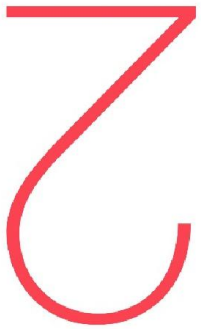


zolertia™

Intro

ICTP Workshop 2015

WWW.ZOLERTIA.COM | 2015

Our company

The origin of Zolertia's project

A LONG TIME AGO...

Our company, settled in Barcelona is a R&D WSN & IoT Engineering, with more than 10 years of experience focused in hardware and firmware development for the following markets:

WSN

Healthcare

Industrial

About me

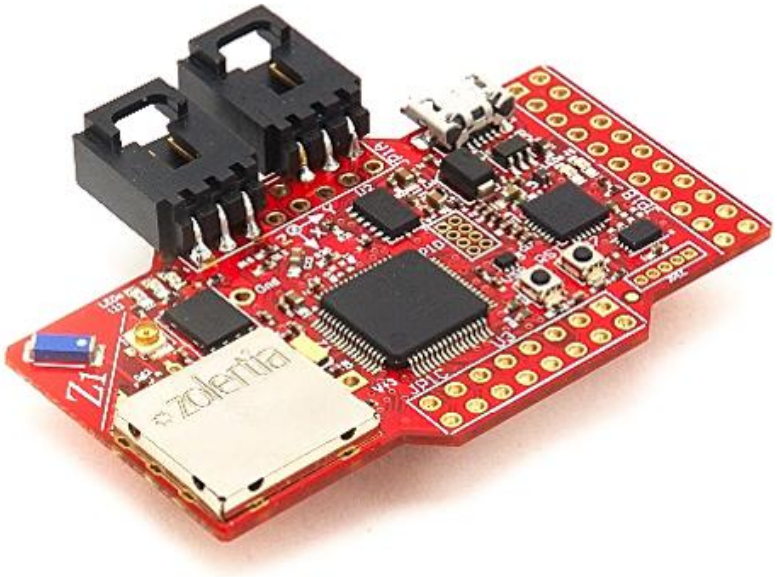
Antonio Liñán Colina

Maker

R+D
Engineer

Twitter	@4Li6NaN
e-mail	alinan@zolertia.com
LinkedIn	Antonio Liñán Colina
Blog	techscrapbox@blogspot.com
about.me	about.me/antoniolignan

What is the Z1?



What's inside?

Z1, Low-Power WSN Platform main features

Z1 is a general purpose development platform for wireless sensor networks (WSN) designed for researchers and developers. Equipped with two on board digital sensors (accelerometer and temperature), it comes with everything developers need to start building smart networks. You can connect your applications directly to the IoT over IPv6.

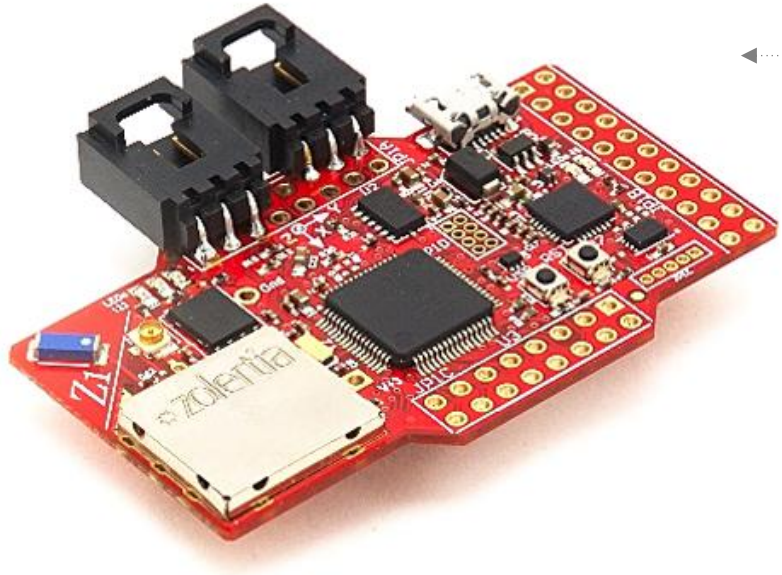
- **2.4GHz IEEE® 802.15.4 & 6LowPAN Compatible**
- 2nd Generation MSP430 (F2617)
- Widely Adopted Radio: CC2420
- On-board Digital Sensors (x2)
- Up to x4 Analog Phidgets™
- 52-pin Expansion Connector
- Embedded or External Antenna
- Micro-USB Connector

What's inside?

