DESIGN AND DEVELOPMENT OF HEART RATE, OXYGEN SATURATION, AND BODY TEMPERATURE CHECKING EQUIPMENT FOR IOT-BASED COVID-19 PATIENTS

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ABSTRACT

The Corona virus, commonly known as COVID-19 (Corona Virus Disease 2019) is a virus that can cause sufferers to experience mild to severe symptoms marked by worsening of vital conditions, so continuous monitoring is necessary. This monitoring consists of checking BPM (Beat Per Minute), heart rate, Oxygen Saturation in the blood (SpO2) and body temperature. In handling Covid-19 patients, it is necessary to minimize direct contact with patients, or direct contact with medical devices that have been used to treat patients (Oximeter, Stethoscope, Thermometer, and so on), therefore it is necessary to make a tool that can help doctors and medical personnel to reduce direct contact with COVID-19 patients. The tool is a place to put your hand on the sensor. In reducing the occurrence of direct contact with patients, the tool is made based on IoT (Internet of Things) in real time. The results of the study are expected to facilitate the process of handling patients, especially monitoring heart rate, oxygen saturation, and body temperature. Based on the tests that have been carried out, this tool has a measurement accuracy rate of 97.8% for heart rate, 98.67% for SpO2 and 96.35% for body temperature.

Keywords: Covid-19, BPM, SpO2, Temperature, IoT.