

MICRODUINO'S EXPERIENCES NODE.JS & IOT ON OPEN SOURCE HARDWARE & SOFTWARE



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MICRODUINO

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AGENDA

- JavaScript is fit for IoT
- Open Source Hardware & Software
- JavaScript for IoT
- Microduino Experiences of IoT
- Demo
- Problems



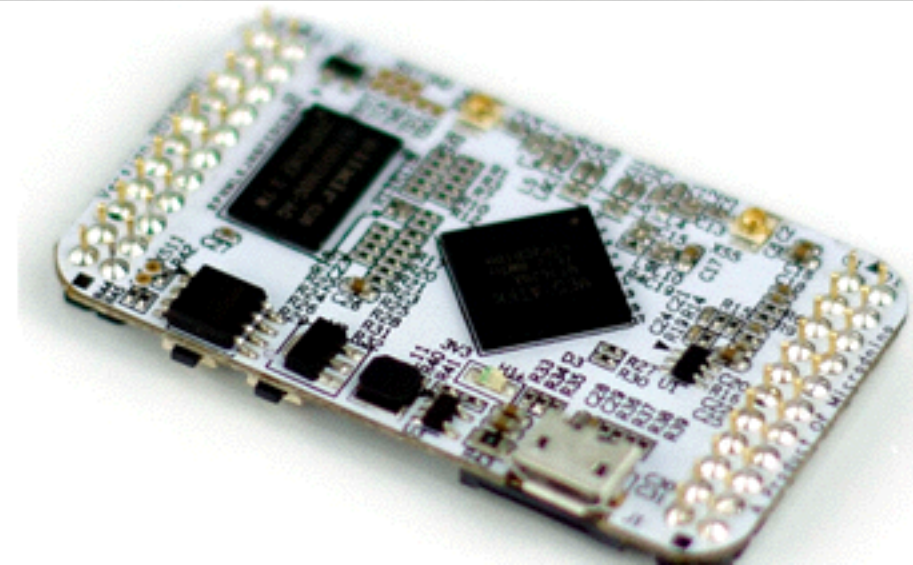
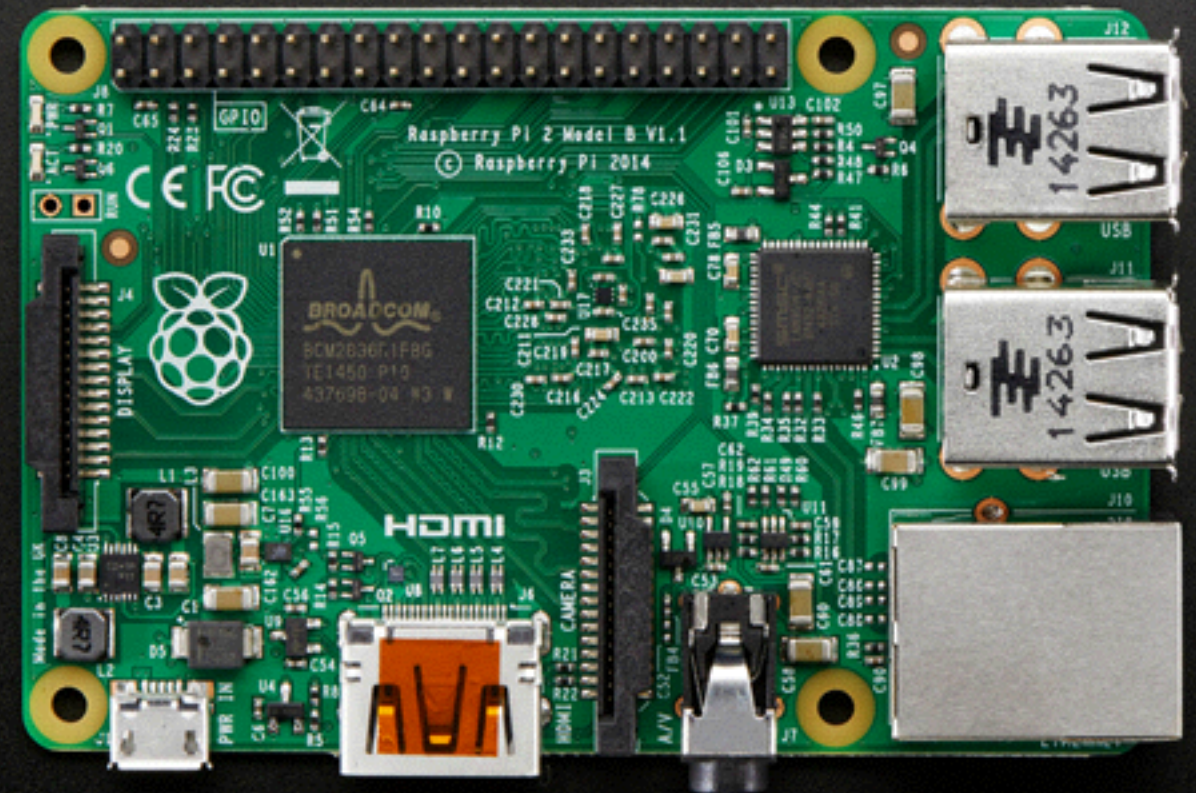
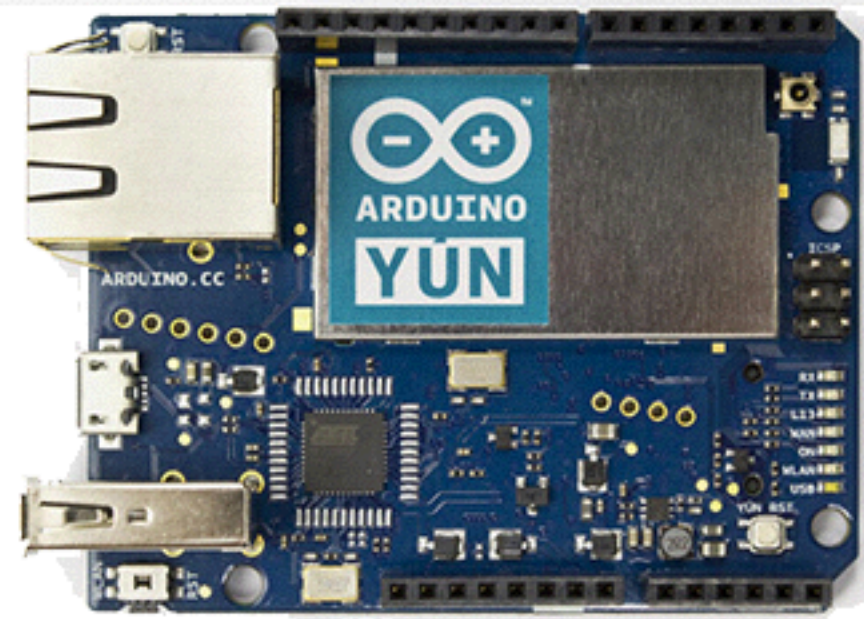
JS IS FIT FOR IOT

