

# Farmer Customer Relationship Management System

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**Abstract:** The proposed application aims to create a direct relationship between the customers and the farmers. Here the operation of the Customer is that he can purchase farm products directly from the farmers via the application. Along with the Farmer and Customer we also have a Dealer whose operation is to sell farming related equipment's to farmers and can also hire them for any kind of labour work. Our system aims to help these farmers by providing them the resources i.e. farming equipment's, fertilizers, pesticides etc. they require for carrying out their agricultural activities directly from the dealer at cheaper rates along with selling of the crops and other farm products at better rates as this system will help to directly get in contact with the Customers who might want to purchase their product, as a result farmers will earn entire profit without losing any extra money to any kind of middleman. In this our application introduces a new main middleman called the NGO who is responsible for connecting the farmers to the customers and dealers. The NGO will handle farmer's technical part of uploading the products to sell and will also deal with the order requests from the Customer for the farm products and the NGO will also look after the dealing part with the Dealer on behalf of the Farmer.

**Keywords:** Customer, Farmer, Dealer, NGO.

## 1. Introduction

The Indian farming scene is already in a big demise due to a majority of reasons such as Illiteracy, Low productivity, High cost of farming equipment's, Market value to products, Allocation of subsidies is not appropriate etc. Due to all these reasons the suicide rate in India has ranged between 1.4 and 1.8 per 100,000 total population, over a 10-year period through 2005. In order to overcome these problems main goal to achieve by this project is to provide the farmers better profits, high productivity and providing them all the government schemes and subsidies which are meant for him and he's not aware of for his betterment. All the farming equipment's requirements of the farmer are provided by a Dealer, there will be Customer who will purchase the farm products directly from the farmer via the application. The most important entity of this system is the non-profitable NGO who will operate on behalf of the farmer in the application and all the technical part will be handled by the NGO. The farmer will just have to provide all his details to the NGO and he also can lodge complaints if any to the NGO who will aid him.

## A. Aim and objective

Many different applications for farmer's are available but most of them provide only certain facilities which are not enough to help the farmer's from issues which they face. The following project aims to fulfill following objectives.

1. Removing the concept of middleman also known as wholesalers, distributors or retailers and allowing the farmers to earn more profit from their sales.
2. To increase the profit margin and agricultural production of the farm products of the farmers by providing them necessary equipment's which they can purchase from Dealer.
3. Help Customers to purchase fresh farm products directly from the farm.
4. Ensuring that farmers are aware about all the government subsidies and schemes meant for them which are informed to them by the NGO.
5. Providing some kind of labour jobs to the farmers by the Dealer and paying them accordingly.

## B. Problem statement

The Indian farmers face a lot of problems like Low productivity, High cost of farming equipment, Illiteracy, Allocation of subsidies. The following System being developed aims to solve these problems and provide benefits to the farmers. The System fulfills all farmers requirements as the dealer helps the farmer in providing all the necessary tools and materials required for farming. The customer can buy products directly from the farmer increasing their profit margins. The server side is handled by the non-profitable NGO which will help the farmer to gain all his rights and will help him if he has any issues of queries regarding any matter.

## 2. Literature survey

Following is the research done based on the project requirements in order to understand the concepts of the application more clearly.

Here the aim is to transform the traditional agricultural trading into an electronic exchange between the farmers and consumers in the agricultural supply chain. Preferential evaluations of buyer and supplier satisfactions are mathematically modeled and this preference matrix is given as

input to Gale Shapely matching algorithm. The results of  $m \times n$  matching happens to be a very transparent approach in a bilateral e-trading environment. These results are compared with the results obtained using simple English auction method which produces Pareto-optimal matches. It is found that the proposed method produces stable matching, which is preference-strategy proof and it also reduces the need for number of rounds of allocation [1].

As per the proposed android app enables the user highlight the current social issues such as farmers' death, improper maintenance of toilets and infrastructures at schools and hospitals, bribing etc. The user might feel comfortable in interacting with its enhanced features. Videos or images captured will be uploaded directly in order to avoid the fraudulent, one who uploads the sensitive items might not be worried of the security or privacy issues because all the personal information of that particular user will be hidden from the third party so, their details will not be leaked [2].

