WIRELESS NOTICE BOARD

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WIRELESS NOTICE BOARD USING ARDUINO & GSM

- Everyone would have known the use of notice board around our daily life.
- Even it plays a vital role in public places like bus stops, railway station, hospitals and educational Institutions.
- But with a great shift in technology we could revolutionize this kind of notice board by taking it wireless and adding some extra features. So that's what this Wireless notice board Arduino project is all about.
- In this system some of the important information will be also displayed like time, Temperature, Humidity, Pressure and Rain forecast.

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EXISTING SYSTEM:

In the present scenario to display any message on the notice board we type the message in PC and load into pen drive and we dump the information on to the notice board. But this a time taking and even much complicated process. If the person is not available then it is more difficult to display the message.

So if we interface it with GSM it becomes easy. Even whenever the authorized person is out of station he could convey the information just by sending the message.

WIRELESS NOTICE BOARD USING ARDUINO & GSM

Components Required:

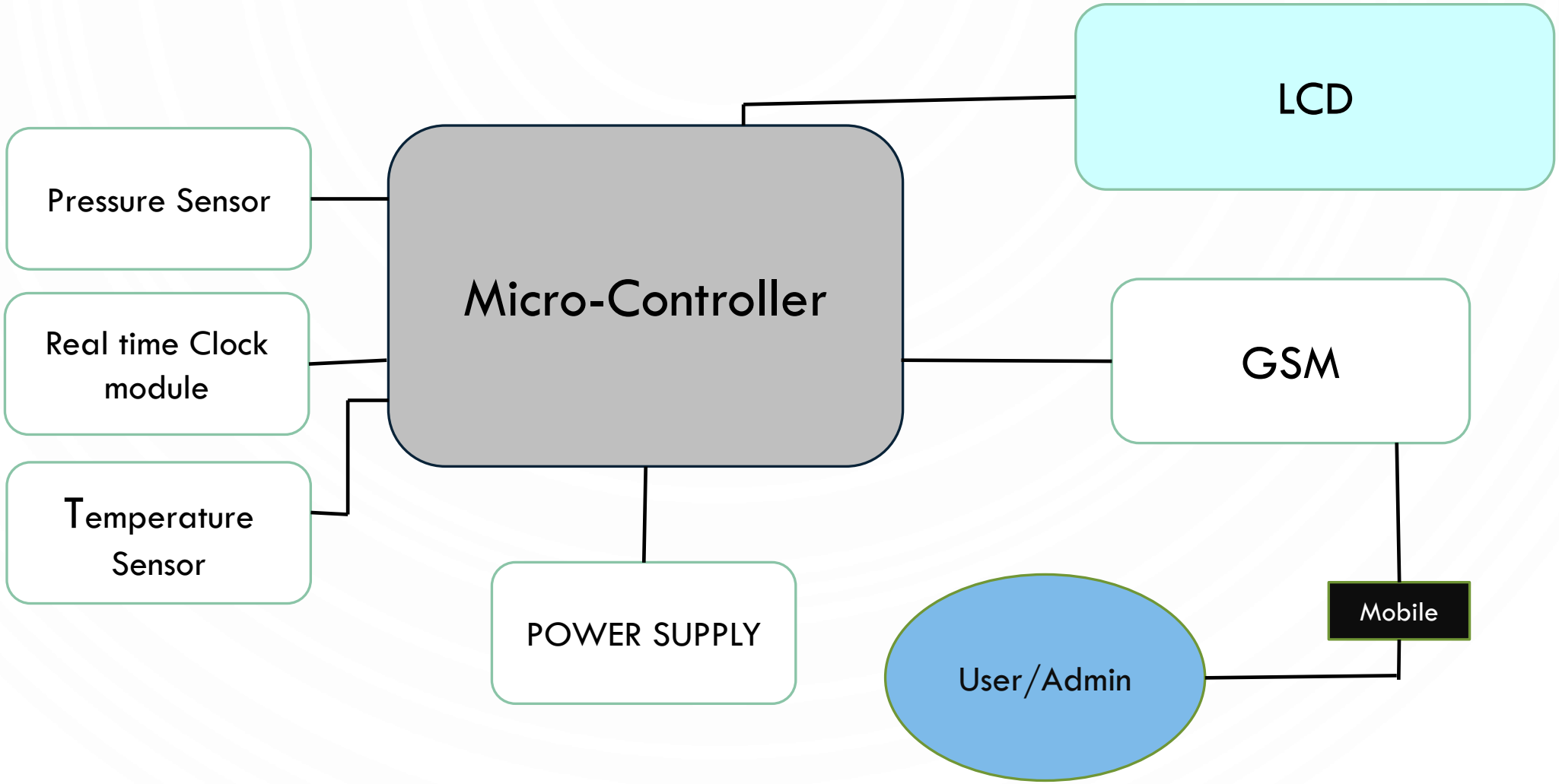
- Arduino UNO
- LCD 0.96inch OLED 128*64
- GSM Module SIM900
- Temperature & Humidity Sensor DHT 11
- DS3231Real time module
- Pressure Sensor BMP 180
- Power supply (9V Battery)
- PCB and Connecting wires

