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Krishi Portal: Web Based Farmer Help Assistance

Md Iqbal[1], Vimal Kumar[2] and Vijay Kumar Sharma[3]

[1,2,3]*Department of Computer Science and Engineering, Meerut Institute of Engineering and Technology, Meerut, U.P, India*

Email: {iqbal.hodcse,vimalmnnit16,vijaysharma463}@gmail.com

Abstract

Information and Communication Technologies (ICTs) have made our life easy. ICTs are playing valuable roles in a variety of technical fields such as education, banking, health, E-commerce and many more. ICSs can also be used for farmers to help them to get more production and profit. This paper describes a web-based system - "Krishi-Portal" which will assist farmers to get information about various crops, diseases on crops, crop's rates, government schemes for farmers and weather forecasting. The system is also a good platform for selling farmer's production and buying material from vendors, which is necessary for farming. Farmers can also buy or sell new or old agricultural machinery that are used in farms like cultivators, Disc Harrow etc. This system is specifically useful for farmers but other business sectors will definitely get benefit of it; those are Agricultural agencies (such as Tractor sellers), Hotels (by getting raw materials- vegetables, milk etc.), Fertilizer sellers.

Keywords: Information and Communication Technologies (ICTs), E-commerce, Web, Weather forecasting, Fertilizer, Farming

1. Introduction

In India Agriculture is a crucial part. Agriculture is only one income resource for most of the Indian. [1] As per the census in 2011; in India, approximately 118 Million people are farmers and 144 Billion people are laborers working in an agricultural field. Total Indian population of India in 2011 was nearly about 121 crore and out of which nearly about 2630 lack people are farmers. If a farmer is rich then, so is the country this line tells all about the country. All necessary data is available on the internet and so of agriculture too. [2] Indian farmers are lagging behind in the use of technologies and new advancement. The reason behind it is Indian farmers are not much familiar with English language and the huge amount of data available over the Web makes them confused between the available contents, and the contents they are trying to find. Information and communication Technologies (ICTs) are the best way to present farming related information to farmers. Today mobile phones are available to every individual. Farmers can search easily about the problem they are facing with just one fingertip on their phone's screen. With the help of its they can directly contact the other farmers who have solved the same problem and get some suggestions. In this paper, we are describing a project which is one web-based application that will help farmers, so that they would get all the required information about farming in Marathi in their Smartphone and those other educated farmers can access this information on their desktop. The system described in this paper would provide all information necessary for the farmer related to diseases on crops, weather information [1] so that they can plan for next few days, how they can utilize their production to make some ready to use products, what are the things they can do along with farming with their output crops. They will get information about updated rates of their crops [3], updated schemes by the government for farmers. Farmers can order fertilizers from home and many more. Mainly they will get a good platform for selling their output and get best returns accordingly.

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The rest of the paper is organized as follows: Section 2 describes literature survey the Section 3 presents details of our Experimentation Details and Proposed Features. Finally, we conclude our research paper in Section 4.

2. Literature Survey

For the development of this system, we studied some previous papers. The paper [1] describes a system that uses ICTs and it is an android-based solution. The system supports a variety of features like updates of weather, news and different agricultural commodities but local language support is missing in this system. System described in paper [2] is developed by considering farmers from different states who may be illiterate. The base paper of this system is again Android based Solution for Indian Agriculture [1]. This system tried to solve the complex interface problem that was there in the previous paper. The system in paper [2] provides a user-friendly iconic interface. However, the system [2] failed to provide multiple local language support and also only, a large screen interface is available in the system; a small screen interface is missing. The system in the paper [3] provides information of crop's rates in local as well as distant markets. The system also provides weather forecasting information.

3. Experimentation Details and Proposed Features

System proposed in this paper would make the farming field easy and beneficiary from a farmer's perspective. For developing this system we use different technologies such as HTML5, CSS3, JavaScript, Bootstrap 4.0, java and database we used is MYSQL; other tools are Xampp tool and Tomcat server 8.0. This system is a website as well as mobile application [4-6]. Farmers can use the system directly by entering the URL of our website or just by opening the application. At this level user would get basic information related to farming. If they want to sell or buy anything; like farmers want to sell their output then it is compulsory for him to register himself through registration form and then login to the system. Similarly, if they want to buy something then also registration and the login process is compulsory [7]. Apart from farmer, two types of people can also take benefit from this system:

a) **Consumer**
b) **Supplier**

Consumer: In our system, we call 'Consumer' to those people who take production of farmers as their input for their business or personal use, like hotels. In this system, there is login for these people, which is compulsory. After login, they will find list of available items they can buy from farmers like milk, green vegetables, flowers and many more things. They can give orders from their site by specifying their required quantity. They will be provided all their requirements at their place by the administrative system, which is the bridge between farmers and consumers [8].

