ABSTRACT

At the end of 2019, the world was shocked by the outbreak of a new virus, namely the new type of corona virus. The World Health Organization (WHO) named the new virus severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) and the name of the disease as coronavirus disease 2019 (Covid-19). Several solutions have been implemented by the government in handling Covid-19, such as social distancing, quarantine, temperature checks and others. One of the common symptoms of Covid-19 is fever, which can be detected using a temperature measuring device such as a thermometer. In this study, Monitoring of Body Temperature Non-Contact and Face Recognition using IoT and RPA Technology are proposed. The devices used are AMG8833 thermal camera, ESP32 camera, Arduino Uno, and Buzzer. Face recognition in this system uses the local binary pattern histogram (LBPH) algorithm. Broadly speaking, this tool will read object temperature data and send the temperature data via serial communication to body temperature measurement and facial recognition applications created using the Python programming language. This application will display the face of the detected person and the temperature of the person. If the temperature detected by the thermal camera is above the normal limit or fever, the buzzer will light up and sound. Furthermore, if the detected person's face is recognized, the name and temperature of the person will be stored in the database. The database created serves to store temperature data and names of people on a regular basis. This facial recognition and body temperature measurement application is run automatically using RPA. The experimental results prove that the system made is able to recognize faces and detect people's temperatures with an average error of 0.04°C and an accuracy of 99.89% at a distance of 50cm.

Keywords: Covid-19, body temperature, face recognition, IoT, RPA