ISSN(Online): 2395-7638

International Journal of Recent Research in Science, Engineering and Technology

Vol. 3, Issue 3, March 2017

# INTERNET OF THINGS FOR SMART WORLD

**Mr. G.KADIRVEL [1], T.KATHIKA [2], P.KEERTHANA [2], G.RAMYA [2], S.SUNMATHI [2]**

**Asst.prof.Electonics And Communication Engineering, TheKavery Engineering College, Mecheri,Salem[1]**

**Student, Electronics And Communication Engineering, TheKavery Engineering College,Mecheri,Salem [2]**

**ABSTRACT:** The multiple applications (Forest, industrial, home) sector being the backbone of the security system. Security systems which are being using in now a day are not smart enough to provide real time notification after monitoring the problem. The integration of traditional methodology with latest technologies as Internet of Things and Wireless Sensor Networks can lead to multiple modernization. Keeping this scenario in our mind we have designed, and analysed an 'Internet of Things' based device which is capable of analyzing the sensed information and then transmitting it to the user. This Project is very useful in industrial monitoring, forest safety and controlling home appliances such as Fan, Light using an application module from android mobile. Communication between appliances and mobile is made wireless via a smart phone app. The Processing Sensor analysis of PIR sensors, Fire, air, temp sensors based multiple sector Analysis industrial, Forest, human identification and Any Identification Indicate GPRS Sent through the Android Mobile Phone. In the present work a PIC Microcontroller based the remote irrigation system is developing for the multiple process. The microcontroller use to controlling and displaying the resultant sensor values in our own mobile Display any time.

**KEYWORDS: PIR SENSORS, GPRS & MICROCONTROLLER**

## I INTRODUCTION

Over the past years information and communication technologies have been introduced in multiple applications , Digital multiple applications is a new mode of multiple applications based on information, it will achieve the digital, networking and information-based multiple applications production, constructs digital driven system of production and management of multiple applications with the integration of data acquisition, digital transmission data analysis and processing, digital mechanism of multiple applications . Finally the digital, networking and automatic multiple applications production will be realized. Wireless sensor network is one kind of intelligent system with data collection, data fusion and transmission independently, this is developed with the developing of MEMS technology, it is one type of micro-sensor node with the capability of communication and calculation, it is an intelligent detection and control network system with function of completing this task independently according to the environment.

Wireless sensor network involves many advanced technology such as: embedded system technology, computer system technology and communication technology, it is an autonomous unit with the ability of information collection, transmission and processing, it has better prospect in the network monitoring system.
Apparently, wireless sensor network can be used in this realization of digital multiple applications, it can take an important role to promote our multiple applications to a better level with an automation, efficiency, accuracy of mechanism and intelligent production, wireless sensor network will be utilized in the fields of environment monitoring, chemical, zoology supervisory and so on, especially in the environment with hard and horrible conditions has the advantage fulfil the task comparing to the traditional detection technology.

ISSN(Online): 2395-7638

International Journal of Recent Research in Science, Engineering and Technology

Vol. 3, Issue 3, March 2017

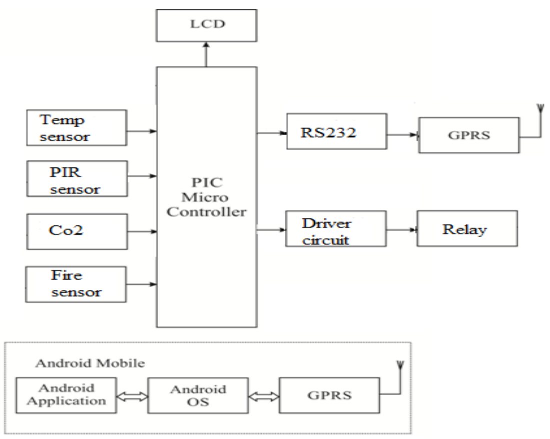
**EXISTING SYSTEM:**

The Existing Method a device will inherit a grid of sensor panels consisting PIR sensors and URD sensors based agricultural sector Analysis Human or Animal identification and Any Object Identification Indicate GPRS Sent through the Android Mobile Phone. It also sensor fusion can be done to increase the functionality of device. Improving these perspectives of device, it can be used in different areas. This project can undergo for further research to improve the functionality of device and its applicable areas. We have opted to implement this system as a security solution in agricultural sector is proposed system.

**PROPOSING SYSTEM:**

The Processing Sensor analysis of PIR sensors and TEMP sensors based industrial sector Analysis Human or Animal identification and Any Object Identification Indicate GPRS Sent through the Android Mobile Phone. In the present work a PIC Microcontroller based the remote irrigation system is developing for the agricultural plantation. The developing system is places at the remote location temperature and moisture level of the agro land goes below the set-point value.

