



AUTOMATIC ARDUINO TEMPERATURE DOOR SENSOR

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CONFIRMATION OF THE PROJECT

The Project Report title “Automatic Arduino Temperature Door Sensor” has been submitted, reviewed, and verified as a fulfils the conditions and requirements of the project writing as stipulated

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TITLE: AUTOMATIC ARDUINO TEMPERATURE DOOR SENSOR

SESSION : 2021/2022

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2. I acknowledge that 'The Project above' and the intellectual property therein is the result of my original creation without taking or impersonating any intellectual property from the other parties.
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ABSTRACT

Recently, temperature sensor door detector has been used as a popular medium in communicating among peoples as well as monitoring of human health. This wireless communication would not only provide them with safe and accurate monitoring but also the freedom of movement. To overcome this problem, a monitoring system by using Arduino mkr low has been developed. The main objective of the system (temperature scanning gate) is to monitor the human body temperature when they passed through the gate. In normal situation the gate is always open. If the gate senses any high temperature (more than 99.0 degree Fahrenheit), the gates automatically rejects the entry by closing the gate. The gate also provides warning beeps while the body temperature of a person is high.

ABSTRAK

Baru-baru ini, pengesan pintu pengesan suhu telah digunakan sebagai medium popular dalam berkomunikasi di kalangan orang ramai serta memantau kesihatan manusia. Komunikasi tanpa wayar ini bukan sahaja akan memberikan mereka pemantauan yang selamat dan tepat tetapi juga kebebasan bergerak. Untuk mengatasi masalah ini, satu sistem pemantauan dengan menggunakan Arduino mkr low telah dibangunkan. Objektif utama sistem (pintu pengimbasan suhu) adalah untuk memantau suhu badan manusia apabila mereka melalui pintu. Dalam keadaan biasa pintu pagar sentiasa terbuka. Jika pintu pagar merasakan sebarang suhu tinggi (melebihi 99.0°Fahrenheit), pintu pagar secara automatik menolak kemasukan dengan menutup pintu pagar. Pintu pagar juga menyediakan bunyi bip amaran semasa suhu badan seseorang tinggi.

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1. INTRODUCTION

1.1 INTRODUCTION

Living with the novel Coronavirus is becoming the new normal as nations around the globe resume. However, to stop the virus from spreading, we must isolate Covid-infected persons from the rest of the population. Fever is the most common symptom of coronavirus infection, according to the CDC, with up to 83 percent of symptomatic patients presenting indications of fever. Early symptom detection and good hygiene standards are therefore critical, particularly in situations where people come into random contact with one another. As a result, temperature checks and masks are now required in schools, colleges, offices, and other public spaces. However, manually monitoring each individual and measuring their respective body temperatures is a cumbersome task. Currently, most of the temperature check-ups are done manually which can be inefficient, impractical, and risky because sometimes people checking manually may be reluctant to check every person's temperature or sometimes allow people even if they violate the guidelines. Moreover, the person assigned to manually check will be at high risk as he is exposed to a lot of people. To solve these issues, we propose a project that reduces the growth of COVID-19 by monitoring the presence of measuring their temperature. The measuring temperature can be done using the spark fun MLX90614 software library, non-contact IR temperature sensor is used to monitor the individual's body temperature. To avoid false positives, the system will be strengthened by training it with a variety of cases. Once the system detects a motion, it measures the body temperature of the person. If the temperature is within the normal range, sanitization is done, and the person is permitted entry through an IOT enabled smart door. However, if the system fails to detect a mask or the person's temperature falls out of the predefined range, a buzzer rings and the door remains closed. Our model is intended to be effective in preventing the spread of this infectious disease.

1.2 Background Research

Temperature sensor door detector is a Local Content Developed (LCD) sample for COVID-19. Global lockdown due to COVID-19 triggered a lot of initiative across the globe, especially in the development of local equipment to fight the spread of COVID-19. Intelligent body temperature detector is an infrared (IR) thermometer that facilitates temperature measurement from a distance without contact with the individual to be measured and then triggers alarm once the measured temperature is equal to or greater than 38°C or 100.4°F. The design and development of intelligent body temperature device was designed and implemented and was able to detect and measure human body temperatures. The functionality of the device was properly validated, and the measurements gotten was in cycle with those of conventional infrared thermometers. The object temperature measurement range: -70 to 380°C is guaranteed with accuracy of 0.5°C in a wide temperature range (0°C...+ 50°C) and measurement resolution of 0.02°C. The research focused on developing an intelligent body temperature detector locally for cost effectiveness without compromising efficiency. Bringing down the average premium cost:

RM1000++ of the imported to: RM500++ of an affordable local option is a sustainable measure to keep citizens safe as emerging countries of the world were beginning to ease lockdown despite COVID-19 cases surge. This is a Return on Investment (ROI) of 40.3%.

1.3 Problem Statement

Based on the problem we see that there are many devices that can measure temperature, but there are just can measure temperature on forehead.

1.4 Research Objectives

- To develop system to detect abnormal temperature that usually associated with covid 19
- To eliminate long queu to enter mall or premises due to SOP during COVID 19

1.5 Scope of Research

The current situation:

- took comparatively more time to process.
- required additional devices for operation

Which need more research to make comfortable to suit future need.

1.6 Project Significance

Disallow guest with more than normal temperature to enter mall



1.7 Chapter Summary

The main aim of the project is to detect the temperature of the surroundings and display it on the LCD.

The working of the project starts with the sensor that senses the change in temperature of the surrounding and uses that temperature difference to produce a voltage signal which will be processed to give a digital output displaying the temperature of the given surrounding.