IOT Based Climate Monitoring

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Abstract: *IOT which stands for internet of things in which objects will be connected to the internet and everything will be on mobile phones and internet. In our project, we have created a hardware which will monitor many environmental gasses and humidity and will help it to send it in real time to the devices .Our project has a design of iot based weather monitoring and it can also measure the presence of hazardous gasses present and it will give us the data in instantly on the application and on the lcd display which can also help people in detecting harmful gasses and will help in saving lives and also food grains and crop stocks and also in the agricultural sector it will be beneficial.. In this we have also used many sensors and implemented all of them on a hardware so that it will be small and easy to carry .This has a working like the transmitter and a receiver*

Key Word: **IOT.**

I. Introduction

In the coming future, every device is more likely to be connected to the web directly with the users expecting it to be responsive to their needs. IoT based framework that effectively monitors the change in climate using sensors and wifi unit so in order for the IoT based technology. People will be able to monitor temperature and will be able to detect humidity, and any of presence of harmful gases both in the indoor and outdoor environment using our project proposed module. An application is used in it to provide to provide a very important information to the person using the application or the lcd for reference. The system has been evaluated in different stages. When we check the precision and accuracy of the system it shows all the functions in very different conditions as a high and precise of accuracy and reliability.

People will finally be able to save the crops and agriculture industries will benefit a lot from this and all the industries where people die because of the leakage of gasses and other factors that affects the health of individuals for long term as well and help it apparently in saving life worth of crops and farms and warehouses where important temperature affective materials are present that could be saved as well

In the lack of of proper equipment to measure the gasses which are harmful. Many lives and live stock can be saved by this and with the real working time we will be able to make necessary precautions to changes by the detection of gasses and humidity and climate monitoring will be finally be able to conduct.

II . Design and development of IOT based climate monitoring

The So here we have a block diagram which consists of power supply unit and it has temperature sensor lm35 with MQ6 which detects the presence of butane and lpg gasses and then we also have the other sensor which is the MQ7 which helps in finding out the presence of co or carbon monoxide in the outdoor and indoor environment this all has been

attached to the microcontroller atmega8 which also has a connected wifi module which sends the data to the server and helps in getting the data on the application as well.
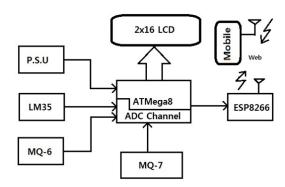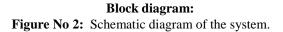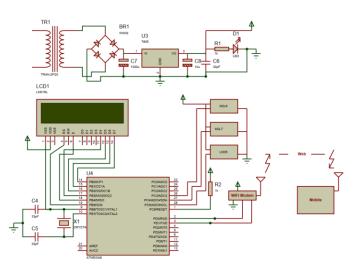
Figure No 1: Hardware components Block Diagram.

Block diagram:
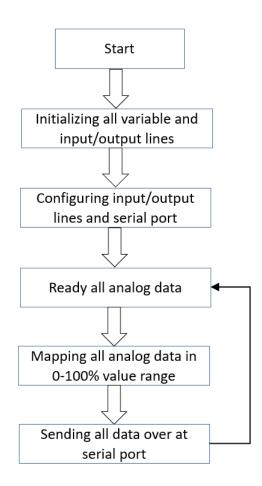**Figure No 2:** Schematic diagram of the system.
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Our project has sensors which are connected to the microcontroller which is Arduino model which helps the sensor values to be processed further to the wifi module and later get transmitted to the esp8266 wifi model and all the pins of the sensors are connected to the processor and also we have a relay and transformer which converts the input signal of 230V to 5v which is the required volts for the sensors to work so the gas detectors and he temp detectors are then connected to the center part of the hardware where all the vital information is required and in order to make it work at all possible and hard to reach places we have also used a small pcb board so that it takes less space and in order to work at the places

where less hazardous gases are involved and at the places where more gasses are involved we have used the sensitivity setter dec=vices which could be used in case the presence of lpg or butane or carbon monoxide is more in those areas.
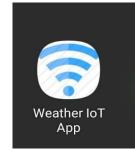
Algorithm:

III. Result and Discussion

Figure No 2: Result of System

In the application, we get to see the instant temperature, humidity and toxic present in the environment and application can be used remotely from any area or any part which gives very precise and accurate readings which can help in reading and precautions and can save many lives and can help in not causing serious damages and agricultural wastes in the future

IV. Conclusion

The main part and application of the model is that it can be further developed and made in more compact size and it could be made more rigid and numerous sensors can be added like the noise and also the fire sensors which can give a more precise and accurate and in the application of mobile various notifications of toxic gasses and sudden temperature and humidity rise detectors can be added and it can be made more easy to use and reminders can also be added further to make it better.

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