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Crop Prediction System

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***Abstract*- In recent years, different emerging technologies and applications were introduced for information technology, and now the information technology has become huge part of our day to day life. Especially for agriculture, the yield prediction is very popular among farmers these days. This may contribute to the proper selection of crops for their agricultural development activities based on a farmers experience on a particular field and crop. In earlier stage yield prediction system used data mining techniques in order to predict the crop, analyzed, fertilize and what on. And now-a-days agricultural forecast is becoming more complex and more difficult due to global warming and abnormal weather. To carry on this tasks farmer needs a building of an effective agricultural yield forecasting system on real time. So, crop prediction system is the most fundamental system, which gives soil temperature, soil moisture, humidity, air temperature, of the soil. This helps farmer to analyze which crop should be cultivated, with respect to atmosphere. In this project we use Arduino Uno board to control the entire task which is introduced in programming. And firstly the system is mounted on a particular place in the farm after that the supply is connected to switch board (extension board) and then by switching on the supply it will start and by identifying the parameter's by the sensors it will displayed on the 16 x 2 LCD screen on system or else by using the router the user can also access the system from anywhere to check the parameters. This system is smart in a technology and will help the future digital world to be more advanced by this system the farmer would get a clear vision about which crop should be cultivated and suitable for the weather.**

***Keywords*- Power supply, Arduino, internet connection.**

I. INTRODUCTION

In India Conventional farming practice involves human lab ours for performing all types of farming activities like watering fields, cultivating crops with required fertilizers etc. Soil analysis is a valuable tool for farmers; it determines the inputs required for efficient and economical production. A proper soil test will help to ensure the application of enough fertilizer to meet the requirements of the crop while taking sake of the nutrients already present in the soil. It will also allow you to determine lime requirements and can be used to diagnose problem areas.

This In this project we use Arduino Uno board to control the entire task which is introduced in programming. The main concept of this project is to measure the weather parameters like temperature, Humidity and Soil Moisture. This system will tell us which crop is suitable for this parameters. The final result will be displayed on the Internet for monitoring as well as showing the final result of the crop predicted system.

II. EXISTING SYSTEM

This system consists of various parameters. The objective of Existing system is to replace the traditional farming technique of testing soil fertility by the automated remotely monitored fertility monitoring technique. In this system the farmer gets current status of soil fertility in his land at real time. The farmer tests multiple sample of soil in his land using a portable device.

Result of each test is averaged to determine the approximate fertility of total land. Result of all the tests will be displayed on display screen. In traditional crop prediction system it checks only the fertility of the soil. In this system the farmer gets current status of soil fertility in his land at real time. The image processing using video surveillance and embedded system using the sensors are taken into consideration for monitoring area. This only gives the fertility of soil so it is a drawback of the traditional crop prediction system.

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III. SCOPE OF THE PROJECT

In this project we use Arduino Uno board to control the entire task which is introduced in programming. The main concept of this project is to measure the weather parameters like temperature, Humidity and Soil Moisture and then this system will tell us which crop is suitable for these parameters. And final result will be displayed on the Internet for monitoring as well as showing the final result of the crop predicted system. First of all the Arduino system is mounted in the farm and after that the supply is on and then the sensor detects the parameters for the crop to be cultivated at the real time atmosphere, on the 16 x 2 LCD, even the user can see the parameter's anywhere by accessing through internet by router which is mounted on the system.

IV.FESABILITY STUDY

1. Technical Feasibility-The crop prediction system project is feasible with respect to technology. In this project the required resources are (Android mobile, power supply, internet connection and) are quite easily available at everyone's place, hardware can brought from local/online stores and the internet connection is access by user. In this system the customer needs to switch on the supply to get the exact readings of the parameters else can access from mobile through internet connection which is available with the customer.

2.Financial Feasibility- The crop prediction system project needs only a power supply, internet connection and android phone and internet connection which is easily available , also it is available at moderate cost and can be purchase easily without any hesitation and the power supply is available at everyone's place so no need to purchase any extra equipment's.

