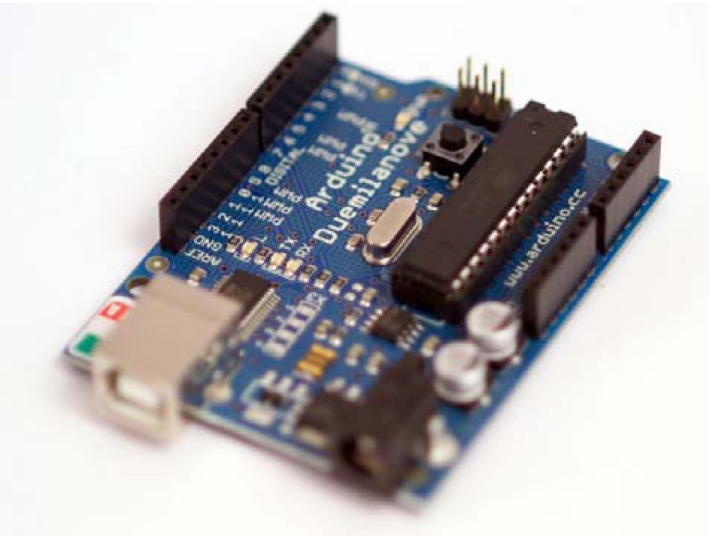


# What is Arduino?



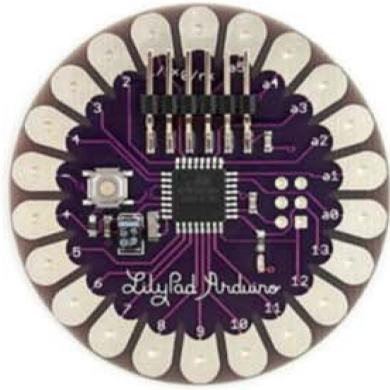
```
Arduino 0017
File Edit Sketch Tools Help
Elink $
int ledPin = 13; // LED connected to digital pin 13
// The setup() method runs once, when the sketch starts
void setup() {
  // initialize the digital pin as an output:
  pinMode(ledPin, OUTPUT);
}
// the loop() method runs over and over again,
// as long as the Arduino has power
void loop()
{
  digitalWrite(ledPin, HIGH); // set the LED on
  delay(1000); // wait for a second
  digitalWrite(ledPin, LOW); // set the LED off
  delay(1000); // wait for a second
}
```



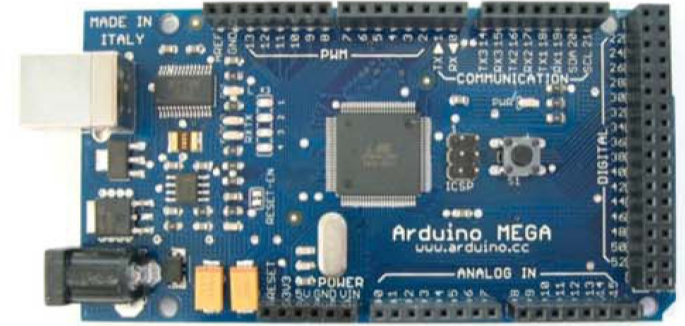
a piece of  
**Hardware**

a programming  
**Environment**

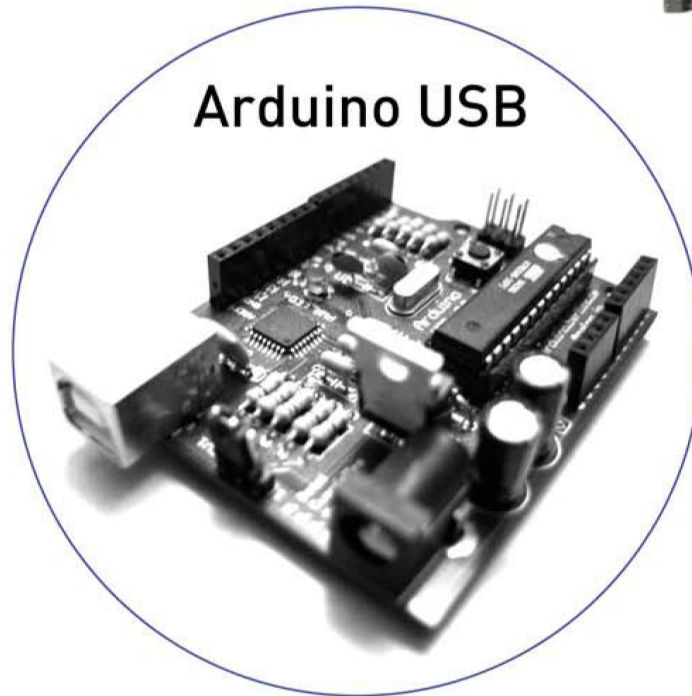
**A Community**



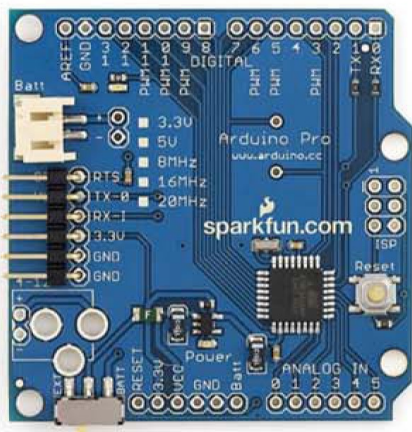
Lilypad



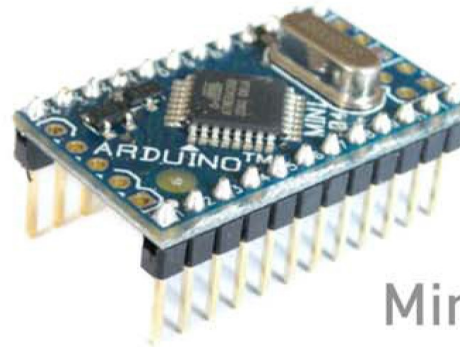
Mega



Arduino USB



Pro



Mini



Nano



## You are free:



to Share — to copy, distribute and transmit the work



to Remix — to adapt the work



## Under the following conditions:

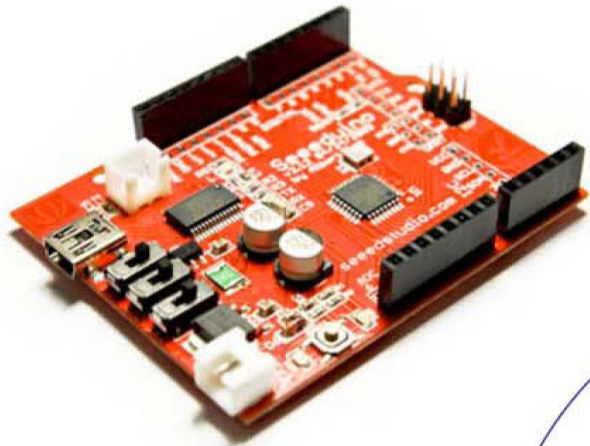


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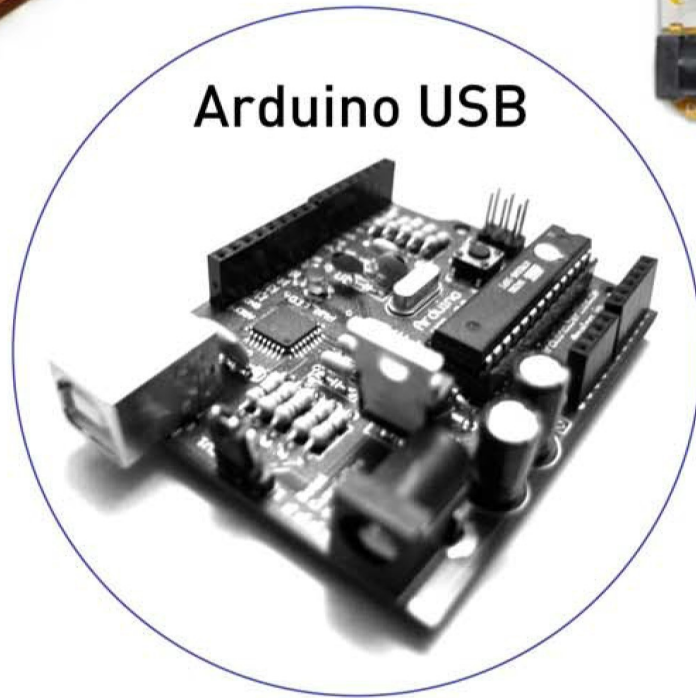


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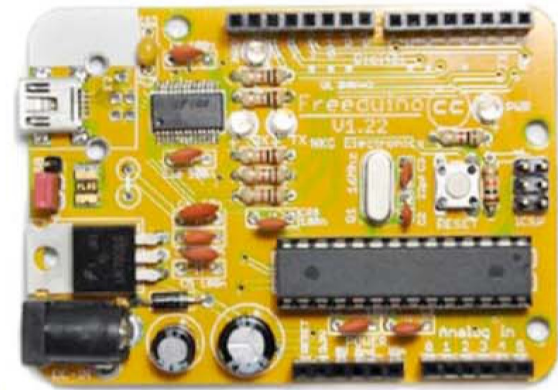




Seeduino

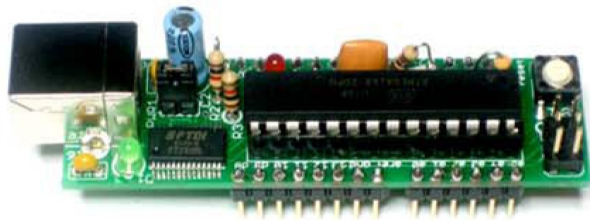


Arduino USB



Freeduino

Boarduino



Gainer IO



Dov'è iniziata questa storia?

