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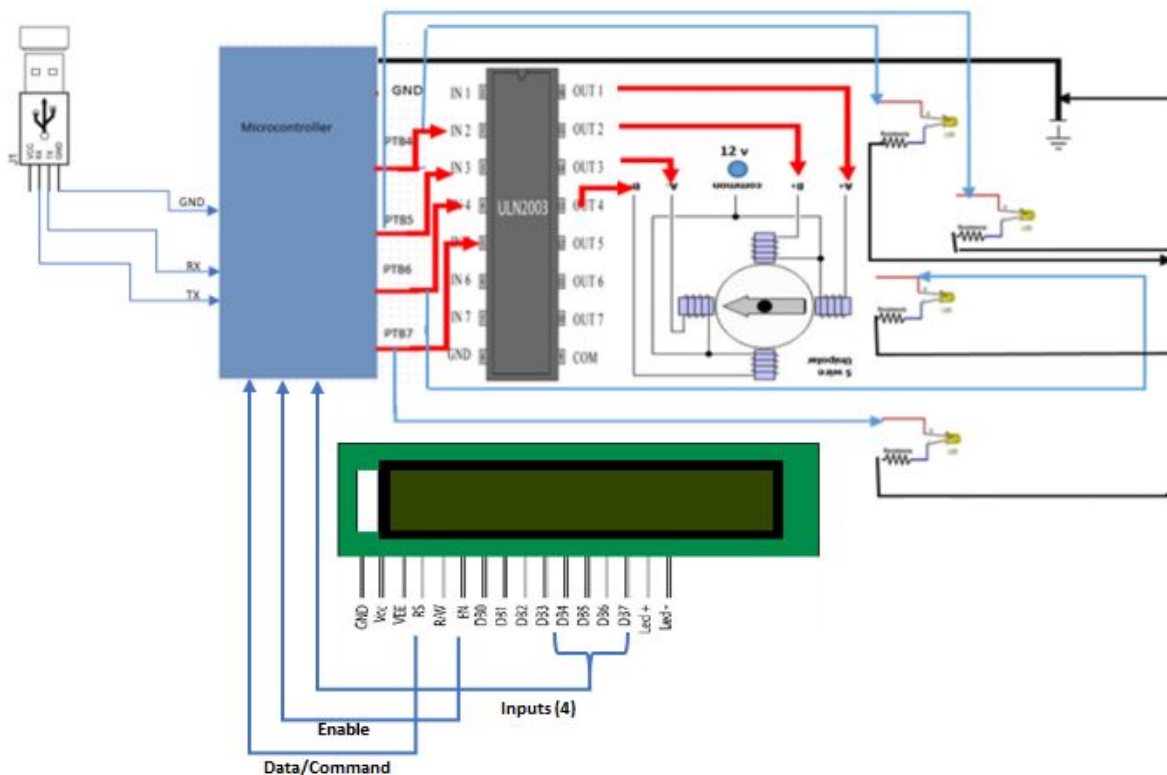
Career: ITE

Practice 5: LCD

Description:

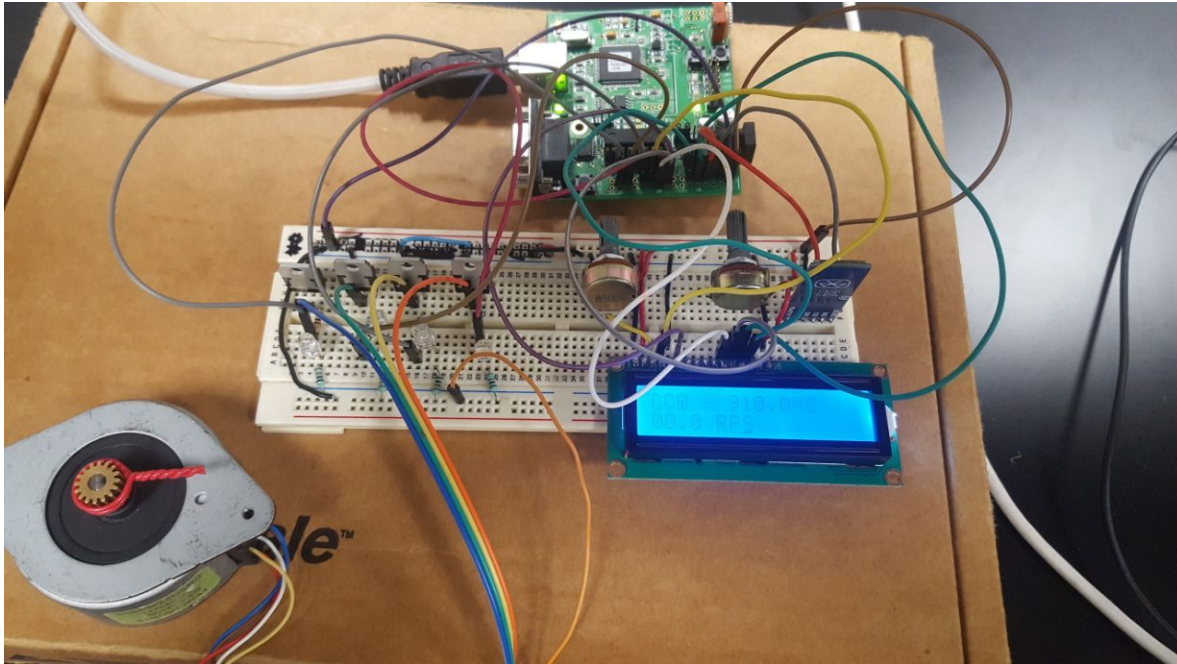
For this practice we had to work with the same challenges we had on the previous practices but this time we had to use a LCD to print the direction, the temperature and the revolutions per minute.

Connections



Circuit built for this practice

For this practice we used the same hardware that we used for practice 4, but adding the LCD.



Decisions taken:

We decided to change from one LCD to another because we could not get it to work, with the blue LCD we could finally work. We had to sacrifice the led that went on every second, create a temperature generator that could replace the ADC, we changed the serial communication to bluetooth which was easy to use and with less cables.

Problems met during the development of the Project:

In the beginning we decided to use a green LCD, but we had problems in the initialization of it, we could not initialize it, then we decided to use other LCD that all the other teams also had. We received some advices from other teams about how to work with the LCD, how to initialize it and how to write on the LCD.

In second place, we had a problem with the pins from the demo board because we did not have more pins for the other functions of the last practice, so we had to create a generator to emulate the temperature, and we also had to discard the led that went on and off every second. After that, we had to adjust how the LCD

changed according to the actions of the motor, just like giving a RPS of 0 when the motor was off or when the temperature limit was met.

Team Conclusion:

For this practice the most difficult was initializing the LCD, but not as much as Serial Communication. But after many attempts, we fixed each of the problems.

The solution for LCD initialization was changing the LCD for a blue one. Asking for some advice to other teams and exchanging tips was very useful, therefore, we recovered time wasted trying to initialize the first LCD.

Understanding how the LCD worked parallelly was easy, more than we thought, the real problem was making the LCD work with the previous practice and how everything interacted.

Modifying the ports of the UART was something very important, otherwise one port changing all the time would be a disaster.

The most important knowledge from this practice was initializing a LCD, and we did it successfully.