HI my name is Paul Oates I am a first-year student at Abertay this is my WeMos project.

For my WeMos project I created a WeMos weather station using the following hardware.

- An OLED displays
- AN RTC module
- An LED and Key expansion module
- And a multi sensor cobber

The hardware is connected as follows:

1. The RTC is connected to the WeMos using the I2C bus
2. The OLED is also connected to the WEMOS using the I2C bus
3. The LED and KEY expansion module is connected to the WeMos using a serial interface
4. The Multi sensor Cobber is also connected using the I2C bus
5. The Multi Sensor Cobber module offers additional input sensors which allows Barometric pressure, temperature and Humidity to be measured across the I2C bus.
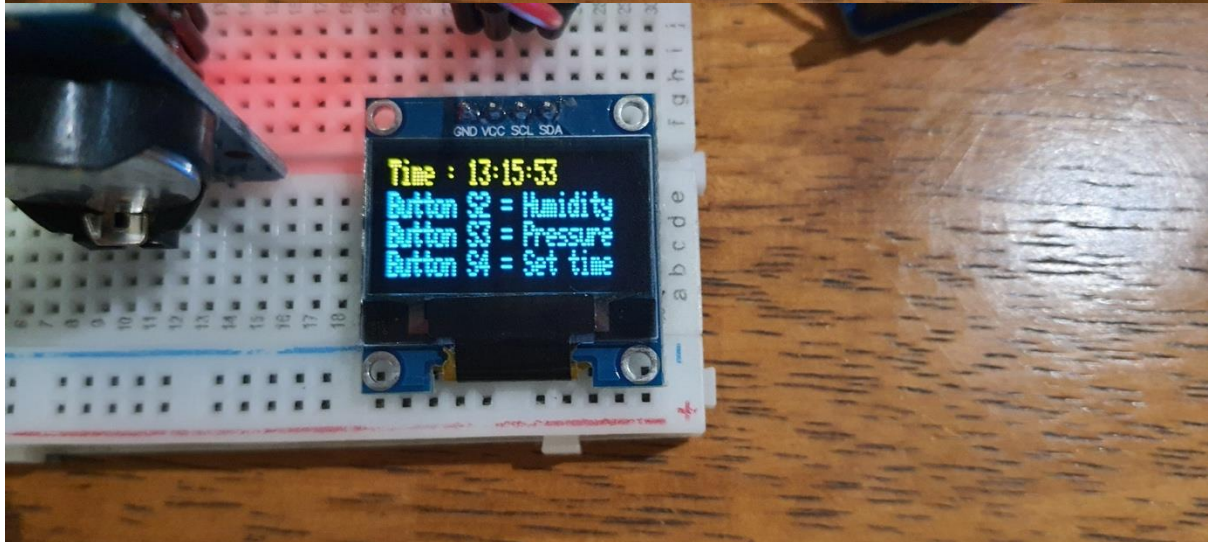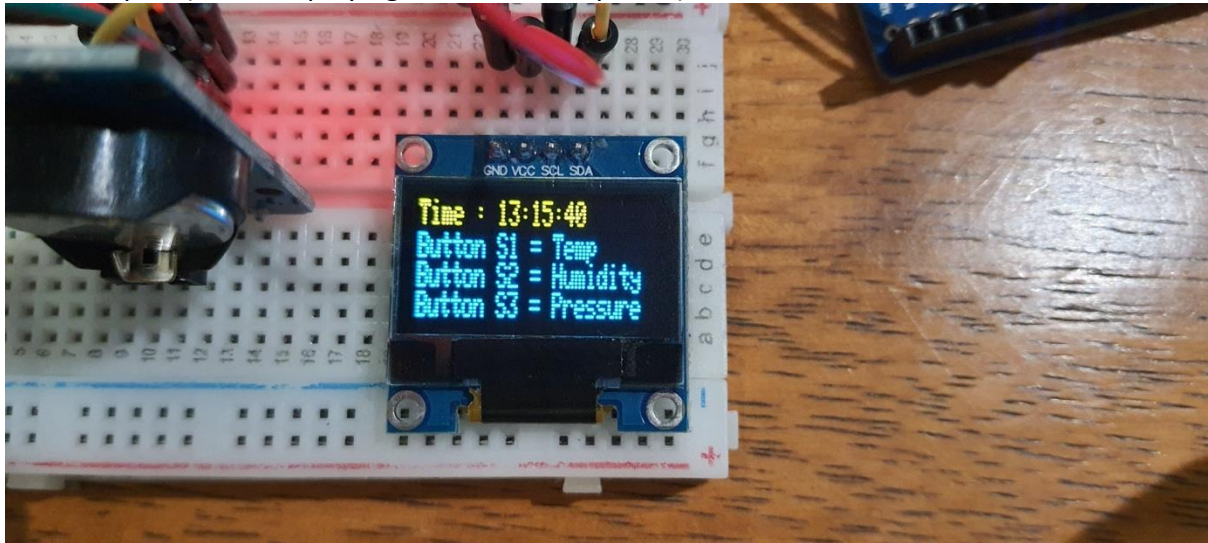
Software

- The software performs sensor measurements every one second, the current time is also reported every one second. The software also supports the information being sent across the serial port.

I have implemented the following features.

- The OLED Displays the current time and updated sensor measurements every one second
- The OLED also displays the option menu informing the user of the button input functions. Demo pressure temperature humidity
- The input Buttons can be us g ed to select what sensor measurement (temperature, Pressure, humidity) is shown on the seven-segment display
- The RTC can also be set and stored using the input buttons on the seven-segment display.
- LED's are used to indicate the input button selected
- All sensor information and current time are sent to the Serial port and can be captured using a terminal
- My project writes the debug information to the serial port, as well as writing the time, temperature, humidity and pressure to a web server, refreshed every 5 seconds, which the user can access via a browser

Examples (OLED displaying Set time and options)

Examples (set time function)

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                                                      Measurement
    OLED                                                Cobber
   Display          Real Time Clock                   (Temperature,
                                                   Humidity, Pressure)


         I2C              I2C                   I2C



                          WEMOS



   Serial Interface        Serial Port           TCP/wifi



   LED & Key          WeMos Serial Port           WeMos web
                          server                    server
```