Smart Irrigation with Embedded System

**ABSTRACT:**

The Internet of Things (IoT) is the most promising technology in recent years, which is used for network of physical objects or things embedded with software, electronics, sensors and network connectivity, which enables these objects to collect and exchange data. The IoT can be used in various fields like Home automation, Building automation, Industries and Hospitals. The proposed system is used for irrigational monitoring and controlling using wireless sensor networks. The data can be monitored and the output devices can be controlled using IOT. Different sensors are used for data acquisition. Sensed datas are delivered to an Android Application device where an Monitoring Application (MA) makes them easily accessible to monitor and analyze received data.

**INTRODUCTION**

In agricultural country like India, greenhouses form an important aspect of agricultural and horticulture sectors. In greenhouses, plants are grown under favorable climatic conditions for its production and growth. Thus monitoring and control of greenhouse environment is necessary for production and management of greenhouses. This project is designed to monitor and control the indoor humidity and weather conditions affecting the plants using embedded system and IOT.

There is continuous increase in demand for food production technology. India is a country where the economy is dependent on agricultural produce. Agricultural means can satisfy the food production demand. But due to isotropic climatic conditions, lack of water reservoir, agricultural produce does not meet the demands. At the present scenario, farmers have been using different irrigation technique for increasing production. These techniques were done by human intervention. But due to this sometimes either the plants consume more water or the water reaches late up to the plants. This ultimately affects the plant growth. Also there are many such problems associated with it. To overcome from this problem, we can use an automatic micro controller based system. For automatic monitor and control we are developing an embedded system which will record the temperature, moisture and other parameters that will control the environmental conditions in the plant field. Moreover for effective control, an android application is used along with embedded system.

**REFERENCES**

[1] http://www.ijbmi.org/papers/Vol(2)5/version-1/C251525.pdf

[2] http://en.wikipedia.org/wiki/Internet\_of\_Things

[3] http://www.atmel.com/images/doc2549.pdf

[4] http://www.digi.com/products/wireless-wired-embeddedsolutions/zigbee-rf-modules/zigbee-mesh-module/xbee-865lp.

[5] http://blog.yuktix.com/2015/01/remote-water-pollution-monitoringfor.html

[6] http://www.modbus.org/

[7] http://knowledge.digi.com/articles/Knowledge\_Base\_Article/Whatis-API-Application-Programming-Interface-Mode-and-how-does-itwork

[8] http://elinux.org/RPi\_Hub

[9] https://www.mysql.com/

[10] http://rjha94.blogspot.in/2014/04/time-series-database-survey-foriot- and.html

[11] http://jinja.pocoo.org/

[12] https://ngrok.com/

[13] http://redis.io/

[14] https://www.rabbitmq.com/

[15] http://en.wikipedia.org/wiki/Relational\_database\_management\_system

[16] http://influxdb.com/