CPE403 – Advanced Embedded Systems

Design Assignment #5

DO NOT REMOVE THIS PAGE DURING SUBMISSION:

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Github Repository link (root): https://github.com/echevary/MicroController_proj

Youtube Playlist link (root): https://www.youtube.com/playlist?list=PLx8r8972rBxGc7qQazP1uhUSINSNA5rNC

Follow the submission guideline to be awarded points for this Assignment.

Submit the following for all Assignments:

1. In the document, for each task submit the modified or included code (from the base code) with highlights and justifications of the modifications. Also include the comments. If no base code is provided, submit the base code for the first task only.
2. Create a private Github repository with a random name (no CPE/403, Lastname, Firstname). Place all labs under the root folder TIVAC, sub-folder named Assignment1, with one document and one video link file for each lab, place modified c files named as asng_taskxx.c.
3. If multiple c files or other libraries are used, create a folder asng1_t01 and place these files inside the folder.
4. The folder should have a) Word document (see template), b) source code file(s) with startup_ccs.c and other include files, c) text file with youtube video links (see template).
5. Submit the doc file in canvas before the due date. The root folder of the github assignment directory should have the documentation and the text file with youtube video links.
6. Organize your youtube videos as playlist under the name “cpe403”. The playlist should have the video sequence arranged as submission or due dates.
7. Only submit pdf documents. Do not forget to upload this document in the github repository and in the canvas submission portal.

1. Code for Tasks. for each task submit the modified or included code (from the base code) with highlights and justifications of the modifications. Also include the comments. If no base code is provided, submit the base code for the first task only. Use separate page for each task.

Task 1:

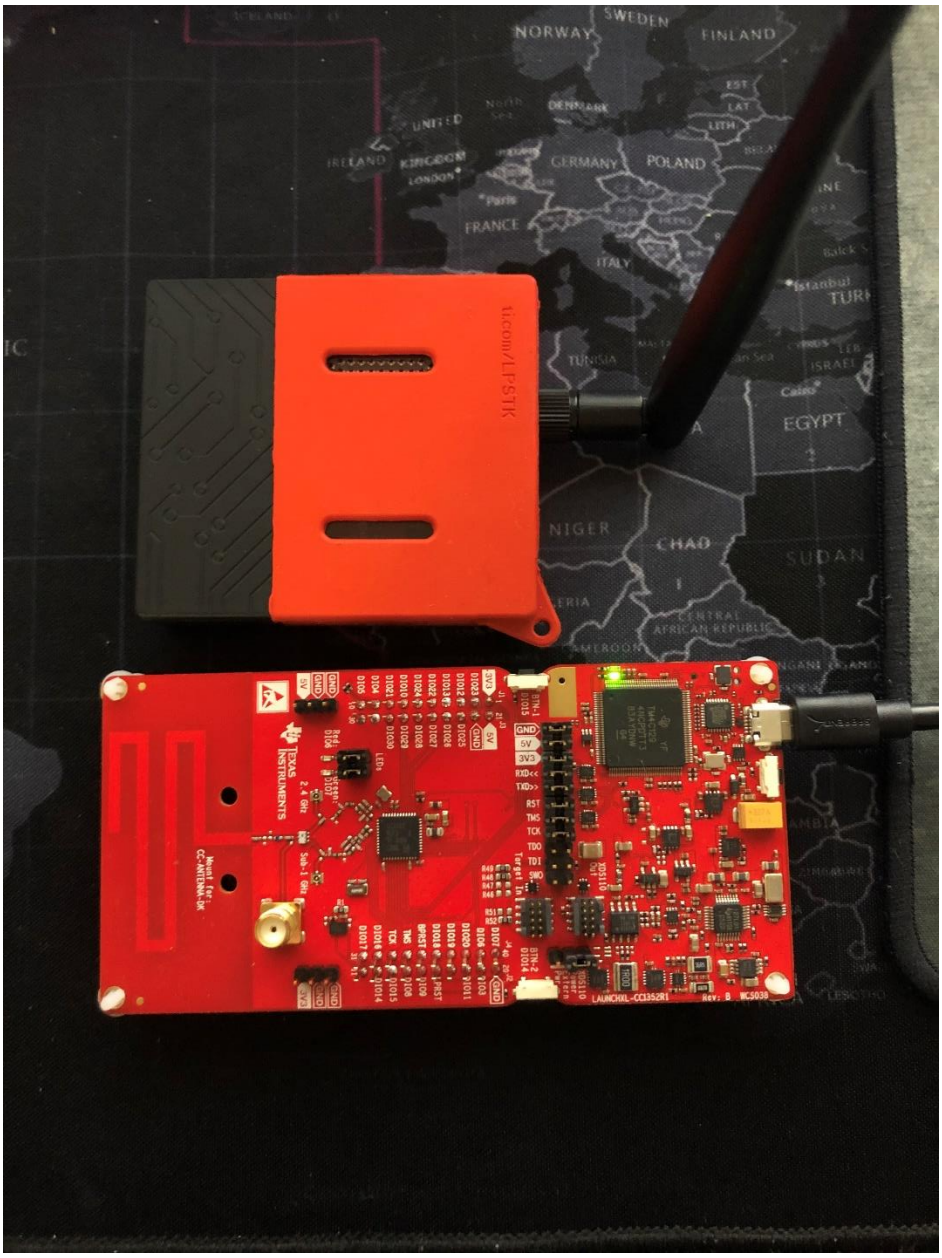
```
        CUI_statusLinePrintf(csfCuiHndl, deviceStatusLine, "Sensor - Addr=0x%04x,
Temp=%d, Humidity=%d, Light=%d, RSSI=%d",
                             pSrcAddr->addr.shortAddr,
                             pMsg->humiditySensor.temp,
                             pMsg->humiditySensor.humidity,
                             pMsg->lightSensor.rawData,
                             rssi);
```

