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Agricultural Product Marketing based on Ratings and Reviews (APMRR)

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Abstract: Rating concept has become increasingly popular in recent years, where most of the people buy the product based on rating of that product. The enhancing technologies like cloud computing, web designing tools, the online product marketing has become much popular nowadays and creates relevant effect on current generations. Product quality is decided based on the rating factors of that product. The traditional system gives only brief idea about product rating, product details and removes intermediary between buyer and seller, but it doesn't find the shortest path for customer for gaining the maximum profit. In this paper, we propose an efficient APMRR system which finds the shortest path for customers based on the rating for gaining maximum profit and also removes middleman intermediary so that direct interaction between buyer and seller can form. Removal of intermediary, shortest path algorithms & rating system makes more profitable for both buyer & seller. By using APMRR system customer can get product in reasonable price & seller can sell on profitable price.
Keyword: Agriculture, Security, Ratings, Agriculture marketing, Collaborative Filtering, Advance Encryption Standard Algorithm.

I. INTRODUCTION

The agriculture sector has a big contribution in the economic development. A large population depends on agriculture to fulfill their livelihood. Agriculture combines the cultivation of crops, breeding of animals for food, fiber, biofuel, medicines and other products used to sustain and enhance human life. Farming is the key development in the ascent of human culture, which produces food surpluses that nurtures the growth of culture.

Most of the population is dependent on farming. However, updating the technology needs reviewing and revitalizing the mechanism. Agriculture may see major changes in the upcoming years due to enhancement in technologies. Now-a-days farmers are having huge economic losses due to several causes.

To overcome the problem of economic loss, we propose the Agricultural Product Marketing Based on Ratings and Reviews (APMRR). Farmers confuse the price for their products that they produce and sell. APMRR serves as a platform for movement of agricultural products from the farms directly to the consumers or retailers. APMRR is a mobile application, which provides a privilege for both farmers and consumers/retailers to buy and sell the required products without the involvement of an intermediary at the product's fair profitable price.

The farmers and countryside people, utilizes mobile devices frequently. A mobile device is preferred over other devices for presenting APMRR as mobile devices can include a number of applications, in which any user can access independent of other applications. The cost is comparatively low as compared to other applications. Information & Communication Technologies (ICT) observed that mobile plays vital role in everyday life of farmers. The application management interface of mobile devices includes a menu part and a display port. The menu part of the application management interface includes multiple tabs, each tab providing access to particular feature related to particular tab. The display part of the application management interface includes one or more than one application objects, each application object presenting information about respective application.

The objective of modern farming technique using APMRR is to enhance transparency in the agriculture commodity market place by providing market price information, facilitating collective buying of inputs and selling of products. Farmers rely on weather forecasts to decide what work to do today and tomorrow.

We introduce and provide detailed information on an Android based multilingual app "Agricultural Product Marketing Based on Ratings and Reviews (APMRR)", which targets to provide a solution /suggestion to the farmer's problems, facilities, benefits them with additional guidance in their area of interests like soil type, fertilizers, irrigation requirements etc. Security is the main objective of APMRR . APMRR provides a standard algorithm for data security by encrypting the private data using AES algorithm. Collaborative Filtering Recommendation Algorithm is used for rating and review of products. Rating and reviews over products can help the buyers to choose the most convenient product for themselves.

II. MOTIVATION

Farming is the mainstay of economic development of the country, but farmers are the one who face huge economic losses . The responsibility of today's generation is to maintain farming as the backbone of our nation's economy for a lot more generations to come. Farmers suffer a lot when drastic change in climate occurs due to rising global temperature.

 Crop failure due to unsuitable weather conditions is a major concern, which forces the farmer to end their lives. Modern technologies are helpful to many people and organizations, so APMRR can be useful for helping the farmers as well. Our proposed system APMRR solves the problems of farmers at one click and provides a better environment for farmers for selling their cultivated products.

III. RELATED WORK

Sharmila Chopade, Rashmi Gaikwad, Ashwini Gawade, Priya Sinha [1] Proposed secure android application which removes middleman intermediary between buyer and seller based on ratings and reviews. With the help of rating concept customer chooses a seller who sells the product in reasonable price and seller also gets its profitable amount. The application contains detailed information about a product, buyer and seller information and product rating.

