K. Prabhakar* et al.
(IJITR) INTERNATIONAL JOURNAL OF INNOVATIVE TECHNOLOGY AND RESEARCH
Volume No.4, Issue No.5, August – September 2016, 4143-4145.

A Mobile-Based Framework To Help The Farmers In Controlling The Fields Parameters

K.PRABHAKAR
M.tech, Department of ECE
Kasireddy Narayan Reddy College Of Engineering and Research, Abdullapur (V), Hayathnagar (M), R.R (Dist). TS .

B.VENNELA
Asst. Professor, Department of ECE
Kasireddy Narayan Reddy College Of Engineering and Research, Abdullapur (V), Hayathnagar (M), R.R (Dist). TS .

Abstract: **Farming environments are complex systems where significant alterations in one ecological factor might have a bad impact on another. Ecological factors can impact survival and growth, particularly in relation to germination, sprouting, flowering and fruit development. Cellular devices (particularly smart tablets and phones) may be used to monitor quality of existence parameters. Today cellular devices use embedded sensors for example accelerometers, compasses, GPSs, microphones, and cameras without thinking about, for instance, the quality of air or even the pollutants from the atmosphere. This paper is definitely the possible ways to make use of the Smartphone's abilities to collect data using their company phones or sensors. The atmosphere condition's parameters for example humidity and temperature ought to be monitored. This time could be acquired by utilizing distributed devices in numerous environments that that contains high-resolution sensors along with a wireless transmission apparatus for transferring data to Smartphone's. The Bluetooth was selected like a transmission tool as it is baked into all Smartphone's.**

Keywords: **Smart Phone; Embedded System; Sensors; High Quality Transmission; Agriculture;**

I. INTRODUCTION

The mixture of abilities of the pointed out devices introduced in the new devices known as Smartphone that may use different of application depending of the operating-system. Today Smartphone's would be the outfitted devices which are used in several sectors for example business, healthcare, social systems, atmosphere monitoring safety and transport. For enabling related application to think about different domains, some embedded sensors for example accelerometer, compass, gyroscope, Gps navigation, microphone and camera are directly incorporated to Smartphone's. The orchestration from the computing communications and sensing abilities from the smart kind of cell phone enables participatory or opportunistic operations. In situation of moving, there's two kinds of sensors: first the wearable sensors which are used by individuals. Some products are competent to connect and transfer data being an IP based system, with devices via Bluetooth for example PDA'S and mobile phone and in some projects. Sensing and recording is going to be accomplished instantly. Atmosphere sensors, for example temperature, humidity, solar radiation, pressure and so forth can be put in outside and indoor sites. You will find ecological sensors that monitor some specific elements for example CO2, O2, and H2 and so forth. Generally the type of sensor network is organized as ten or twenty yards transmitter of information. The authors suggested a temperature sensing mobile robot like a solution for temperature measurement that used in airport terminal and hospital [1]. It's also recommended to make use of the robot for that heat temperature discovering for fire fighting. A radio communication platform of distributed temperature sensors for transmitting data for an immobile client is suggested. Receiving data from both pre planned or robot sensors can be achieved via cellular devices, mentoring temperature in vehicles refrigerator is yet another sample to supply information. Applying Bluetooth like a transceiver enables the mobility from the receiver. Today, the Bluetooth is embedded to any or all Smartphone's. A component in the mobility as well as an Embedded Bluetooth to any or all Smartphone's, based on their operating-system, their programmable ability means they are competent to have application. The potency active the Smartphone's to role like a client to collect evaluate and verify data. A manuscript method of acquire humidity and temperature using inexpensive and occasional power components is studied within this paper, using Bluetooth communication for that transmission from the acquired data towards the transmission from the Acquired data towards the android based Smartphone. In existing system, there's no reliable wireless communication to watch the ecological parameters through wired or wireless require an additional device to show that. The parameters could be monitored in charge center but that can't be monitored with remote access. Cellular devices may be used to monitor quality of existence parameters. Today cellular devices use embedded sensors for example accelerometers, compasses, Gps navigation, microphones and cameras without thinking about ,as an example the quality of air or even the pollutants of atmosphere. The paper is definitely the possible ways to use Smartphone's