//This was the code that was supposed to be changed in the csf.c file.

Task 2:

```
/* Include POSIX Support */ var Settings = xdc.useModule('ti.sysbios.posix.Settings');

"${COM_TI_SIMPLELINK_[SDK version here]_SDK_INSTALL_DIR}/source/ti/posix/ccs"

// Board_initGeneral(); ... // GPIO_init(); ... // BIOS_start();

main_app();

extern int main_app(void);

#define EXT_SENSOR_READING_TIMEOUT_EVT 0x0004

if(Sensor_events & EXT_SENSOR_READING_TIMEOUT_EVT) { /* Process Sensor Reading Message
Event */ processSensorMsgEvt(); /* Clear the event */ Util_clearEvent(&Sensor_events,
EXT_SENSOR_READING_TIMEOUT_EVT); }



STATIC Smsgs_tempSensorField_t tempSensor =

tempSensor.objectTemp = localTemperatureC; tempSensor.ambienceTemp = localTemperatureC;
Util_setEvent(&Sensor_events, EXT_SENSOR_READING_TIMEOUT_EVT);
```

2. Block diagram and/or Schematics showing the components, pins used, and interface.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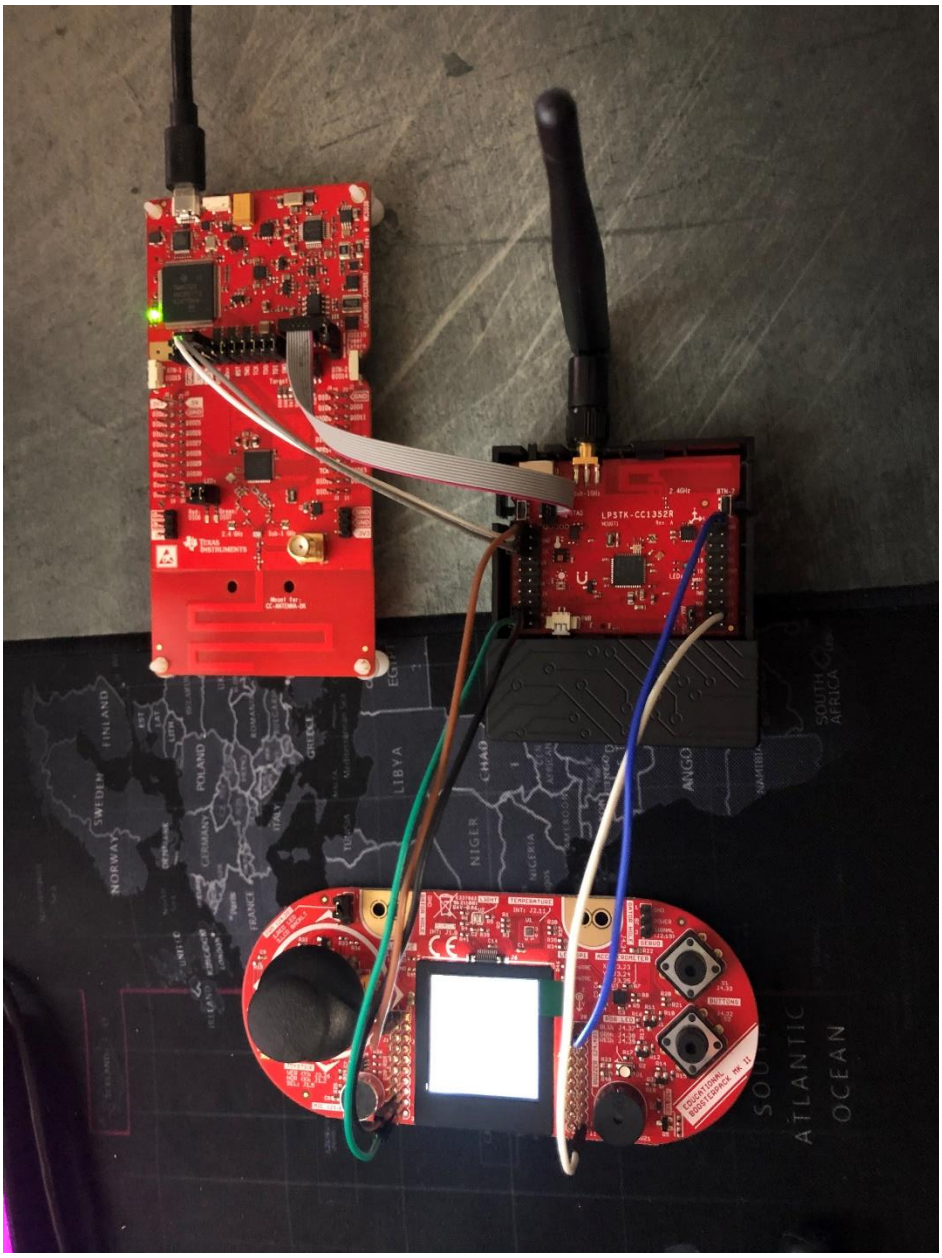
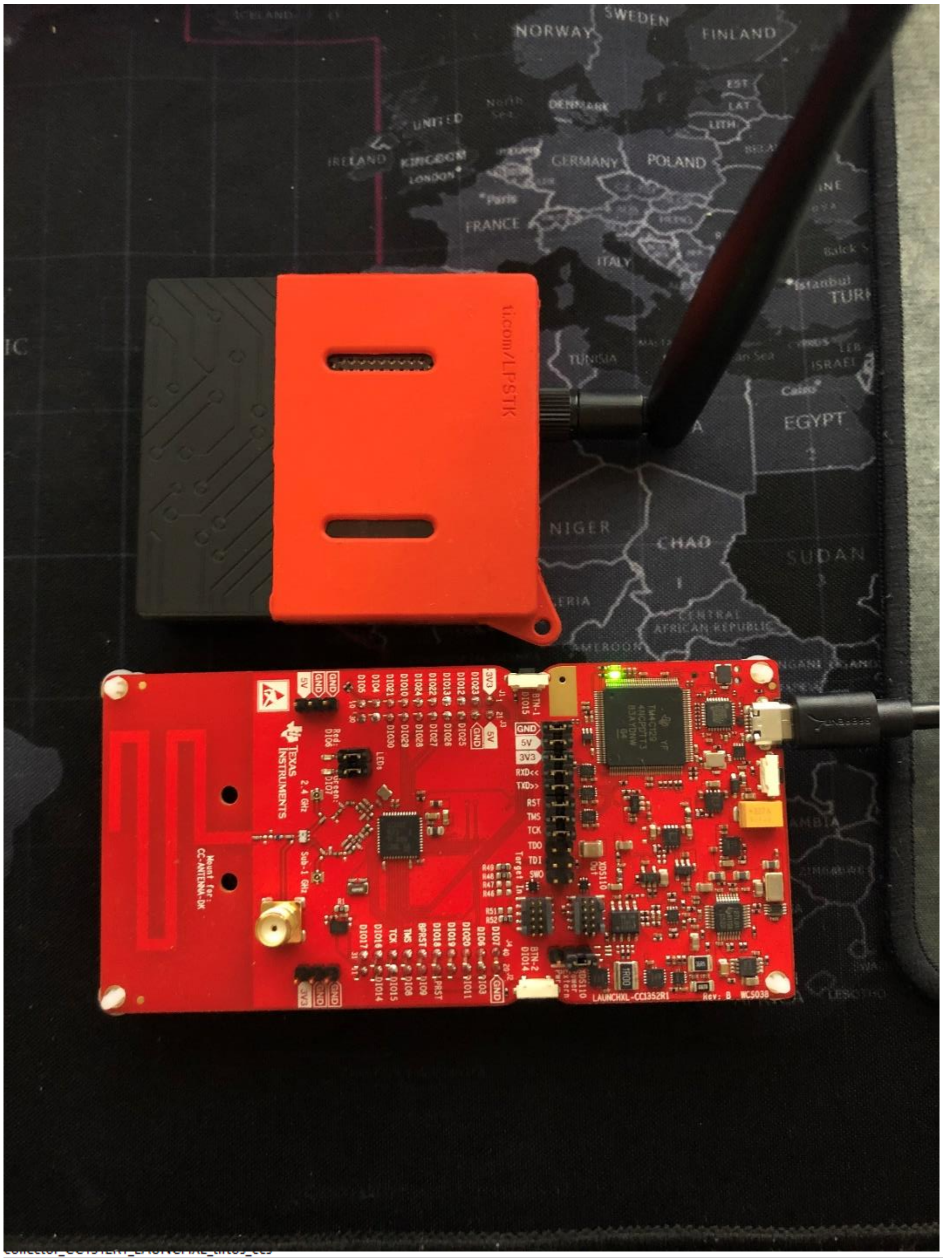


