LabVIEW Task 2 (sensors:BMP,MPU,DHT)

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Contents

Guidelines to do your task

- Explain the task you're attempting to do.
- Include the used tools required for accomplishing the tasks (Software name's, different setups for different operating conditions or outputs, machining tools required to fabricate specific things and so forth).
- List the steps from scratch in details (using written sentences, or even screenshots) required to recreate your task
- Include the output you got

Try to be specific as much as possible. For example, explicitly mention the units used (MKS, CGS, etc.), or the version of the software or the machine specification you were using, or any data that if missing would cause any confusion.

Also include, if available, helpful articles, videos, and the like to help master (or even be a beginner's guide to) the tool for further exploration

Task to Be Accomplished :

1) Build a labVIEW code that presents fake sensor data to thr needed sensors (DHT11,MPU6050,BMP180)

2) Create a cude shaped and body axes to control its orientations in LabVIEW

3) create a waveform chart for the 3 orientation indicators of the cude shaped

4) create a file path of Excel sheet to save data

5)Build a neat GUI decoration in the front panel

Tools to Accomplish the Task : 1) LabVIEW

Steps :

1) DHT11 STEPS :

1) Build DHT11 to read RH and Temperature from the satellite and its message is as (DHT: RH: Temperature:)

2) Create waveform chart for RH and Temperature .

3) save all data in Excel sheet .