Functions:

- Notice Display
- Digital Clock
- Weather Forecast:
  - Temperature
  - Humidity
  - Pressure and altitude
  - Rain Forecast

SOFTWARE (ARDUINO IDE 1.8.5):THE OPEN-SOURCE ARDUINO SOFTWARE (IDE) MAKES IT EASY TO WRITE CODE AND UPLOAD IT TO THE BOARD. IT RUNS ON WINDOWS, MAC OS X, AND LINUX. THE ENVIRONMENT IS WRITTEN IN JAVA AND BASED ON PROCESSING AND OTHER OPEN-SOURCE SOFTWARE. THIS SOFTWARE CAN BE USED WITH ANY ARDUINO BOARD.

BLOCK DIAGRAM:



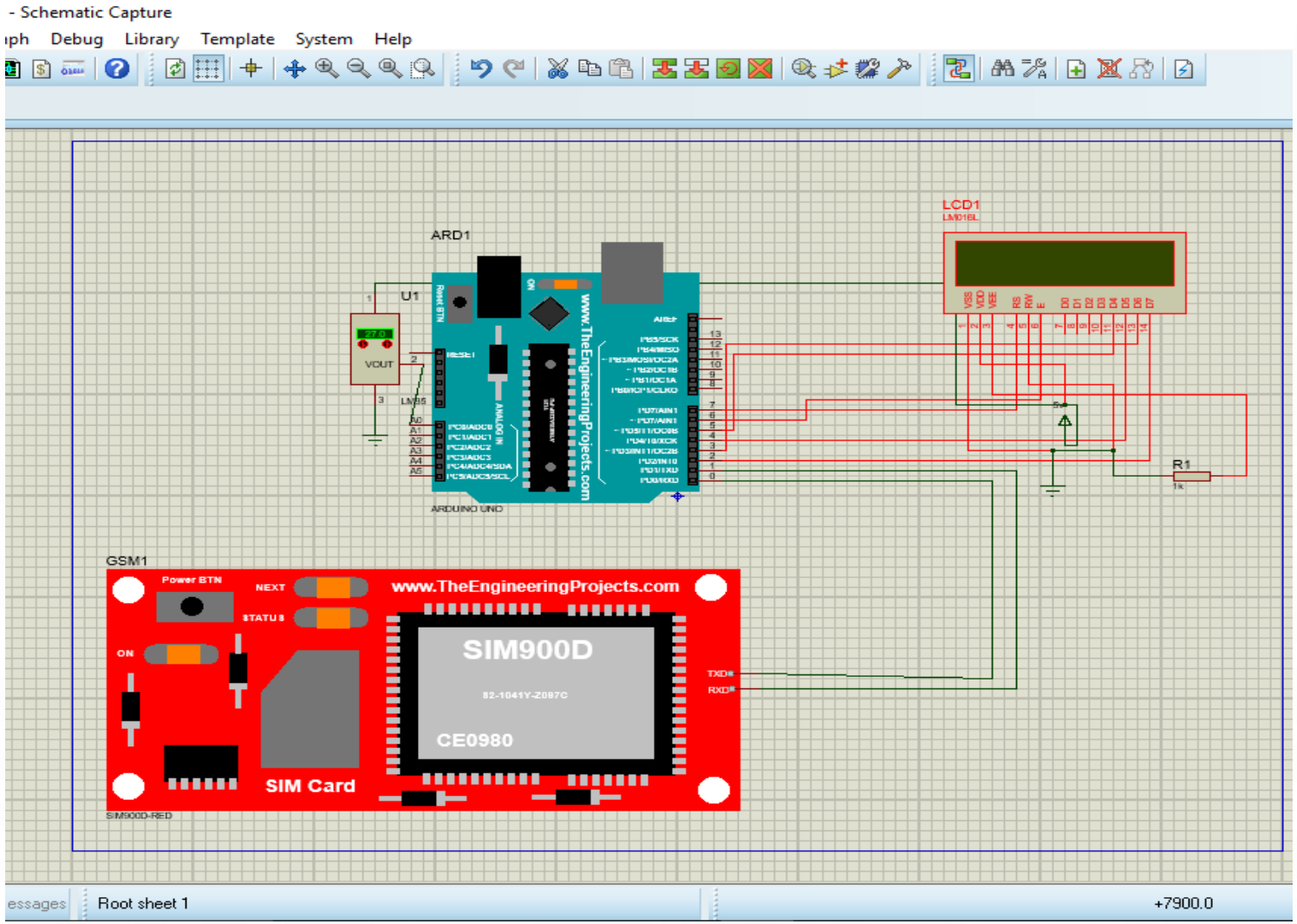
HOW IT WORKS:

- For this wireless notice board project LCD 0.96inch OLED 128*64 acts as display device.
- GSM module acts as a communicating medium.
- Normal text message from our mobile will reach the GSM module through the carrier.
- Once the message is reached GSM module will send it to the Arduino board through UART communication that is RX and TX.
- The code where written in such a way once the message reached it will display it in the LCD.
- GSM technology offers admin/user the facility to send message from anywhere in the world and still it will be display in the notice board.

HOW IT WORKS:

- Digital Clock will show the timing and date on LCD display attached with this system.
- DHT 11 sensor will measure Temperature and Humidity which will be displayed on the top Left and right Corner of LCD display board.
- BMP 180 sensor will measure the pressure and altitude and which will be displayed on LCD along with that the system will forecast rain according to the result of all the environmental sensors.
- Remaining part of the LCD will be used to display important information as Notice.

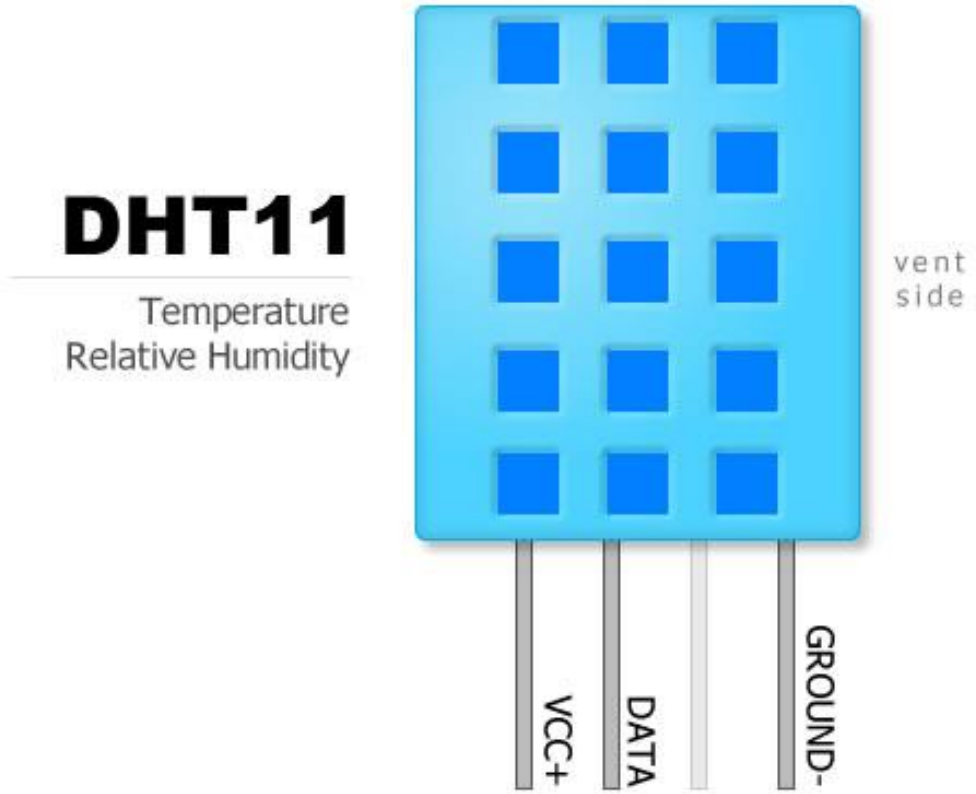
PROTEUS SIMULATION:



GSM SIM 900A

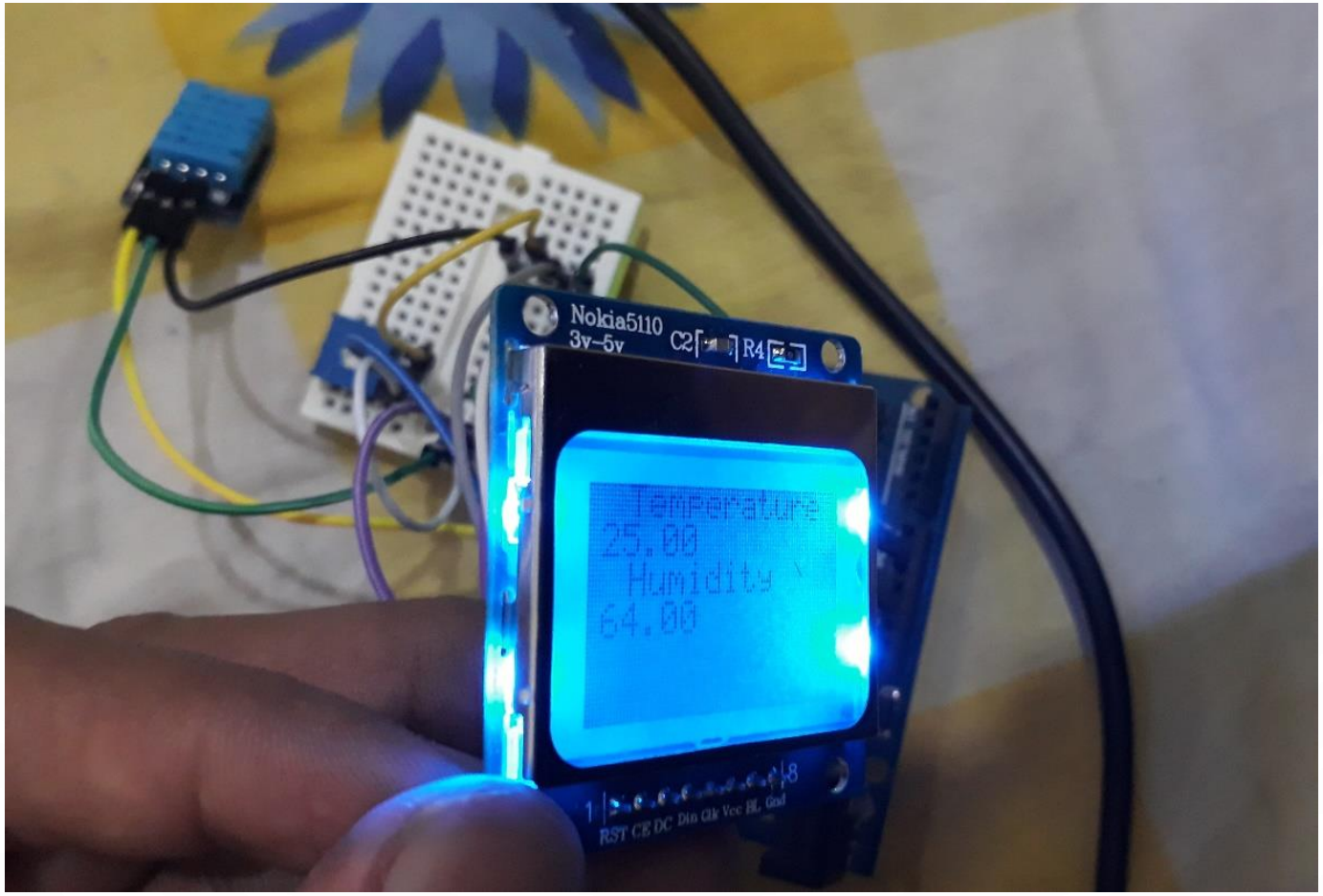
- ☐ Dual band GSM/GPRS 900/1800MHz.
- ☐ Configurable baud rate.
- ☐ SIM card holder.
- ☐ Built in network status LED.
- ☐ Inbuilt powerful TCP/IP protocol stack for internet data transfer over GPRS.
- ☐ Access control devices.

