ABSTRACT

The COVID-19 pandemic is the event of the spread of the Corona virus disease 2019. This disease attacks the upper respitory tract infection (ARI). Make measuring instruments and display the conditions of the patient's PaO2,SPO2, P/F ratio. This tool requires an internet connection.

This measuring device uses the Arduino programming language, the patient is asked to blow air from his breath into a mask or tubing tube. The Luminox sensor will read the patient's air pressure, while the MAX 30102 sensor will read the patient's oxygen saturation, ESP 8266 as data processing and connect to the internet.

The results of this final project are direct non-invasive measurements of PAO2 and SpO2, not using a blood sample as in a conventional machine, but with oxygen gas (O2) from the respiratory system. The gas will be detected by the gas sensor. The results of reading data from the PAO2 measurement are sent to the microcontroller for the COVID-19 identification process through PAO2 levels. The data is sent to Blynk via the IoT cloud for display. The data displayed by Blynk is in the form of levels of PAO2, PPO2, P/F ratio, and COVID-19 identification in written form according to predetermined conditions.

The results of this study did not directly use blood sample but the results of measurements of the respiratory ratio of P/F,PaO_2, and SPO_2 of patiens. Patient data will be displayed by Blynk.

Keywords: Respiratory, COVID=19, SPO_2, P/F ratio, and PAO2.