GRAINS PROTECTION

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Abstract

These Days' innovation has been improved immensely. Despite the fact, there is such a significance for innovation in our standard life there are even individuals whose ways of life are far from this notable term innovation. Along these lines, we have to structure very few dependable systems which can be effectively utilized by farmers. The fundamental motivation behind this paper is to keep the fields safe from substantial rain and spare the rainwater. The rain sensor is utilized for the working of the automatic rooftop. The proposed system includes ensuring the fields by the auto roof which covers the entire territory where the crop is spread.

Keywords: Arduino Uno, GSM Module, DC motors, Rain sensor, Crops.

1. INTRODUCTION

Farming is the science and art of creating plants and creatures. Agriculture was the key headway in the climb of stationary human advancement whereby the development of prepared species made sustenance surpluses that engaged people to live in urban regions. These days, during the stormy season the developed harvests get influenced because of overwhelming precipitation. Collected fields get influenced or demolished because of substantial downpour and shortage issues. The uneven rains could lead to lower food grain output despite bigger planting areas, forcing India to raise imports of edible oils, sugar, and pulses, and potentially limiting exports of cotton, rice, and feed ingredients, traders said.

We have experienced past research work on these kinds of projects. Examination of various techniques, farming is the foundation of the Indian economy. Without farming, living is impossible since agriculture delivers the principle source of nourishment for us. But in the present circumstance, the accessibility of workers of caring out farming exercises is rare. Computerization in all sorts of industries prompts modern development. Here farming procedure is robotized up to some extent. By utilizing this framework

spares the power, boosts profitability during both the sunny season and rainy season. Here the human force was disposed of by giving auto rooftop. Water framework has been the foundation of human progression since man has begun agribusiness. As of now, various procedures are proposed for water framework to supply water to the land. In the present scenario, more significant challenge is preservation of water. Present work challenges to save the trademark resources which are open for humanity. By productively checking the status of the soil, we can control the movement of water and there by decrease the wastage. By knowing the status of moistness, CO and temperature through GSM with the use of unexpectedness and temperature sensors, water stream can be obliged by essentially sending. As of now in the current circumstance, there are no efficient frameworks. The farmer himself ought to go to the drying territory and cover the collected fields which would be exceptionally troublesome if the place of the farmer is a long way from the harvest and before the farmer arrives at the entire harvest would be pulverized by the downpour.

2. RELATED WORK

The grains are getting effected due to heavy rainfall. Due to this not only the farmers are getting loss but even the people who are seeking for the food are facing crisis. So, a device with an automated shed is being introduced.Activation of rain sensor and other modules like GSM need a controller to work simultaneously. This if done by Arduino, It is an open-source stage utilized for building electronic activities. Arduinocomprises of both a physical programmable circuit board and a bit of programming, or IDE (Integrated Development Environment) that runs on PC used to provide orders and control it. The Arduino Uno is an open source micro controller board based on the microchip atmega 328P microcontroller and developed by Arduino.cc. The board is equipped with sets of digital and analog input/output (I/O) pins that may be interfaced to various expansion boards (shields) and other circuits. The board has 14 digital I/O pins (six capable of PWM output), 6 analog I/O pins, and is programmable with the Arduino IDE (Integrated Development Environment), via a type B USB cable It can be powered by the USB cable or by an external 9-volt battery, though it accepts voltages between 7 and 20 volts. It is similar to the Arduinonano and Leonardo. The hardware reference design is distributed under a creative commons Attribution Share-Alike 2.5 license and is available on the Arduino website. Layout and production files for some versions of the hardware are also available.

3. IMPLEMENTATION

This model consists of an Arduino, GSM module, Rain Sensor, Motor driver module, DC motors. The rain sensor is actuated when there is a precipitation and it offers data to the controller. At this point, when downpour is started, GSM send a message "Rain is started" and "Grains protected", the rooftop gets over the field by the motors and secures the field. When the rain gets stopped then GSM send a message "Rain is stopped" and rooftop naturally gets opens from the field, by deactivation of rain sensor. Grain protector is an automated model which prevents grains from getting wet or spoil due to sudden rainfall during drying. These days, during the stormy season the developed harvests get influenced because of overwhelming precipitation. The proposed framework includes security of the harvests via auto rooftop which covers the specific region. The downpour sensor is actuated when there is a precipitation, and it will offer implication to farmer through GSM module by sending SMS. When downpour is halted, controller consequently opens the rooftop. This model is more acquainted with objective and motivation behind the proposed method. Collected fields get influenced or demolished because of substantial downpour and shortage issue. Various existing systems are discussed in the literature survey also listed its practical views and explained proposed strategy to defeat the impediments of the current one and giving best outcomes to farmers. The significant objective of this model is to keep the reaped crops from the overwhelming a precipitation and spare the downpour water. The rain sensor is utilized for the working of rooftop when there is precipitation.

