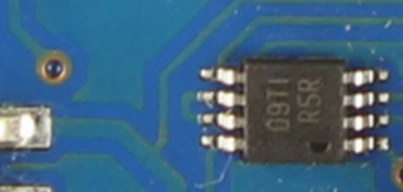
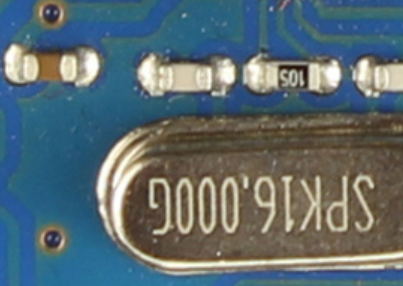
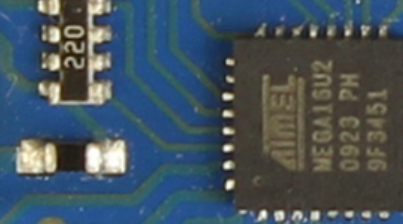


RESET



AREF

GND

13

12

~11

~10

~9

8

7

~6

~5

4

~3

2

1

TX →

RX ←

DIGITAL (PWM ~)



ARDUINO

TX

RX

ON

RE ET EN

WWW.ARDUINO.CC - MADE IN I

IOREF

RESET

3.3V

5V

GND

GND

Vin

POWER

A0

A1

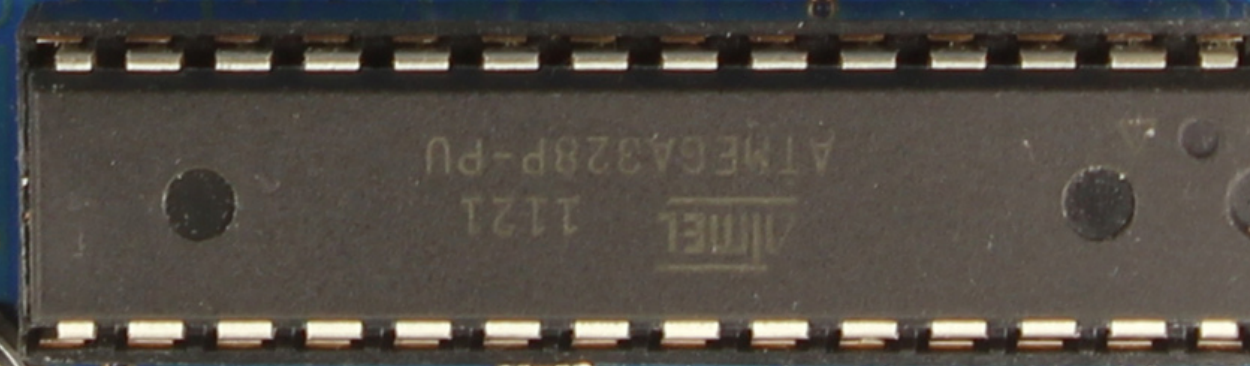
A2

A3

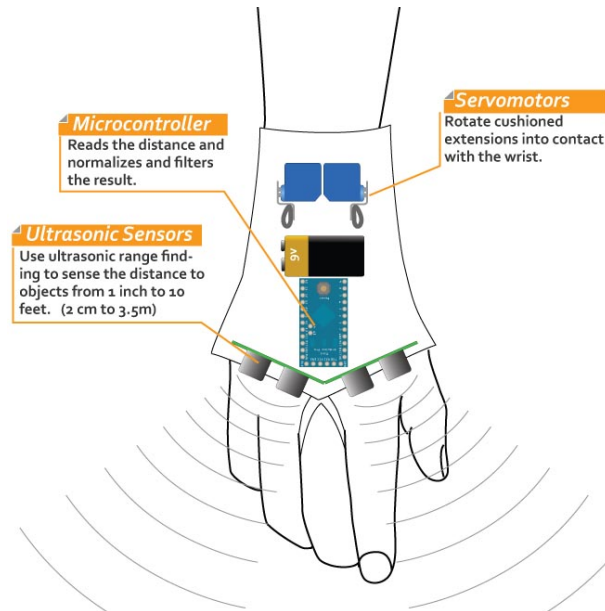
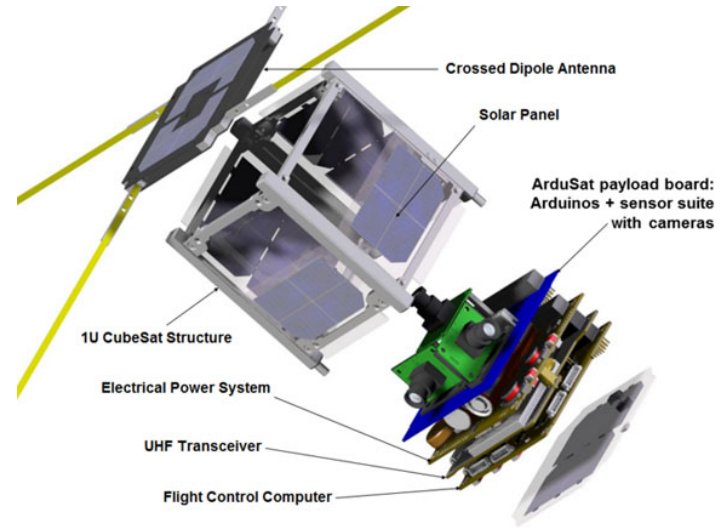
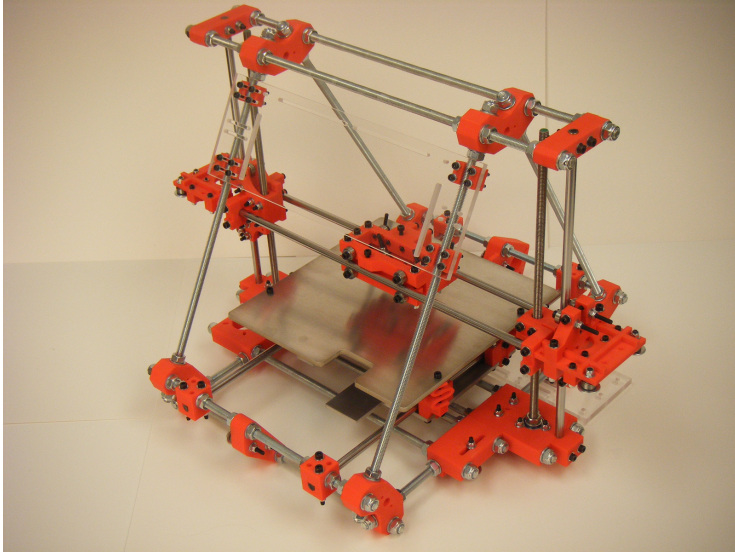
A4

A5

ANALOG IN



Examples



Arduino Day

ARDUINO
DAY 2014

29TH MARCH

A worldwide event bringing
together Arduino people and
projects. Share the experience!

ARDUINODAY.TV

Histoire et enjeux

- **2005** : Institut de Design, Ivrea, Italie