3. Screenshots of the IDE, physical setup, debugging process - Provide screenshot of successful compilation, screenshots of registers, variables, graphs, etc.

THE COLLECTOR TERMINAL WOULDN'T SHOW UP




```
Cortex_M4_0: GEL Output: Memory Map Initialization Complete.
Cortex_M4_0: GEL Output: Board Reset Complete.
Cortex_M4_0: Error: (Error -1170 @ 0x0) Unable to access the DAP. Reset the device, and retry the operation. If error persists, confirm configurat
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Cortex_M4_0: Trouble Halting Target CPU: (Error -2064 @ 0x0) Unable to read device status. Reset the device, and retry the operation. If error per
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Cortex_M4_0: Trouble Halting Target CPU: (Error -2064 @ 0x0) Unable to read device status. Reset the device, and retry the operation. If error per
Cortex_M4_0: Unable to determine target status after 20 attempts
Cortex_M4_0: Failed to remove the debug state from the target before disconnecting.  There may still be breakpoint op-codes embedded in program me
```

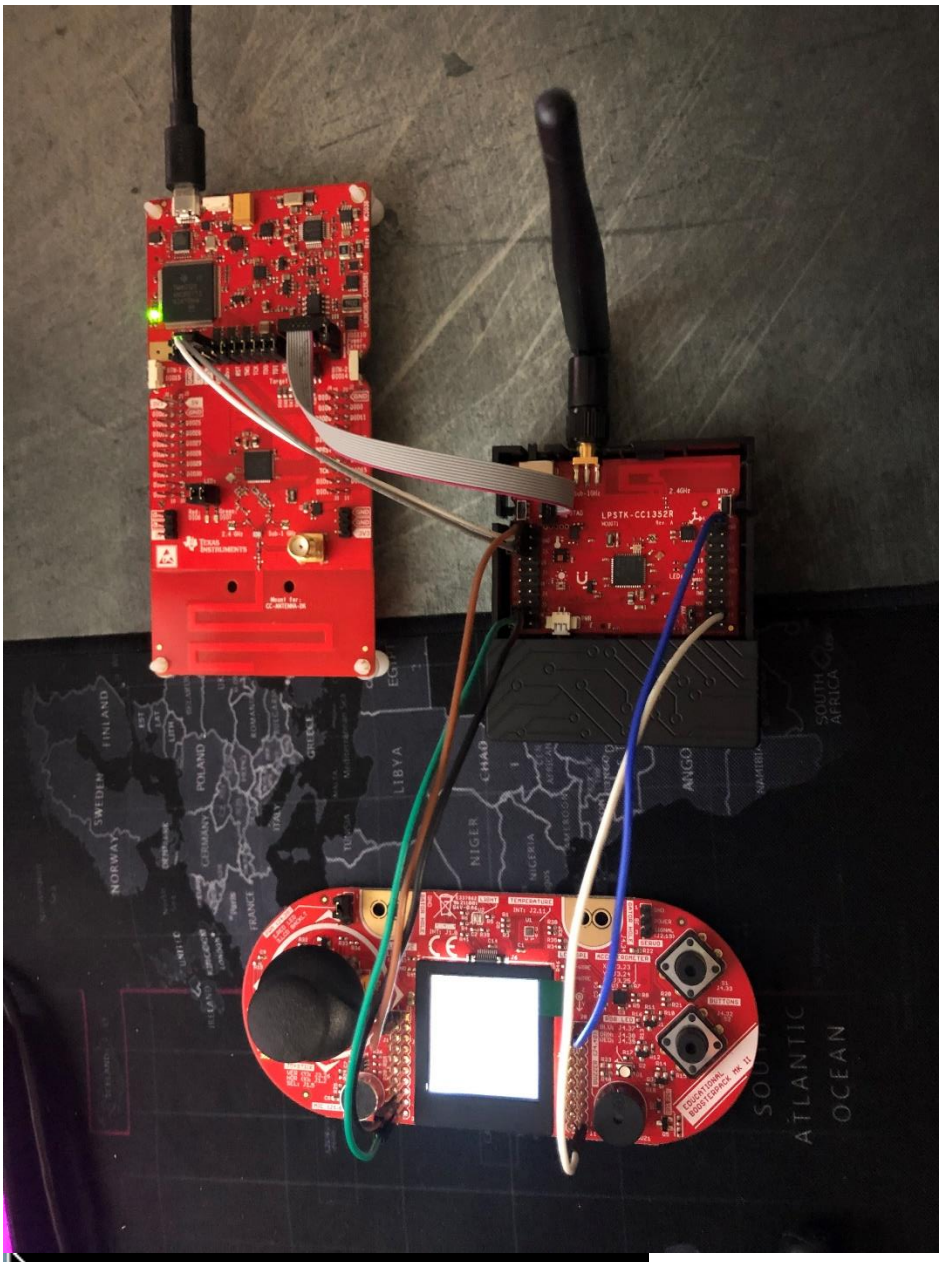


```
> Console (h for help)
> h
```

4. Declaration

I understand the Student Academic Misconduct Policy - http://studentconduct.unlv.edu/misconduct/policy.html

"This assignment submission is my own, original work".

Cade Echevary