First preview of Z1

Ports
2 Phidgets™ sensor ports and Ziglet optional connector (I2C)

Antenna
Ceramic embedded antenna. U.FL connector for external antenna



Micro-USB
Built-in micro-USB connector for programming and debugging.

3- Axis accelerometer + temperature digital sensors, built-in external Flash Memory.

Check in our store

What's inside?

Applications and more cool things!

Open

Applications

- Immersing your device in IoT
- Personal healthcare monitoring
- Environmental monitoring
- Emergency detectors
- Safe and rescue devices
- Long-term unattended monitoring
- Power consumption monitoring
- Agricultural monitoring

What else?

Potential custom services

- Hardware customization
- Network deployment
- Monitoring SW

Potential Collaborations

- Defining new WSN trends
- Design next-gens

What’s outside?

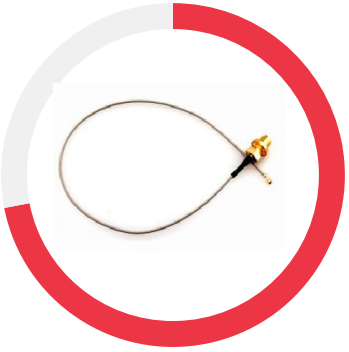
Packs, sensors and accesories

Packs

More than 10 different professional packs. Take one of them or make your custom packs.

Sensors

Digital and analog sensors for your WSN



Accessories

And addition accessories looking to fit your project requirements.

Our philosophy

Open Source

Supported Operative Systems

Contiki

The Open Source OS for the Internet of Things

IPv6 ready, open source **WSN** lightweight operative system, design to be highly portable and memory efficient.

Contiki is written in **C** programming language and has an event-driver kernel, but is also capable of handling per-process multithreading and inter-process communication.

TinyOS

TinyOS is a free and open source component-based operating system and platform targeting wireless sensor networks **WSN**.

TinyOS is an embedded operating system written in the **nesC** programming language as a set of cooperating tasks and processes.

MansOS

OS for **WSN** and other resource-constrained embedded systems. **MansOS** applications use plain **C** and **UNIX-like.**

The **OpenWSN** project serves as a repository for **open-source** implementations of proto col stacks based on **IoT** standards.

RIOT

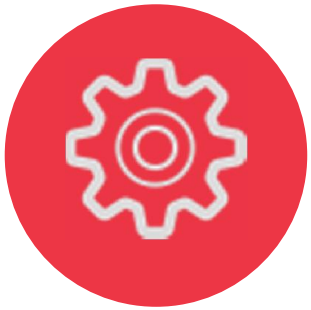
RIOT runs on several platforms including embedded devices as well as common PCs.
It supports multiple drivers, which allows you to start out of the box. The hardware dependent code is reduced to a minimum and abstracted from the kernel itself.

Open Source

The fellowship of the Z1

Zolertia's Wiki

Find all the information about our Z1



Developer tools

Software download to start developing, HW details schematics and ready-to-use code examples.

Projects from Z1 users

Check them in our Wiki.

Getting Started Guide

and more cool stuff to keep updated every day.

Where are our Z1?

Where are our Z1?

No matter where you are...

5000 More than 5000 Z1 since V1.0

250 Over 250 partners

+50 Worldwide publications

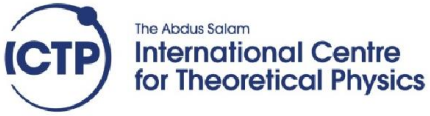
35 Over 35 countries

1 EU FP7 Project

RERUM

Where are our Z1?