**BLOCK DIAGRAM:**




**HARDWARE SPECIFICATION:**

- Fire Sensor,
- Temp Sensor,
- Co2 sensor,
- PIR sensor,
- Relay,
- Android Phone.

**SOFTWARE SPECIFICATION:**

ISSN(Online): 2395-7638

International Journal of Recent Research in Science, Engineering and Technology

Vol. 3, Issue 3, March 2017

- Embedded-c
- Android Os.

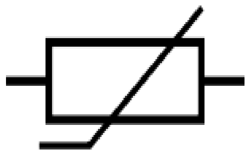
## II FIRE SENSOR

Disclosed here is a fire alarm system for connecting a plurality of fire sensors to sensor lines, and giving an alarm in response to fire information output from the fire sensor in a line unit. The fire alarm system includes a current modulation and an address specification sections. The current modulation section is used for maintaining a current flowing in the sensor line at the predetermined value for a predetermined time at the time of a fire, and modulating the current in accordance with the inherent address information of the fire sensor. The address specification section is used for detecting fire information by judging whether or not the current has been maintained at the predetermined value for the predetermined time, and also for specifying the inherent address of the fire sensor that issued by the fire information, from the modulated state of the current. A fire detector incorporates a heat able gas sensor. The sensor is cycled through a plurality in different operating temperature ranges, and one or more outputs at every temperature range are acquired. A plurality of acquired outputs, corresponding to the plurality of temperature ranges, can be paired in parallel to pattern recognition circuitry.
The pattern recognition circuitry can process the acquired outputs and make a determination that the Processed data samples are indicative of the presence of a fire condition.

**TEMPERATURE SENSOR:**

A thermistor is a one type of resistor whose resistance varies with temperature. The word is a portmanteau of *thermal* and *resistor*. Thermistors are widely used as inrush current limiters, temperature sensors, self-resetting over current protectors, and self-regulating heating of elements.Thermistors differ from resistance temperature detectors (RTD) in that the material used in a thermistor is generally a ceramic and polymer, while RTDs using a pure metals. The temperature response is also different; RTDs are useful over larger temperature ranges, while thermistors typically achieve a higher power within a limited temperature range [usually −90 °C to 130 °C].

**BLOCK DIAGRAM:**



Assume as a first approximation, the relationship between resistance and temperature is linear, then:

$$\Delta R = k \Delta T$$

Where,

$\Delta R$ = change in resistance
$\Delta T$ = change in temperature
$k$ = first-order temperature coefficient of resistance

Thermistors can be divided into two types, depending upon the sign of $k$. If $k$ is positive, the resistance increases with the increasing temperature, and the device is called a positive temperature coefficient thermistor, or posistor. If $k$ is negative, the resistance decreases with thr increasing temperature, and the device is called a negative temperature coefficient thermistor. Resistors that are not thermistors is designed to have a $k$ as close to zero as possible, so that the resistance remains nearly constant over an wide temperature range. Instead of temperature coefficient $k$, sometimes the *temperature coefficient of resistance* α (alpha) and $\alpha_T$ is used. It is defined as[1]

$$\alpha_T = \frac{1}{R(T)} \frac{dR}{dT}.$$

For example, for the common PT100 sensor, α = 0.00385 or 0.385 %/°C. This $\alpha_T$ coefficient should not be confused with the parameter below.

**CO2 SENSOR:**

A **carbon dioxide sensor** or **$CO_2$ sensor** is an sensor for the measurement of carbon dioxide gas. The most common principles for $CO_2$ sensors are infrared gas sensors (NDIR) and chemical gas sensors. Measuring carbon dioxide is important in monitoring indoor air range and many industrial processes.

**Applications:**

For air conditioning applications this kind of sensors can be used to monitor the quality of air and the tailored need of fresh air, respectively.

In applications where direct temperature measurement is not applicable NDIR sensors . The sensors absorb ambient infrared radiation (IR) given off by a heated surface.

$CO_2$ sensors are also able to determine how many people are in a room and then adjust the air conditioning accordingly.

**PIR SENSOR: (HUMAN SENSOR)**

PIR sensors allow to sense human motion, almost used to detect whether a human has moved in or out of the sensors range. They are small, inexpensive, low-power, easy to use and don't wear out. For this reason they are commonly found a appliances and gadgets used in homes or businesses. They are often referred to as PIR, "Passive Infrared", "Pyroelectric", or "IR motion" sensors.

**Size:** Rectangular

**Price:**$10.00 at the Adafruit shop

**Output:** Digital pulse high (3V) when triggered (motion detected) digital low when idle (no motion detected). Pulse lengths are determined by resistors and capacitors on the PCB board and differ from sensor to sensing.

