

DIY Internet of Things and bottom-up Innovation

@tamberg

DIY / DIWO / Maker Movement

Do it yourself, do it with others

Breaking stuff, voiding warranties

Build what we want, because we can

Make, Learn, Share

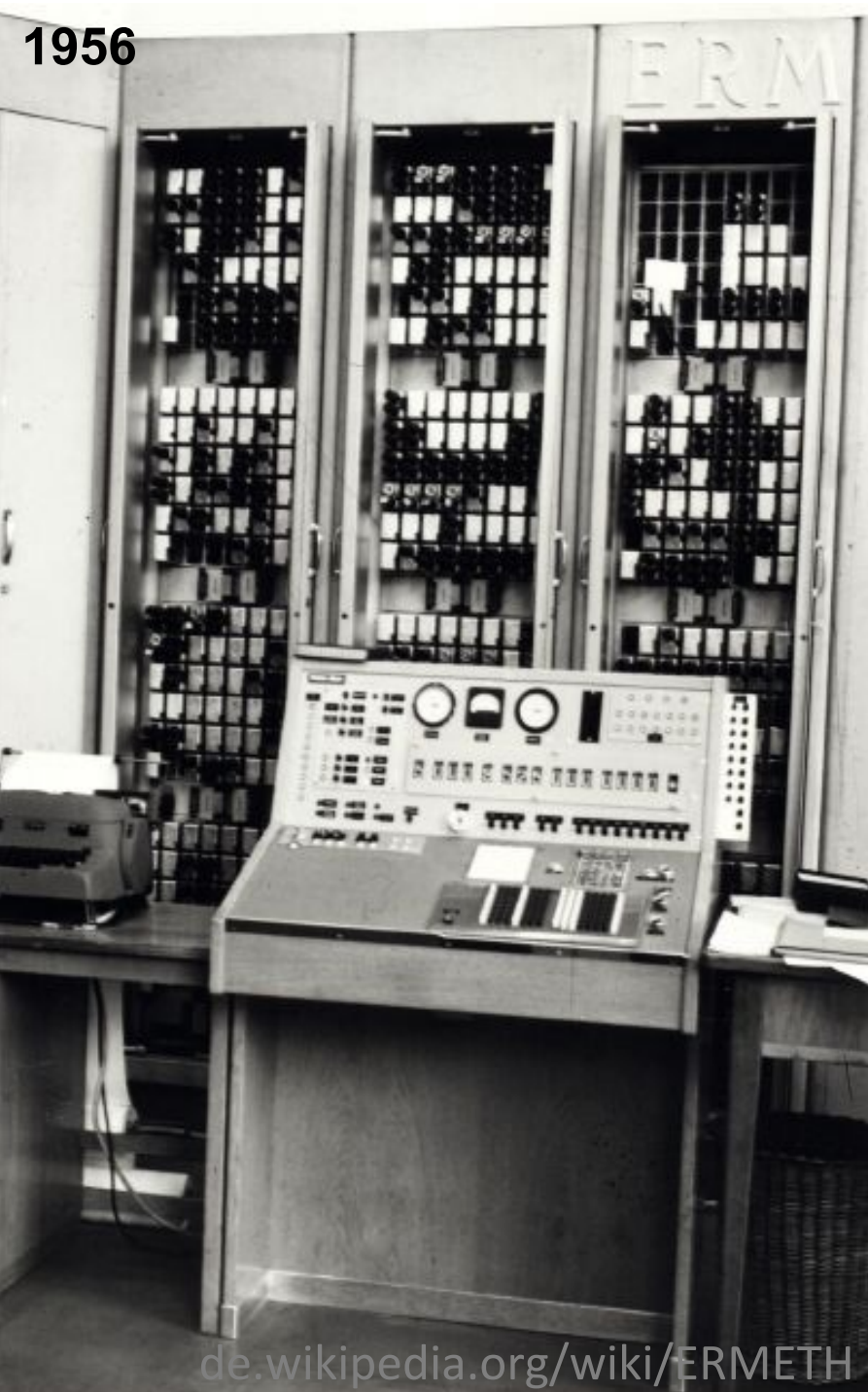
Internet of Things (IoT)

Computers with **sensors** and **actuators**,
connected through Internet-protocols

Measure or manipulate **physical properties**

<http://e-home.com/tamberg/kitchen/light>

1956



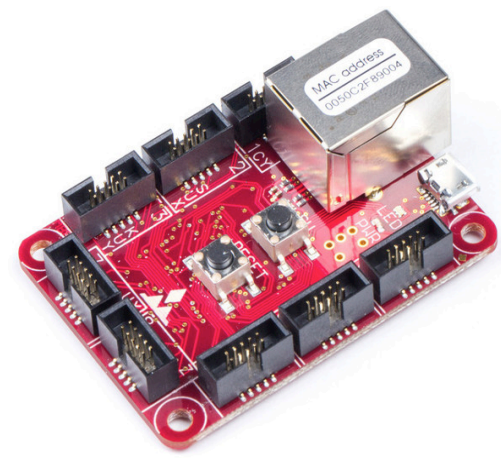
de.wikipedia.org/wiki/ERMETH

1990



Archiv D-INFK

2012



mountaineer-boards.com

John Romkey's Toaster (1990)

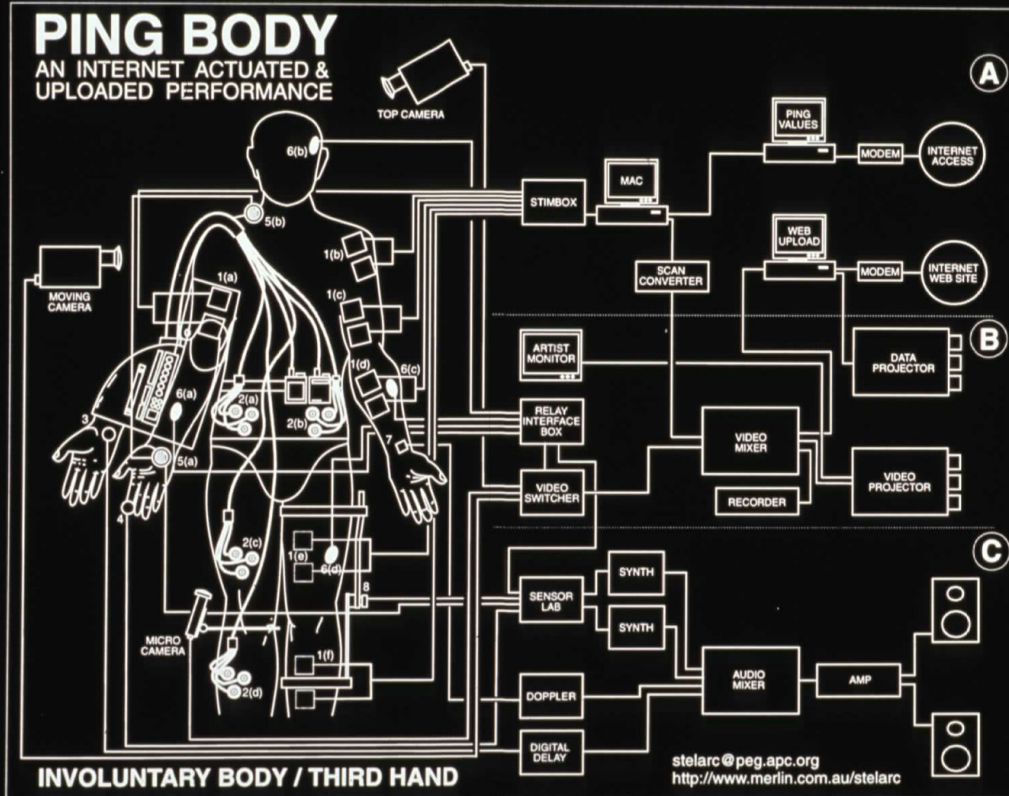


www.livinginternet.com/ia/ia_myths_toast.htm

Telegarden (1995)



Ping Body (1995)



Avilabot (2006)



Botanicalls (2006)



BakerTweet (2009)



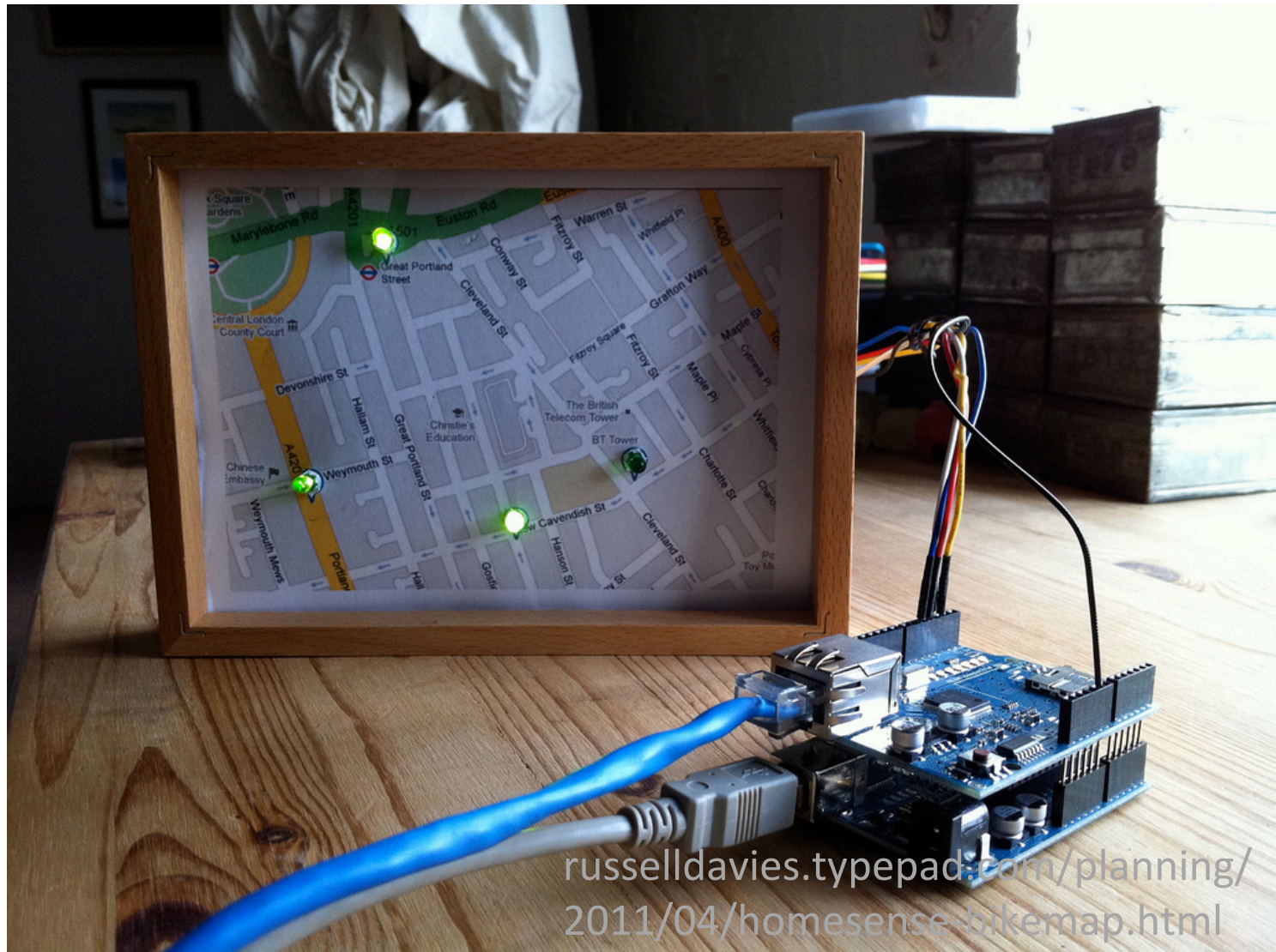
Bubblino (2009)



WhereDial (2011)

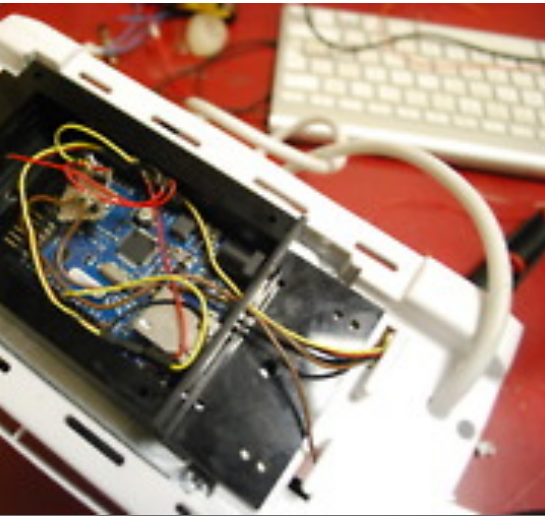


Homesense Bikemap (2011)



[russelldavies.typepad.com/planning/
2011/04/homesense-bikemap.html](http://russelldavies.typepad.com/planning/2011/04/homesense-bikemap.html)