3. Time Feasibility- The time given to actual development will be divided into two parts that is, power supply an android phone, the user can access the readings from anywhere via internet connection, foe demonstration the module is been ready and by connecting to power supply and also by accessing the internet connection, we can show that the system shows the exact readings for crops. The requirements and work to be done is understood by all the team members and the work is shared amongst the three team members. Also, we can help each other using remote access to pc and without physically being there, so the work will be planned and so the work will be completed in the given period of time.

4. Operational Feasibility- For the operation customer needs only to switch on the power supply or else can access through internet and can see the readings to cultivate the crops and does not need any others help to do this all procedure. First of all the supply will be on and then it will take the readings and the readings will be displayed on 16 X 2 LCD fit in it, else on the internet connection connect to web server enter the hotspot password and access the readings to see.

V. CLASS DAIGRAM

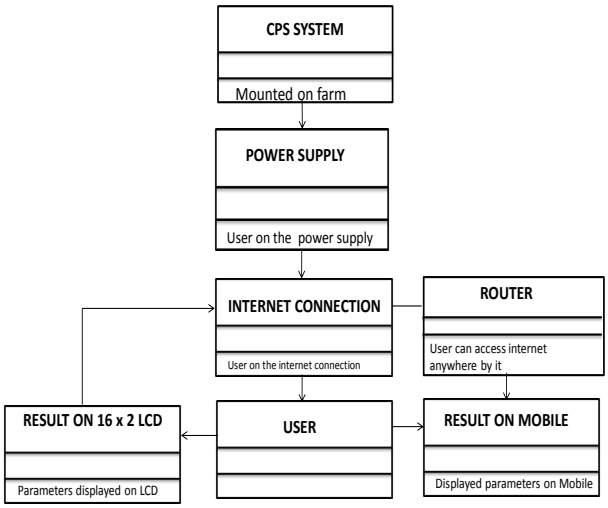

Fig. 1 Class Dia gram.

VI. SEQUENCE DAIGRAM

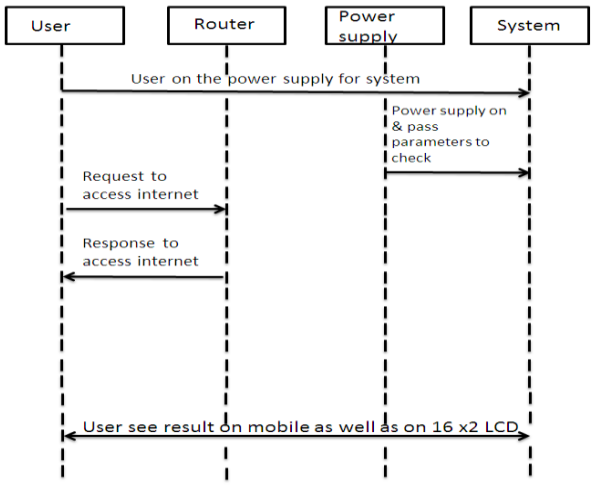

Fig.2 Sequence Diagram.

VII.APPLICATIONS

- To serve as an analytical tool to study the effect of climate, soils, and management on cropping systems productivity and the environment.
- By using this system we are able to make crops whole year.
- No need of guidance for crop suggestion and soil and

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other parameter testing which is very expensive.

- It can be used in Profit & Loss analysis.

VIII. CONCLUSION

In this Project, a method for determining soil fertility by considering soil Moisture and other parameter like temperature and humidity is presented. Humidity is measured using DHT11 Sensor and Temperature is measured using LM35 sensor. The reading of Soil Moisture meter gives the Moisture content present in soil and in a proportion. This approximation of soil Moisture and other parameters will determine the suitable crop for the land. The expediency of this project is it skips lab-testing process and determines soil fertility in real time. The proposed model for testing soil is cheap and easy to use and maintain

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