Supplier: Similar to consumer there is compulsory login for supplier also. We call 'Supplier' to those people who are going to provide required material, products to farmers which farmers can use for better production like fertilizer suppliers, machinery suppliers etc. After login to the system, they can enter details of their products, such as a list of fertilizers. This list will be visible at the farmer site. Now farmers can add these fertilizers into their bags and can buy them. Similarly farmers can buy agricultural machinery either they are new or old [9].

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Proposed Features

To get accurate benefit for their hard work, farmers must know the rates of their crops in nearest and long distant market; in this paper, we are describing a system which provides this necessary information (Figure 1). System provides Weather forecasting feature by using which farmers can schedule their work according to weather of next few days [10].

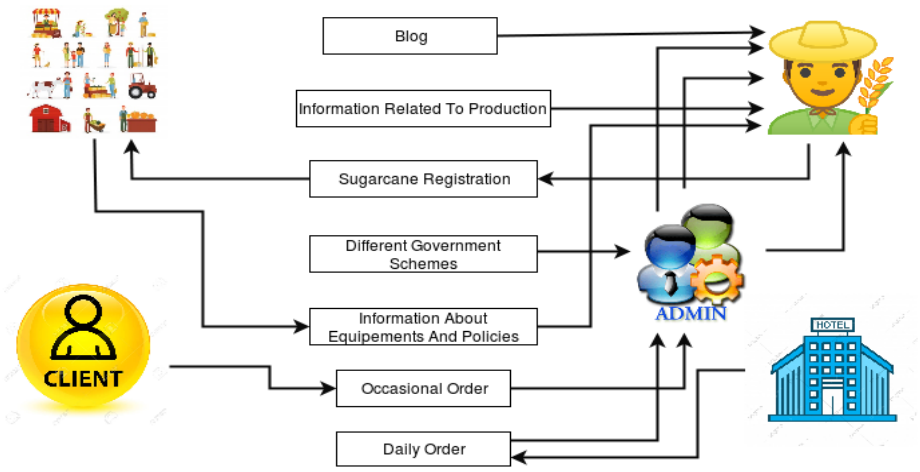

Figure 1: Architecture Diagram of Krishi-Portal

Along with information of variety of crops, diseases on crops the system also provides information about latest technologies in agriculture and crops those are new in market. System provides communication portal for farmers so that they can interact and share their success stories to one another. System also provides product selling and purchasing platform for farmers and other agriculture related vendors. Figure 1 shows Architecture Diagram of Krishi-Portal.

4. Conclusion and Future Work

The system "Krishi-Portal" is able to solve key problems of farmers. The interface of the system is simple because farmers can access useful information regarding their crops, market rates, government schemes, and weather easily. Farmers can sell their output at fair rates as they would find the current rates of crops in the market on their phone itself. In this system farmers would find a good platform where they can sell their output or buy agriculture machineries and other stuff related to farming. It is concluded that farmers can use the system efficiently without even logging in, if they know basic knowledge of using a Smartphone. If they want to sell or buy something then only they are required to log in. It is also concluded that the system will prove to be an important bridge between consumer and producer of crops, agricultural machineries and other agricultural stuff. However, the current system is developed only in Marathi language but to extend the use of the system in a variety of different states in India, the system can be extended in other languages also. In future, we will focus on improving this system by adding other local Indian languages.

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Authors

MD IQBAL is an Associate Professor in the Department of Computer Science & Engineering at MIET, Meerut, (U.P), India. He received his B.Tech Degree in 2004 and M.Tech Degree in in 2011. He has published a large number of various research papers in International and National journals and conferences of high repute. His research interests lie in Wireless Sensor Network, Data Mining & Warehousing, Web Services and Network Security.

Dr. Vimal Kumar is an Associate Professor in the Department of Computer Science & Engineering at MIET, Meerut, (U.P), India. He received his B.Tech Degree in 2007 from Uttar Pradesh Technical University, Lucknow and M.Tech degree in Information Security from Motilal Nehru National Institute of Technology, Allahabad, India in 2011. He did his PhD in Computer Science and Engineering from MMMEC, Gorakhpur (AKTU, Lucknow), India in 2017. He has published a large number of various research papers in International and National journals and conferences of high repute. His research interests lie in Mobile Ad hoc Network, Network Security and Network Forensics.

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