Quick Guide for Creating & Running C Code in CCS w/F28379D LaunchPad

*Google (the other guy): **C2000ware** & download the latest version (**Windows**) for C2000 ucontrollers.*

❖ **Creating a C Project**
- o Click **File**, hover over **New**, select **CCS Project**
- o Select the **2837xD Delfino** as the target, and select the **TMS320F28379D** in the dropdown to the right
- o Name your project, select **Empty Project (with main.c)**
- o Add a target file manually or select **Automatically Generate** if your board is plugged in

❖ **Include Files**
- o Right click the project name, select properties. Click **Include Options** under **C2000 Compiler**. Click the **Add** icon in the include path box. Add the following directories, note that your "ti" folder may be installed in a different place.

C:\ti\C2000\C2000ware_<insert latest ver. no. here>\device_support\f2837xd\headers\include

C:\ti\C2000\C2000ware_<insert latest ver. no. here>\device_support\f2837xd\common\include

C:\ti\C2000\C2000ware_<insert latest ver. no. here>\driverlib\f2837xd\driverlib

❖ **Source Files**
- o Create new two folders in your project directories, such as "Common" and "Header".
- o Right click the project name and select **Add Files** and add the following files:

C:\ti\ C2000\C2000ware_<insert latest ver. here>\device_support\F2837xD\common\source\add all files in folder except, VERY IMPORTANT, except `F2837xD_SWPrioritizedPieVect.c`

- o Select **Copy Files**. After the source files have been added to your project, move them to your **Common** folder

- o Right click the project name and select **Add Files** and add the following files:

C:\ti\c2000\C2000Ware_<insert latest ver. here>\device_support\f2837xd\headers\cmd\ F2837xD_Headers_nonBIOS_cpu1.cmd

C:\ti\c2000\C2000Ware_<insert latest ver. here>\device_support\f2837xd\headers\source\ F2837xD_GlobalVariableDefs.c

- o Select **Copy Files** when adding each one. Move them into your **Header** folder.

❖ **Predefined Symbols**
- o Right click your project name, select properties, and under C2000 Compiler select **Predefined Symbols**
  - ▪ Add **CPU1** and **_LAUNCHXL_F28379D** as predefined symbols

❖ Project Properties Modification
- o Right click the project name, select properties. Under the C2000 Compiler dropdown select the Advanced Options dropdown, then click Language Options. Where it says C dialect, click the dropdown and change it from "ANSI C89" to "C99" mode.

❖ Linker Files
- o If your project has the FLASH linker selected, switch to RAM. Here is the location:

C:\ti\c2000\C2000Ware_<insert your ver. no. here>\device_support\f2837xd\common\cmd\2837xD_RAM_lnk_cpu1.cmd

❖ Running your project
- o Attempt to build your C project.
- o An example C project is given below, you can right click any function and select **Open Declaration** to see how it is setup.

```c
/* Author: Dave Muscle Russell
 * Blink BLUE LED on Launchpad, don't forget your EALLOWs
 */
#include <F28x_Project.h>

int main(void)
{
    //init system clocks and get board speed running at 200 MHz
    //your board will run at 100 MHz if you do not have all the predefines!
    InitSysCtrl();

    EALLOW;
    GpioCtrlRegs.GPADIR.bit.GPIO31 = 1;  //set blue light on LP as an output

    while(1){

        //delay for 1 second
        DELAY_US(1E6);
        //toggle the light
        EALLOW;
        GpioDataRegs.GPATOGGLE.bit.GPIO31 = 1;
    }
}
```