Concept Design and Analysis of Multi Purpose Farm Equipment

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ABSTRACT

India is an agriculture based nation. It is necessary to improve the productivity and quality of agro based products. The proposed design is an automatic system that aids the user in irrigation process. It keeps notifying the farmer through an on-board LCD display and messages that is sent to the User PC. This proposed design is also helpful for the Users who are facing power failure issues to maintain a uniform water supply due to power failure or inadequate and non-uniform water supply. The automatic irrigation system also keeps the Users too updated with all the background activities through a GPRS Module that sends data on the Server. This device can be a turning point for our society. The device is easily affordable by the Users of the country. This proposed design is helpful for reducing the human labor. This is a low budget system with an essential social application.

1.INTRODUCTION

Agribusiness makes utilization of eighty five% of to be had freshwater assets worldwide, and this percent will keep on being overwhelming in water allow because of populace increment and duplicated nourishment request. There is a squeezing need to make systems construct absolutely with respect to innovation and innovation for maintainable utilization of water, comprehensive of specialized, agronomic, administrative, and institutional updates. There are numerous frameworks to procure water investment funds in differing plants, from central ones to additional mechanically propelled ones. For instance, in a solitary gadget plant water notoriety changed into checked and water system planned in light of shade temperature dispersion of the plant, which end up noticeably gotten with warm imaging .moreover, unique structures have been advanced to time table water system of yields and streamline water use by utilizing a harvest water strain file (CWSI). This contraption utilizes sensors like stickiness, soil dampness. These sensors send qualities to small scale controller. Microcontroller sends qualities to PC utilizing serial discussion. As indicated by constant sensors esteems relentless diagram is show on PC and Android Based portable utilizing Internet and Android application. Here edge expense is keep, if sensor esteems pass the edge charge at that point Drip Irrigation segments can be control mechanically through microcontroller.

2.OBJECTIVES

- The main objective of this work is to monitor and irrigate the agricultural land.
- It monitors the condition of the land and atmospheric conditions.
- In this work we are safe guarding the electrical equipments used in Agricultural field.
- To protect the equipment and monitor the temperature variations.

3.METHODOLOGY

3.1 Existing System:

In some of the water system contraption water system booking is done by means of following soil, water prevalence with tension meters underneath trickle water system through the computerization controller device in sandy soil. It is exceptionally vital for the rancher to save the substance inside the subject. It is extremely hard to gauge the substance material of the division. Presently a days there is no framework like this to quantify

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3.2 Proposed System:

The proposed gadget has exceptional sensors, Arduino, A few WSUs might be conveyed in-zone to design a dispensed sensor group for the programmed water system gadget. Every unit relies upon on the miniaturized scale controller that controls and tactics statistics from the soil moisture, temperature sensor and humidity sensor. In this remote sensor unit or transmission unit the sensor information from various sensors (Soil dampness, temperature, moistness and water degree) are amassed within the primary controller.

This facts is shown on transmission section LCD. Arduino controller is changed to some restrict estimations of temperature and soil dampness.

4.BLOCK DIAGRAM
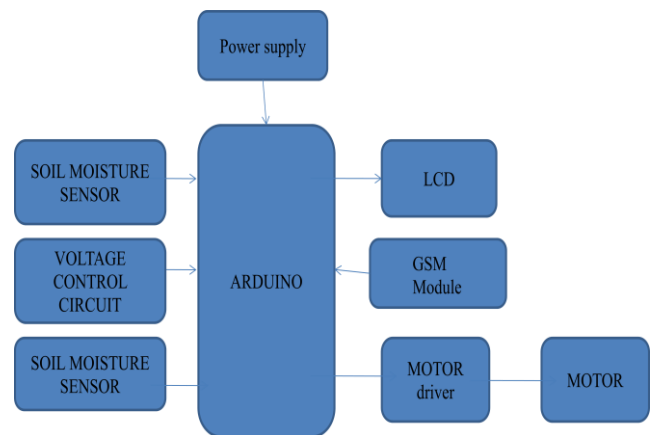
5.WORKING PRINCIPLE

Soil moisture sensor is used to detect the condition of the soil. If soil moisture sensor is in dry condition the pumping motor will on. Here LCD is used to display the temperature and humidity values. The moisture sensor near to the motor will detect whether the motor is pumping the water or not. If not pumping then its stops the motor for 10 sec and it again starts the motor. The voltage regulator detects the voltage variations if high or voltage occurs its turn OFF the Motor automatically.

6.ADVANTAGES

- Provides a healthy, beautiful landscape
- Reduces water waste
- Saves money
- Provides convenience

7.CONCLUSION

In this paper we present a prototype for automatic controlling a irrigation system. By using the automatic irrigation system it optimizes the usage of water by reducing wastage and reduce the human intervention for farmers. It saves energy also as it automatic controlling the system. So here the system is gets OFF when the field is wet and automatically start when the field is dry. It is implemented in all type of irrigation system (channel, sprinkler, drip). The Data of the ON/OFF of motor.

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