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KRISHI APP – The Future of Agro-Innovation

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ABSTRACT: Farming is the prime occupation in India in spite of this, these days the folks concerned in farming belongs to the class and is in deep economic condition. The advanced techniques and also the fashionable machines that area unit leading the globe to new heights, is not involved in Farming, either the shortage of awareness of the advanced facilities or the inconvenience results in the economic condition in farming. In-spite of all hard work and production done by the farmers, in today's market the farmer's area unit is cheated by the agents, resulting in the economic condition. E-marketing would build all the items easier serving as a best solution to all or anythe issues. E-farming will serve as a way for the farmers to sell their product across the country simply with some basic information regarding the way to use the web site. The site can guide the farmers altogether the aspects, this market rate of various product, sold product, access to the new farming techniques through E-farming and centralized approach to look at totally different government's agriculture schemes as well as the compensation schemes for farming in blog section. Getting availed to the specified info associated with the markets and completely different merchandise may be created attainable through the ability provided by the system.

I. INTRODUCTION

The lack of awareness of the advanced facilities or the unavailability leads to the poverty in farming. even after all the hard work and the production done by the farmers, in today's market the farmers are cheated by the agents, leading to the poverty. Agro-marketing would make all the things automatic which make easier serving as a best solution to all the problems. farmer's e-market will serve as a way for the farmers to sell their products across the country just with some basic knowledge about how to use the application. this will guide the farmers in all the aspects. getting availed to the required information related to the markets and different products can be made possible through the SMS facility. Krishi is the application that will help the farmers to perform the Agro-marketing leading to achieve success and increase in their standard of living. the marketing facility would allow the farmers to have a view of the bills created and the related information in their accounts. an authorized-agent would serve as away for the farmers to sell their products in the market. The centralized market committee will have control on the agents through business activities review. In rural area, the SMS facility would give the required market information where internet cannot be availed. Government will put forward the new schemes for the farmers. Compensation will be provided for the farmers in case of any loss to the production due to some natural calamities. Unique interface will be provided for applying and viewing the schemes in the application.

PROBLEM STATEMENT: The status of farmers in India is such that they buy everything in retail and sell their product in wholesale. With different APMC acts in different states, lack of clarity on the prices, high lobbying capacity of the middlemen has resulted in exploitation of farmers and crops not fetching the right price. Due to short shelf life of fruits and vegetables and other products, there is a high requirement of cold storage's and warehouses to have a stable price and quantity across the year. With very few and poorly managed warehouses, the government lacks the main tool for controlling inflation and also giving a fair price to the harvest. It is keeping in mind this business philosophy that we propose a Farmer's E-Market. Considering the above scenario faced by farmers we have designed this application so that farmers will be able to market their product without the involvement of middlemen. Our system will deal with all aspects of farmer's products.

OBJECTIVE: The main objective of our project is to develop a platform that helps the farmers from villages and remote areas like selling their produces, current market price, crop practices, soil testing and they can gather information about schemes and insurances, they can rent equipment and mainly weather forecast and user-side activities are like connecting to the farmers, they can make order fertilizers, crop tonics etc. This single window platform for farmers will be under one umbrella that is Krishi App.

II. RELATED WORK

[1]Marcel Fafchamps et.al.,2012 have proposed as: This paper estimates the benefits of the Indian farmers if the market and weather information is delivered to their mobile phones. And this has been conducted with a randomized experiment in 100 villages of Maharashtra. This service has been sent in by a commercial service called Reuters Market Light (RML). The treated farmers associate RML information with a number of decisions they have made in the agriculture, and we find that the treatment affected spatial arbitrage and crop grading. But the magnitude of these effects is small. We find no statistically significant average effect of treatment on the price received by farmers, crop value-added, crop losses resulting from rainstorms, or the likelihood of changing crop varieties and cultivation practices.