- Born with Internet
- WebSockets
- Huge Library of Packages
- Event Driven
- Data Visualization
- Run on embedded devices, servers, mobile devices, and desktops. And they are under Windows, Linux, Android, and iOS.



OPEN SOURCE HARDWARE

- DIY & Maker
- Arduino, Raspberry Pi and others
- Long Tail of IoT Innovation



OPEN SOURCE SOFTWARE

- Arduino
- OpenWrt
- Node.js & Meteor.js ...

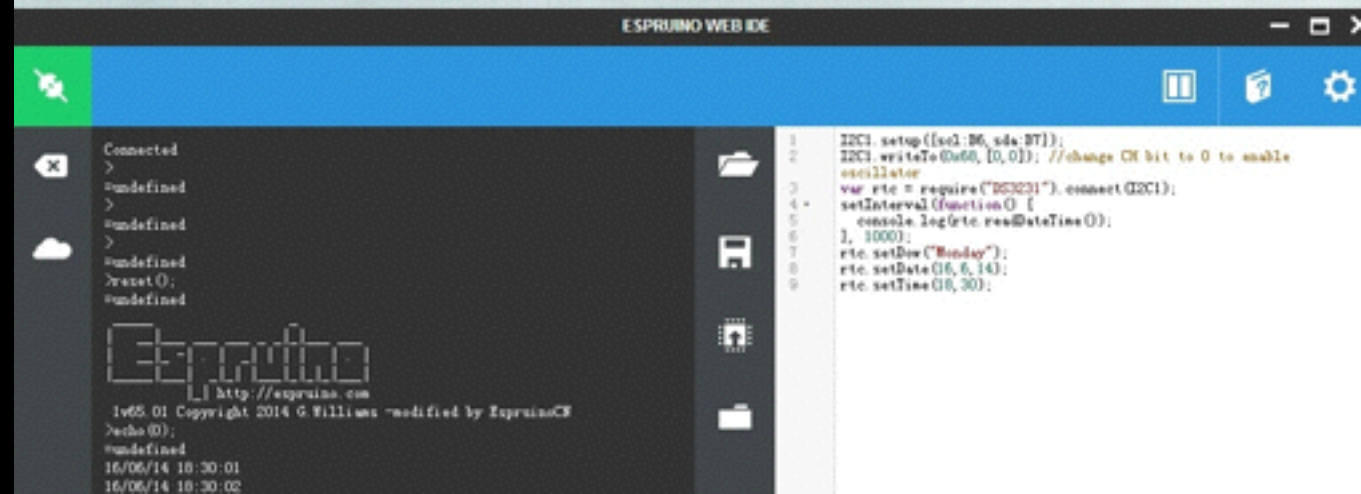


JS FOR IOT

- Cylon.js
- johnny-five
- Node RED
- Espruino
- Tessel 2



Johnny-Five



JS OF IOT- INDUSTRY

- Samsung IoT.js — Based on JerryScript, it is a light weight Node.js
- Intel ® XDK IoT Edition — JavaScript for IoT
- nfarina/homebridge
- H5OS



