ECS-1001 – LED BIKE VEST

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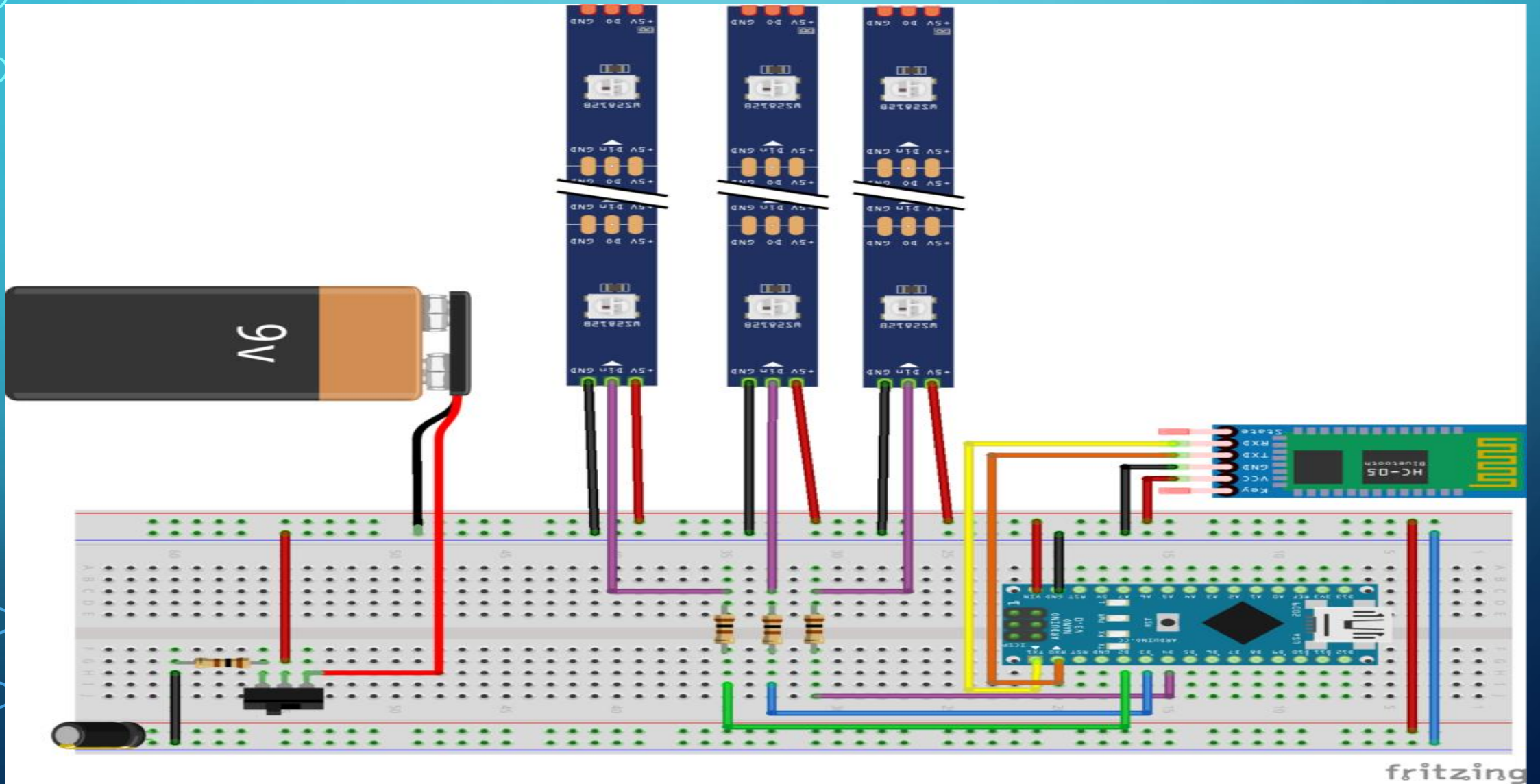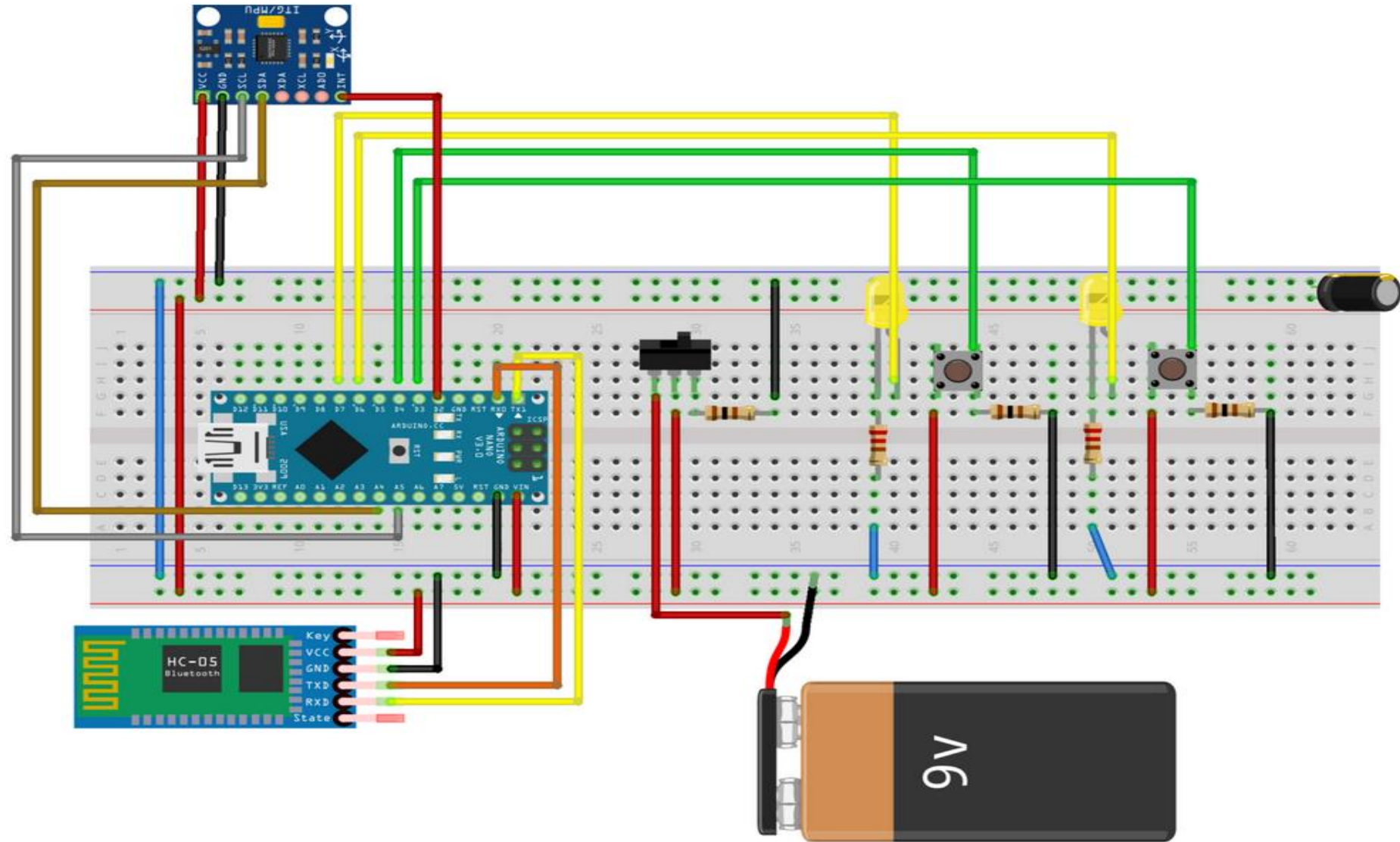ALAGAPPAN SP 20BCE7211