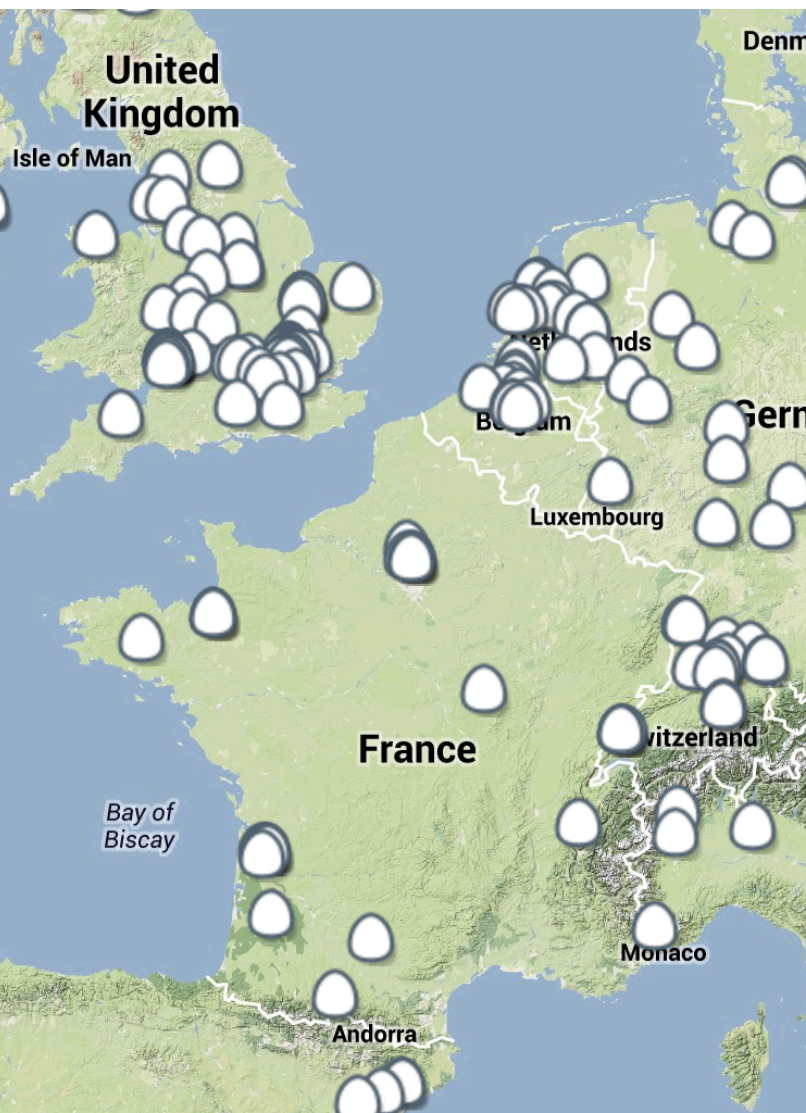
Addicted Toaster (2011)



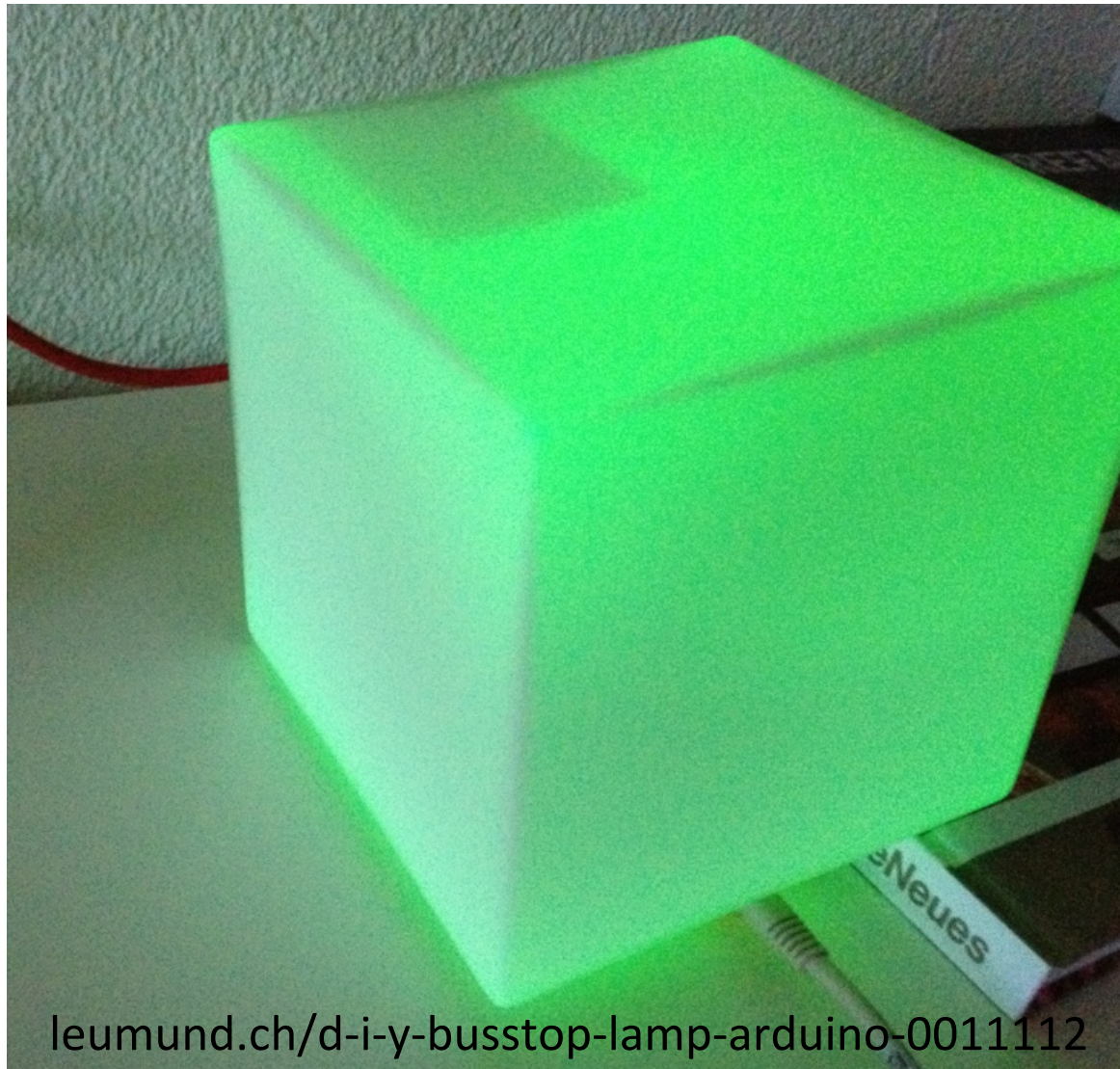
ReaDIYmate (2011)



#AirQualityEgg (2011)



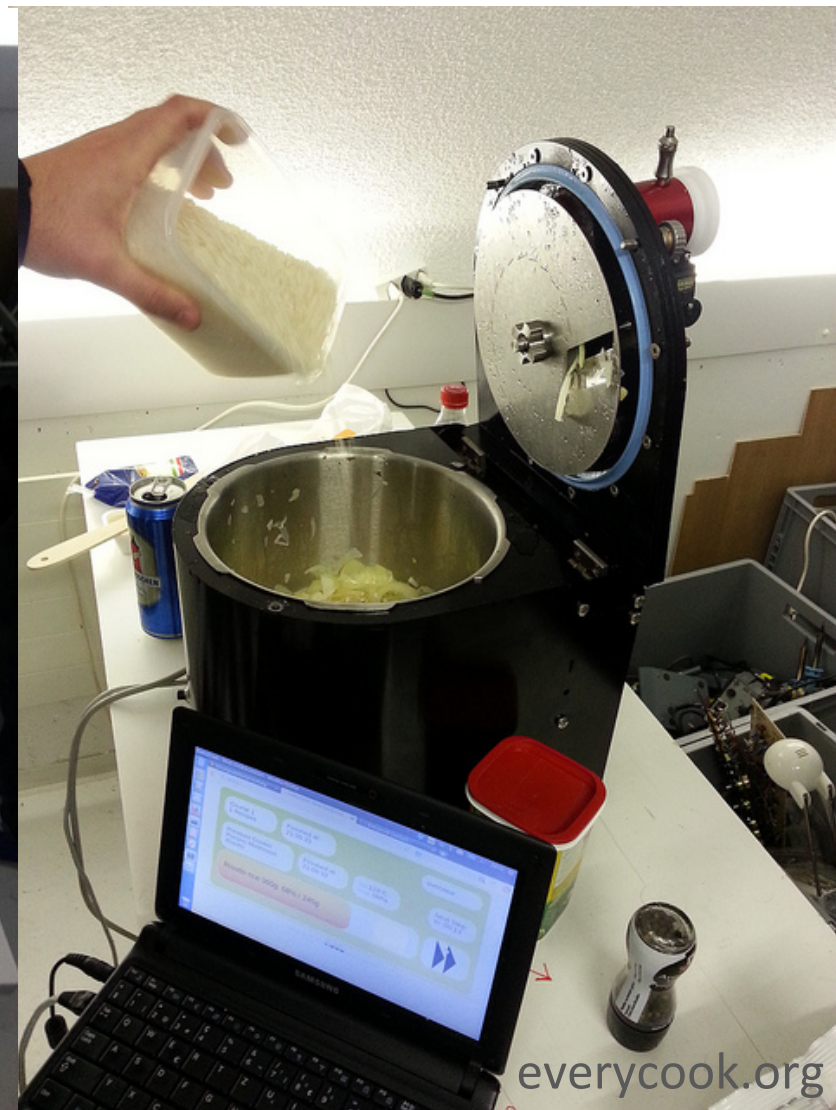
DIY Busstop Lampe (2012)



Olly & Polly (2012)



EveryCook (2012)



Descriptive Camera (2012)



Pixel Track (2014)





withings.com



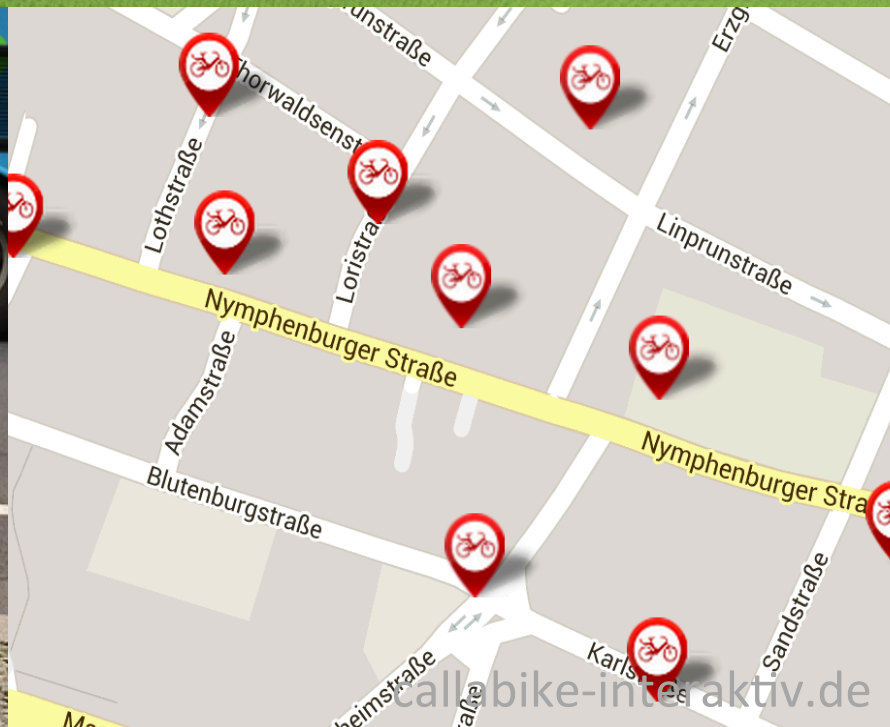
Visualize Your Progress



Play With Friends



nikeplus.nike.com





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If I don't work out for two days, I get a picture of a fat dude in my inbox.

