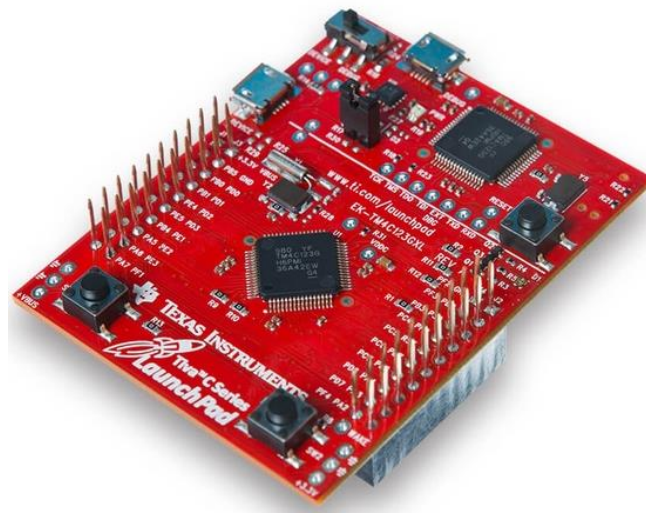




CSE211s: Introduction to Embedded system



TM4C123

Name	ID	DEP
Hana Walaa Abdelhakim	2200653	ECE
Alaa Abdelhakeem Mahmoud	2200498	CSE
Nour Ali Abdelrahman	2200292	CSE
Neama Esam Mohamed Saied	2200371	ECE
Miran Mohamed Sayed	2200604	CSE
Mariam Amr Mohammad	2200704	ECE
Hoor Wael	2200298	ECE

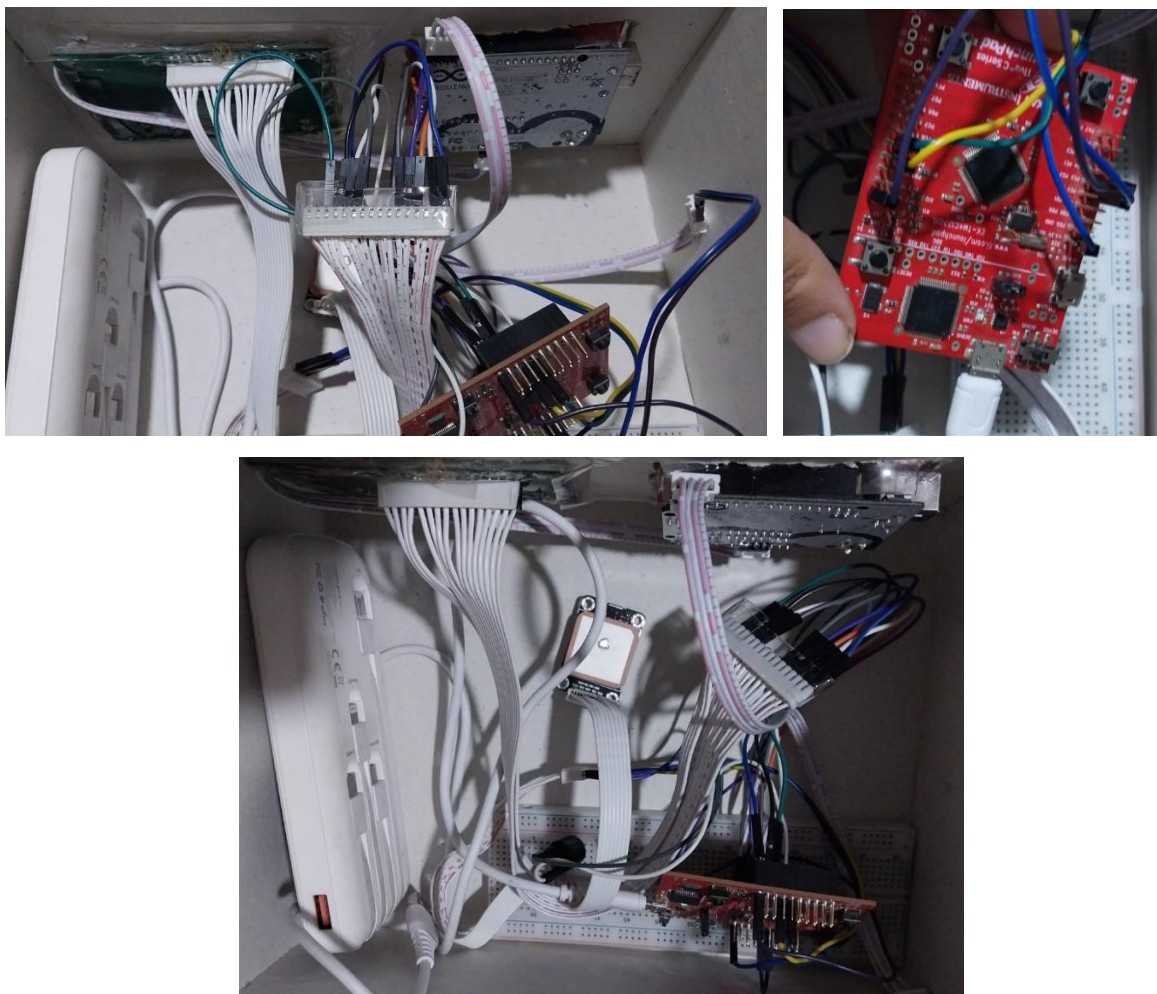
Project Description:

The goal of this project is to develop an embedded system using C programming that gathers real-time positional coordinates while a microcontroller is in motion, and display location information on an attached computer or an LCD. The positioning system should use the TM4C123G LaunchPad.

A map of the place with coordinates of various landmarks should be stored on the device. When approaching a landmark, its name should be displayed.

As a demo, it's required to load the coordinates of at least 5 different halls of the faculty.

The Circuit:



Packaging:



Video Link:

<https://drive.google.com/file/d/1969kSqRWW7hk2LyO-V7OP1XXjzuz8Sxi/view?usp=sharing>

GitHub Link:

<https://github.com/BonnieSimmer/GPS-TM4C123GH6PM-Project>

Bonus list:

- | |
|--|
| 1. LCD screen that displays name of nearest hall (writing our own LCD Drivers). |
| 2. SD card to store google maps image of the university satellite image (map) and store images of the halls. |
| 3. TFT touch screen that draws a map of the university. |
| 4. The TFT screen displays in real time the tiva c's coordinates on the drawn map. |
| 5. We wrote drivers to utilize the TFT touch screen. |
| 6. we made it so that if you click on the hall it would display an image of it on the TFT. |
| 7. Buzzer that beeps whenever the closest hall is changed. |
| 8. Power bank supply as to be portable and not require connection to a laptop. |
| 9. UART communication between Arduino and Tiva C as the Tiva C sends longitude and Latitude to Arduino. |

Table of Contribution:

Getting nearest distance (GPS)	Nour Ali, Mariam Amr, Alaa Abdelhakeem
Main	Miran Mohamed, Hana Walaa, Nour Ali
TFT	Mariam Amr, Hoor Wael, Neama Esam, Alaa Abdelhakeem
LCD	Hana Walaa, Mariam Amr, Hoor Wael
UART	Neama Esam, Nour Ali
BUZZER	Miran Mohamed, Mariam Amr
LCD connection	Miran Mohamed, Neama Esam, Hana Walaa, Nour Ali, Mariam Amr
TIVA connection	Hana Walaa, Mariam Amr, Nour Ali, Alaa Abdelhakeem
PACKAGING	Hoor Wael , Hana Walaa, Nour Ali, Neama Esam, Miran Mohamed