

Temperature Based Fan Speed Control And Monitoring Using Arduino (UNO)

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Abstract— As we all know that we are slowly moving toward IOT .It is one of the trending topics. So, basically in this project with the help fan speed we can sense the temperature by using sensor(LM35) and control the room temperature. The system will get the temperature from the temperature Sensor (LM35) and it will control the speed of fan, of the according to the temperature,it will display the output on the LCD.Arduino is an free source electronics platform based on easy to use hardware and software. Arduino gives an analog signals.so we have done via this project.

I. INTRODUCTION:-

Electric fan is most popular device advantages its cost is low and it has low power consumption. It is a common circuit and used in many applications. It is also one of the most reliable solutions to offer a comfortable and energy efficient. So, an automatic temperature control system technology is needed for the purpose of controlling fan speed

II. LITERATURE SURVEY

Paper	Paper Title	Paper content to be observed
Paper 1	Design and development of Arduino based Automatic FanControl System Using PIR and LM 35 Sensors.	This paper represent the working process of our arduino. Introduction part has detail introducing of the project, objective of our system about the scope of the project.
Paper 2	An automatic fan speed controller using IOT.	This project aims the use of temperature sensor. The temperature sensor will read the temperature and

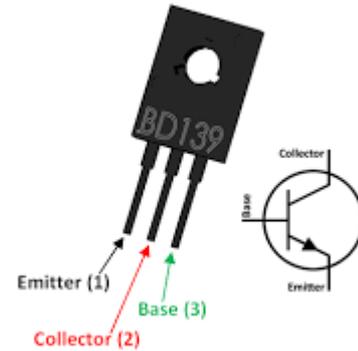
		changes in room temperature.
Paper 3	Automatic Fan Speed Control and Turning it On/Offby Temperature and Ultrasonic Sensor	This project aims a rise of electricity bill from leaving the fan on whenit is not in use and it may cause disasters, fire for example, when the motor get heated up.
Paper 4	Automatic room temperature and monitoring system using Arduino uno	This paper represents the Automatic fan speed control and monitoring system using arduino uno. In this proposed system the room temperature is maintained constantly.
Paper 5	Lab view based temperature controller using Arduino	The main aim of this paper provides to existing two types of temperature control system that are automatic temperature control system and manual control system using LABVIEW and Arduino.

III. COMPONENTS:-

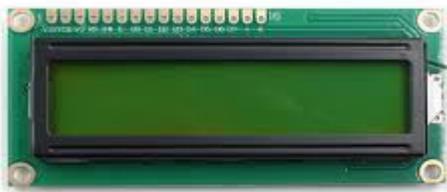
- 1 .Arduino Uno : It is used for the Microcontroller based on ATmega328. Is an electronics platform based on hardware and software. Arduino boards are able to read inputs - light on a sensor, or a turning on an LED.



4 Transistor(BD 139) : It is the semiconductor device used to exchange electronic signals and power. BD139 is a Bipolar NPN transistor, mounted complementary circuits.

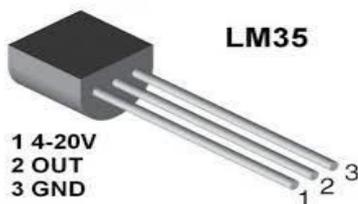


2 .LCD (16x2): It is used to give the output on display. An LCD is a electronic display module which uses liquid crystal to produce a visible output. The 16x2 LCD display is a very basic module commonly used in circuits. In this LCD each character is displayed.



5 LED(5mm) : It is the Light to detect the sensor. AnLED is an beam light when an current passes through it.

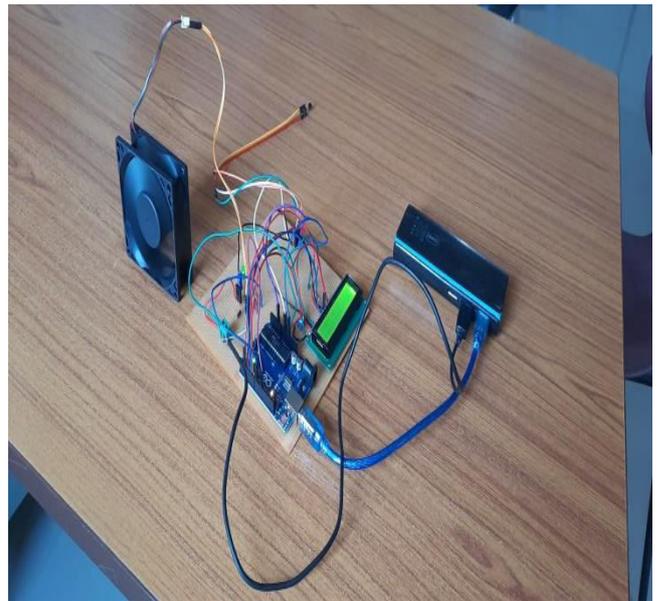
3 .Sensor (LM35): It is used to sense the temperature.LM35 is an analog temperature sensor whose gives the output in Degree Centigrade. LM35 Sensor does not require any typical accuracies.



6 Resistor (1 kilo ohm): It is to reduce the flow of current. The value of the resistance is expressed as a number of ohms (the symbol Ω is used for "ohm"). So, a 1k Ω resistor has a value of 1,000 ohms.



IV CONSTRUCTION:-

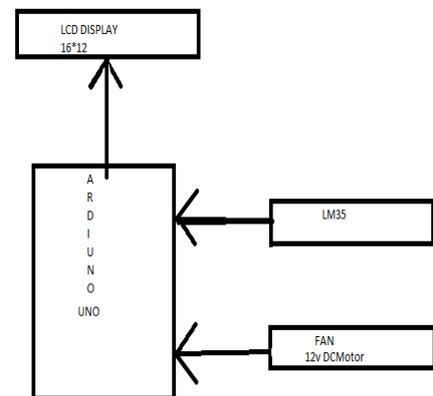


V BLOCK DIAGRAM:-

7 Variable Resistor (10 kilo ohm): It is used to reset the current. Variable Preset 10K Ω (ohm), variable preset is a compact variable resistor and PCB mount with 3 terminal pins. The voltage between the terminal varies as the preset variable is rotated. The variable resistors are used for varying voltage.



Block Diagram



VI WORKING:-

1. Connect the arduino to power supply.
2. Turn the preset resistor to display the output on LCD.
3. When the sensor(LM35) sense the heat of the room temperature then fan will start to fast rotate .
4. And display the temperature and fan control speed on LCD.
5. When goes above 100 degree celcius it will glow the bulb.

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