HEALTH TRACKING SYSTEM

A PROJECT REPORT

Submitted by

IMMANUELLAZER .D	**112818106008**
KAMMALEASH .S	**112818106012**
GANESHREDDY .K	**112818106014**
YUVARAJ .S	**112818106038**

In partial fulfillment for the award of the degree of

BACHELOR OF ENGINEERING

IN

ELECTRONICS AND COMMUNICATION ENGINEERING

T.J.S. ENGINEERING COLLEGE, PERUVOYAL, CHENNAI

ANNA UNIVERSITY: CHENNAI 600 025

JUNE, 2022

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BONAFIDE CERTIFICATE

Certified that this project report "HEALTH TRACKING SYSTEM" is the Bonafide work of the following students

IMMANUELLAZER .D	**112818106008**
KAMMALEASH .S	**112818106012**
GANESHREDDY .K	**112818106014**
YUVARAJ .S	**112818106038**

Who carried out the project work under my supervision.

SIGNATURE
DR.S.VELMURUGAN
HEAD OF THE DEPARTMENT
Department of Electronics and Communication Engineering,
T.J.S. Engineering College,
Peruvoyal, Chennai

SIGNATURE
Mrs. C.SHALINI
ASSISTANT PROFESSOR,
Department of Electronics and communication Engineering,
T.J.S. Engineering College,
Peruvoyal, Chennai

Submitted for viva voce held on 22.06.2022 at T.J.S. Engineering College, Peruvoyal, Chennai

INTERNAL EXAMINER

EXTERNAL EXAMINER

PRINCIPAL
T.J.S. ENGINEERING COLLEGE
Peruvoyal, Kavaraipettai,
Gummidipoondi Taluk,

ABSTRACT

In these recent years, people are much more concerned about their health as diseases arising day by day are more. Hence it is very much important to monitor the health. This system presents the design and implementation of IOT based health monitoring system which incorporates temperature and pulse rate sensors, blood pressure, respiratory. The patient's body will be monitored continuously and the doctor can know about the patient's condition while sitting somewhere in front of a computer screen. Whenever the condition of the patient goes abnormal an alert will be sent to the doctor through the mobile app so that he can diagnose the problem immediately which helps to save patient's life. The main purpose of this project is to inform the doctor about the patient's health condition time to time and if any abnormality occurs, the doctor can take the best step immediately

OMD551 BASIC OF BIOMEDICAL INSTRUMENTATION L P T C
3 0 0 3

UNIT I BIO POTENTIAL GENERATION AND ELECTRODES TYPES

Origin of bio potential and its propagation. Types of electrodes - surface, needle and micro electrodes and their equivalent circuits. Recording problems - measurement with two electrodes

UNIT II BIOSIGNAL CHARACTERISTICS AND ELECTRODECONFIGURATIONS

Bio signals characteristics – frequency and amplitude ranges. ECG – Einthoven's triangle, standard 12 lead system. EEG – 10-20 electrode system, unipolar, bipolar and average mode. EMG– unipolar and bipolar mode.

UNIT III SIGNAL CONDITIONING CIRCUITS

Need for bio-amplifier - differential bio-amplifier, Impedance matching circuit, isolation amplifiers, Power line interference, Right leg driven ECG amplifier, Band pass filtering

UNIT IV MEASUREMENT OF NON-ELECTRICALPARAMETERS

Temperature, respiration rate and pulse rate measurements. Blood Pressure: indirect methods - Auscultatory method, direct methods: electronic manometer, Systolic, diastolic pressure, Blood flow and cardiac output measurement: Indicator dilution, and dye dilution method, ultrasound blood flow measurement.

UNIT V BIO-CHEMICAL MEASUREMENT

Blood gas analyzers and Non-Invasive monitoring, colorimeter, Sodium Potassium Analyser, spectrophotometer, blood cell counter, auto analyzer (simplified schematic description).

PRINCIPAL
T.J.S. ENGINEERING COLLEGE
Peruvoyal, Kavaraipettai,
Gummidipoondi Taluk,
Thiruvallur Dist - 601 206.