Who develops new tools of personal expression?

Who has access?

quizz

6 questions, each right answer 1 point

question 1

How many female students are at the University of Technology, Vienna?

A: 25%

B: 50%

C: 75%

D: 5%

Answer: A 25%

On other Austrian universities it is

64% female,

and 36% male.

Specially in disciplines as Paedagogy it is up to 89 %

female

question 2

After their highschool graduation students in Austria can choose if the want to go to a college for e.g. Chemistry or Kindergarder Paedagogy. How much do they earn in comparison?

A: Ca. **1050** € brutto in Kindergarden
ca. **2970** € brutto in Chemistry

B: Ca.**1680** € brutto in Kindergarden
ca. **2300** € brutto in Chemistry

C: Ca. **1920** € brutto in Kindergarden
ca. **1290** € brutto in Chemistry

D: Ca. **1920** € brutto in Kindergarden
ca. **1920** € brutto in Chemistry

? 1/2

Answer: B

Ca.1680 € brutto in Kindergarden
ca. 2300 € brutto in Chemistry

question 3

How many female students start to study machine engeenering at the University of Technology in Vienna?

A: 13,8%

B: 0,9%

C: 5,7%

D: 22,1%

Answer: A

13,8%

question 4

In Austria the amount of females in Engineering Science is around 20%. In which country do you think there are legendary 33% ?

A: Germany

B: Malta

C: Denmark

D: Hungary

? 1/2

Answer: C

Denmark (YAY! :))

question 5

How many people have registered a mobile phone in China (Mai 2011)

a. 50 Million people

b. 900 Million people

c. 200 Million people

Answer: B

900 Million people

In India it‘s 64,34% of all Indians
811.59 millionen registrierted mobiles
(march 2011)

question 6

How many female open source developers are out there?

a. 11 Percent

b. 2 Percent

c. 47 Percent

Answer: B

2 % of Open Source developers are female

25 % in proprietary software


Where are all the female makers and developers of technology?

unorthodox developers unorthodox (mis)use of tech

“There is a large installed base of mobile phone users, and airtime is a currency, although you would never say that to a central bank” Neale-May

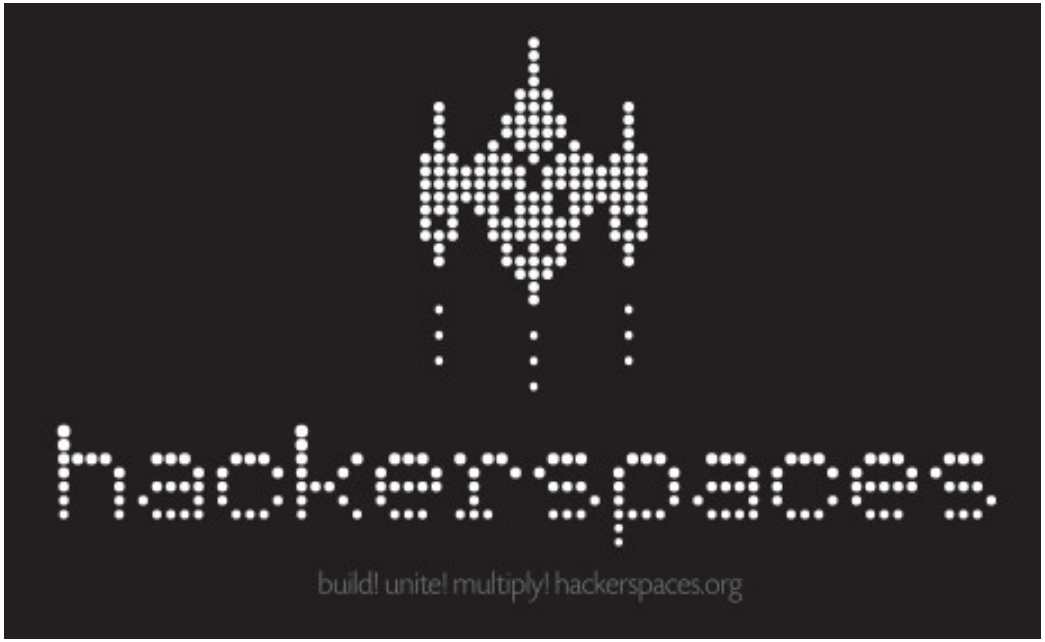
“I attempt to read the never-ending stream of computer code as we read any text, decoding its structure of control.”

Alex Galloway

invisible censorship

hackerculture

FIELD STUDY:



METALAB

Wiki | About | Location | Sponsoren | Impressum | English | Login

Aktueller Content

managed with soup.io

Events

Fri 27.05.2011 18:00 | Fellowship-Treffen der FSFE | Bibliothek

Fri 27.05.2011 19:00 - 23:00 | Elektronik Kurs | Hauptraum

Mon 30.05.2011 19:00 - 21:00 | FunkFeuer Montagstreffen | Hauptraum

Mon 30.05.2011 19:30 - 21:15 | Lambdaheads | Bibliothek

Mon 30.05.2011 21:00 - 23:00 | Activism and Counter-Activism Behavioural Dynamics in Cyberspace | Hauptraum

Mitglieder

Mitglied werden

220m² Raum im Herzen Wiens für technologisch-kreative Projekte, Veranstaltungen, Software, Hardware, Essen & mehr....

Projekte

Moonbounce
Amateurfunk zum Mond und zurück

the EduBuzzer
Hacker Space Challenge 2011 Contribution

Music Invader
Music streaming Embedded system @ WEL

Ctrl-Cut
Open Source Laser Cutter Software

The IRIS project
Automated welcoming system

Letzte Änderungen

Grillen
- Tkolar
Grillen
- Ra
Grillen
- Pk
Grillen
- Philleb
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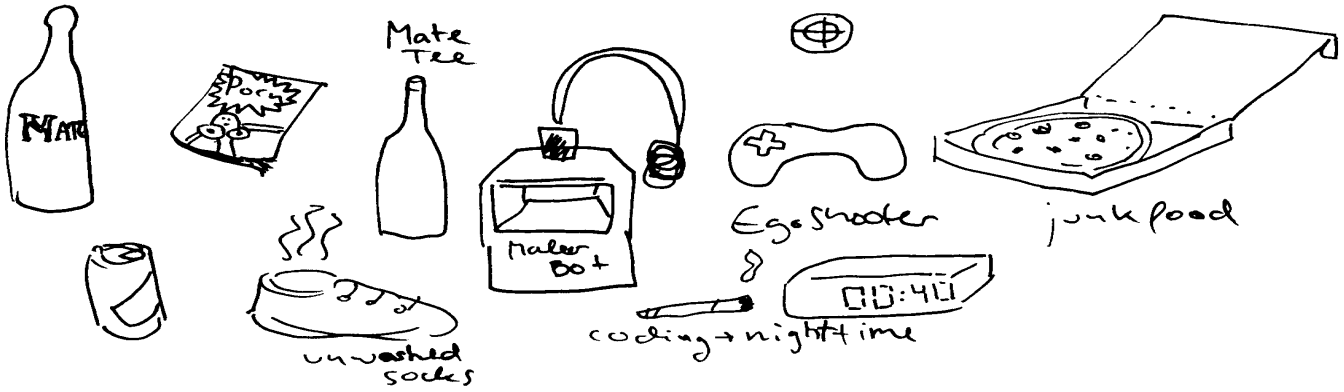
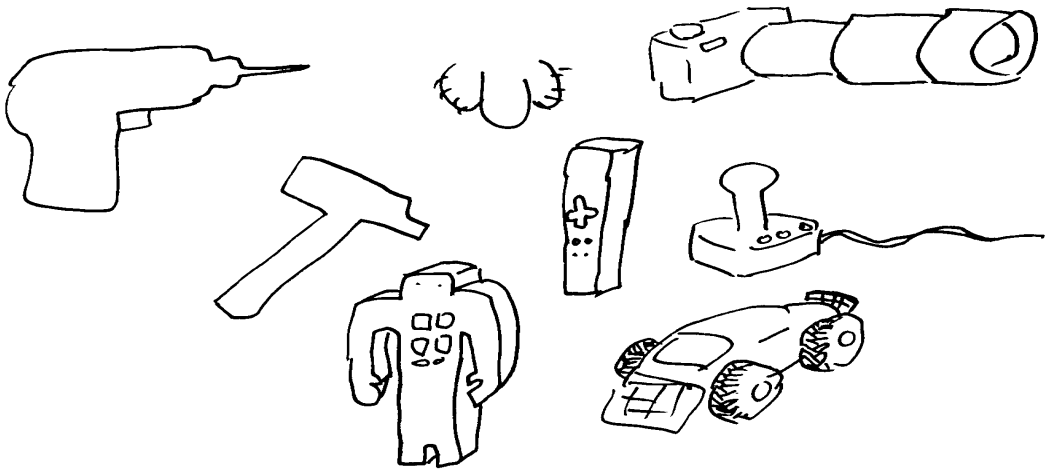
- Philleb

mz baltazar's laboratory

mz baltazar's laboratory



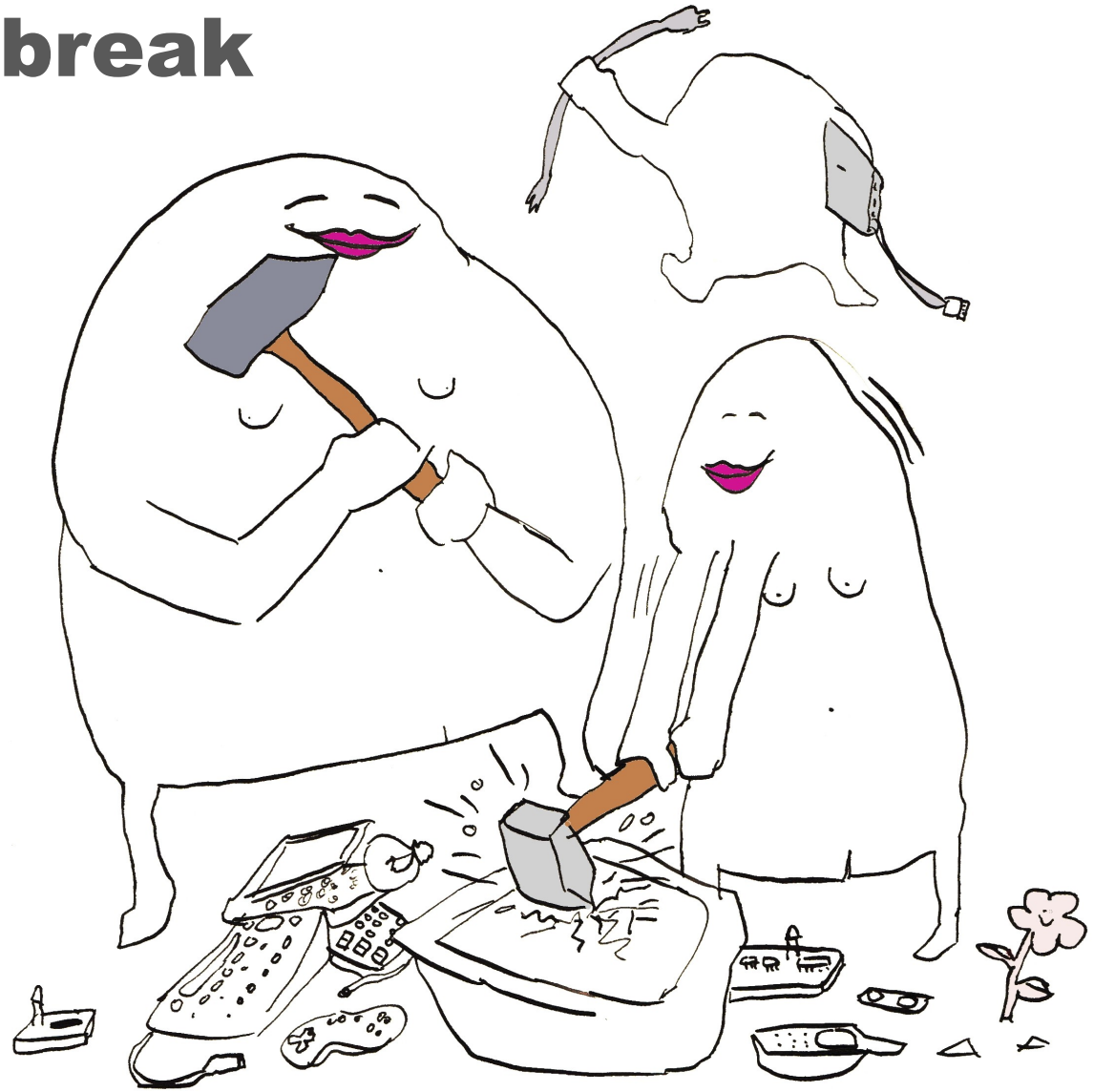
association
connotation
male centered interpretation of tech