ABOUT MICRODUINO

EVERYONE IS AN INVENTOR

<https://microduino.cc>

<https://micordduino.cn>



**KICK
STARTER**

Microduino: 2013.09~10
mCookie: 2015.05~06

TIME

时代周刊网站评选的
2015全球5个最为推荐的智能硬件

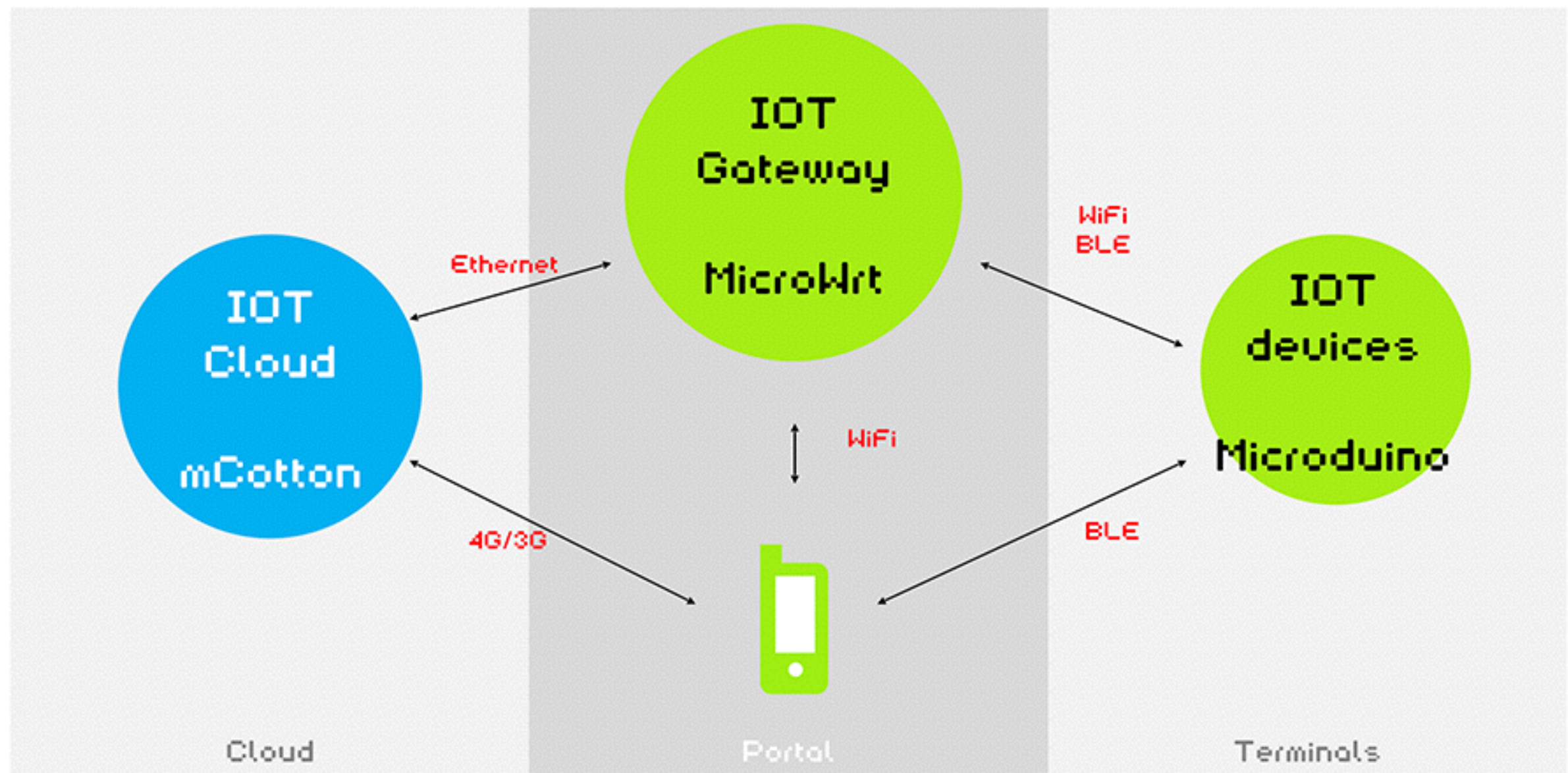
Maker Faire

2015年全球5个最棒的产品

The smallest modular smart hardware series
尺寸 最小的 积木式 智能硬件系列

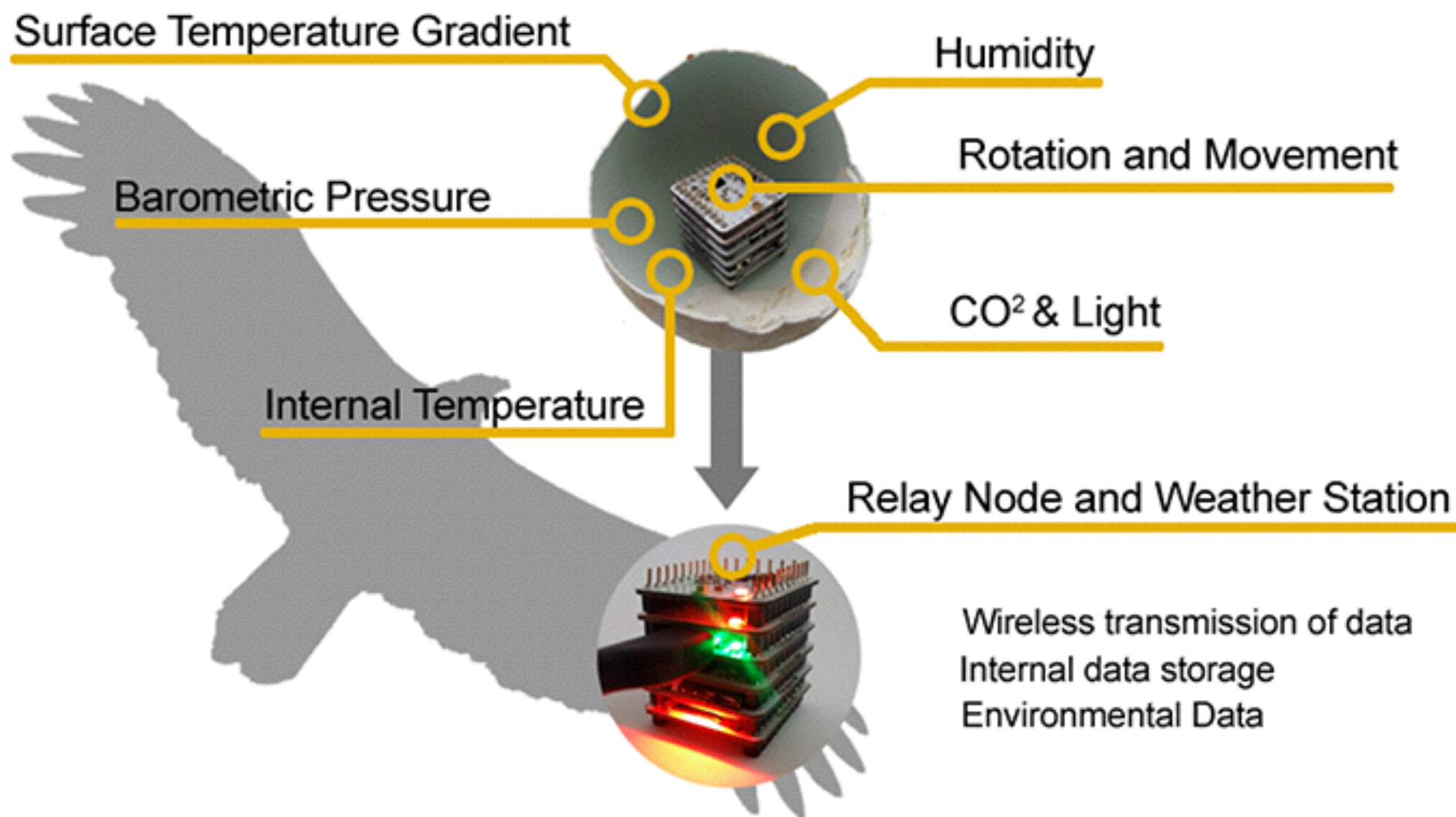
BY MICRODUINO

MASH IOT UP

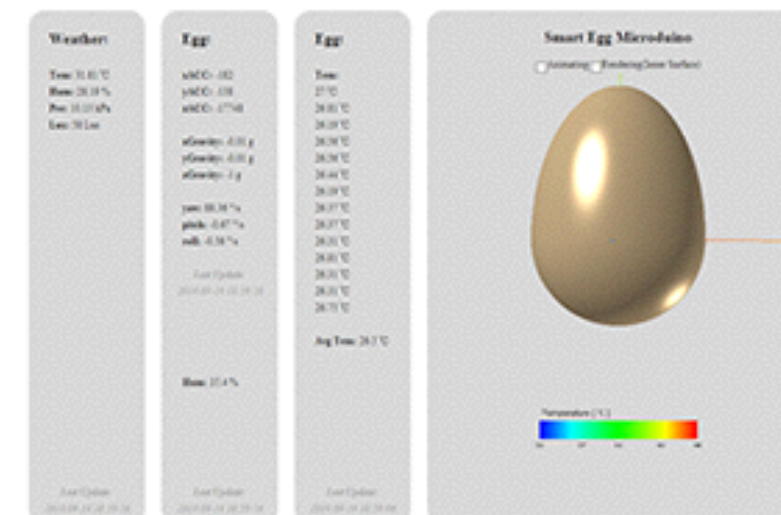


EGGDUINO - START OF MCOTTON

VULTURE SMARTEGG



200+ years History



CLOUD- MCOTTON

<https://mcotton.micorduino.cn>

<https://github.com/iascchen/mCotton>


- Developed in Meteor
- Multipal Protocol
 - DDP, RESTful, MQTT
- Data Visualization
 - D3, NVD3, WebGL
- Open Data

[mCotton](#) [Projects](#) [Devices](#) [Admin](#)

Control IOT Devices

[microduino](#) [mCookie](#) [Arduino](#)

Push data or pull control via API of RESTful, WebSocket, MQTT, CoAP, ...



Awesome Projects

[Projects ...](#)

Weather Station, Color LED, My City, Smart Egg

EXPERIENCES OF METEOR

- Data Subscription
- 3rd Package Usage
 - MQTT (Mosca)
- Integrated with Azure EventHub



DEMO-MCOTTON

- Sample Code - Meteor
- Sample Code - REST, MQTT
- Sample Code - Data Visualization

GATEWAY - MICROWRT

- Node.js on OpenWrt
- Node-Serialport
- Cylon.js



DEMO-MICROWRT

- Sample Code - DDP client
- Sample Code - MQTT + Cylon.js
- Sample Code - DDP + Cylon.js

PROBLEMS

- No Silver Bullets
- Node.js on embedded device is slow
- Cross Compiling - SerialPort, BLE, ...
- OTA Uploader - WIFI, BLE
- Debug
- Scalable