- **2005-2011** : > 300 000 cartes vendues
- Projets pour étudiants : plus simple à utiliser, multi-plateforme, moins cher qu'un Basic Stamp (~76€)
- **Open source** parce que :
 - Peur de perdre les droits si l'université ferme
 - Communauté : multiples contributions, extensions
 - Projet éducatif : comprendre comment les systèmes informatiques marchent, de façon légale
(*prototypage, physical computing, ...*)

Allez plus loin : owni.fr, documentaire

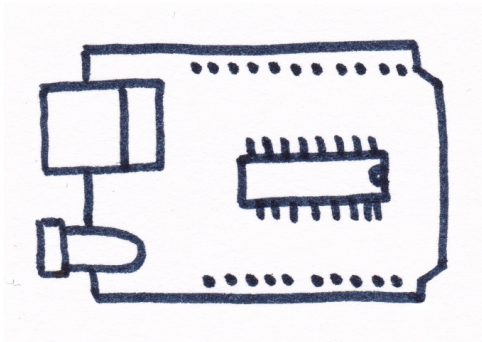
Mouvement culture libre

MAKER / HACKER



- Hacker : Steven Levy, "Hackers: Heroes of the Computer Revolution", 1984.
- Maker : Maker Magazine (January 2005) + 1st Maker Faire (April 22 – 23, 2006), Dale Dougherty.

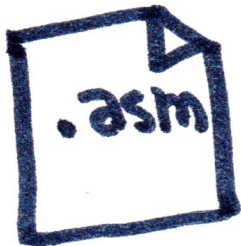
Qu'est-ce que c'est ?



