E-TRADING OF AGRICULTURAL PRODUCTS FROM FARM TO CUSTOMER APPLICATION

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Abstract- In India the common way of trading of the agricultural product is from farmer to the whole sellers , retailers , distributer and so on. The farmer is always at loss in this, since he is earning the least profit even after supplying maximum of the products to every possible place. Here the farmer is being cheated and his share is distributed between the intermediates. So there is a need of the system which can help both the farmer and the consumers. The basic objective is to connect both for trading of the farm products , so that the products can be made available to everyone at an affordable price. This will also try to eliminate the mediators , eventually removing there share and help the farmers to make some profit from the sold products. The idea is to sell the agricultural products online by the android application, directly to the customer so that both can be benefited. This will help in decreasing the cost of the products in the market and help make things get easily available to everyone.

Keywords- Global System for Mobile Communication(GSM), blue-tooth Networks, ICT , Graphical User Interface(GUI) .

I. INTRODUCTION

In any country the basic need of anyone for living is food. There are many sources of food out of which , farm is an important source of food. Since many decades we are consuming many agricultural products which are the outcomes of farming. A farmer is an important asset to any country. In India the farmer is growing many types of crops and food items. After growing them he sell his products to the (whole sellers , retailers , distributor etc) these persons are responsible for bringing the farm product to the market by transports. This process makes the work of selling the products much more easy but on the other hand the profit made out of all this is made by these groups who are responsible for bringing the products to the market. But what about the farmer, does he earn a considerable amount of profit in this deal? The answer to this question is "No" because he simply sells his product to the intermediates at very cheap rates bu in bulk quantity. The products purchased from the farmer are brought to the market and are sold at a very high rate as compared to the cost price. In this the person or group who is bringing the products to the market is earning high as compared to the farmer who is selling the same product to the intermediate person.

Due to this the farmer still remains poor since his share of the deal is very small and the other person who is buying his products is making a high profit. This results in problems at the farms side where due to shortage of money he is getting disappointed and sometimes try to finish his own life. For past many years in India's different regions many farmers are committing suicide or leaving the farming practice and moving towards the cities in search of earning. This may eventually result in decrease in the farm products and will also increase the rate of many products. The application will be an intermediate which will be the means for connecting both the farmers and the customer. The idea is to make a means of communication between the farmers and the customers so that the farmer can sell his products directly to the customer. This application will try to gather farmers together in a group as they join the app and the customer who is searching the products will find the products uploaded by these farmers , can also add those products to there cart & buy them. Here the farmer will get more profit by selling the

products directly. This approach will help both the farmer gain extra profit in his product selling deal and the customer by making available more affordable rates of the farm products.

In this paper, we will see how this application can help us achieve the goals and objective for connecting the farmers and the consumers so that the trading of the products can be done in a direct fashion , but benefiting both the farmers and consumers.

II. LITERATURE REVIEW

A Modern Farming Technique using Android Application. This paper is written by Santosh G.Karkhile1, Sudarshan G.Ghuge. In today's world everyone is using mobile devices including farmer. Mobile plays an important role in daily life of a farmer. The farmer who is always dependent on the traditional method, now he will be able to take help using cloud computing for solution of cultivation of crops. In this project one app is developed called kissan which is helpful for farmer. This app will provide information about market & weather. It will help farmer to earn more profit & sell product globally. The main purpose of this project is to manage farming and improve it. It will provide daily update on weather & crops rate on farmer mobile. In this all information provided on farmer mobile is in different language like english, hindi, marathi including his local language. This paper focused on pre-farming processing. By this we understand that using modern farming technique farmer get all the information using one touch.

E Agriculture:Golden opportunity for Indian farmer. The author of this paper is by L.Pradhan,B.B.Mohapatra. The Farmer is using ICT for the farming and lots of new technology to enhance farming techniques from remote places. Lots of farmer in India use their traditional way for farming. This knowledge is not sufficient to compete with the global market. Now, new digital system is use for sharing farming information and innovation in farming. India has various geographical areas like hilly area,wetlands,deserts and coastal area. So in India advance and primitive kind of agriculture technologies must be used. In this paper it combines information which comes from farmer & ICT, hence improving farming techniques. It is basically focused on helping the farmer by providing different way for farming. Using these new ways, production and product quality is easily increase.

