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MICROC0NTROLLER BASED SMART AGRICULTURE SYSTEM

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Abstract -*The objective of our project is to provide the better socioeconomic condition. A micro controller based smart agriculture system is designed for this system. Smart agriculture is revolution in the agriculture industry that helps to guide action required to modify and recent agriculture system to efficient support. We are taking into consideration different physical parameters also like temperature and soil as part of farm monitoring. When specific parameter goes beyond the fixed values, set by farmer, motor is turn on and off as per their fixed values. GSM module is used for sending information and data though message. Like system to send suggestion via SMS to the farmer directly on his mobile using GSM module instead of mobile app.*

***Key Words*: Microcontroller, GSM module, LM 36, 16x2 LCD Display, Moisture sensor**

1. INTRODUCTION

Day by day, the Electronics and Electrical industry develops the different systems as per requirement of people. So as an Engineer, we always think about the need of people and try to complete that requirement. So as per requirement of society we design this system, which is a combination of different subsystems and using this subsystem we can produce this important and intelligent device. This project which can help the people in different problematic condition between Agricultural farming and pesticide spraying. Agricultural is one of our most important industry for providing food, feed and fuel necessary for our survival. Certainly, robots are playing an important role in the field of agriculture for farming process autonomously. Normally, farming process include planting, irrigation, fertilization, monitoring and harvesting of a crop of any kind.

2. RELATED WORK\LITERATURE REVIW

Smart agriculture monitoring system has been focus in the research community in the recent years. This monitoring systems can be classified according to the environment that is used for, such as industrial, home, office, agriculture and others environment. In literature review, this smart agriculture monitoring system project will be discussed among the previous research of a project. There are five selected research papers has been chosen from the previous project as literature review to identify the differences of this project. The entire previous projects are user friendly because this system actually used to monitor a specific area. However, this smart agriculture monitoring system is low cost and low power consumption project because it causes no hazardous harm in the environment and it is more reliable system.

3. POPOSED METHODOLOGY

First we construct the structure of the Smart Agriculture System. In that structure we have to provide on off system to actuator for controlling water supply.

For Smart Agriculture System we need to maintain or control few basic things.

i. Supply of Water,
ii. Moisture.

To develop our system, we use MICROCONTROLLER KIT and some sensors.

The basic block diagram of Microcontroller Based Smart Agriculture system is shown as below in figure (1).

3.1 BLCOK DIAGRAM

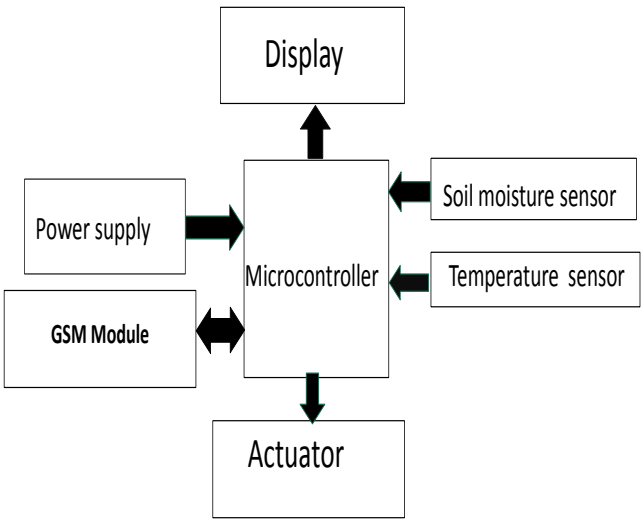

Fig 1: -Block diagram

In this project controller, actuator, different sensors like temperature, moisture sensors and power supply main GSM module are used. Here requires 5v of power supply to the controller through the power supply. In this system sensor

gives the present moisture in the soil using this information actuator open or close. Whenever the soil is wet then the actuator is closed that means the water supply stops, and when the sensor gives the information soil is dry then the actuator starts working and water supply starts.

The temperature sensor sense and it shows on the display which is a mobile message and also shows the moisture in the soil.

