SIMPLE IOT WORKSHOP

HTTPS://WWW.POCKETMAGIC.NET/SIMPLE-IOT/

HTTPS://HACKADAY.IO/PROJECT/27192-SIMPLE-IOT

Internet connected sensor

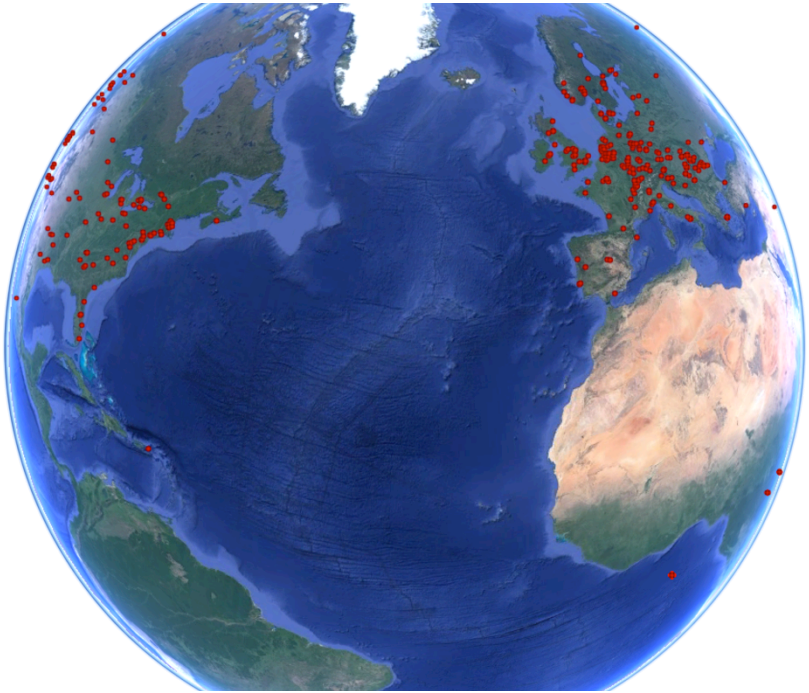
About me

Radu Motisan

uRADMonitor Founder

uRADMonitor is a global network of IOT devices used for environmental monitoring. There are close to 3000 units worldwide.

radu@uradmonitor.com

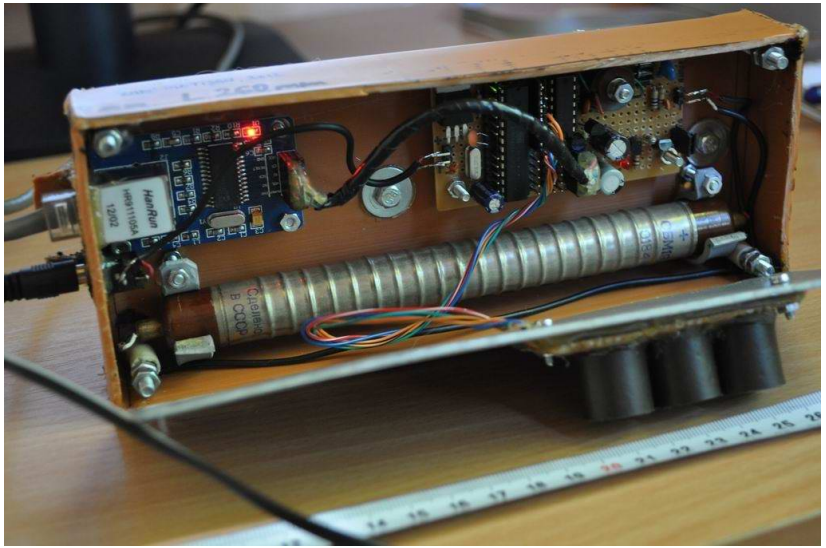


uRADMonitor units on the globe

Introduction

IOT stands for Internet of Things and refers to small devices equipped with direct internet connectivity, without needing an external computer.

They are cheap and low power.



Early IOT Device based on en28j60

Hands on IOT Workshop

Today we demo an IOT device!

