

E- Farming: an Innovative Approach for an Indian Farmer

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Abstract— In most of krishi pradhan countries peoples are having insufficient knowledge about revolution of ICT in agricultural quarter. Agriculture plays an important role in Gross Domestic Product (GDP). In previous system farmers get mandi rates, crop information through internet. But they can't get the desired information related to farming. In proposed system interaction between ICT and farmers made through icons. In this system, there will be web panel for government notification also weather forecasting panel and one loan panel which views complete loan description.

Keywords- *ICT, Information retrieval, Internet, Icons, Agriculture, Farming, Availability.*

I. INTRODUCTION

Today's an ICT innovation towards agriculture quarter is more prominent part for farmers. Agriculture plays an important role in Gross Domestic Product (GDP). Farmers are unable to get the exact sources of information related to the farming as they do not have sufficient knowledge regarding technology and also the language barrier. There is no as such an existing system which uses the previous data from farmers under certain criteria and tries to analyse the previous history, so based on that it work. There are some applications are present which gives the crop rates in main cities, that works under government. So, we developed a system which uses a mobile like- Android Mobile or it can be used on the web page through system. In this system there is a one web panel through government agency and bank committee can login and feed their information.

In India, states like Maharashtra, Rajasthan etc. Farmer suicides still continue due to water crisis. Most semi-illiterate people like- Farmers are blindly takes the loan from bank but they are not aware about what are the deadlines of loan payment. In our system there is one bank loan panel in which there having bank party login. They views the entire farmer details as a clients and view the loan description, there pending dues and date of payment also they views the list of farmers whose EMI is given next in some days. So, the farmers are periodically aware about their loan description. Also in our

propose system there is availability option for farmers where different store-keepers by region wise feed their availability of goods such as- pesticides that are available in their stores. By this availability feature, it gives the advantage for farmers to knowing the availability of goods in their region.

II. RELATED WORK

In paper "Krishi-Bharati: An Interface for Indian Farmer" studied that Nowadays, advancement of ICT make possible to retrieve almost any information from the global repository (internet). Farmers require information at the right stage of life cycle of farming to take right decision. Due to illiteracy they cannot get information. This paper states that user can interact with the system through the icons and result back with their intended agricultural information in Indian language text and spoken forms both. After selecting the icons, the icon to natural language generation module convert the selected icons to text in Indian language. Then keyword extractor module extracts the proper Indian language query [keyword] from that text [1].

In paper "Krishi-Mitra: Expert System for Farmers" we studied that main aim behind this is that people in rural areas are far away from Internet technology, so get collectively information to farmers about crop, here made an one interface. The semi-illiterate people can get the information in Marathi and English language. In this it contains iconic based interface as well as information in speech format. Also that is audio

clip. Also if he has some other queries, he can directly contact to expert calling [2].

In paper "Icon Based Information Retrieval and Disease Identification in Agriculture" Most of farmer are illiterate that's why they are not able to use internet for possible remedies of their infected crops. This paper discusses mainly two features one with an iconic interface where farmer can interact easily and in return system will return in native language. Another feature is an image processing technique in that farmer has to upload image of diseased crops and result will show disease name and possible solution for infected crop [3].

In paper "Enhancement in Agro Expert System for Rice Crop" Some farmers don't have enough knowledge to identify exact diseases on crop by analyzing symptom on crop. The main point of study in system is that system background starts with by analyzing the number of disease symptoms of the rice plant appearing during the life cycle of plant and then the collected knowledge viewed to develop an expert system [4].

In paper "A Model for Enhancing Empowerment in Farmers is using Mobile Based information system" states that farmers which are living in villages rural areas do not have proper access of information to make decisions related to farming, they use mobile phones to communicate using internet. It provides personalized information with the aim of empowering them to make appropriate decision and actions [5].

III. EXISTING SYSTEM

There is no as such an existing system which uses the previous data from farmer under certain criteria and tries to analyses the previous history, so based on that it work. There is one application e-mandi which is under the banner of Indian government, where it works in similar fashion like showing up the rates of all crops all over the cities giving an idea about the rates to all farmers using that application.

