

Agriculture Equipment Rental and Selling System

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Abstract- Farmers are facing lot of problems, They will cultivate crops and other agricultural products (fruits, flowers, vegetables), They want to sell their products according to the market price but lack of knowledge they will sell their huge amount of products for small amount of money to the brokers available in the local and customers will directly approach to the brokers because of this farmers are losing lot of money, they are getting cheated, Farmers know that they are selling products to broker for small amount of money, but lack of knowledge to the farmer we thought of doing an application that can help farmers can directly sell their own products to customer with no brokers. Customers can directly contact to farmers, Farmers can sell their own products retail or wholesale according to their quantity of production in the farming to the customer directly, To get aware of all these problems and to get knowledge to the farmers this application is needed and, To bring the choice to any kind of farmer to create an environment that will let them buy or sell their agricultural products, Languages used Java, Language available Hindi, English, Technologies using Android Application. Mobile internet will help the farmers to sell their products directly to consumer.

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 farmers. Also, it has native language support to make the transaction easy for farmers. The mobile application treats farmers as a seller and a buyer. The intention behind this paper is to help farmers so they buy or sell their agriculture goods and products. Market prices provided by data.gov.in lets the system to keep the selling and buying prices in control. As the products are to be browsed and there may be plenty of products for the user. 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. The system lets the farmers to sell goods at a reasonable price and makes business even fair and transparent. Consumers are the opposite side of the same coin. This system lets consumer to choose from a wide variety of products, select the product as per their requirement and also to apply price filters. Location is a one of parameter for consumer and producer while selling or buying their product it will helps the user to get the product nearby their location. The basic objective of the system is to considers every one need and full fills their requirement with fair and transparent agriculture business.

Index Terms— Android App, Users, Market, Rental, Agriculture, Android application.

1. INTRODUCTION

In today's world, Farmers are the spine of India. As we step forward into the modern era of technology, we may find many engineering related applications very beneficial for improvements into the society. This is the world of technology where people use smart phones for completing their daily tasks like shopping, paying bills, managing work and much more. The idea of this project is to add its features into the lives of the people so that the food which they buy can be bought directly from the farm so that the profit can reach directly to the farmers. Because in India we follow a supply chain of farm products making things too indirect for the farmers due to which the farmer still remains poor and the intermediates are gaining profit which ultimately makes them rich. So in order to break that supply chain of indirect sales, we can make use of this application so that the farmer can be connected directly to the customer and the selling can be done accordingly.

Since the farmer will be dealing with the customer directly so the prices of the products offered by the farmer to the customer will also be affordable to the customer, which will help both the farmer and the customer where the customer can save some money and the farmer will gain extra profit that he deserved. Agriculture is the main occupation of the bigger part of Indian population. 60-70 % of Indian population is totally depends on agriculture sector for their living. The main difficult task for farmers is information access and management for the quantity of data and the complication of processes in precision farming. The data for farming like crop life cycle detail, seeds, crop selection, crop processes weather, pesticides, fertilizer etc. are accessible from a lot of different sources like newspaper, printed media, audio and, mobile, TV, internet, visual aids etc. but the structures and formats of data are different. So it's extremely hard for farmer to get exact information and to know variety of information which have distributed from diverse sources. Sometime several manual steps are essential to handing out data for translating data from one format to another format. The succession in the crop growing production directly increases the Indian economy and vice versa is also correct. To modernize farmer's life there is necessary to give finest technological solutions to the farmers. A lot of techniques and methods are being developed in order to assist the agricultural routine activities.

Mobile apps in the field of farming can be the most excellent option to boost farming production in country. The new inventions in technology in agriculture area are not easily getting to the farmers due to lack of knowledge. They don't know the source from where they can get valuable information. Hence, no of farmers are being unsuccessful to gain probable production rate. Therefore it is necessary to develop a user friendly system from where the essential information is accessible by farmers. Many new opportunities are produced by smart phone technology for farmers. Farmers are easily capable to get agriculture mobile application

on their smart phone to obtain various facilities which couldn't existing on their hands before. In the days of economic crisis, agriculture is becoming very important. Numerous mobile applications have been developed for gaining of information in the field of agriculture like livestock management, Agro Mobile, Krishiville etc. This paper deals with the study of existing android based applications which are helpful for farmers and design and development of best app for agriculture which include various diverse services for farmers. In the rapidly changing today's world, the mobile apps have emerged and attained great significance. The Mobile Apps were introduced to support businesses.

