

Smart Pandemic-Safe Premise System

Abstract

Ensuring hygiene, limiting number of people in a closed space and adhere to normal body temperature are concerns to be living in the COVID-19 pandemic era. To date, not only software but also hardware-based works have been developed to address the concerning issue. Nevertheless, most of the works focused in one concerned issue and not many attempted to integrate into the same device. This work integrated three parts which are temperature display, automatic sanitizer dispenser, and entrance and exit with limit counter in the same device for a premise by incorporating the use of temperature, ultrasonic and infrared (IR) sensors on top of Arduino microcontroller board. The developed device buzzes when body temperature exceed 38 degree Celcius, counts people in and out in a premise and allows 20 people to enter the premises at one time and releases hand-sanitizer when hand is detected. The developed work helps to maintain health and preventing disease, especially through cleanliness and limiting number of people to promote physical distancing in a premise. On top of that, automatic sanitizer dispenser may reduce environmental pollution via reduction of sanitizer bottles. This system also reduces dependability to man-power and concurrently reduces the risk of infection to workers.