Professor:

Dr. Hari Kishan Kondaveeti

Vest circuit(Master):-

Handle circuit(Slave):-

How it works:-

➢ As we know, when the Accelerometer in the (Master) breadboard sense the body in which direction it is moving, it sends data to Arduino.

➢ In turn, it configures and sends a signal to the (Slave)breadboard Arduino via the Bluetooth devices connected to both boards.

➢ After, receiving the signal, the Slave Arduino computes the data in which direction it is moving sent by Master Arduino and it communicates with (or glows) the LED strip of the Slave Arduino's data.

Output:-

Prototype:-

Handle circuit:-
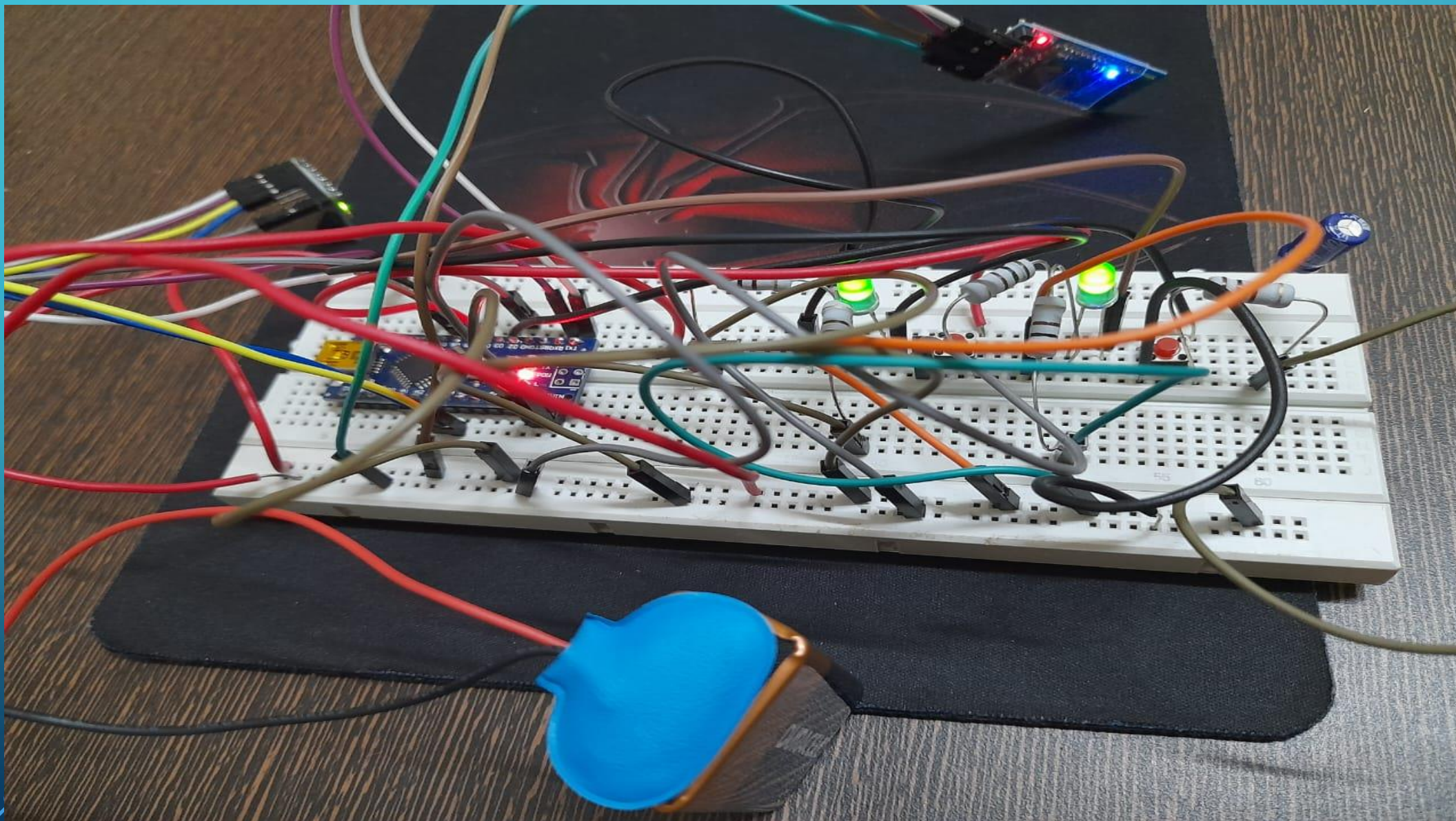
Vest circuit:-
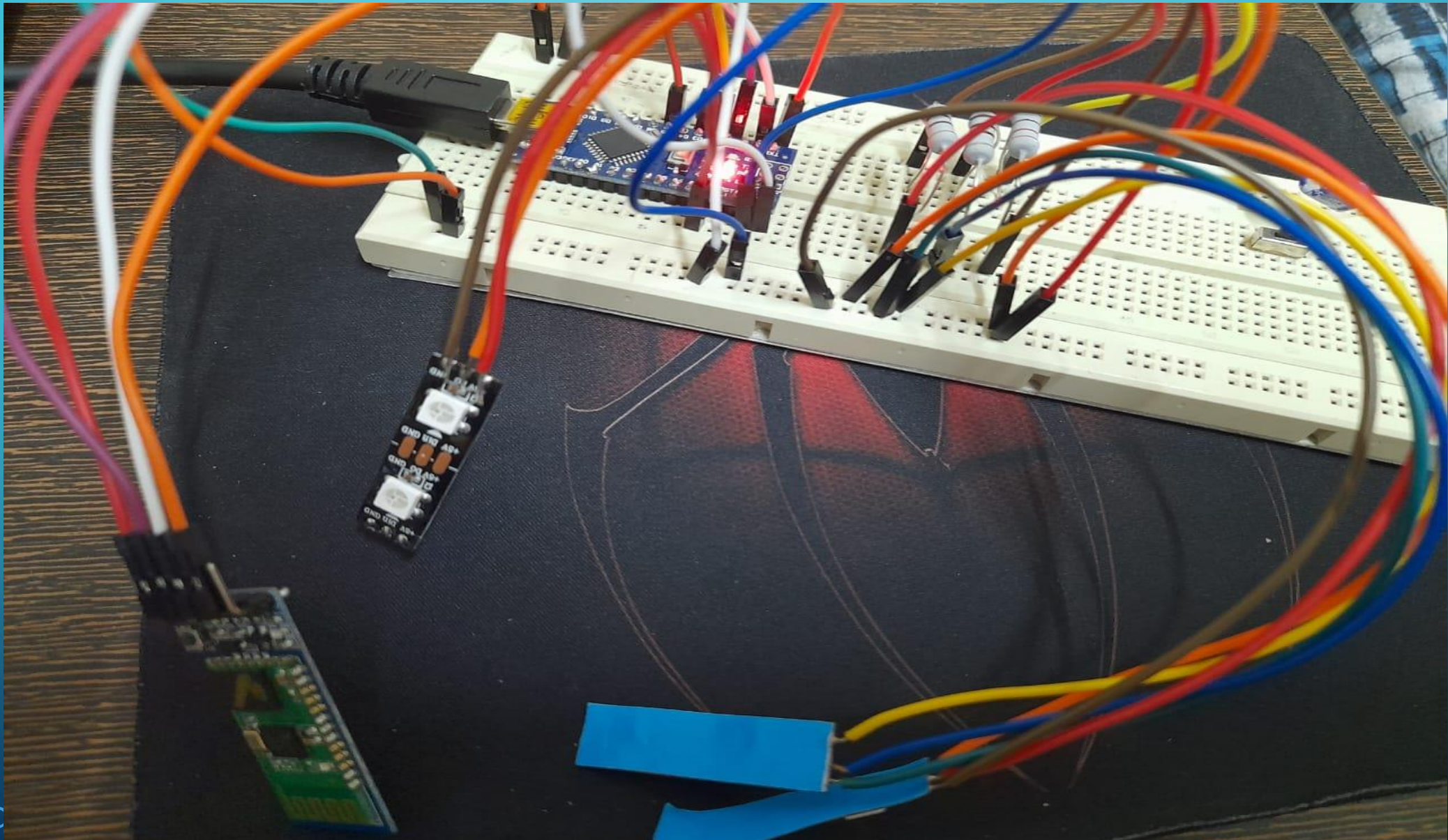
What we have done in this review:-