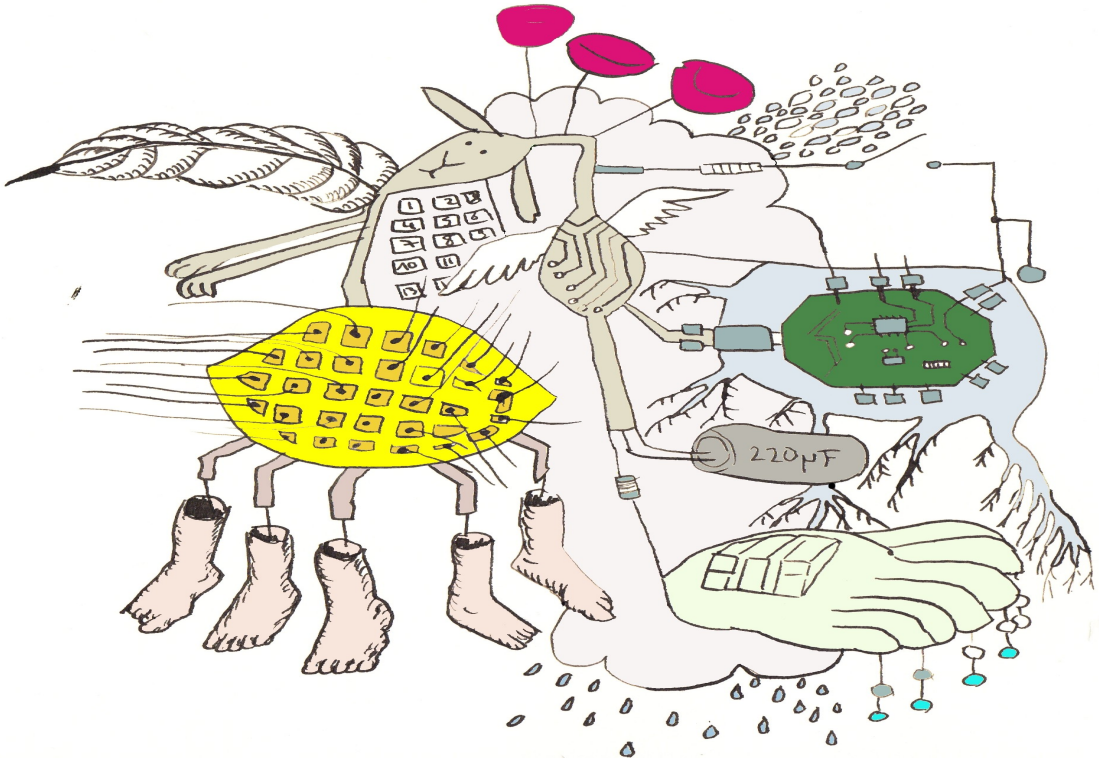
tech != (inequal) masculinity

demystify tech

things can break



interactive art



mz baltazar's laboratory

INPUT

switches (on off)

Sensors

e.g. temperature, touch, acceleration,
distance (ultra sonic infra red),

webcameras (movement, color, brightness)

Text (Facebook, Twitter, Stockmarket numbers)

OUTPUT

Motor movement (stepper, servo, DC)

Sound

Light

Visuals

Animation

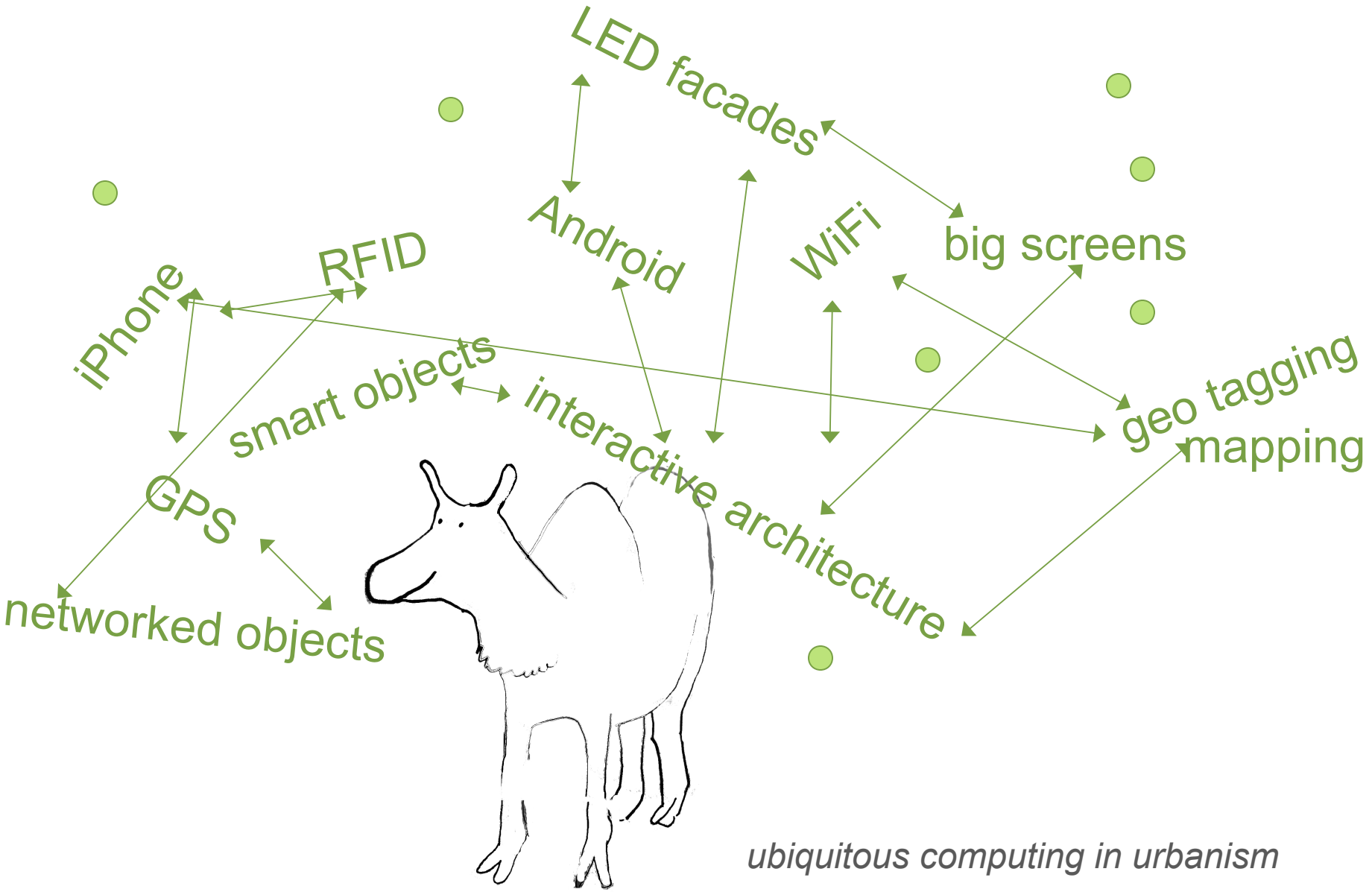
Controlling toy or kitchen device

Storytelling :
More than “input“ and “output“

Telling a new story

New forms of personal expression

and visual articulation



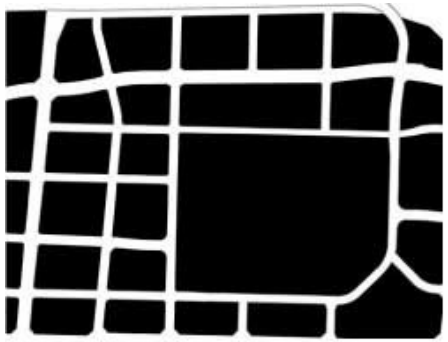
ubiquitous computing in urbanism

situated technologies

Thinking about the implications of *ubiquitous computing* for urbanism:

How is our experience of our environment affected by mobil communications, *pervasive* media, *ambient* informatics, and other "**situated**" technologies?

How will the ability to design increasingly *responsive* environments alter the way architects as well as inhabitants conceive of space?

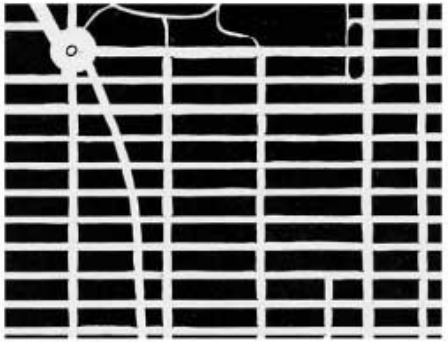


MISSISSAUGA

BARCELONA

COPENHAGEN

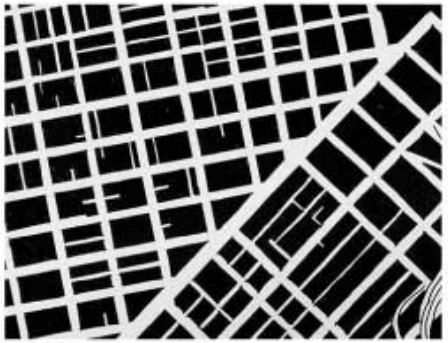
LONDON



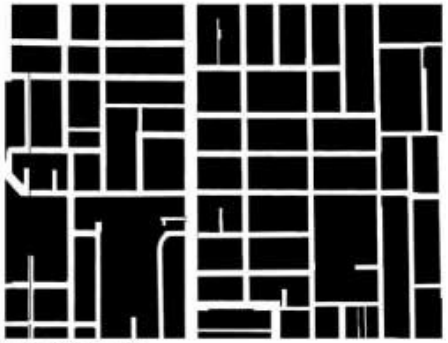
NEW YORK

PARIS

ROME



SAN FRANCISCO



TORONTO

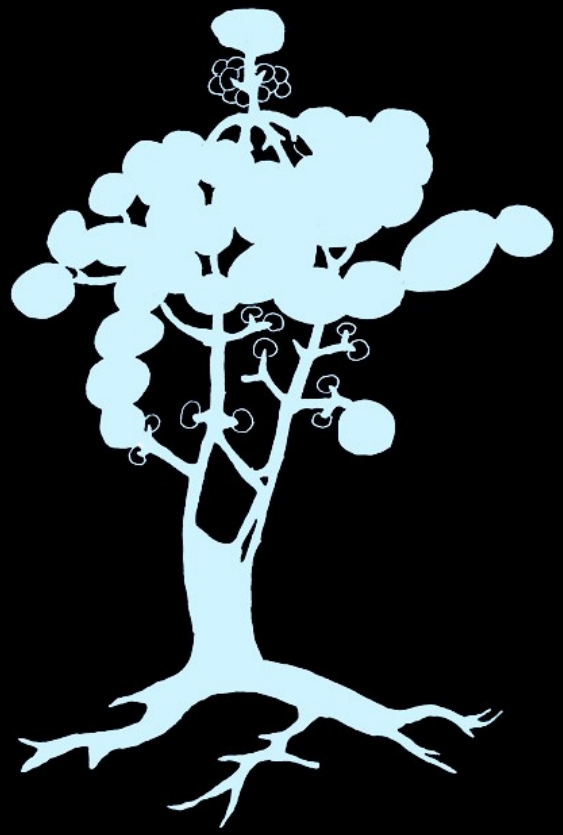
Ubiquitous computing (ubicomp) is a model of human-computer interaction in which information processing has been thoroughly integrated into everyday objects and activities.

In the course of ordinary activities, someone "using" ubiquitous computing engages many computational devices and systems simultaneously, and may not necessarily even be aware that they are doing so. This model is usually considered an advancement from the desktop paradigm. More formally Ubiquitous computing is defined **as "machines that fit the human environment instead of forcing humans to enter theirs."**

This paradigm is also described as:

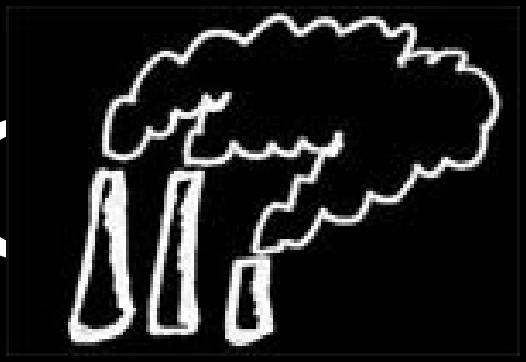
Pervasive computing, ambient intelligence, where each term emphasizes slightly different aspects. When primarily concerning the objects involved, it is also *physical computing*, the *Internet of Things*, *haptic computing*, and *things that think*.

(Source: http://en.wikipedia.org/wiki/Ubiquitous_computing. Accessed on May 1st 2011)



are you consumer or ma

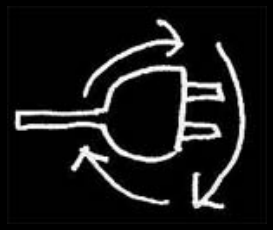
HOT TOPIC



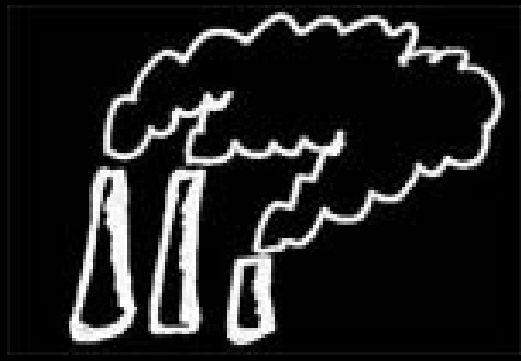
ELECTRICITY

Electricity is described with two enteties:

Voltage and Current.