Where has this story begun?



# Interaction Design Institute of Ivrea

## THE Prototyping TOOLBOX

(a history)

### TOOLS MADE IN IUI

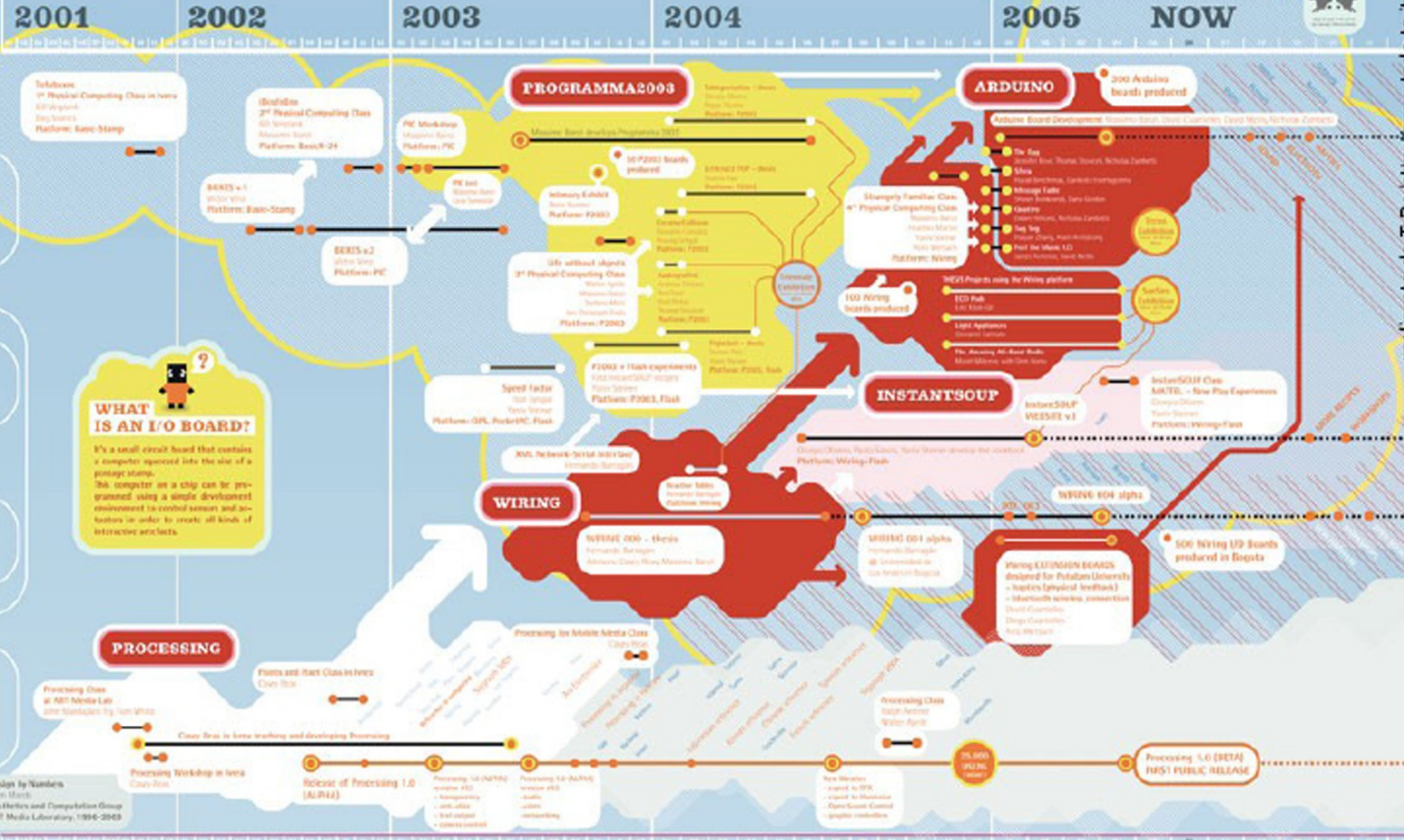
**PROGRAMMA2003** (2002-2003)  
 (Arduino Board)  
 The first physical computing I/O board produced in IUI.  
 Named after the famous Einstein 143 "The first ever desktop computer" the platform was designed to be low-cost, robust, easy to build, cross-platform and open-source.

**ARDUINO** (2005-2006)  
 (Arduino Board, Pro Mini, Leonardo, Mega, Nano, Uno, Yún, Zero, Due)  
 Small, inexpensive open-source I/O board based on the Wiring IDE. It is used to design objects developed with Wiring. It's useful when you want to make multiple objects and don't want to get away your precious Wiring board.  
 @ arduino.cc/en/doc

**INSTANTSOUP** (2005-2006)  
 (Arduino Board, Pro Mini, Leonardo, Mega, Nano, Uno, Yún, Zero, Due)  
 Educational website and electronics cookbook. Easy step-by-step recipe to connect "Bread" to the physical world. The lessons are an introduction, that anyone can follow, in the search of prototyping computing.  
 @ www.instantsoup.org

**WIRING** (2005-2006)  
 (Arduino Board, Pro Mini, Leonardo, Mega, Nano, Uno, Yún, Zero, Due)  
 Wiring is a programming environment and a powerful electronics I/O board for exploring the electronics, art, tangible media, teaching and learning computer programming and interfacing with electronics.  
 @ wiring.org/0

**PROCESSING** (2005-2006)  
 (Arduino Board, Pro Mini, Leonardo, Mega, Nano, Uno, Yún, Zero, Due)  
 Processing is a programming language for people who want to program images, animations, and sound. It is used by artists, artists, designers for learning, prototyping, and production. Processing is developed as an open-source alternative to commercial software tools.  
 @ www.processing.org



realizzato da To Do: http://www.todoto.it/





**Dave Mellis**

**Giantluca  
Martino**

**Tom Igoe**

**David  
Cuartielles**

**Massimo  
Banzi**

Per cosa usi Arduino, allora?  
What do you use Arduino *for*, then?

