

移动互联网下的软硬结合

(序)



·C·A 北京 上海 珠海 苏州 杭州 主办: PyChina.org, GDG

移动互联网生态现状



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移动互联网生态现状

- PPS、搜狗、91助手、UC、新浪微博、大众点评、嘀嘀打车、快的打车、高德地图、去哪儿、陌陌、魔漫相机.....
- BAT的移动互联网生态现状



移动互联网生态现状

从



到



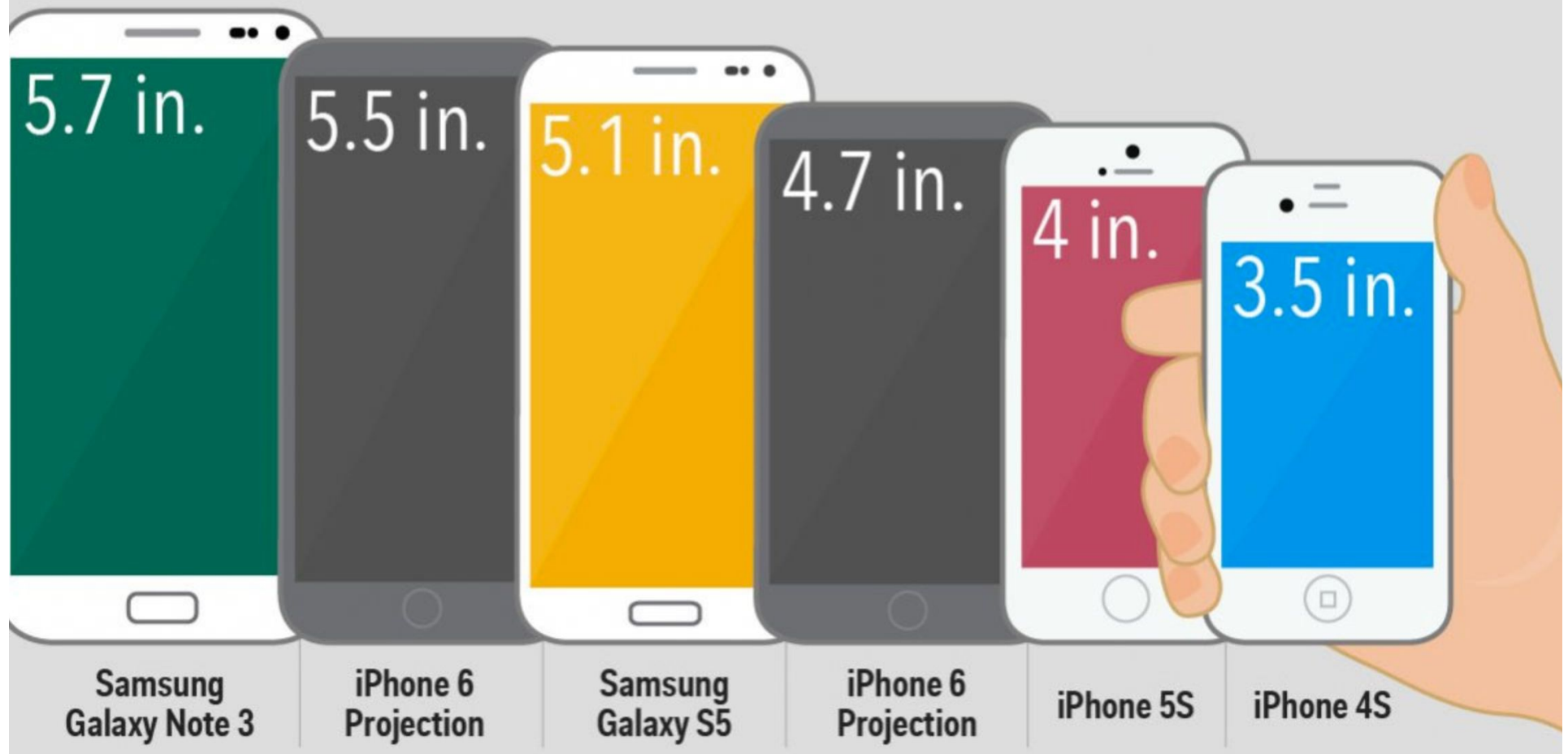
世界变平了



世界扁平了



为什么？



世界真的是平的？



屏幕之外皆是蓝海

...



PyChina.org, GDG

北京 上海 珠海 苏州 杭州



KICKSTARTER Discover great projects Start your project

Pebble: E-Paper Watch for iPhone and Android

by Pebble Technology

Home Updates 17 Backers 68929 Comments 7,816 Palo Alto, CA Product Design

Funded! This project successfully raised its funding goal on May 18.

68,929 backers
\$10,266,846 pledged of \$100,000 goal
0 seconds to go

Project by Pebble Technology
Palo Alto, CA
Contact me



Google 32亿美元收购智能家居Nest

Apple 30亿美元收购Beats

Nest 6亿美元收购家庭监控Dropcam

Stratasys 4亿美元收购3D打印MakerBot

Samsung 2亿美元收购智能家居SmartThings

Intel 1亿美元收购智能硬件Basis

.....

BAT在智能硬件领域不断布局



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微信开放硬件接口

- 未来摇一摇 摇出来的会是什么？



讲点眼前的

...

