ABSTRACT

The Internet of Things (IoT)-based life mark monitoring system is a mark monitoring system is a technological innovation that enables the effective monitoring of life mark of the elderly. Monitoring of vital signs includes monitoring of heart rate, oxygen saturation in the blood, and body temperature. In this design, the sensors used are MAX30100 and DS18B20. These sensors are connected to the ESP32 microcontroller by being connected within the Blynk application. The application functions to display the sensor readings as a percentage of the number of vital sign readings. This technology allows families at home to monitor the health of the elderly in real-time. This monitoring of vital signs is aimed at evaluating a person's health especially in the medically vulnerable elderly. These instruments can help the elderly in monitoring their vital signs independently and can share information with doctors if necessary. In addition, sensors for health applications are becoming increasingly important in building a connected health ecosystem as IoT technology is evolving enabling remote monitoring that can improve patient comfort and reduce healthcare costs. The accuracy values of temperature sensors DS18B20 and MAX30100 for reading oxygen saturation with heartbeat. On the temperature sensor the accuration obtained reached 99.05%. On the pulse measurement the accurate achieved 96.62%. Measurement of oxyge saturation sensors obtaining 98.85%. The performance of the device when performed overall testing can be assured that the device designed has accurate performance, customized to the standard, and safe.

Keywords: IoT, vital signs, elderly, Blynk, health.