Good luck with that

Writing Device Drivers with JavaScript

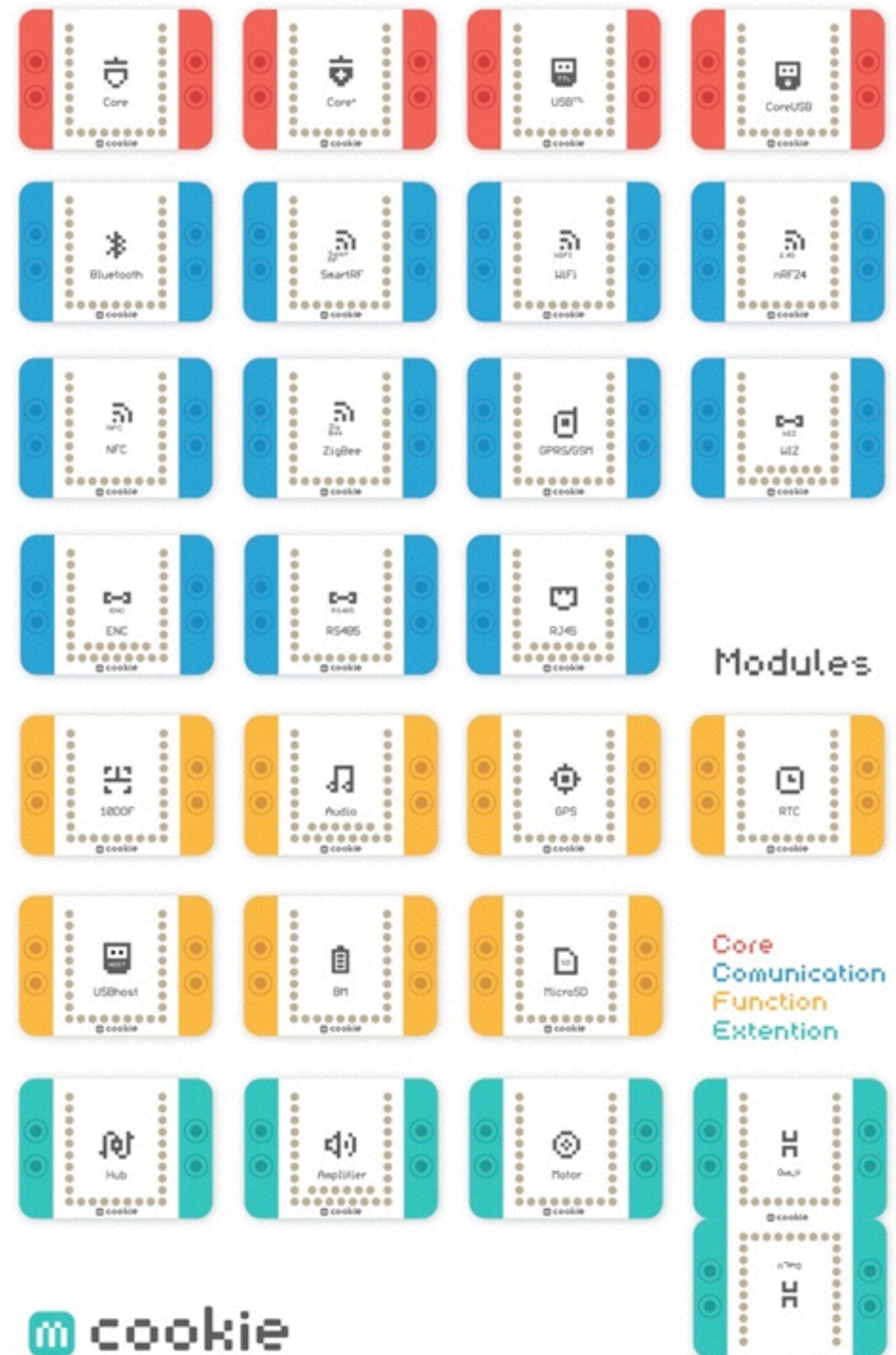


O'REILLY®

David Flanagan

CREATIVITY IS CONTAGIOUS, PASS IT ON

- Modular Open Source Hardware ——— Electronic “LEGO®” for Innovation
- Open Source Software for Inventor ——— Arduino Sketches, Mobile APPs, Cloud Services
- Open Contents ——— Wiki
- Open Data ——— Share your devices for Sciences or Study



PLAY WITH US

- Refine UI/UX of mCotton, Add Communication between Devices, Multi-tenant & Quota Limitation
- Use Native/React Develop Mobile Apps
- Open Data Support
- What's you want ...

NEED YOUR HANDS

- **Provide your suggestion**
- **Attend our projects**
- **Join Microduino**
hr@microduino.cc
chenhao@microduino.cc

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<https://github.com/iascchen/bjnodeparty>



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