Carte électronique



Logiciel (IDE)

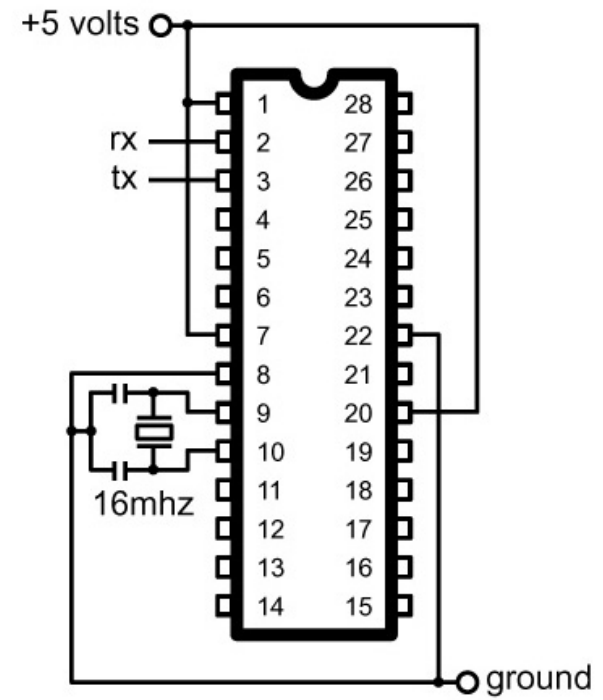
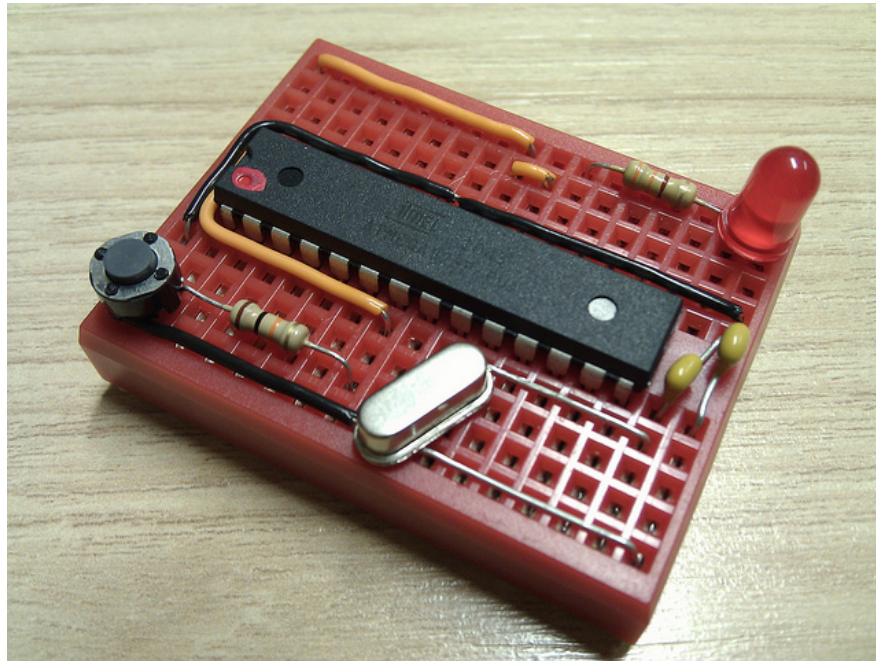


Bootloader

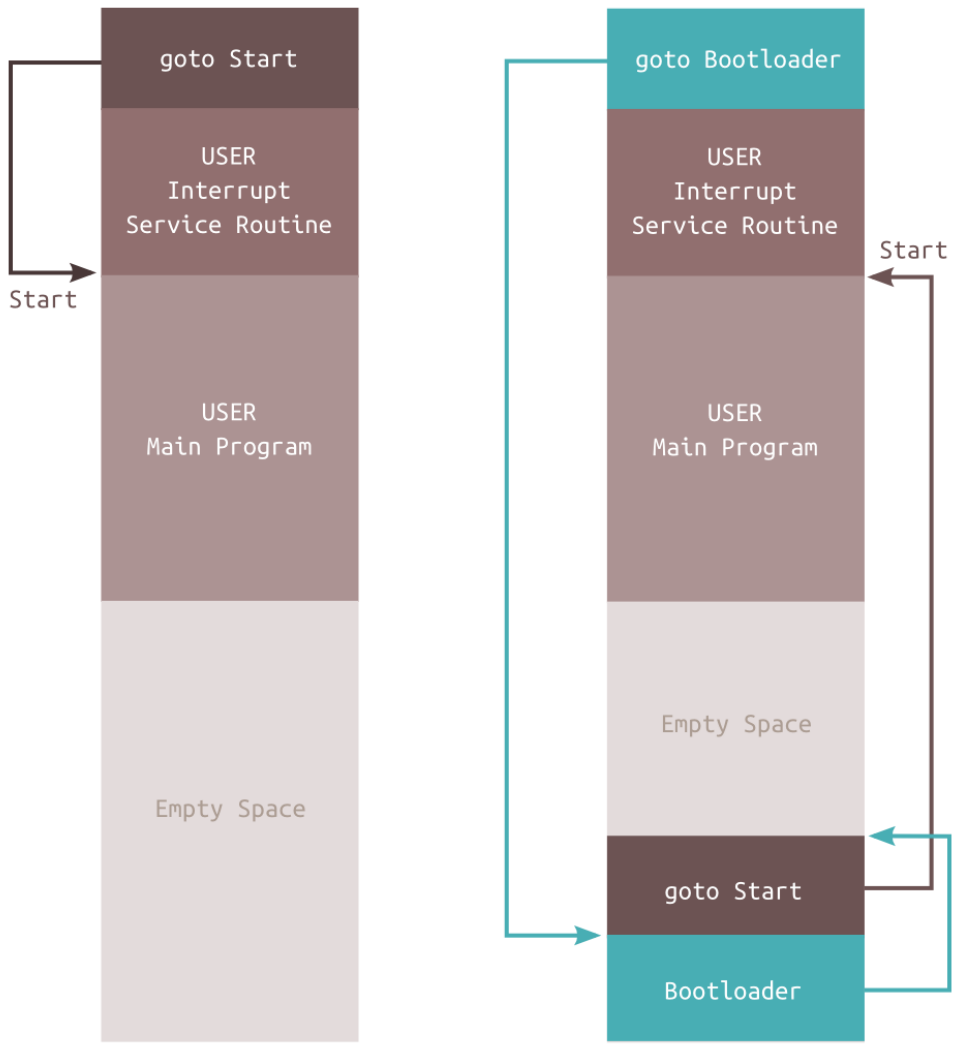
```
void setup() {  
  } ...  
void draw() {  
  } ...
```

