BLE Remote Peripheral

Welcome back to Cypress Academy, PSoC 6 101. So far, we’ve created a BLE-controlled robotic arm and now it’s time to add a second PSoC 6 BLE Pioneer Kit to the system, to act as a peripheral device and receive commands from the main controller BLE remote controller board. We’re going to focus just on the receiving side of the robotic arm system now. So, we’ll start a new project, and add BLE connectivity to be able to receive control signals from the main controller and control the robotic arm.

Again ,for this lesson, you will need a second PSoC 6 BLE Pioneer Kit. We will be setting this kit as a peripheral device, to receive commands from the main controller. It will be connected to the robot arm, receiving CapSense data, and sensor data to change the positions of the arm from the main controller board. I’ll show you how to do that in the following lessons.

We will be using the fundamentals we learned in the previous video to get our BLE peripheral robotic arm system going. Instead of using CySmart as the remote controller or central device, we will be using this kit [show kit] to configure the PSoC 6 on here to act as the central device.

To get started, let’s create a new project, we’ll call that BLE Remote Peripheral.

[Create a new project, add and configure the BLE Component, show the PDL APIs]

[Explain that for this project, we’ll again dedicate the CM0+ for the BLE functionality and leave the CM4 to do the CapSense functions and what’s to come]

[Add and describe the firmware across the two cores]

[Build and run]

[Demo and show how to connect the two PSoC 6 BLE kits and control the robotic arm with the CapSense interface]

Now we have a BLE-controlled robotic arm, setup as a peripheral device. Next step, let’s setup the BLE on the main board, where we will set this as the central device. From this central device, we will send CapSense commands, and change the position of the arms using the motion sensor data, and sending these commands and data over BLE to the peripheral device.

You can post your comments and questions in our PSoC 6 community or as always you are welcome to email me at alan\_hawse@cypress.com or tweet me at @askioexpert with your comments, suggestions, criticisms and questions.