HEART RATE USING IOT

WITH SMS NOTIFY

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A thesis submitted in fulfilment of the requirements

for the award of the degree of

Bachelor of Computer Science (Software Engineering)

Faculty of Computer System & Software Engineering

UNIVERSITI MALAYSIA PAHANG

DECEMBER 2017

**STUDENT DECLARATION**

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

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I hereby declare that I have read this thesis and in my opinion this thesis is sufficient in terms of scope and quality for the award of the degree of Bachelor of Computer Science Software Engineering

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**ABSTRACT**

In this fast pace of life, it is difficult for people to be constantly available for their near ones

who might need them while they are suffering from a disease or physical disorder. So also

constant monitoring of the patient’s body parameters such as temperature, pulse rate, sugar

level etc. becomes difficult. Hence to remove human error and to lessen the burden of

monitoring patient’s health from doctor’s head, this paper presents the methodology for

monitoring patients remotely using Internet of Things technology. Patient monitoring systems

measure physiological characteristics either continuously or at regular intervals of time.

The heart is one of the most vital organs within the human body. It acts as a pump that

circulates oxygen and nutrient carrying blood around the body in order to keep it functioning.

The circulated blood also removes waste products generated from the body to the kidneys.

When the body is exerted the rate at which the heart beats will vary proportional to the

amount of effort being exerted. By detecting the voltage created by the beating of the heart,

its rate can be easily observed and used for a number of health purposes.

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**LIST OF ACRONYMS / ABBREVIATION / GLOSARY**

**ABBREVIATION TITLE**

FYP Final Year Project

UMP Universiti Malaysia Pahang

UML Unified Model Language

RAD Rapid Application Development

DFD Data Flow Diagram

ERD Entity Relationship Diagram

SDLC Software Development Life Cycle

# **CHAPTER 1**

# **INTRODUCTION**

# **Project Background**

Recently, the health care sensors are playing a vital role in hospitals. The patient monitoring

systems is one of the major improvements because of its advanced technology. So we are

here, just connecting the temperature sensor and heartbeat sensor so that simultaneously we

can monitor the patient’s condition and hence ruling out the use of the thermometer and other

devices to check the condition of the patient.

This project describes the design of a simple, microcontroller based heart rate measuring

device with SMS output. Heart rate of the subject is measured from the index finger using

Arduino Device sensors and the rate is then averaged and displayed on a text based

LCD.

The device alarms when the heart beat & the body temperature exceed the provided threshold value. This threshold value is defined by the programmer at the time of programming the microcontroller. The threshold value given for the project is as 20 to 120 pulses per minute for heart beat indication & 18°C to 38°C for temperature.

This information i.e. the Heart Rate & the Body Temperature and saline level is then transmitted wirelessly to the doctor which in not in the vicinity of the patient through GSM technique. The sensors measure the information and transmit it through GSM Modem on the same frequency as on which cell phones work.

# **Problem Statement**

Now days, heart diseases are exceeds up to dangerous level which leads to death of human

being. Monitoring of patient constantly is difficult or doctors are also unable to monitor

particular patient for total working hours. In many critical conditions such as patient is

located far away from hospital or also in case of old patient who suffering with heart disease

and physical disorders, continuous monitoring of patient is not possible. This module deals

with solving above problems. Module consist of heart rate sensor and temperature sensor

which measures the heart rate and sends SMS through GSM to the

registered patient for the preliminary precautions so that patient can be prevented from

serious situation before reaching to the hospital. For temporary storage of the data, Arduino

device used. For display the measured values of heart beat and body temperature, android

apps is used.

# **Objective**

The objective need to be apply in this system:

1. To manage evaluation process between examiner and student by using online system.
2. To manage student mark from supervisor and examiner by using online system.
3. To monitor student progress by upload a student document into FYP Portal.

# **Scope**

1. **System User**

There are four users can use this system which is coordinator, supervisor, examiner and student.

1. **Function**

The function of this system is to manage evaluation process from examiner and supervisor by saving the data into the database. This system also available to upload and download the document from student.

# **Report Organization**

There are five total chapter in this thesis:

1. **Chapter 1** discusses about FYP Portal Module Evaluation system background. This chapter also explain about the reason this system need to be develop by discover the problem statement. From the problem statement, objective and scope for this system can be archive in this chapter.
2. **Chapter 2** discusses about the literature review of FYP Portal. This chapter also discuss about comparison the existing system with FYP Portal by state the advantage and disadvantage the existing system.
3. **Chapter 3** discusses about the usage of methodology in FYP Portal. This chapter cover the UML diagram that use to develop FYP Portal such as use case, context diagram, activity diagram and class diagram.
4. **Chapter 4** discusses about the implementation and testing. How this system develop will state in this chapter by record the code.
5. **Chapter 5** discusses about conclusion. Limitation and future works about this system can be state in this chapter.

1. **SYSTEM DESIGN APPROVAL**

|  |  |  |
| --- | --- | --- |
|  | **Name** | **Date** |
| **Verified by:**  Developer |  |  |
| **Approved by:**  Client |  |  |

**APPENDICES**