E-KRUSHI MITRA

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Abstract- ⸢**E-Krushi Mitra" application gives an idea about how to choose the suitable crop by analysing the soil quality. Based on the quality of soil, it chooses the suitable crop. This application focuses on helping farmers. Its purpose to give profits to farmers the basic idea of this application is online auction. It allows farmer to sell their crops at best price. According to observations of Information and Communication Technologies (ICT) mobile plays vital role in daily life of farmers. The farmers, always depends on weather, for their solutions near cultivation of superior crops in today's modern agricultural world. The traditional methods used by the farmers, uniquely in India, are very slow and fickle. The large amount of yield get loss in the field due to the bacterial attacks and lack of information resources. Annually, such loss exceeds 40% in total. So, there are various ways in which a farmer can utilize application entitled "Krushi Mitra", to assist them for relatively better cultivation and merchandise. The main awareness of this work is focused on farmers as it addresses the key problems of getting the market updates of different products, weather updates and also provides multiple language support. This will effectively help farmers to sell their product in global market and earn remarkable profit. Hence, this framework, which in effect, puts power into a farmer's hand. The experimental setup uses tools like Android SDK. In this research an Android based mobile devices are used for testing.**

Keywords- Krishi Mitra , Crops,Information And Communication Technology,Farmer.

I. INTRODUCTION

India is basically an agricultural country with more than 70% of the population is depending upon agriculture. Economy of the country is managed a feel as sustained by the agricultural accomplishments of the country. Farmers often struggle for basic information ,weather updates, crop rates and expert advice, ending up often relying on hearsays. Indian farmers are never uses proper management for crop farming. A further problem is the absence of co-ordination along the agricultural value sequence from farm inputs to farm processing, which increases the cost of production and lowers revenue for farmers. If there is proper managing and group then that will show very good result in crop and hence gives more income to farmers. To take guidance from expert farmer for any type of crop is spread or plantation. This particular information of the crop gives to farmer to get more crops. For getting advice, farmers need to visit local Agriculture - office or visit other expert farmer

A new mobile app E-Krushi-Mitra launched will prove helpful for farmers in this regard but they must own a smartphone. The app is likely to have many customers as India is second largest smartphone marketplace in the world with 87 billion mobile Internet users in country areas. The app has a simple interface and provides information on five critical constraints—weather, input customer, market price, pesticides and expert advisories. An additional tab directly connects the farmer with the "Krushi" call centre where technical graduates answer their queries.

To begin with, a farmer has to register the mobile number, choose a language and enter details of the state, district and block or sub-district. The market price icon shows latest price of all crops exported in a "Mandi" or registered agriculture market of the particular district a farmer belongs to. Additionally, he gets to see the full price in the district, state and the entire country on a particular day. For small farmers, who often sell their. produce to local agents, this could be an important bargaining tool. Also, farmers can choose on whether to take their produce to the "mandi" or delay it based on information on current prices.

II. LITERATURE REVIEW

It gives the idea about how to choose the appropriate crop by analysing the soil quality. Based on the quality of soil, it chooses the appropriate crop. it also gives the big factor the weather forecast and the general pattern of weather for that region[2]. The mention about the green revolution and increases in an education many farmers moving toward the technology such as mobile application and computer for their crop needs for shopping farming product online [5].

This application focuses on helping farmers. Its purpose to give profits to farmers the basic idea of this application is online auction. it allows farmer to sell their crops at best price. It gives the whole information regarding to crops, Weather status and also user can get the expert advice in Marathi and in English languages. Krushi-Mitra application can be used as smart system which will be more sophisticatedly working for benefit of the user. A user can be made aware about current weather statistics and new information regarding to crops, seeds, fertilizer. just on single click of a button. Farmer can even consult with experts if needed. This application can be very much helpful even if one could not read the information on the device by native language support provided in it [6].

