

ECEC 490: BIWEEKLY ASSIGNMENT 2

1. (20 points) Getting started with the BLE

- **Hardware: Arduino + BLE Mini + BLE Shield**
- Write a sketch to implement wireless bidirectional communication between a BLE Mini and a BLE Shield
 - o Using this sketch the user should be able to select the pattern of LED blinks on the Arduino by entering a command in the serial monitor of the Arduino IDE

2. (30 points) Getting started with the RasPi and Arduino Communication

- **Hardware: Arduino + RasPi + XBee**
- Write a Arduino sketch and RasPi application to establish bidirectional communication between the Arduino board and the RasPi using XBee
 - o The user should be able to select the pattern of LED blinks on the Arduino by entering a command on the RasPi
 - o Use any language that you are comfortable with

3. (50 points) Getting started with Node.js socket.io based actions

- **Hardware: Arduino + RasPi + Xbee + a computer**
- On the RasPi, write Node.js socket.io-client application that communicates with an Arduino board (via Xbee) and a Node.js socket.io-server application. The server application should run on your computer.
- Provide the necessary context to the overall application

Assignment 2 Specification Sheet

Specification

- Ensure proper functionality and readability of your code

Grading

- Each question has been assigned a specific number of points
- The grading scheme is binary in that you will receive full points if your demo is successful
- We will collect your code for record purposes however your grade will be purely based on your demonstration

How to submit this assignment?

- Zip the files in a folder
- Name it using the following convention: **Name_Biweekly2**
- Upload your assignment to BbLearn by **Tuesday, July 29, 2014, 06:00:00 p.m.**