For the development of the agriculture sector, application was introduced – to help the farming community. With the introduction of digital India and smart agriculture system, there is a race in the industry for introducing advanced Mobile Apps. Farmer often struggle to get the weather report, but they are stuck because they do not know where they can see it. Our new mobile app will prove helpful to the farmers in this regard, but they must have a smart phone. The app will be used by many people as India has a population of over 135 crores. These provide farmers with the services they need. Farmer has to pay a commission in order to sell their product and hence our app will help here. It increases the confidence of farmer and also increases the profit of the farmer and hence our application will help the farmer to gain more profit. Sourcing from big manufacturer results in not getting more profit from them because they has to pay commission to the big corporation to sell their Produce, as they cannot sell their produce on their own they has to depend upon these big manufacturers to sell their produce because they are depended on them. The app has a simple interface and provides information on modules which are sell, buy. A tap on the weather button shows details of temperature, humidity, wind and rainfall for the current day and the forecast for the next five days. Some farmers who live very near to the cities bring their stock directly to the wholesale markets and sell their stock to the retailers and end customers. But for the farmers who live in the remote areas, it is not possible for them to come to the cities do frequently and sell their stock directly in their quoted price.

Hence, they have no other option but to contact the wholesale vendor for selling their products in the market. To provide a platform for the farmer where the produce from the farmer can be easily sold at better rates, pooling or sharing of the transport to take the produce to the markets and to help farmers in terms of crop precaution based on the forecast of weather. All the function will be available in one single application. Most of the day-to-day activities are done using mobile apps, even the same for the farmers. The mobile apps have given many benefits to farmers starting from better land management judgements to quality yield. Farmers are using different types of apps to review the health of the crops during the crop cycle. Some of the mobile applications are developed to help the farmers in lots of ways like horticulture, crop management etc. Also, some mobile framer applications inform the farmers about the weather forecast, agricultural field opportunities, expert suggestions, answer to the questions, etc. Aloof, some of the apps also offer details related to the quality of soil, the utilization of fertilizer's, etc. The solution for solving such various problems occur on farmers regarding to agriculture can be overcome using this android application. This android application is an application that is accessed over a network such as internet or intranet. Both users can use this application in Marathi and English language also. Therefore with this new method the process will be more efficient and safety of hiring agricultural equipment as well as secure. It is also the best way to increase the quality of agriculture management, productivity and can reduce the time constraints for farmers. We proposed a system to make the farmers aware of the current market rate of the product. This type of system is much beneficial for the young generation to adopt to the traditional farming technique. The benefits of our project is Avoid bidding problem and Cost is not the issue because of the mobile based application.

2. RELATED WORK

This system is developed to solve the problems that usually happen when farmer want to rent a tractor for their agriculture purpose. In this all activities are done manually and have done on mobile technology. We are going to develop an android application of tractor hiring system for farmers in which there are four main modules. The system after careful analysis has been identified to be presented with the following modules: Rent Based Agri Equipment System deals with the following modules:

- **Registration (App):**

The Farmer, Customer, Buyer, Sellers fills the registration form by giving the personal information and successfully registers with the Application. Farmers have to visit the centres and they have to provide their details to the centre head. These details will be dynamically added to the db by the respective heads and farmers will be given a username and password.

- **Login (App):**

The Farmer, Customer, Buyer, Sellers can Login the Application. Login module will verify if user exists and registration has been done for farmers. A separate credentials will be given for Centre, Zonal and State heads.

- **Product (Description/Images/Status):**

After entering into Users homepage User will add his products by filling add product form, by providing sufficient details about product such as product id, available dates, rent etc and upload the image of that product. It consists of following sub modules:'

- i. **Add Product:** User can Add the New product details such as rent, available dates, etc. by entering the product id of that product.
- ii. **View Product:** User can View the existing product details such as rent, available dates, etc. by entering the product id of that product.
- iii. **Update Product:** User can update the existing product details such as rent, available dates, etc. by entering the product id of that product.
- iv. **Delete Product:** User can delete his products by entering the product id.