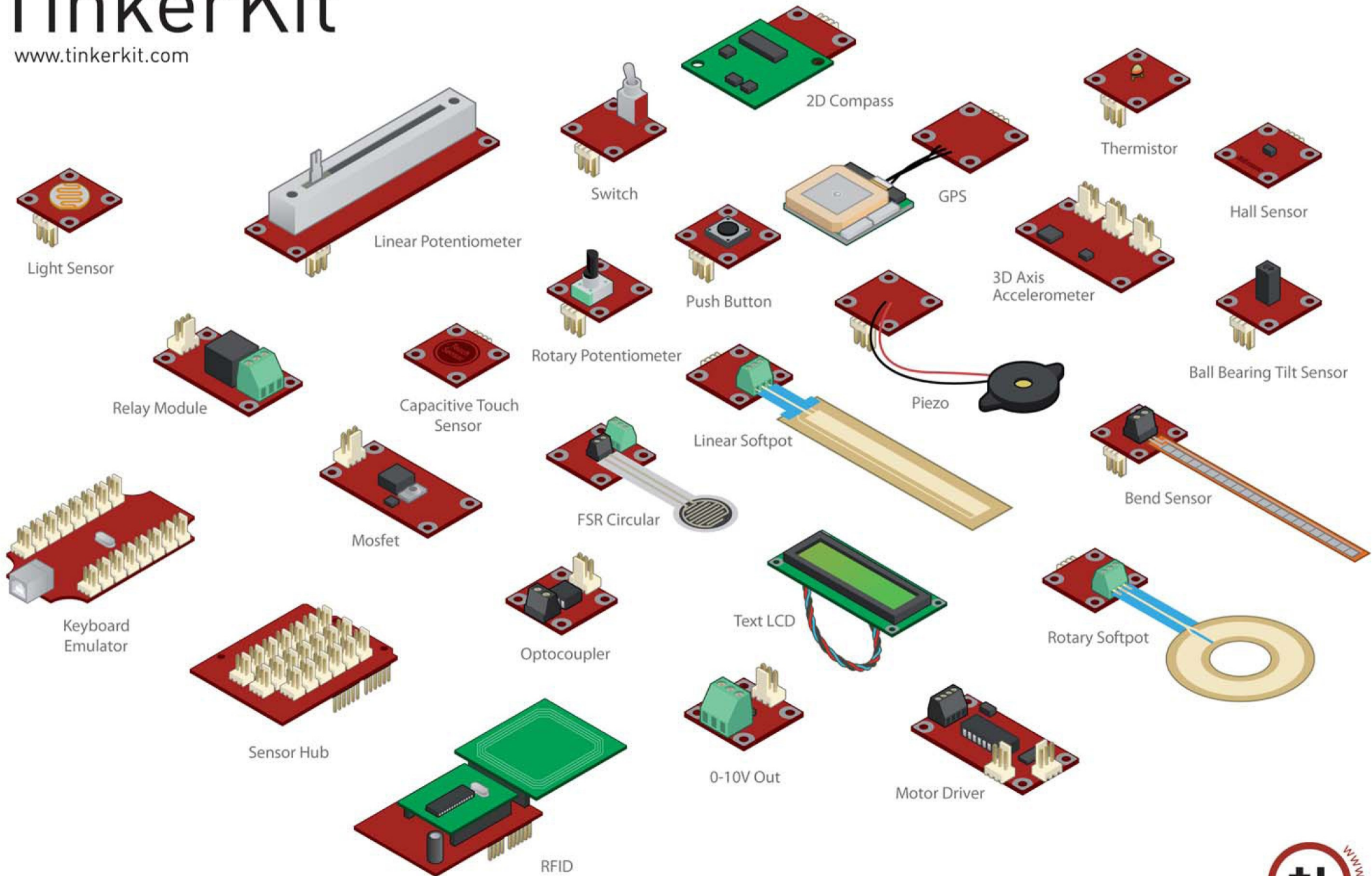
**Arduino**  
viene usato per semplificare il processo  
di prototipazione elettronica  
per realizzare facilmente  
prodotti e ambienti  
**interattivi**

**Arduino**  
is used to simplify the process  
of electronic prototyping  
for easily developing  
**interactive**  
products or environments



# TinkerKit

www.tinkerkit.com

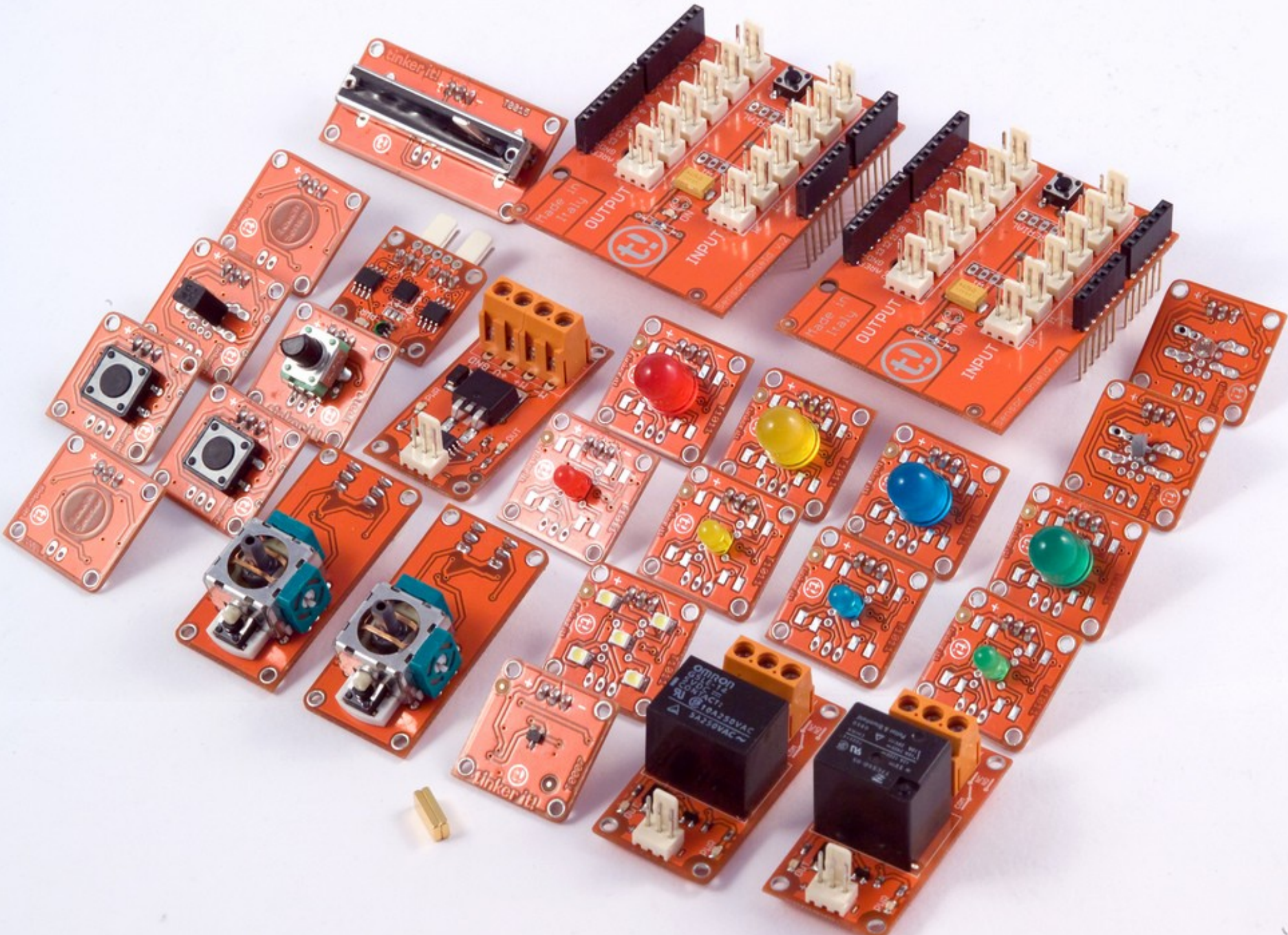


Illustrations by Lok Neville Lee

an ongoing project powered by Tinker.it!











