloud platform that would store the data of the registered users (farmers and customers). The cloud platform will be a live cloud (Platform as a Service). The application will include membership module for loyal farmers (registered farmers) to participate in it. The online forum will help the customers interact with each other. Farmers get to know the actual demand in the market through the requests that customers post on the application.

2.4 Android App to Connect Farmers to Retailers and Food Processing Industry

Deals are done manually with basically no common platform and less connectivity between the farmers and the food processing industry the current systems deprives farmers of being the principal decision maker The Food processing industry employs people (middlemen) who search for the raw material needed. This Process needs a lot of manpower and time; this can lead to human-induced errors. Digital Involvement is very less in the traditional system. The Design is based on a client-server architecture where the client is an Android device and server as Firebase (server-less technology) can use to develop this application. Firebase is an integration of various web APIs and programming language APIs. The developers to focus on crafting fantastic user experiences

III. PROBLEM STATEMENT OBJECTIVES AND SCOPE

3.1 Problem Statement

Agricultural products are also unavailable and have minimal data on the actual market price of the goods as well. Local markets are almost often inefficient when selling goods on national markets.

A. Problems Existing in the Current System

1. No updated market details on the daily prices of goods for farmers.
2. Increased participation of third-party suppliers in determining the commodity price.

3. No proper control of agricultural products by the government.
4. No proper marketing equipment for the farmers

3.2 Specific Objective

1. Providing agro-products with a real-time online marketplace and removing middleman/brokerage.
2. Providing both growers and bulk buyers with cost efficient transporters. 3. Save money and time by renting farm machinery.

3.3 Scope

This project's future reach will include the implementation of this application on a broader scale, making it compliant with other software and other platforms. This project is initially deployed in a sub-area of a town. Then, depending on the demographics and agricultural requirements of that region, it can be deployed in various other areas for future scope. Depending on the specifications and the work area of the project, various other features may also be provided to users. In addition to farmers, the tractor owner may also register and make adjustments to his profile. It will have more regional languages in the future

IV. METHODOLOGY

System Architecture

The system architecture of the proposed work is depicted in Figure 1.

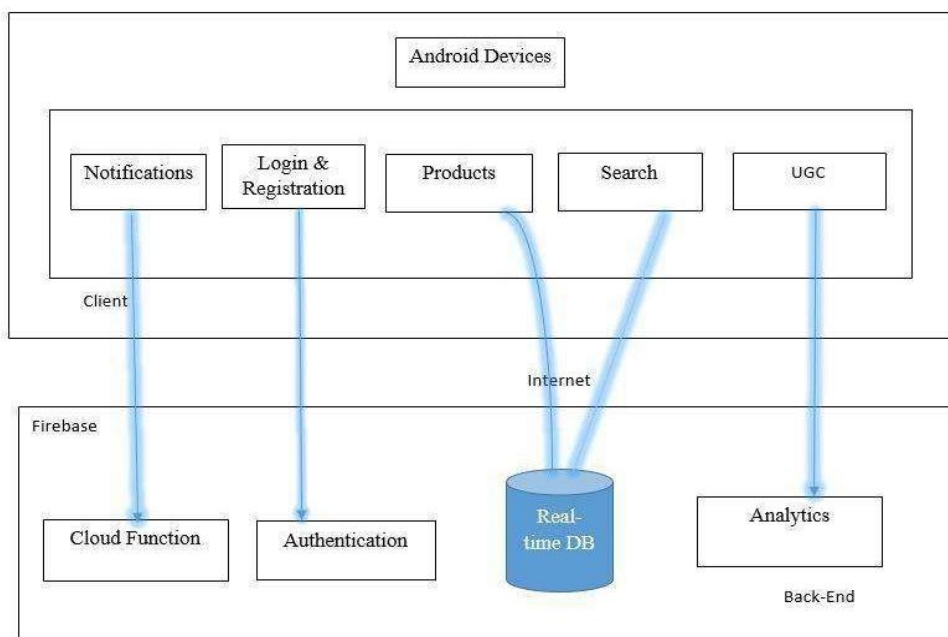


Fig. 1. System architecture of proposed methodology

In Fig.1 show the internal modules of an application. This application basically considering to provide the user-friendly interface so the user can access and browse the information with easy steps. The application provides the basic authentication for the user i.e. farmer and Food Processing Industry. The user can register as a producer or consumer with the minimum details. It provides two different areas for producer and consumer for better accessing internal data.