- v. **Manage product:** Product can manage the product from the overall e – product it contains a product stock, sales, expenses and available of stocks, users orders.
- vi. **Manage orders:** Product can manage the order of users details from all e- product shops how many orders are shipped, calculate the pending orders and maintain the delivered also.
- vii. **Update orders status:** Product, once get the ordered from the user. Product can manage from end to end once get order product upload the status order placed like they doing next process added the status like product is shipped, on progress, delivered and cancel the orders.

- **Customer/Farmer:**

In this module the Customer information is processed. This information includes giving username and password to login to this site. This is required to verify the user. The contact number of the Customer is used to confirm the Customers registered equipment and also to send promotional number. Customer can also see their registered equipment when they login on their account using their user id and password. The Customer after accessing the site searches for products, if he/she finds the required product then he/she need to fill the booking form and submit to the database.

- **OTP verification**

User can enter the all details for the registration like user name, address, phone number, etc. once user can enter all details and register their profile user will get OTP verification. It will successfully verified user profile was registered.

- **Search Product**

User will search the product using product name, locality, category and other details.

- **View Product details**

All product details like product name, cost, qty, mobile, shipping charge , category and etc

- **Place order**

User once choose the product and add to be cart then get placed purchase product.

- **View order status**

User once order the product then it will place order for corresponding address and user will check their status for ordered product like order placed, shipped, delivered.

- **Helpline Number**

User can call on ti number if they have some issue about crops, soil or anything related to farming this app will help them to solve their problem.

- **Market prize**

Here user or farmer can check daily rates of crops or farming related products of any city.

3. PROPOSED SYSTEM:

This system is developed to solve the problems that usually happen when farmer want to rent or buy a agricultural equipment for their agriculture purpose. In this all activities are done manually and have done on mobile technology. We are going to develop an android application of agricultural equipment hiring and buying system for farmers in which there are main modules. This module is responsible for the login purpose. In this module, the user will first have to enter mobile number so that an OTP can be generated. After getting the OTP, user will have to enter it correctly. If user is logging for the first time then the Registration page will be displayed in which the user have to enter details like name and address etc. If already registered, then user can proceed for the further process. In registration module, the user (farmer) have to enter his/her mobile number and other details, system will send the one time password (OTP) to the user, user just have to enter same OTP to the mobile for confirmation purpose. In the store list module, there are numbers of stores present in which different types of agricultural equipment are available. Details like address, pin code and contact number of each store is present with the name of the other user.

In this module, user can select any equipment owner to hire or buy agricultural equipment. Our proposed system explained like, the user can register with details and get OTP for verification when another user can login it also check by OTP verification process. The farmer can view nearby equipment in ascending order means view nearest equipment first and also view the far location of that equipment. It is necessary to add equipment details with deposit and price per hour of that equipment to that equipment owner. When Farmer can book that equipment with date, time duration and after that he will also deposit the amount price per hour. He will be future book that equipment maximum 5 days. If farmer book that equipment then send MSG to owner of equipment that 'He has new order'. If owner approved that order then he resend the MSG and notification to buyer farmer that rent agreement request has been approved. Both users can see the history and contact details of each other. This system is where buyer can buy farm produce directly from farmers. Various types of farmer's products are available for purchase at reliable price. This system is basically focuses on user friendly interfaces and promotes user to purchase the product faster. For any query buyer and producer both can contact admin through mail. They can use this facility any time.