The **volt (symbol: V) is the unit for electromotive force, called Voltage:**



it determines how quickly the electrons will travel through the circuit. Voltage is the electrical “pressure” that causes free electrons to travel through an electrical circuit.

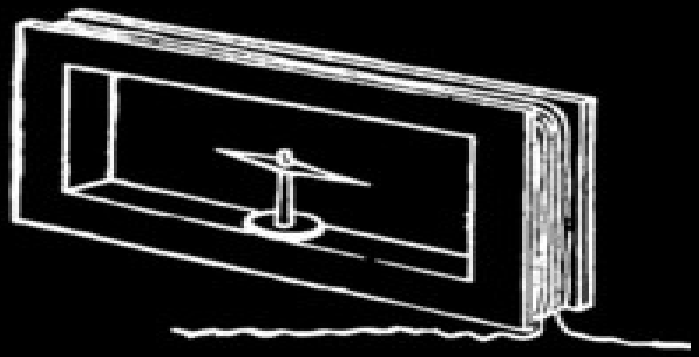
Current is the amount of electrical charge (the number of free electrons) moving past a given point in an electrical circuit per unit of time.

Current is measured in amperes.

AMPERE

In practical terms, the ampere is a measure of the amount of electric charge passing a point in an electric circuit per unit time with 6.241 × 1018 electrons, or one coulomb per second constituting one ampere. amperes can be viewed as a "rate of flow" and coulombs viewed as an "amount of flow."

Current can be measured by a galvanometer, via the deflection of a magnetic needle in the **magnetic field** created by the **current**.



The load, in turn, has a characteristic called resistance, a medium which opposes the flow of electrical current through itself

Resistance is measured in ohms.

DC (or direct current) is electricity in its pure form.

Batteries and solar panels give us DC power.

DC electricity always has two sides: + and -, known as

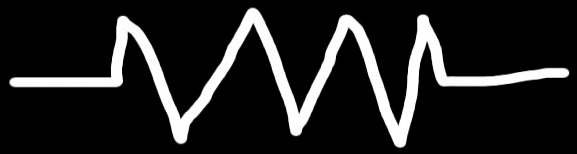
power and ground.

Batteries and solar panels give us DC power, and

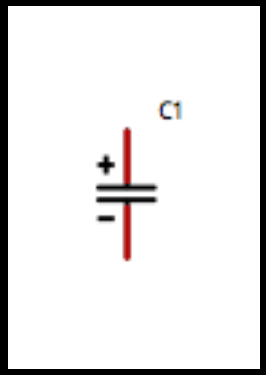
most electronics require DC power to run.

AC power changes direction many times a second

symbol for resistance

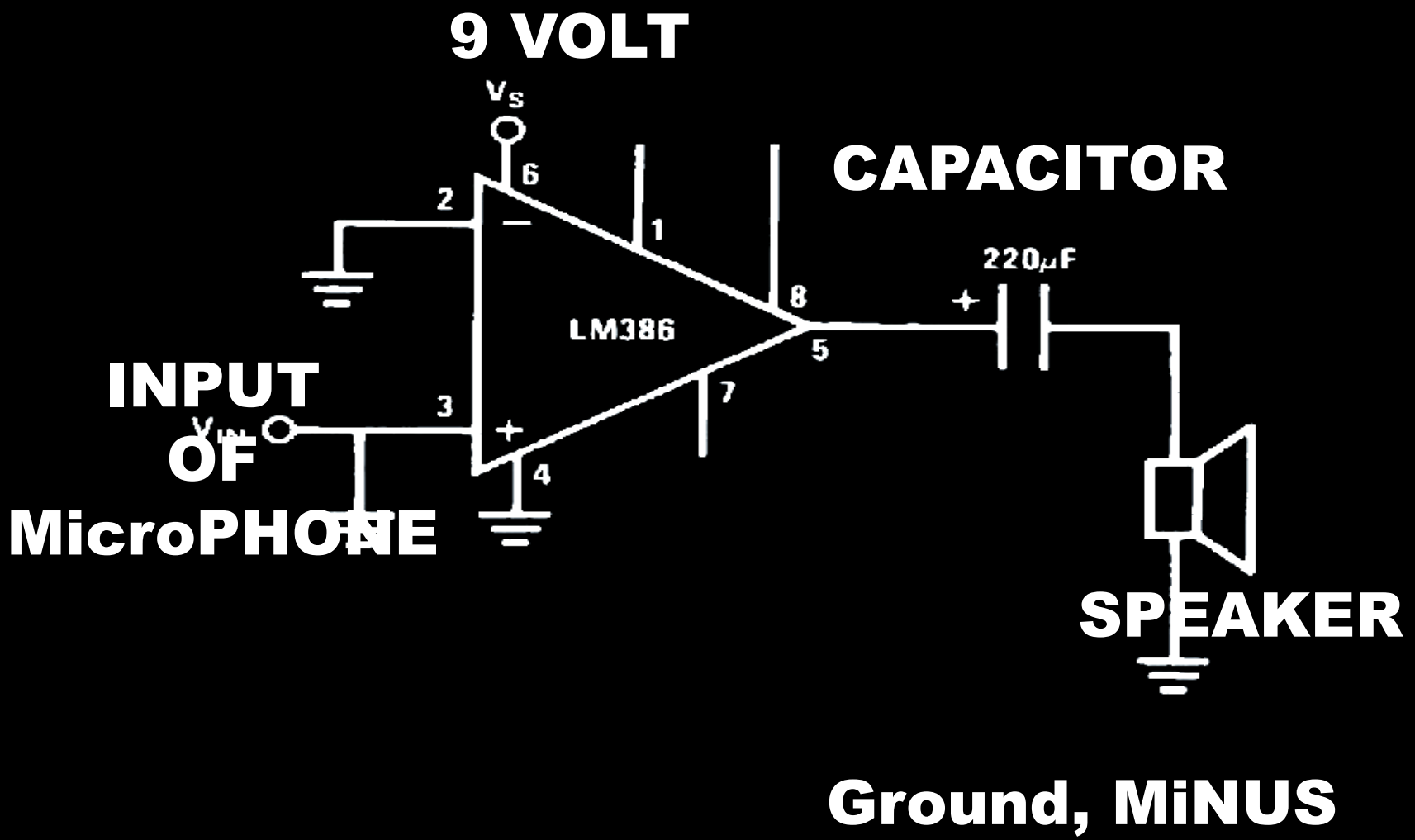


Capacitors



store up electricity while current is flowing into them, then release the energy when the incoming current is removed.

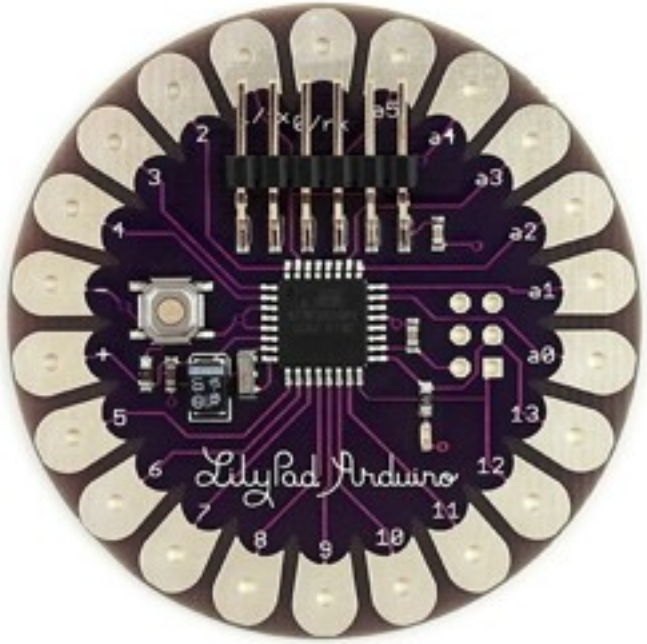
Sometimes they are polarized, meaning current can only flow through them in a specific direction, and sometimes they are not.


9 VOLT
Vs
6
2
1
CAPACITOR
220μF
8
LM386
5
INPUT
OF
MicroPHONE
3
7
4
SPEAKER
Ground, MiNUS

USB connection

ATmega168V
oder
ATmega328V

Input Voltage
2.7-5.5
Volt



Analog Input
Pins 6

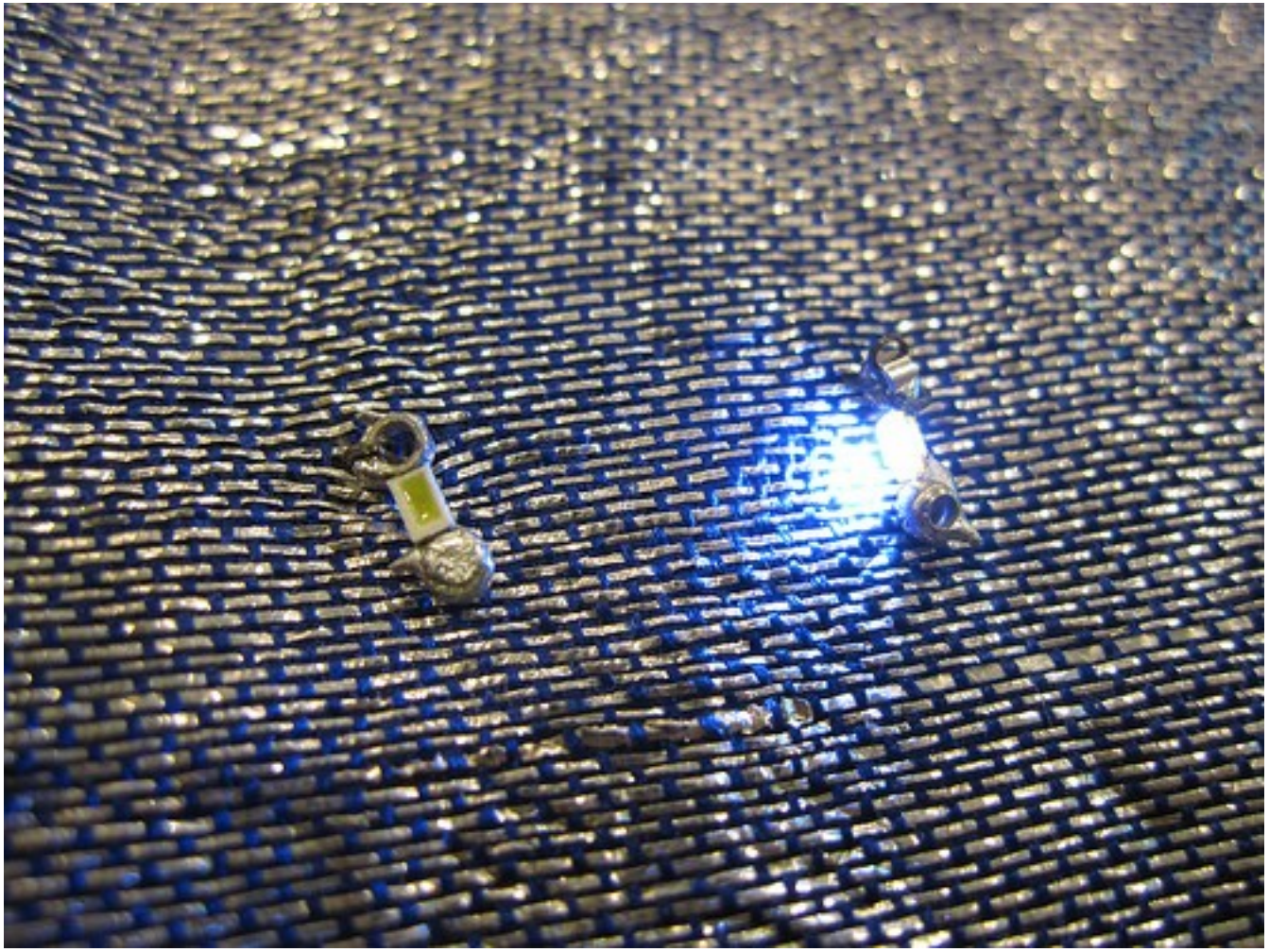
Digital I/O Pins 14

Flash Memory 16 K

DC Current per I/O Pin 40 mA

Lilypad Arduino

Operating Voltage	2.7-5.5 V
Input Voltage	2.7-5.5 V
Digital I/O Pins	14
Analog Input Pins	6
DC Current per I/O Pin	40 mA
Flash Memory	16 KB