TEMPERATURE SENSOR(DHT11):

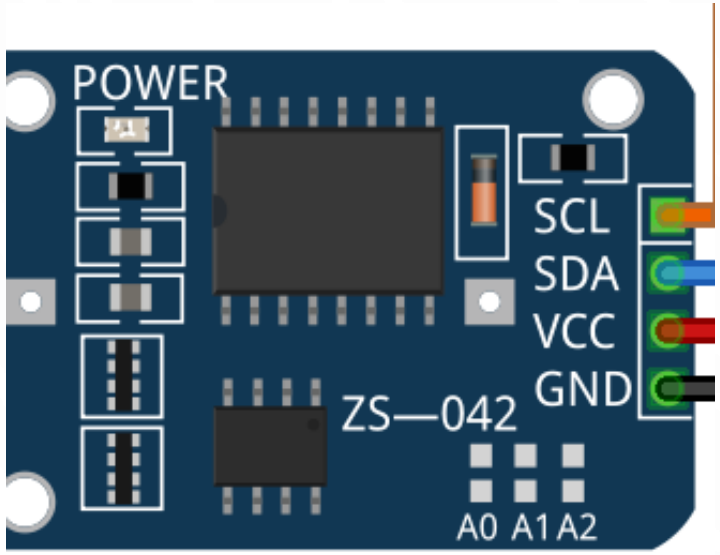


PRESSURE SENSOR(BMP180):

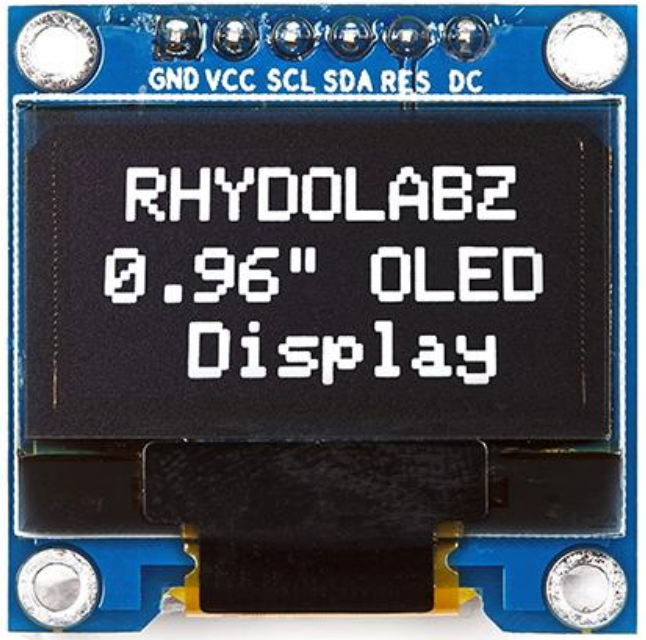
ARDUINO, TEMPERATURE & HUMIDITY SENSOR AND NOKIA 5110 LCD:



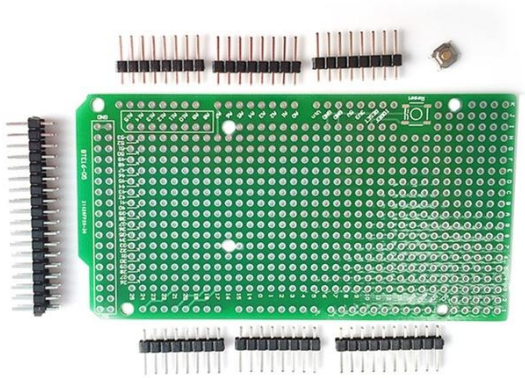
DSC3231 REAL TIME MODULE



LCD OLED



PCB



BATTERY

WIRES

THANK YOU!