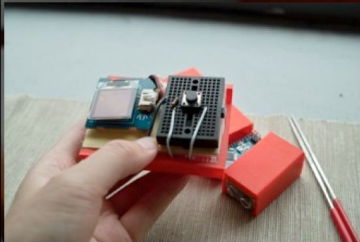
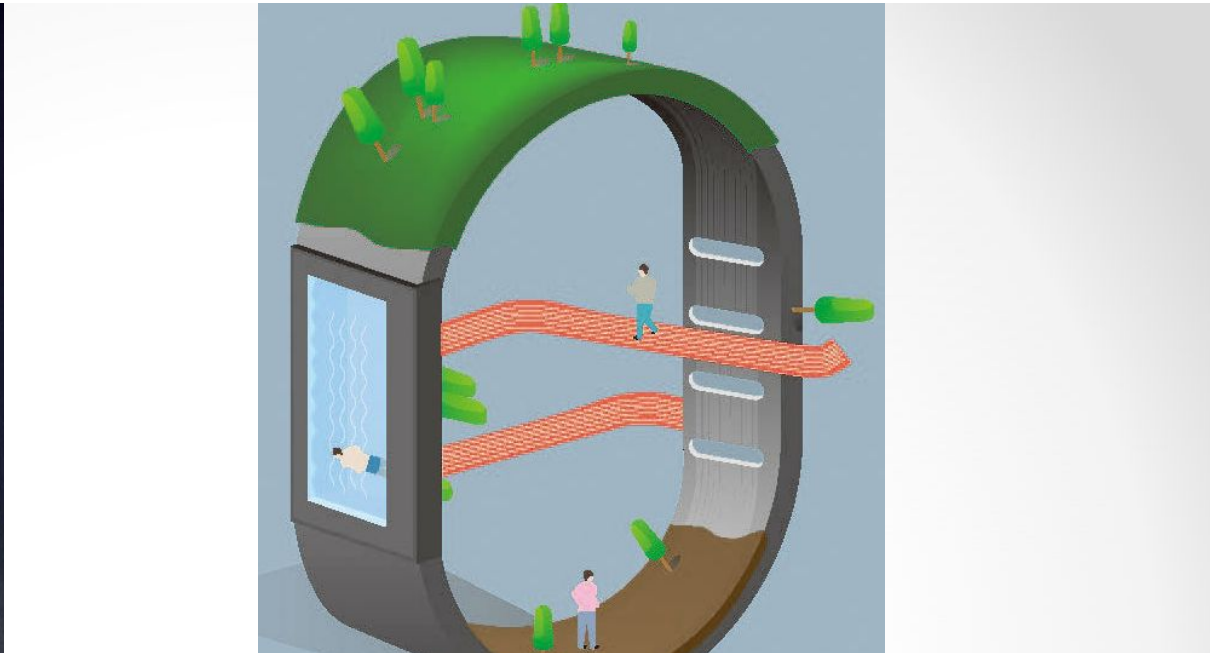
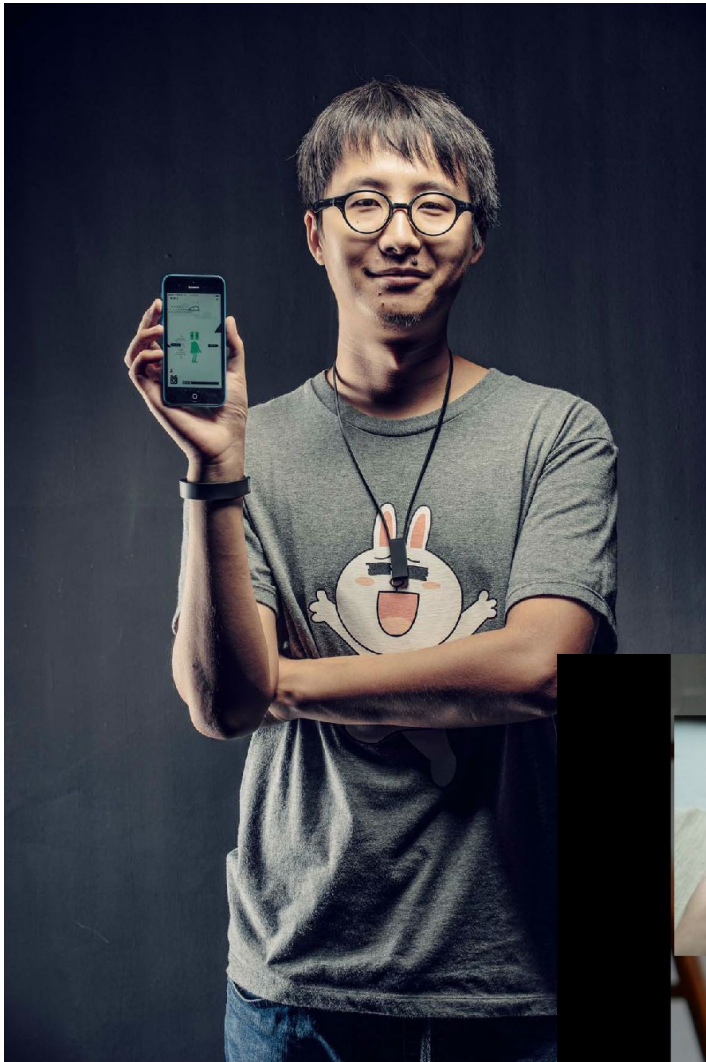
举两个栗子



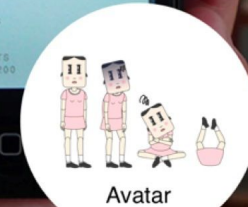
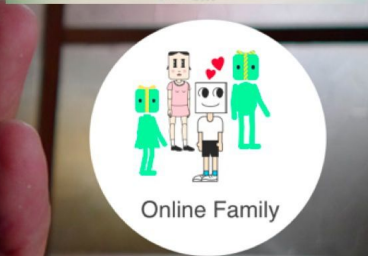
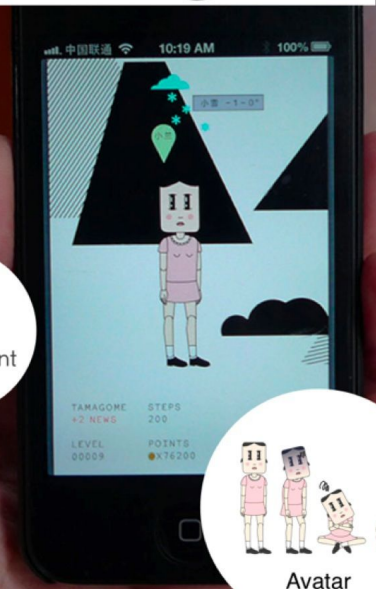
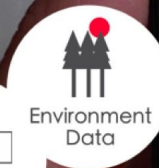
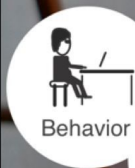
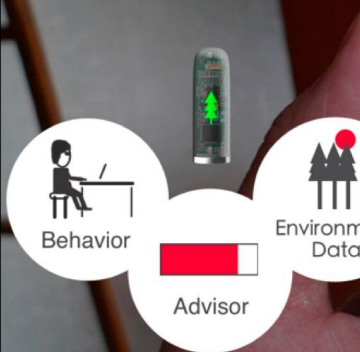
PyCon 2014
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- 魅族
- Connect to MEIZU
- 新我手环 (Betwine)





