ABSTRACT

Patient monitoring is an important part of the health care system, both in the hospital and at home. Monitoring is very necessary if there are symptoms of a disease in a patient. How to monitor the patient's condition can be seen from the BPM value and the patient's temperature. The purpose of this study is to design a device on the patient's wrist that can monitor the patient's BPM and body temperature in real time and is not affected by distance. The contribution of this research is a system that can provide indicators of bradycardia-tachycardia for measuring BPM and hyperthermia-hypothermia for measuring temperature. A practical and efficient BPM and temperature monitoring tool for use with real-time monitoring, has the form of a bracelet and provides notifications on cellphones and emails when the patient's condition is not normal. The design of this tool uses SEN0203 as a BPM sensor, and MLX90614 as a temperature sensor. The data will be processed and displayed on the ESP32TTGO and the data will be sent to the blynk on the cellphone using the ESP32TTGO as a wifi module. BPM has the smallest error 0.1% and the largest 1.09% while the temperature has the smallest error 0.19% and the largest 1.63%. The results of this study can be developed on a patient monitor to increase the efficiency of the remote monitoring system.

Keywords: Smartband, BPM, Temperature, SEN0203, MLX90614