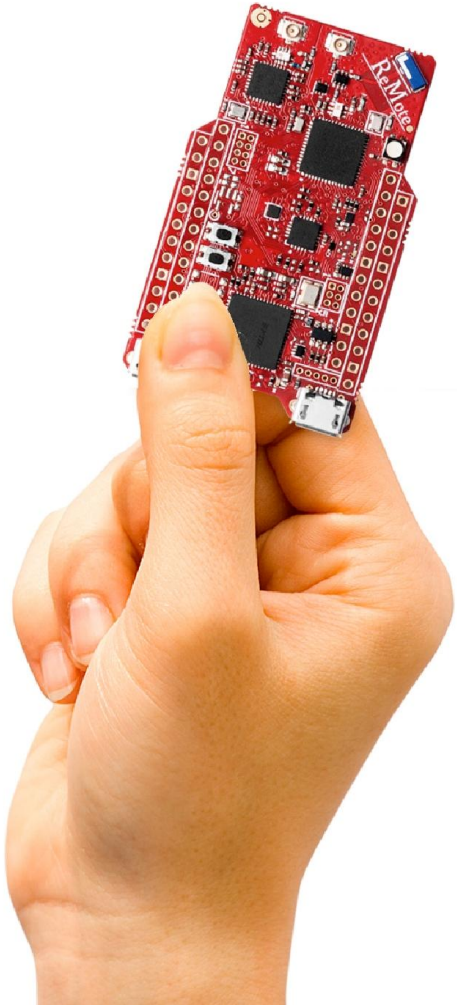
Some of our R&D clients around the World



Where are our Z1?

Some of our industrial partners around the World

What's next?



Re-Mote platform

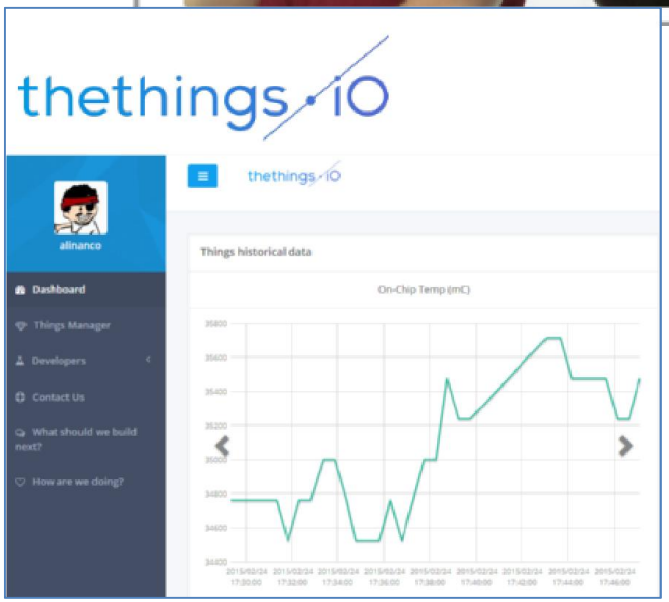
The new Zolertia Flagship

Lightweight and powerful Internet of Things hardware development platform to enable any idea to be connected to the Internet, providing a seamless connectivity for most indoor and outdoor applications, running forever on batteries.

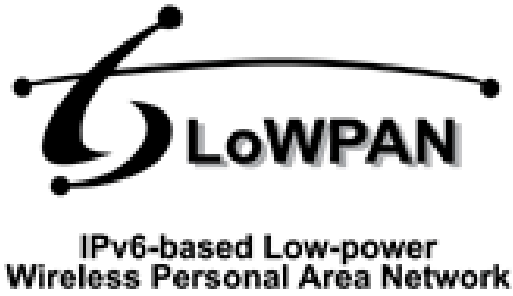
- 32-but ARM M3-Cortex 512KB Flash, 32KB RAM, 32MHz
- 2.4Ghz IEEE 802.15.4-2006 RF (~100 mts)
- 868/915MHz sub-1GHz RF (~2-25 Kms)
- Security Hardware acceleration (ECC-128/256, AES-128/256, SHA2)
- Built-in battery charger (LiPo batteries, solar panel, energy harvesting 2-26V)
- Ultra low-power consumption (down to 20uA).
- Two times smaller than an arduino
- Programmable over micro-USB. Built-in USB 2.0 driver over micro-USB connector