Automation in farming using android application. Now a days farming can be done with help of lots of new devices like micro-controller and blue-tooth devices. Everything in farming is automated, so it reduces man power which is required for farming. In this project micro-controller and blue-tooth devices plays vital role. Lots of farming activity can be done with the help of these new devices so farming become easy.

E-Agro Android Application (Integrated Farming Management Systems for sustainable development of farmers)This paper is written by Shubham Sharma, Viraj Patodkar, Sujit Simant, Chirag Shah, Prof. Sachin Godse. This application for development of farmer. Many times farmer do not know which fertilizer to use and some same other problems. So for this kind of problem this application is very useful. This application is combination of internet ,gps and plays very important mobile communication system. In this application there is a scheduler in that farmer provides all the information of his/her crops. Farmer will get an alert from application about particular fertilizer which must be used for crop. By using all this latest IT devices and android application farmer will increase his productivity & earn more profit. The application name is E-Agro. It is an integrated farming management application system. It is useful for those farmer who want to manage their farm smartly, for this planning, monitoring, recording, tracking and analyzing are required. E-Agro is designed to work on all android platform and exploits their GPS activity. This application provides two important things: Weather forecasting,Crop advice and analysis. In weather forecasting alert about the natural calamities is

provided so as to avoid the damage. E-Agro provides expert service to farmer for pricing, fertilizers,disease detail method of cure to be used.

AN ANDROID-ARDUINO SYSTEM TO ASSIST FARMERS IN AGRICULTURAL OPERATIONS .In this project an application is developed. That application consist of different fields like weather forecast, crop prices, news, government helplines, and an inventory database manager. All these fields will be helpful for farmer to improve his farming & improve quality of goods. The mobile application also contains

an Arduino based mobile robot to perform field operations like plugging, seed sowing over blue-tooth channel

an Arduino based system fixed in the field comprising WSN of soil moisture, pH and temperature sensors for data acquisition and remote control of water pumps for watering and irrigation over the Global System for Mobile communication (GSM) and blue-tooth networks.

Aspect Based Sentiment Analysis to Extract Meticulous Opinion Value. This paper is written by Deepali Virmani, Vikrant Malhotra, Ridhi Tyagi.In this paper we have studied the algorithm which will be used to categorize the reviews of the comments as negative or positive. This can be done using the sentiment analysis. The sentiment are categorize using different techniques like the supervised learning techniques and unsupervised learning techniques. In supervised learning technique classification of the text is done and in the unsupervised learning technique uses the different syntax patterns. Based on the words the aspect of the opinion can be known.