A useful template created by the IFTTT community. [Discover similar Recipes](#)



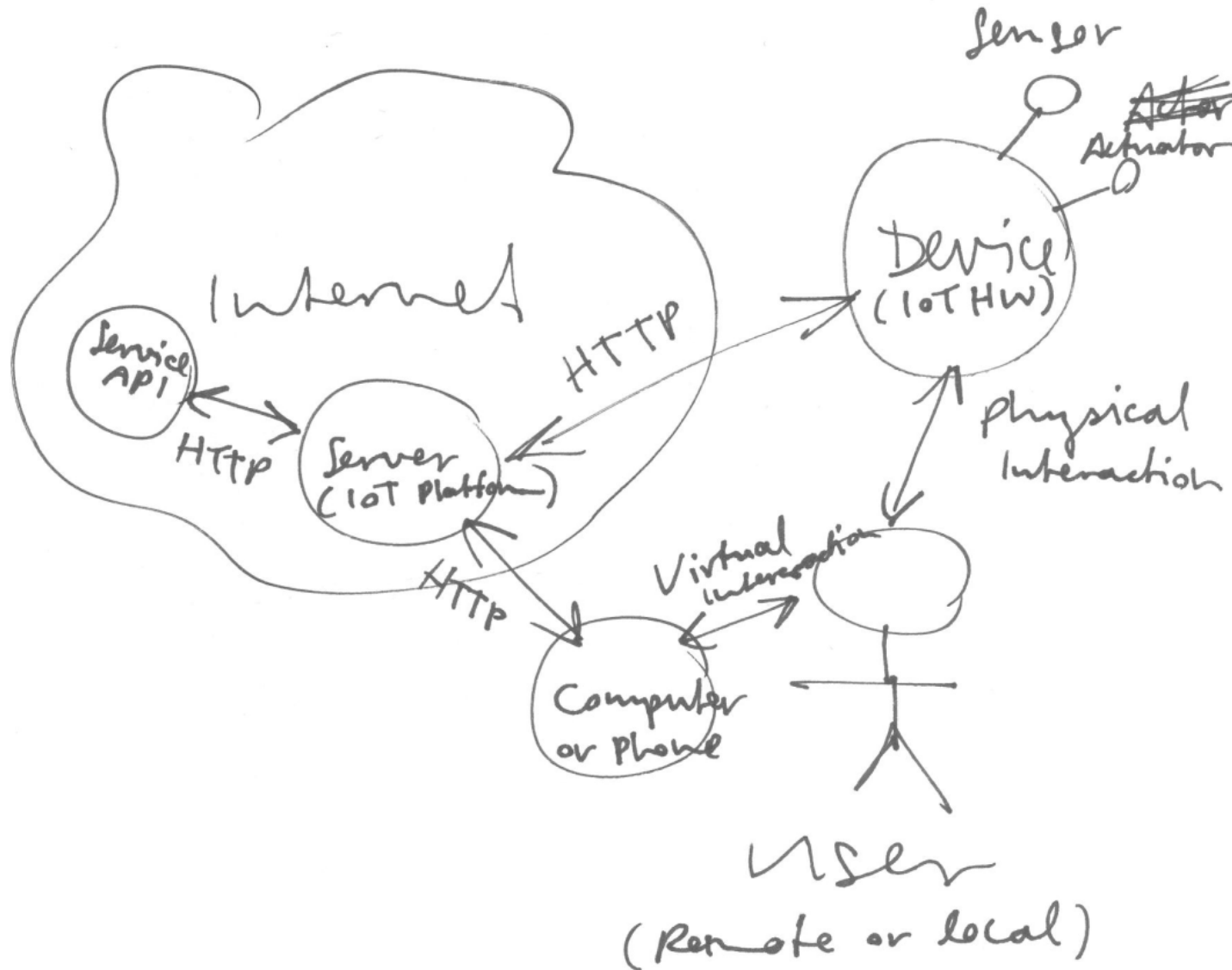
No new workouts in __ days

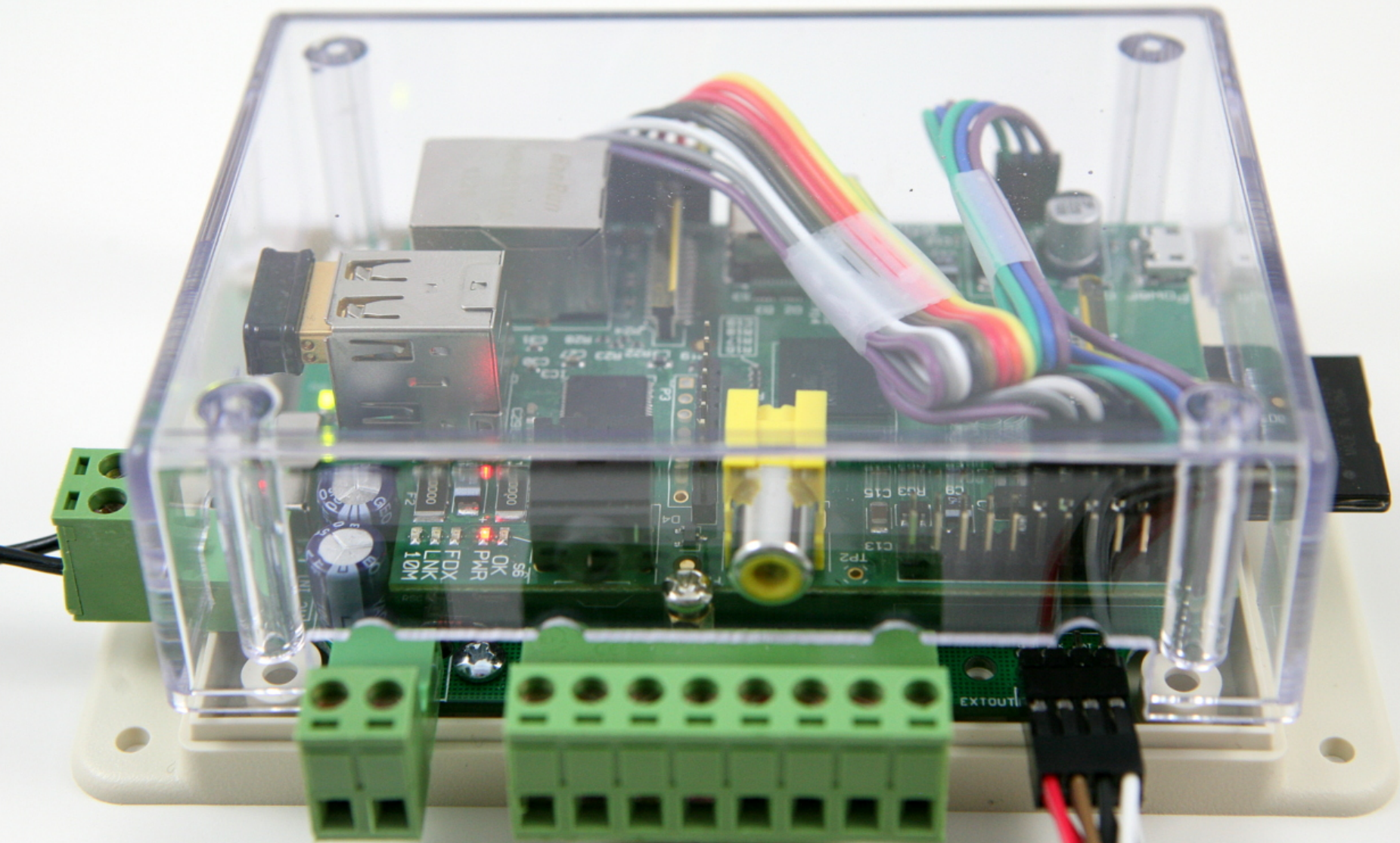


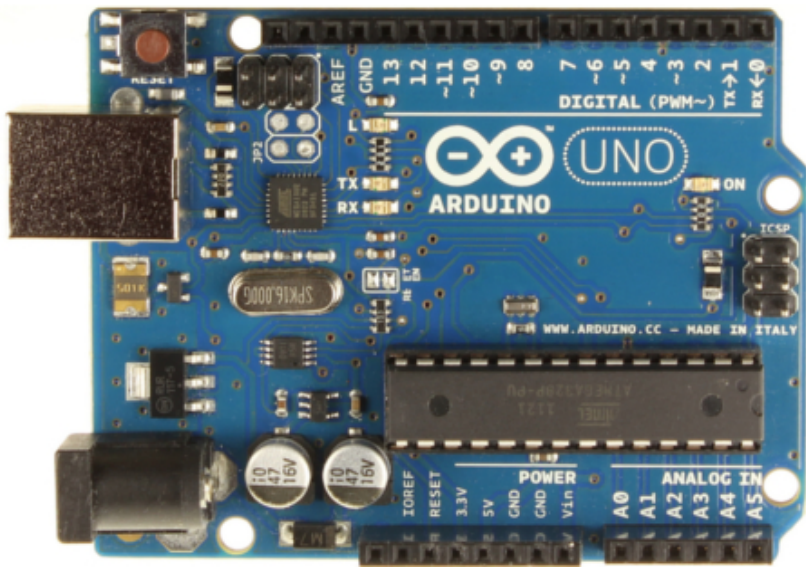
Send an email



IoT reference model



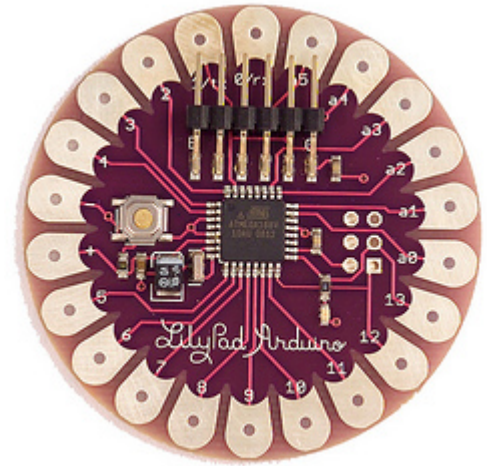




arduino.cc/en/Main/arduinoBoardUno



