Wireless Temperature detector System using ARDUINO and IOT

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Abstract - *with the advancement of technology and more dependency of people on smart phone it has become very important to have technology which can control over the industry and domestic application using IOT. The project platform is Arduino Uno based on IOT enabled with temperature sensor LM35. IOT is the network of physical objects or things embedded with electronics software sensors and network connectivity which enables these objects to collect and exchange data. In this paper we developing a system which will automatically monitor and control the device.*

Keyword – *ESP8266, Arduino Uno, LM35 temperature, IOT, BLYNK.*

I. INTRODUCTION

In industry home, laboratory has lot of system which work on room or low temperature. Whenever we monitor the temperature, when temperature increased above the set point then device turn on or off with the help of Relay. Device may be Fan, bulb, light etc. when suddenly temperature increased it may damage our valuable things. So we have to arranged circuitry to prevent .this project is helpful for that when temperature increased device turn on or off, and user get message on his smartphone .with the help of IOT and ARDUINO controller sensor data is transfer through Wi-Fi module ESP8266. It intimates the user about the temperature and user turn on and off device by using mobile app or its turn on automatically at set point of temperature. The system send message to an app installed on Android mobile accessible through internet.

For this an Android based application "BLYNK" is installed in smartphones.

II. WORKING

Here temperature sensor is LM 35 connected to the Arduino Uno controller directly to the controller's A0 pin i.e is Analog channel pin.. Arduino has 10 bit ADC. LM 35 gives 10mv/^{0}c. so its gives small scale voltage. This data from LM 35 is converted into DC values after it converted into degree Celsius(^{0}c). this value is display on app installed in user's Android mobile i.e BLYNK app. The wifi module ESP8266 sends data from controller to BLYNK app.The app also provide the features for switch which manually controlled device using internet accessibility. So when user not close to device then user also controls the device. For operating device here used Relay module.

Fig1. Arduino Uno controller

Arduino Uno has the IC ATMEGA 328 microcontroller. Microcontroller is the central part of the hardware, it control all system by programming. The open source Arduino 1.6.9 IDE (Software) is makes it easy to write code and upload it to the board.

When sensor gives output to controller, it turn on and off the device also send data message to BLYNK using the Wi-Fi module ESP8266.

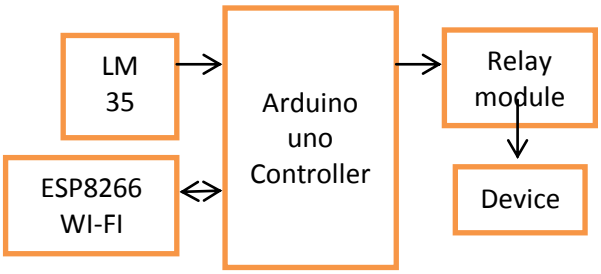

Fig.2 block diagram of temperature detector using Arduino and iot .

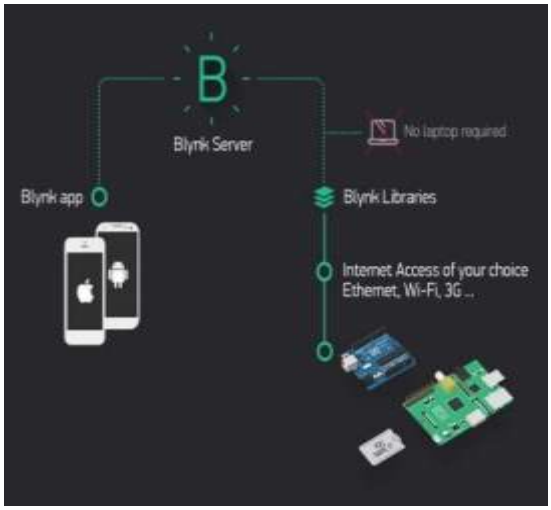

Fig3. Blynk server connections

III. CONCLUSION

The IOT facilities numerous benefits to the society and from our paper we can provide and prove the strength of IOT that is capable to contribute the services for the purpose of buildings , laboratories industry and various applications. The design provides moderate and less expensive way of sensing and controlling system in the field of domestic and as well as industry standard to implement IOT. Where people prefer to have control over which will bring easy to their routine life.

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