IV. PROPOSED SYSTEM

In proposed system, we have different section of login for the people to use it on their own way. So based on the requirement there are users or farmers who will be using the system through a mobile phone i.e. an android phone, even they can use this system through a web browser in a machine or laptop. Apart from this, there is a web panel from where the government agency and bank committee will login and feed up their data or information.

In the proposed system, we have also included a feature of weather forecasting which will help all the farmers to work according to weather prediction and get a fruitful result. With respect to this farmer got an amazing option of predicting the future lines of production based on previous data and history populated in the system. So system will gain knowledge about the process and ins outs once farmer feeds in their previous experience.

We are working on to get the data from government agency of crop rates there in main cities overall India. Based on that farmers can get an idea about the rates of crops at different cities and can very well sell the products or crops they have grown at a much better rate than the normal rates which they used to sell.

V. SYSTEM ARCHITECTURE

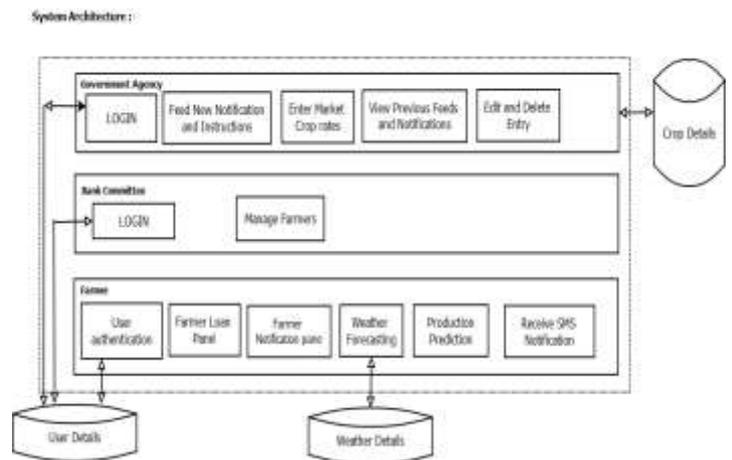


Figure 1. System Architecture

In this System architecture, there are various panels that described as follows:-

A. Farmers registration and login

Every farmer has to register into this application and use the same credentials for login into the application. Once they login they get an option of different features to use inside the mobile application as well as through the web panel.

B. Farmers Loan Panel

Farmers login has a different set of features in it, they can view the complete loan details from start to end the complete description and calculation as what to pay and how much is been paid. Pending dues and deadlines etc. If they cross the limit of payment date then a message is thrown to the bank officials and all higher authorities so that they can look into the matter in a more concern way.

C. Farmers Notification Panel

In this tab farmers will get to view all the notification and valuable information passed on by government bodies, so it plays an important role in filling up the gap between government and rural farmers.

D. Weather Forecasting and Crop rates

Using the API or plug-in which are available, we can work on showing the weather information and crop rates at different areas and cities. Using this information, they will get an idea about future work on process.

E. Production prediction

This is one of the important module where it does the prediction based on certain criteria, like weather condition, soil and crops to grow so based on these and past values or histories system will analyze weather it can be fruitful for the farmers to go ahead with same structure or not. So there will be an option for all farmers to feed in their own experience about past so that system uses those values and information and work on it to suggest for future prediction.

F. Government bodies Login

They will have a different login credentials to login into the application. Once they login into it through a web panel there is option to feed in the new notification and instruction which gets displayed on the other end to farmers. They can also view all their previous feeds and notification in case they want to edit or delete the entry.

G. Bank Party Login

Just like government bodies even bank section will have a different login and they can view all the farmers as a client and their details. Their loan information, pending dues and date of payment. They can get the list of farmers whose EMI is to be given next in recent days.

VI. CONCLUSION

So by implementing our system, it is beneficial to accessing the farming information quickly in an easy way through an android application. Proposed system avoids the language barrier using various intercommunication strategies. This system includes the bank loan details of intended farmer, also gives the availability of goods by stores, government schemes and gives production prediction depends on previous one. For implementing this system it is research work in documentation phase-I and still we are working on implementation system in phase-II.

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