Tamagome



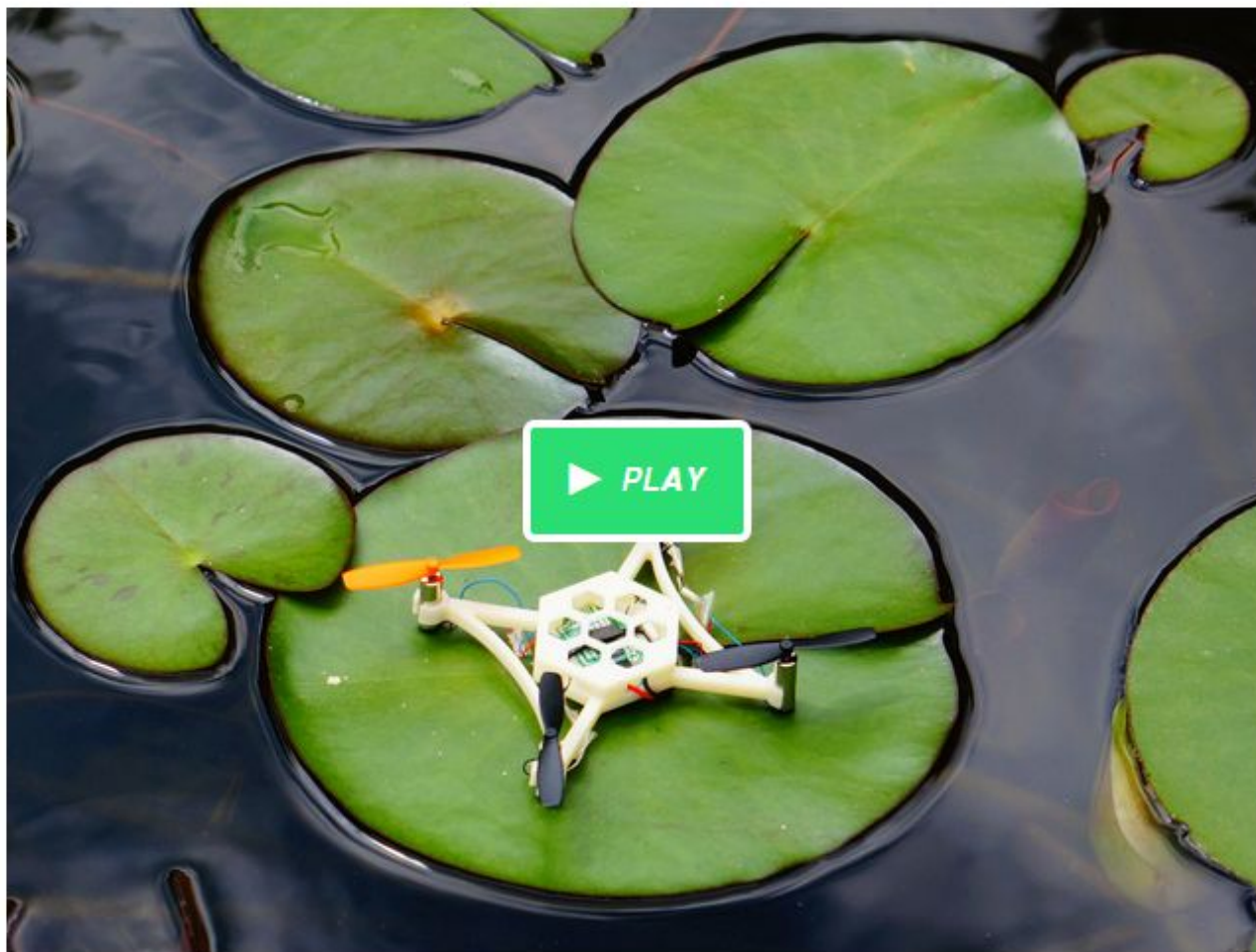
PyCon 2014
C/A 北京

imlab可穿戴健康管理设备
电子新我

国内90后Maker



国内90后Maker



4,670

Backers

\$563,721

pledged of \$10,000 goal

0

seconds to go



Project by

Benjamin Black
Los Angeles, CA

K First created · 1 backed

f Ben Black 251 friends

globe hexairbot.com



PyCon 2014 北京 上海 珠海 苏州 杭州 主办: PyChina.org, GDG

软件开发人员如何硬起来？

- 不需要会电路设计,不需要懂模电、数电
- 现有开源硬件平台为你重新开启硬件之路

Arduino, Raspberry Pi, CubieBoard,
Micro Python, Espruino.....



Arduino



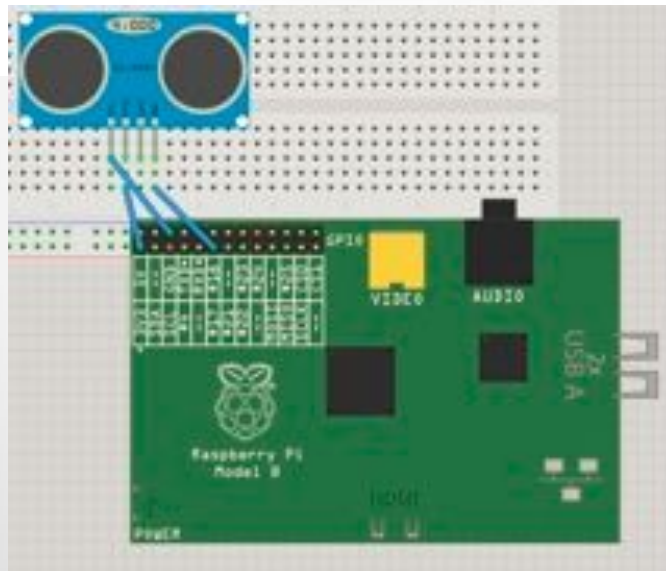
```
sketch_jul14a | Arduino 1.0
File Edit Sketch Tools Help
sketch_jul14a $
int ledPin = 13;

void setup()
{
    pinMode(ledPin, OUTPUT);
}

void loop()
{
    digitalWrite(ledPin, HIGH);
    delay(1000);
    digitalWrite(ledPin, LOW);
    delay(1000);
}

14 Arduino Uno on COM6
```