4) test

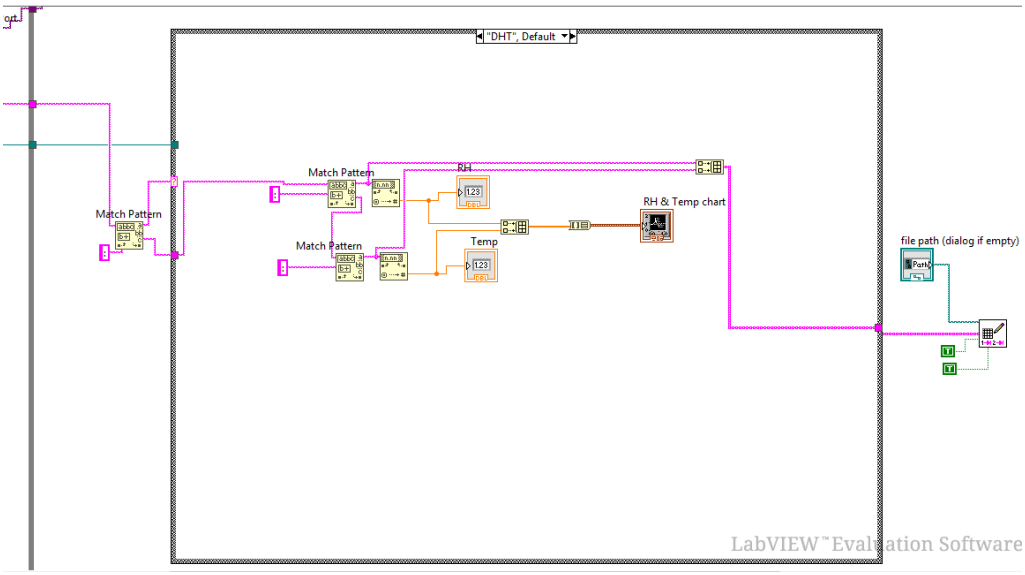


Figure 1:DNH11

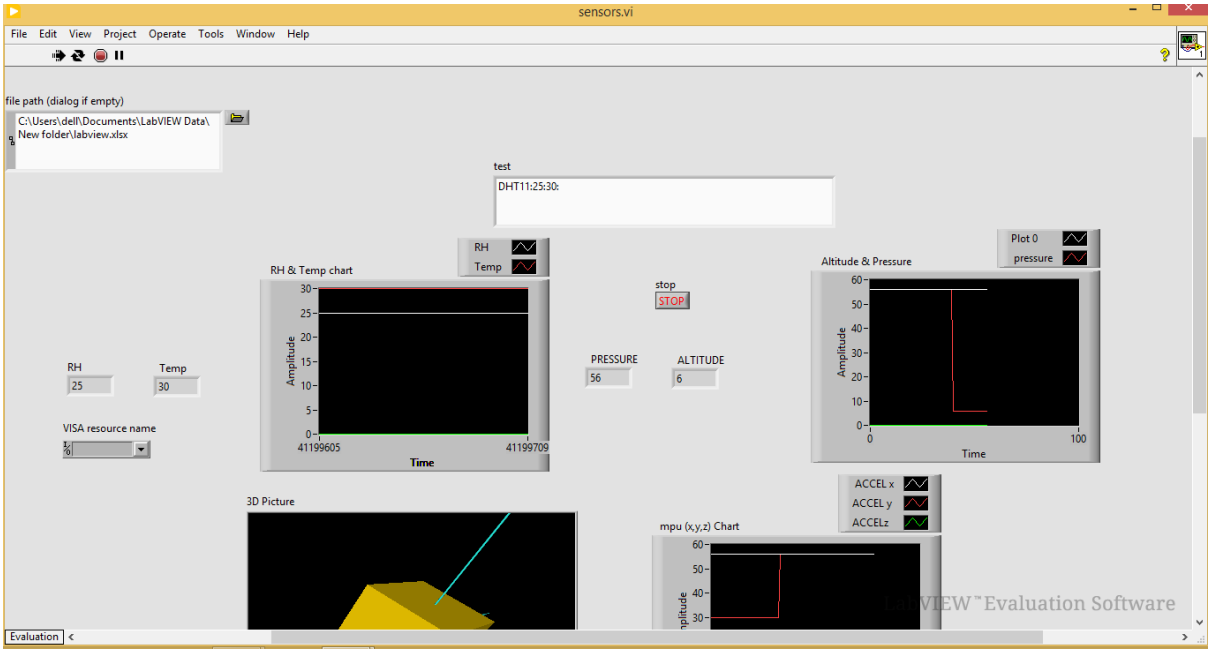


Figure 2:tast DHT11

2) MPU STEPS :

1) Build MPU6050 to read Pressure and Altitude from the satellite and the message is (MPU: ACCEL X : ACCELY:ACCEL Z :).