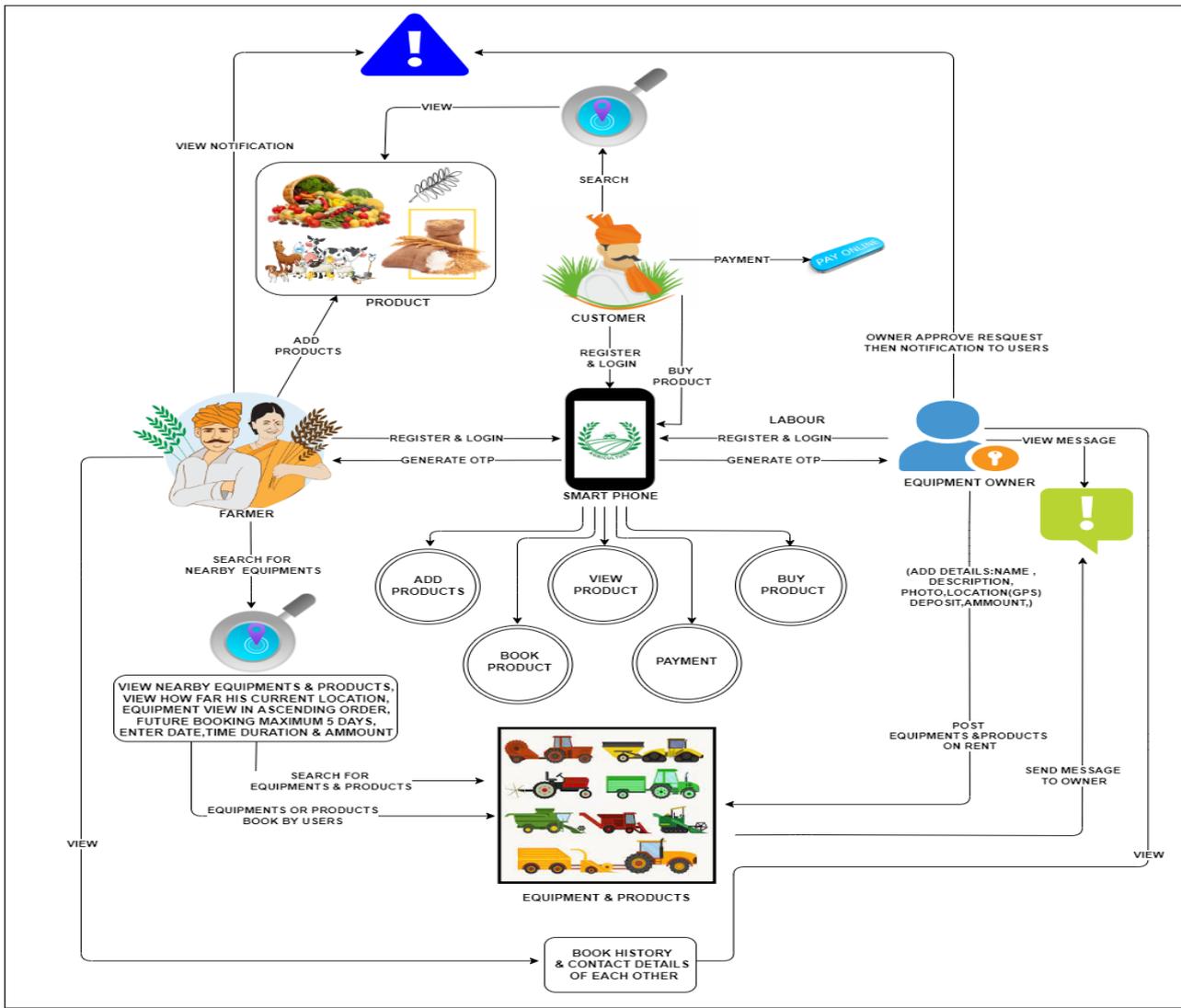
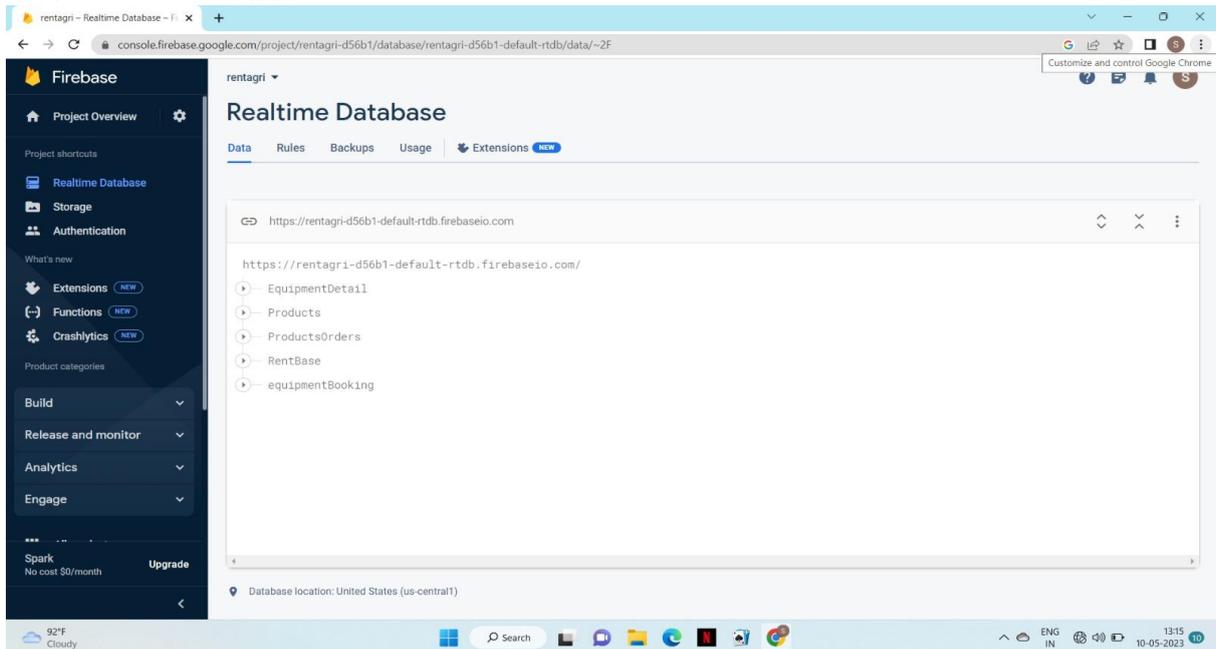