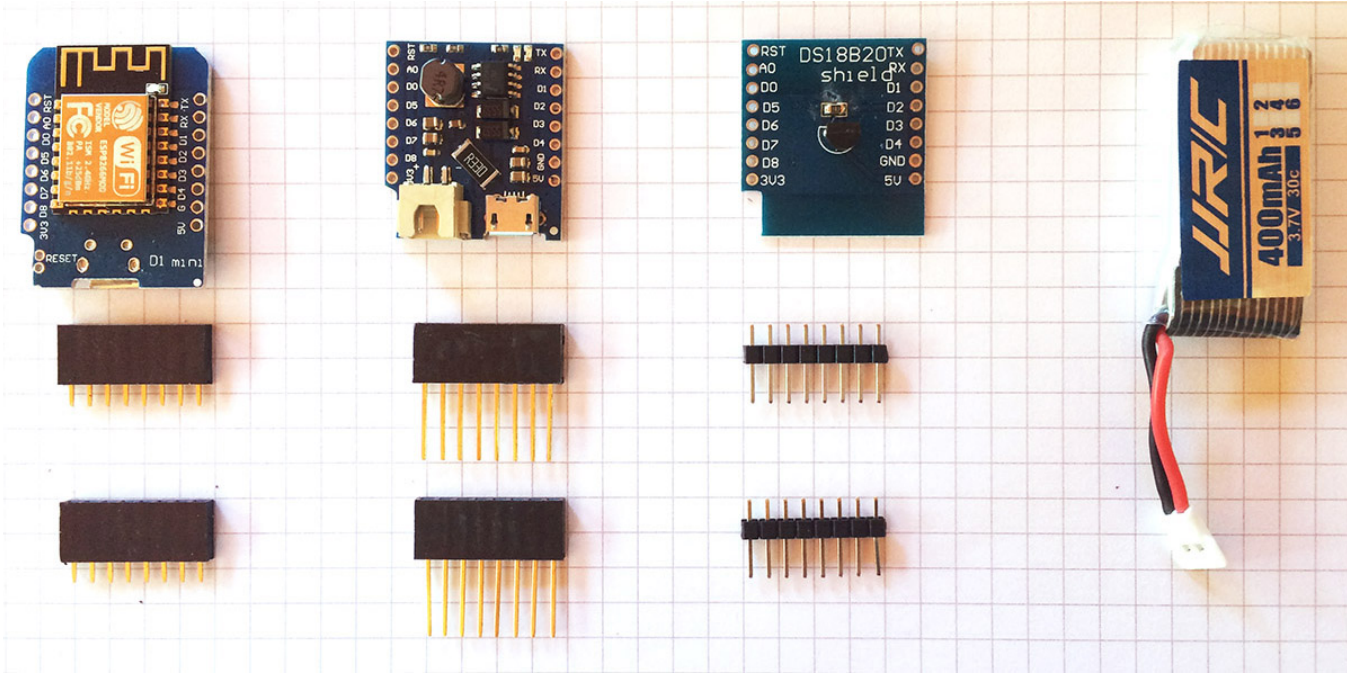
Requirements:

Simple IOT Kit

Soldering station

Computer

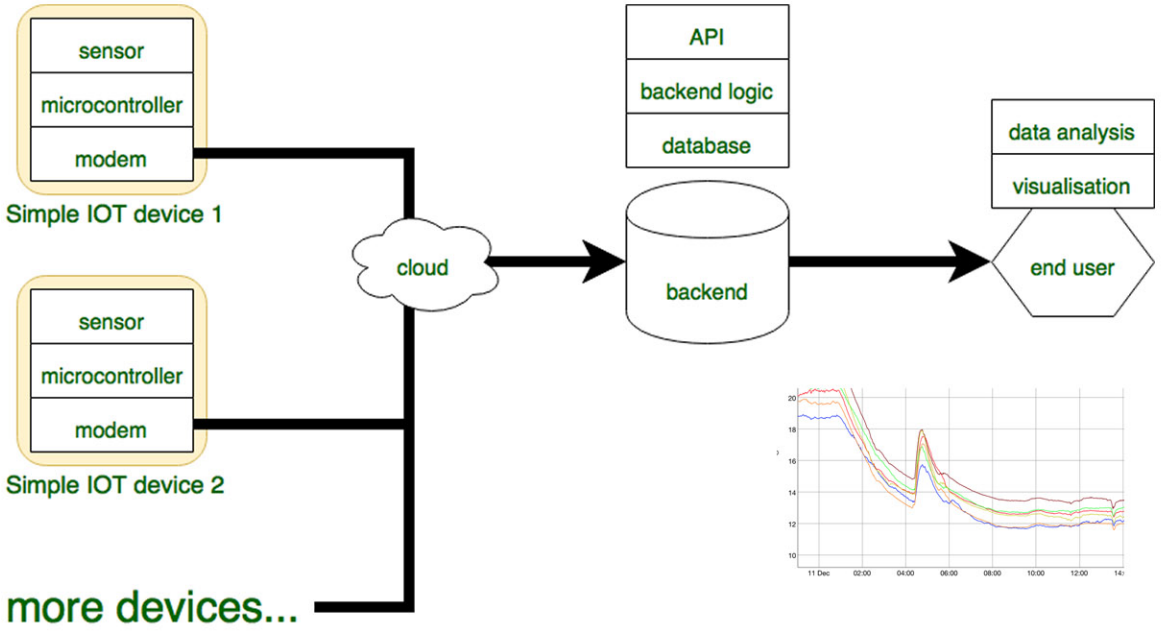
MicroUSB cable



Simple IOT Architecture

IOT Device

Server



Software requirements

Please install the following:

Arduino IDE

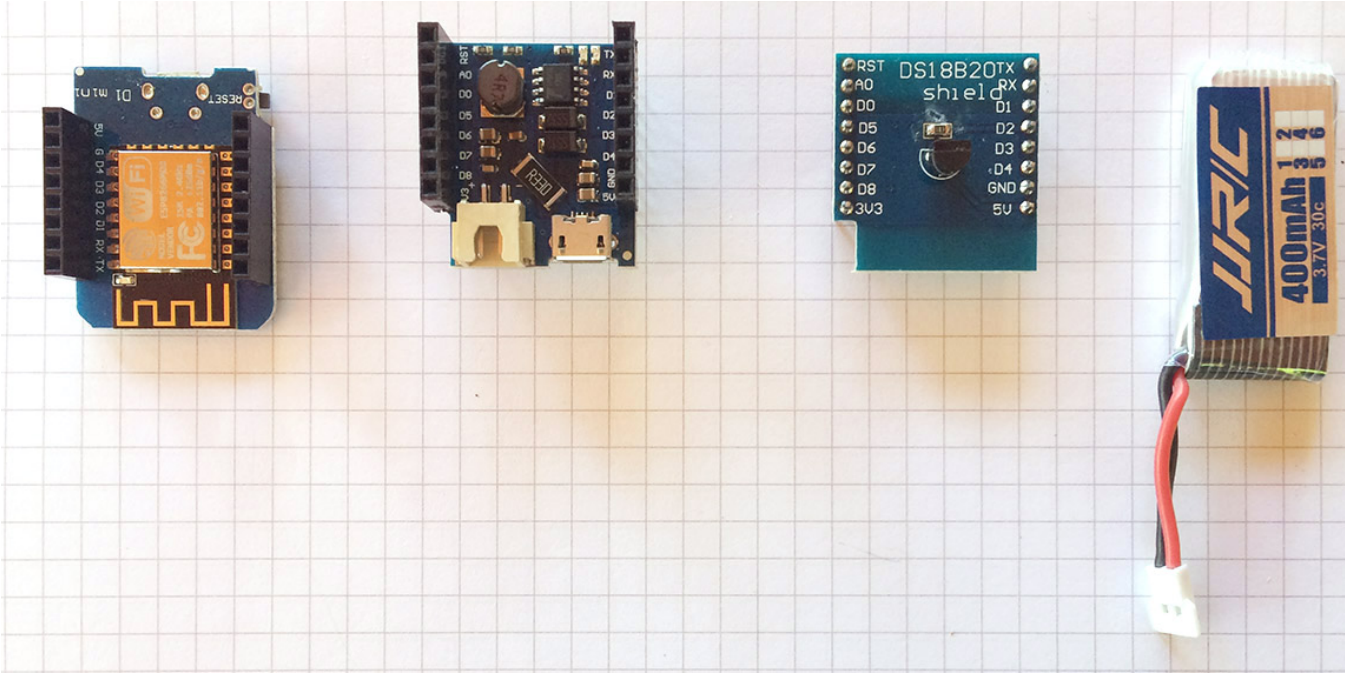
CH340 driver

Configure Arduino IDE for ESP8266.

- https://www.arduino.cc/en/Main/Software
- http://www.wch.cn/download/CH341SER_ZIP.html
- Additional boards Manager: http://arduino.esp8266.com/stable/package_esp8266com_index.json

Assembling the hardware

Solder the headers so the modules can stack together with the battery shield at the middle and the temperature sensor at the top.



Downloading the firmware

Download the firmware from Github.

Add your Wifi Router settings to the code (SSID + Key).

Add the user ID and the user Key.