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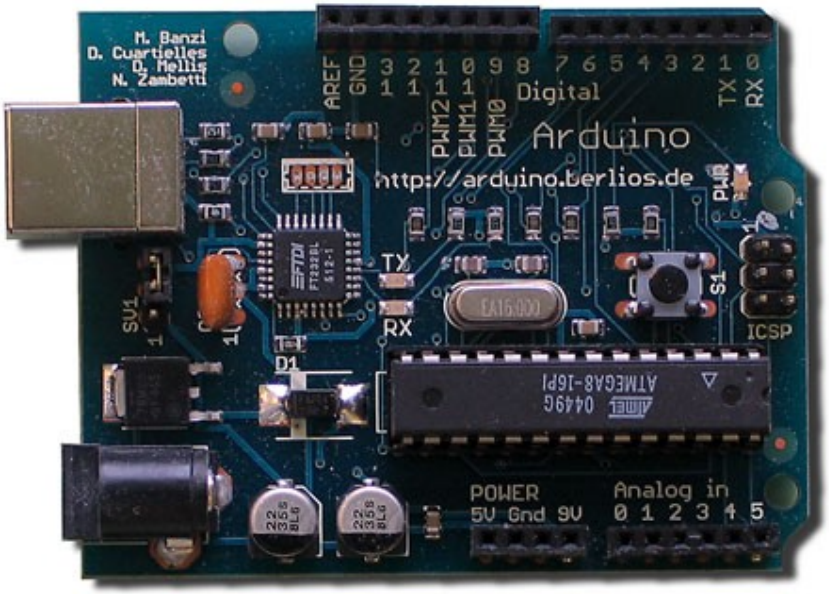
ARDUINO
ARDUINA

13 digital ins and outs / 6 PWM

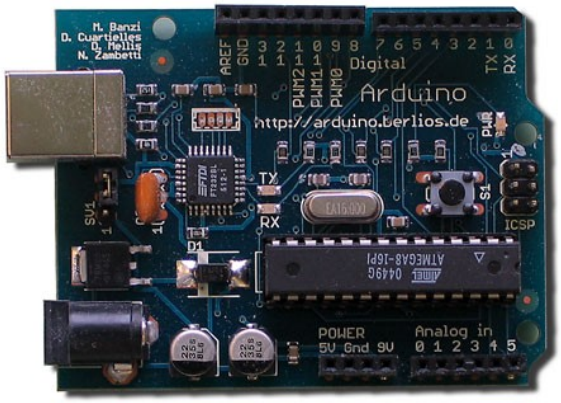
USB cable/
serial/
bluetooth



ATmega168V

6 analog ins

+



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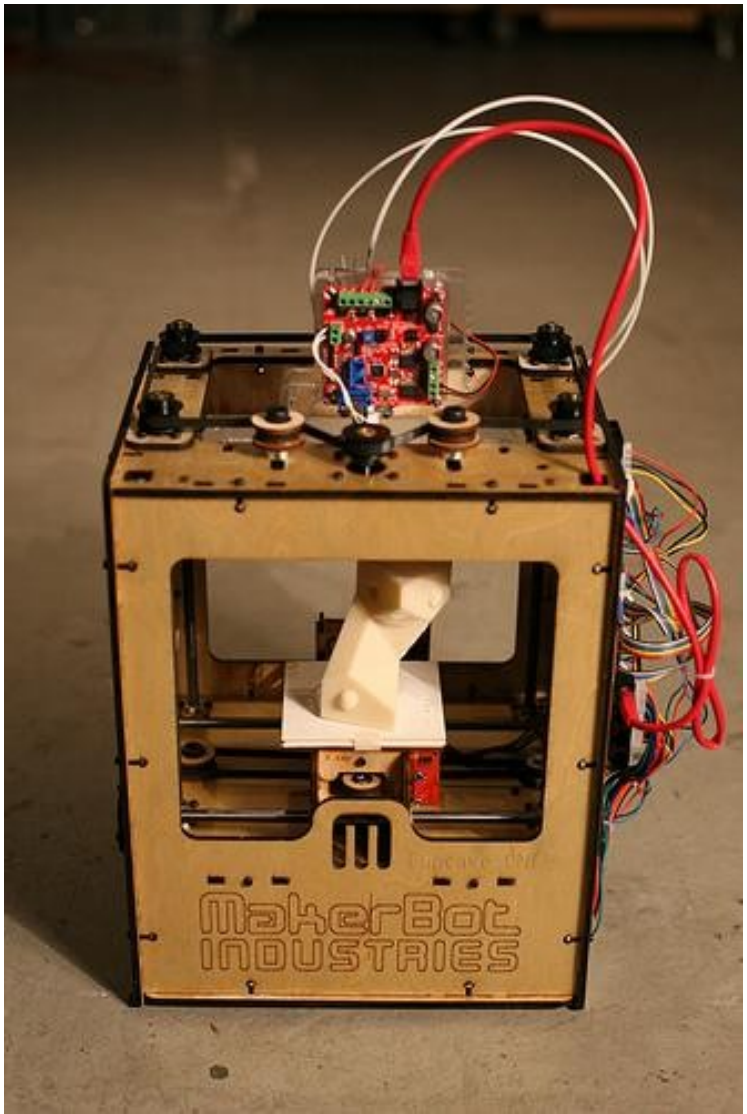
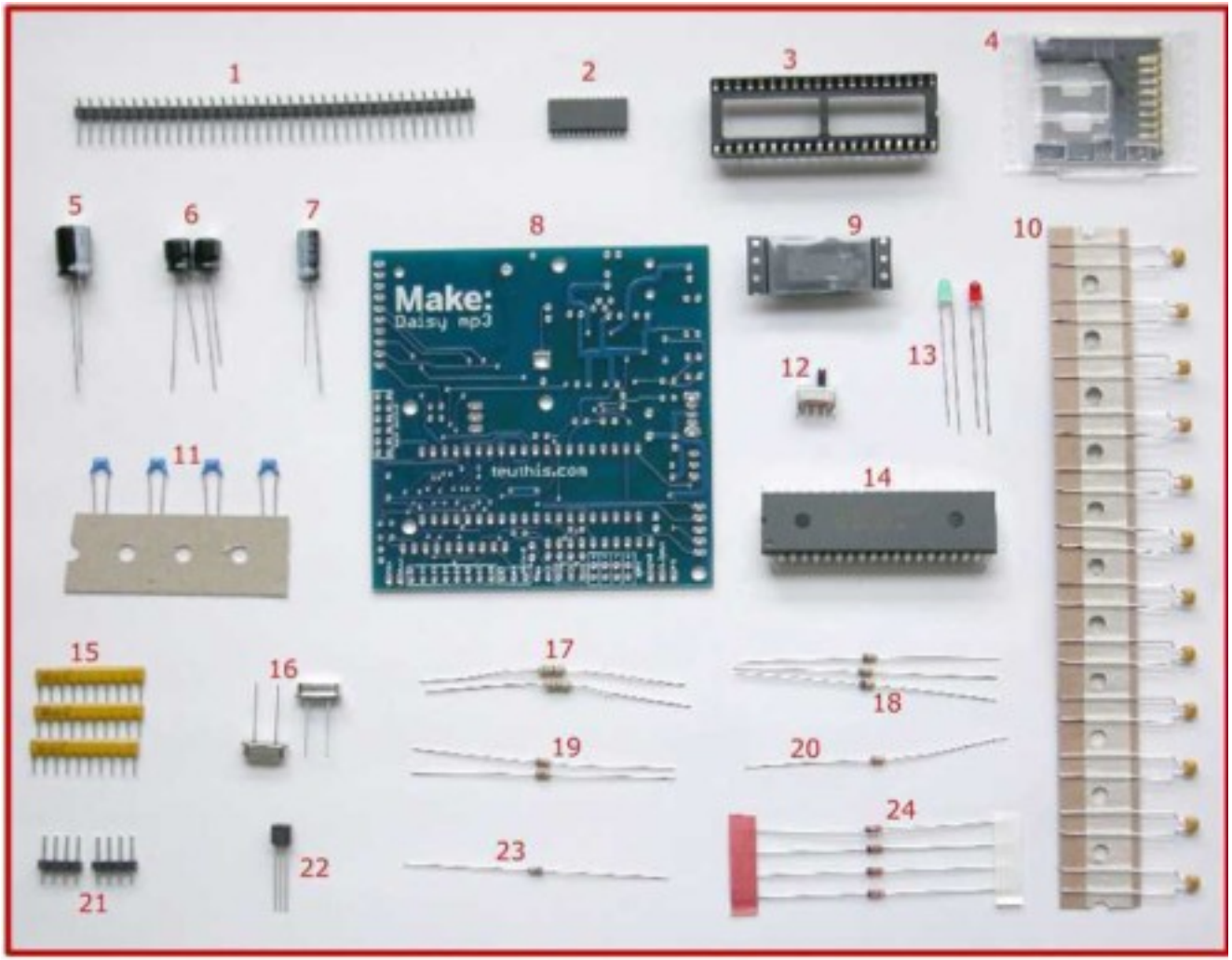
Daniel Rozin's Wooden Mirrow

Assistive Technology
Digital Wheel Art - 2008
YoungHyun Chung

MakerBot

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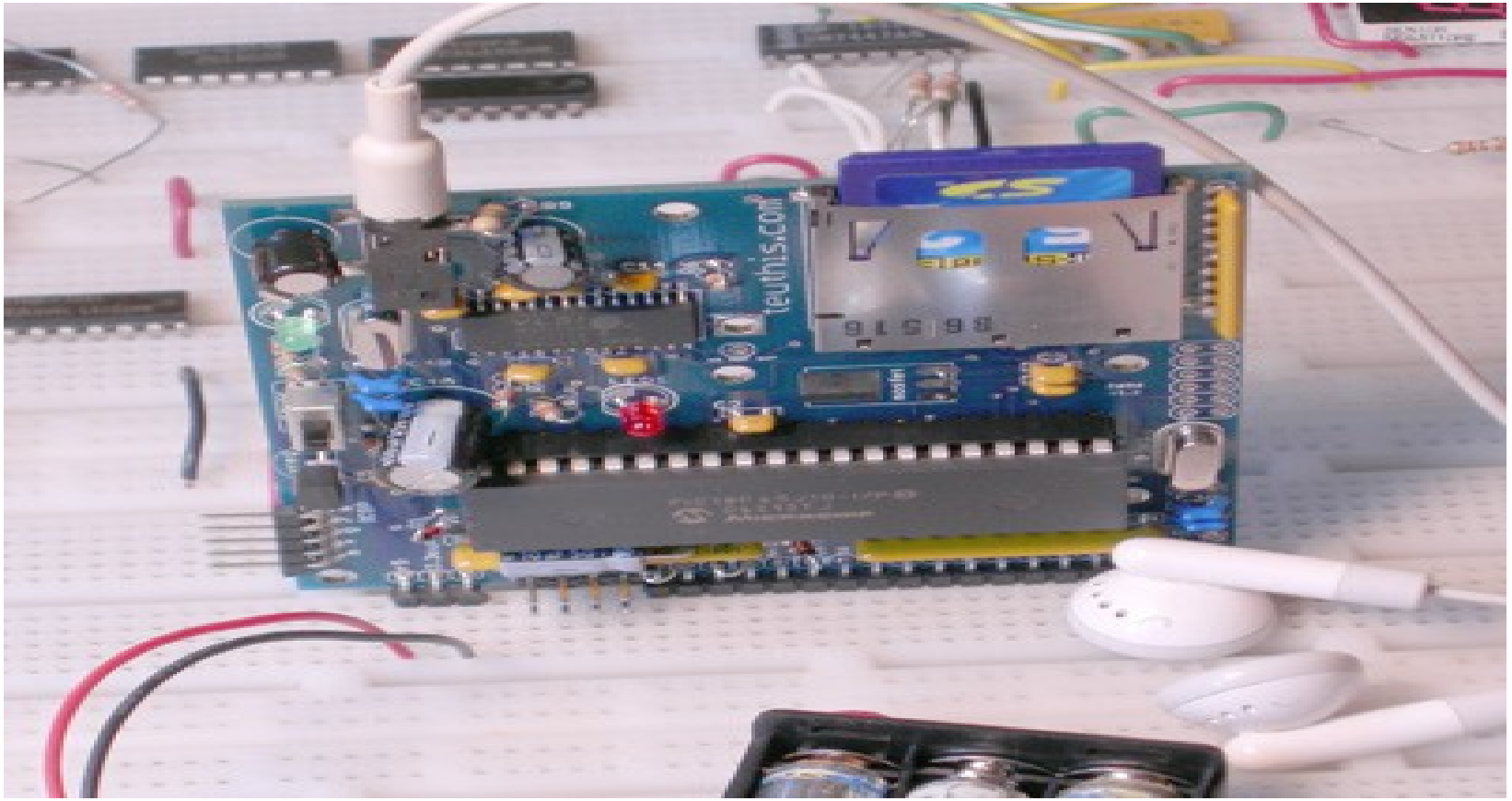
Make:
Daisy mp3
teuthis.com



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Interaction Workshop

ADDRESS

Mouna Andraos and Sonali Sridhar

Once the jewelry is initialized, every time you wear the piece
it displays how many miles away from that location you are using a GPS
component built into the pendant. As you take Address around the world with you,
it serves as a personal connection to that special place, making the world a little smaller or maybe a little bigger.

