

SMART IRRIGATION WITH AUTOMATED GREEN HOUSE

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ABSTRACT

The aim of this project is to design an automated greenhouse using raspberry pi. A greenhouse is a covered area where plants grow and cultivate. In modern society, the consumption of fruits and vegetables has become the norm. A variety of fresh fruits and vegetables should be accessible at all times. However, the northern climate prevent the growth of certain fruits and vegetables, especially during winter. There are some important parameters to be monitored inside the greenhouse are temperature, relative humidity, moisture and water pumping motor. This system helps to grow fruits and vegetables organically. This shows that how the embedded wireless system has been for future vision in the monitoring system. Internet of things (IOT) will play a major role in day to day life in the future. The system will provide smart interface to the farmers. This smart system can increase the level of production than the current scenario. This system will realize smart solution for agriculture and efficiently solve the issues related to farmers. The environment will not be the barrier for production and growth of any plant and can overcome the problem of scarcity of farming production.

KEYWORDS: *Internet of things(IOT), Raspberry pi, Greenhouse, GSM Module, Temperature, Soil Moisture sensor.*

INTRODUCTION:

A greenhouse makes it possible to replicate a different climate and consequently grow their own fruits and vegetables that would not typically grow in the area. It can be reassuring to know that the plants are taken care of while one is on vacation or not around the house for a longer period of time. A greenhouse is a multivariate interactive system due to the inside weather fluctuation with outside. Most of the agricultural sector in the country is facing the low economical resource, but some of the greenhouse running in the low tech. So many researchers have been focusing on the automated wireless embedded intelligent monitoring system for greenhouse. This paper shows the experimental wireless embedded intelligent monitoring system for greenhouse which will improve crop growth and reduces cost and manpower.

The proposed a system which is useful in monitoring the field data as well as controlling the field operations which provides the flexibility.

It plays vital role in the growth of country's economy. It also provides large ample employment opportunities to the people. Growth in agricultural sector is necessary for the development of economic condition of the country. A first IOT has been used by Kevin Ashton in a presentation in 1998. The main purpose of IOT is for exchanging information. IOT will serve as the backbone for computing and networking of embedded system. It expands the communication between the devices and the people by sensing a physical world using a sensing technology that information has been processed by the intelligent embedded wireless system using this methodology to achieve the real time monitoring of the physical world to get a data using that data to make decisions for what action to make. The information gained by the embedded wireless node has been

LITERATURE SURVEY:

“IOT Based Smart Security and Monitoring Devices For Agriculture”

Authors: Keerthana B, Nivetha P, Boomika M, Mathivatahni M, Niranjanaa

The aim of this project is to do proper optimization of water use for agricultural crops. An algorithm was

developed with threshold value of temperature and soil moisture that was programmed. The main issue is that the technique for wireless connections within a short distance. This smart system can increase the level of production than the current scenario.

“Greenhouse monitoring using IOT”

Authors: S.Muthupavithran, S.Akash, P.Ranjitkumar This paper shows how the internet of things (IOT) has made revolution for future communication and computing. A greenhouse multivariate interactive system due to the inside weather flection with outside. The main motto is to show the experimental wireless embedded intelligent monitoring system for greenhouse which will improve crop growth and reduces cost and man power.

“Automation of irrigation system using IoT” Authors: Pavankumar Naik, Arun Kumbi, Kirthishree Katti, Nagaraj Telkar

In this proposed system we are using various sensors like temperature, humidity, soil moisture sensors which senses the various parameters of the soil and based on soil moisture value land gets automatically irrigated by ON/OFF of the motor. These sensed parameters and motor status will be displayed on user android application. water is main resource for agriculture. But in some cases wastage of water occurs in large quantity so in this proposed system

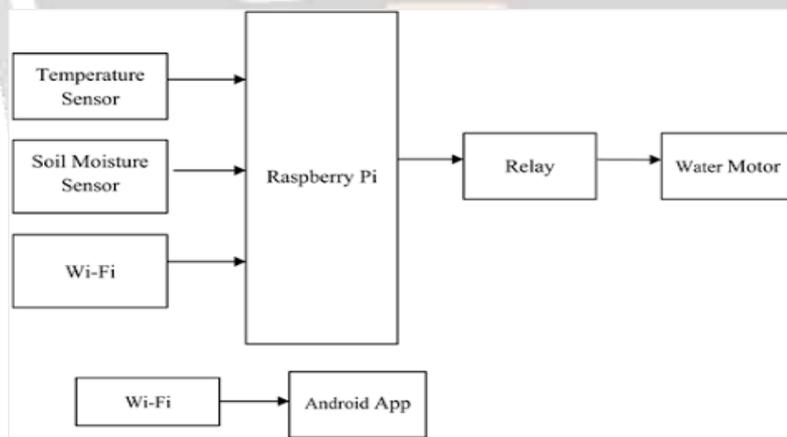
We are using automated greenhouse to reduce wastage of water.

“Smart agriculture by monitoring moisture pH levels in soil”

Authors: Gaddam Sanjeeva Reddy, C M Anuja, Manjunath C R, Sahana Shetty

Monitoring of soil is very much important due to climate change affection. Monitoring the soil using IoT sensors in that, by using the same current soil pH rate, Water ,temperature level can be supervised using the wireless sensors. The remote monitoring of soil temperature rate and pH rate has been done at very nominal cost.

BLOCK DIAGRAM



CONCLUSION

In this paper we obtained a survey about the application of IoT and cloud in soil testing, temperature testing, moisture testing, in smart agricultural system. The objective of the project is to promote the intelligent and automation in the greenhouse monitoring using a new a trend called the internet of things. It provides the suggestion for the farmer to cultivate suitable crop for the land by analyzing the data provided by the sensors. The application of agriculture networking technology is need of the modern agricultural development but also an important symbol of the future level of agricultural development.

With more advancement in the field of IoT expected in the coming years, these systems can be more efficient ,much faster and less costlier.Our system enables people to monitor and manage growing conditions of their

greenhouse. The use sensor nodes, internet connection, and the cloud will deliver real- time updates about plants more efficiently.

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