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Download

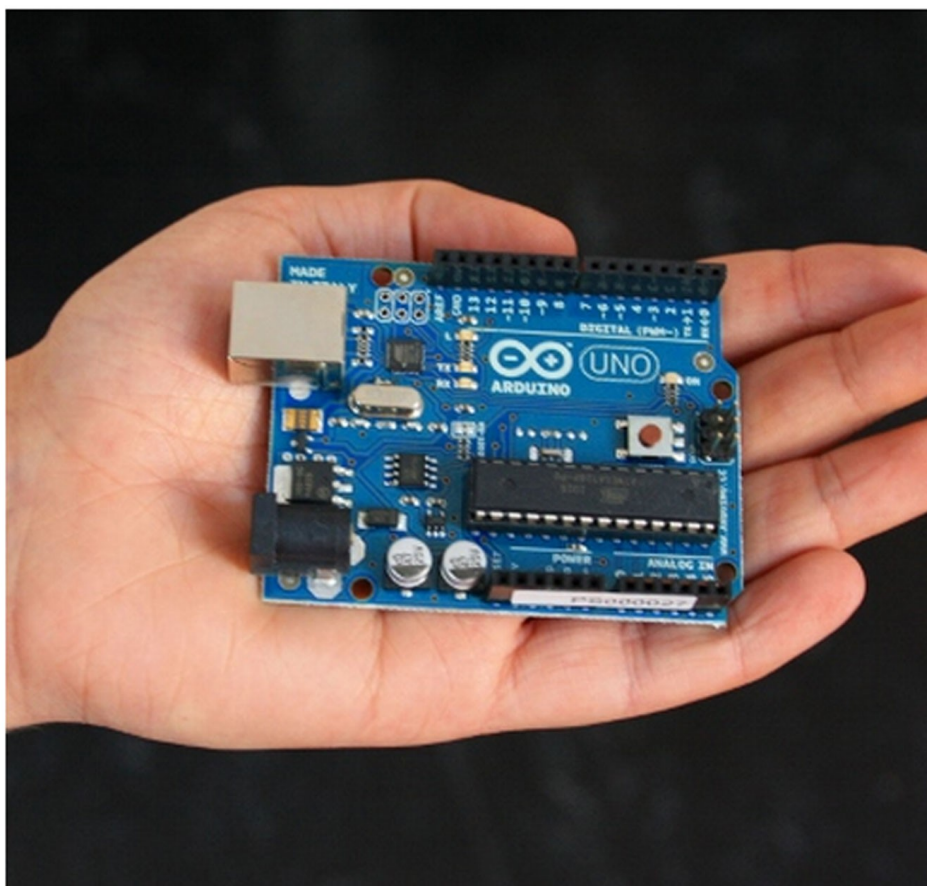
Getting Started

Learning

Reference

Hardware

FAQ



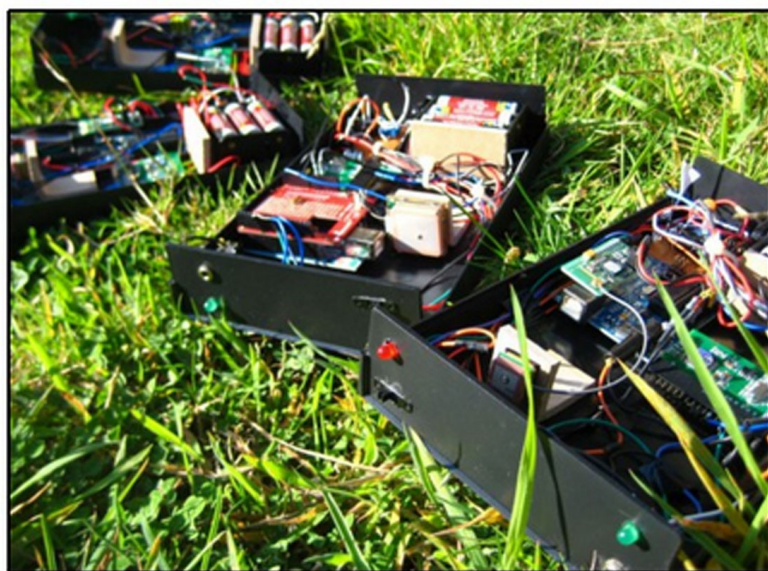
Arduino is a prototyping to-use hardware for artists, designers, and anyone interested in creating interactive environments.

Arduino can sense input from a variety of surroundings and control other actuators. It is programmed in C++ language (based on the C development environment). The Arduino project communicates with other devices (e.g. Flash, Pro



## Listening To The Walls' Whispers

September 7th, 2011



[Pierre] shares an interesting geo-localization project of sound, narration and culture, made in "plan d'Aou", a district of Marseilles – France. The project dates back in September 2010, within the framework of the [Smala project](#) in order to trace a sound cartography of Islam in the city of Marseilles: the guys at [\[Echelle Inconnue\]](#) took their time to fully document the all project with schematics, codes, fritzing

### Language

» [English](#)    » [Español](#)    » [Italiano](#)

### Arduino on Twitter

» Arduino counts with two twitter accounts: [@arduinoteam](#) is the one used by the team to report about things we think matter to the community. [@arduinoblog](#) is twitting for every blog post, and allows us handling answers on our blog.

### [@arduinoteam \(twitter\)](#)

» Possible server - service cuts this weekend when hurricane Irene reaches Washington DC. Please take it into account

[12:26:54 PM August 26, 2011](#) from [Twitter for iPhone](#)

» Come to the Open Hardware Summit in NYC to hear us talk about "Arduino Confidential" [10:05:54 PM August 23, 2011](#) from [Echofon](#)

» Arduino is you [12:16:46 PM May 24,](#)



 search

The **playground** is a publicly-editable wiki about [Arduino](#).

[Manuals and Curriculum](#)

[Board Setup and Configuration](#)

[Development Tools](#)

[Interfacing With Hardware](#)

- [Output](#)
- [Input](#)
- [User Interface](#)
- [Storage](#)
- [Communication](#)
- [Power supplies](#)
- [General](#)

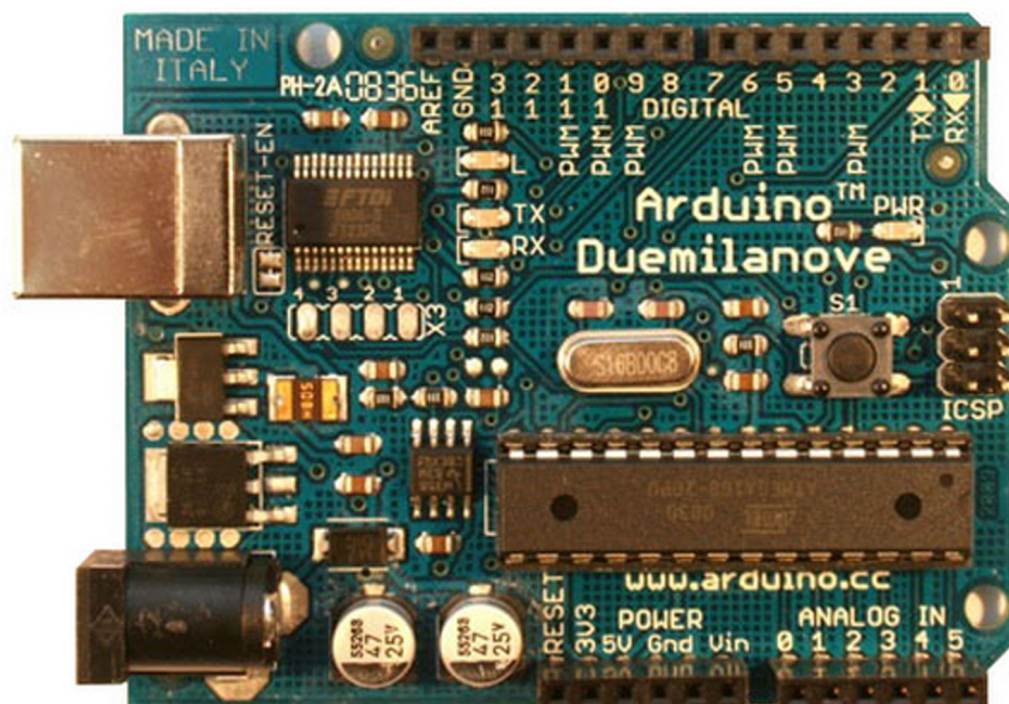
[Interfacing with Software](#)

[User Code Library](#)

- [Snippets and Sketches](#)
- [Libraries](#)
- [Tutorials](#)

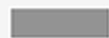
[Suggestions & Bugs](#)

## The Arduino Playground



[Home](#) | [Arduino Forum](#)

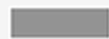
## Using Arduino



### Installation & Troubleshooting

For problems with Arduino itself, NOT your project

**Last post:** [Re: Arduino Uno - Blink](#) by [CrossRoads](#) on September 08, 2011, 11:32:55 PM



### Project Guidance

Advice on general approaches or feasibility

**Last post:** [Re: Increasing the baud ...](#) by [frank26080115](#) on **Today** at 12:53:12 AM



### Programming Questions

Understanding the language, error messages, etc.

**Last post:** [Another Press / Hold Att...](#) by [braddo\\_99](#) on **Today** at 01:10:46 AM



### General Electronics

Resistors, capacitors, breadboards, soldering, etc.

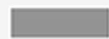
**Last post:** [Re: SMT to DIP breakout ...](#) by [frank26080115](#) on **Today** at 12:28:29 AM



### Microcontrollers

Standalone or alternative microcontrollers, in-system programming, bootloaders, etc.

**Last post:** [Re: Help understanding I...](#) by [Neuport](#) on **Today** at 01:21:18 AM



### LEDs and Multiplexing

Controlling lots of inputs and outputs

**Last post:** [Re: 20 RGB Leds?](#) by [CrossRoads](#) on September 08, 2011, 11:22:46 PM

### Displays

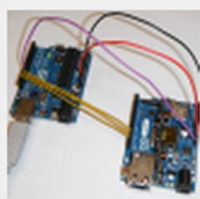




Home

# Lezioni recenti

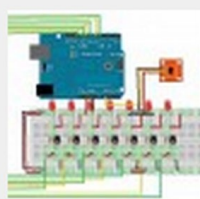
Content language: IT



## Aggiornare il bootloader della Arduino Ethernet all'ultima...

by Federico\_Vanzati

questa guida è rivolta a tutti coloro che possiedono una Arduino Ethernet e specialmente a chi possiede anche un cavo...



## Costruisciti un POV (Persistence of Vision) per la tua bicicletta

by Davide\_Gomba

Conoscendo la velocità di rotazione di una ruota siamo in grado di accendere e spegnere una striscia di otto led in...