The limitation of the mobile application is customer cannot find the shortest path for a seller so the transportation cost will be reduced.

In a recent survey by Sowmyaa Guptaa and Gaurav Trivedi [4], the proposed system, which is an android based application e-krishakMitra, is intended to address the farmer issues and find an efficient solution for their problems that can help them with smooth farming taking into consideration the present weather conditions. e-krishakMitra is a cloud based application that integrates various aspects of farming such as crop selection, soil nutrition, irrigation, seed selection, pest problems and yield estimation. EkrishakMitra addresses all problems of farmers in real-time without the involvement of middlemen. ekrishakMitra does not support more than two languages which are Hindi and English.

Santosh G. Karkhile, Sudarshan G. Ghuge [8] developed a mobile phone based solution for farmers that leads to agricultural area development. Mobile based solution addresses the problem of finding the market updates of different products, weather conditions and support multiple languages. The disadvantage of mobile application is unavailability for every person and not been able to provide proper information.

Tomoki Uchinuno, Yujirou Yasunaga [5] developed the knowledge sharing system for inheritance of agricultural technology by using two methods for collecting data-1) Automatic Acquisition of the environment information from a sensor. 2) A record of the work information from a farmer.

Data Sharing System describes the model for the knowledge of skillful farmers and report the experimental result of the environmental-data acquisition about cultivation using some garden planters. The knowledge sharing system does not provide robustness for real data.

Abhishek A.G., Bharathwaj M., Bhagyalaxmi L. [7] Describes agricultural marketing using Web and mobile based technologies which provides freedom of pricing and ensures the farmers to make profitable selling decisions. Web and mobile-based technologies does not involve a middleman in the transactions of agricultural products. Web and mobile-based technologies provide very less awareness of market information.

Shitala Prasad, Sateesh K. Pedigree [8] proposed a system which combines two technologies: (1) Mobile Computing (2) Cloud Computing The developer connects to Application Service Provider and Mobile End User is connected to the Agra Mobile Infrastructure providing application services. The proposed system helps farmers in all possible ways i.e. in education, weather forecasting, crop analysis etc.

The limitation of Agra Mobile is the architecture.

Madhumati, Abinesh Kumar, Karthi, Manoj Krishna proposed a bidding application for auctioning the products in Amazon web services, which includes the bidding information, product information and buyer/seller information[2]. The bidding application provides the highest price of product to farmers. Although, bidding application does not include payment gateways for secure transactions.
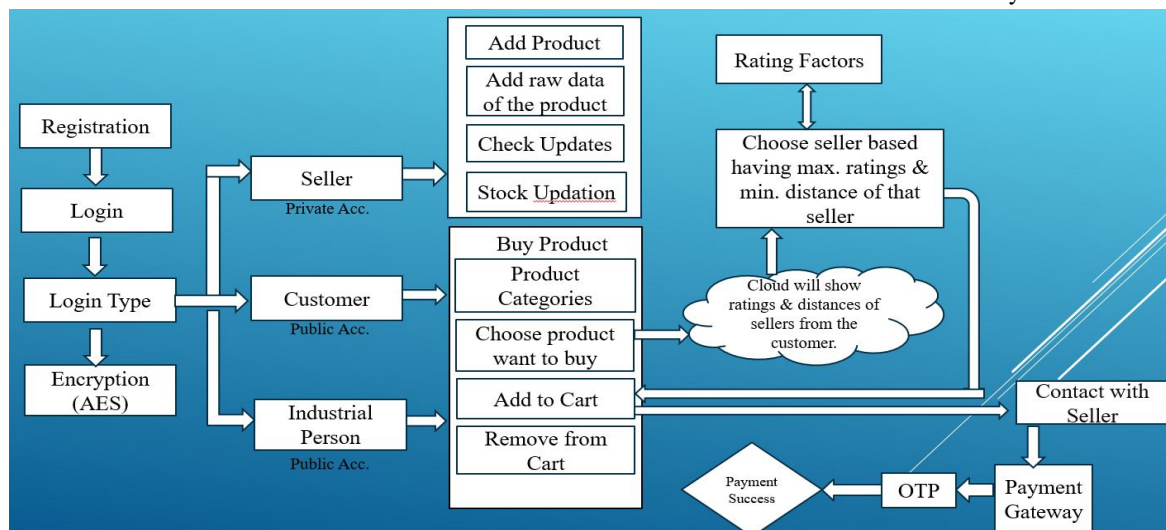
IV.   LITERATURE SURVEY