Raspberry Pi



```
import time
import RPi.GPIO as GPIO

GPIO_PIR = 11

def detectedAndPrint():
    GPIO.setup(GPIO_PIR, GPIO.IN)
    print "Nothing"
    while 1:
        isDetected()
        time.sleep(0.1)
        print "PIR sensor detected some stuff"

def isDetected():
    while GPIO.input(GPIO_PIR) == GPIO.LOW:
        return False

    while GPIO.input(GPIO_PIR) == GPIO.HIGH:
        return True

if __name__ == '__main__':
    # rpi board gpio or bcm gpio
    GPIO.setmode(GPIO.BOARD)

    # Loop method
    detectedAndPrint()
```

Micro Python

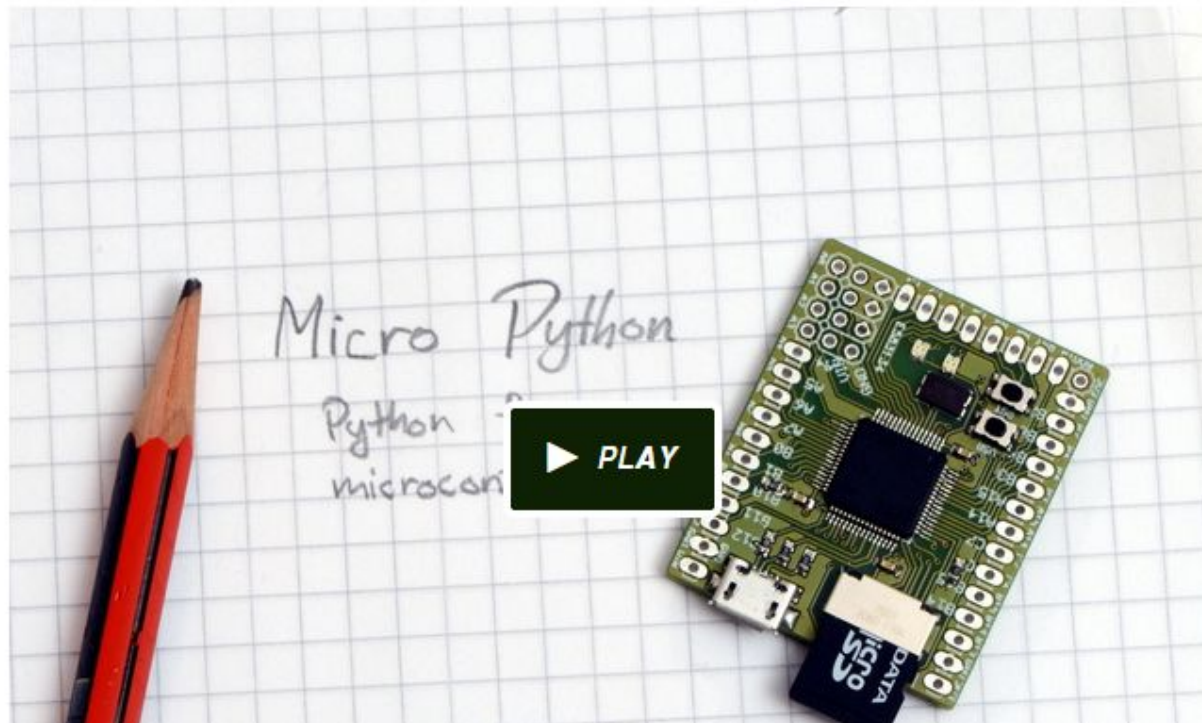
Micro Python: Python for microcontrollers

by Damien George

Home Updates **36** Backers **1,931** Comments **482**

Cambridge, UK Hardware

Funded! This project was successfully funded on December 13, 2013.



