

ABSTRACT

In the world of health monitoring BPM and body temperature is very important to know the condition of the patient, because the further the patient's normal temperature will affect the speed of the heart in pumping blood. The purpose of this study is to design a tool that can monitor BPM and patient's body temperature in real time and is not affected by distance. The contribution of this study is a system that can provide indicators of bradycardia and tachycardia for BPM while hyperthermia and hypothermia for temperature. So that monitoring tools are more practical and efficient to use, they are made with real time monitoring tools and have a small form of a bracelet and provide notifications on mobile phones and emails when the patient's condition is not normal. The design of this tool uses a pulse sensor as a BPM sensor which has analog output, DS18B20 sensor as a temperature sensor that has a digital output, then processed ATmega 2560 and displays the value on the OLED and sends data to mobile phones assisted with ESP8266 as a wifi module. BPM has the smallest error of 0.23% and the largest of 1.5% while the temperature has the smallest error of 0% and the largest of 3.36%. The results of this study can be implemented in patient monitors to improve the efficiency of remote monitoring systems by notifying patient conditions via mobile phones and emails.

Keywords: *BPM, Temperature, Pulse Sensor, DS18B20, OLED, ATmega2560*