**TITLE:** HEART PULSE MONITORING AND NOTIFICATION SYSTEM USING ARDUINO

**PROJECT BATCH-90**

**TEAM MEMBERS:** Hari Kiran Pendurthi (Team Lead)

Hemanth Sai Gokarakonda

Venkata Siva Sai Kanneganti

Jaswanth Godavarthi

**GUIDE NAME:** MRS. S. KAVITHA MAM

**TASK DISTRIBUTION:**

* Connecting Heart Rate sensor module to Arduino

### Coding in Arduino

### Connecting BOLT Wifi Module to Arduino

### The above three tasks should be done by Hemanth Sai and Jaswanth.

### Setting up Email automation service using Mailgun

### Setting up SMS service using Twilio

### Using DigitalOcean VPS to run Heart Rate Monitoring Code

### The above three tasks should be done by Hari Kiran and Siva Sai.

**Review-1 Deadline:**

* Should Understand thoroughly about the project and be prepared with individual assessments based on their research papers.
* Literature survey and proper PPT of the project should be prepared.
* Should upload the necessary files into the gitlab project section.
* Should work on the main code of the project post review-1.
* Should gather the hardware components and the heart rate detection sensor.

**LITERATURE SURVEY (Research Papers)** :

1. Remote Patients Monitoring System(Heartbeat and Temperature) using Arduino [BASE PAPER]
2. Analysis of Heart Rate and Body Temperature from the wireless monitoring system using Arduino.
3. Continuous Heart Rate and Body Temperature Monitoring System using Arduino UNO and Android Device.
4. Developing IOT Based Smart Health Monitoring Systems: A Review.
5. Smart Healthcare Monitoring using IOT.
6. Development of Smart Healthcare Monitoring System in IoT Environment.
7. A smart system for remote monitoring of patients and SMS messaging upon critical condition.
8. Web-based remote monitoring of infant incubators in the ICU.
9. Applying Telecommunication Technology to Health.
10. Low Cost Heart Rate Portable Device for Risk Patients with loT and Warning System.
11. An IoT-Based Smart Framework for Human Heartbeat Rate Monitoring and Control System.
12. IoT Based Heart Activity Monitoring Using Inductive Sensors.

**MAIN ABSTRACT:**

The main aim of our project is to detect the heart pulse and if there’s any abnormality in the pulse, then it should send the notification to the concerned person or doctor. Since it is automated, there’s no need of human interaction in between the process. We have taken an actual existing model as our base and its related paper as our base paper. The actual existing model’s proposed approach consists of sensors which measures heartbeat and body temperature of the patient which is controlled by the microcontroller. Both the readings are displayed in LCD monitor. Most health monitoring systems that are used in offline mode and this existing model implements the same. We have taken this as our subject and provided automation. The automation which we have provided is by sending the notifications through online APIs such as Mailgun and Twilio. By this , we as a team have improved the quality of the model as well as implemented our knowledge we have gained in Internet Of Things course. We have used KY-039 Finger Detection Heartbeat Sensor to detect the heart pulse and an Arduino mega 2560 for the interface. Later we have used the online API based web service to send mails and sms regarding the data of the concerned patients. In this way, we are providing a solution to remotely access the heart pulse data of the patients and doctors are benefited the most by our project.

**Key words**: Health monitoring systems, microcontroller, KY-039 Finger Detection Heartbeat Sensor , Arduino mega 2560, Mailgun, Twilio.