International Journal of Engineering Applied Sciences and Technology, 2022
Vol. 6, Issue 12, ISSN No. 2455-2143, Pages 211-212
Published Online April 2022 in IJEAST (http://www.ijeast.com)

SURVEY ON AUTOMATIC SOIL MOISTURIZING SYSTEM

Ashish Mohod, Sushil Yerma, Siddharth Ninawe, Saurabh Jain, Shubham Gangalwar , Shruti Kudrapwar
Department of CSE
PJLCE, Nagpur, Maharashtra, India

***Abstract*— Now a day's water is becoming very precious due to scarcity in obtaining clean water for domestic purposes including irrigation. To optimize the use of water, a mechanism to develop water conversation is the need of the hour. Also, automation in agricultural systems is a necessity to optimize water usage, reduce water wastage, and implement modern technology in agriculture systems. The soil moisture sensor is a novel device that senses the moisture content in the soil, and with a suitable mechanism allows water to be irrigated depending on the moisture content of the soil.**

***Keywords*— Optimize, scarcity, Materialized, novel, irrigated.**

I. INTRODUCTION

Automation of farm activities can transform the agricultural domain from being manual and static to intelligent and dynamic leading to higher production with lesser human supervision. This paper proposes an automated irrigation system which monitors and maintains the desired soil moisture content via automatic watering Microcontroller ATMEGA328P on arduino uno is used to implement the control unit. The setup uses soil moisture sensors which measure the exact moisture level in soil. This value enables the system to use the appropriate quantity of platform used to implement the control unit. The setup uses soil moisture sensors which measure the exact moisture level in soil. This value enables the system to use appropriate quantities of water which avoids over/under irrigation. IOT is used to keep the farmers updated about the status of sprinklers/Water pumps. Information from the sensors is regularly updated on a webpage using WI-FI module ESP8266

II. LITERATURE SURVEY

In Sensor-based Automated Irrigation System with IOT mentioned using sensor-based irrigation in which the irrigation will take place whenever there is a change in temperature and humidity of the surroundings. The flow of water is managed by a solenoid valve. The opening and closing of the valve are done when a signal is sent through a microcontroller.

III. METHODOLOGY /ALGORITHM

The project is designed to develop an automatic irrigation system that switches the pump motor ON/OFF on sensing the moisture content of the soil. In the field of agriculture, the use of proper method of irrigation is important. The advantage of using this method is to reduce human intervention and still ensure proper irrigation.

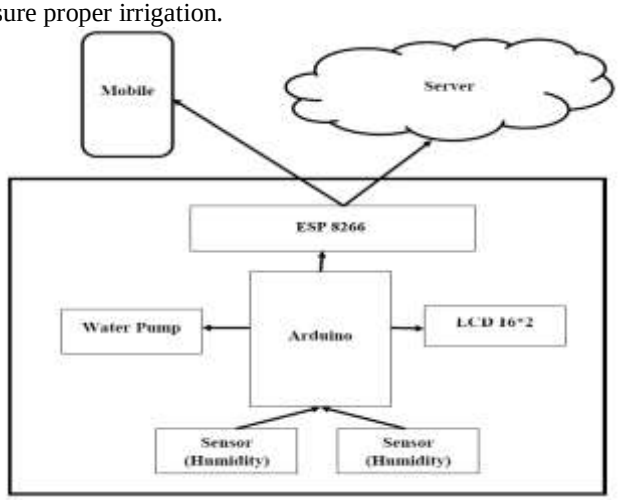

Fig. Flow of System

The system is a combination of hardware and software components. The hardware part consists of an embedded system and the software is the webpage designed using PHP. The webpage is hosted Localhost and consists of a database in which readings from sensors are inserted using the hardware. Moisture Sensing Section Two YL-69 soil moisture sensors along with LM393 comparator modules were placed in different soil conditions for analysis. The sensor YL-69 is made up of two electrodes. It reads the moisture content around it. A current is passed across the electrodes through the soil and the resistance to the current in the soil determines the soil moisture. If the soil has more water resistance will be low and thus more current will pass through on the other hand when the soil moisture is low the sensor module outputs a high level of resistance. This sensor has both digital and analog outputs. The digital output is simple to use but is not as accurate as the analog output. Since the ATMEGA 328P-PU microcontroller used for the Arduino Uno contains an onboard 10-bit 6-channel analog-to-digital (A/D) converter, the analog

input pin of Arduino can read analog signals being sent from the sensor and return binary integers from 0 to 1023.

IV. CONCLUSION

The implemented algorithms for the materialized view section and preservation problem, e.g. – how to select and preserve the set of materialized views so that the cost of processing a set of queries and storage space required for the materialized views is also minimized. The above discussed approach realizes on analyzing the queries based on query selection and preservation parameters so as to reduce the query response time. The price cost model that takes into consideration of input query access frequencies, query processing time and query result storage requirement and here we manage to use all three parameters effectively with the help of weighted constant values to improve the efficiency and utility of user need.

V. ACKNOWLEDGEMENT

We have made this possible by the work we divided in a team so each hand is involved in making this overall project a success, And taking the opportunity to express gratitude and whole hearty thanks to our project guide Er. Ashish Mohod for his valuable and strong guidance and approach and motivation. We are very much thankful to Dr. V. P. Balpande (Head of Department) for her valuable and continuous effort and support towards us. We would like to thank all our teachers and non-teaching staff and our friends for helping in making of this project.

VI. REFERENCE

[1]. Karan Kansara, Vishal Zaveri, Shreyans Shah, Sandip Delwadkar, and Kaushal Jani, “Sensor-based Automated Irrigation System with IOT”, International Journal of Computer Science and Information Technology Vol. 6, Issue 6, 2015.

[2]. Joaquin Gutierrez, Juan Francisco Villa-Medina, and Alejandra Nieto-Garibay, Miguel Angel Porta-Gandara, “Automated Irrigation System Using a Wireless Sensor Network and GPRS Module”, IEEE Transaction on Instrumentation and Measurement,2013.

[3]. Vandana Dubey, Nilesh Dubey, and Shailesh singh Chouchan, “Wireless Sensor Network-based Remote Irrigation Control System and Automation using DTMF Code”, IEEE Transactions on Communication Systems and Network Technologies, July 2013.

[4]. G.Nisha and J.Megala, “Wireless Sensor Network Based Automated Irrigation And Crop Field”, Sixth International Conference on Advanced Computing ICoAC, 2014.

[5]. Kavianand G, Nivas V M, Kiruthika R and Lalitha S, “Automated drip Irrigation system”, IEEE International Conference on Technological Innovations in ICT for Agriculture and Rural Development, 2016.

[6]. https://www.telit.com/industries-solutions/agriculture/irrigation-management/#:~:text=Irrigation%20management%20plays%20an%20important,waste%20and%20cutting%20operational%20costs.