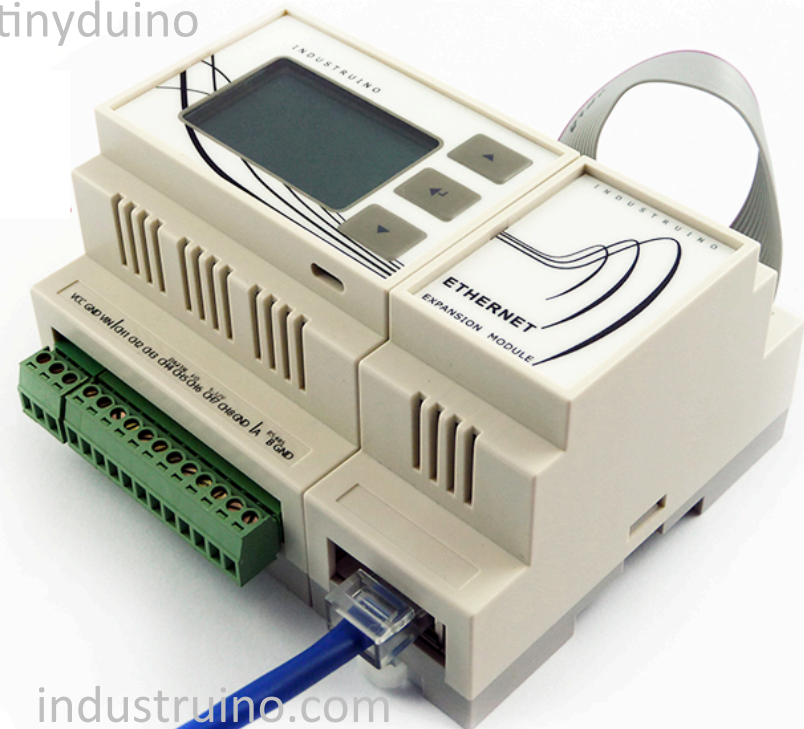
tiny-circuits.com/products/tinyduino



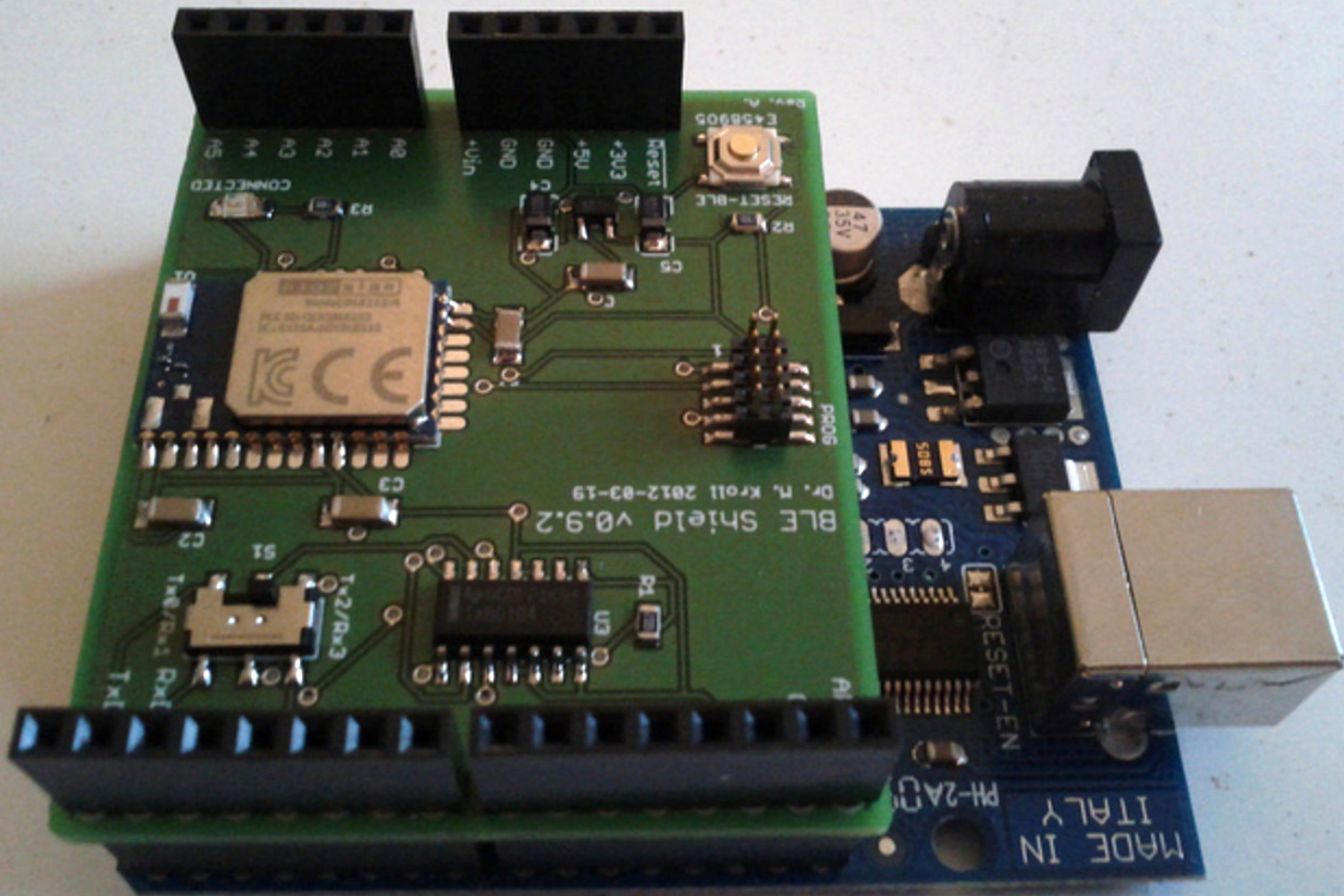
arduino.cc/en/Main/ArduinoBoardLilyPad

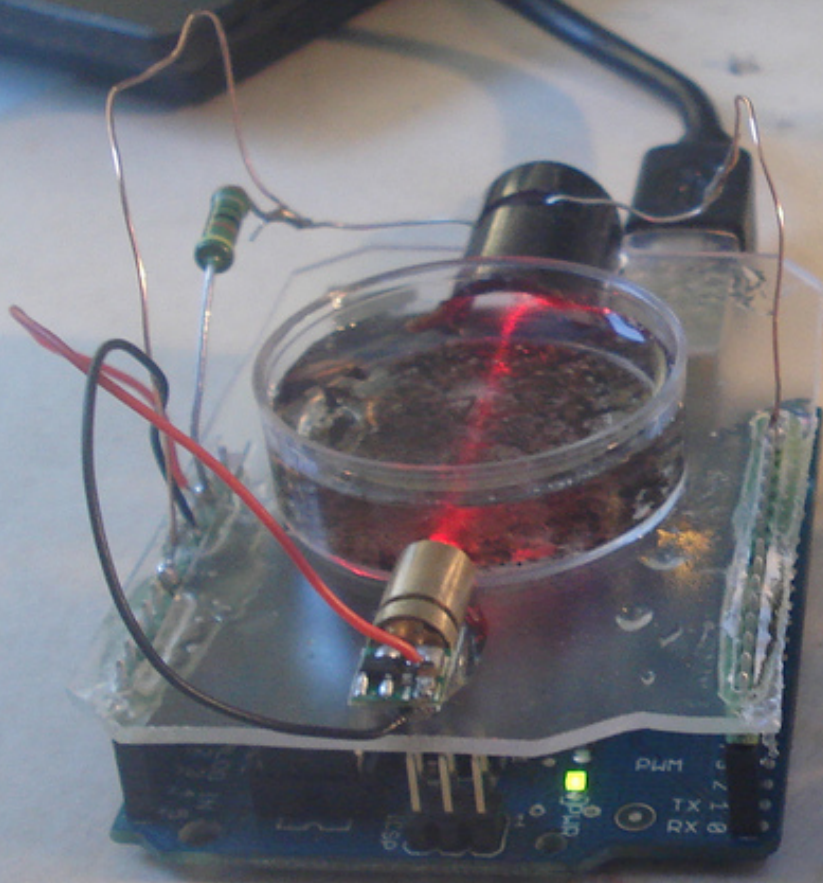


hlt.media.mit.edu/?p=2182

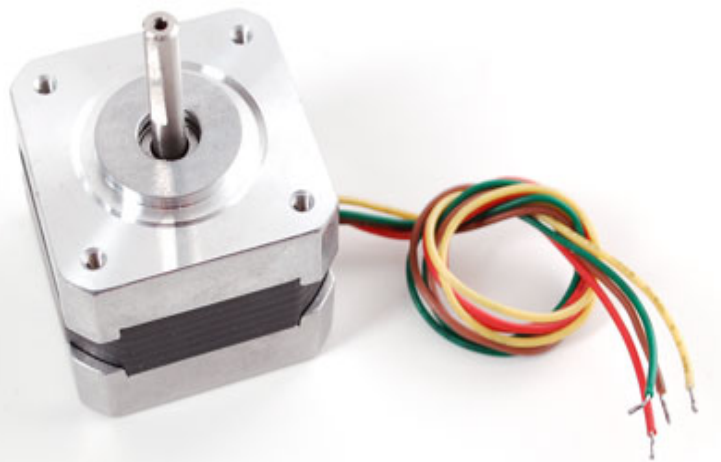
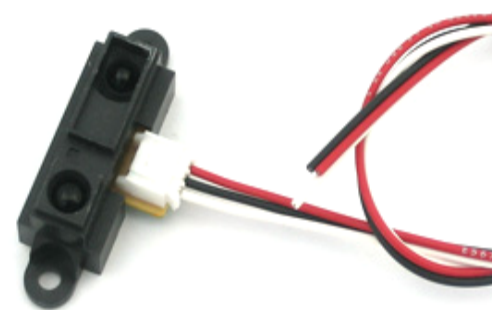
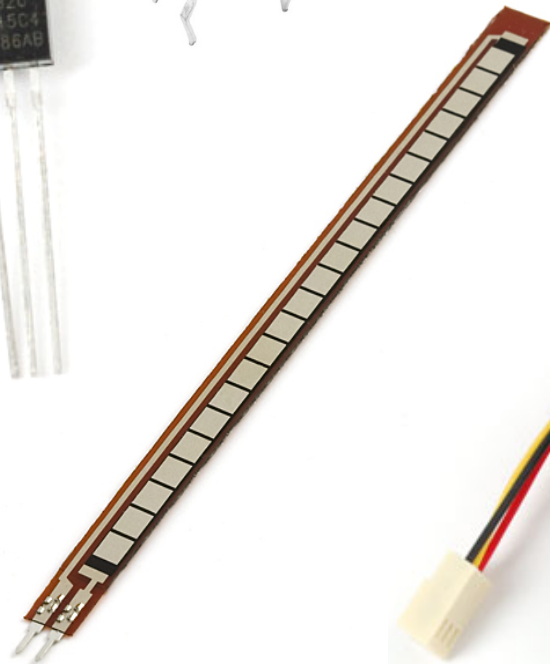
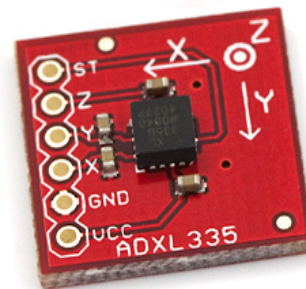