Langage (C, C++)

Carte électronique



Bootloader



Sans Bootloader

Avec Bootloader

Langage simplifié

Exemple de code : remise à zéro d'une variable si elle est égale à 14.

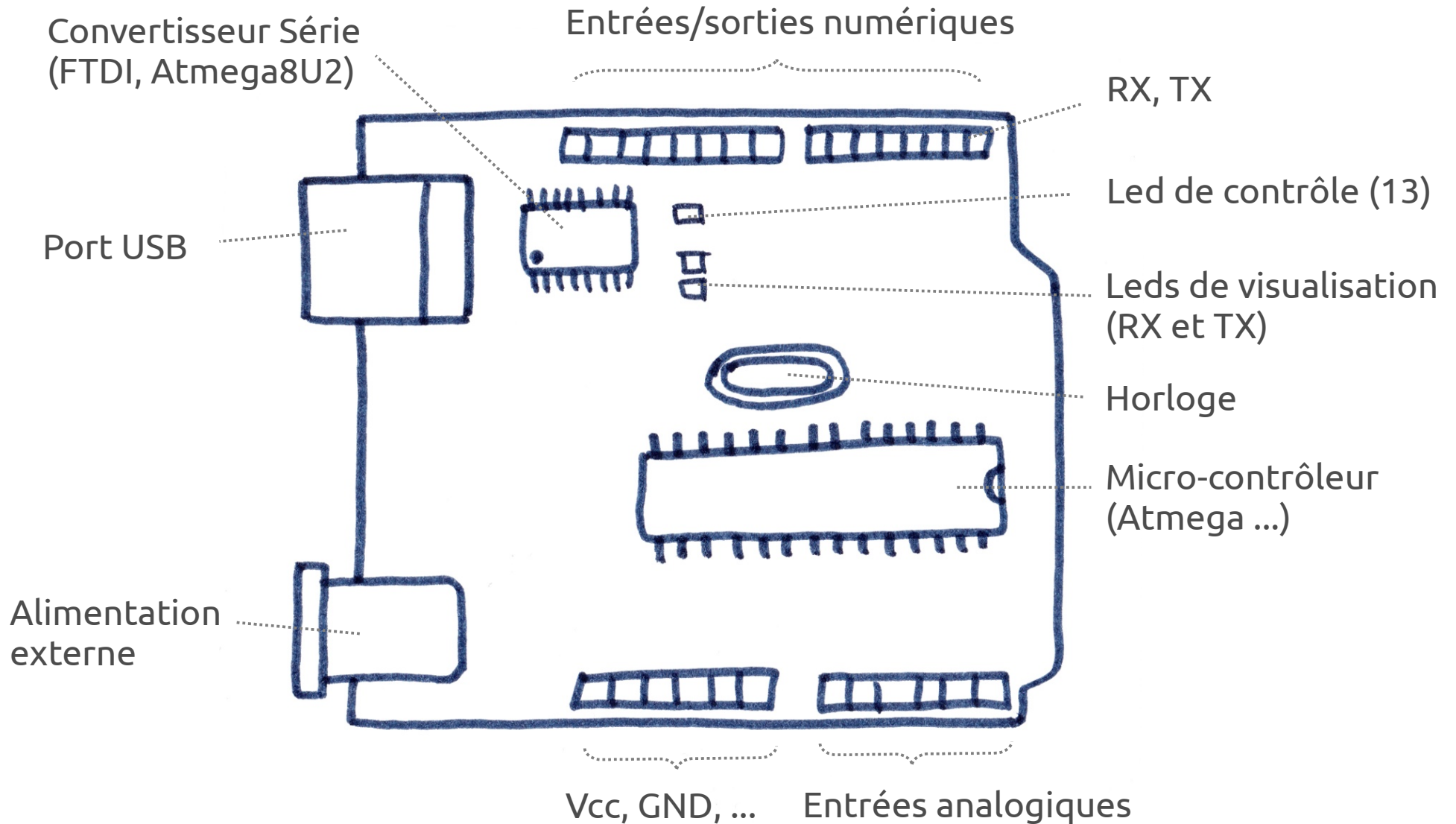
Code Arduino

```
if (compteur == 14) compteur = 0;
```

