Intro to the BE BOARD and BE SHIELD

This is a short lesson just to go over what is included with the BE BOARD and BE SHIELD. Pretty much I want to go over the features of both of these boards.

First let's go over the BE BOARD as it has a few features you have already started to use.

The BE BOARD as you know is a clone of the ever popular Arduino Leonardo. It has several features that you may or may not know of; first the BE BOARD has 14 digital inputs/outputs which include a few other interfaces:

PWM (Pulse Width Modulation): these pins will allow you to control the speed of a motor or the dimness of and LED. This is an Analog Output when you use the Arduino IDE.

UART (Universal Asynchronous Receiver/Transmitter): This is very useful when you want to communicate with a computer or another micro-controller from your BE BOARD.

SPI (Serial Periphreal Interface): is not on the digital i/o, but it is important to note it is also very useful for communication at high speeds, also it will allow you to daisy chain multiple sensors and devices.

I2C (Inter-Integrated Circuit): Is yet another way to communicate with other devices, but at a much lower speed. You can also daisy chain sensors and devices just like SPI.

The BE BOARD also has 6 analog inputs which were used in the last lesson

Now for the BE SHEILD:

The BE SHIELD include several features:

First the BE SHIELD has a microSD reader which will allow you to control a file system in your project for example a MP3 player maybe. This device will use SPI

Next the BE SHIELD has a I/O bus expander which will allow you to control more devices while only using I2C bus. The I/O expander only has 3 preconfigured pins that are connected to the RGB drivers that are also onboard.

The BE SHIELD is also equiped with an LCD port which will allow you to control a 16x2 LCD. The LCD also has a trimpot to control the contrast of the LCD screen.

The BE SHIELD also includes 5 buttons that are connected to 1 analog input using various resistors to dictate which button is being pressed just like a potentiometer.

The BE SHEILD also has a I/O header that will allow you to connect to 5V, 3V3, GND, a few digital i/o, and a few analog inputs.

Finally the BE SHIELD is equiped with a ENC28J60 Ethernet driver and Ethernet port which will allow you to connect your projects to the internet and control motors or create small web servers. This device will use SPI.

<Video of examples of each of these interfaces working>

I want to thank all of you for joining me in this lesson, please join me for the next lesson where I will be going over Sensor communication.