CYRANO SUIT


Hacked Receipt Printer
Custom Touch Buttons
Wiring Mini / HEX Inverter / Multiplexer
Ultra Sonal Sensor
On / Off Button

Shell HOuSE

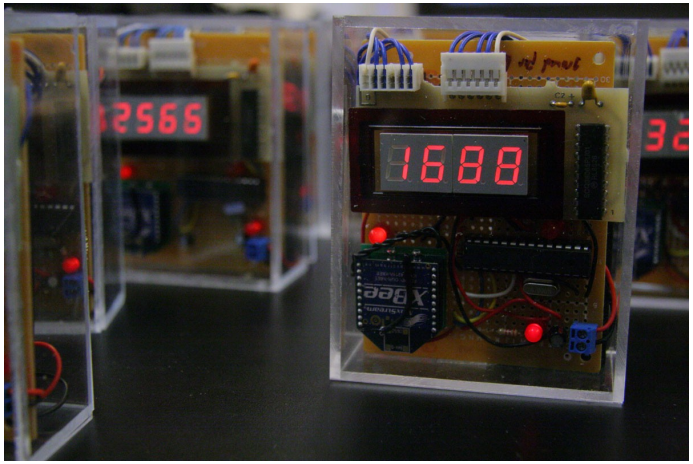
http://shellhouse.org/

Each shelter contains a radio and a battery, which transmits radio frequencies to a central circuit that translates them into visual signs that can be seen on a screen or any other interface such as a cell phone, google maps, etc.The system could be implemented on supermarkets to get food, or hospitals to get medical attention.

SOCIAL BOMB

Adam Simon, Scott Varland,
Michael Dory

Social Bomb turns real-time social interactions into a dynamic game of reputation where the only way to win is to know the right people.

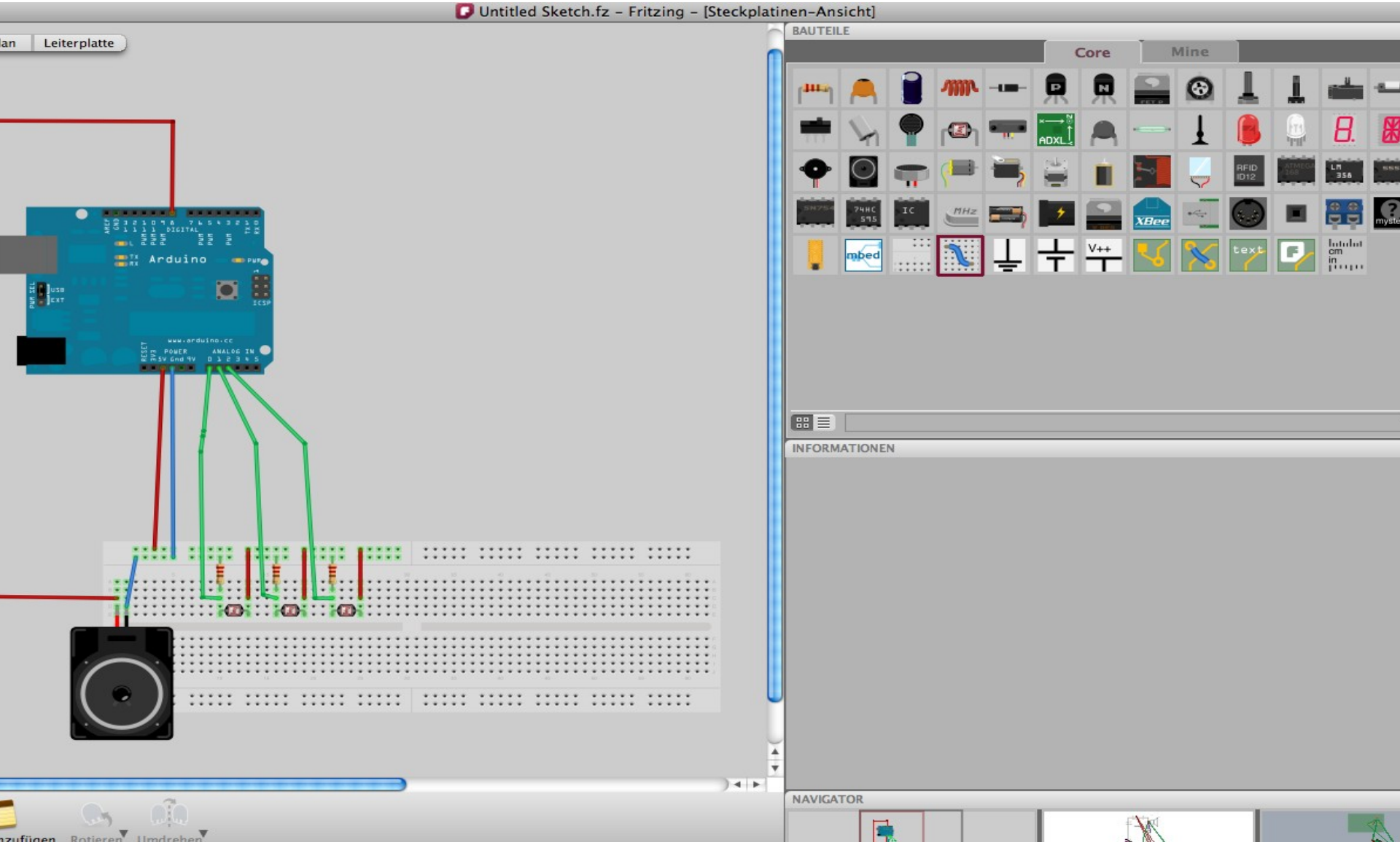


http://www.socialbomb.net

“A person's computer should be worn, much as eyeglasses or clothing are worn, and interact with the user based on the context of the situation.“

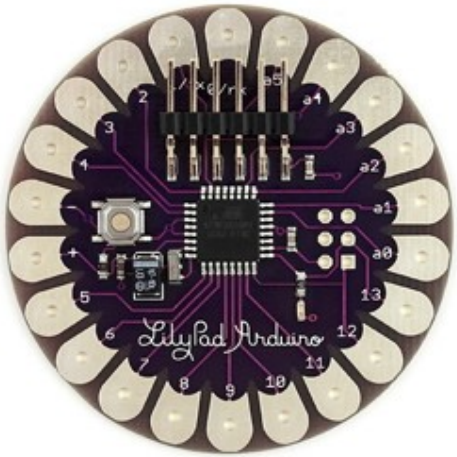
Fritzing.org

software for physical prototyping


Untitled Sketch.fz - Fritzing - [Steckplatinen-Ansicht]
Leiterplatte
BAUTEILE
Core
Mine
INFORMATIONEN
NAVIGATOR
Arduino
ADXL
RFID ID12
XBee
mbed
text
Rotieren
Umdrehen

LilyPad Arduino

designed for wearables and e-textiles



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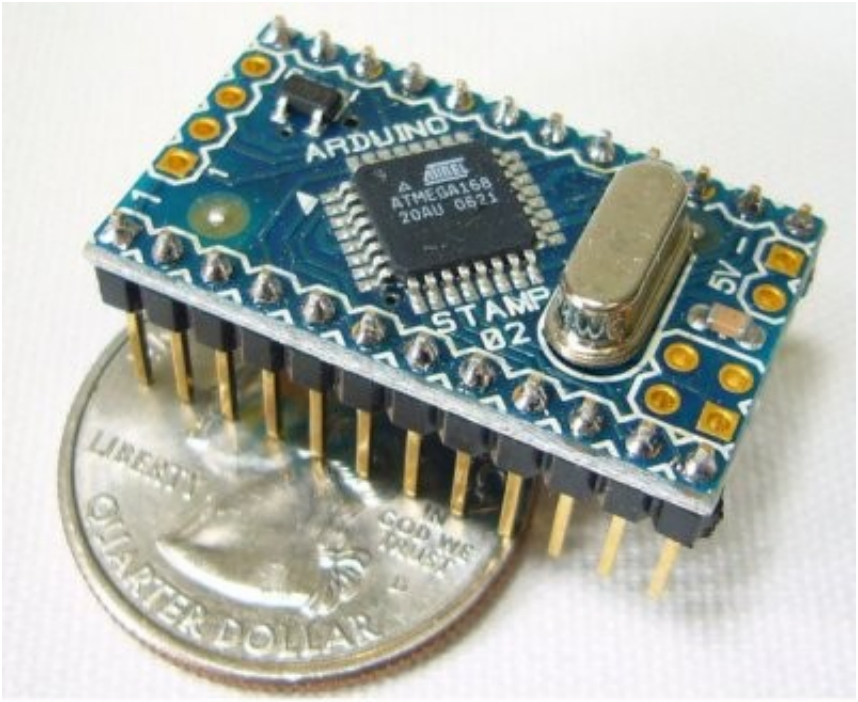
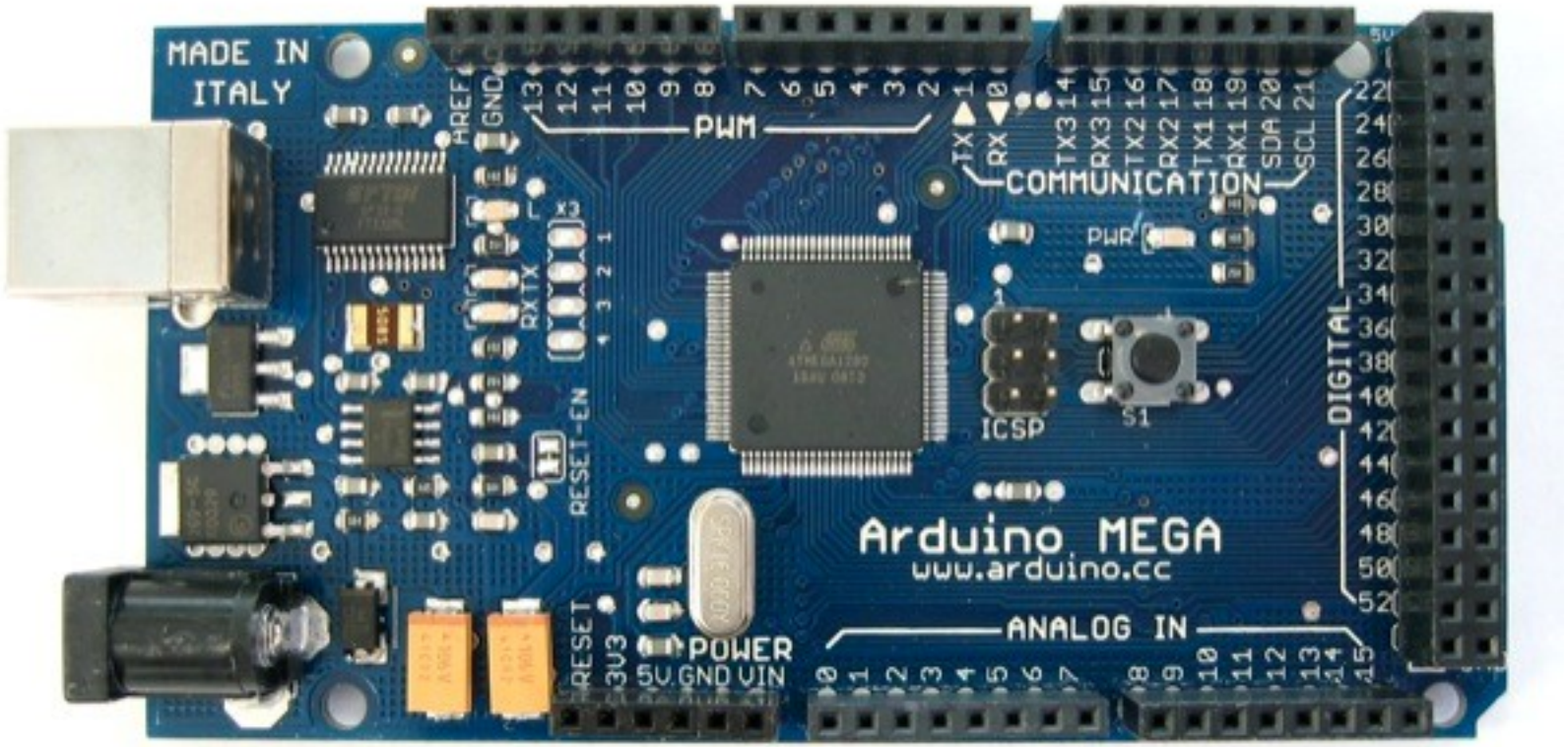
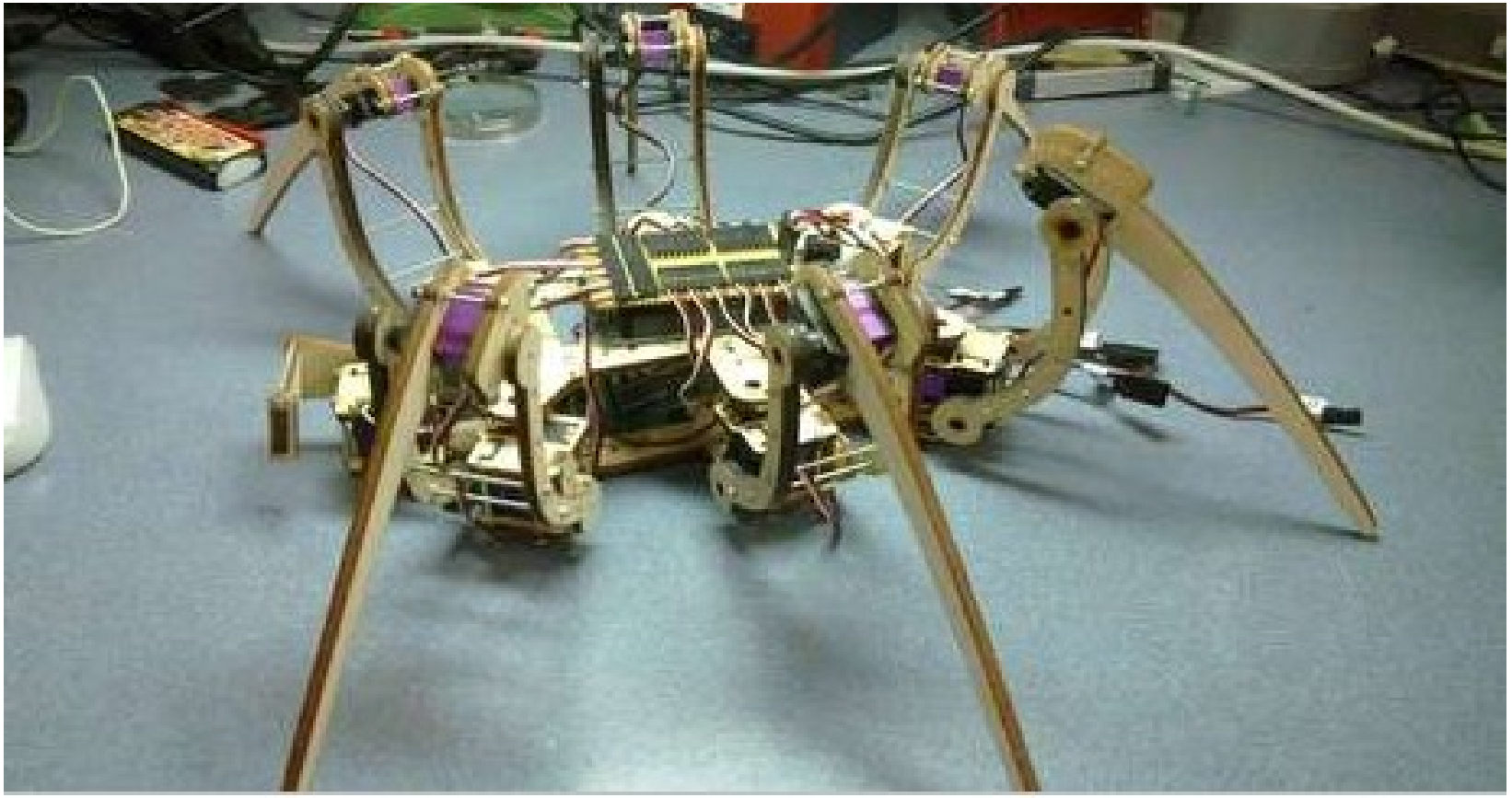
Arduino Mini