1,931

Backers

£97,803

pledged of £15,000 goal

0

seconds to go



Project by

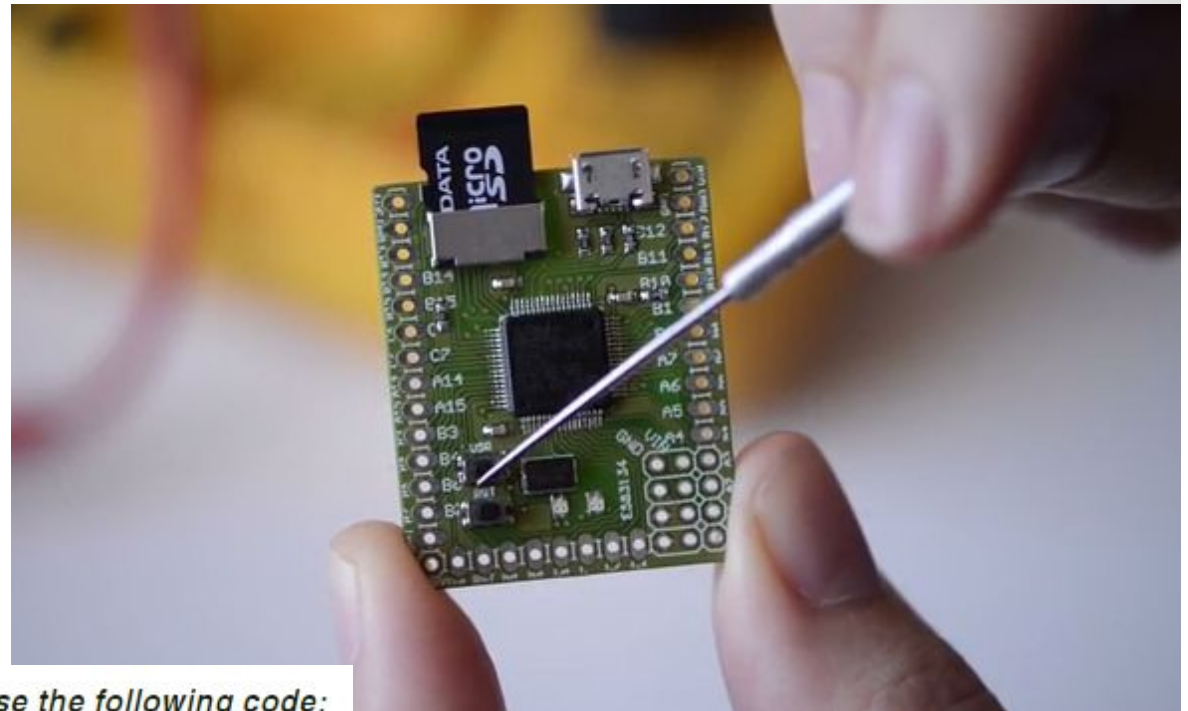
Damien George

Cambridge, UK



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Micro Python



To flash an LED once a second, you could use the following code:

```
while True:                # loop forever
    pyb.led(True)           # turn the LED on
    pyb.delay(1000)         # wait 1000 ms = 1 second
    pyb.led(False)         # turn the LED off
    pyb.delay(1000)         # wait 1000 ms = 1 second
```

Micro Python

Python standard libraries

The following standard Python libraries are built in to Micro Python.

For additional libraries, please download them from the [micropython-lib](#) repos

- `cmath` – mathematical functions for complex numbers
- `gc` – control the garbage collector
- `math` – mathematical functions
- `os` – basic “operating system” services
- `select` – Provides select function to wait for events on a stream
- `struct` – pack and unpack primitive data types
- `sys` – system specific functions
- `time` – time related functions

Micro Python

Libraries specific to the pyboard

The following libraries are specific to the pyboard.

- `pyb` — functions related to the pyboard
 - Time related functions
 - Reset related functions
 - Interrupt related functions
 - Power related functions
 - Miscellaneous functions
 - Classes
- `network` — network configuration
 - class `CC3k`
 - class `WIZnet5k`



