# Temperature and Mask Detector Using 8051 Microcontroller

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*Abstract*— Corona virus has impacted Majority of The people's health all over the world .many safety and security Majors were taken by government to reduce spread of Covid such as wearing mask. From work ethic to social relationships, sports and entertainment coronavirus is making many changes in our daily routine, habbits and activities.in this project we have designed system to help organizations comply with The Covid 19 safety rules and instructions strictly to decrease the rate of spreading of Covid. Our main moto is to detect whether the person is wearing a mask and his body temperature is normal or not.to check these we designed a system 'temperature and mask detector using 8051 microcontroller' .No person will be allow to enter without mask or with high body temperature. The laptop camera is used to detect mask and sensor is used to detect body temperature. The System can be very useful for small scale industries where human efforts or manpower can be saved in the process of maintaining the hygiene and cleanliness.

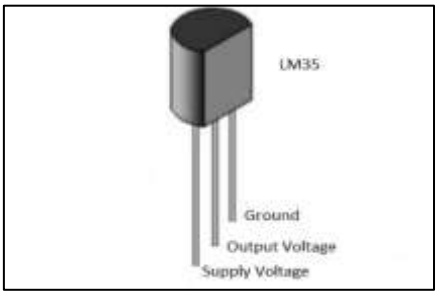
***Keywords:*** 8051 Microcontroller, Sensor

## I. INTRODUCTION

Due to the Covid-19 pandemic, wearing mask is mandatory in public spaces, as properly wearing a mask offers a maximum preventive effect against viral transmission. Body temperature has also become an important consideration in determining whether an individual is healthy. In this work we design a model to meet current demand to detect the mask wearing position and temperature of a person before he or she enters the public space. In this project we use the camera to capture image to check mask and we use temperature sensor to detect the body temperature.

The output of these experiments gives us the information as the person is wearing mask or not and the body temperature is displayed on the LCD display. If the person is not wearing a mask or the body temperature is not appropriate then the buzzer will turn on.

## II. LM35 TEMPERATURE SENSOR:




The LM35 temperature sensor is a expensive but precise temperature sensor. It is used to measure temperature. The range of this sensor to measure temperature lies between -50 to 150 celsius.it operates from 4v to 30v.it is small in size compare to other temperature sensors.

LM35 temperature sensor that outputs an analog signal which is proportional to the instantaneous temperature. The output voltage can easily be interpreted to obtain a temperature reading in Celsius.