To Configure and Pair Two HC-05 As Master and Slave:-

➤ To configure HC-05, we will have to enter AT mode

➤ From the diagram, the VCC of HC-05 is connected to the 3.3V of the Arduino Nano. If the VCC of HC-05 is connected directly to 5V of Arduino Nano,

➤ Next, remove the VCC wire, and connect the USB to the Arduino board.

➤ Type the sample source code and upload it to your Arduino board.

➤ After the uploading process is complete, then reconnect the VCC wire back to your HC-05.

➤ Now we can see the LED on the HC-05 Bluetooth is blinking every 2 seconds at interval. This indicates that the Bluetooth module has entered AT mode.

Slave Configuration(Handle):

➢ The required AT commands to set the configuration

➢ AT+RMAAD (To clear any paired devices)

➢ AT+ROLE=0 (To set it as slave)

➢ AT+ADDR (To get the address of this HC-05, remember to jot the address down as it will be used during master configuration)

➢ AT+UART=9600,0,0 (To fix the baud rate at 9600)

Master Configuration(Vest):

The required AT commands to set the configuration:

- AT+RMAAD (To clear any paired devices)

- AT+ROLE=1 (To set it as master)

- AT+CMODE=0 (To connect the module to the specified Bluetooth address and this Bluetooth address can be specified by the binding command)

- AT+BIND=xxxx,xx,xxxxxx (AT+BIND=98d3,34,906554)

- AT+UART=9600,0,0

In the next review:-

We will try to implement the PCB design and attach the vest circuit and led strips to the vest and handle circuit to the bicycle handle.

Thank You