INF-743: IoT Communication Technologies

Activity 3 - Bluetooth Serial Port Profile

Profiles are definitions of possible applications and specify general behaviors that Bluetooth enabled devices use to communicate with other Bluetooth devices.

The Serial Port Profile (SPP) defines how to set up virtual serial ports and connect two Bluetooth enabled devices.

In this activity you will use the SPP to send messages from a bluetooth-enabled device to the Edison board.

Setup

Before you do anything, make sure you have updated your bluez stack for the latest

$ echo "src intel-iotdk https://iotdk.intel.com/repos/3.5/intelgalactic/opkg/i586/" > /etc/opkg/intel-iotdk.conf
$ opkg update
$ opkg install --force-reinstall bluez5

Install the SPP service

```
$ mkdir /home/root/bluetooth
$ cd /home/root/bluetooth
$ wget https://software.intel.com/sites/default/files/managed/6c/16/bluetooth-service.tar.gz
$ tar -xvf bluetooth-service.tar.gz
$ cp bluetooth-spp-pin.service /lib/systemd/system
$ systemctl enable bluetooth-spp-pin

$ reboot
```

Check the Bluetooth SPP status

```
$ systemctl status bluetooth-spp-pin
```

Create a new folder for your project and copy the provided files (Intel_Edison_BT_SPP.cpp, Intel_Edison_BT_SPP.h, and example.cpp) to it

Compile:

```
$ g++ -std=c++11 Intel_Edison_BT_SPP.cpp example.cpp -o example
```

Run:

```
$ ./example
```

To test your application, you can use the BLE SPP PRO mobile app.

Try to send messages to the terminal of your board.

Now that you have learned how to send messages to your board, you can extend this project using the received messages as commands to trigger actions on your board (eg. turn an LED on/off).