

## Pune Vidyarthi Griha’s

**College of Engineering and Technology, Pune**

**T.E. MINI PROJECT**

**(Computer Engineering)**

**Skill Development Laboratory**

**Semester I**

**[Academic Year 2018-19]**

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**SYNOPOSIS**

1. Group Id:- **4**
2. Title of the project:- **KRUSHIMITRA**
3. Problem statement: - **Framers often have a tendency to grow crops by imitating their neighbours or growing crop of their own choice depending upon the market value rather than growing crop depending on the soil type and the natural resources available in their vicinity.**
4. Abstract:-

Agriculture is believed to be the backbone of the Indian Economy but the thought is often left out in the books without any due consideration by most of the people. As a result of this, the interest in farming sector has been detoriating day by day and also the condition of farmers have worsened as no one is ready to help them in times of need. So as to make the citizens aware about the current situation of the farmers and to help them we chose “KRUSHIMITRA” as our mini project.

KRUSHMITRA is the one who helps farmer. In our project we have considered the soil as the major part in farming. Depending on the soil type of land of a farmer we suggest the best 5 crops for the farmer. Soil type of the land of a farmer is known by considering the location of the land of that farmer. The location is accessed with the help of “GOOGLE MAPS API”. The app asks the permission whether it can access the location or not. If yes is pressed then it shows the entire map, after this press on the current location button on the right corner. The marker then points to the current location and then pressing on the Get Location button it takes the details of the current location such as city-name, pin-code, latitude, longitude and various important details of the location, after taking the location of the land, all the other important details of that farmer such as name, phone number and email-id have to be taken. If the farmer has done the testing of the soil, he may provide the pH, EC and OC values of the soil otherwise he may leave it blank. One more important thing to protect his details with himself and the app he must set a password of his account which is important and then he may register with us by pressing register button. Once the farmer is registered with us he may login with the email-id and password provided by him during registration. Logged In, a navigation bar appears in the corner of the home page and the details of the crop such as harvesting period, plantation period, germinating period are displayed on the home screen. For the sake of simplicity, we have categorized the periods of the crops into months, depending on the current month we display only that period of crop which is suitable for the current month. Pressing the navigation bar various options can be seen such as MY ACCOUNT, GET CROPS, VIDEOS, and much more. The details of the farmers are already known to him but if he decides to see them once in a blue moon, he may retrieve them by clicking on the MY ACCOUNT option. Farmers don’t know much about the latest technology brought into market by the Government as well as the technologies used in the foreign countries. He may see them clicking on the VIDEOS option, here we provide them videos of new technologies introduced in farming and how to use them. GET CROPS is the major or core part of the app where using various algorithms we provide list of top 5 crops best suited for the land of the farmer. If pH, EC, OC is provided we take them into consideration otherwise default values are taken into consideration for the algorithm.

Basically data displayed into a BAR GRAPH is better to understand and analyze rather than reading data line by line. We have also provided the BAR GRAPH format of the crops i.e. how many farmers have grown the crop in last 5 years and how many farmers of our app are growing them presently. Earning is a must for farmers so they must know the value of crop. Farmers often have a tendency to grow crops having high market value. Hence, MARKET VALUE is also provided in the app to know the current value of the crop in the market. HASTE MAKES WASTE so farmers must not rush to grow crops that had the high market value last year or years before instead they must analyze the number of other farmers growing the similar crops estimate it and then check whether the value of crop will increase or decrease depending upon the farmers and then plant them. Log Out option is provided to log out from the account and return to LOGIN page.

1. Technical Key Words:-

* Class: A **class**, in the context of **Java**, is templates that are used to create objects, and to define object data types and methods.
* Object: A **Java object** is a combination of data and procedures working on the available data.
* Serializable: **Serialization** is a mechanism of converting the state of an object into a byte stream.
* Firebase Database: It is an object used to read the database i.e. real time database from the firebase.
* Firebase Auth: It is an object of Firebase used for the email authentication which in turn is used for the sign up and login.
* Database Reference: It is an object of Firebase used to write object in the real time database of Firebase.
* Delete: It is a keyword in SQLite used to delete the contents or drop the table in SQLite.
* GeoCoder: A **GeoCoder** is either a piece of software or a service that implements a **geocoding** process. Used to get the location of a person.
* **Bundle**: Stores activity data that could be used to recreate activity or transfer to other activity.
* **OnCreate**: callback when activity is created.
* **OnDestroy:** callback when activity is destroyed.
* **OnPause:** callback when activity is paused.
* Implements:  **implements** mean you are using the elements of a **Java** Interface in your class.