[2]Peter Namisiko et al.,2013 have proposed as: A study which is conducted at majority of farmers in Kenya who are not able to sell their produce at market price due to lack of sufficient information available. Also the agricultural productivity is being lessen due to the lack of information and resistance developed by the agricultural universities. For such farmers to produce and sell their products at market based competitive prices, information communication technologies (ICT) tools have be availed to them. This is because the development of agriculture is dependent on how fast and relevant information is provided to the end users. The study concentrated in TransNzoia County since it is the heart of Kenya. A lot of research has been conducted in this area, but no research has been to ascertain the awareness, adoption, legislative and regulatory framework, therefore it is must to determine the current research trends in the use and adoption of e-agriculture of e-Agriculture in TransNzoia County.

[3]Nizar Grira, Michel Crucianu et.al., 2010 have stated as follows: the information that are relevant of the required quality always have the potential of increasing efficiency in all spheres of activity of an Indian farmer, therefore the emerging scenario of the deregulated agriculture, has brought a 'need' and urgency to ensure it in an integral part of decision making. Subsequently, exploring IT as a strategic tool for the benefit of rural India of assumed importance. Here the information meets the Indian farmers in general which are documented extensively. The broad information inputs can be classified as:

•Awareness Databases - those that facilitate proper understanding of the implications of the WTO on Indian agriculture
•Decision Support Systems - information that facilitates farmers to make a proper SWOT analysis to take appropriate decisions
•Systems that facilitate Indian farmers to forge appropriate alliances for collective benefit
•Information on new opportunities
•Monitoring systems for corrective measures.

[4]Recent publications demonstrate the following : First and foremost, it is essential to provide an unambiguous interpretation and implications for ordinary people. The jargon and the language under various articles of WTO require to be distilled by experts and their implications are clearly to be spelled out for all the segments of Indian agriculture and allied activities. The implications for all the stake holders and the time frames are to be spelt out. This is a priority item which is to be addressed immediately. The mandatory changes in government policies on tariffs, imports, year wise phasing of the same, the impact on various subsidy schemes would be of concern to people. An area of immediate concern to farmers is to get an analytical input on how his/her life is going to be affected. Since removal of restrictions throw open Indian agricultural markets, the macro-economic situation related to foreign exchange, inflation, the current tariff structure within and outside the country etc. and their likely impact on Indian agriculture will have a direct bearing on the decisions of segments of Indian agriculture.

III. REQUIREMENTS

The project involved analyzing the design of few applications so as to make the application more users friendly. To do so, it was really important to keep the navigations from one screen to the other well ordered and at the same time reducing the amount of typing the user needs to do. In order to make the application more accessible, the android version had to be chosen so that it is compatible with most of the Android devices. The time when no path is available to transmit the packet is considered as the network lifetime.

Functional Requirements

• Graphical user interface with user

Software Requirements

• Android Development Tools
• Android Studio
• Android SDK and Android Plug-ins for Android ADT.

Debugger and Emulator

• Android Dalvik Debug Monitor service
• Android Emulator

Technologies used to Develop

• Android
• Java
• XML
• Backend: Firebase

Hardware Requirements

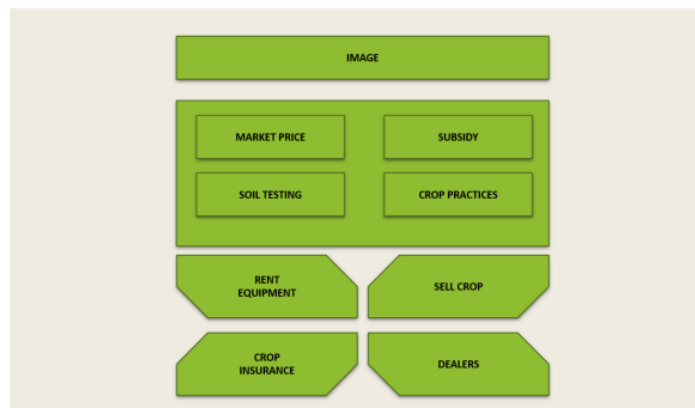• Windows 10
• Ram: 8GB
• Android Mobile

IV. PROJECT DESIGN

The decision on which method to follow throughout the project is vital for the progress of the project. After conducting a thorough and critical research on various well established methods and discussing the results of research with the supervising professor, certain decisions were made.