Espruino



Espruino

JavaScript for Things



1,692

Backers

£100,710

pledged of £20,000 goal

0

seconds to go



Project by

Gordon Williams

Oxford, UK

K 2 created · 5 backed

f Gordon Williams 100 friends

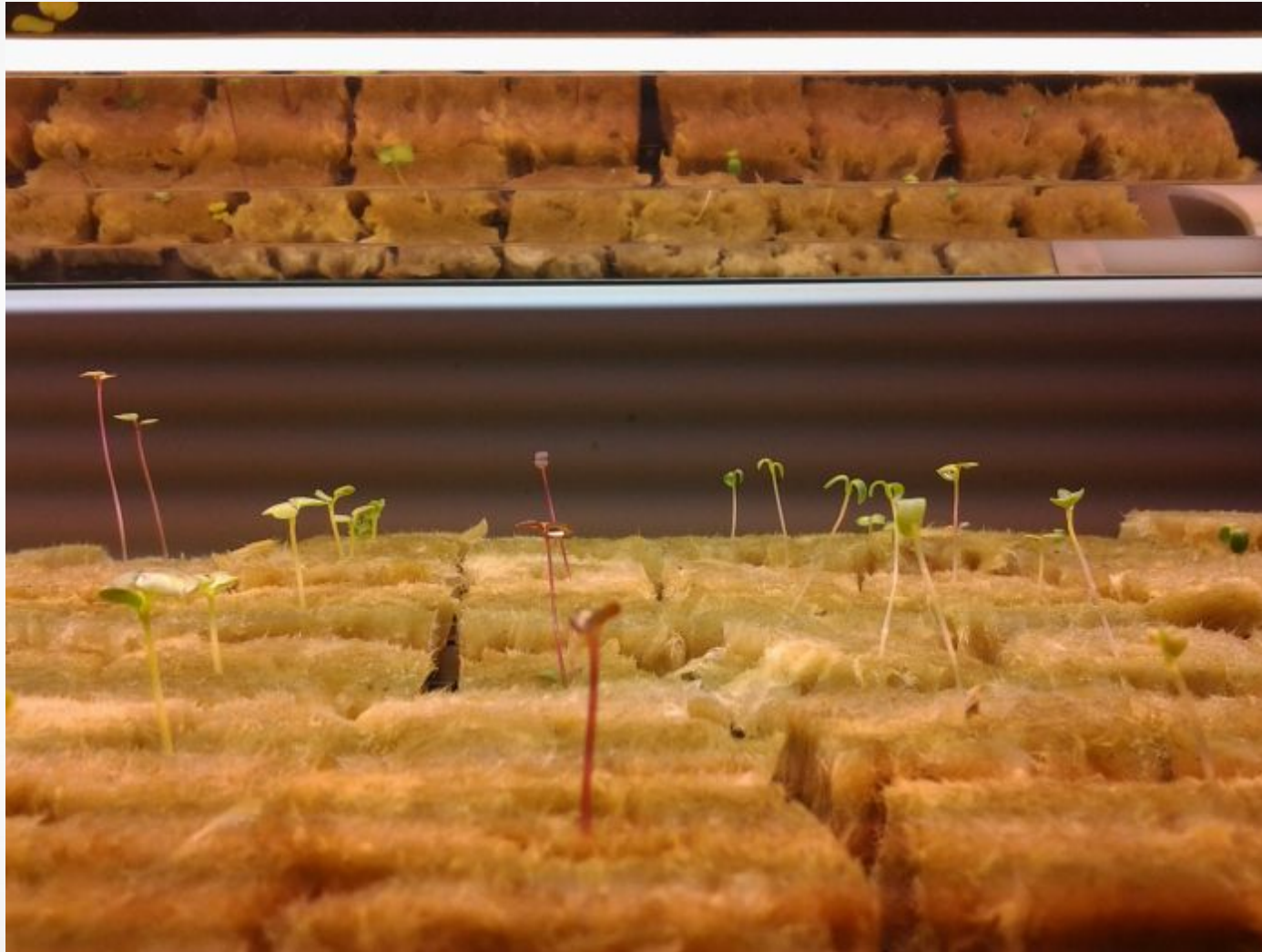


PyCon 2014

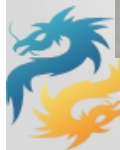
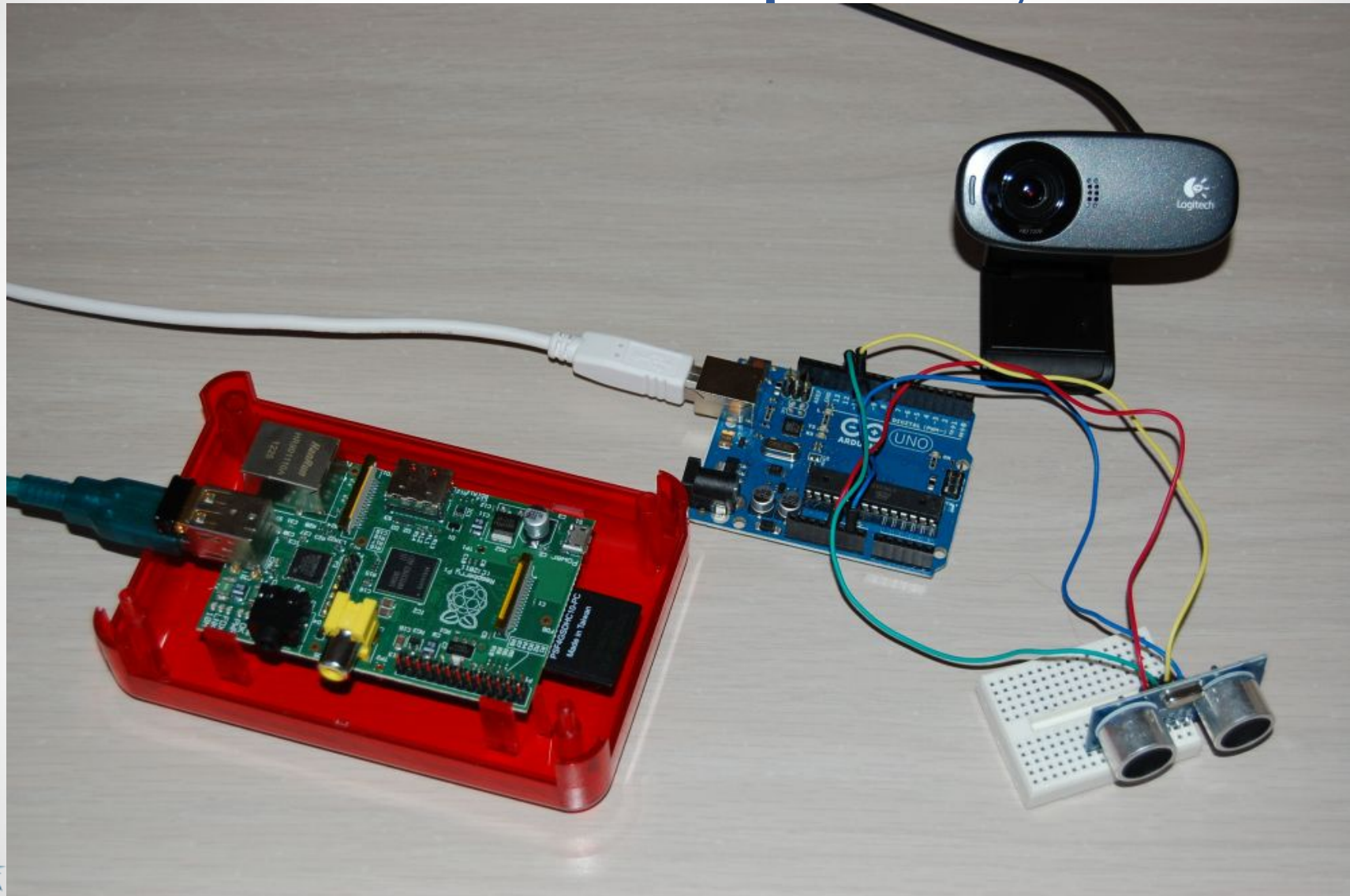