abilities to collect conditions parameters for example humidity and temperature is really a prominent step to control the alterations from the ecological condition of just living or working places for that individual .This time could be acquired by utilizing distributed devices in numerous atmosphere that that contains high res sensors and wireless transmission for transferring data to Smartphone's. The Bluetooth was selected as transmission tool as it is embedded, as it is embedded to any or all Smartphone's also it can work even without the Wi-Fi connection. Smartphone's would be the programmable tools to possess different application that enables communication along with other devices as well as gathering, analyzing and verifying data. Within this paper a manuscript interface by making use of a Bluetooth based sensor to sense humidity and temperature Worldwide Journal of Mobile Network Communications & Telematics for monitoring from the ecological conditions using android based Smartphone is introduced. Within this paper, a manuscript interface by making use of a Bluetooth-based sensor to sense Humidity and temperature for monitoring from the ecological conditions while using android-based Smartphone is introduced.

II. PROPOSED SYSTEM

Farming environments for example fields and greenhouses allow growers to create plants with a focus on farming yield and productivity. Additionally, additionally, it offers the possibility to grow plants in environments formerly not suited for that task. Particularly, using greenhouses provides plants with defense against harsh climate conditions, illnesses along with a controlled atmosphere. Farming environments are complex systems where significant alterations in one ecological factor might have a bad impact on another. Ecological factors can impact survival and growth, particularly in relation to germination, sprouting, flowering and fruit development. They may also indicate elevated chance of disease and become employed for conjecture of approaching alterations in the atmosphere. Therefore, it is of particular interest to watch these ecological factors particularly for just about any control and management systems that could be implemented [2]. Temperature, humidity, light, air pressure, soil moisture, level are variables which are of great interest to growers. Sensor Systems happen to be deployed for a multitude of applications and awareness has elevated in relation to applying technology into an farming atmosphere. Sensor Systems have become the reply to many existing problems in industries using their capability to operate in an array of environments. Development is more and more directed at wireless solutions when compared with wired-based systems. A particular reason is the fact that an farming monitoring system may need a lot of cables and wires to distribute sensors. Sensor location can frequently require repositioning. Wireless nodes offer versatility of placement and extra sensors. A conventional wire layout wouldn't provide this versatility and may cost you a substantial amount of time and effort to be able to address such wiring problems. The machine aims to lessen the price and energy of incorporating wiring and also to boost the versatility and mobility from the selected sensing points as the wireless sensor network (WSN) examines as being a comparatively self-organizing system. It enables sensor nodes to hook up with the network and also have their data logged towards the allotted sensor server selected [3]. The current work describes the introduction of a radio system to watch farming environments measure temperature, humidity, and atmospheric pressure, soil moisture, level and lightweight. The wireless connection is carried out to acquire data in the various sensors, and also to allow setup difficulty to become reduced. Therefore, the goal of this project would be to design and create a Wi-Fi based Wireless Sensor Network to have an farming atmosphere able to intelligently monitoring farming conditions inside a pre-programmed manner that may be updated as needed.

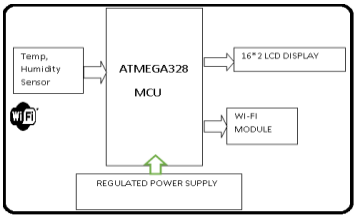

Fig.2.Dataflow of proposed system

III. METHODOLOGY

The work involves a number of algorithms and steps by which it processes the information and stores it around the cloud. The Arduino Pro Small will behave as a small brain system for the entire system architecture. It will likely be programmed such that it'll continuously monitor the sensor that come with it and can then send the information around the cloud via Wireless module. The Wireless module is simply incorporated for connecting the machine using the internet. You will see an android application which is synchronized using the cloud server and it'll show the information that is updated to the cloud. Also you will see devices for example push that will again link using the cloud. You will see a Graphical user interface in android application which is accustomed to control the parameters and devices which are affixed to the relay by which devices will be controlled. Using wireless sensor systems inside the farming market is more and more common utilizing a wireless network frees the player in the upkeep of wiring inside a difficult atmosphere.