S. N	Paper Title	Approaches	Advantages	Limitations
1.	"Secure Android application for Farmers based on Ratings and reviews (SAFR)"[1]	Agricultural marketing for farmers based on rating using mobile based technology.	Choosing a seller based on rating is more profitable.	Doesn't finds nearest seller, it shows only seller information and product details
2.	"ekrishakMitra",[4]	An android based app, ekrishakMitra	Addresses all Problems of farmer in realtime	Not supporting different languages.
3	"Bidding Application in Amazon Web Services for the Sales of Agricultural Products" [3]	Bidding application for auctioning the products.	Provides the highest Price of product to farmer.	Does not include The payment gateways for secure payments
4	A Modern Farming Techniques using Android Application"[10]	Mobile phone based Solution for farmer.	Addresses the problem of getting The market updates Of different products.	Unavailability for Every person.
5.	"Development of Knowledge Sharing System for Agriculture Application"[5]	Knowledge sharing System for inheritance of agricultural technology.	Describes model for the knowledge of skillful farmer.	Does not provide The robustness for real data.
6	"AgroMobile: A Cloud-Based Framework for Agriculturists on Mobile Platform"[7]	Mobile computing Cloud computing	Proposed system Helps farmer in all Possible ways.	Architecture have Some limitations.

V.   SYSTEM IMPLEMENTATION

System Architecture in Fig. 1 shows that our proposed system APMRR is a menu driven android application helpful for farmers. APMRR is an integrated software application designed for Android-based mobile devices which targets to help assist the modern farmers for market management. APMRR will be able to solve the following problems regarding farming:

A. APMRR serves as a platform for displaying of agricultural products from the farms or industries directly to the consumer/retailer
B. APMRR encrypts the data/information such as login information, product information, and history of purchase using AES algorithm.
C. APMRR uses CFRA, which continuously updates the product, lists according to rank of products based on ratings and reviews.
D. APMRR finds a nearest seller for the customer so that interaction between customer and seller is easily made.

