**CAPSTONE PROJECT REPORT**

(Project Term January-May 2021)

## (Smart Health Care Management System)

Submitted by

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**Course Code : CSE445**

Under the Guidance of

**(Ms. Navneet Kaur, Assistant Professor)**

# 

School of Computer Science and Engineering

**DECLARATION**

We hereby declare that the project work entitled (“Smart Health Care Management System”) is an authentic record of our own work carried out as requirements of Capstone Project for the award of B.Tech degree in Computer Science & Engineering from Lovely Professional University, Phagwara, under the guidance of Ms Navneet Kaur , during January to May 2020. All the information furnished in this capstone project report is based on our own intensive work and is genuine.

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**NOVELTY:**

Main concept of the project is to generate automated health alerts of patients by using technologies like IoT and cloud.

**FEASIBILITY**:

For developing this project there should be deep knowledge of sensors and circuit, sufficient

capability to code in MATLAB, Arduino IDE and its libraries.

**SPECIFIC REQUIREMENTS**

* For getting Heart beat and Temperature and Spo2values of patients .We have to place the specified sensors to patient body for getting readings.
* Monitor After the installation of sensors to patient all the time the patient is being monitored and making analysis with the help of previous recorded data.

**LM35 TEMPERATURE SENSOR**

* In LM35 The LM series originated with integrated circuits made by National Semiconductor.
* The prefix LM stands for linear monolithic, referring to the analog components integrated onto a single piece of silicon.
* This temperature sensor that outputs an analog signal which is proportional to the immediate temperature

Features

* Output in Celsius (Centigrade).
* 0.5°C Accuracy (at 25°C).
* LM35 has −55°C to 150°C Range value.
* Remote applications can be applicable.
* It is operate from 4 V to 30 V.
* This is Less than 60-µA Current Drain..

**MAX30100 PULSE OXIMETER SENSOR**

* This sensor is an integrated pulse oximetry and heart-rate monitor sensor.
* When the heart pumps blood, there is an increase in oxygenated blood as a result of having more blood. As the heart relaxes, the volume of oxygenated blood also decreases. By knowing the time between the increase and decrease of oxygenated blood, the pulse rate is determined.

Features

* Consumes very low power(operates from 1.8v to 3.3v)
* ultra-low shut down current.
* Fast data output capability.

**NODEMCU**

Node MCU is an open source IoT platform that is low cost. Initially, it contained

Firmware running on Espressif Systems ESP8266 Wi-Fi SOC, and hardware based on\

ESP-12 board.

### **NODE MCU ESP8266 SPECIFICATIONS & FEATURES:**

### **Node MCU ESP8266 Specifications & Features**

### Digital I/O Pins (DIO): 16

Analog Input Pins (ADC): 1

Flash Memory: 4 MB

Small Sized module to fit smartly inside your IoT projects..

**APPLICATIONS OF NODE MCU**

Prototyping of IoT devices

Low power battery operated applications

Projects requiring multiple I/O interfaces with Wi-Fi and Bluetooth functionalities