industruino.com



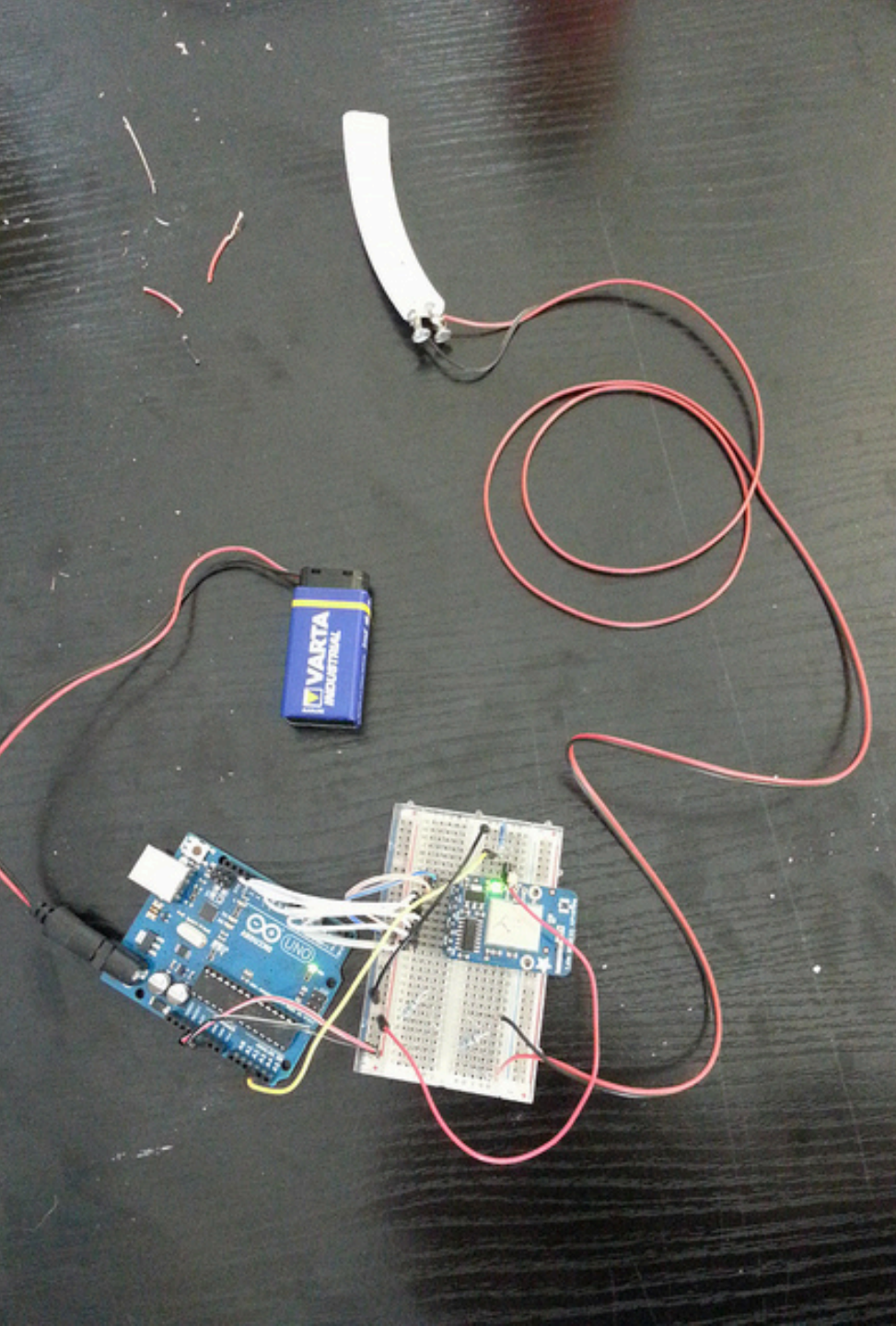


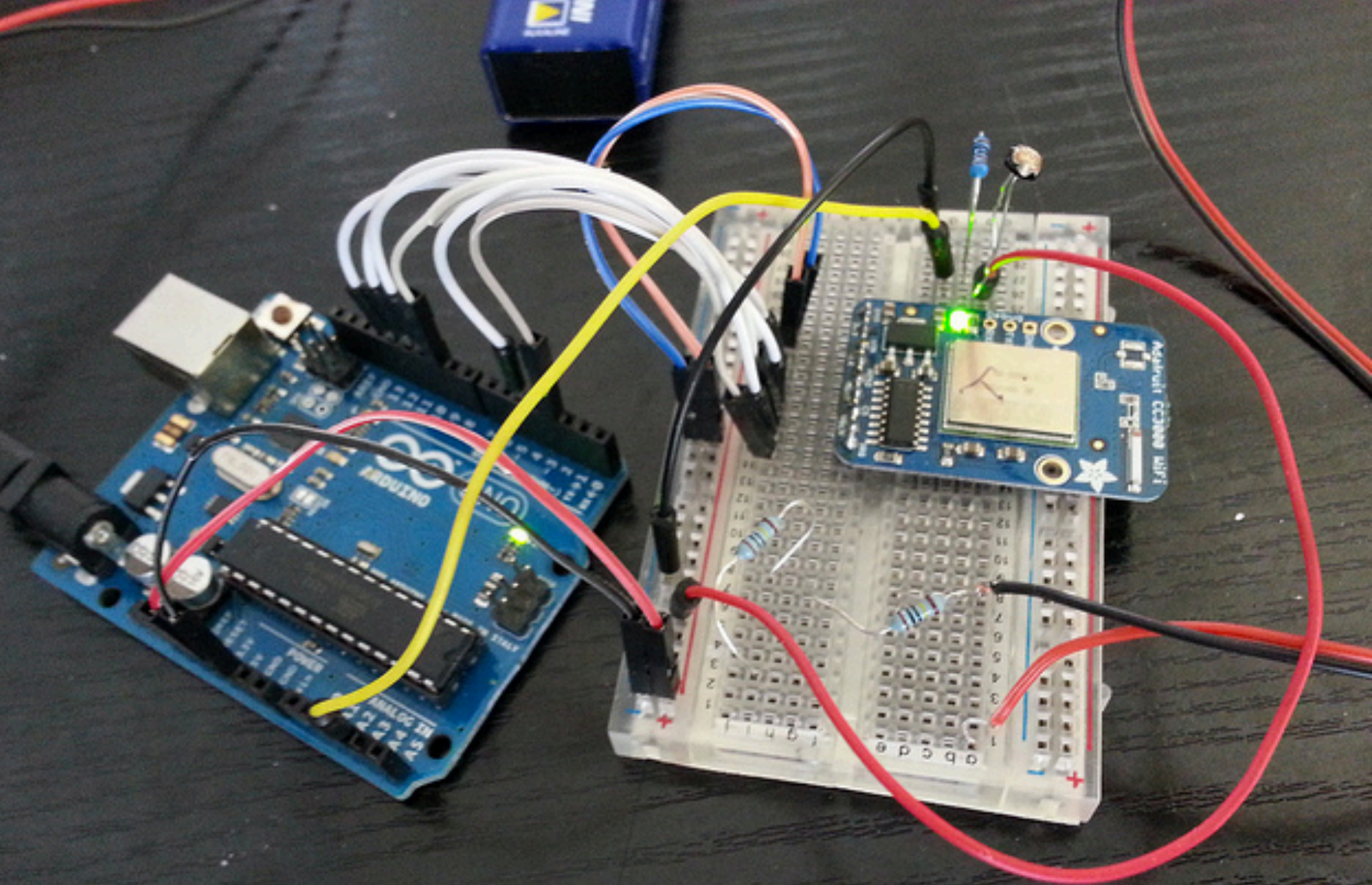
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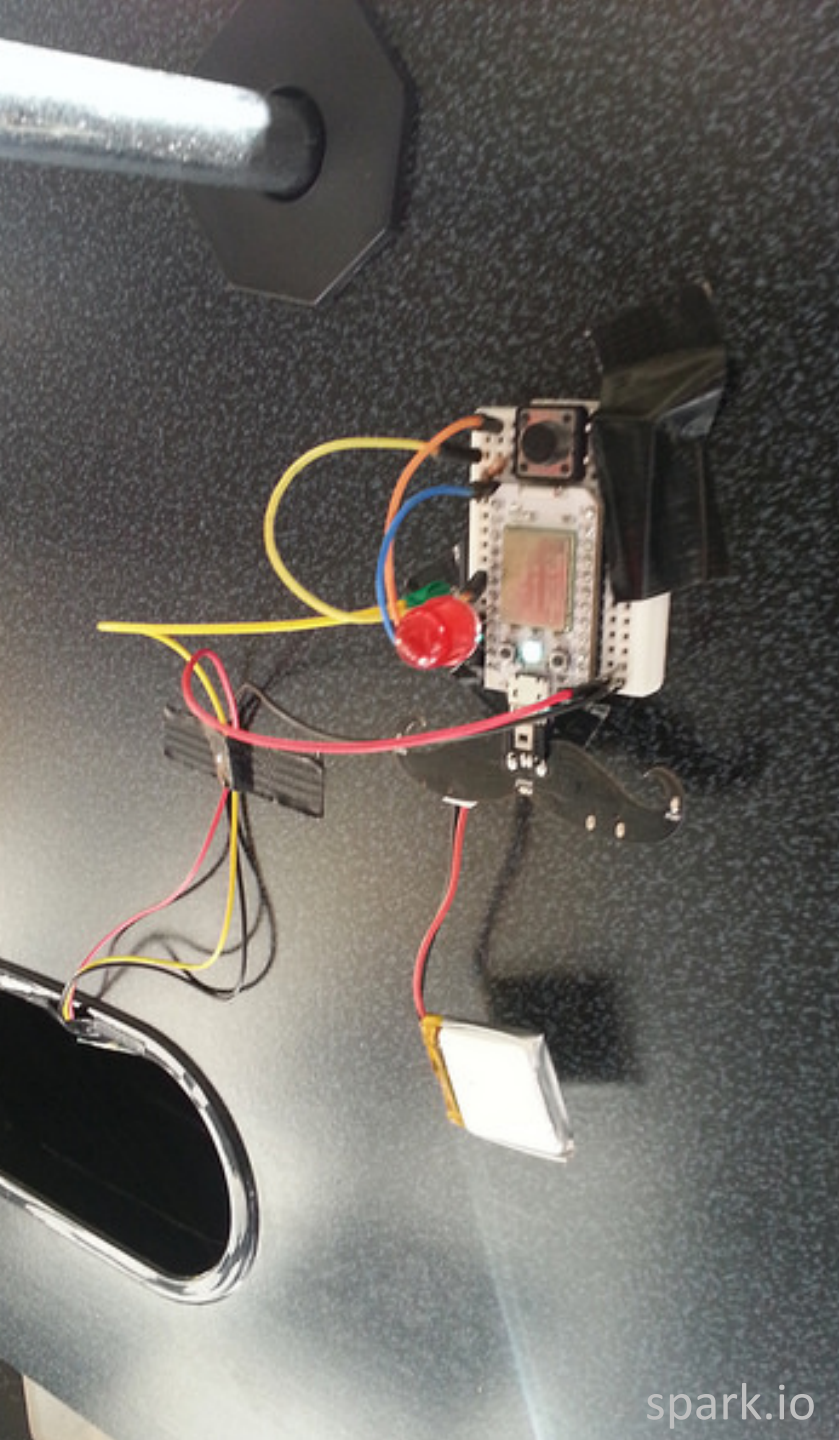






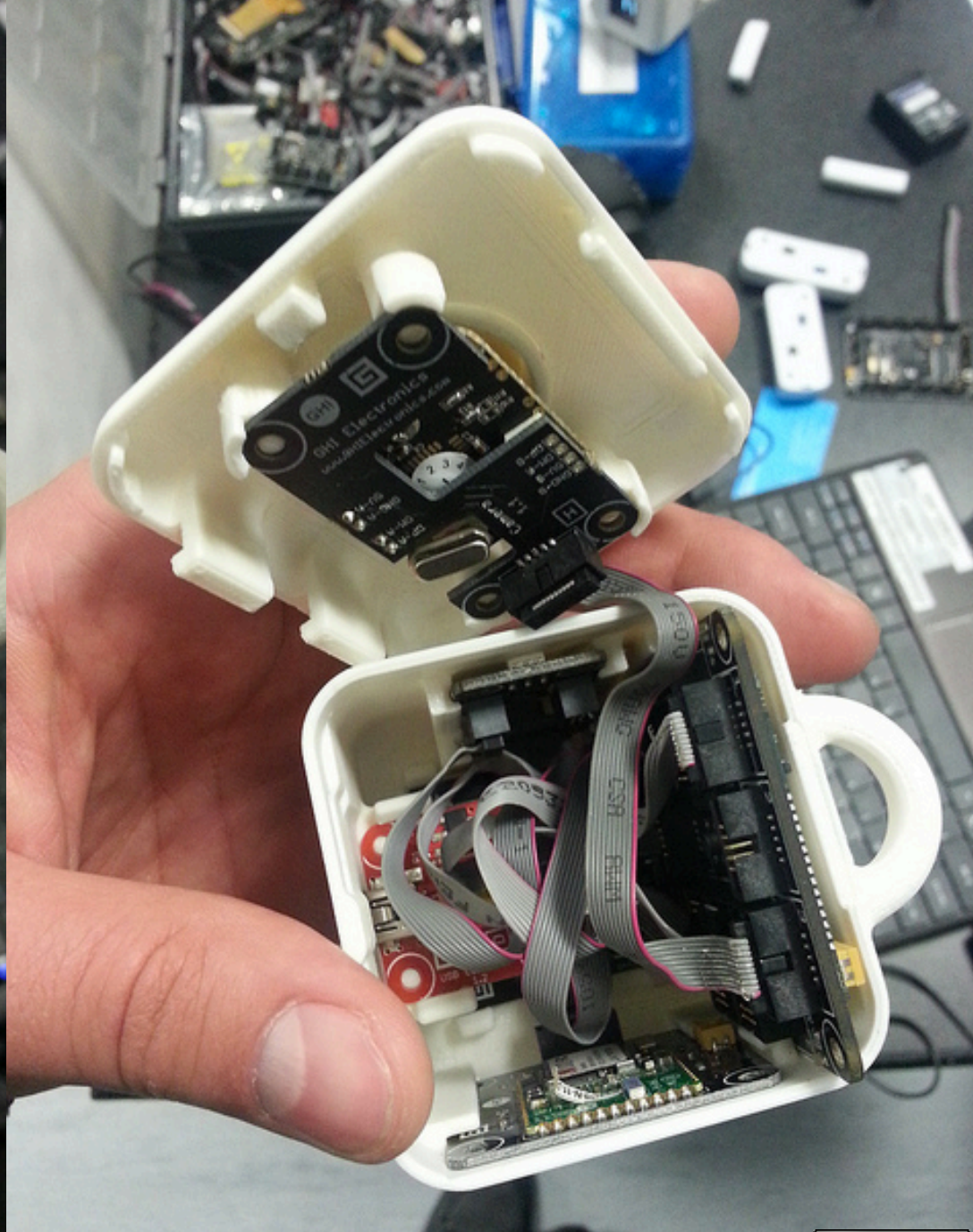






spark.io



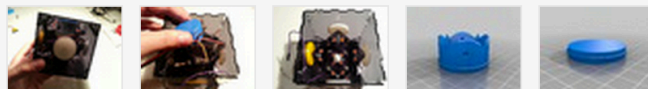
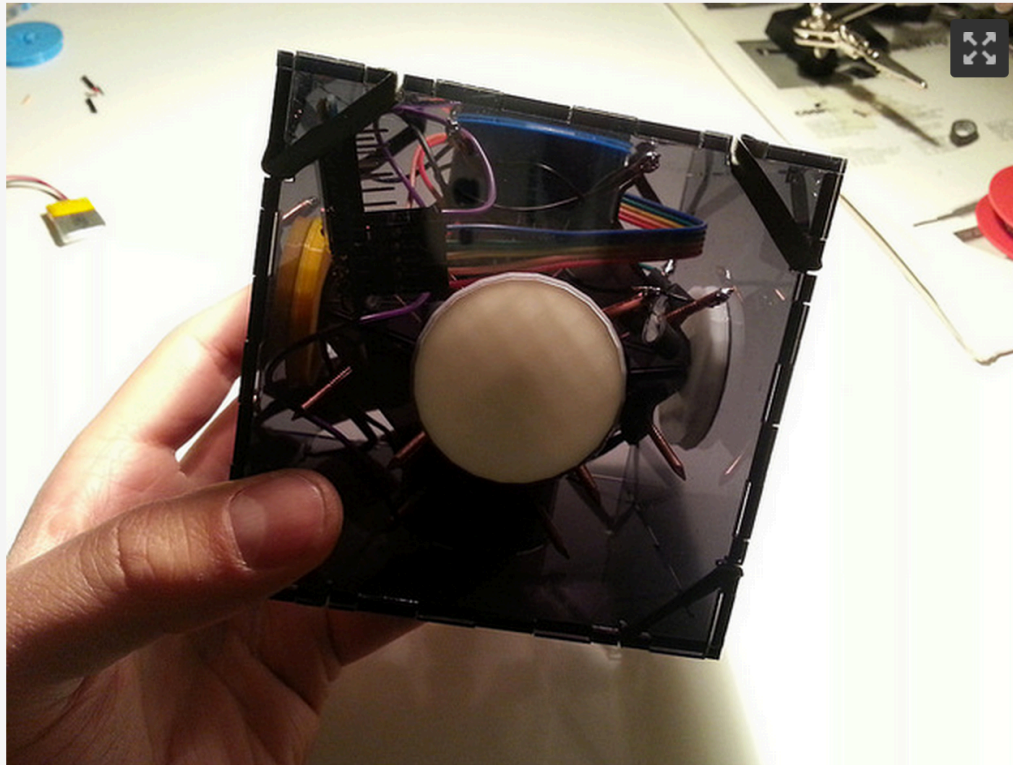




DIY 3D Tilt Sensor

by tamberg, published Apr 22, 2014

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- I Made One 0
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- Share