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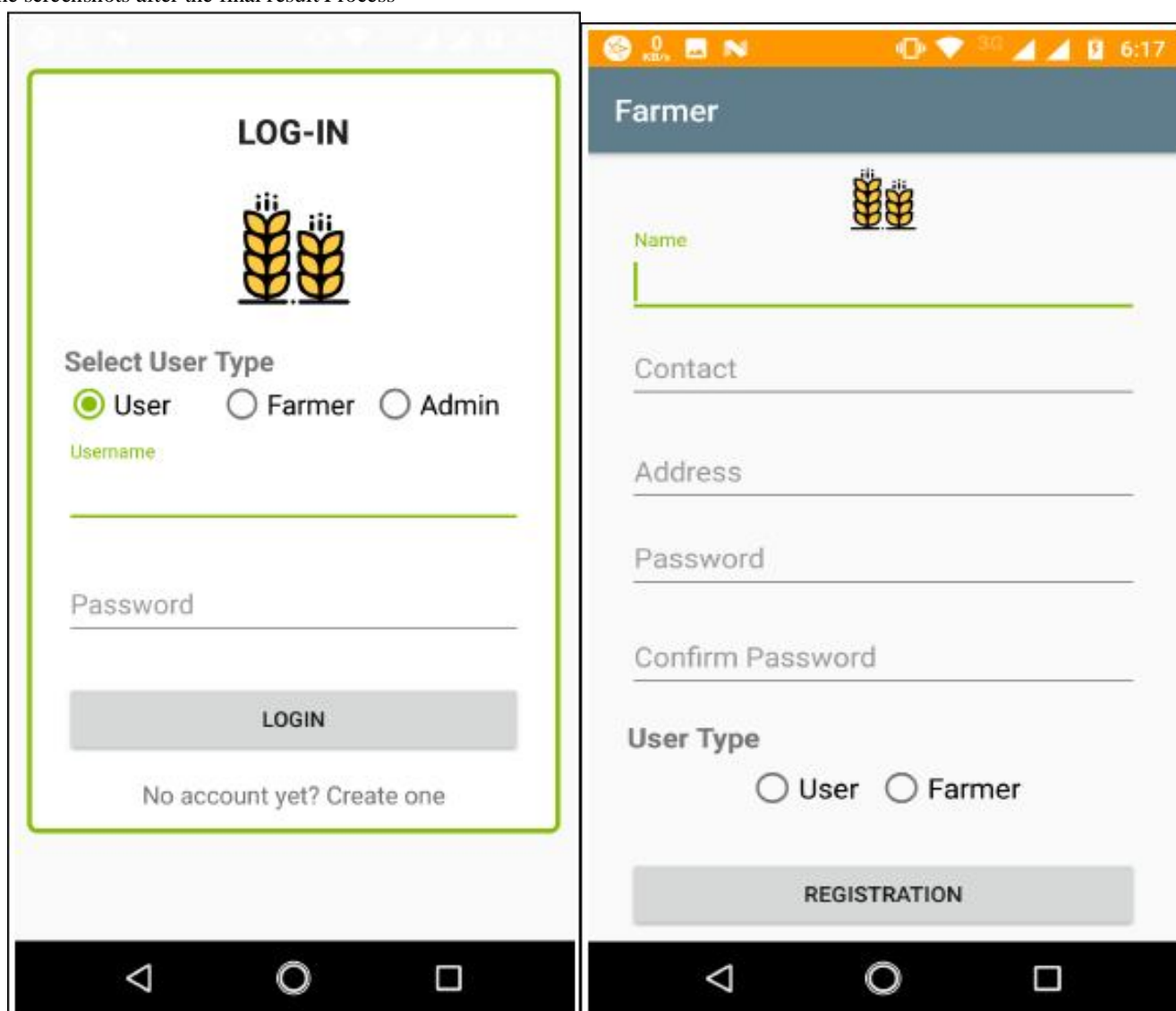*Volume 7 Issue V, May 2019- Available at www.ijraset.com*

E. Menu driven application provide powerful options and features like start screen, help, news etc. Menu items are a famous user interface entity. Almost all users are comfortable using menus in their apps

F. Registration and login: Registration includes information of farmer like name, address, phone, the number of farmers to give the daily updates.

G. Tasks of Buyer and seller, Administrator : Tasks are check product, check sale, Upload products, add to cart, remove from cart, Purchase , Rating & reviews, check history, Find nearest seller, Stock updation

1) *Algorithms*

a) Advanced Encryption Standard (AES) is a symmetric key algorithm for public security and comment. AES converts the plain text into cipher text.

b) Collaborative Filtering Recommendation Algorithm(CFRA): Collaborative filtering algorithm used for providing rank to products based on rating and reviews.

