IoT Platforms

BY MIST MAKER
MATTHEW GRIESSLER
IoT Platform Definition

Device that has computational ability and connectivity to other devices.
Types of Platforms

SBC
Single Board Computer
- Raspberry Pi 2

SWM
Smart Wireless Module
- Intel Edison

WMCU
Wireless Microcontroller
- TI CC2650

WM
Wireless Module
- EMW3165
This is the category that allows for the most PCB design, you will want to use this type of IoT platform if your project is hardware oriented. This category includes microcontrollers with built in RF capabilities. For example, the TI SimpleLink CC2650 has a Cortex-M4 core for processing but also has a built in 2.4Ghz radio and you can implement 6loWPAN, Bluetooth, Zigbee, or any 2.4Ghz protocol (even one you make up) on the one chip. Other examples include:

- TI SimpleLink series
- TI RF430 series
- Atmel SAM21 series
- Atmel AtmegaXRfR2 series
Wireless Modules

- Have some microcontroller capability
- Pins are broken out and antenna is included
- Popular is example is $5 ESP8266 but I recommend the EMW3165 it is a lot better and only $1 more
- Other examples include
  - ESP8266
  - EMW3165
  - Particle Core
  - Particle Photon
  - Electric Imp
Smart Wireless Module

The Intel Edison is somewhat unique in that it runs a full operating system and has built in wifi and Bluetooth 4.0 yet all 70 of its pins are broken out to a 0.4mm pitch connector.

Those pins include USB, power, I2C, SPI, PWM, GPIO, I2S, UART, and SD.

The idea of the Intel Edison is that encapsulates all the brains required for a project. The Intel Edison plugs into a “block”, which is the project hardware that includes an Edison connector.

If there are other IoT platforms in this category, explore them as well.
Single Board Computer

- For those of you that need the power of a full operating system
- Falls under IoT if WiFi and Bluetooth aren’t native, there is a USB port to enable those technologies
- Many options
  - Raspberry Pi
  - Odroid
  - PcDuino
  - BeagleBone Black
  - Intel NUC (for hardcore)

Definition of full operating system – Linux or similar