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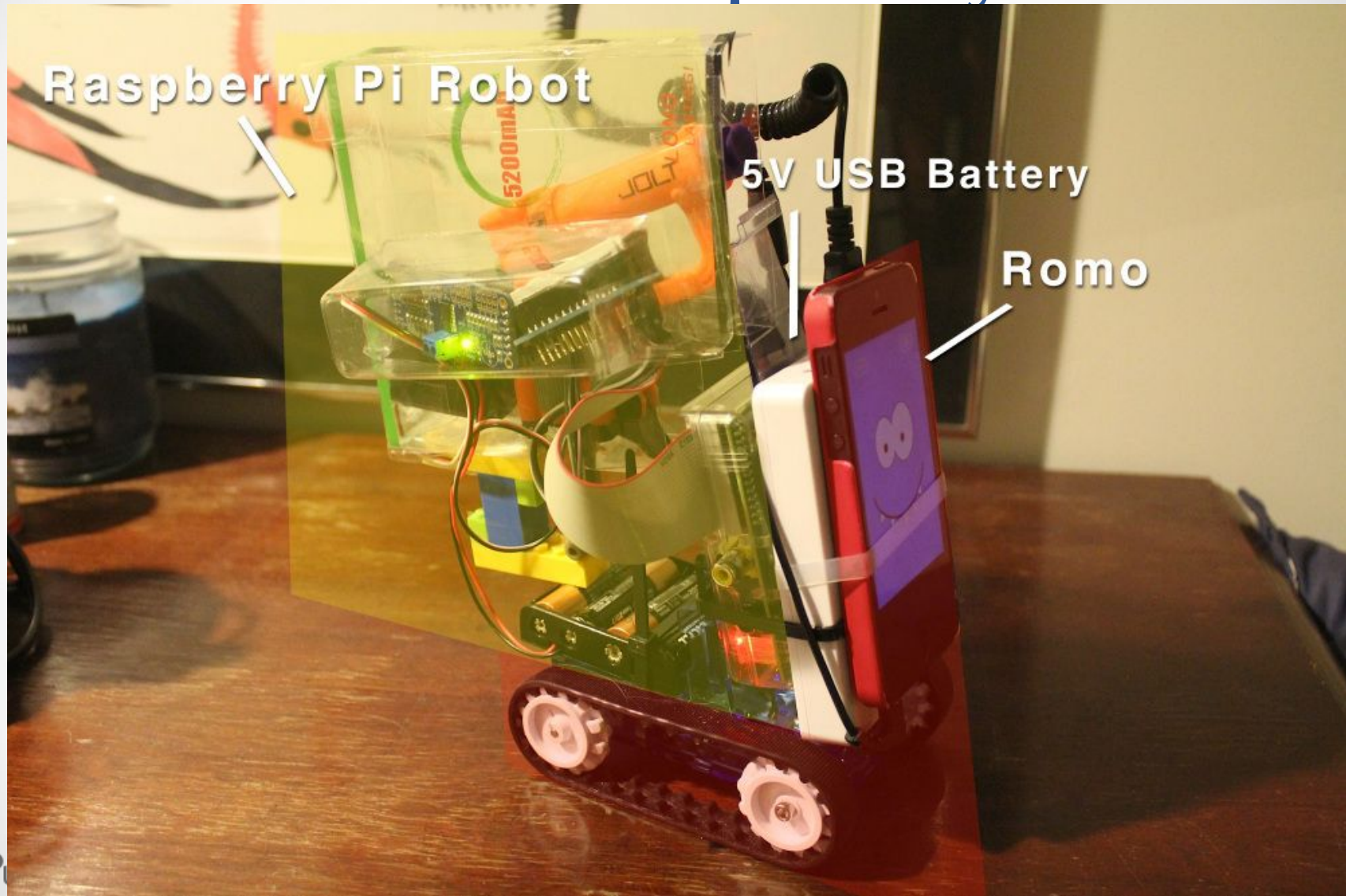
Maker & Raspberry Pi