## Controlla un faretto RGB di potenza

by Lorenzo Romagnoli

Controlliamo con i tre valori pwm di Arduino il colore di una lampada RGB

crossfade lamp led rgb



## Controlla l'iPhone con Arduino usando la PodBreakOut v1.5

by Davide\_Gomba

Una breve introduzione al connettore iPhone / iPad e al Podgizmo, piccola scheda che ci permetterà di raggiungere i pin...

iPhone PodBreakOut podGizmo



## Controlla un Motore DC con un ponte H (L293D)

by Davide\_Gomba

Imparare a controllare le due direzioni di un motore attraverso un ponte H.

h-bridge motor ponte h



## L'Alfabeto di Arduino #6: controlla carichi più importanti (con...

by Davide\_Gomba

Controlla la velocità di un motore attraverso il PWM e un circuito che preserva Arduino dal contatto con voltaggi più...





community and electronics

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All Products ...

### INFORMATION

Official prices are in Euros, all the other currencies are provided as a reference.

All prices are given without VAT, VAT will be added on checkout.

### → FEATURED

#### Arduino Uno

The Arduino Uno is a microcontroller board based on the ATmega328 ([datasheet](#)). It has 14 digital input/output pins (of which 6 can be used as PWM outputs), 6 analog inputs, a 16 MHz crystal oscillator, a USB connection, a power jack, an ICSP header, and a reset button. It contains everything needed to support the microcontroller; simply connect it to a computer with a USB cable ...



Starting at: €22.00

Add:

ADD TO CART

PRODUCT DETAILS

### → FEATURED

#### Shield - Ethernet

The Arduino Ethernet Shield allows an Arduino board to connect to the internet. It is based on the [Wiznet W5100](#) ethernet chip ([datasheet](#)). The Wiznet W5100 provides a network (IP) stack capable of both TCP and UDP. It ...



Starting at: €31.00

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PRODUCT DETAILS

### → FEATURED

#### Shield - TinkerKit Sensor Shield V.2

The **Sensor Shield v.2** allows you to hook up the TinkerKit **SENSORS** and **ACTUATORS** directly to the Arduino, without the use of the breadboard.



Starting at: €10.90

Add:

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PRODUCT DETAILS

### → FEATURED

#### Arduino Ethernet w/o PoE module

The Arduino Ethernet is a microcontroller board based on the Arduino Uno, and incorporating a WizNet W5100 TCP/IP Embedded Ethernet Controller. It can be programmed like an Uno via a six-pin FTDI - style serial connector. The Arduino USB-to-Serial adapter or any FTDI-style USB-to-serial connector can be used to program it.



Starting at: €39.90

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PRODUCT DETAILS







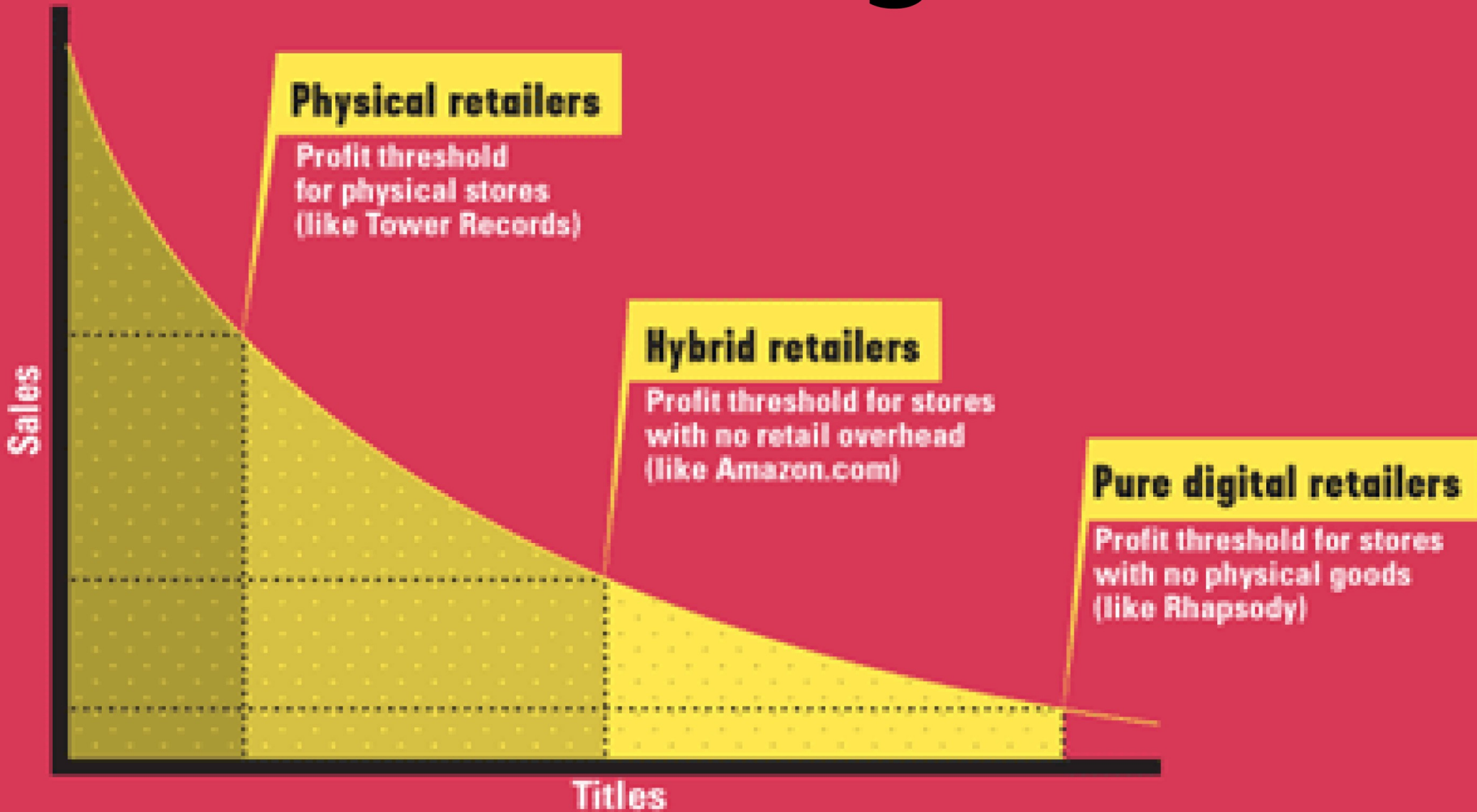
Quante Schede Arduino sono state vendute?

How many Arduino boards have been sold?


180.000



# The Long Tail



# In the Next Industrial Revolution, Atoms Are the New Bits

By Chris Anderson  January 25, 2010 | 12:00 pm | [Wired Feb 2010](#)



In an age of open source, custom-fabricated, DIY product design, all you need to conquer the world is a brilliant idea.  
Photo: Dan Winters

The door of a dry-cleaner-size storefront in an industrial park in Wareham, Massachusetts, an hour south of Boston, might not look like a portal to the future of American manufacturing, but it is. This is the headquarters of [Local Motors](#), the first open source car company to reach production. Step inside and the office reveals itself as a mind-blowing example of the power of micro-factories.

In June, Local Motors will officially release the [Rally Fighter](#), a \$50,000 off-road (but street-legal) racer. The design was crowdsourced, as was the selection of mostly off-the-shelf components, and the final assembly will be done by the customers themselves in local assembly centers as part of a "build experience." Several more designs are in the pipeline, and the company says it can take a new vehicle from sketch to market in 18 months, about the time it takes Detroit to change the specs on some door trim. Each design is released under a share-friendly Creative Commons license, and customers are encouraged to enhance the designs and produce their own components that they can sell to their peers.



