

6/6/2021



First Milestone Delivery

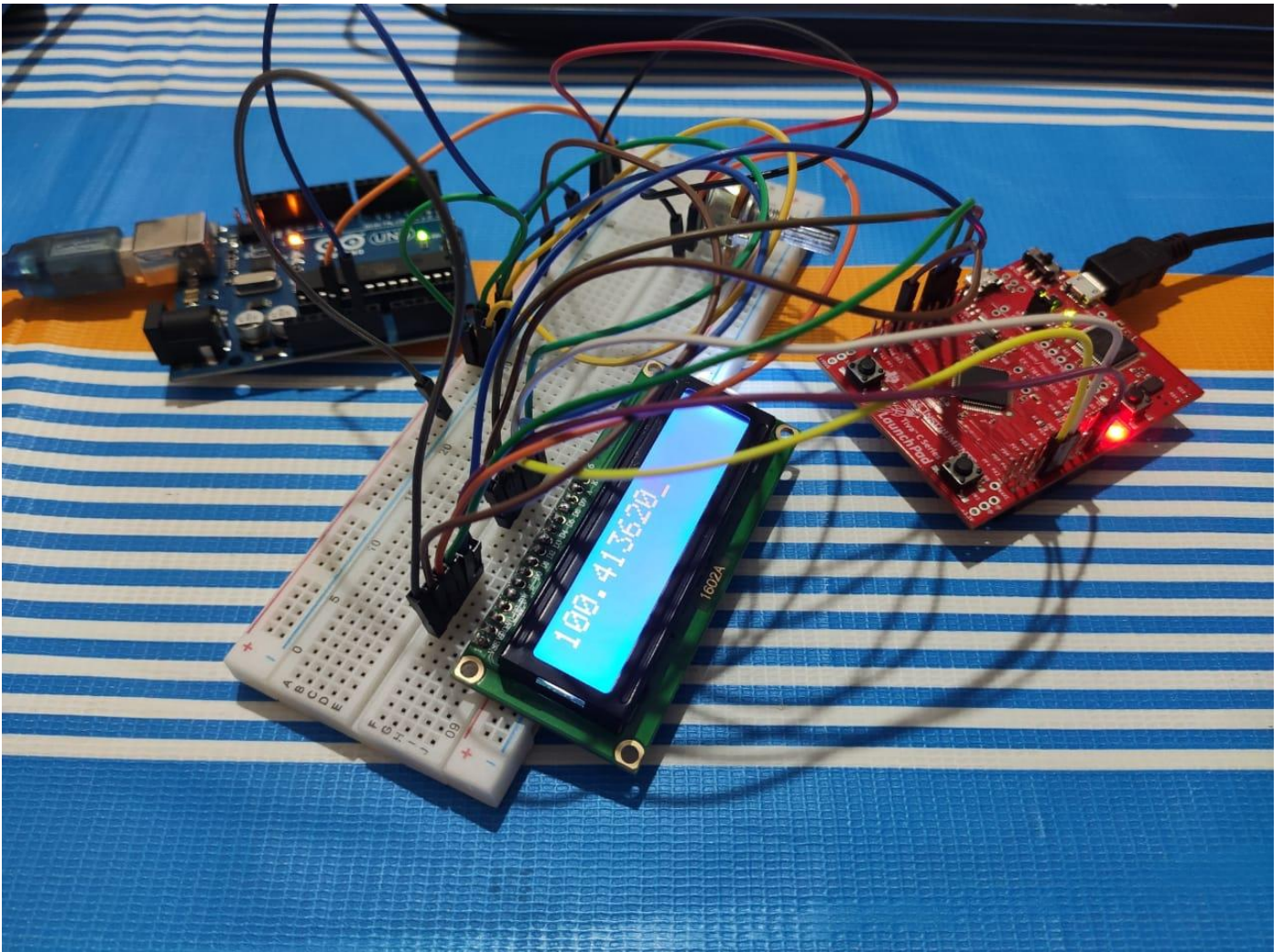
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CSE312: Microprocessor Based Systems
Faculty of Engineering – Ain Shams University

- Github link: [GPS Tracking System repo](#)

Output testing of the LED and the LCD :



E:\KeilProjects\first_milestone\est2.uvproj - uVision4

File Edit View Project Flash Debug Peripherals Tools SVCS Window Help

Systeminit

Disassembly

Registers

Register	Value
R0	0x200000A8
R1	0x200000A8
R2	0x200000A8
R3	0x200000A8
R4	0x00000000
R5	0x200000A8
R6	0x00000000
R7	0x00000000
R8	0x00000000
R9	0x00000000
R10	0x00003A5C
R11	0x00000000
R12	0x20000088
R13 (SP)	0x200002A8
R14 (LR)	0x00000311
R15 (PC)	0x00000436
xPSR	0x61000000

Banked

System

Internal

Mode	Thread
Privilege	Privileged
Stack	MSP
States	654
Sec	0.00004087

FPU

```
7 #include "Lcd.h"
8 #include "GPScutting.h"
9
10 #define RED 0x02
11 #define BLUE 0x04
12 #define GREEN 0x08
13
14 void SystemInit(){}
15 volatile float lat[9]={48.85837,48.85836,48.85836,48.85836,48.85839,48.85827,48.8582
16 volatile float lang[9]={2.29448,2.29452,2.29457,2.29464,2.29463,2.29474,2.29440,2.29
17 int main(){
18     volatile float dist=0;
19
20
21     SysTick_Init();
22     LCD_init();
23     UART0_Init();
24     init();
25     while(1){
26
27         volatile float dist=0;
28         int i;
29         for( i=0;i<8;i++)
30             {dist+=calc_dist_bet_2_points (lat[i], lat[i+1], lang[i], lang[i+1]);
31             if (dist >=100)
32                 {LED_ON(RED);
33                 LCD_displayfloat(dist);
34                 break;}
35
36         }
37     }
38 }
39
```

Port F Hardware

TM4C123

16 MHz

SW1

SW2

PF4

PF0

PF3

PF2

PF1

LED

LED

LED

Red

Port F Registers

DATA:	PUR:	LOCK:
0x13	0x11	0x00
DIR:	PDR:	CR:
0x0E	0x00	0x1F
DEN:	RCGCGPIO:	Clock enabled
0x1F	0x00000023	

Activate Windows

Go to Settings to activate Windows.