ABSTRACT

Body temperature and heart rate monitoring based on telemedicine is an electromedical device that serves to determine the condition of the heart rate per minute (BPM) and the patient's body temperature in real time remotely. Monitoring of heart rate and body temperature based on telemedicine uses the IoT (Internet of Thing) system that allows unlimited distance monitoring by utilizing the internet as a medium for sending data.

Telemedicine-based body and heart rate monitoring uses DS18B20, Arduino and Raspberry Pi temperature sensors and finger sensors as data processing and transmission microprocessors, LCD Character displays the results of heart rate readings and body temperature per minute. The results of heart rate measurements and body temperature are sent to the database via microservice and displayed on a web page in the form of numerical data and responsive plot graphics on desktops and mobile phones.

Based on the measurement and comparison of tool data with a comparison tool, the average error of BPM measurement (Beat per Minutes) is 0.72% with a maximum permissible tolerance of ± 5%, while in the body temperature parameter the average difference is 0.3 ⋅ C with a maximum permitted tolerance of ± 1 ⋅ C.