III. PROPOSED SYSTEM

The things discussed in the above section helps us to adopt the different ideas of n no. of systems and motivates us to overcome the drawbacks which we have seen in them. The proposed system will be explained using the system architecture followed by the mathematical model.
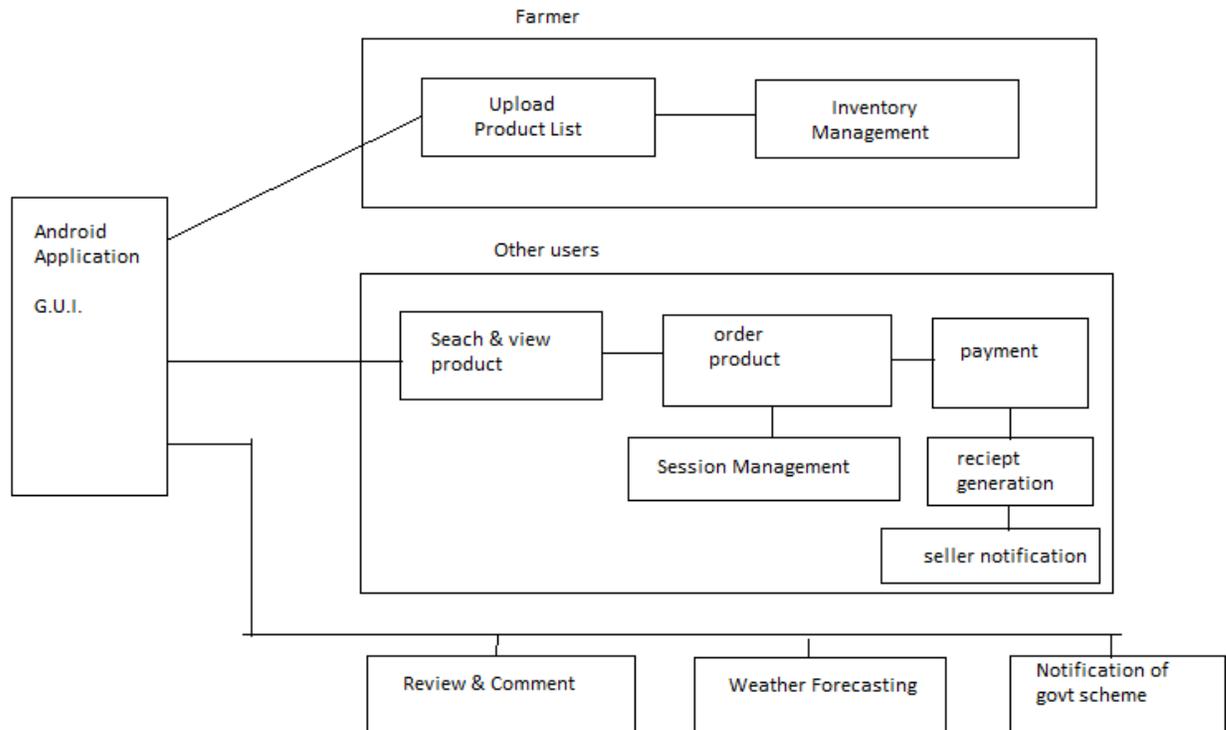

FIG:System Architecture Diagram

Our system architecture is divided into six blocks and its sub-blocks,the blocks are as following,

1)G.U.I
2)Farmer
3)other user
4)Reviews and comment
5)weather forecasting
6)notification of govt scheme

G.U.I: Graphical user interface is a means of interface between the user and the device. In this system we use the GUI for making the interaction much more easier for the user. This will make the application much more user friendly and may help more user to use this application. In this application we have two separate UI for both the farmers and the normal customers. Since the farmer is going to be a seller so user interface for him will vary than the normal user. On the other hand the customers user interface will have more simpler things and modules for access.

FARMER: Farmer uses this application to sell his product. Farmer will directly be able to connect with the customer. So there is no role of distributor and whole seller; hence the farmer will be able gain maximum profit. This block divided into two sub-blocks, upload product list and inventory management.

Farmer can upload his product list, product information and quantity of product in product upload list. This product list will be uploaded in database of application. Inventory management is management of farmers product which he wants to sell. Every crop is having its deadline; before it, the product must sold out.

OTHER USER: Other users are nothing but the buyer of the products. Buyer can search the product by its name. If buyer wants to buy the product he/she can add it to cart. Also buyer can select quantity of a product. Also buyer can upload his requirements regarding the products. There are two payment modes which are available for the customer, first is online payment and second cash on delivery of product. After this receipt of payment will be generated. And the notification will sent to the farmer as well as the customer

REVIEWS AND COMMENT: Customer can give his/her reviews about the product and service of the particular farmer . Customer can rate the product according to their experience . Also customer can comment on product so it will be easy for other customers who are going to buy products from same farmer. Customer can also gives reviews about service of the farmer.

