Instituto Tecnológico de Estudios Superiores de Monterrey

Laboratorio Sistemas Embebidos

Final Project Proposal

Prof. Matias Vázquez Piñón

Gpo 2

Héctor Javier Pequeño Chairez - A01246364

Stephanie Denisse Benítez Cabrera - A00820320

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Objective

Implement the learned skills throughout the semester in a comprehensive implementation of an embedded system.

Requirements

Work in teams (2 maximum):

Stephanie Denisse Benítez Cabrera - A00820320

Héctor Javier Pequeño Chairez - A01246364

Project Proposal

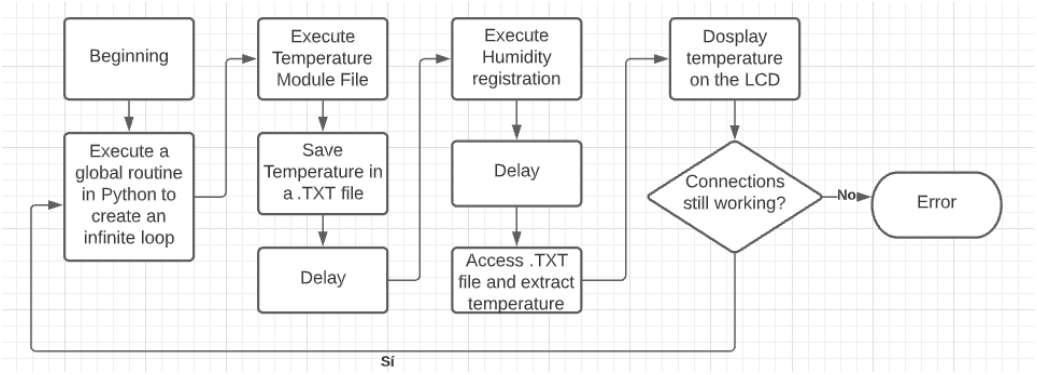
Overview

For our project, we decided to develop a real time thermometer and include an independent humidity module. These modules communicate by a Raspberry Pi. We plan to use the C language as the main language, but also we want to simplify some programming using Python and some libraries with this language.

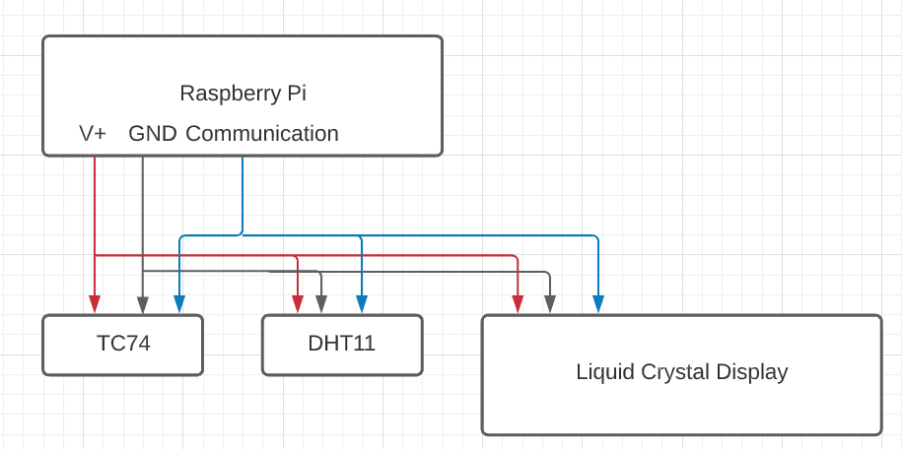
Tasks:

- Measure Temperature
- Measure Humidity
- Display the Temperature and humidity

Block Diagram

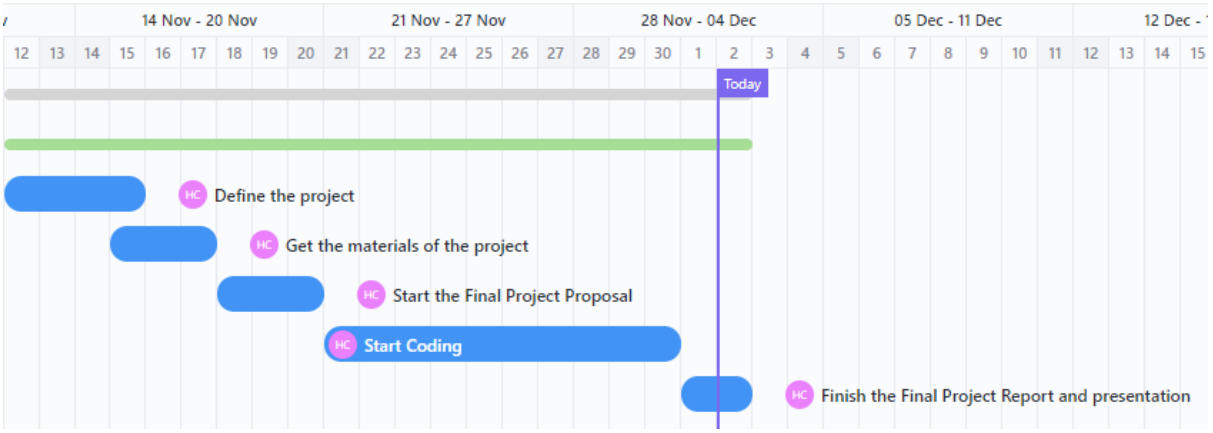


Schematic



May need more wires to communicate the raspberry Pi to the different modules:
TC74 - 4 Wires, VDD, GND and 2 communications.
DHT11 - 3 Wires, VDD, GND and Communication.
Potentiometers - 2, wires 6 (2 - Vdd, 2 Gnd and 2 Vout).
Liquid Crystal Display - VSS, VDD, V0, RS, RW, E, D4. D5, D6, D7, A and K.
Raspberry as Power Source - 5V and GND.
**All serial communication.*

GANTT Diagram



Hardware requirements

Computing, Master (1):

1. **Raspberry Pi**

Inputs (2):

2. **TC74**
3. **DHT11**

Output (1):

4. **Liquid Crystal Display**

Extras (2):

5. **Potentiometers**