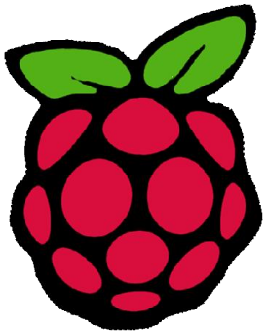
Super Mario Coin Box

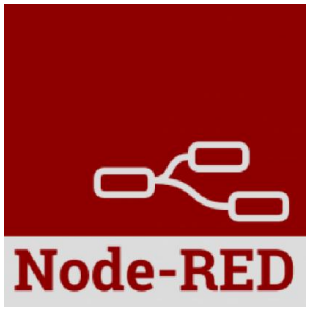
hackster.io/alinan/super-mario-bros-mqtt-coin-box

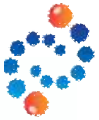


The Internet of (useless) Things?









Contiki

The Open Source OS for the Internet of Things

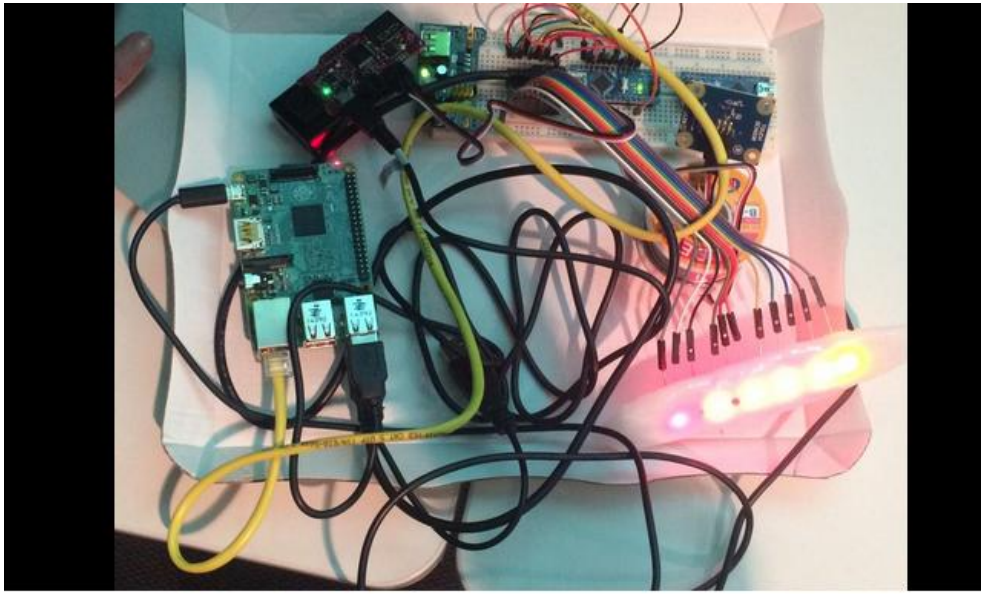
Mosquitto

An Open Source MQTT v3.1 Broker

My use cases

(...) last month I had the chance to meet Steve Wozniak. He said he invented the personal computer "*not to change the world but because he needed one at home*" – Agustín Pelaez, Ubidots