2)Create waveform chart

3) Create Cube shaped

4) save all data in Excel sheet

5) test

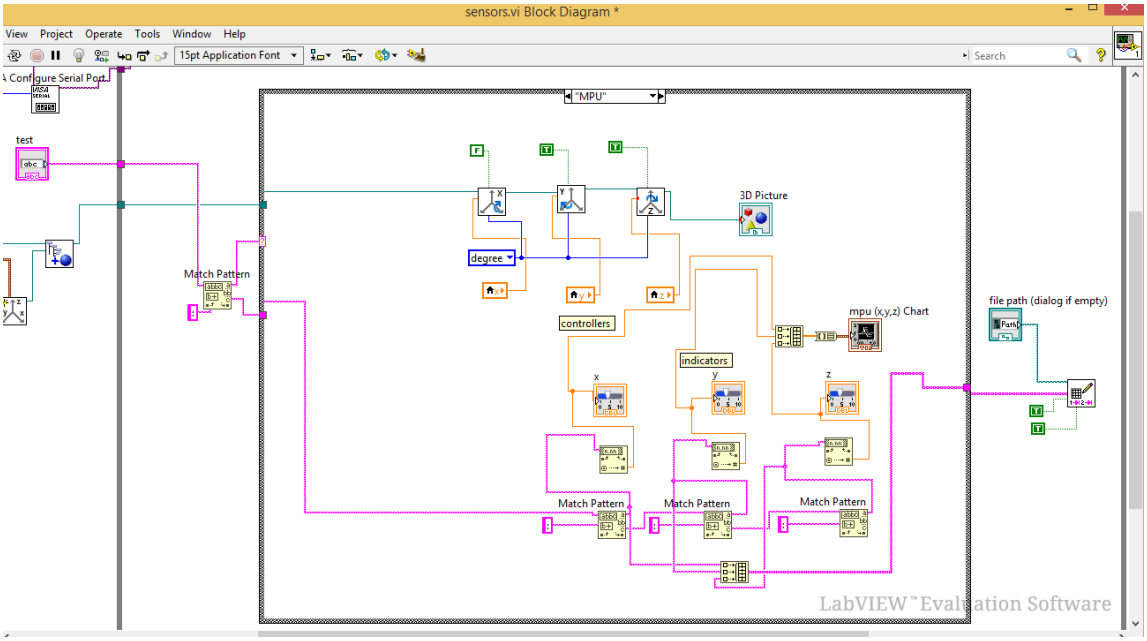


Figure 3:MPU6050

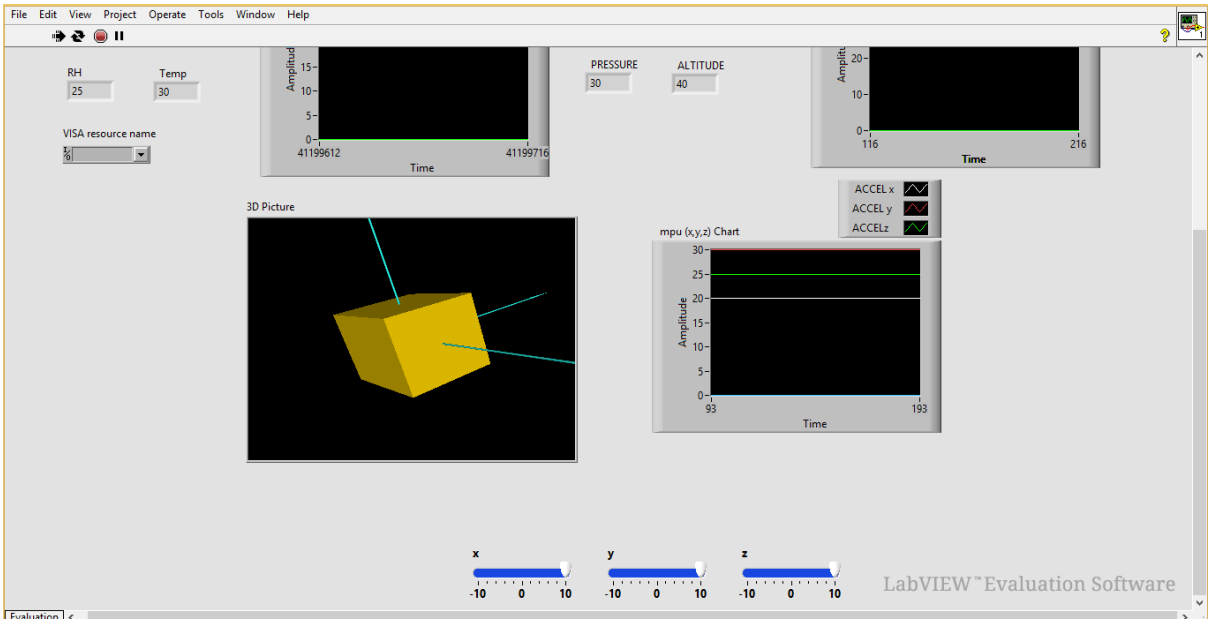


Figure 4:TEST MPU

3) BMP STEPS

1) Build BMP to take Pressure and altitude data and message (BMP:Pressure:altitude:)