MADE IN
ITALY
PWM
COMMUNICATION
DIGITAL
ANALOG IN
POWER
ICSP
PWR
S1
RESET-EN
RXTX
Arduino MEGA
www.arduino.cc



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Open Source Software

after the Workshop

TUTORIALS

http://www.ladyada.net/learn/arduino/

http://arduino.cc/en/Tutorial/HomePage

http://www.tigoe.net/pcomp/code/

buy and order

Garbage Bin

Conrad: www.conrad.de

Spark Fun: www. Sparkfun.com

Lady Ada: www.ladyada.net

Austria:
www.physicalcomputing.at

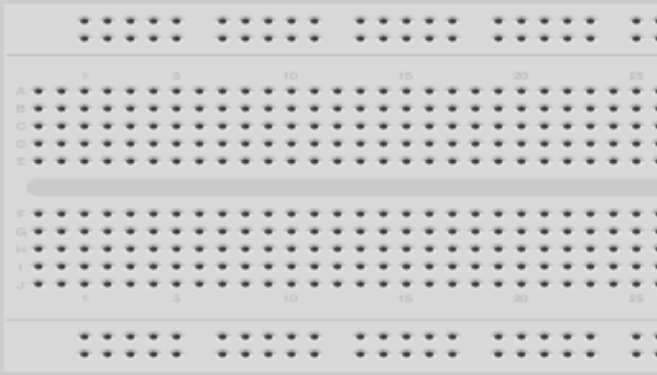
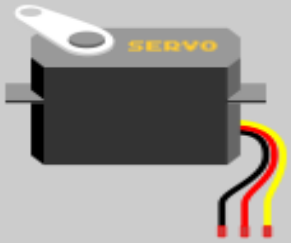
“Making Things Talk”
Practical Methods for Connecting Physical Objects
by Tom Igoe









