**ABSTRACT**

The project is an automatic fan speed controller that controls the speed of an electric fan according to the temperature range. Liquid crystal display (LCD) makes the system user-friendly. The sensed temperature and fan speed level values are simultaneously displayed on the LCD panel. It can be implemented for several applications including air-conditioners, water-heaters, snow-melters, ovens, heat-exchangers, mixers, furnaces, incubators, and thermal baths. A temperature sensor has been used to measure the temperature of the room and the speed of the fan is varied. The temperature sensor LM35 senses the temperature and converts it into an electrical (analog) signal, which is applied to the microcontroller. The temperature-based fan speed control system has been done by using an electronic circuit using an Arduino board. This project is useful in industries for maintenance and controlling of Boilers temperature.

**Components used:**

1. **Fan** **–** The is controlled using the Arduino and temperature sensor. The speed is adjusted according to the temperature of the surrounding.
2. **Temperature Sensor:**

We are using LM 35 as temperature sensor. LM 35 is a precision temperature sensor whose output is linearly proportional to Celsius Temperature.

Temperature based fan speed controller is useful for cooling the processor in the laptops and personal computers “more efficiently”. Generally fan in laptop comes with only two or three possible speeds. So it results in more power consumption.

1. **Arduino Uno** **–** This is the microcontroller used here it controls the speed of motor and the glow of the led. It reads the sensors value and does the required job
2. **Led green and red** **-** The uses of LED (Light Emitting Diodes) are to illuminate objects and even places the green light glows when the speed of the fan is low and red light glows.
3. **LCD -** A liquid-crystal display (LCD) is a flat-panel display or other electronically modulated optical device that uses the light-modulating properties of liquid crystals combined with polarizers. LCD is used here to display the temperature and speed level.