VI.   RESULTS

The screenshots after the final result Process
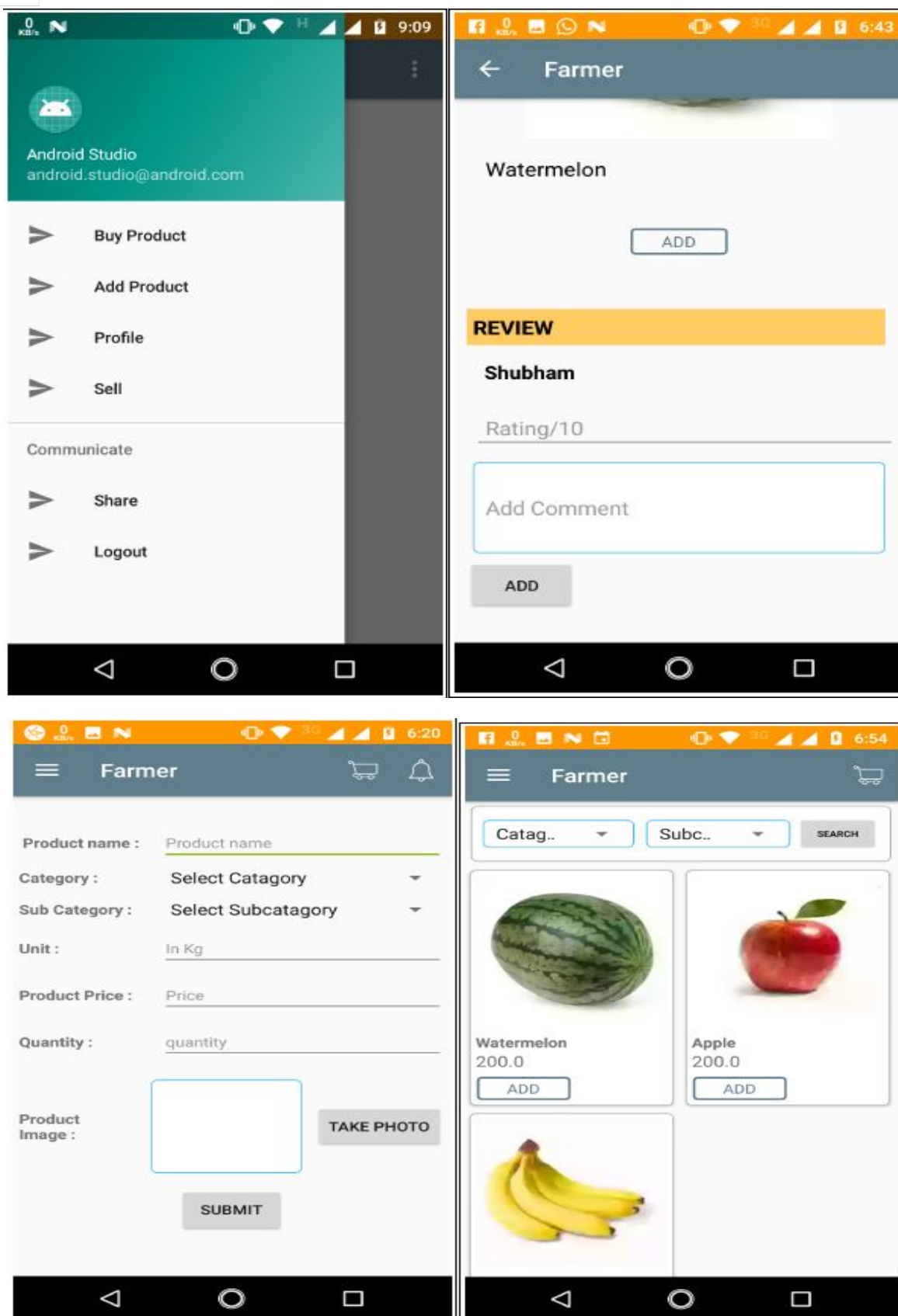
VII. CONCLUSION

Our proposed system APMRR will support all the smart phones on the Android platform. This application is more helpful to farmers to get all information exclusively in one touch at any time, at any place. APMRR provides utility to the farmers as presently there is no single platform where all the problems of farmers are addressed in the real time without the involvement of a middleman. APMRR not only provides fair selling prices to the farmers, but also provides additional features such as information sharing and guidance based on area of interests and along with this APMRR finds a nearest seller for customer for easy interaction between them. Through this mobile application APMRR, we can make sure it is profitable for both farmers and consumers. We also aspire to provide support for more Indian languages for the widespread outreach and utilization of the application. APMRR provides payment gateways for secure transactions using standard algorithm and data encryption for private information using AES algorithm. Collaborative Filtering Recommendation Algorithm (CFRA) is used for rating and reviews which provides a ranking of products after selecting the area of interest.

VIII. ACKNOWLEDGEMENT

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