

Agricultural Based Android Application

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Abstract

The main scope of project “Agro-web” is to develop an android application to help farmers to get a good yield in their cultivation. Technology is playing very prominent role now-a-days. So, this application supports and helps farmers for a better yield of crops. In this application process of complete crop is been defined and along with that it deals with all the kinds of diseases that crops are facing and their solutions. User can also ask their queries on their crops. In this way, one can easily know the procedure for better yield of crops. Deploying this “Agro-Web” serves as an early support and handy tool for farmers or cultivators for a better cultivation.

Keywords: Agriculture, Web, Application, Android

1. Introduction

In India more than 65% people live in villages, out of them, most of the people are farmers and mainly rely on agriculture [1][2]. And we also know that farmers are backbone of our NATION. And agriculture is the backbone of INDIAN ECONOMY. Today's Information & Communication technology play an important role in bringing about sustainable agricultural development and provide valuable information [3]. Agriculture provides employment opportunities for rural people on a large scale in underdeveloped and developing countries. Agriculture and allied activities provide enormous scope for gainful employment in India. We have seen the problems faced by the new generation and up growing farmers, they might be unaware of new technology and tools used these days, this made us to create an application which is helpful to them [4][5]. Now a day's farmers are facing several problems with respect to the growth of the plants or the farm or the diseases that may cause damage to the crops and the other set of seasonal changes in the climate and other related issues.

Most of the farmers are lack of knowledge and they don't know or they are not getting the timely information about the changes in climate, atmosphere, soil conditions and other related issues [6]. As a result the new farmers and other younger generation people are interested in cultivation or becoming some younger farmers also thinking twice to enter due to several reasons. As a result, an attempt has been made in the current article to provide and develop a new web application who is having even mobile phones can use the features of this application and also can get the timely updates about the climate changes, seasonal changes,

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precautionary steps to be followed for protecting their cultivations from various set of issues and other set of problems.

2. Related Works

In order to understand the development an need for the development of this applications, several other existing applications based on web applications needs to be studied and should be presented in the current section such that a detailed analysis about the existing applications and models can be understood better way [7]. Some of them are like,

2.1. AgriApp

This application or the app is one of the most famous applications used by various set of farmers from various locations of the country. This application is mainly intended to provide the details of various crops to the farmers, bringing all the schemes being provided by the government to the common farmers etc.

2.2. Iffco Kisan App

This is another famous application in India that can be used by the farmers. It's a small android application and can be used for advising the farmers with small tips for the cultivation of various crops and other related crops to farmers. The best part of this application was that it provides the prices about the various crops at various locations and also for the similar crops for price at various locations.

2.3. Agri Media Video App

This is another important application that was being used in various locations of the country. Most of the practices being used for growing plants and crops are being collected videos and they were been shown in the application. The farmers who were interested in such videos can use the current application and can take the preventive measures such that the farming can be made easy and can be grown with good output or good outcome.

In the similar way several other applications also present in the internet or in the market for suggesting the farmers for getting good yields. In those applications, a combined user interactive and suggesting the solutions to the crop diseases mode of fully interactive applications were very minor. Hence, in the current article, an attempt has been made to develop and present an android based web application which will be an interactive type of application used to resolve the issues of the farmers [8]. Here, the farmers can interact with the experts or the suggestions can be considered or taken through online and can be downloaded or viewed through offline. The farmers will get good benefits with these sorts of applications.

3. Agro-Web

AGRO-WEB helps us to know the information regarding the Cultivation, Diseases and weather requested by the user. The major task or the advantage for the development of this application was to suggest the farmers about the details about various crops that can be cultivated at various locations or in some other sense the if the farmers will provide their location, the application may suggest the best crops can be cultivated in that location for better outcomes. It also provides the diseases that may be observed in various crops based on

the type of the crop the farmer will provide as input to the crop. From the database, the application might provide the full details about the diseases and preventive measures to be taken to avoid such diseases or the treatment to be followed for such diseases. The weather conditions of such places given by the farmers also will be provided to the farmers through application only.

A standard database had been prepared for the entire application by collecting the data from various agricultural websites and other sources. Whenever the users or the farmers are providing the query, the data is being retrieved from the source and being produced as output to the end user.



Figure 1. Home page of the application

From the home page of the application, the user or the farmers will get the details about the cultivation options of the farmers in the fields and locations of the farmers selected or provided and the disease and diseases about the locations and the diseases that may occur for the crops selected for various locations and the details for the prevention also be provided.