Our business is not selling Hardware… but empower IDEAS

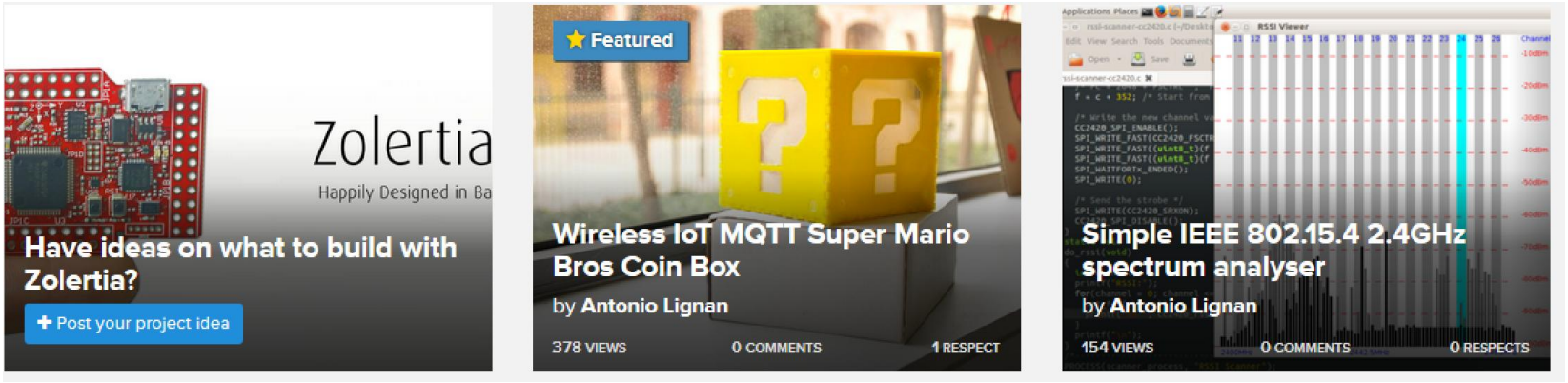


Aldo de Jong @aldodj · 2 de mar.
4. iotlab xBike enable safe #biking, get directions, parking your bike, reduce theft #SmartCit
@zolertia @4YFN_MWC