It is Android based mobile application designed to meet the needs of the Indian farmers providing all the facilities to the farmers related to their agricultural activities such as crop specific data ,market prices, weather & news pertaining to farming. This application for agriculture enables the farmer to calculate profitability based on where the grain markets are currently trading and to see how higher or lower grain markets are presently. They would be able to get the current market prices depending upon the commodities. It should carry grain and livestock prices from major Indian agricultural market.[7]

To provide information about different variety of crops suitable with respect to type of soil, new methods and technologies can be adopted to get better or good result. To show some motivational thoughts/videos to motivate the farmer in order to decrease the ratio of attempting suicide and even how to improve their growth in the field of agriculture, by some successful persons who have achieved success in agricultural field and their ideas. Providing some experts contact for any query of farmers or any common person related to agriculture[8]

any information is asked by farmer then it passes to the "Krushi" call centre. Further the agriculture expert give the answer of the query through Krushi call centre and information is provided to the farmer via Krushi- Mitra app. At the starting point farmer registers their mobile number and the bio detail of their living area. There are no of optional languages like Hindi ,English ,etc. in which farmers can access the information.[1]

Using Advance Technology in agriculture can help reduce wastage, preserve resources, and utilize them effectively resulting in improved efficiency, reduced efforts and increase economy. The world's crop revenue patterns are controlled by a variety of factors, including climate, soil quality, genetic potential and human management (including irrigation, fertilization and other planting practices).[4]

III.METHODOLOGY

 "RSA" public key encryption algorithm is used to develop this software.

RSA:-.In "E-Krushi-Mitra" using a multiple algorithm to manipulate the data or complete the task when working with the algorithm often referring to their efficiency with respect to the time of execution as well as how much space they occupy. "E-krushi mitra " RSA algorithm is used for registration of farmers and it is produce unique password.

A. Shortest Path Algorithm

An algorithm that is designed for finding a path of minimum length between two specified vertices of a connected weighted graph. The single-source shortest path problem, in which to find shortest paths from a source vertex v to all other vertices in the graph. The single-destination shortest path problem, in which farmer

and customer have to find shortest paths from all vertices in the directed graph to a single destination vertex *v*. The most important algorithms for solving this problem are Depth First Search and Breath First Search.

B. Depth First Search And Breath First Search

In more complex situation many of the solution in the mobile space reflect their desktop counter parts. As a user, Map related questions are often reduce to solving for the shortest path the built-in collection like array, sets and dictionary can also be consider data structure contain that worked for these reason Depth First Search(DFS) and Breath First Search(BFS) are used.

DFS and BFS are common methods of graph traversal, which is the process of visiting every vertex of a graph. Stacks and queues are two additional notions used in the DFS and BFS algorithms. In Depth First Search (DFS), explore a vertex's neighbours recursively, meaning that user reach as much depth as possible first, then go back and visit other neighbours (and hence the name Depth First). Another useful search algorithm is the Breadth First Search (BFS). In BFS, one vertex in a visited set, the source vertex. Then, at each step, user visit the entire layer of unvisited vertices reachable by some vertex in the visited set, and add them to the visited set. Doing so, BFS visits vertices in order of their breadth, or simply the distance from that vertex to the source. BFS builds its own Breadth First tree, and is an iterative algorithm.