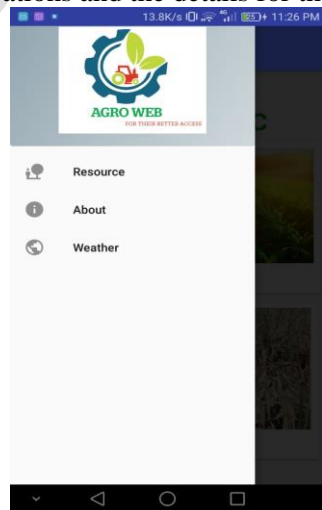


Figure 2. Selection page of the application developed

When you click on the cultivation, you will go to the cultivation screen where you can find the crops with few important points regarding the crop. If you want the detail information about a particular crop you can click on its picture which will redirect you to the website we have linked to, where you can find all its information like the type of soil required, suitable season and many more [6].

And the other one is the Disease screen in which you can find the types of diseases which the effect the crops. Same as the cultivation screen if you want the detail information regarding the diseases you can click on that disease which will redirect you to the website we have linked to. We can find the remedies those diseases.

We have done the application with some time constraints, which dint gives us to reach the levels which we have expected. Currently we are working on the detection of the soil which would help us to know the type of soil and suitable crop for that particular soil. We can use the fiber optic sensor and for the soil moisture content by gravimetric method. And also the language plays an important role, so we working on multiple languages which help all the farmers across the nation without a language barrier [7].

3. Results

As the results from our application we have website which is linked will help us for more and more information regarding the topic of requirement. The weather option in the app is quite interesting we can have the temperature, humidity, sunrise, sunset, date time and many others.

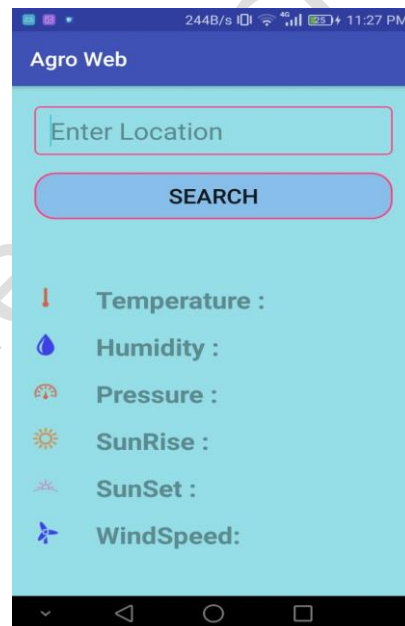


Figure 3. When you select the cultivation then we can find the crops, and on clicking on them it will give you the more details



Figure 4. Selection of various crops or relate ditems form the available list



Figure 5. Details presentation about a particular selected crop

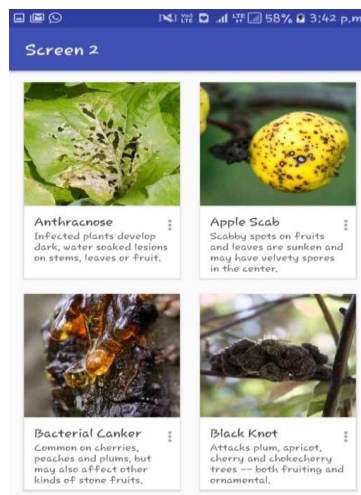


Figure 6. Display of various diseases related to a particular crop selected by the user or the farmer

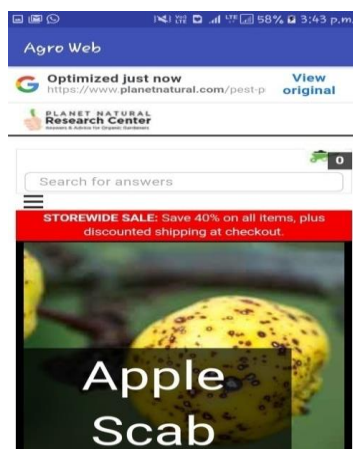


Figure 7. Display of the cure and steps to follow for reducing the diseases that occur in a selected crop

And the resources give the information about the newly added tools and technology in the agriculture and news regarding about agricultural aspects.

4. Conclusion

When we give the fiber optic sensor the type of soils can be detected, which can help the farmers to choose the best crop for cultivation. But still the application can help the farmers to some extent and best knowledge. You might get a doubt that how can farmers deal with the mobile application, you might be right up to some extent but what about the new generation farmers who are educated, but lack of experience they find difficulty in some aspects, this app help them in all the way. The best part of the application is that its user friendly.

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