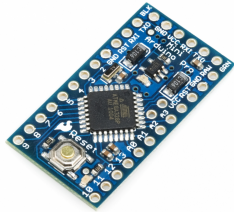
Code Assembleur PIC p16f877

```
movlw 0x0e ; 14 en hexadécimal  
xorwf 0x20, W  
btfsc STATUS, Z  
goto remise_a_zero
```

Composants



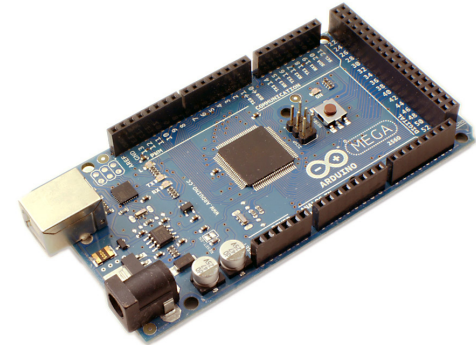
*duino



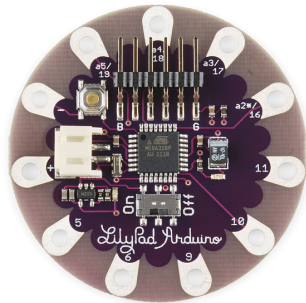
Mini, nano



Leonardo, Uno,
Duemilanove, ...



