

## ABSTRACT

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This project is to design a robot which has two types of sensors, the sound and the temperature sensors. The robot receive signal by using the sound sensor, process the data and react accordingly. The actions which can be performed by the robot are: move forward, move backward, turn left, and turn right. Besides, the robot will sense the temperature around it using a temperature sensor and will warn the public if the temperature is abnormal.

An electret condenser microphone is responsible to receive command from the user (i.e whistler) and feed the signal into a microcontroller. The first PIC16F84A microcontroller will then interpret the signal from the sound sensor and activate the actuators (i.e servo motor).

A negative temperature coefficient (NTC) thermistor is used to compare the temperature around it with a preset value, and trigger the buzzer if the temperature in the environment is higher.

Towards the completion, the robot works with some shortcoming. This includes the failure in receiving signal at a distance from the whistler due to the low sensitivity of the microphone.

For enhancement, the robot can be designed to perform collision avoidance function where it will stop itself when an obstacle in front of it. An LCD display can be placed on the robot to show the current temperature of the environment.

Overall, all the project outcomes fit to the specified aim and objectives.