HTTP://MAKEZINE.COM/

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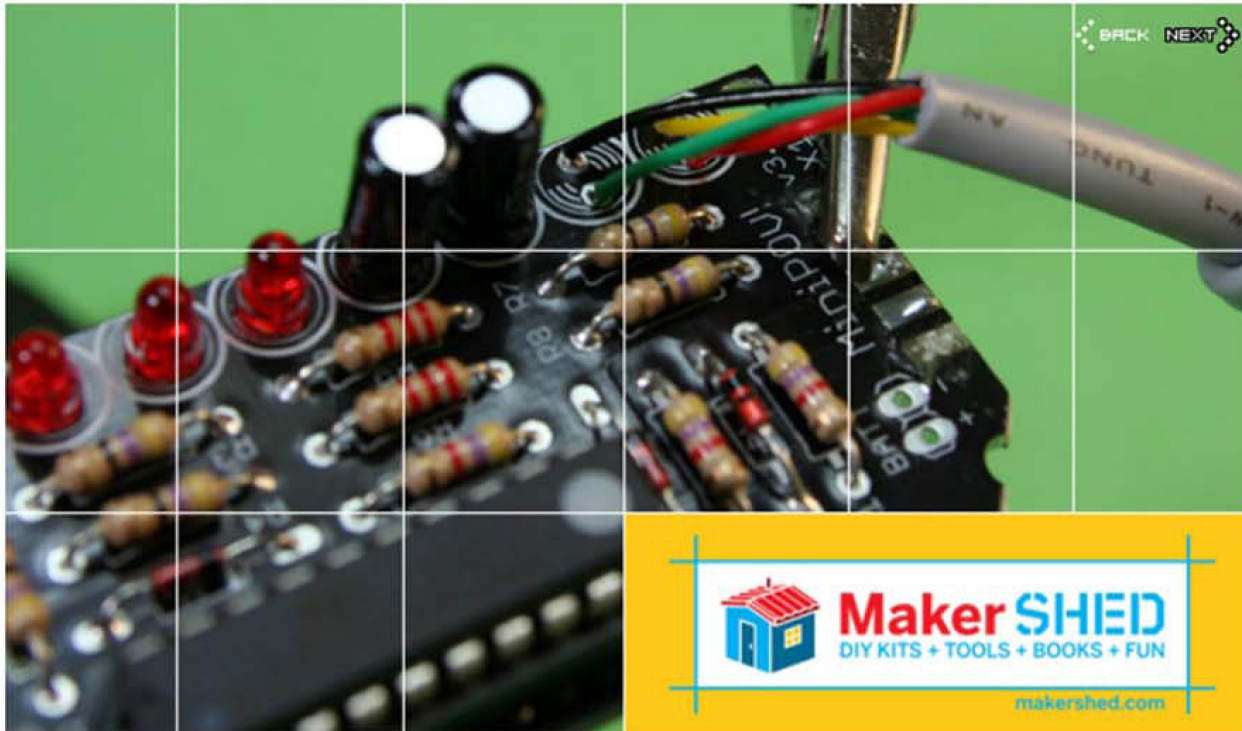
Make Magazine

Videos/Podcasts

Projects

Forum/Community

Maker Shed Store



Make: Online

VISIT OUR SITES:

Craft:



### Tweet a Tip

- Tips for repairing your shoes: <http://bit.ly/3AOPDU> about 13 hours ago

[make tips on Twitter](#)



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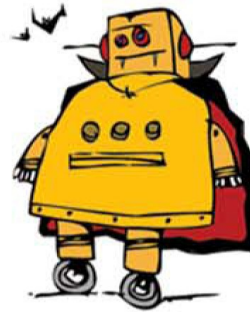


Laser Synth-Guitar

[All](#) [Art](#) [Craft](#) [Food](#) [Games](#) [Green](#) [Home](#) [Kids](#) [Life](#) [Music](#) [Offbeat](#) [Outdoors](#) [Pets](#) [Photo](#) [Ride](#) [Science](#) [Tech](#)

# DIY Halloween CONTEST

Six categories and dozens of awesome prizes.  
Enter now!



DIY Halloween CONTEST

Arduino contest



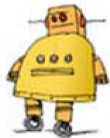
Halloween Food



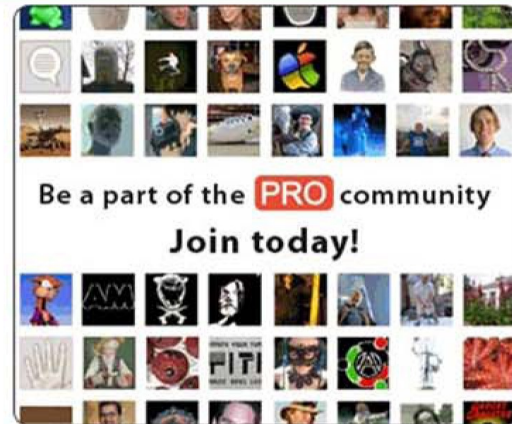
Easy Costumes



Pumpkin Carving



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**PRO** MEMBERS





**HACKER VS MAKER**





# HACKER VS MAKER



WAU HOLLAND



TIM HUNKIN

# HACKER VS MAKER

SMANETTONI

TINKERERS

# Rancilio's Silvia espresso machine gets hacked via the Arduino and Wii nunchuk

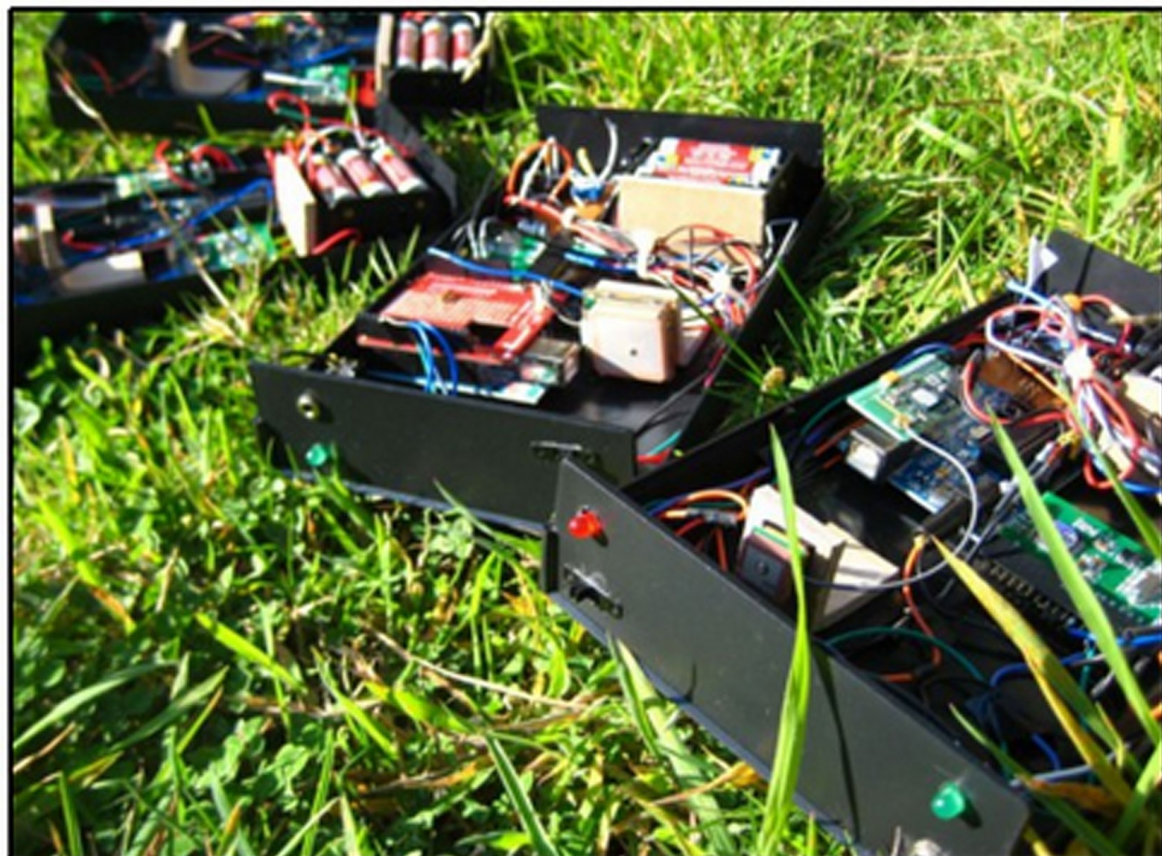
by [Joshua Topolsky](#)  posted Apr 21st 2008 at 12:09AM





# Listening To The Walls' Whispers

September 7th, 2011



[Pierre] shares an interesting geo-localization project of sound, narration and culture, made in "plan d'Aou", a district of Marseilles – France. The project dates back in September 2010, within the framework of the [Smala project](#) in order to trace a sound cartography of Islam in the city of Marseilles: the guys at [Echelle Inconnue](#)





### Anti-Paparazzi Fashion

The anti-paparazzi clutch is a wearable device designed to counter the attacks of flash photography from paparazzi. It's unique patent pending technology allows the celeb to block any number of incoming shots. And in case you do like to be photographed the design allows you to control whether your flash is on or off by the way you hold the bag.