In order to overcome the loopholes of existing methods, a novel framework is proposed which covers the reaped crops from the precipitation and safeguard the downpour water. This method utilizes a rain sensor for the identification of downpours. Simultaneously the rest of the equipment such as Arduino, GSM module get the data from the rain sensor. The GSM alarms farmer by which the crop can be ensured whenever it is necessary.
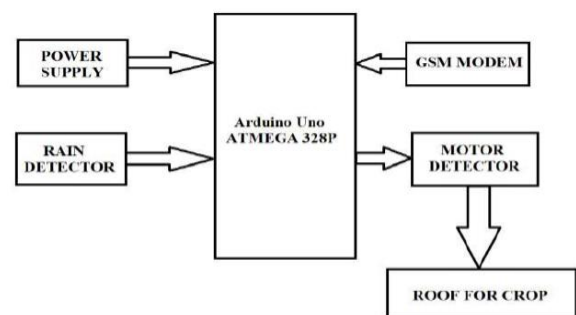
Schematic diagram

4. EXPERIMENTAL RESULTS
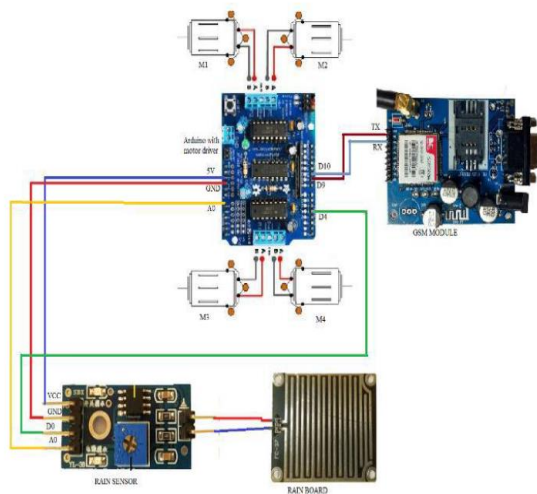
5. CONCLUSION:

The proposed framework addressed how does the field protected automatically from pour down prosperously by using ArduinoUno as the controller. With this proposed framework, we can save up to some thousands of hectares of field from damage effectively. The excess of rain water can be preserved and useful for the crops in case the water present in the soil is not sufficient, also for other purposes like household. Thus, the results of proposed system proven that it is reliable and can be used by the farmers effectively. The proposed system can be enhanced and automated without intervention of farmer, by detecting the soil moisture instantly using corresponding sensor during rainfall. Means the soil moisture sensor detects whether the soil has sufficient water content or not. If it is having sufficient water content then rain sensor gets activated and the crop is covered with

rooftop automatically and gets off once rail fall stops and preserves the water for further purposes.

6. REFERENCE:

[1] Zhao changkui "GSM digital mobile communication application system", National defense Industry press. pp. 45—90, 2001.

[2] "Programmable logic controllers", Fank D. Petruzella.

[3] Supervisory control and Data Acquisition (SCADA) basics, http://en.wikipedia.org/wiki/SCADA". [4]. Role of moisture, temperature and humidity in safe storage of food grains. Reference material, IGMRI, Hapur, India.

[5] Bing Liao, "ARM9-based embedded detection system designed instrument", Instrument Technique and Sensor, 2010(1): 70-72

[6] R. Jedermann, R. Rice-Garcia, L, and W, Lang," Spatial temperature profiling by semi-passive RFID loggers for perishable food transportation," Computers and Electronics in agriculture, Vol. 65, pp.145-154, 2009.

[7] R. Das, S. Dutta, A. Sarkar, and K. Samamta. "Automation of tank level using PLC and establishment of Hmi by SCADA,"IOSR journal of Electrical and Electronics Engineering, vol.7, pp. 61- 67, 2013

[8] J. Barandiaran, B. Murguia, and F. Boto. Real- time people counting using multiple lines. In WIAMIS, 2008.

[9] A. Baumberg and D. Hogg. Learning flexible models from image sequences. In ECCV, 1993.

[10]E. Bondi, L. Seidenari, A. Bandanov, and A. Del Bimbo, Realtime people counting from depth imagery of crowded environments. In AVSS, 2014.