KHULNA UNIVERSITY OF ENGINEERING & TECHNOLOGY

Department of Electronics and Communication Engineering

COURSE NO: ECE 3200

Course Title: Electronics Project Design

3rd Year 2nd Term

Project Title: Smart Health Assistant

SUBMITTED TO:

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Abstract:

Old aged peoples, Alzheimer's affected ones, persons with heart problems always need attention. If they do heavy work, skipping their food, etc. will affect the health condition of these persons much more.

Consider old age people lives in their home alone during day time because their son/daughter goes to work and grandchildren’s goes to school. During these times no one will be there to take care of them. Even if they fall down, a mild stroke occurs, temperature increases the first aid will only get when someone notice it, it may take long time since no one is there. This may lead to situations that we lose them.

To overcome this situation, we built the Health band. It monitors the motions and status of the person, heart beat rate, temperature, up-to-date. If there seems A Sudden fall due to heart attacks or loosing balance, or abnormal fall or rise in heart beat rate it alters the nearby ones of the person to get immediate attention, the Health band also measures the temperature of the person in order to understand the person health condition.

Thus, by the smart Heath band we can take care of our beloved ones from anywhere in the world.

Objectives:

The main purpose of this project is to

- Design a health band which can measure pulse rate and blood pressure.
- The temperature of the body and the humidity of the surrounding environment.
- Record and stored the measured data to identify any changes in health condition.
- Send message to the nearby hospital and set an emergency alarm If there seems any sudden fall due to heart attacks or loosing balance.
- Track the location of the person to give immediate medical support.

Components:

1. Infineon DPS310
2. Arduino Nano R3
3. OLED Display SSD 1306
4. Espressif ESP8266 ESP-01
5. Pulse Sensor
6. DHT22 Temperature Sensor
7. GPS Module
8. SIM 800L
9. SIM Card
10. Jumping wires
11. 3.7 V LiPo Battery

Software:

1. Arduino IDE
2. Blynk

Circuit Diagram:

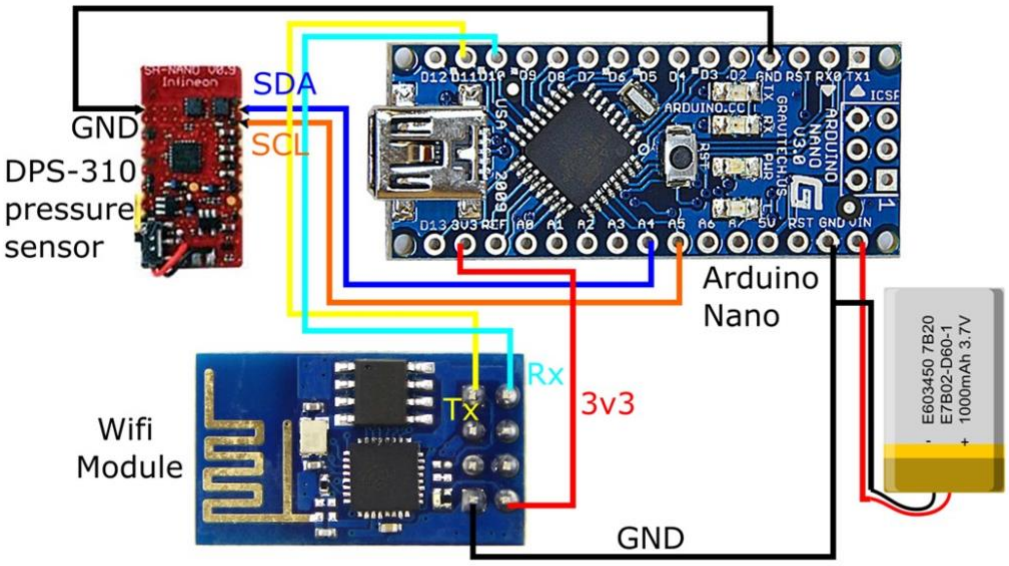

Fig-1: Wire diagram for pressure sensor

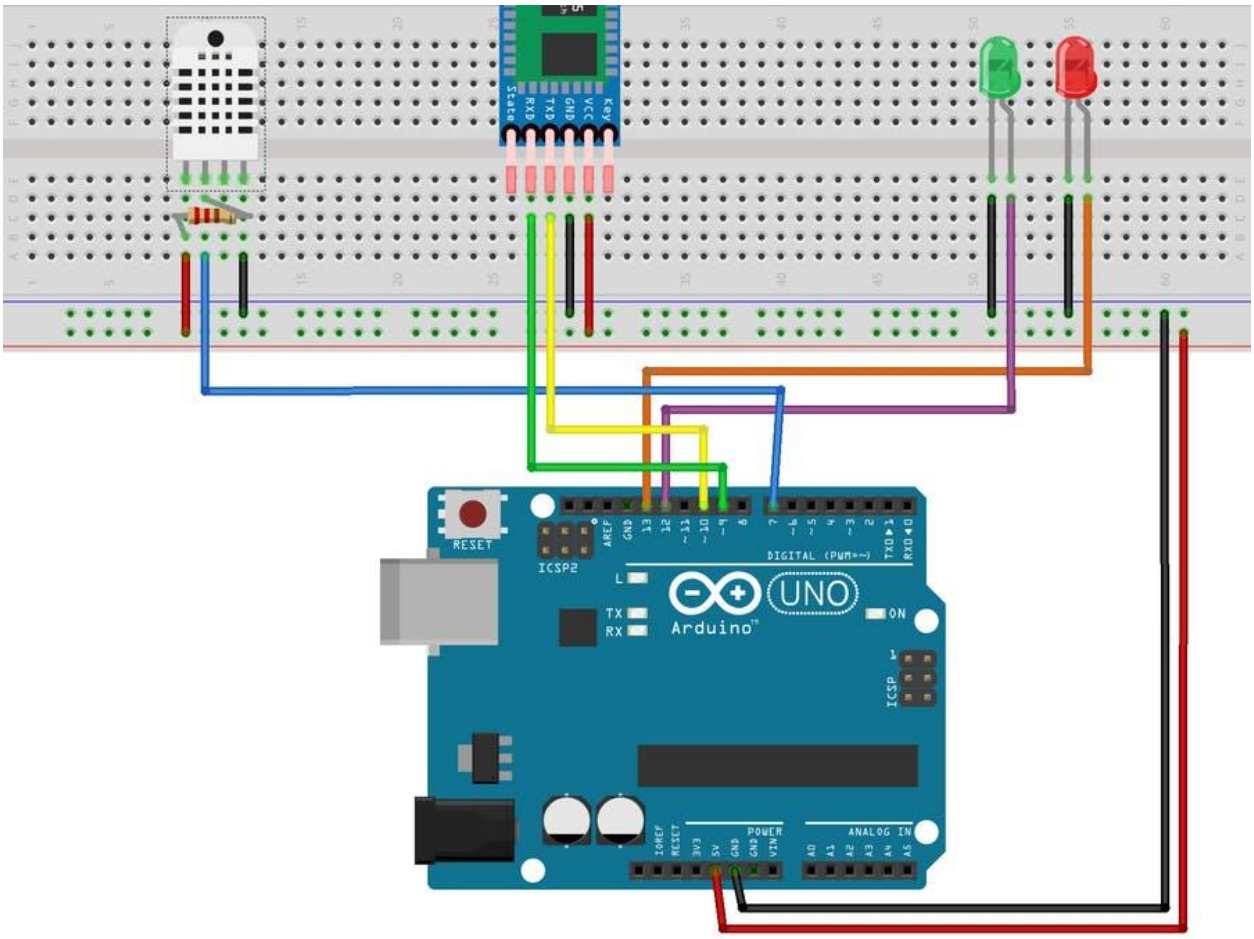

Fig-2: Wire diagram for temperature and humidity sensor

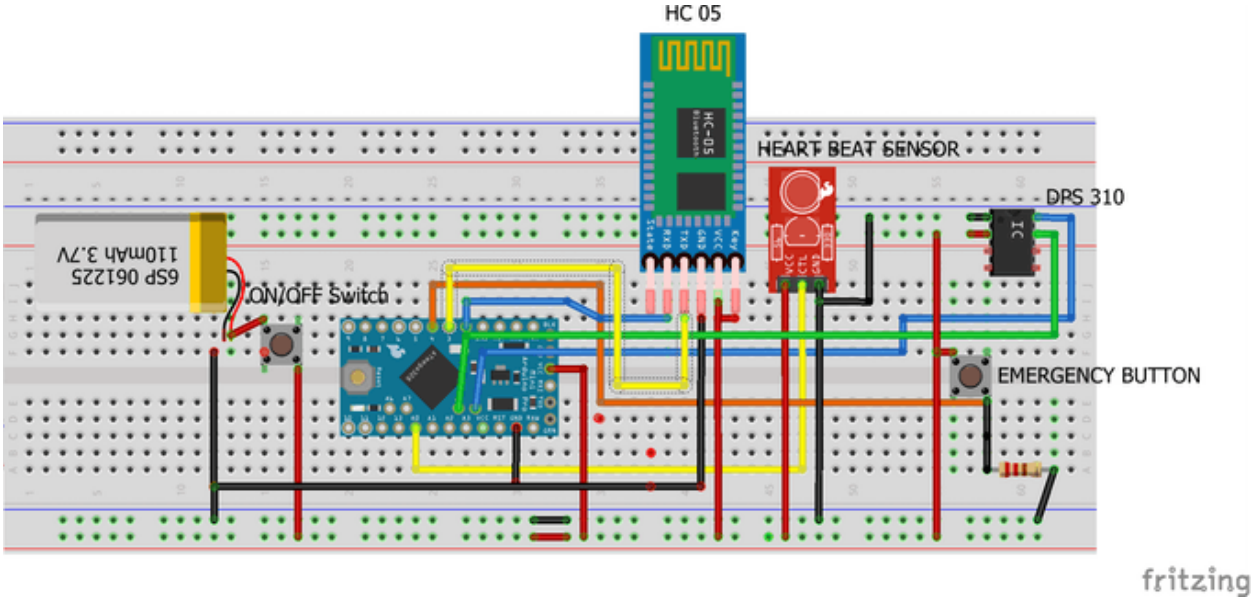

Fig-3: Wire diagram for Heartrate sensor