

IOT BASED BLOOD
OXYGEN AND HEART
RATE MONITORING
SYSTEM

Introduction:

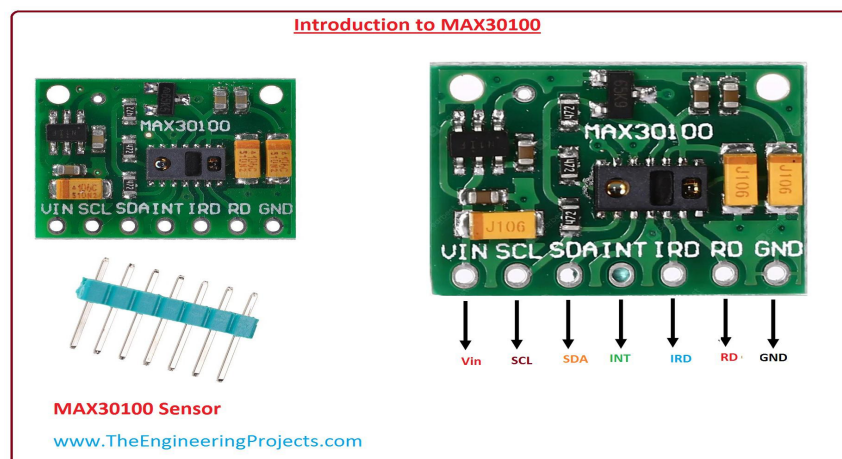
Due to a huge explosion of COVID-19 cases in the Country and increasing demands of beds and oxygen cylinders , there prevails shortage of beds in the hospital. So patients have to be monitored and treated at their home itself.

Also , it has become very important for the doctors to monitor the health conditions of the patients remotely . So here I come up with “IOT BASED BLOOD OXYGEN AND HEART RATE MONITORING SYSTEM” as my project.

This project is able to measure the blood oxygen level and heart rate of the patient which can be monitored live by the doctors using a mobile application and Internet .

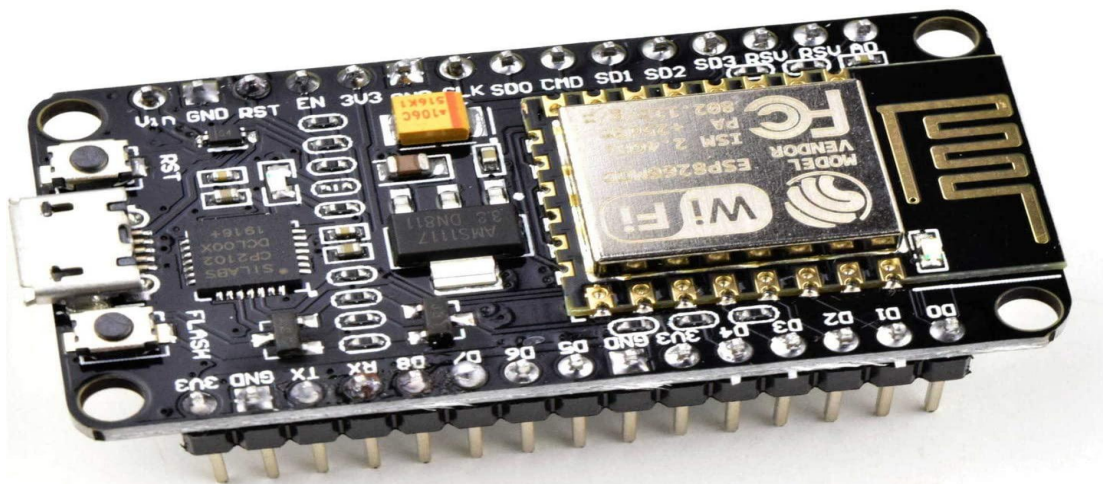
Main Components used:

1. Max30100 Pulse Oximeter Heart Rate Sensor Module



The MAX30100 is an integrated pulse oximetry and heartrate monitor sensor solution. It combines two LEDs, a photodetector, optimized optics, and low-noise analog signal processing to detect pulse oximetry and heart-rate signals

2. Node MCU ESP8266 :



ESP8266 is a highly integrated chip designed for the needs of a new connected world. It offers a complete and self-contained wi-fi networking solution, allowing it to either host the application or to offload all wi-fi networking functions from another application processor.

3. 0.96" OLED Display Module



This module is a 0.96 inch blue OLED display module. The display module can be interfaced with any microcontroller using IIC protocols. It is having a resolution of 128x64. OLED is a self light-emitting technology composed of a thin, multi-layered organic film placed between an anode and cathode.

4. BLYNK MOBILE APPLICATION:

Blynk is an application that runs over Android and IOS devices to control any IoT based application using Smartphones. It allows you to create your Graphical user interface for IoT application. Here we will set up the Blynk application to monitor BPM & SPO2 over Wi-Fi using NodeMCU ESP8266.

CIRCUIT DIAGRAM :