2)Create Waveform chart

3) save all data IN Excel sheet

4) tast

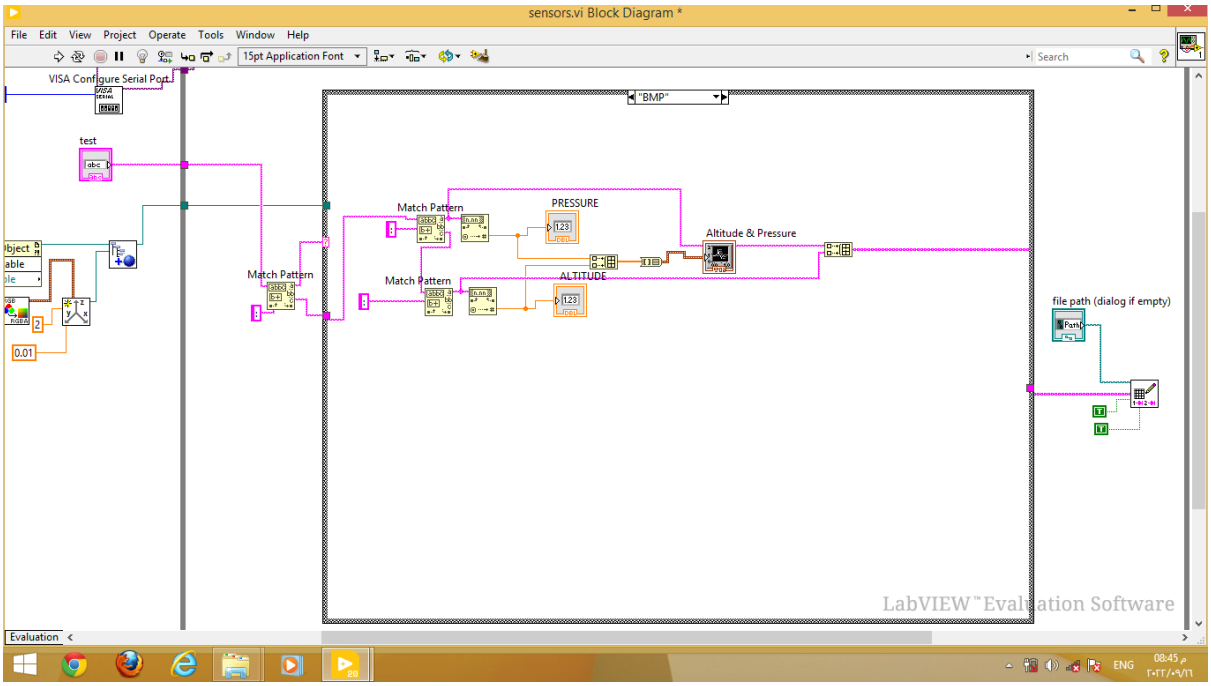


Figure 5:BMP

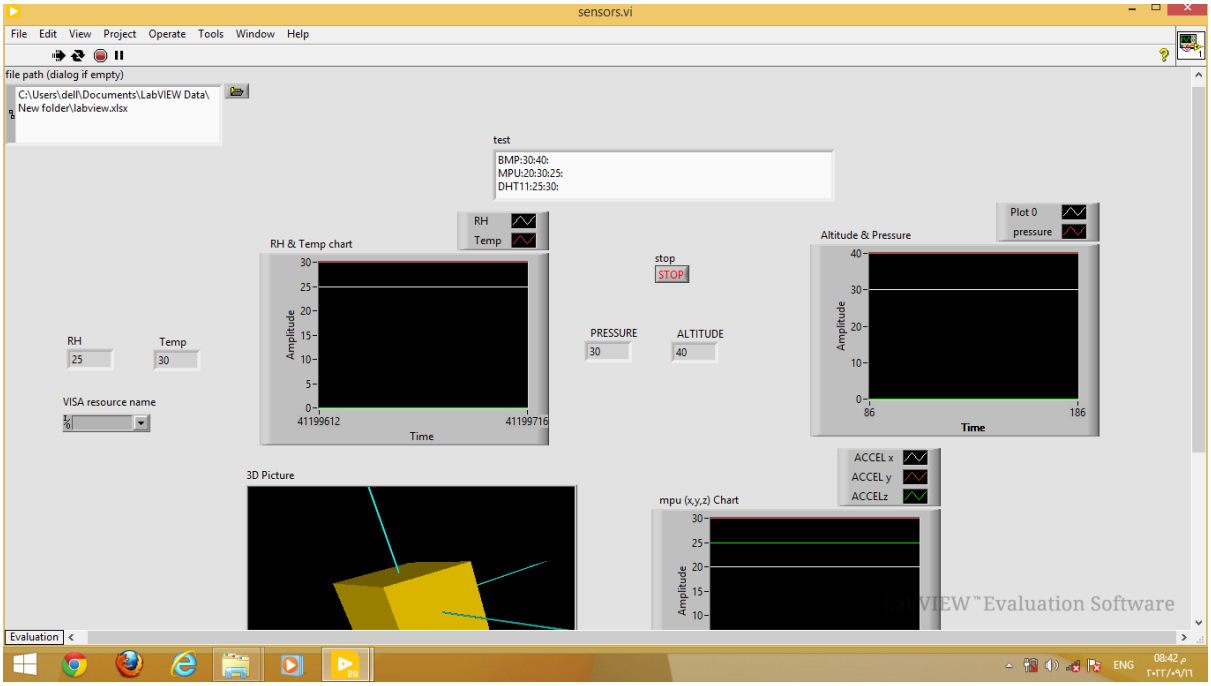
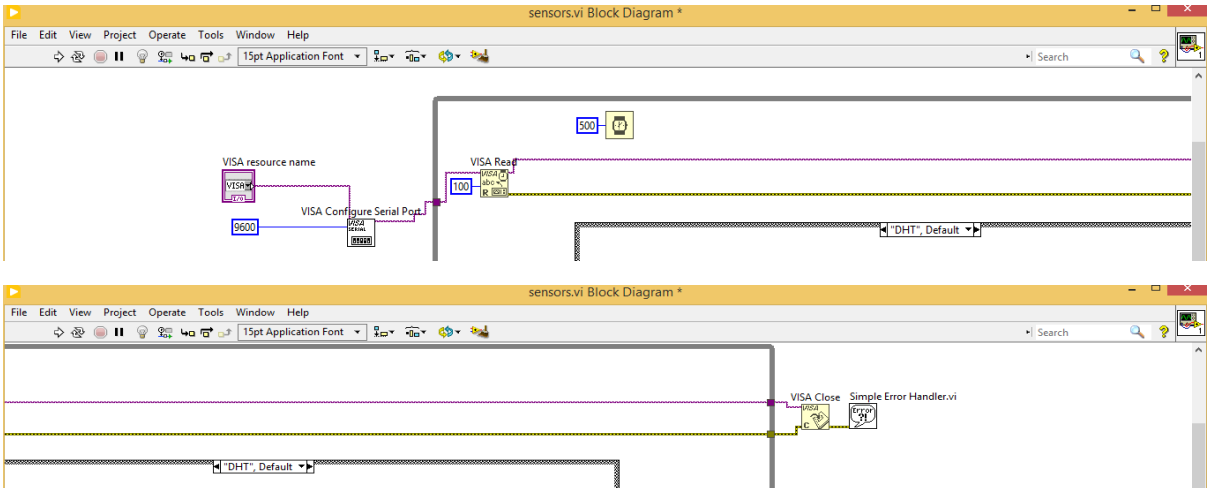