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Resistor

Potentiometer

Speaker

ATMEGA 168

LM 386

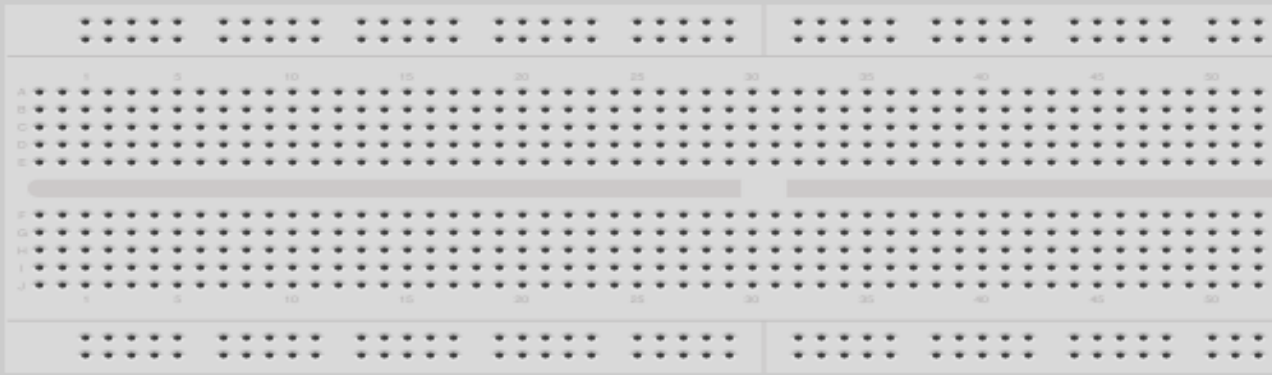
LED

Lichtwiderstände

Bend Sensor

Capacitor

Piezo Micro

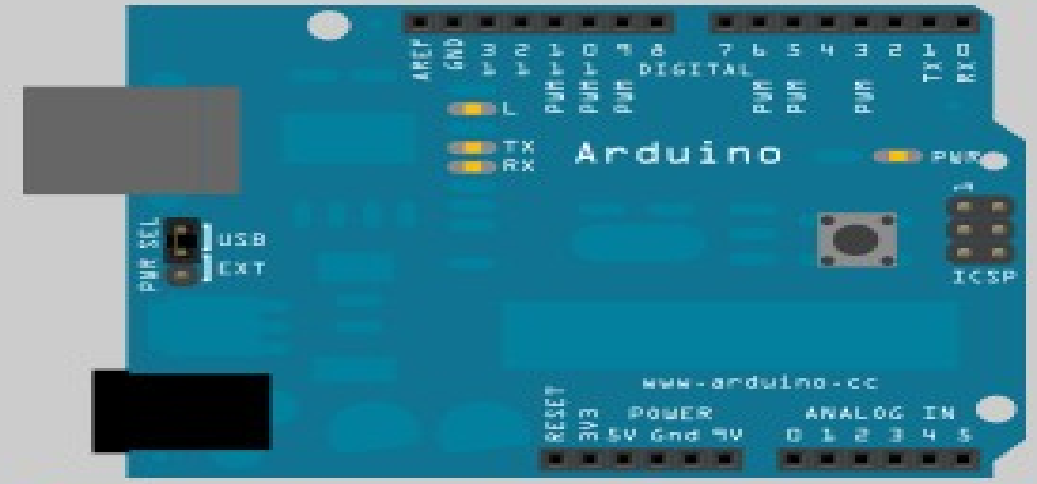


Breadboard

Servo Motor

Distancesensor

GND = GROUND: minus pole, negative,



5V = 5 Volt : positive, plus, power

GND = GROUND: minus pole, negative,

START

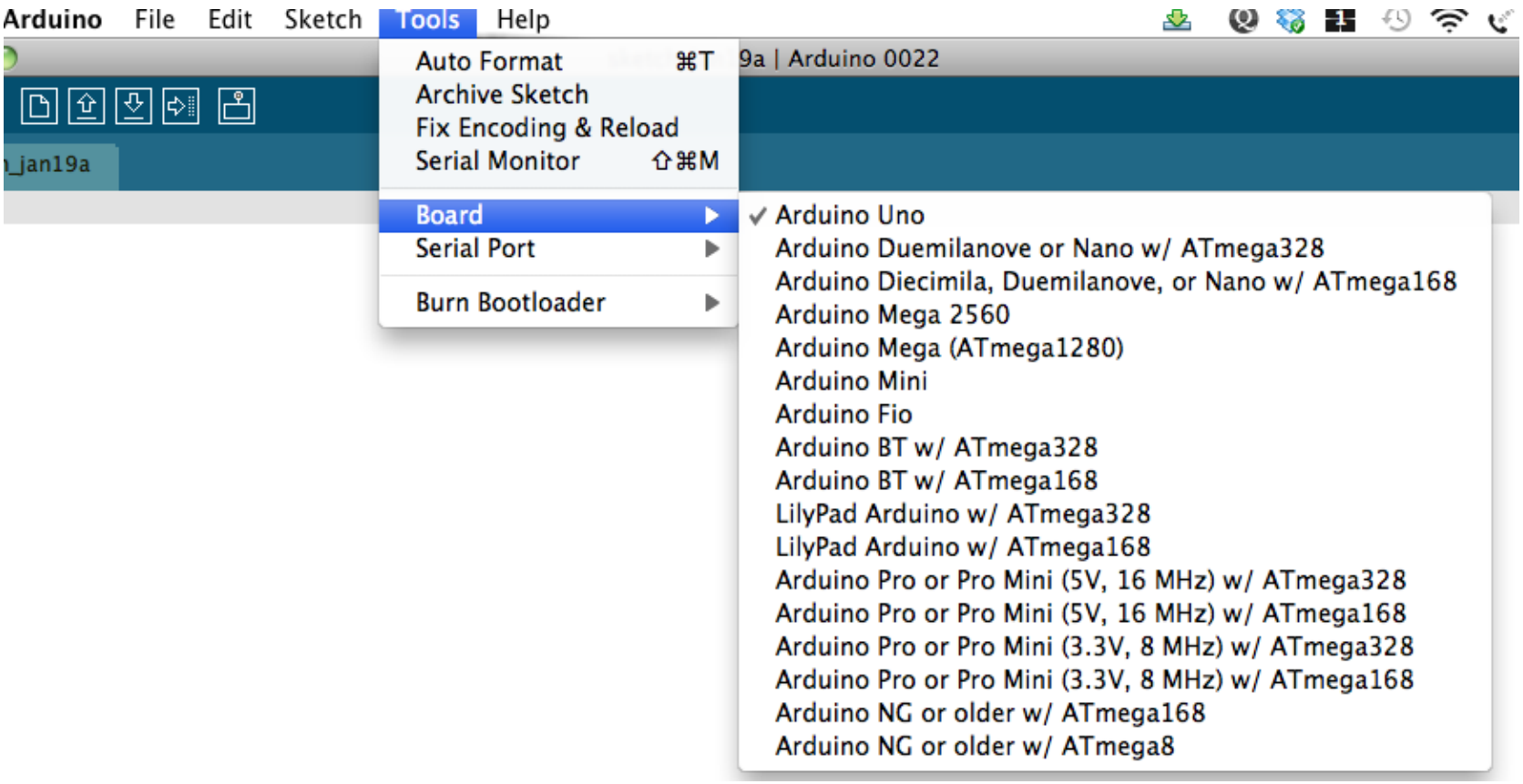
http://www.arduino.cc/

Download Software and Drivers

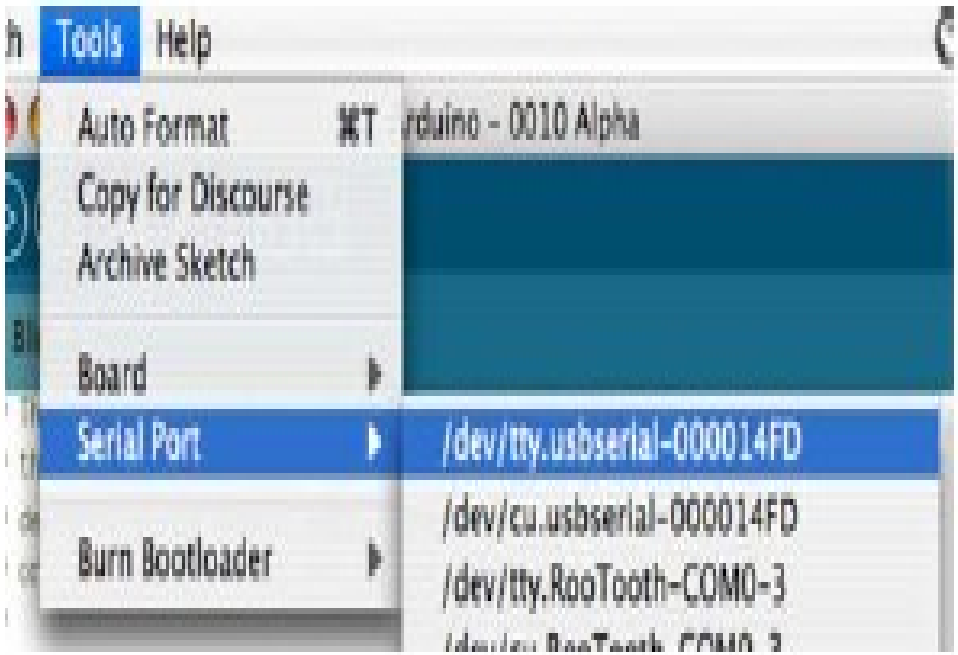
Drivers

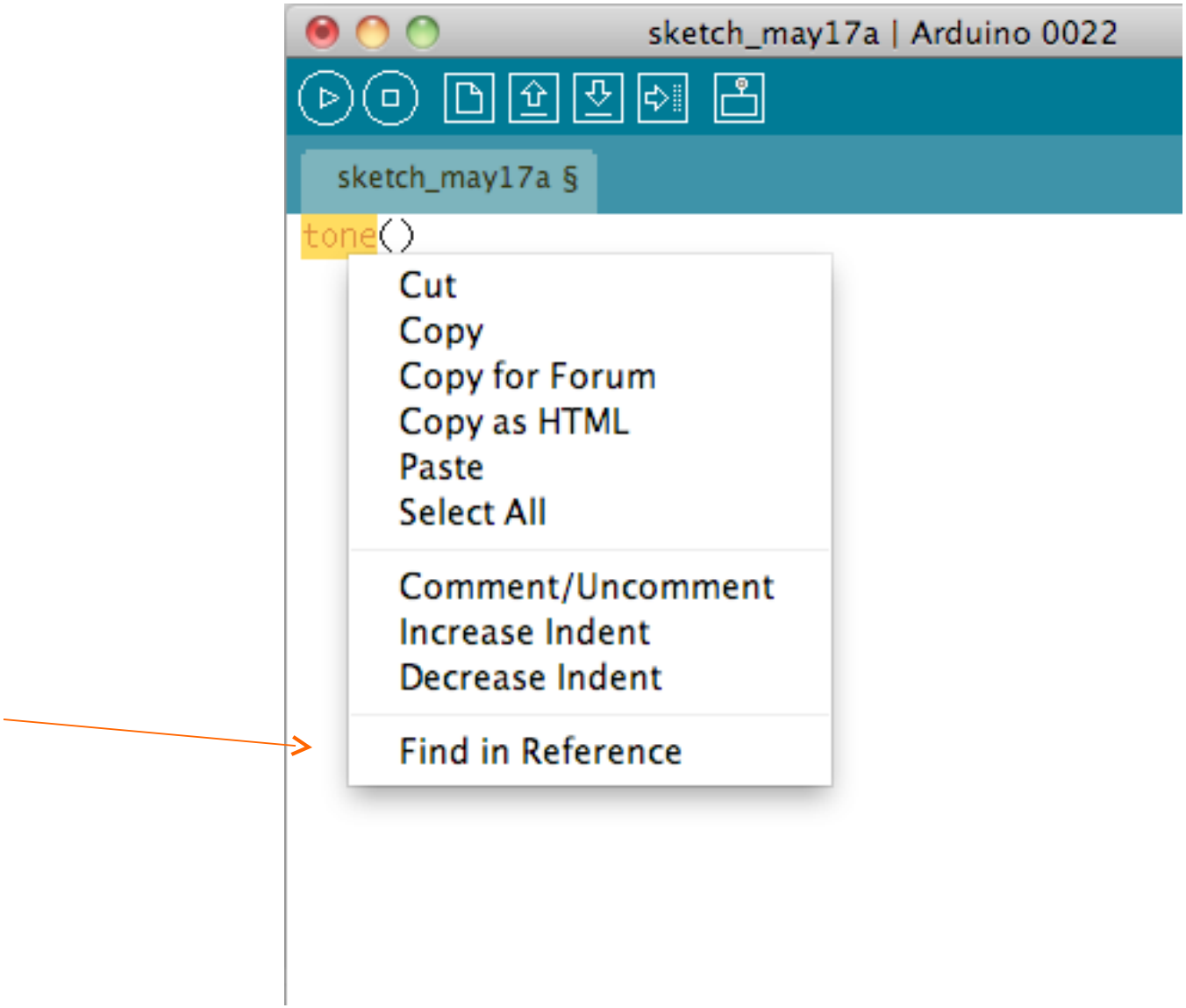
The FTDI Drivers are in the folder you
download with the Arduino
environment. This folder should be
placed in your programm folder.

Choose Board



Choose Serial Board

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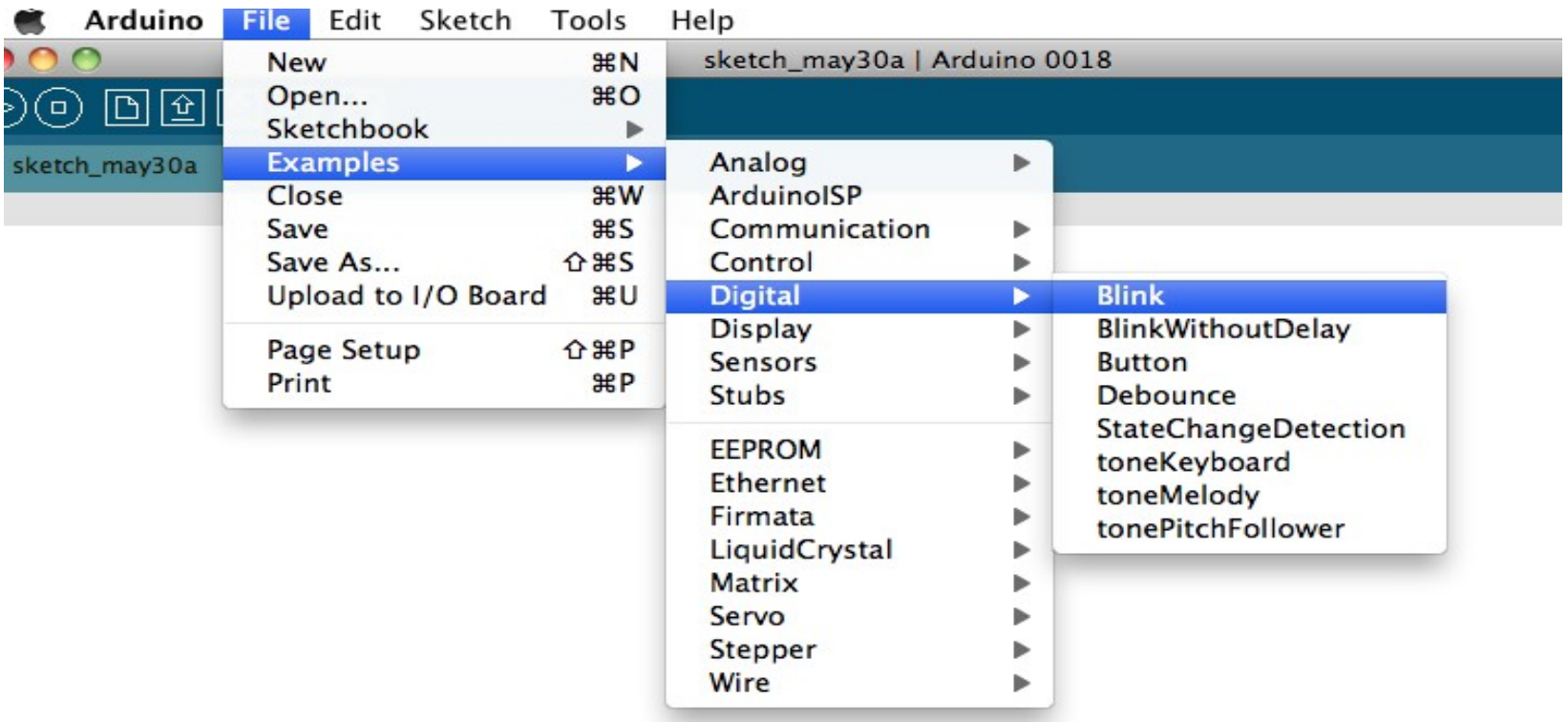
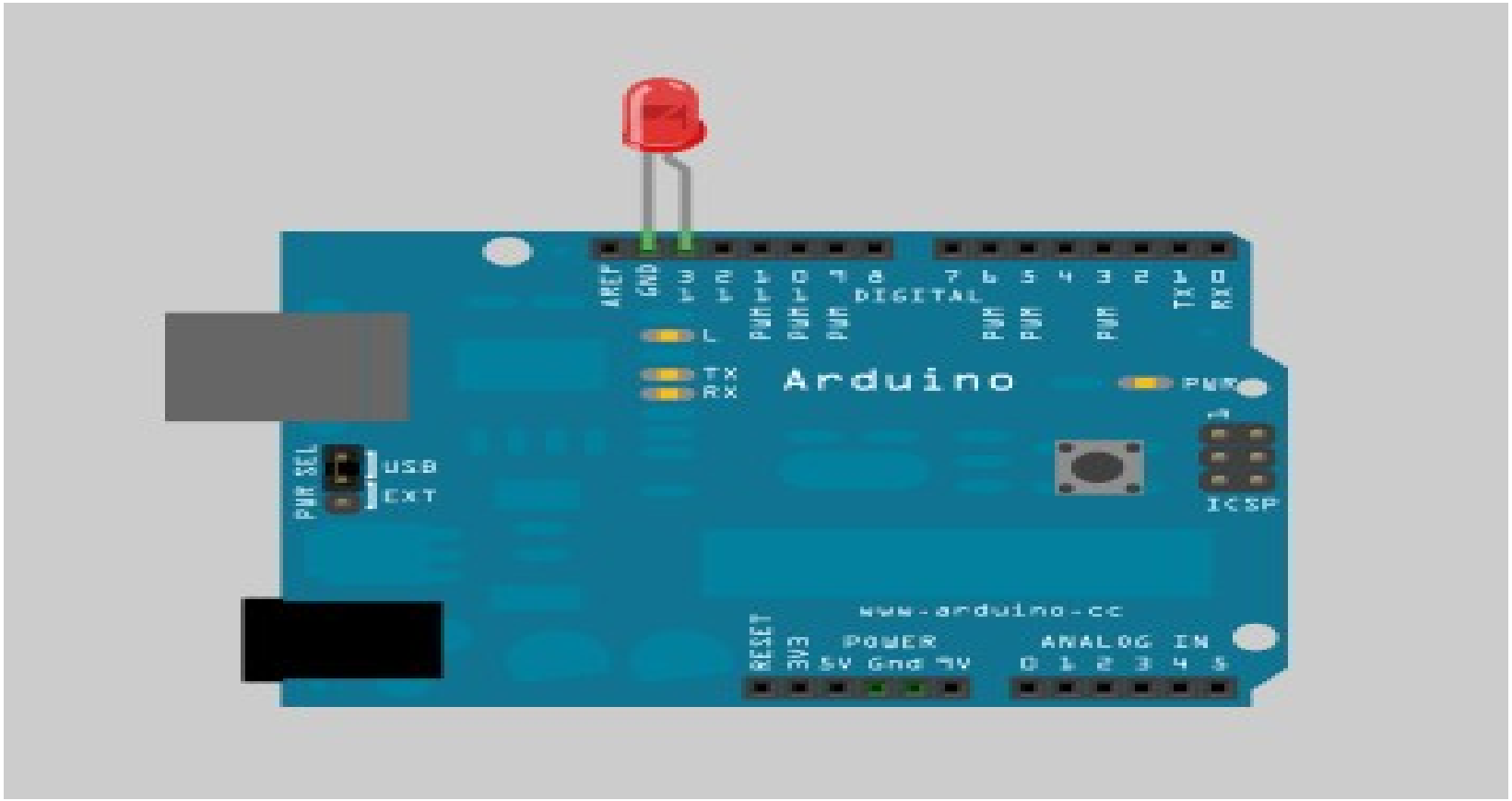
Find in Reference

First example



Blink

First example:
LED (digital output) on Pin 13


AREF
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10
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DIGITAL
PWM
TX
RX
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TX
RX
Arduino
PWR
PWR SEL
USB
EXT
ICSP
www.arduino.cc
RESET
3V3
5V
Gnd
Vin
POWER
ANALOG IN
0
1
2
3
4
5

File > Examples > Basics > Blink

LED light

LONG LEG INTO “13“
SHORT LEG INTO “GND“

Short leg on MINUS
Long leg into Pin “13“

Code

```
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
}
```

```
void setup()   {
  // initialize the digital pin as an output:
 pinMode(ledPin, OUTPUT);
}
```

```
int ledPin =  13;


// LED connected to digital pin 13

// The setup() method runs once, when
   the sketch starts
```

```
// 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);
  delay(1000);
}
```