When the farmer has want to store their crop then using shortest path it can be calculated using DFS And BFS Algorithm. For finding the shortest path for warehouse to store the farmer crop.If the farmer want to store their crop in nearby warehouse to reach that warehouse there many path are available so that using DFS And BFS the shortest path among all paths
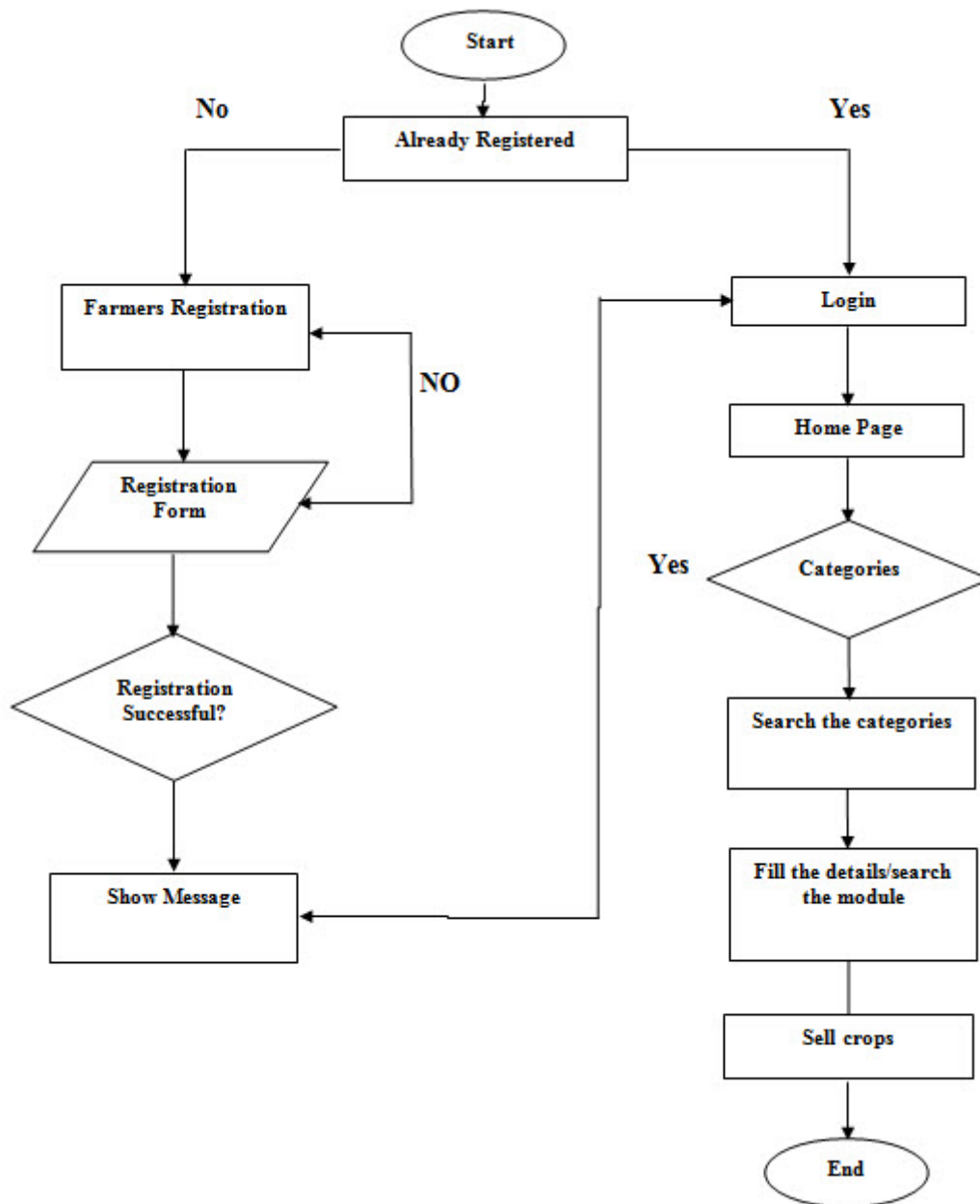
Figure 1.Data Flow Diagram of Registration

IV CONCLUSION

In this paper, By using this system farmers can get more profit, compared to manually existing systems. Also farmer can view information about fertilizers, seeds, pesticide and weather forecast of next 4 to 5 days .which is useful for the farmer for the production of the crops and also if they have any query about any product information they can call to the expert which can provide in the E-krushi-Mitra application. Overall this is very useful for the farmers for their increases the productivity and get more profit for selling their crops.

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