## III. BLOCK DIAGRAM

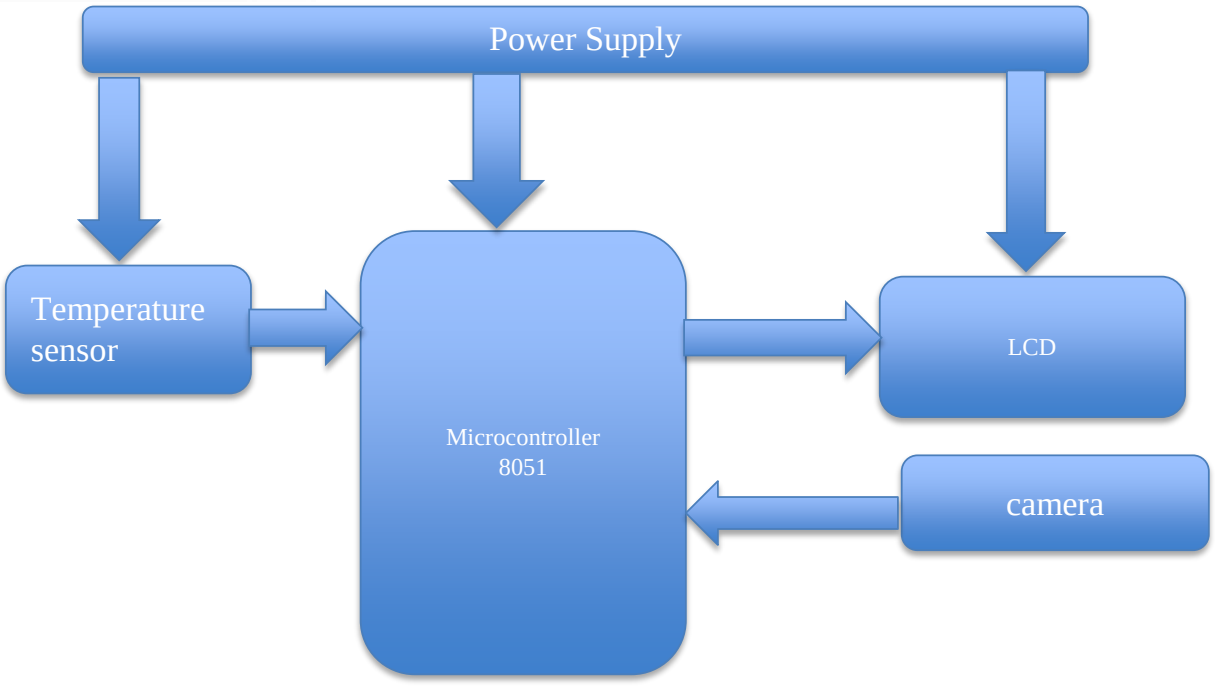



Fig. 1: Block diagram

In the methodology, the overall system design is in two parts, Hardware design and Software design. The hardware design is the physical parts of the system while the software design includes programs that were written to control the microcontroller.
This is the block diagram of hardware design which includes following blocks:

- Microcontroller 8051
- Temperature sensor
- Camera
- LCD
- Power supply

## IV. CIRCUIT DIAGRAM

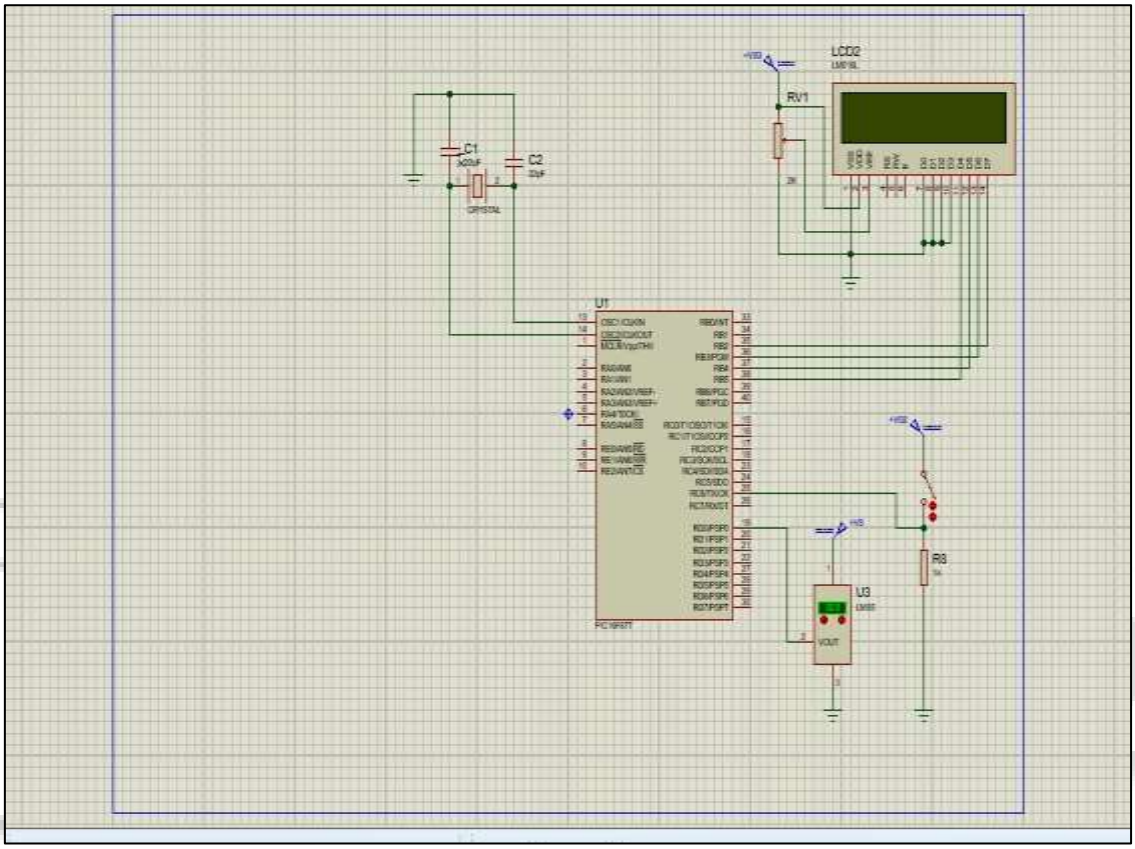



Fig. 2: Circuit diagram

## V. CONCLUSION:

This system introduces automation for the mask and temperature detection in daily routine to maintain the security.it will help in reduction of covid.

## ACKNOWLEDGEMENT:

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