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Web-controlled Twittering

www.instructables.com/id/Web-controlled-Twittering-Roomba/






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by matchlighter

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Intro

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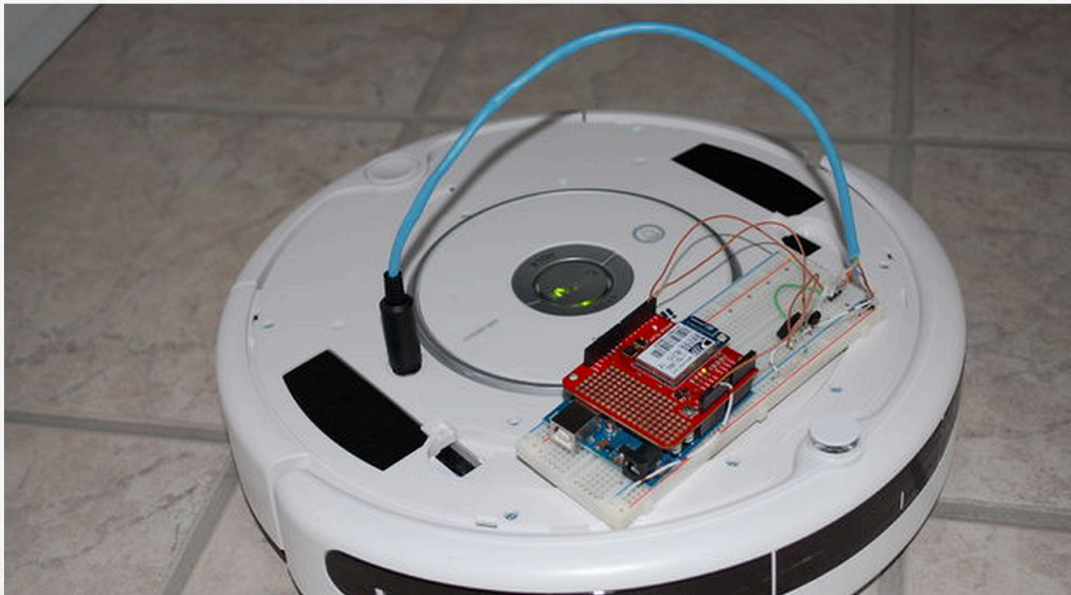
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9

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Posted:
Jun 16, 2014

Physical chess set challeng

makezine.com/2010/07/11/physical-chess-set-challenges-inter/

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Physical chess set challenges Internet opponents

By John Baichtal Posted July 11th, 2010 5:56 am Category Fun & Games

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DIY Internet Chess Table



Web controlled watering can

hackaday.com/2010/09/09/web-controlled-watering-can/

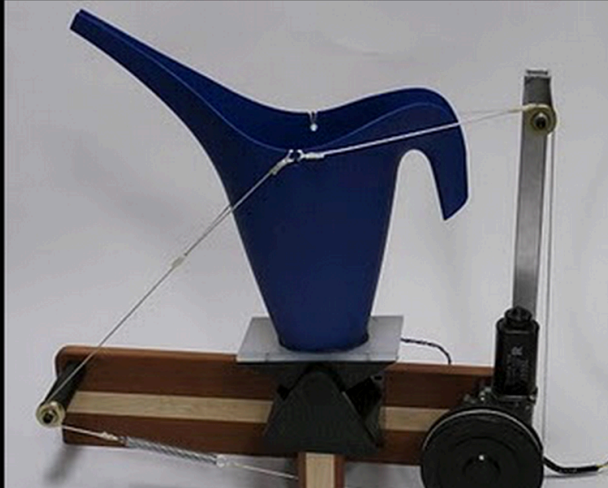
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Web controlled watering can

September 9, 2010 By Mike Szczys · 9 Comments



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Your Next Meetup

Feb

14

IoT Zurich

IoT and people

Friday, February 14 at 6:00 PM | 3 Comments

12

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263

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All Meetups


within 50 miles of Zürich, CH

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IoT Zurich

ORGANIZER

420 Members

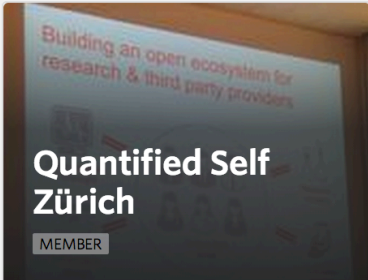
Next Meetup: Feb 14



3D Printing Zurich

ORGANIZER

204 Members




Quantified Self Zürich

MEMBER

152 Self-Quantifiers

Next Meetup: Today



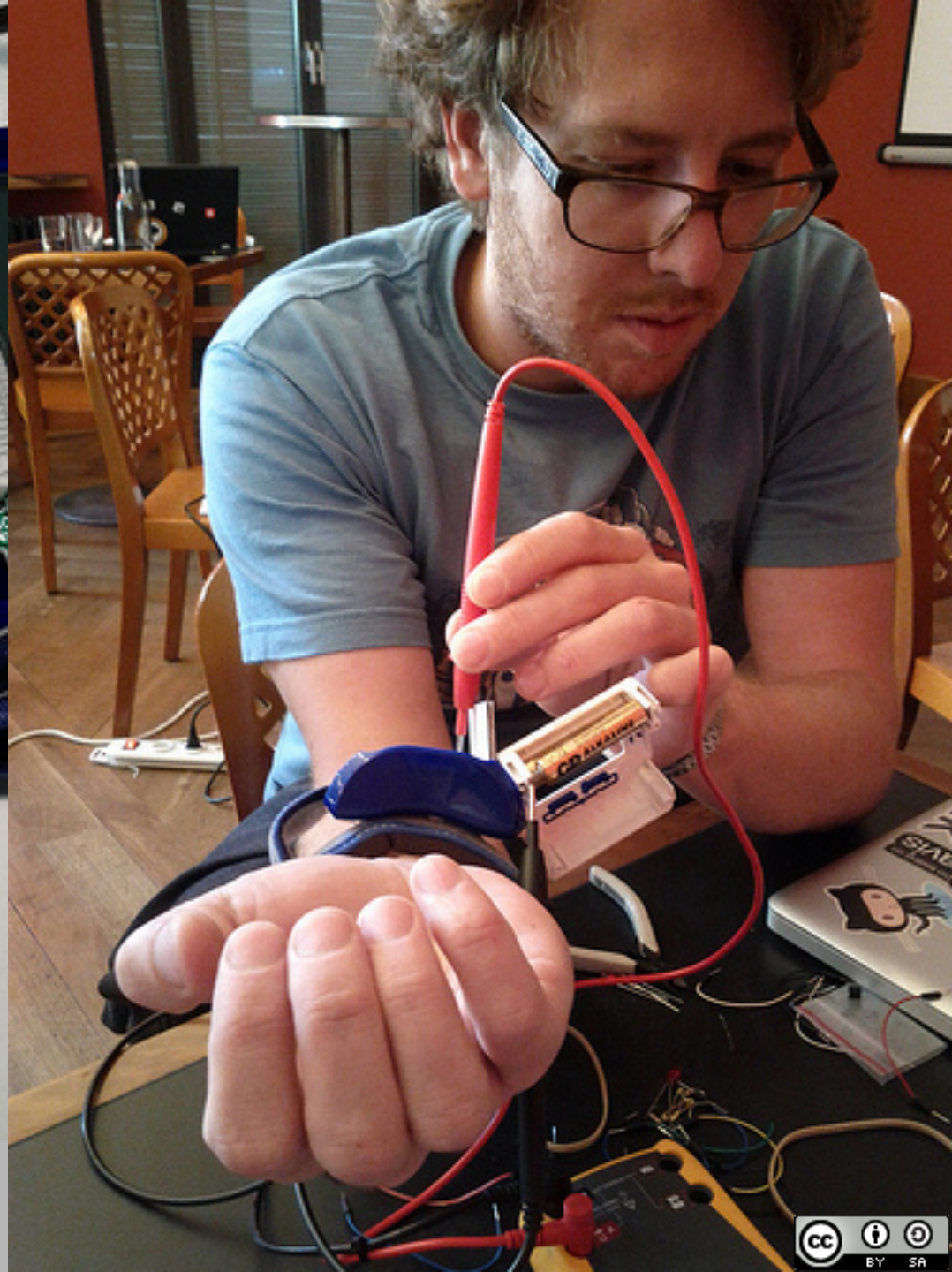
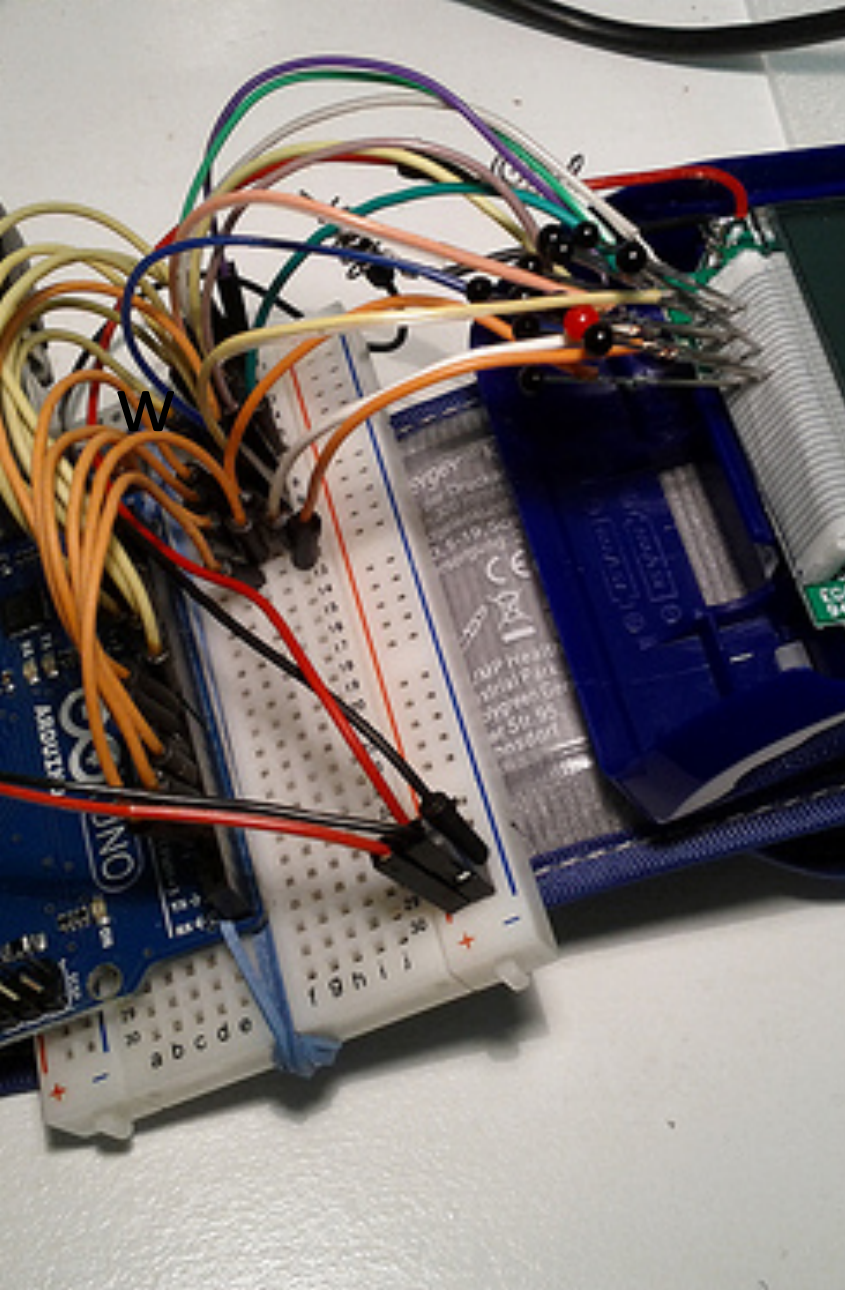
The Zurich Entrepreneur Meetup Group