Maker & Raspberry Pi



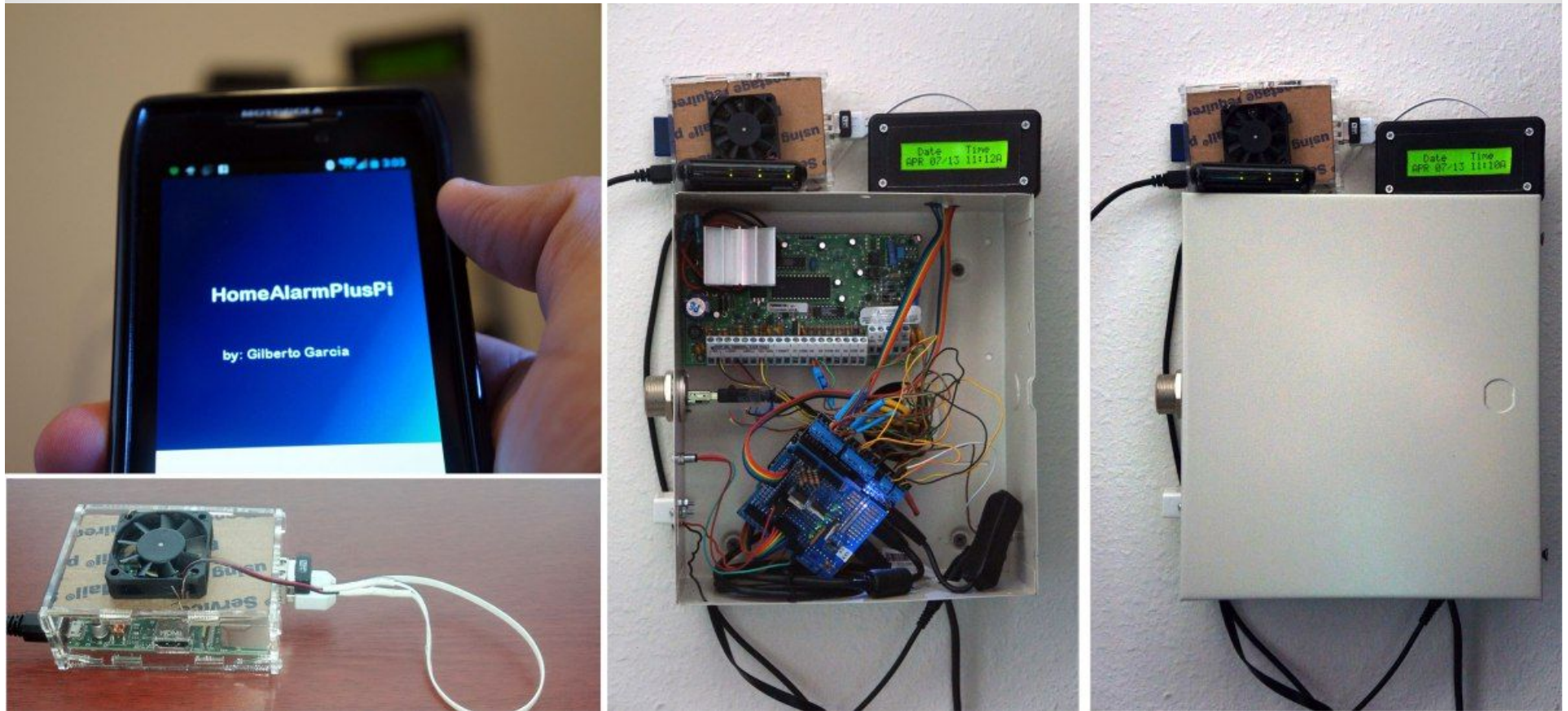
Maker & Raspberry Pi



Maker & Raspberry Pi



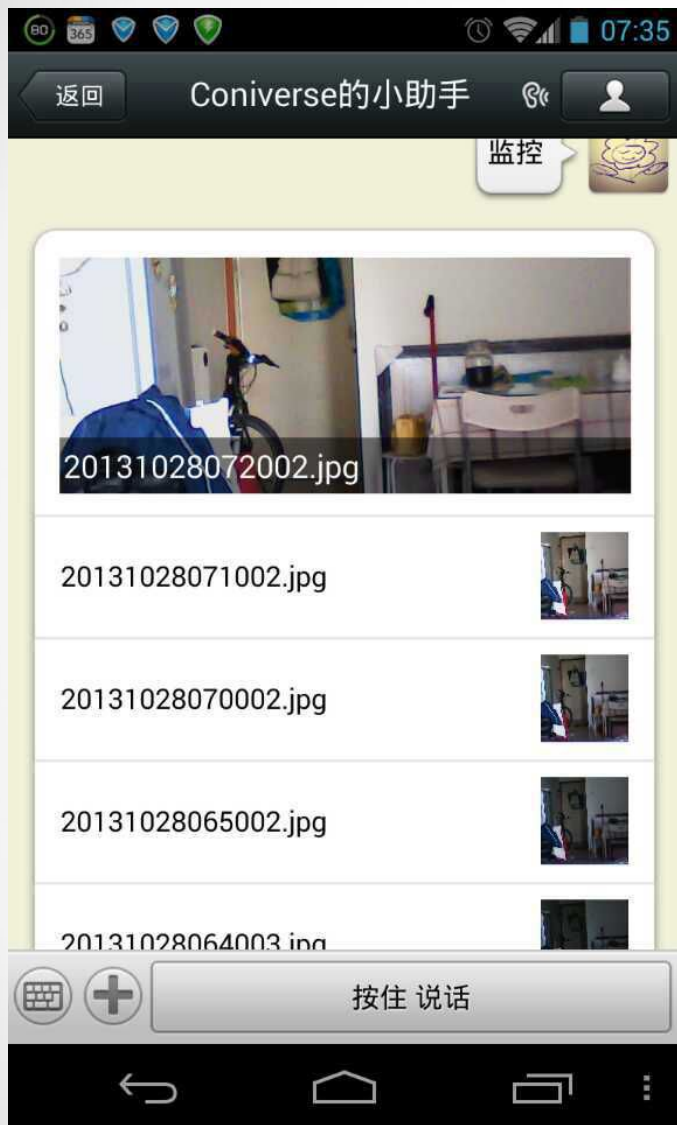
Maker & Raspberry Pi



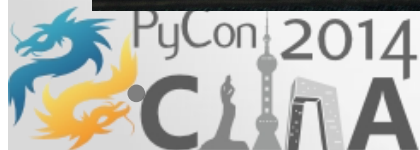
还有一个栗子

- 微信小助手(视频监控、浇花提醒、地理位置PM2.5信息)





欢迎回归三维世界

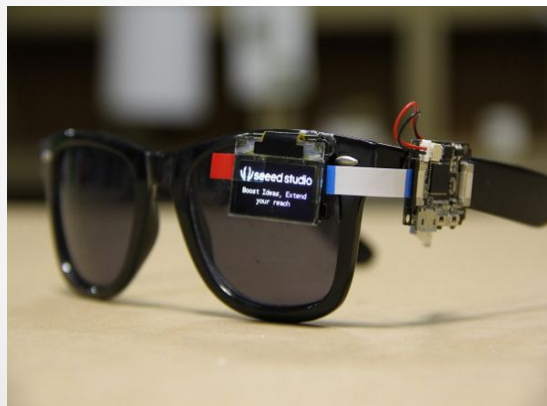
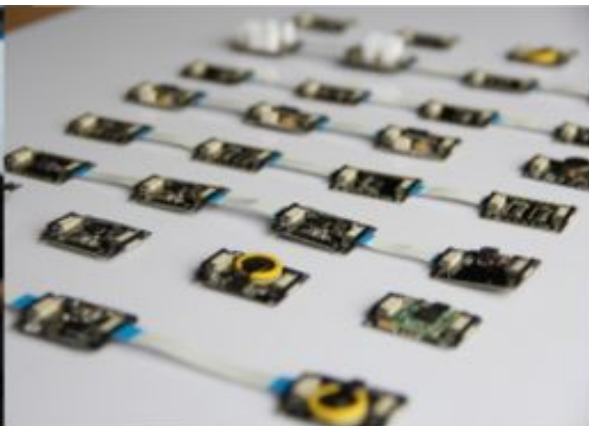


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欢迎回归三维世界



欢迎回归三维世界



PyCon 2014
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一个可以攒手机的时代

Cheap Mobile phone



<http://www.bunniestudios.com/blog/?p=3040>

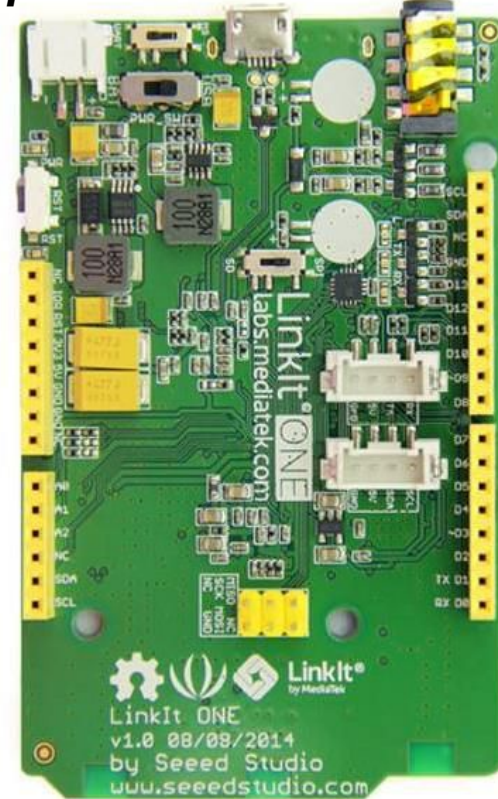
Open Hardware Toolkit



ARM7
GSM
GPRS
GPS
BLE
Wifi
SD-card
Arduino Compatible
Open Source
Ready to remix

=

LinkIt One



硬件从来没有离开程序员

...

拓展我们的IO
数据源



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硬起来！