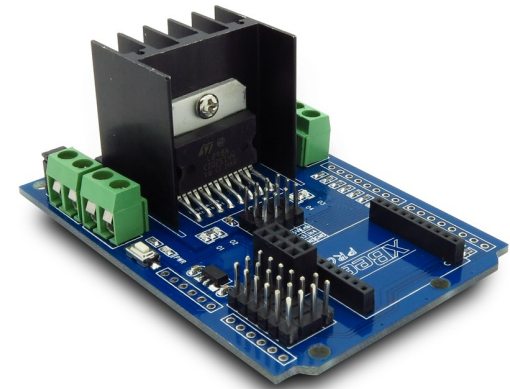
Mega, ADK Android



Lilypad

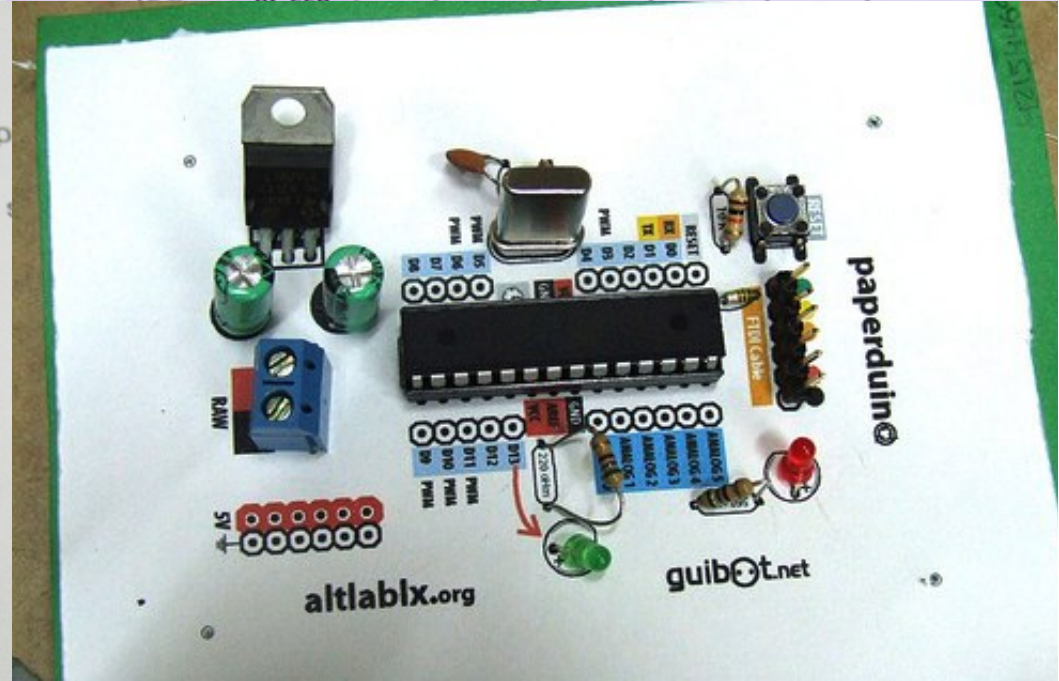