Gravity feed water systems could be monitored using pressure transmitters to watch water tank levels, pumps could be controlled using wireless I/O devices and water use could be measured and wirelessly transmitted to a main control center for billing. Irrigation automation enables more effective water use and reduces waste. Within this project, we're using sensors to determine temperature, Humidity for agriculture atmosphere monitoring using Wi-Fi technology. There are more technologies for example Infrared, RF, Bluetooth, Zigbee communication but WI-FI has certain advantages of these technologies. An farming weather conditions are an intricate system. It includes many ecological factors affecting the introduction of farming products. A few of these atmosphere factors are interconnected and they must be considered together while some can be viewed as individually. The machine being developed relies round the WSN802G Wi-Fi/802.11 modules to be able to communicate data to some selected Server. The Sensor Node: An essential part of the design was its lightweight in which the WSN802G module was utilized because the key aspect of the sensor node. The sensor node includes the next: ADC Protection Multiplexer Counter WSN802G module Senses. ADC Protection: The WSN802G module and it is ADCs possess the maximum current range the system utilizes. The WSN802G module is of crucial importance for that functioning of WSN. It was vital to possess good ADC protection so the creation of the sensors used should remain inside the needed range. A TLV431 three terminal adjustable shunt regulator was utilized to limit the current output like a precaution. Multiplexer [4]: The WSN802G module is attached to the various sensors with analogue outputs using a multiplexer employed for signal gating. The Multiplexer used was the SN74LV4052A Dual 4- Funnel Analogue Multiplexer. It's a 16 pin device which has a supply current range: 2V to five.5V. Furthermore the 2 ADCs ADCX and ADCY from the WSN802G module are attached to the multiplexer are 1-COM and a pair of-COM ports correspondingly. The WSN802G has General Purpose Input/output (GPIO) pins in which the system uses values inputted for that GPIO0 and GPIO1 select multiplexer channels attached to the ADC at specific occasions. The inputted to GPIO and GPIO1 may either be in line with the counter output that is spoken about within the following section or could be based entirely alternatively GPIO output values around the WSN802G module [5]. Values inputted to GPIO and GPIO1 are transmitted and logged to be able to inform which group of sensors are now being monitored in a with time. Counter for Switching: Even though the multiplexer channels could be selected entirely through the WSN802G module this is often inefficient at occasions and needs user interaction. The 74HC4040 are 12-stage binary ripple counters employed to address this problem. The 74HC4040 is really a high-speed Si-gate CMOS device having a clock input (Club penguin), an overriding asynchronous master reset input (MR) and twelve parallel outputs.

IV. CONCLUSION

Wireless sensors and sensor systems are proving it to be sensing paradigms the structural engineering field has started to think about as substitutes for traditional tethered monitoring systems. Recently, there's been an growing curiosity about the adoption of emerging sensing technologies or instrumentation within a number of structural systems. An advantage of wireless structural monitoring systems is they are affordable to set up because extensive wiring is not needed between sensors and also the data acquisition system. Rather, wireless sensors can enjoy greater roles within the processing of structural response data this selection may be used to screen data for indications of structural damage. Researchers are finding that wireless sensors are a thrilling technology that shouldn't be considered simply an alternative to traditional tethered monitoring systems. There might be a period in which the sensor based integration will end up a typical factor for maqui berry farmers and can start benefiting technically in the whole system. Also, wireless sensors have limitations that need novel system architectures and modes of operation.

V. REFERENCES

[1] Richard Hamilton, "Agriculture's Sustainable Future: Breeding Better Crops," Scientific American Special Editions, June, 2009.

[2] S. Falsetto, "History of the Greenhouse: The Origins of Growing Plants in Indoor Structures in Europe," 2 12 2008.

[3] E. Strydom, "Agriculture & Farming: Past, Present and Future," Edition 12, 18 June 2010.

[4] E. Pawson, "An Environmental History of New Zealand Agriculture," Proceedings of the EDS National Conference, June 11-12, 2008, Auckland, New Zealand, pp 1-7.

[5] I. A. Aziz, M. H. Hasan, M. J. Ismail, M. Mehat and N. S. Har, "Remote monitoring in agricultural greenhouse using wireless sensor and short message service (SMS)," Proceedings of the International Symposium on Information Technology, August 26- 28, 2008, Kuala Lumpur, Malaysia, pp 1-8.