Fig 3.1 System Architecture

1. RESULT AND DISCUSSION

4.1 *Firestore Real time Database:*



4.2 Application Results:



USER REGISTRATION

Enter name

Enter mobile number

Enter address

Enter City

Enter taluka

Select User Type

SIGNUP



1:27:20

FARM CLICK

USER REGISTRATION

3, Mumbai - Agra National Hwy,
Bhujbal Knowledge City,
Adgaon, Nashik, Maharashtra

Nashik

User Type

- Farmer
- Consumer



VERIFICATION CODE

961634

Sign In



1:55:50 1 9:27 66

Enter equipment name

Enter detail of equipment

Enter contact number

Select Location here..

Enter City

Enter taluka

Enter prize

Enter deposite

CHOOSE IMAGE

ADD EQUIPMENTS

1:21:33 4:09 69

FARM CLICK

SEARCH ON MAP + PRODUCT

centrifugal irrigation pump
Nashik

Trackor
Nashik

1:21:42 9:30 69

FARM CLICK

Equipment :centrifugal irrigation pump
Date :9/5/2023To10/5/2023
Time 7:1 To4:1
Status :Disapproved

Equipment :centrifugal irrigation pump
Date :10/5/2023To11/5/2023
Time 9:57To4:15
Status :Approved

Not Todays booking history available !!

1:25 4:09 69

FARM CLICK

Product Name : Grapes
Amount : Rs. 3000

Enter address

Enter Quantity

BOOK NOW

CONCLUSION:

We have designed a mobile application, Our application is user-friendly, open source and is Free to use. It positively impacts the environmental situation by using fewer products more number of times. Concentrating on customer satisfaction and the four dimensions, “Reliability”, “Responsiveness”, “Tangibles” and “Quality” helps us to serve the users in a better manner and thus give us a competitive edge over the others. By implementing the project, we conclude that the problem statement is totally being eliminated through the deployment of this project. And the objective is achieved through the android application. The part of our system has been developed with much care that it is free of errors and at the same time it is efficient and less time consuming. The important thing is that the system is robust. We have tried our level best to make the site as dynamic as possible. Also provision is provided for future developments in the system. The entire system is secured. The main motive for the project was to provide dynamic online farmers’s management system to help farmers in every possible way and provide them a stable platform where they can perform every transaction with ease. This system will help farmers and user to get the better return. It protects the interest of both consumers and producers. The communication gap between farmers and retailers/ will be reduced by the app as it will provide a platform for farmers to sell their goods at an affordable price.

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