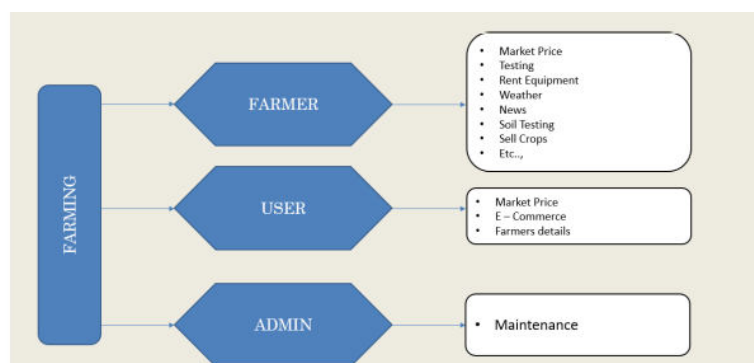The methodology applied for this project consists of the following phases:

[1]**Problem Investigation:** The main aim of this stage is to understand the problem statement and necessary solutions to the problems. Nowadays in a rural or remote areas farmers are completely dependent on middlemen and also they don't have a knowledge about market rates an etc things, So there is a need of a platform where complete knowledge about agriculture is necessary, so we find this is a major problem in our society.

[2]**Requirement Analysis**: In this phase, a thorough list of requirements were listed. The fundamental necessities for this project are market rates, and government subsidies, insurance policies, weather forecast and farmer-buyer direct connection. These requirements are structured and prioritized accordingly and integrated in a single platform.

[3]**Design:**Key designs were made in this phase, Krishi App is built using Android(Java) and XML is used as a frontend. Data is stored in securely in Firebase.

[4]**Implementation and Evaluation:**

Scenario1: Farmer
• Farmers can create new account, log-in to their existing accounts which will give them the access to our app.
• Farmers can sell their produces, get to know about various schemes and Market Price etc.
 Scenario2: User
• Users can create a new account log-in to their account and can order fertilizers, pesticides, crop tonics etc.
• He can also know about market price, and about product sellers and can contact directly with them.
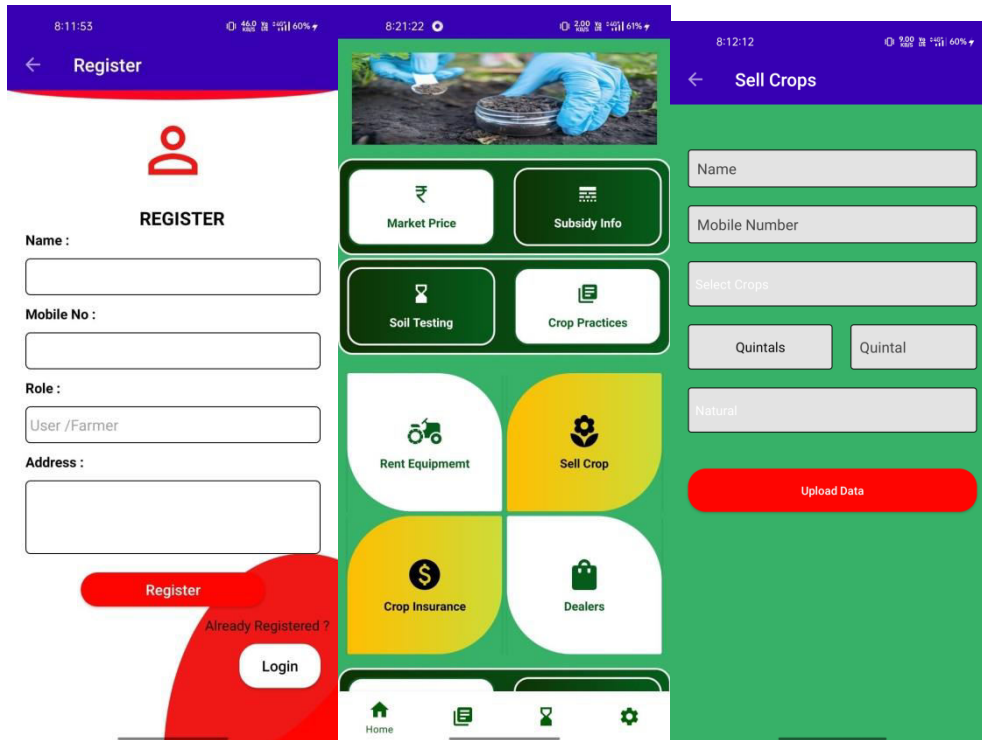**Scenario3: Admin**
• Create and Monitor accounts of Users and Farmers, Providing Username and Passwords and Maintaining App.

