JavaScript IoT & Robotics [Jhonny-Five Framework] PART-I

A journey from web development to embedded system engineering

By Manash

What’s JavaScript?

- A programming Language
- This Language is widely used in Web Development
- No it didn’t come from Java

Advantages of JavaScript

- Javascript is executed on the client side
- Javascript is a relatively easy language
- Javascript is relatively fast to the end user
- Extended functionality to web pages

Creating A Jhonny-Five Project

- Create a project folder
- Inside the folder open a Command Window
- Enter the command “`npm init`”
- Say yes by pressing Enter to everything it asks for

Installing the Dependency : Jhonny-Five

- Enter the command “`npm install johnny-five`”
- Create a file `index.js`
- Open the File in a text editor

Prepare your Arduino!

- Connect your Arduino to the PC
- Open Arduino IDE
- On the IDE, Open the example
  - `File > Examples > Firmata > StandardFirmata`
- Upload this code to the arduino

Let’s blink an LED using Johnny Five

But First

- Check the COM Port of Arduino. From Device Manager

The very first JS Code that Runs Arduino

```
var johnny_five = require("johnny-five");
var led_pin = 13;
//Change this COM Port
var COM = 'COM3';

var arduino = new johnny_five.Board(COM);
arduino.on("ready", function() {
    var led = new johnny_five.Led(led_pin);
    led.blink(500);
});
```

Write the codes in index.js file

This code can be found at https://github.com/manashmndl/WorkshopIoTRoboticsKUET2k17/tree/codes/Day4/johnny_five_led_app

Running the Code

- While the Arduino is Connected to the PC run the following command

```
node index.js
```

Running the code (Contd...)

- The LED of the Arduino should start blinking. If it does, you've successfully configured Arduino with Johnny-Five
- Next we will connect Arduino to the web using JS only [Without ESP8266]

To find out more about Johnny-Five

Please Read the Documentation