### More in Exhibitions

- STAR DUST AT IJCAI
- SPAM, PORN AND ART
- PIXEL AVERAGES



PATENT PENDING

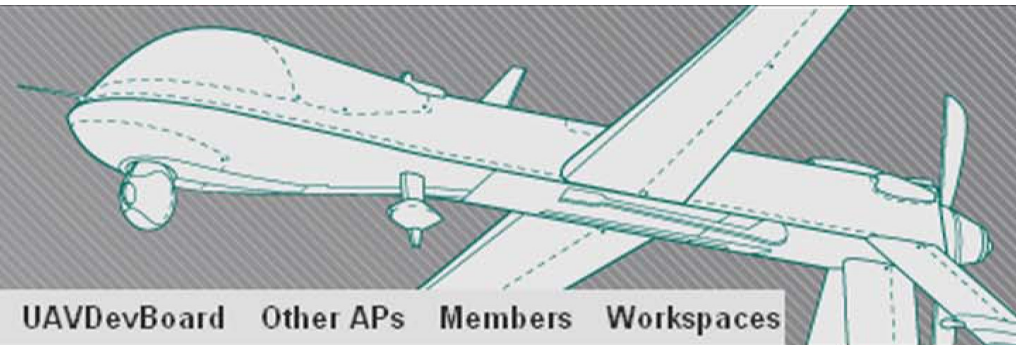
Anti-Paparazzi Clutch

## *Anti-Paparazzi Fashion*





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**Store News:**

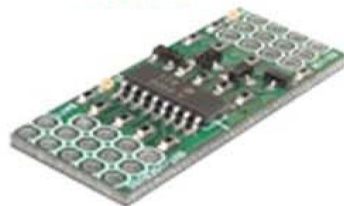
Enjoy your flight!

## Featured Products

### 4 Channel Servo OptoCoupler

**Our Price: \$21.90**

[▶ more info](#)



The ultimate way to isolate noisy problems. Just plug your servos and motor controller in one side and your receiver/autopilot in the other with separate battery/power and you are done!

- Info Sheet
- Board
- Schematic

### FailSafe Mux

**Our Price: \$16.90**

[▶ more info](#)



This FailSafe MUX is the system used in Ardupilot but without the Atmega168. Ideal if you want to use your own uController or backup system. The Attiny45 is loaded with the latest code (V1.6).

- Diagram
- Board
- Info Sheet
- Firmware

## New Products

CMOS Video Camera -  
640x480

**Our Price: \$31.95**

Connector Header 36.  
Straight

**Our Price: \$2.25**

Adapter SMA Male to RPSMA  
Female

**Our Price: \$8.75**

ArduIMU Board

**Our Price: \$29.90**

Servo Jumper 12cm

**Our Price: \$1.75**

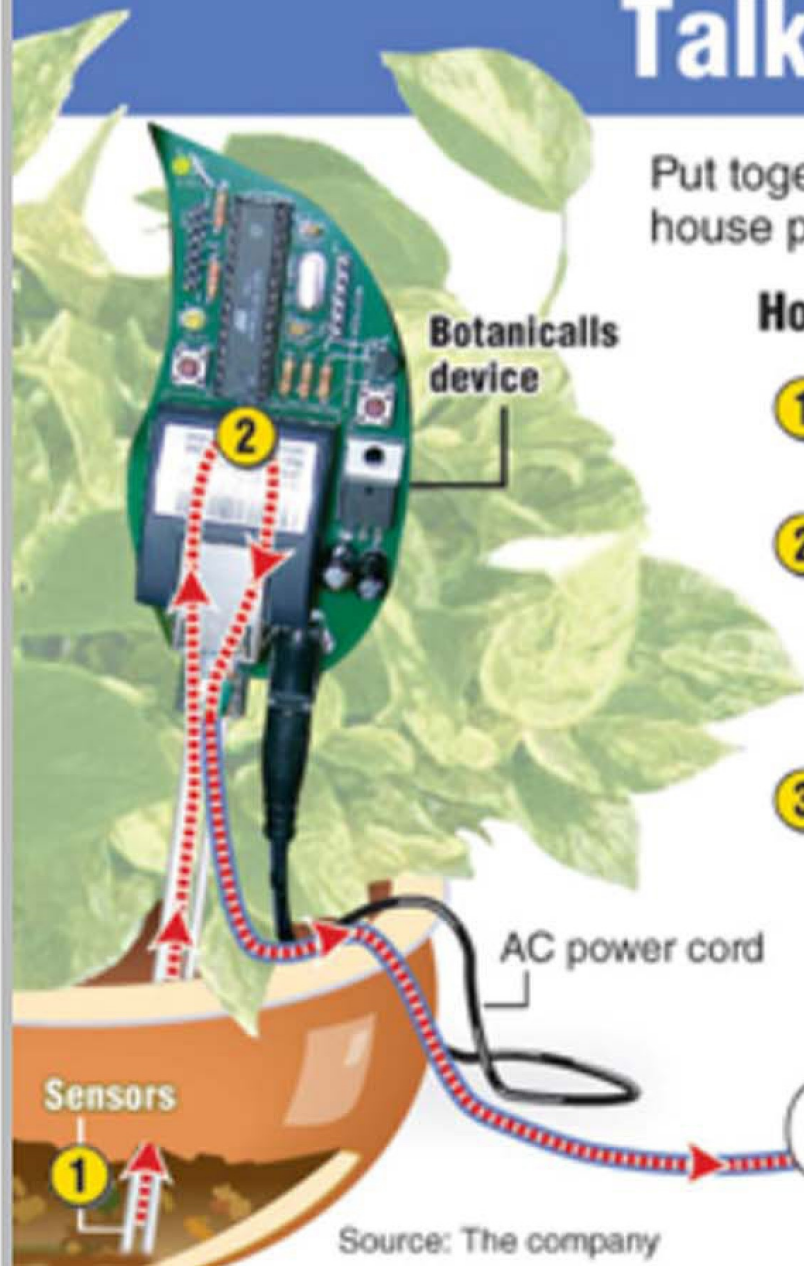


## Talking plants?

Put together a "Botanicalls" from one of their kits and a dry house plant can message you when it needs water.

### How it works:

- 1 Sensor probes, placed deep into the soil, measure the amount of moisture present.
- 2 Readings are sent to a microcontroller built into the unit that translates the data into information that can be sent over the Internet through an embedded ethernet connection.
- 3 The information is sent to a Twitter account, a free networking system that allows users to stay connected in real time. Twitter sends the plant's information via a message to the user's mobile phone.







<http://kickbee.net/>



## Giant Arduino "Like" Button Gets Your Social Experience Physical



accounts: [@arduinoteam](#) is the one used by the team to report about things we think matter to the community. [@arduinoblog](#) is twitting for every blog post, and allows us handling answers on our blog.

### [@arduinoteam \(twitter\)](#)

- » Possible server - service cuts this weekend when hurricane Irene reaches Washington DC. Please take it into account. [12:26:54 PM August 26, 2011 from Twitter for iPhone](#)
- » Come to the Open Hardware Summit NYC to hear us talk about "Arduino Confidential" [10:05:54 PM August 23, 2011 from Echofon](#)
- » Arduino is you [12:16:46 PM May 24, 2011 from Echofon](#)
- » DIY Inkjet printer with Arduino <http://bit.ly/jGftq3> [09:19:05 AM May 24, 2011 from Echofon](#)
- » The FabLabItalia in Turin makes the first 8bit chocolate Easter Egg <http://bit.ly/hio4oV> [10:12:33 AM April 24, 2011 from Echofon](#)

**Archives**





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## The Twittering Office Chair



Author: [PRO randofa](#) Randy Sarafan loves you!

I am the author of the book '62 Projects to Make with a Dead Computer' and Community Manager here at Instructables. I'm always sharing tons of awesome projects. Subscribing to me = fun and excitement [more »](#)

### intro The Twittering Office Chair

The Twittering office chair "tweets" (posts a Twitter update) upon the detection of natural gas such as that produced by human flatulence. This is part of my commitment to accurately document and share my life as it happens.

For more in depth theory, please see the next step entitled [Theory](#).

See the results of the toots of your on labor on [Twitter](#).