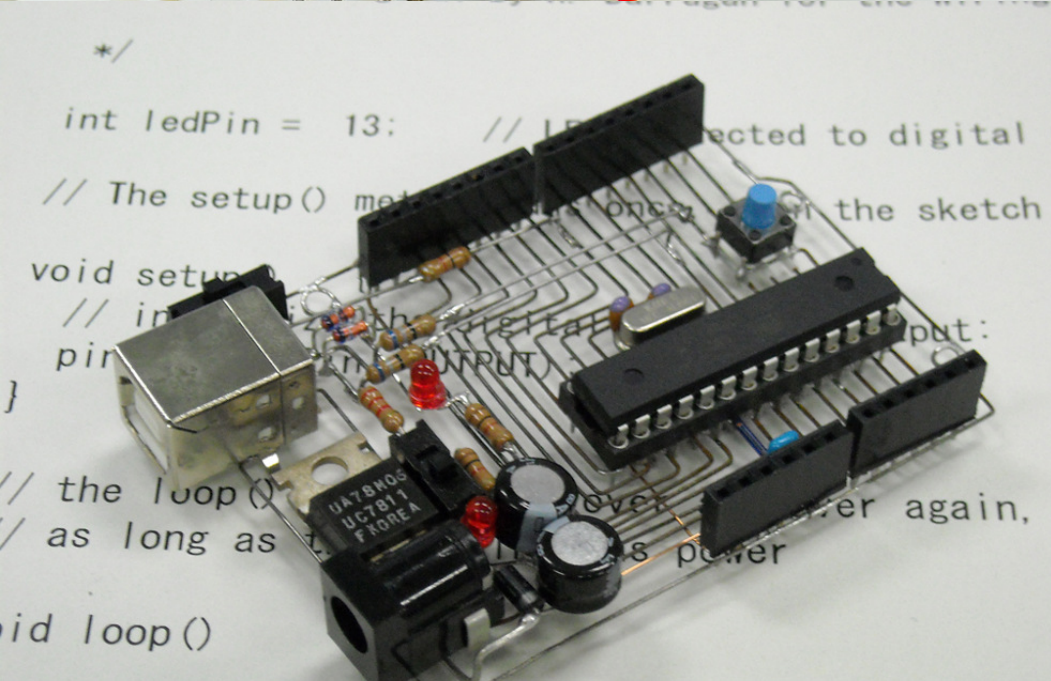
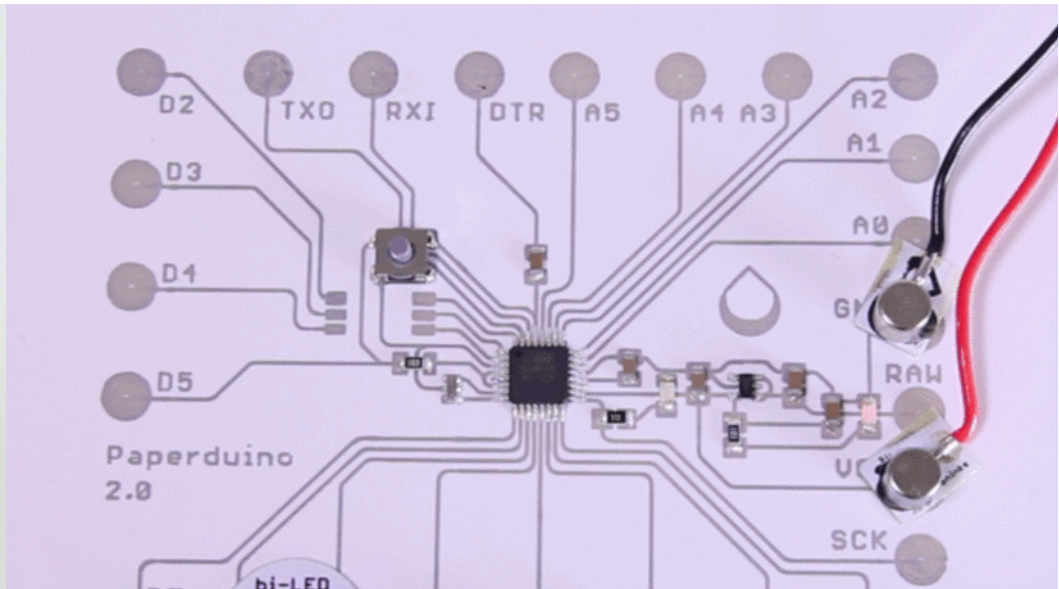
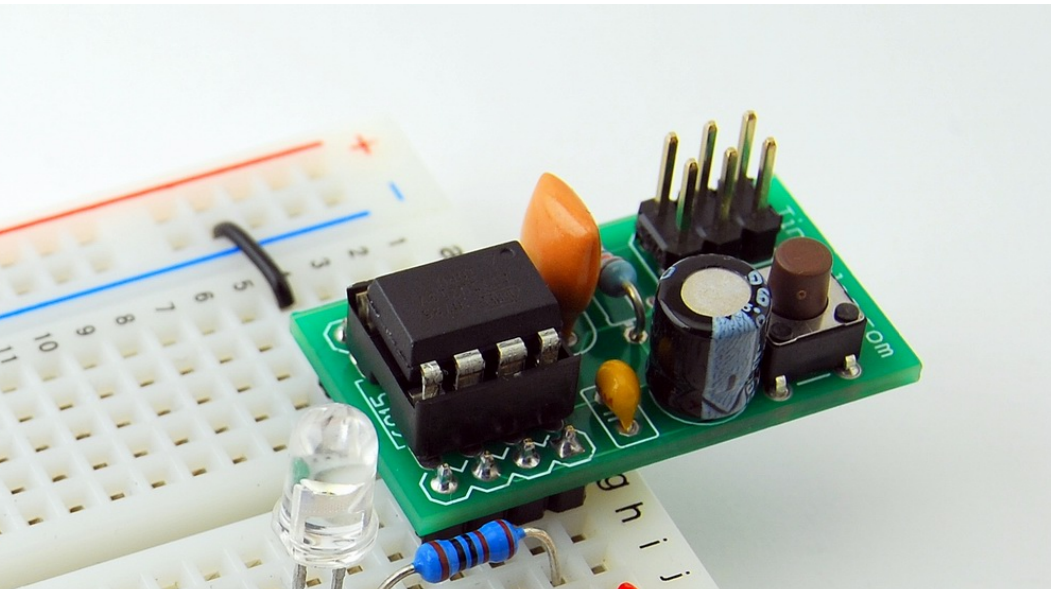