WEATHER FORECASTING: Weather forecasting is to predict the state of the atmosphere of particular location. As we know farming is totally dependent on weather; with this service provided to him/her, they would be aware of the upcoming weather. . In this application there is pop-up notification panel. So would be constantly getting feed on weather changes.

NOTIFICATION AND GOVT SCHEMES: Daily many schemes are announced by the government for the farmer. Like bank loan, schemes for farmer's family etc. So by using this application farmer can get aware of govt schemes and get the benefits. The notification about schemes will uploaded in application and also be shown in the pop-up notification panel.

IV. MATHEMATICAL MODEL

In this we are going to explain the flow of system using the venn diagrams. To understand the model in a better way, we have divided it into two sub-parts. One diagram has a seller i.e. farmer point of view and the other diagram is based on the user i.e. customer point of view. Coming to the first part in which the process are based on the farmer side. Figure 1 shows the farmers side processes:-
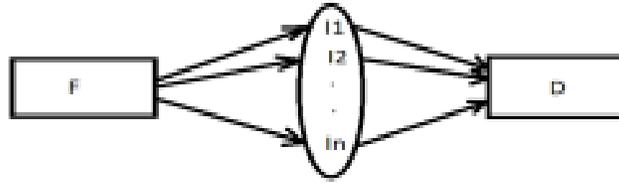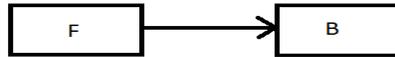
Figure (1)

Figure (2)

Here in M1:
1. F - F is used to represent the seller / farmer.
2. I - I represents the information about some product.
3. D - D represents the database.
4 B - B represents the inventory of the seller / farmer.

 The M1 consist of the processes M1=F,I,B,D. M1 is the machine 1 and the F ,I & D are stated above . B is the inventory of the farmer. In it the farmer can store all the information regarding his/her product including all the minor details. The information I filled in the database consist of different attributes such as the p_name, p_cost, p_quantity etc. P stands for product. The farmer fills the data in the information block, then that data is stored in the account of that respective farmer.

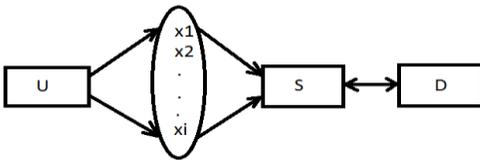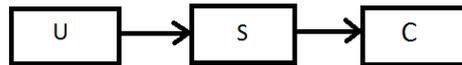Figure (3)   Figure (4)

Here in M2:
1. U - U is used to represents the user / customer.
2. x - x is used to represent the string searched by user / customer about the product(Pname etc).
3. S - Let S be the search algorithm for searching of information.
4. D - D represents the database.
5. C – C represents the cart of the user.
       The M2 consist of the processes M2=U,x,S.D,C. When the user or customer searches a particular product, the product is with the help of some attribute provided by the user such as the product name or type. The attributes provided by the user in a certain string 'x' and based on the x; different search algorithms are used to search the product. Then the product is added to the cart of the customer. If the user wants to add another product, same procedure is followed. After this the user is leaded to the payment section.
  The whole application is represented using M.

$$M = M1 + M2.$$

V. DISCUSSION AND PROBLEMS

The above discussed data contains the information about few applications which are currently in the market and are trying to help the farmers but are not up to the mark. There are few technologies which are helping the farmers for growing there products. Application which are in the market today are helping the farmers by providing them required knowledge and information for them to grow crops more efficiently. The above discussion tells us that the present applications require many improvements in them and people find many problems regarding the use of these applications which they mention in the comments , can be seen by anyone.

VI. CONCLUSION

The above paper contains the detailed information about the proposed system which will help the people and farmers of India for making direct trading relationship with the customer. By the help of this application a person can directly buy the farm products from him at an affordable rate and will get good quality products. On the same time the farmer's will be earning more money from the deals done through the means of this application and can eventually grow more and earn more. And at the same time customer will save money since the price of the products will be less costly as compared to other branded products of the market. Doing so they can provide more and better products to society.

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