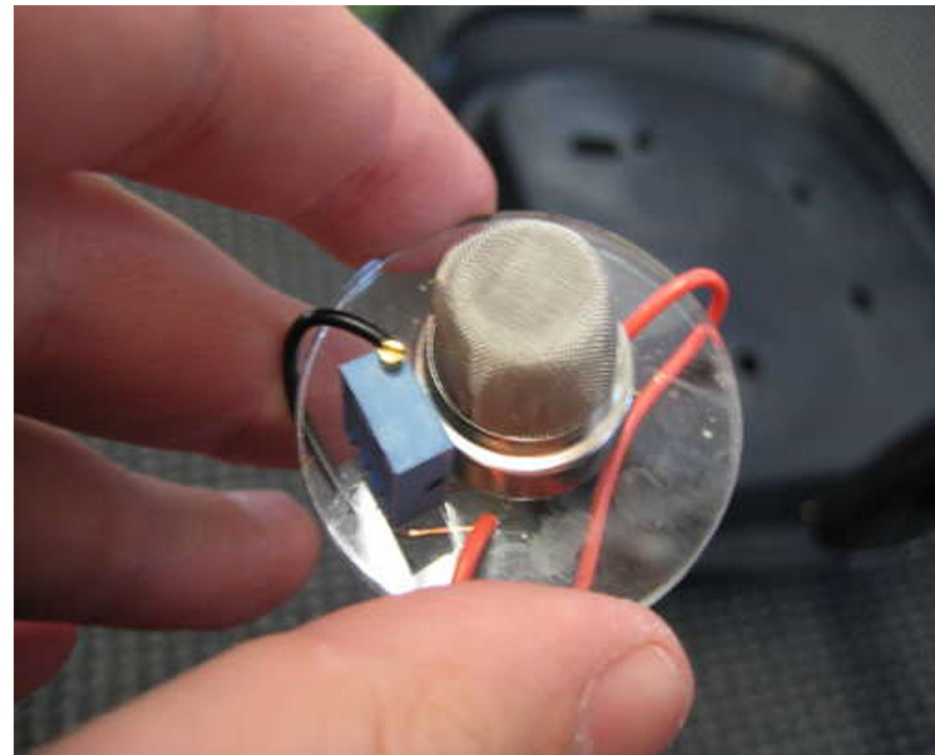
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TWITTER

EMAIL

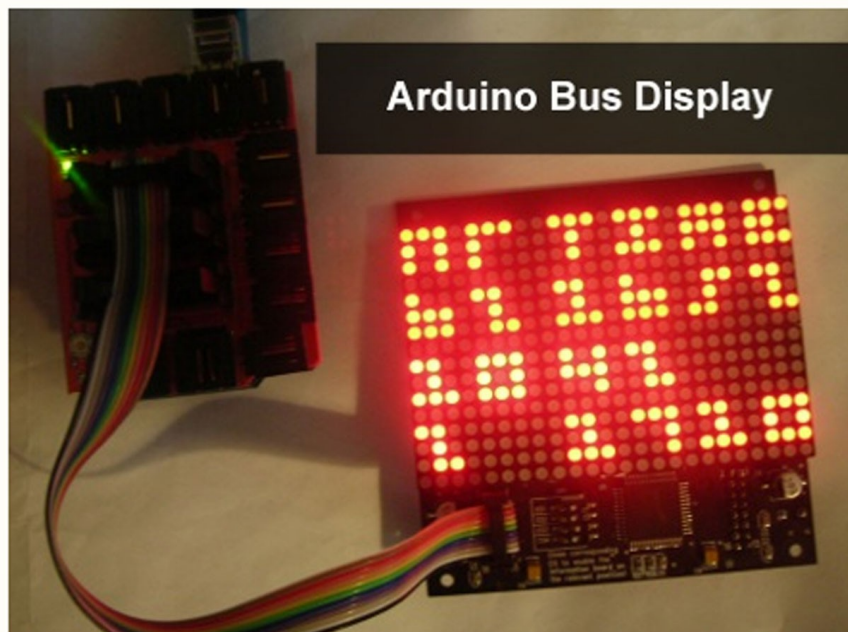
EMBED

PRINT PDF



## Arduino Real Time Bus Schedule Display

MARCH 17, 2011 ENKEL [NO COMMENTS](#)



After playing with Arduino for some time, I wanted to put to use the things i learned and build something.

Since I use public transportation almost exclusively, I wanted something to show me when the next bus would arrive, so I wouldn't have to wait outside in the cold for too long.

The public transportation company here in Turin has a website where i could check the bus passages in real time, but I'd like to have the information clearly visible, without having to turn on my pc just to see when the bus arrives.

With these requirements in mind, I started to build my bus display.

The main components are:

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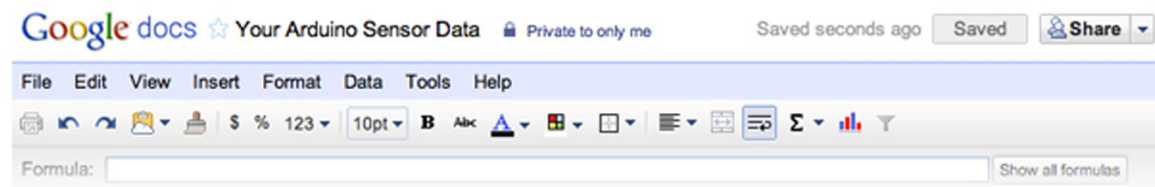
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Brick Kit Bus Schedule  
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## How-To: Save Arduino Output to Google Docs Spreadsheets



There are quite a few ways to get data from your Arduino onto the internet, but I especially like this one. [Open Electronics has a nice tutorial](#) on using your Arduino to send data to be saved into a Google Spreadsheet. The trick is to use Google Spreadsheet's form input feature to determine its POST URL for adding data points. I like this method not only because your data is immediately accessible anywhere you have access to Google Docs, but also it can easily be evaluated, graphed, and shared right from within Google Docs. [via [Electronics Lab](#)]



Posted by [Matt Richardson](#) | Saturday July 16th, 2011 7:00 AM

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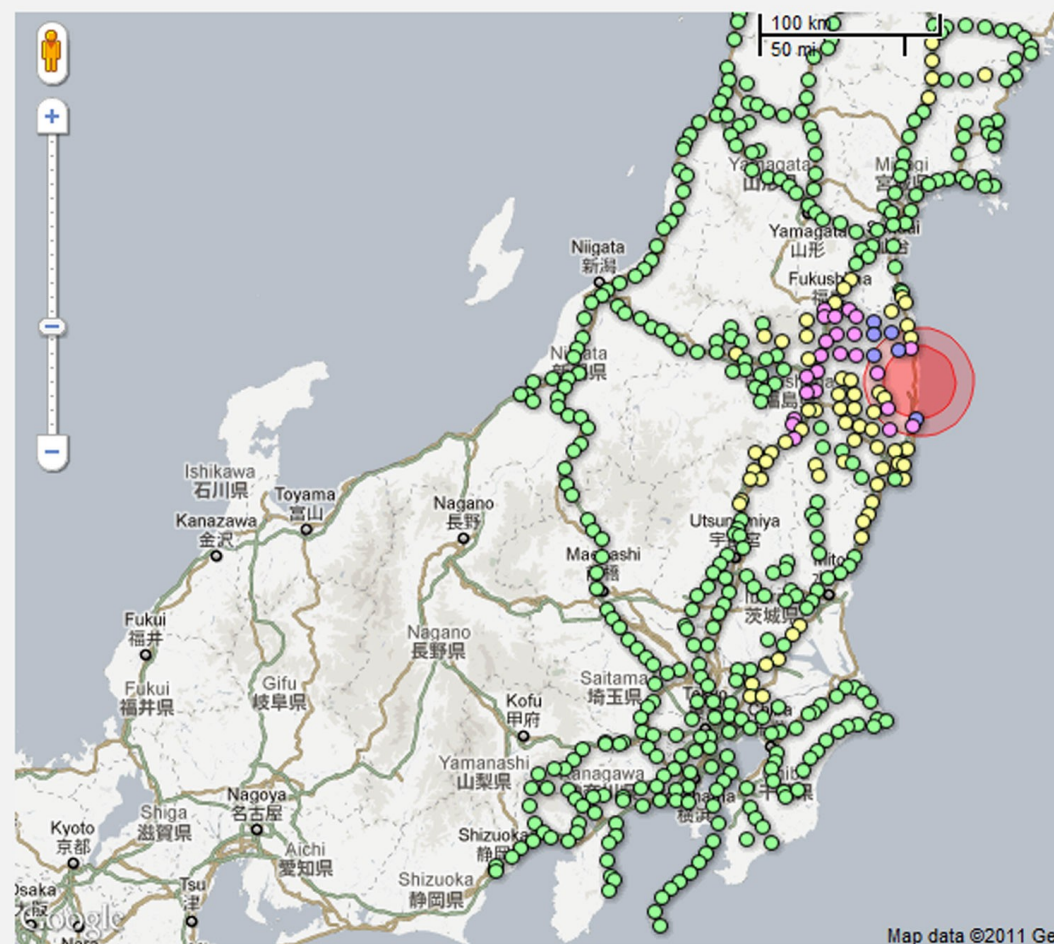
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- .. 0.2
- 0.2 .. 0.5
- 0.5 .. 1.0
- 1.0 .. 5.0
- 5.0 .. 10
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