

ABSTRACT

After people died from infections during COVID-19 epidemic, this attracted a lot of attention. COVID-19 causes symptoms such as fever, headache, sore throat, shortness of breath, and others. Many deaths are asymptomatic, which it makes the problem even bigger. Therefore, real-time system monitoring is needed. Monitoring will be carried out about measuring body temperature and oxygen saturation in patients. Monitoring body temperature is necessary because it can detect symptoms of COVID-19 in patients earlier. Concept of Internet of Things (IoT) is to enable devices to send and receive data over internet network. Monitoring system to be built uses NodeMCU ESP8266, DS18B20 sensor, and MAX30100 sensor. Data communication is used in exchange of information using WiFi. Applications made using MIT App Inventor are used to view body temperature and oxygen saturation data. This system is expected to reduce number of deaths due to COVID-19. DS18B20 sensor has a sensor accuracy of 99.73% and an average error of 0.27%. MAX30100 sensor has an accuracy rate of 99.18% and an average error of 0.82%. Throughput test results show an average of 12528 bits/s, delay test results show an average of 155.57 ms, and packet loss test results show an average of 0%. Result of system that has been tested said the both sensors can read well.

Keywords : COVID-19, Monitoring, Internet of Things, NodeMCU ESP8266