 [5] **Modules Included:**

• **Login:** This is login module where user and famer can log-in using credentials that is provided by a admin.
• **Register:** Here new user or farmer can register by uploading the some information.
• **Market Price**: Here both user and farmer can view the market price , they both given access to that
• **Soil Testing:** Farmers can apply for soil testing through our app by making a payment using payment options.
• **Subsidies:** Here they can get to know about subsidies and schemes i.e provided by government ex: PMFBY
• Weather, crop practices, rent equipment, sell crop, dealers
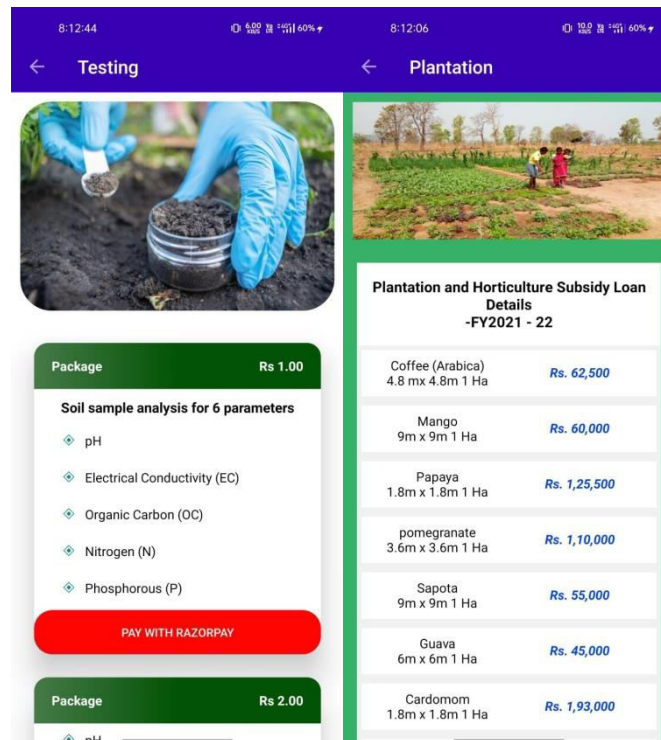
V. RESULTS

Our project Krishi App is developed in the view point of farmers, where farmers get an access to our app, where farmers can sell their produces directly to us or the customers through our app, and can rent an equipment for a day, and can get some information about government schemes and crop insurances, and mainly current market price of different APMC's and crop practices and can find fertilizers dealers and weather forecast.

Registration page Home Page   Selling crops

Soil testing   Plantation

Weather Forecast Crop Practices

VI. CONCLUSION

The purpose of this project is to get a profit for farmer's produces.Throughthisprojectwewereabletodosoandwebelievethiswouldbe helpful for the farmers. Some key aspects of the project is mentionedbelow.

• Flexibility in designing makes user and farmers explore their imaginationandthus,evenfarmerscanusefeatureseasily.

• Krishi App that helps the farmers to perform activities that helpsthem in profitability and in business and also they can get to knowabout new schemes, crop practices and market rates of particularAPMC's,canselldirectlytous/users.

• Finally, the outcome of this project is to offers strong potential fordriving economic growth and rising incomes among the rural poorthroughincreasedefficiencyofagriculturalproduction.

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