MEMBER

1,406 Zuripreneurs

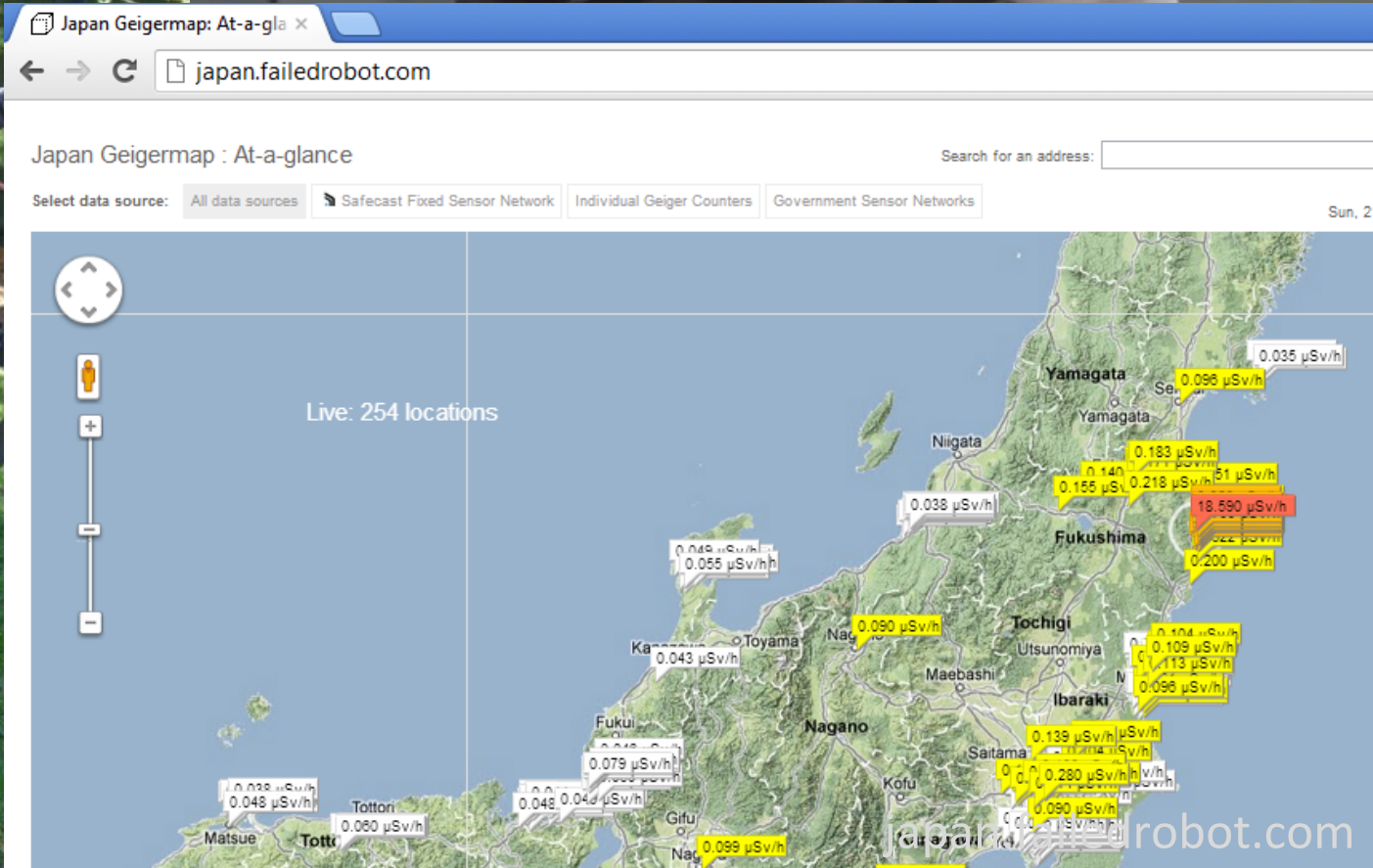
Next Meetup: Feb 11









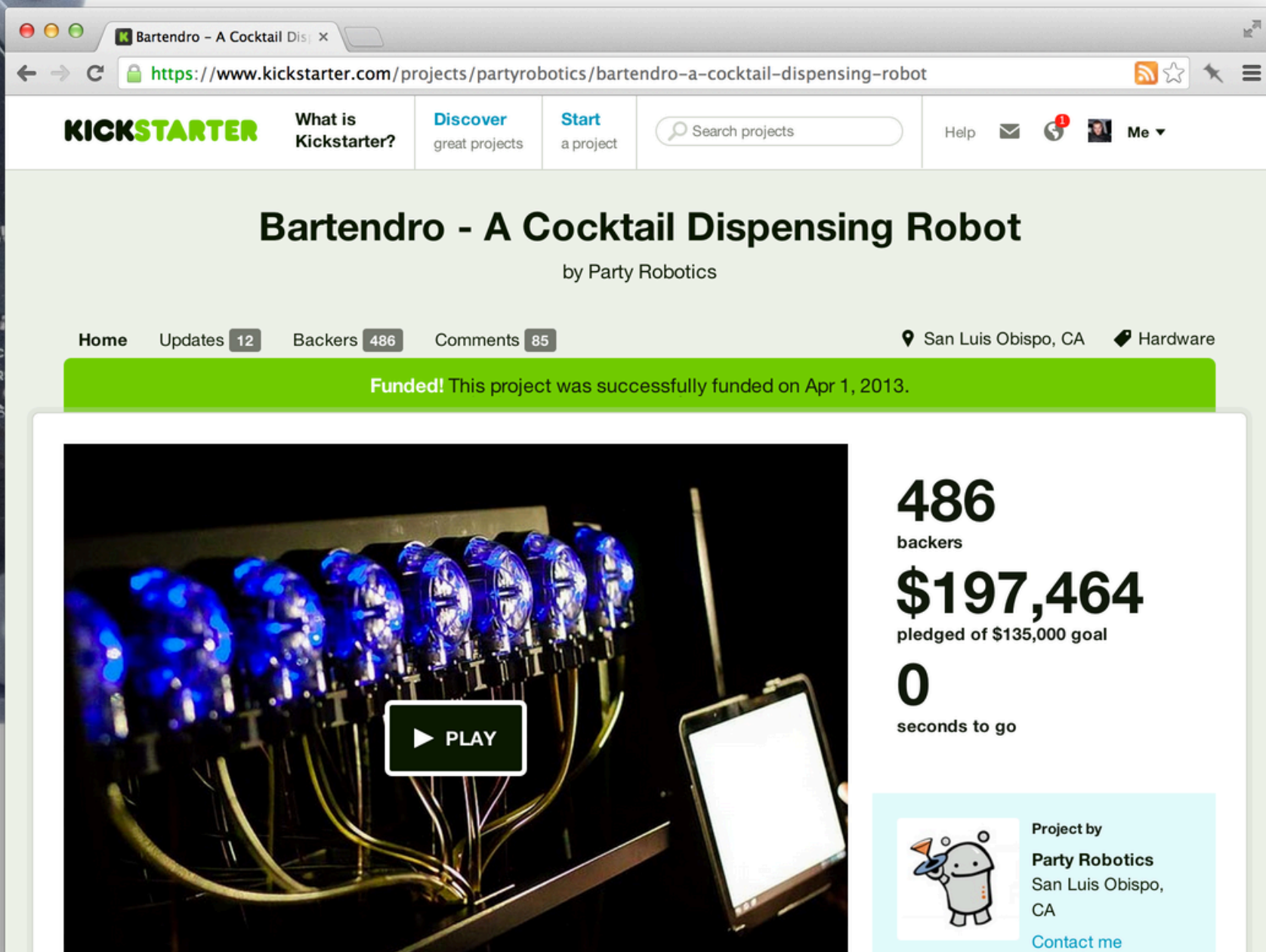




oktoberfestofthings.tumblr.com



www.mkroll.mobi





The RoboRoach: Control a

https://www.kickstarter.com/projects/backyardbrains/the-roboroach-control-a-living-insect-from-your-sm

KICKSTARTERDiscoverStartSearch projects

The RoboRoach: Control a living insect from your smartphone!

by Backyard Brains

Home

Updates 5

Backers 183

Comments 66

Ann Arbor, MI

Hardware

Funded! This project was successfully funded on Jul 10, 2013.

THE ROBOROACH

▶

PLAY

183

backers

\$12,339

pledged of \$10,000 goal

0

seconds to go



Project by

Backyard Brains

Ann Arbor, MI

Hex: A copter that anyone

← → ↻ <https://www.kickstarter.com/projects/1387330585/hex-a-copter-that-anyone-can-fly> RSS ☆ ⚙ ☰

KICKSTARTER

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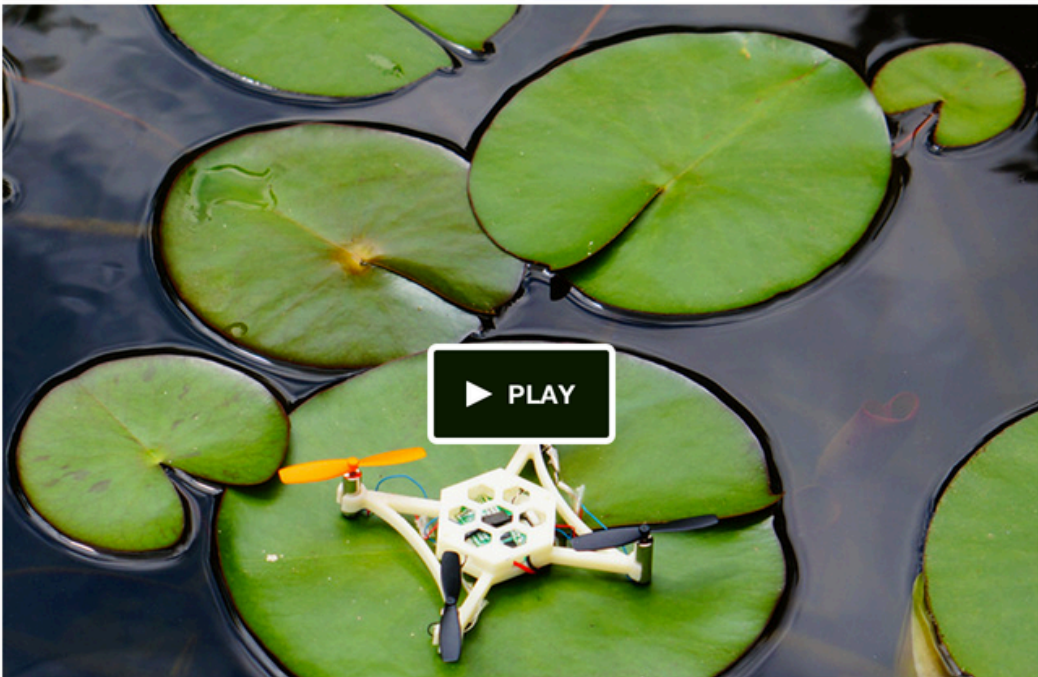
Me ▾

Hex: A copter that anyone can fly!

by Benjamin Black

[Home](#) [Updates 16](#) [Backers 4,670](#) [Comments 570](#) Los Angeles, CA Technology

Funded! This project was successfully funded on Oct 10.