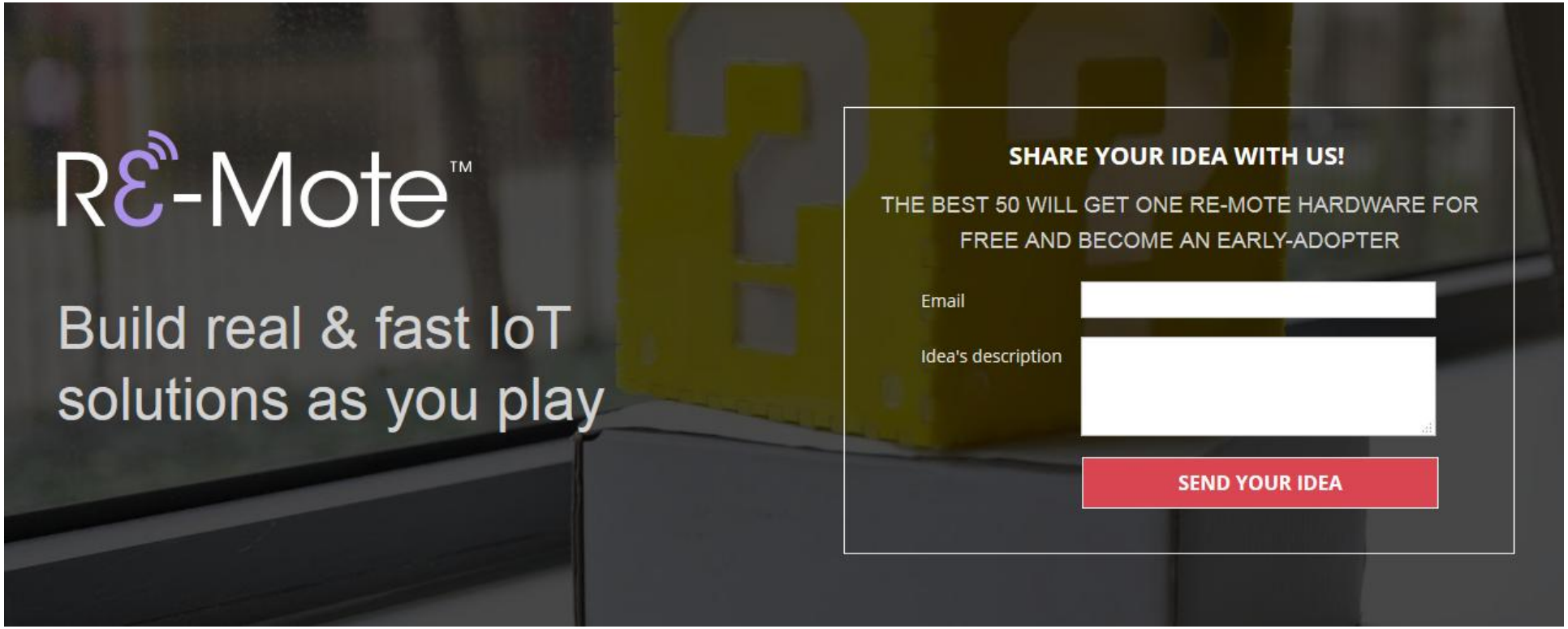
6 6

Next steps

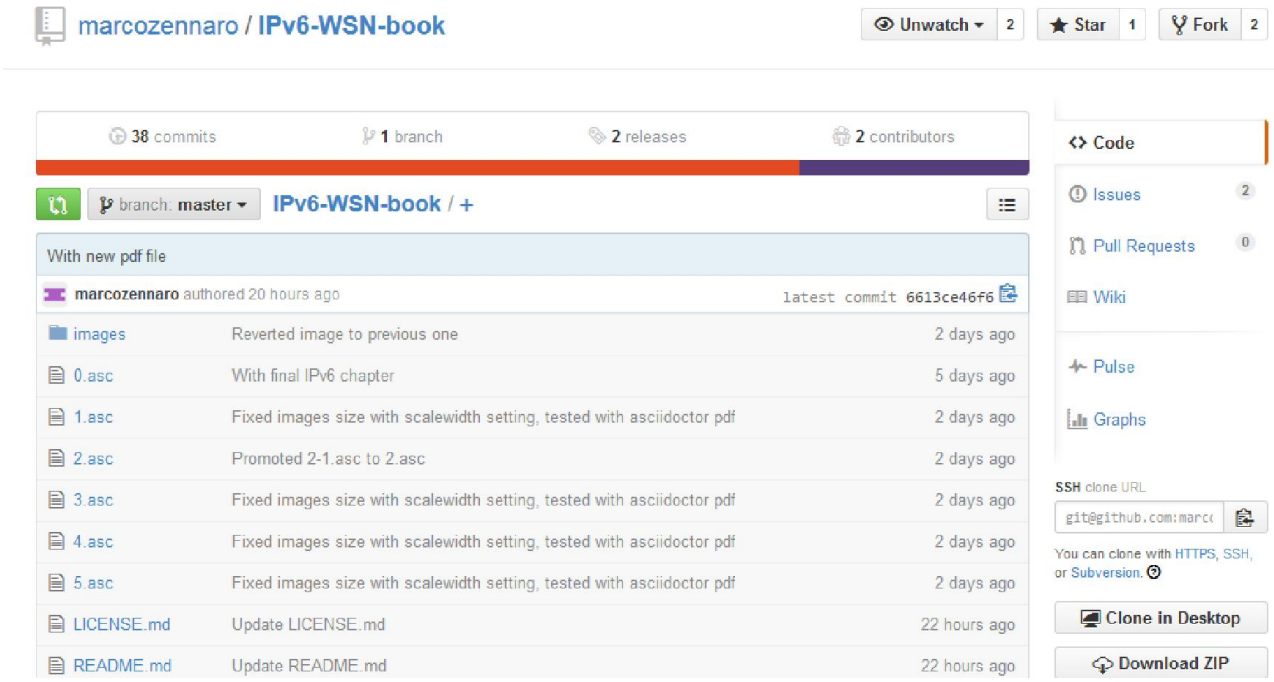
- Register to http://www.hackster.io/
- Follow Zolertia at http://www.hackster.io/zolertia
- Create a project, it just requires an idea to start with!



http://remote.zolertia.com/solution-as-you-play/



https://github.com/marcozennaro/IPv6-WSN-book



Ph.: +34 93 142 61 66

www: www.zolertia.com
Shop: webshop.zolertia.com

Marie Curie, 8-14, 08042
Barcelona, Spain

@zolertia