**Sensitivity range:** up to 20 feet (6 meters) 110° x 70° detection range

ISSN(Online): 2395-7638

International Journal of Recent Research in Science, Engineering and Technology

Vol. 3, Issue 3, March 2017

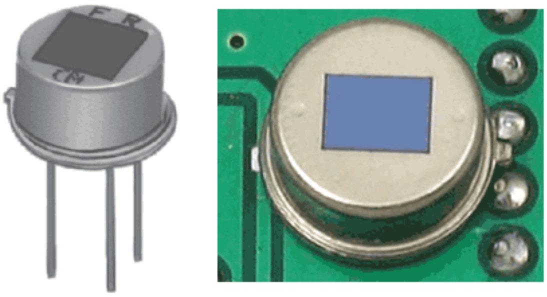
**Power supply:** 3.3V - 5V input voltage,

**BIS0001 Datasheet**

**RE200B datasheet** (most likely the PIR sensing element used)

**NL11NH datasheet** (equivalent lens used)

**Parallax Datasheet on their version of the sensor**



PIR SENSOR

## IV RELAY

A relay is electrically operated switch. Current flowing through the coil of relay create a magnetic field in which attracts a lever and changes the switch contacts. The coil current can be on or off relay has two switch positions and they are double throw (changeover) switches.


**POWERSUPPLY**

The power supply should have a +5V, with maximum allow transients of 10mv. To achieve a better / suitable contrast for the display, the voltage (VL) at pin 3 should be adjusted properly.A module should not be inserted or removed from the live circuit. The ground terminal of the power supply must be isolated properly so that no voltage is induced in it. The module should be isolated from a other circuits, so that stray voltage are not induced, which could cause a flickering display.

**ADVANDAGES**:

High Security based Forest Application.
It's used industrial monitoring for security

**APPLICATIONS:**

This project will used forest areas and Home Appliance and industrial applications.

## V CONCLUSION

Internet of things is widely used in connecting devices and collecting information. The system is designed for identification of rodents in grain stores. After collecting and analyzing the data, algorithm is designed to provide accuracy. For futures up gradation, device will inherit a grid of sensor panels consisting PIR sensors, Fire, co2, temp sensors based multiple sector Analysis Human ,fire ,temp, Air sensor any identification Indicate GPRS Sent through the Android Mobile Phone.

## VI RESULT

## VII REFRENCES

[1] Q. Han, S. Liang, and H. Zhang, ``Mobile cloud sensing, big data, and 5G networks make an intelligent and smart world," IEEE Netw., vol. 29, no. 2, pp. 40_45, Mar./Apr. 2015.
[2] L. Atzori, A. Iera, and G. Morabito, ``The Internet of Things: A survey," Comput. Netw., vol. 54, no. 15, pp. 2787_2805, Oct. 2010.
[3] C. Perera, C. H. Liu, S. Jayawardena, and M. Chen, ``A survey on Internet of Things from industrial market perspective," IEEE Access, vol. 2,pp. 1660_1679, Jan. 2014.
[4] L. Da Xu, W. He, and S. Li, ``Internet of Things in industries: A survey," IEEE Trans. Ind. Informat., vol. 10, no. 4, pp. 2233_2243, Nov. 2014.
[5] C. Perera, C. H. Liu, and S. Jayawardena, ``The emerging Internet of Things marketplace from an industrial perspective: A survey," IEEE Trans.Emerg. Topics Comput., to be published.
[6] A. Al-Fuqaha, M. Guizani, M. Mohammadi, M. Aledhari, and M. Ayyash, ``Internet of Things: A survey on enabling technologies, protocols and applications," IEEE Commun. Surveys Tuts., to be published.
[7] F. K. Shaikh, S. Zeadally, and E. Exposito, ``Enabling technologies for green Internet of Things," IEEE Syst. J., to be published.
[8] V. Namboodiri and L. Gao, ``Energy-aware tag anticollision protocols for RFID systems," IEEE Trans. Mobile Comput., vol. 9, no. 1, pp. 44_59,Jan. 2010.

ISSN(Online): 2395-7638

International Journal of Recent Research in Science, Engineering and Technology

Vol. 3, Issue 3, March 2017

[9] Y.-H. Lin, Z.-T. Chou, C.-W. Yu, and R.-H. Jan, ``Optimal and maximized con_gurable power saving protocols for corona-based wireless sensor networks," IEEE Trans. Mobile Comput., to be published.
[10] F. Farahnakian et al., ``Using ant colony system to consolidate VMs for green cloud computing," IEEE Trans. Services Comput., vol. 8, no. 2,pp. 187_198, Mar./Apr. 2015.
[11] C.-H. Chang, R. Y. Chang, and H.-Y. Hsieh, ``High-_delity energy ef_cient machine-to-machine communication," in Proc. IEEE 25th Annu. Int. Symp. Pers., Indoor, Mobile Radio Commun., Sep. 2014, pp. 91_96.
[12] J. Shuja et al., ``Survey of techniques and architectures for designin energy-ef_cient data centers," IEEE Syst. J., to be published.