- Download code: https://github.com/radhoo/SimpleIOT
- Create a user account on: https://www.uradmonitor.com/dashboard/

Improvements

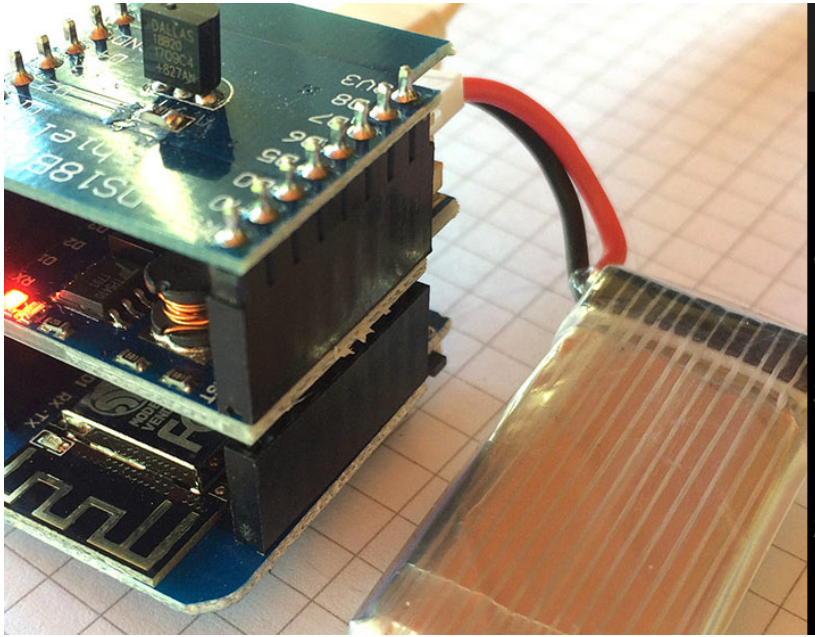
Know the code and try to improve it:

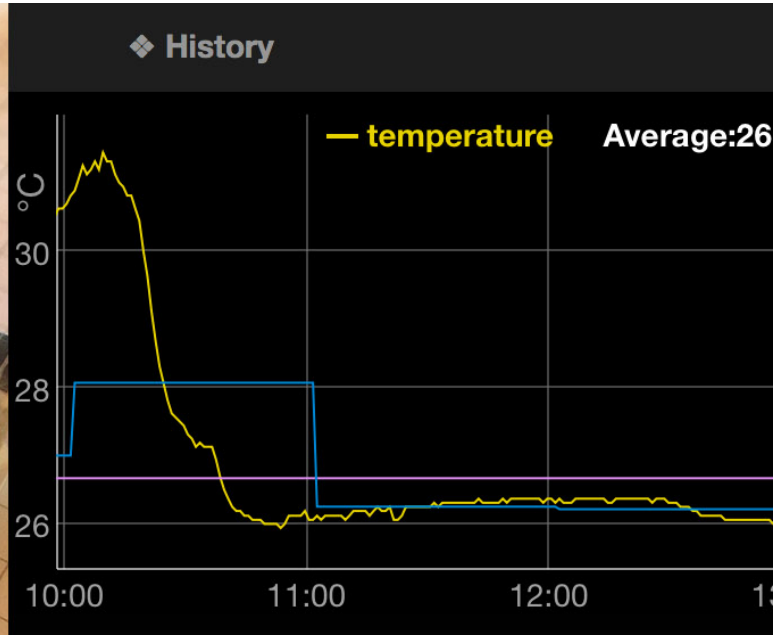
More sensors

Power saving

- The EXP Protocol is presented here: https://www.pocketmagic.net/simple-iot/
- ESP8266 deep sleep: ESP.deepSleep(50e6); // 50e6 is 50 seconds

The results and data access





https://www.uradmonitor.com/?open=13XXXXXX

Thanks for your time!

Radu Motisan

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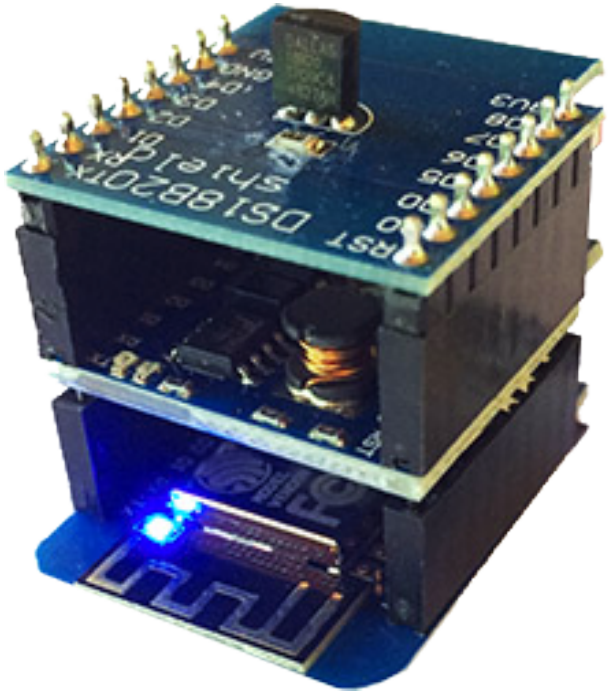

The Simple IOT Device stack