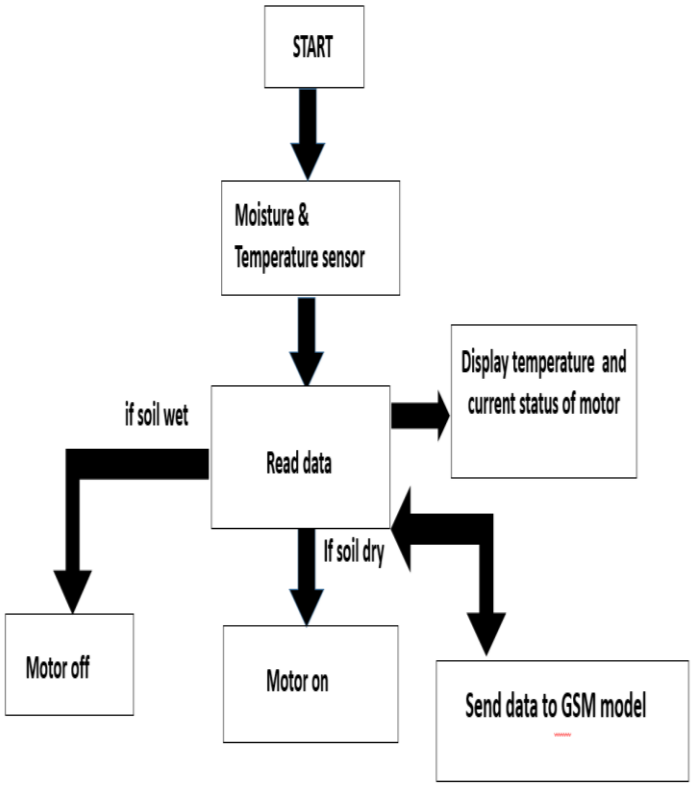

Fig2: Flow chart

4. SIGNIFICANCE AND SCOPE:

- In future the device will have extra sensor such as ph sensor, gas sensor etc. for more information also connect with weather APL for better control.
- Also this system can develop using IOT.
- Also we can use fertilizer sensor

5. RESULT:

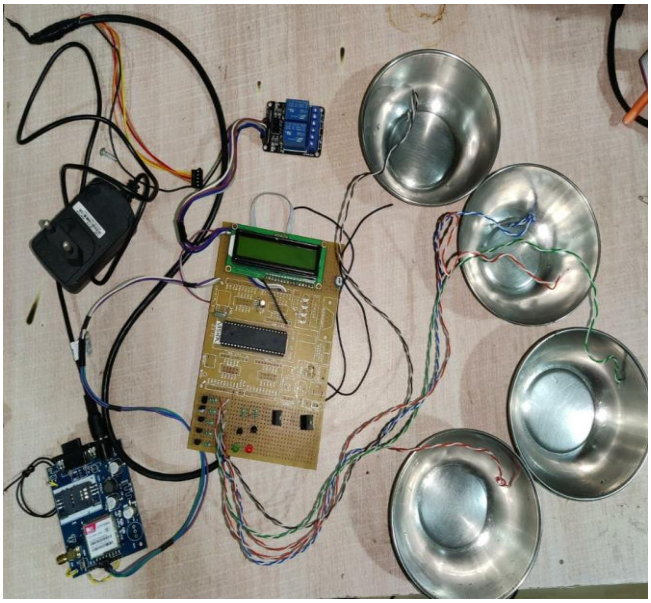

Fig 3: Project module

We use GSM module for sending message to inform whether motor is on or off. When soil is dry motor is on otherwise motor is off. This technology which we can consider as low cost and reliable system compare to the other system that used such as GSM module.

6. CONCLUSIONS

In this smart agriculture monitoring system by using an electronic devices and android based on smart phone ,This technology helps landlord plantation to monitor and manage the status of their plantation such as fruit plant or other plant in order to increase the production and improvement of quality at various agriculture sites there are much benefits using this technology which is consider as low cost and reliable system compare to the other system that used such as GSM module.

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