Heart Beat Blink

Double the lines within the the void loop:

```
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
 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
}
```

ANALOG INPUT

Examples – Analog – Analog Input

Du steuerst damit über einen Potentiometer wie schnell die kleine

LED am Board blinkt

ANALOG INPUT

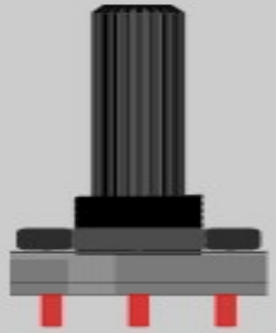
Examples – Analog – Analog Input

Du steuerst damit über einen Potentiometer wie schnell die kleine

LED am Board blinkt

LONG LEG: plus, positive, power

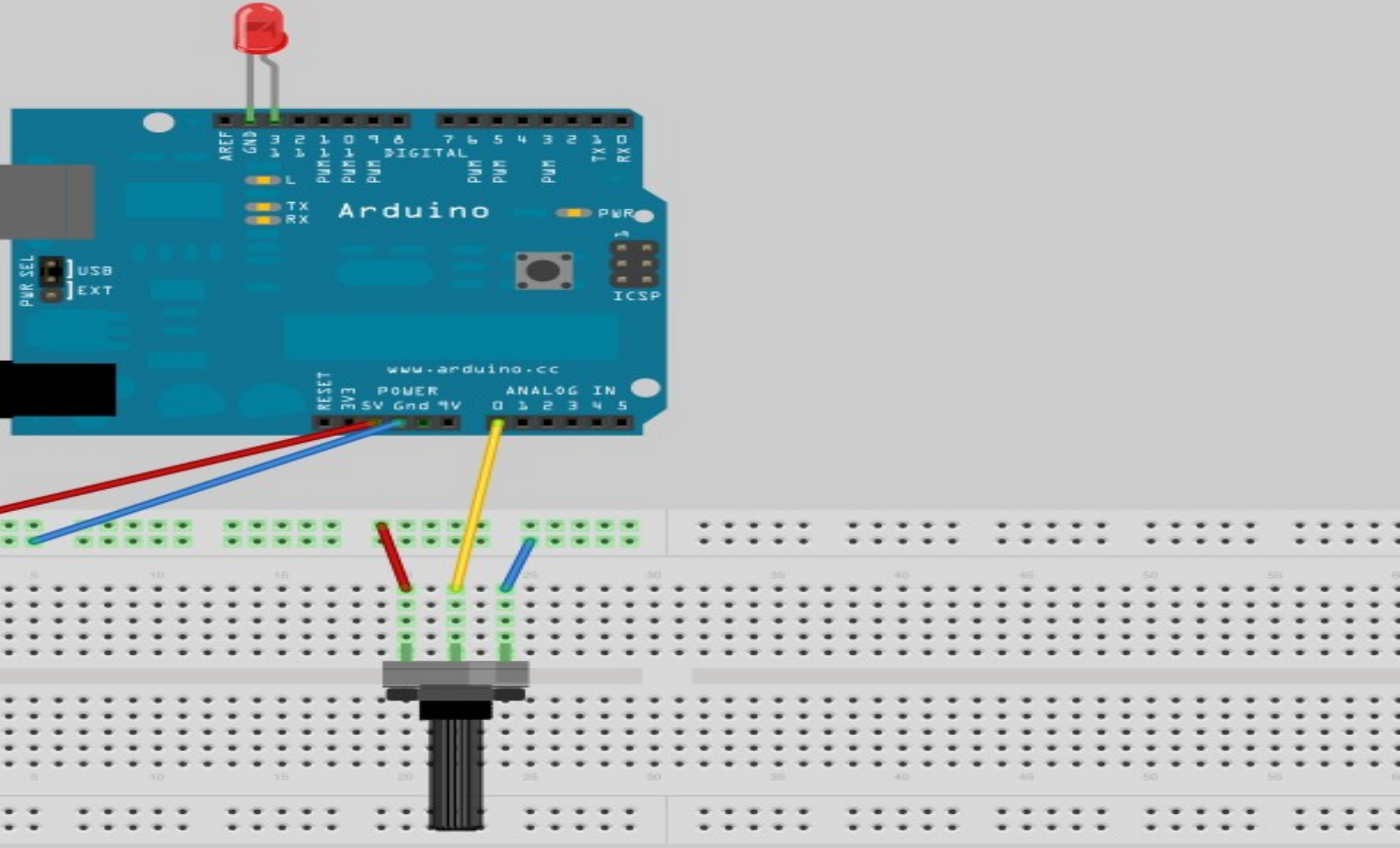
SHORT LEG: minus, negative, ground



plus, positive, power

RIGHT LEG: minus, negative, gr

MIDDLE: OUTPUT OF NUMBERS TO ARDUINO (datapin), green wire

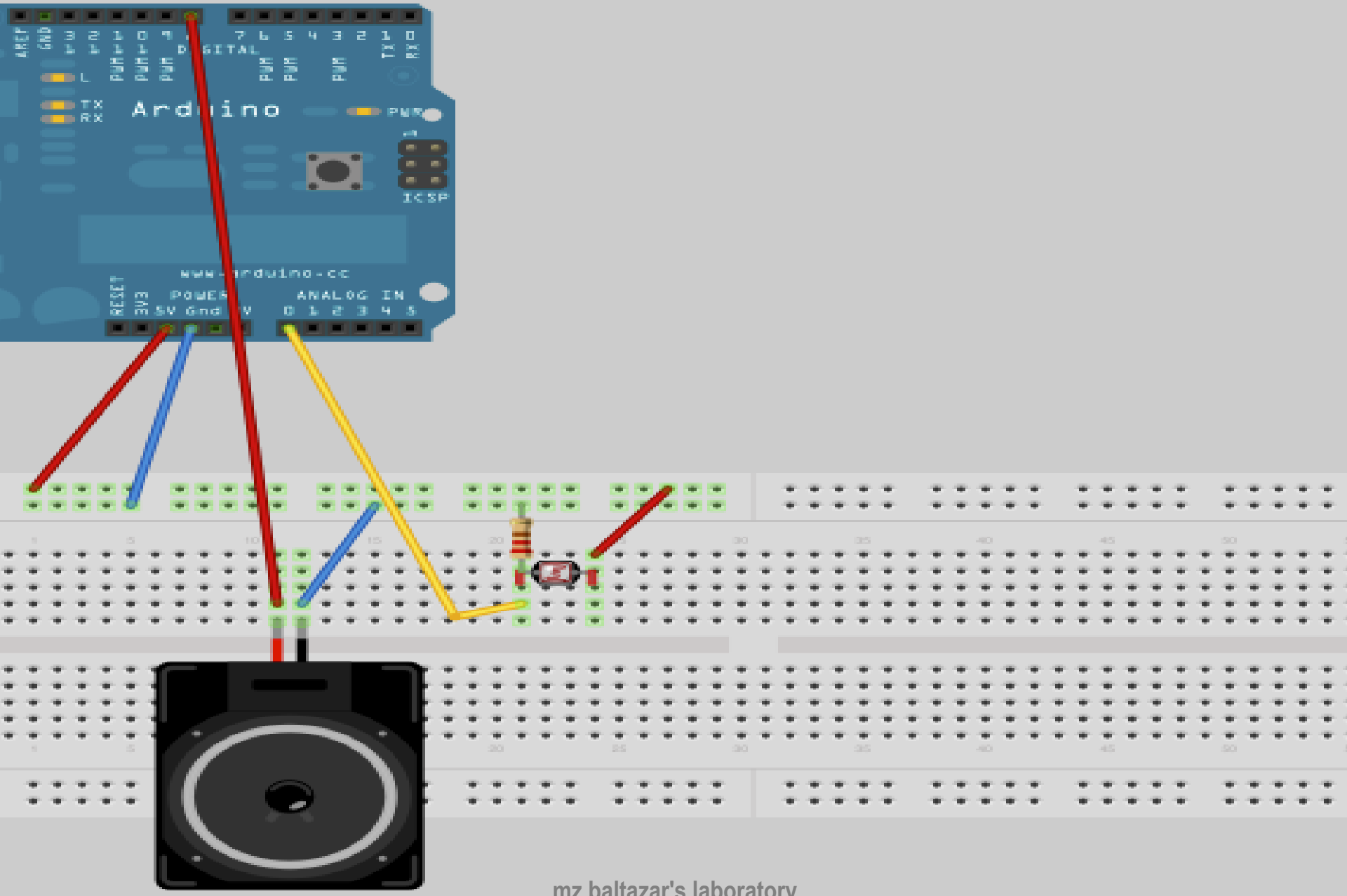

AREF
GND
DIGITAL
PWM
TX
RX
L
Arduino
PWR
USB
EXT
PWR SEL
ICSP
www.arduino.cc
RESET
3V3
POWER
5V
Gnd
Vin
ANALOG IN
0 1 2 3 4 5

Examples – Digital – TonePitchFollower

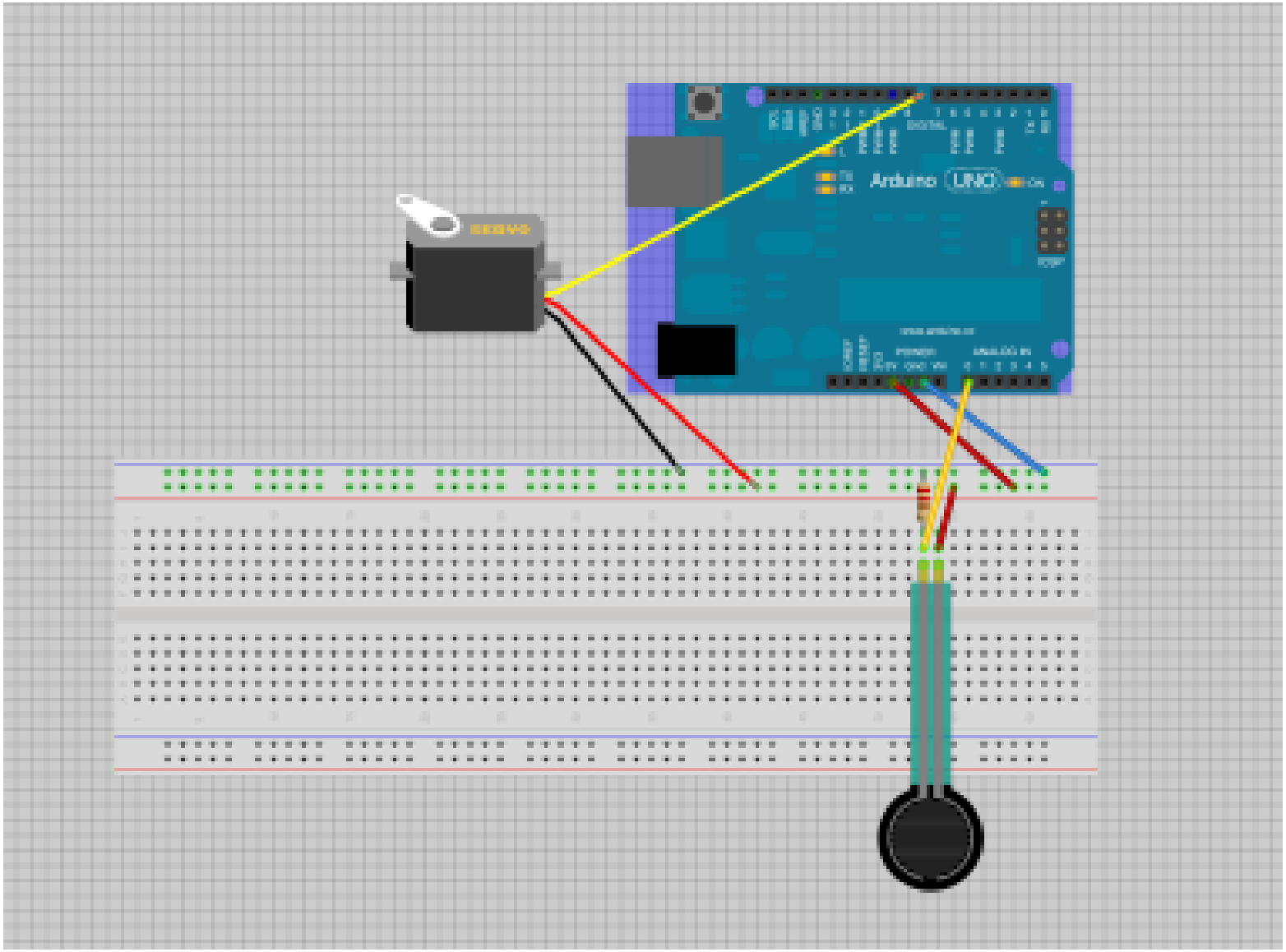
ANALOG INPUT

Light resistors
(Fotowiderstände)

Distanzsensor
Accelerameter



SERVO MOTOR - KNOB



FOOR LOOP ITERATION