Compatibles Arduino :
Freduino, ...

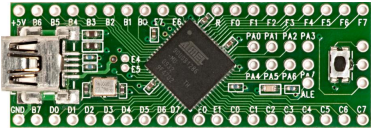


Shields : Wi-Fi, Ethernet,
moteurs, ramps, ...

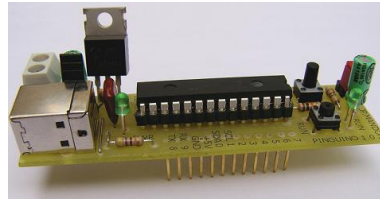
Dérivés



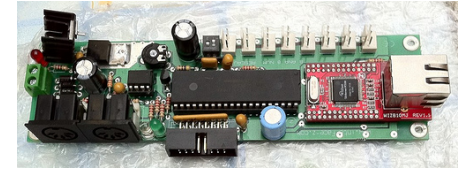
Alternatives



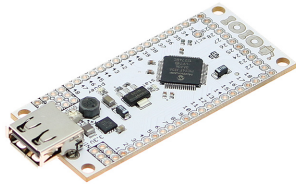
Teensy (HID)



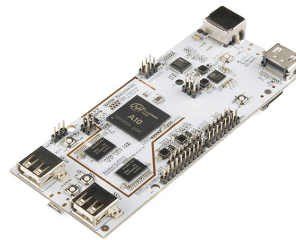
Pinguino



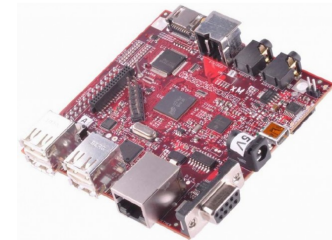
Interface-Z



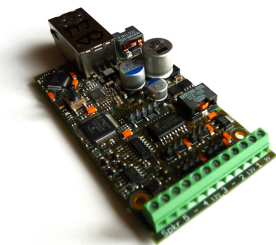
IOIO Android



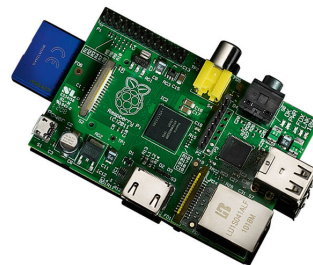
Pcduino



Beagleboard



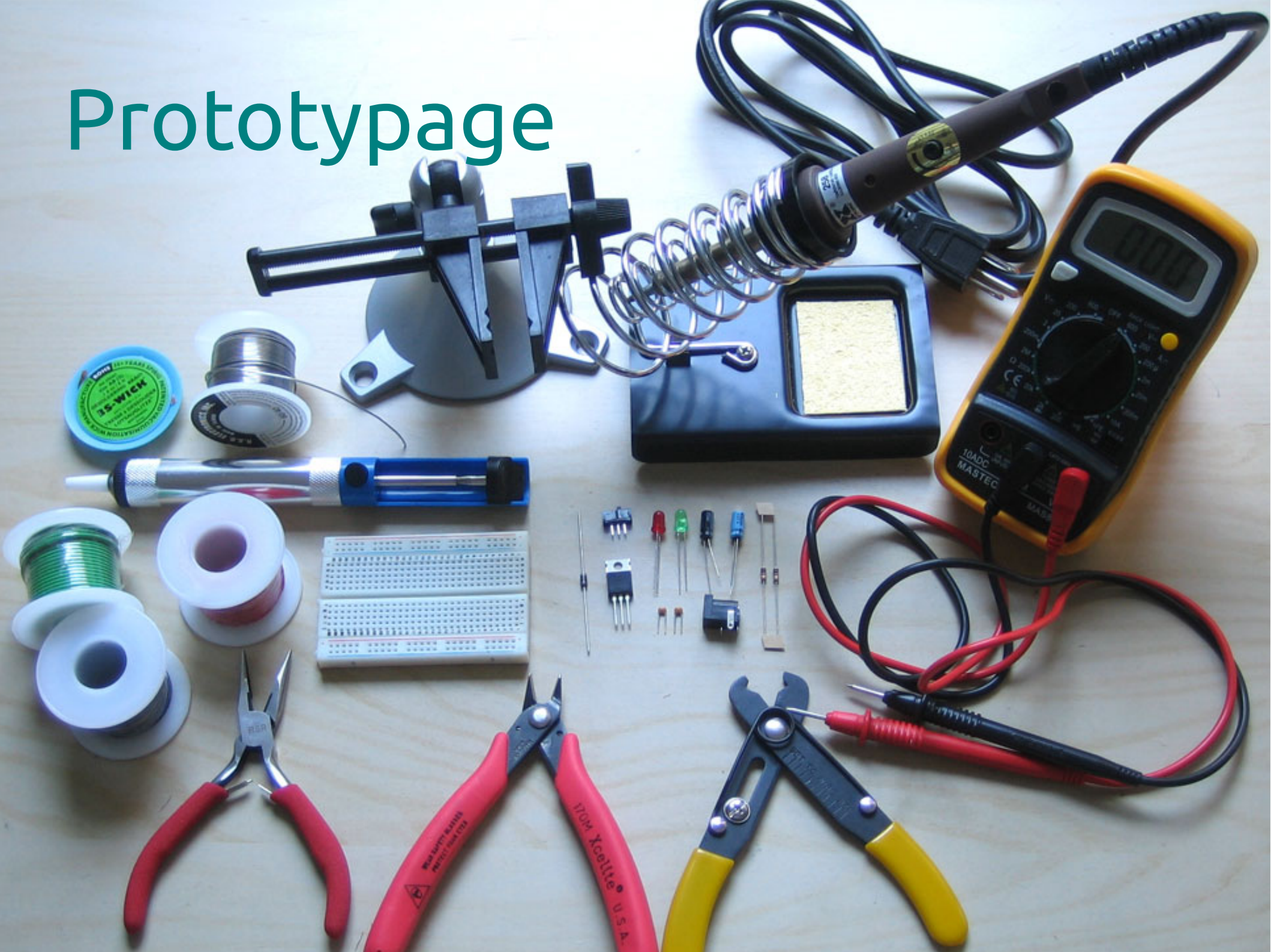
PDoE



Raspberry-Pi

...

Prototypage



Toujours plus loin

