



**UNIVERSITI TEKNOLOGI MARA
CAWANGAN JOHOR KAMPUS PASIR GUDANG**

FINAL YEAR PROJECT 2 (EEE 368)

REPORT

**HUMAN HEART RATE, OXYGEN AND TEMPERATURE MONITORING
SYSTEM WITH IOT**

**YASMIN HANIM BINTI MD YUSOFF
(2021808346)**

J4CEEE1125D

DIPLOMA IN ELECTRICAL (POWER) ENGINEERING

**SUPERVISOR:
DR . RIJALUL FAHMI BIN MUSTAPA**

ABSTRACT

The installation of a human heart rate, oxygen, and temperature monitoring system utilizing Bluetooth technology allows for the collection and analysis of data in real-time. A monitoring system can provide health workers with more precise and timely information, improving patient outcomes. Long hospital wait times and patient monitoring are becoming major issues due to fast population increase and expensive healthcare expenses. Certain vital signs may be measured at home without visiting the hospital, but current equipment in the hospitals and clinics has limits. This issue may be overcome by implementing the technology, which allows for continuous monitoring of person's vital sign from any place. This project aims to construct a prototype of a multifunctional health measurement gadget that can measure and monitor the critical human readings by using Arduino Microcontroller. A simulation will be conducted in Proteus simulation software. The inputs of this system are oximeter sensor and temperature sensor. The outputs of the system will be programmed by an Arduino Uno. It will be displayed on LCD display and mobile phone which will be linked with a Bluetooth device. This project could display patient's vital sign through LCD display and also phone. The system offers patients a lot of benefits because it allows patient's to monitor their vital sign anytime and anywhere. In the future can detect glucose level on diabetic patient. This project provides a system that can be continuously controlled and monitored.

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CHAPTER 1

INTRODUCTION

1.1 Project Overview

These days, human health is one of the world's main concerns. In typical methods of health checkup, a patient must attend a clinic on a regular basis for his or her health checkup. This method needs to improve by checking patients vital sign anytime and anywhere without going to the hospitals and clinics. This requires the involvement and availability of medical specialists for advice and diagnosis. When there are a large number of patients at the clinic at the same time, each individual does not receive sufficient care, which could worsens their health condition. Therefore, this project could help patients and also healthcare workers to detect any abnormalities in a person vital sign.

This project is about a monitoring device that can be used to monitor a human heart rate, oxygen level and temperature reading of a human body. The sensors used in this project are MAX 30100 to detect heart beat and also oxygen level. A pulse oximeter detects how much light is absorbed by the blood in capillaries beneath the skin to determine how much oxygen is in a patient's blood. The second sensor used in this project is LM 35 to read the temperature degree of a human body. To measure a body temperature degree is a very fundamental measurement for tracking and diagnosing human health. There are a few of ways to get the reading of temperature degree of a patients in by using a traditional method such as put thermometers in ear, mouth, or rectum, as well as infrared thermometers that can detect temperature from a distance.