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REMOTE PATIENT MONITORING SYSTEM FOR COVID-19 PATIENT USING WI-FI BASED PULSE OXIMETER READING SENSOR

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SUPERVISOR'S APPROVAL

REMOTE PATIENT MONITORING SYSTEM FOR COVID-19 PATIENT BASED ON PULSE OXIMETER READING SENSOR VIA WIFI NETWORK

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This thesis was prepared under the supervision of the project supervisor, Sir Iman Hazwam Bin Abd Halim. It was submitted to the Faculty of Computer and Mathematical Sciences and was accepted in partial fulfilment of the requirements for the degree of Bachelor of Programme's Name.

Approved by

Sir Iman Hazwam Bin Abd Halim
Project Supervisor

JULY 14,2022

STUDENT DECLARATION

I certify that this thesis and the project to which it refers is the product of my own work and that any idea or quotation from the work of other people, published or otherwise are fully acknowledged in accordance with the standard referring practices of the discipline.

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ABSTRACT

Continuous Heart disease and high blood pressure is a problem that must be addressed immediately. Heart disease is one of the world's most serious disease today at hospital, as it will lead the patient to died. Continuous measurement, analysis, and Pulse Oximeter Reading monitoring in real-time are necessary to ensure that appropriate measures can be taken when necessary. To achieve this, model leverages the concept of IoT is necessary to inform users about the concentration of heart disease and high blood pressure to all people about their healthy every day. The Remote Patient Monitoring System for Covid-19 Patient using Wi-Fi Based Pulse Oximeter Reading Sensor uses the Web Server ESP 32 MAX30100 to replace current Pulse Oximeter Reading monitoring that have been used in hospital and public broadcasting methods using the Wireless Sensor Networks (WSN) concept. The proposed Oximeter Reading monitoring system can monitor indoor and outdoor heart rate and Oxygen level. The MAX30100 Pulse Oximeter sensor is used to determine the concentrations of various heart rate and oxygen level using the industry-standard Heart Rate and Oxygen Level Index, which is available from the manufacturer. Furthermore, the devices can store data in a cloud-based system when connected to the internet, enabled by the NodeMCU ESP32 Wi-Fi and Bluetooth module. As a result, by combining the MAX30100 Pulse Oximeter sensor and Arduino with the Internet of Things (IoT), it is possible to develop real-time and effective Heart Rate and Oxygen Level monitoring. Subsequently, the results indicate that users of this system and the Arduino IDE software can access and monitor Heart rate and oxygen level using the Web Server ESP32 MAX30100 regardless of their location relative to the monitoring area. Correspondingly, include an LCD for viewing the readings and ensuring that the owner receives information about the Pulse Oximeter Reading monitoring while the system is operating.

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