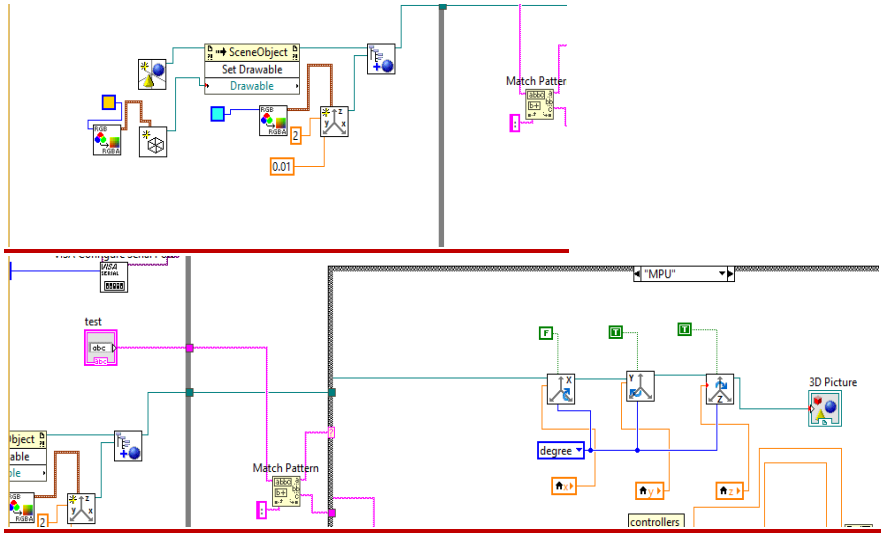
Figure 6: TEST BMP

4) TO contect LabVIEW with ALRDUINO

1) Build structure (VISA resource name , frequency9600 , VISA serial port , VISA close)



5) Cube shaped



Output:

1) A ground station reads data from satellite as temperature and RH , Altitude and pressure , Acceleration and gyroscope and presents all data in waveform and save all data inExcel sheet .

References

https://youtu.be/kuDqcgXRCec