Here a cross platform mobile expert system for agriculture task scheduling, is developed to help Indian farmers. In spite of so many reforms and initiatives introduced by the government of India in the past decades, the quality of information provided to the marginalized farmer is uneven. Dangerous issues that infect Indian farming at hand are the data shortage and high risk because of the volatile nature of the factors involved, like, natural weather change. This paper introduces an advisory, information and financial system available on mobiles, which is designed for farmers to help them stay on track, avoid troubles, and receive all the latest and updated information, government schemes and strategies related to the field of agriculture. Information System has tools forecasting schedule that creates a systematic schedule for farmers for crop cultivation based on the weather predictions. This proposed idea is to ensure that the farmer plan their resources properly and also suggest a sequence of tactical decisions throughout a production cycle. The advisory system will enable its users to receive real-time and interactive advice's and alerts on crop. Alerts would include phase of the plantation, weather conditions, diseases and nutrition. Farmers will also receive regular weather bulletins to support on-farm decision-making. Finance related tools, helps the farmer to keep track and control his financial income and expenses. It helps the farmer to get better control of his financial condition, productivity. In turn it will help him to increase profitability and fulfill their long-term goals [3].

The aim behind developing this app is to give India's huge farming community a fair and consistent price for their produce. Using this android based app "Virtual Fruits Market", will help some of the farmers to overcome this problem. Using this app, farmer can directly connect with the end users and supply the product directly to them. This will increase the profit of the farmers and also end users can get good quality product in less price as they will directly buy from farmers [4].

### 3. Proposed system

The following application, Farmer Customer Relationship Management System is an E-Commerce application which mainly focuses on the buying and selling of products. These products maybe the farm products like fruits, vegetables, flowers etc. or can be any farming equipment's or fertilizers pesticides etc. Here the main focus is on how the farmers will earn more profit by selling their products to the Customers also the Customers will receive fresh and high quality farm products which they will purchase from the application by searching for what kind of product they want to purchase. The Dealer will sell the farming equipment's or any other fertilizers, seeds or pesticides which farmer may require to carry out his farming activities. Along with all this the Dealer will also post some labour jobs and farmers who fulfill his requirement can do the task assigned by him and will be paid accordingly. The NGO here plays the most vital role in the system. It acts as the farmer to the application and will check for the orders placed by the Customer for the products and then will check if farmer has the product and if he has then will deliver it to the Customer. Farmer will get pain via COD (Cash On Delivery) process when the NGO delivers the product. NGO will also talk on farmer's behalf with the Dealer in case the farmer wants to purchase any equipment or product in-order to ensure that the farmer is not cheated.

### 4. Methodology

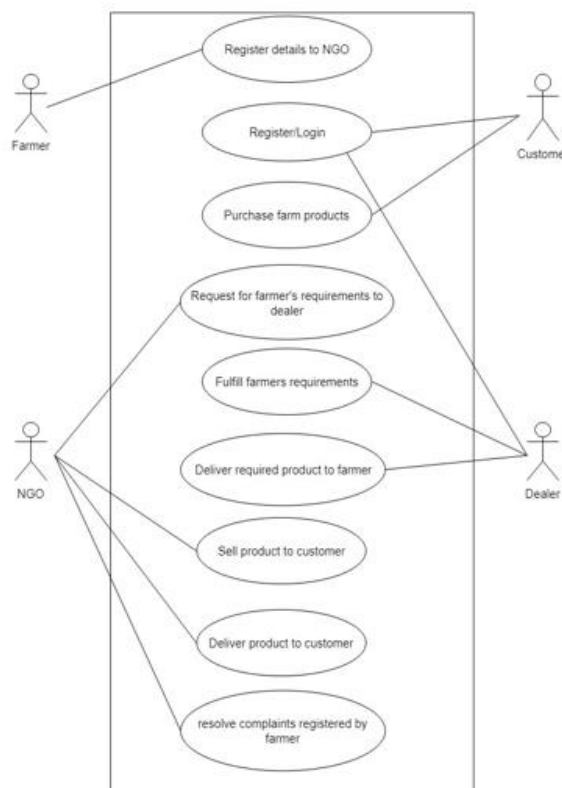


Fig. 1. Use case diagram

The Methodology used is the Object-Oriented Methodology. Through extensive research made on the topic of Farmer Customer Relationship Management System, we are developing an application mainly for farmers that can work on Android/IOS/Windows smart phone which will help the farmers sell their farm products to the customer directly via online buying and selling portal. They can even hire laborers, tools and can buy good quality farming pesticides, fertilizers etc. from dealers. They can even report about any issues they face to the NGO who will help them solve their problems, this NGO will also help the farmers secure any Government subsidies which is meant for them.

### 5. Conclusion

This system aims to improve life of farmers by providing them direct communication with the customers who can buy their products as well as letting them earn more profit. Also it provides a platform for them to communicate with the world and learn about modern day technology which they can learn

and also makes them aware about all the facilities that are meant for them by the Government.

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