1. Goals and Objectives:-

* To help farmers grow crops depending upon their soil type
* To help them gain detailed information about the particular crop such as plantation, pollination, germination, harvesting, etc.
* To help them better understand the current conditions about the crop i.e. how many farmers are growing the particular crop so they can estimate the market value will be high or low for particular crop.
* Market value of the crop update daily as to help them know the current market value.
* Bar diagrams are provided to present them in simpler format so they can understand easily.

1. Introduction:-

History is the version of the past events that people have decided to agree upon. But one must not forget that change is the law of the nature. Agreed to this all the old things have to be changed and improved. Various agricultural apps such as MyAgriGuru, IFFCO are the apps which have been there a long time back. But everything must be changed depending upon the needs of the people. Above apps are stepping stones that we used to create our app.

Above mentioned apps neglected the importance of soil as they provided only necessary conditions to plant a particular crop in the field and not what to plant as it was the need at that time. But now-a-days needs have changed and so in our app we considered soil is the most important part in farming depending upon which suggest them to grow crops. Earlier people were oriented with agriculture and were not worried about the money value of the crop. But these days, a few farmers have become greedy and selfish they want to plant crops which have high market value but forget one thing that all the other farmers may be doing the same and growing the same crop which will lead to decrease in value of the crop; hence it is a need to show the farmers the no. of framers growing the crops depending on which they may decide whether to plant it or not, this particular information is provided in our app as it has become quite a necessity these days but was not present in the above apps.

Helpline is also required as to know the new rules and functionality changes taking place in agriculture. In our app these numbers have been provided unlike the above apps which do not provide anyone.

1. Literature Survey:

According to the new millennium it is stated that soil testing is considered one of the most important management practices for crop production. Periodic soil testing helps us to better understand the deficiency in the particular values of soil such as pH, EC, OC which has declined after growing the particular crop. Knowing this it can be replenished by use of particular fertilizers which may lead to better crop yield. Soil Testing also leads to uniform growth in the crops and makes other steps of agricultural steps such as weeding, harvesting easy. Due to the uniform growth there is also increase in the marginal profit of the crop.

But our farmers have a tendency to grow crops which he has been growing from years again and again also they believe they have an entire knowledge about their lands very well and no need do the testing of the soil as it is the waste of time and money both. They forget to see the advantages of the soil testing and grow crops depending upon their soil.

Due to all above reasons there was a need to build an app which would ease the soil testing for the farmers and bring it to their door step.

1. System Design and Implementation
   1. Architecture
   2. List the modules/ functionalities

10) System requirements:-

A) Hardware requirements

* Laptop / Personal Computer with Intel Processor
* 200MB RAM
* Disk space for the android studio

B) Software requirements

* Windows or Linux Operating System
* Oracle Java SE JDK (Version 7 or above)
* Android Studio

11) Result:-

A) GUI

12) Conclusion:-

Growing Crops depending upon the soil type is very important rather than growing crops watching the neighbours or growing crops having high market value. A scarcity or rise in the value of the certain crops has been noticed in few days have you ever thought about the reason why? It’s because farmers are rushing behind money and tend to grow crops having high market value. As a result of this certain crops have high value whereas certain have low value.

It’s not the fault of the farmers but must one must know that crops should not be grown depending upon the market value as various factors come into play for market value such as the number of users growing the particular crop, its health and much more. Hence it is not in the hands of the farmers what the value will be but they can take care to grow crops which other farmers are not growing which are suitable for their land as it will increase the crop uniformity and may lead to increase in the market value of the crop as most farmer do not grow them.

To summarize one must not rush to grow crops having high market value as it said that “NATURE HAS PROVIDED FOR EVERYONE’S NEED NOT FOR EVERYONE’S GREED” and grow crops depending upon their soil as it not only helps the farmers but also to the environment and one must not forget that “NATURE AND MAN MUST ALWAYS WORK IN HARMONY”

13) References:-

* Website [www.imd.com](http://www.imd.com) is used for the information of the rainfall in the last 5 years.
* [www.msamb.com](http://www.msamb.com) is used for the current market value of the crops which change of the daily basis.
* Krishi.maharashtra.gov.in gives the information of the Government schemes has been included.
* [www.soilhealh.dac.gov.in](http://www.soilhealh.dac.gov.in) is used to know the various soil types and their information i.e. pH, OC, EC have been taken from this site.
* Various online videos and documents are referred to know the widgets included in the project.