A. Product Details

Upload If the user is the seller, he/she can upload their product details with real images in this system and also updated information related to their product i.e. product name, cost, specification, quantity, and price.

It has also automatically identified the location of the buyer and seller while they are uploading the details.

B. Shopping Cart and Notification

The notification is generated when someone will product. The notification can send to the farmer. Once an order will have placed it will send the notification to the farmer with details of the product i.e. product name, quantity and contact details. The user can add more than one product in the shopping cart, the shopping cart will display

all selected product and their prices, and once you place the order it's automatically calculated the total amount of the product.

C. Product Search

The searching the technique is playing important role in the app the user can search their product through search option with different parameters. The seller and buyer can easily search the required product with different options like product name price and quantity etc. the app will give the product details with the nearest location of the seller and buyers, it has also list similar product with their cost on a single window where buyer can compare different prices so it helps the buyer to choose the product with multiple options.

D. Real-Time Database

The real-time database is used to store all data of the app. The responses time of this service is very short and it also provides listeners to update app data when changes are encountered in the database. The Cloud stores and share user-generated content like images, audio, and video with powerful, simple, and cost effective object storage built for Google scale. The Firebase SDKs for Cloud Storage add Google security to file uploads and downloads for Firebase apps, regardless of network quality.

E. Cloud Functions and Cloud Storage

The cloud function is also known as server-side code. Cloud functions support various triggers and HTTP requests. This application used Cloud Functions to sanitize data, admin function, creating a user, manipulating the real-time database and for notifications.

F. Authentication

It manages the users and their sessions over the app. This service dispense authentication such as Google login, Facebook login, Anonymous login, Email-password login, Mobile number logins. The app used login with a mobile number. An OTP is sent to the user's device which is used to authenticate the users.

G. Analytics

The Android SDK automatically captures certain key events, user properties, and its activities then it will display captured data in the form of graphs. The Android APIs can provide the all the summarized data to the user so a user can easily understand through graphs and figures, for this purpose firebase application can use. Firebase is Google application it will provide us with important features like data analysis, database, and data recovery. Firebase is a Google product freely available it scales automatically even bigger app. Firebase is a cloud-based application, it works individually but share data within the app so they working together inside the app. So firebase is the best solution for data analytics

H. Client-side

The Android mobile app is developed in java with inbuilt APIs. The necessary APIs to communicate with Firebase. The app uses listeners which are location-based (i.e. location in Real-time database) to keep client data updated. Messaging service is a gateway for any notification to be delivered to the client. App also supports multi-language; all strings are translated in various languages when the language of an app is changed the strings are replaced with the string of that language

V. CONCLUSION

This system will help farmers and food processing industry and user to get the better return. It protects the interest of both consumers and producers. This application is a single window where all the agriculture industry, farmers and user will come together and get their product with comparative prices. The present agricultural marketing is unorganized, so this app can streamline the agriculture business with fare marketing; Farmers are facing many problems to sell their products this app will help the farmers to sell their product in an easy way and will get good prices of their product. The app would distribute the trader's margin between farmers and retailers/FPIs. Households would pay lower prices. The communication gap between farmers and retailers/FPI will be reduced by the app as it will provide a platform for farmers to sell their goods at an affordable price and negligible loss. The marketplace is the main communication link between farmers and the retailers/FPI. They acquire various taxes and transportation money from both the sides hence marketplace charges much higher rates. This system will help the farmers to compare the price with the market and sell

according to it. This system will be having a location tracker which will help the consumer to find the nearest farmer to him; this will save his time and money too.

VI. REFERENCES

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