

LAB#6 Data Interaction

Between LabVIEW and the PSOC

Background

In this lab you will develop a LabVIEW GUI to interact bidirectionally with the PSOC 5LP.

TASK #1

Using the following VI as a template on the PC:

[ByteTransferTest.vi](#)

1. Understand the operation of the VI.
2. Load the following workspace ME135_ME235.cywrk from bCourses onto your PSOC
3. Compile and Run the CommandInterpreter project on your PSOC
4. Run the VI and verify that your Command Packet is transferred and echoed properly

TASK #2

With the following VI:

[LongtoByteArray.vi](#)

1. Create a VI to transfer the array of 16 random I32 number to PSOC and back.
2. Create a VI to do the same for an array of 32 random U16 to the PSOC and back.
3. Expand the CommandInterpreter to interpret three commands:
 - a. Command 1 to store an array of 16 I32
 - b. Command 2 to store an array of 32 U16
 - c. Command 3 to store a single I16
4. Modify the CommandInterpreter to interpret Command 3 which will flash the LED on the PSOC at a period set by the value of I16

Hint: For step 4, establish a timer interrupt routine as shown in PSOC project TimerInterrupt.

TASK #3

Create a new GUI that will be able to adjust all of TASK #2 using an event structure. The GUI should have front panel feature to change the frequency of the LED

Deliverables

Your VI's and PSOC project for task #2 and task #3

As always be creative and have fun.

You may substitute part of your GUI design for your final project in place of Task #2 and #3, as long as you demonstrate the interpretation of at least 3 commands for your final project on LabVIEW and the PSOC.