4,670


backers

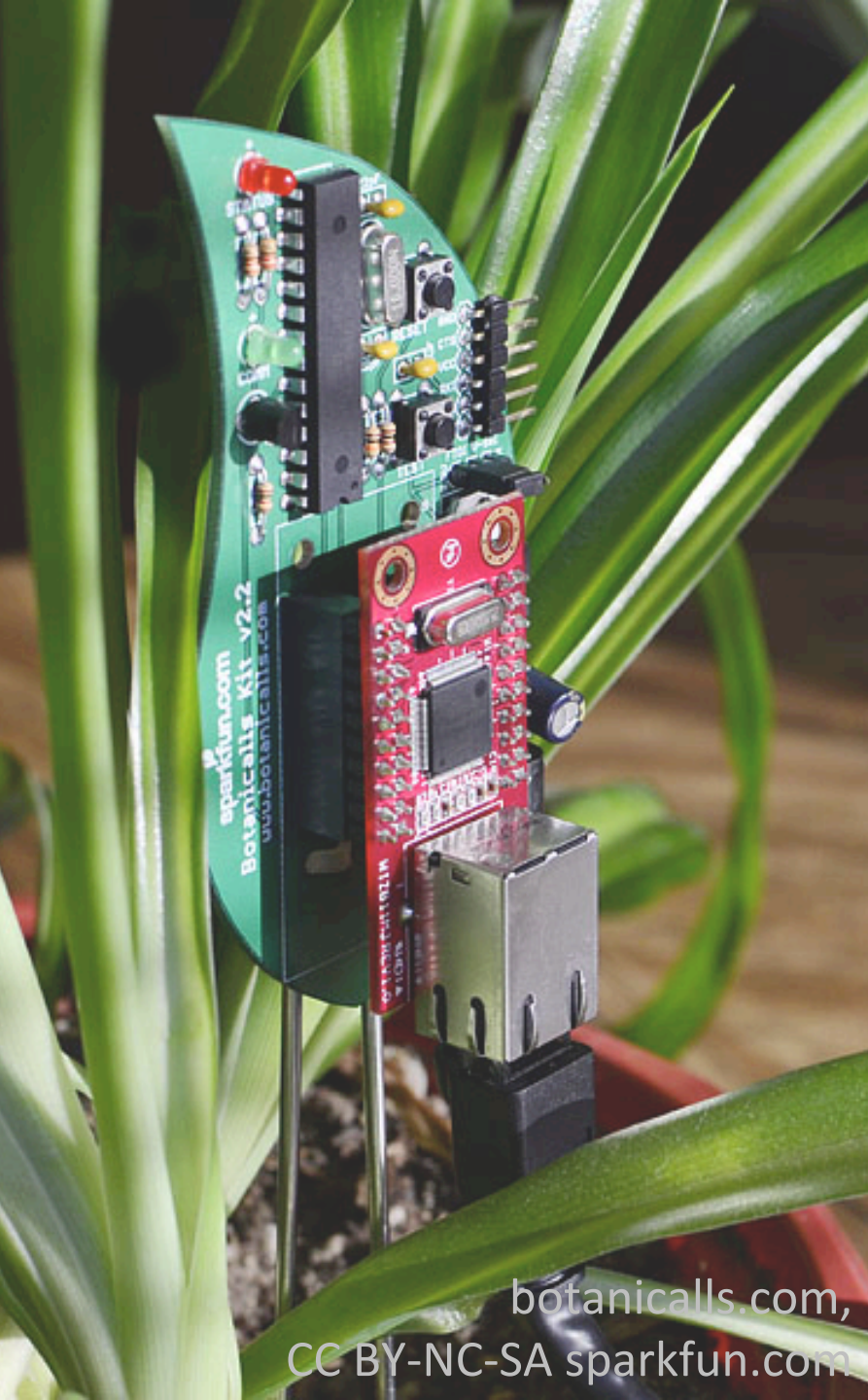
\$563,721

pledged of \$10,000 goal

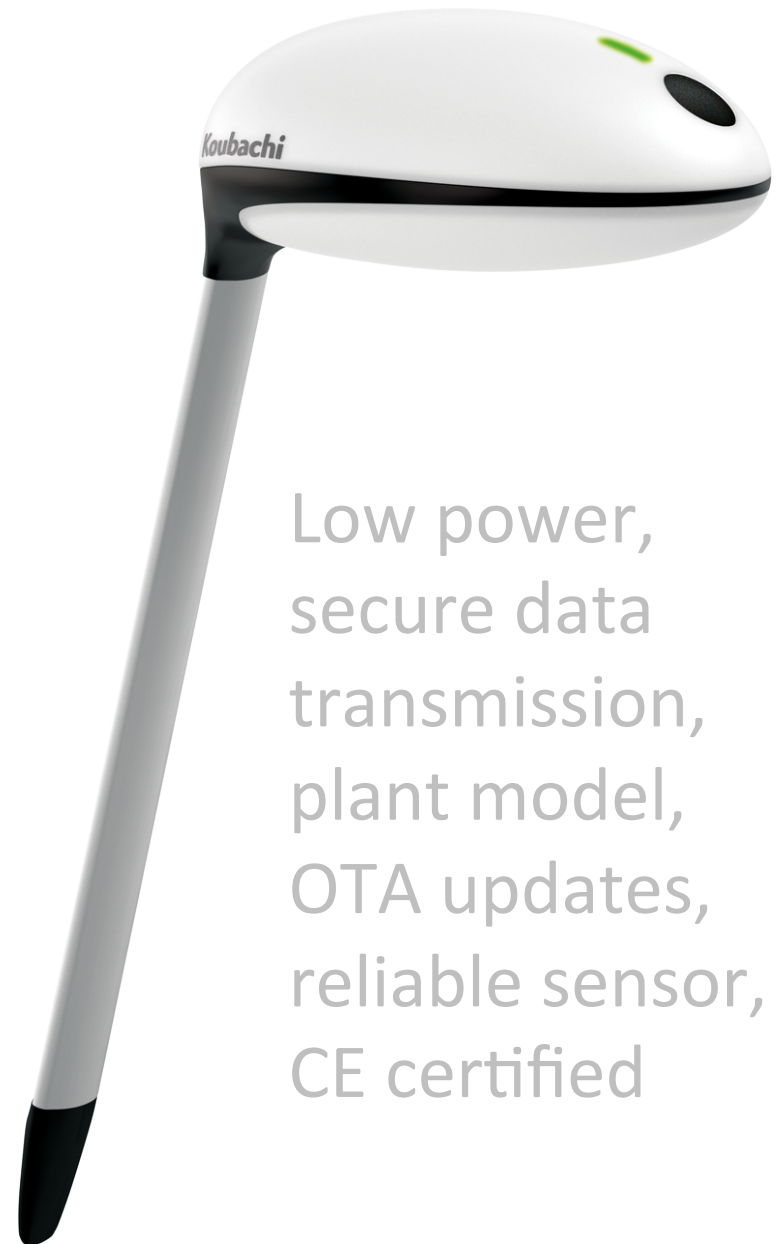
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seconds to go

Project by Benjamin Black
Los Angeles, CA
[Contact me](#)



botanicalls.com,
CC BY-NC-SA sparkfun.com

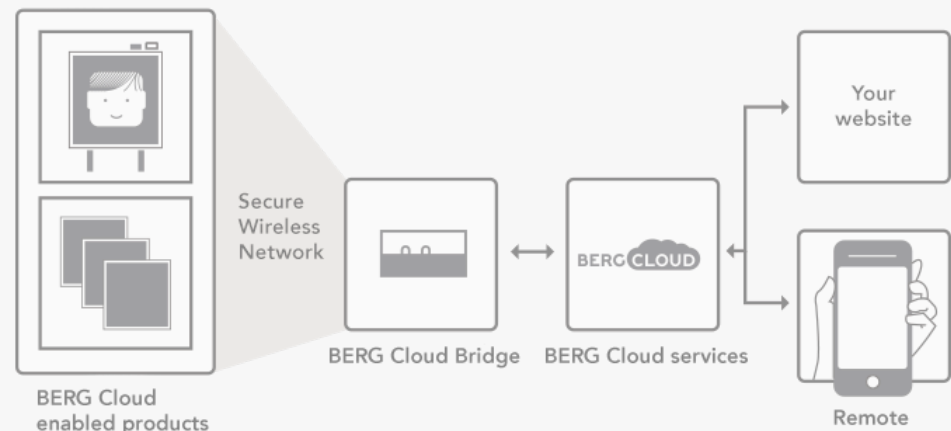
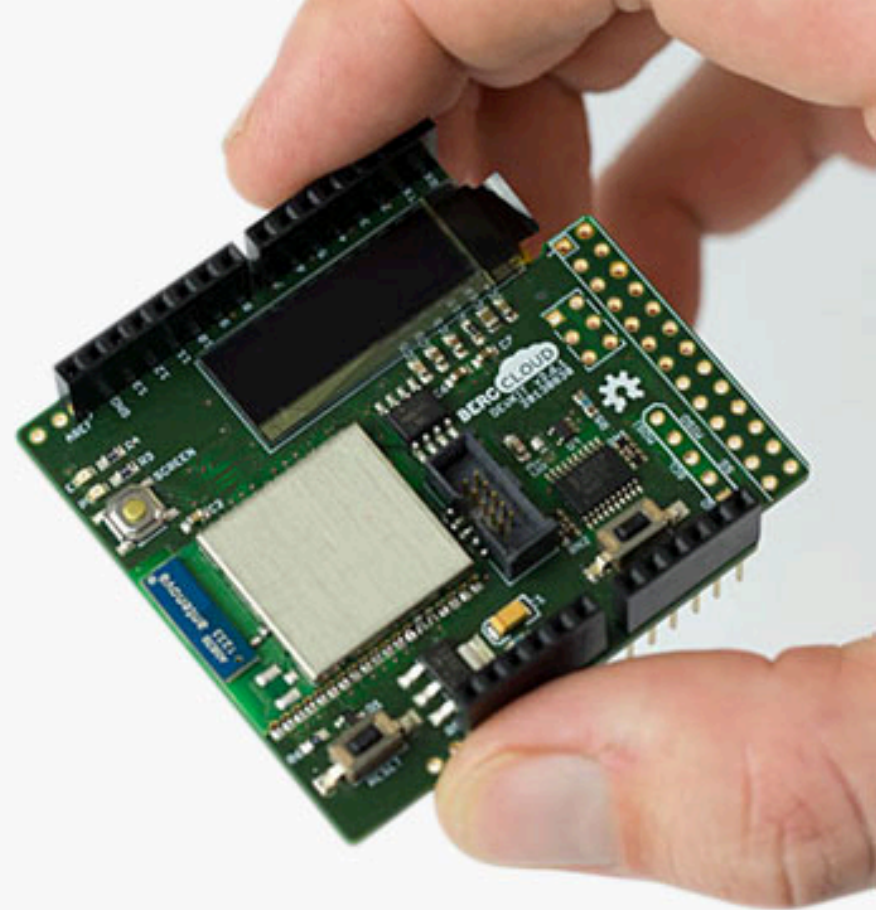


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reliable sensor,
CE certified

koubachi.com



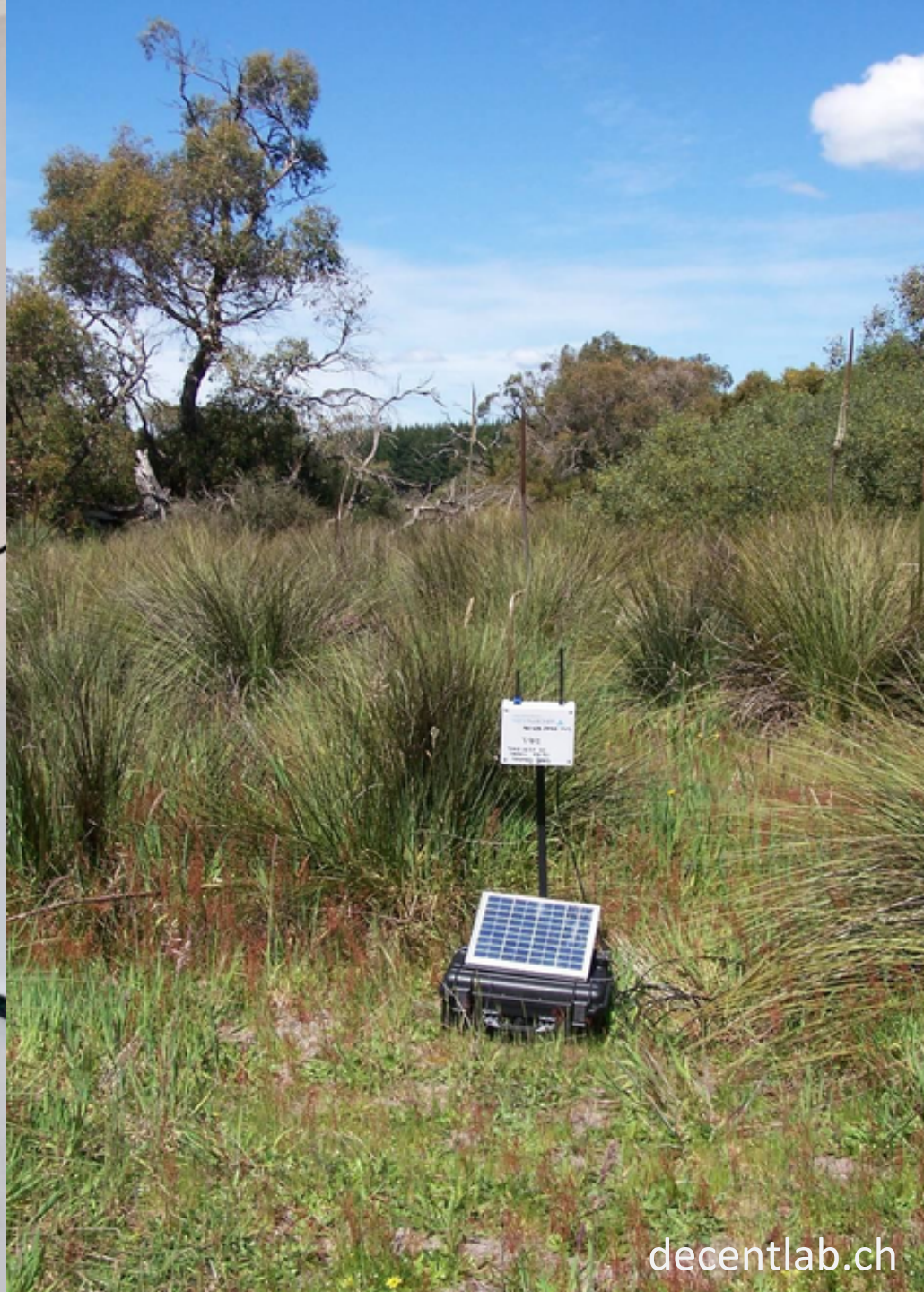
bergcloud.com/littleprinter



bergcloud.com/platform



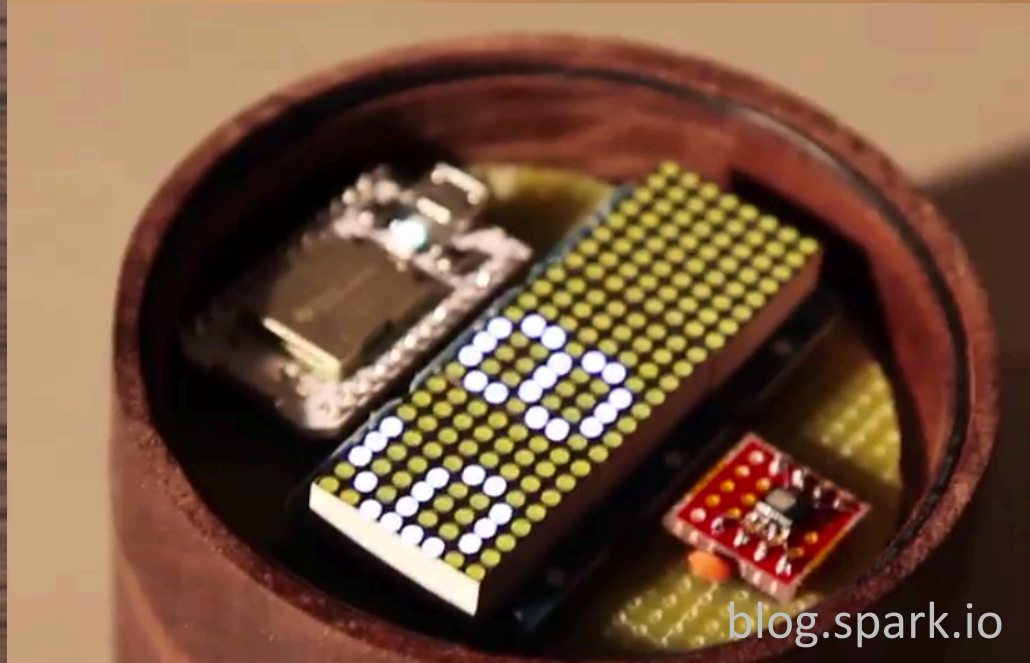
zaak.ch



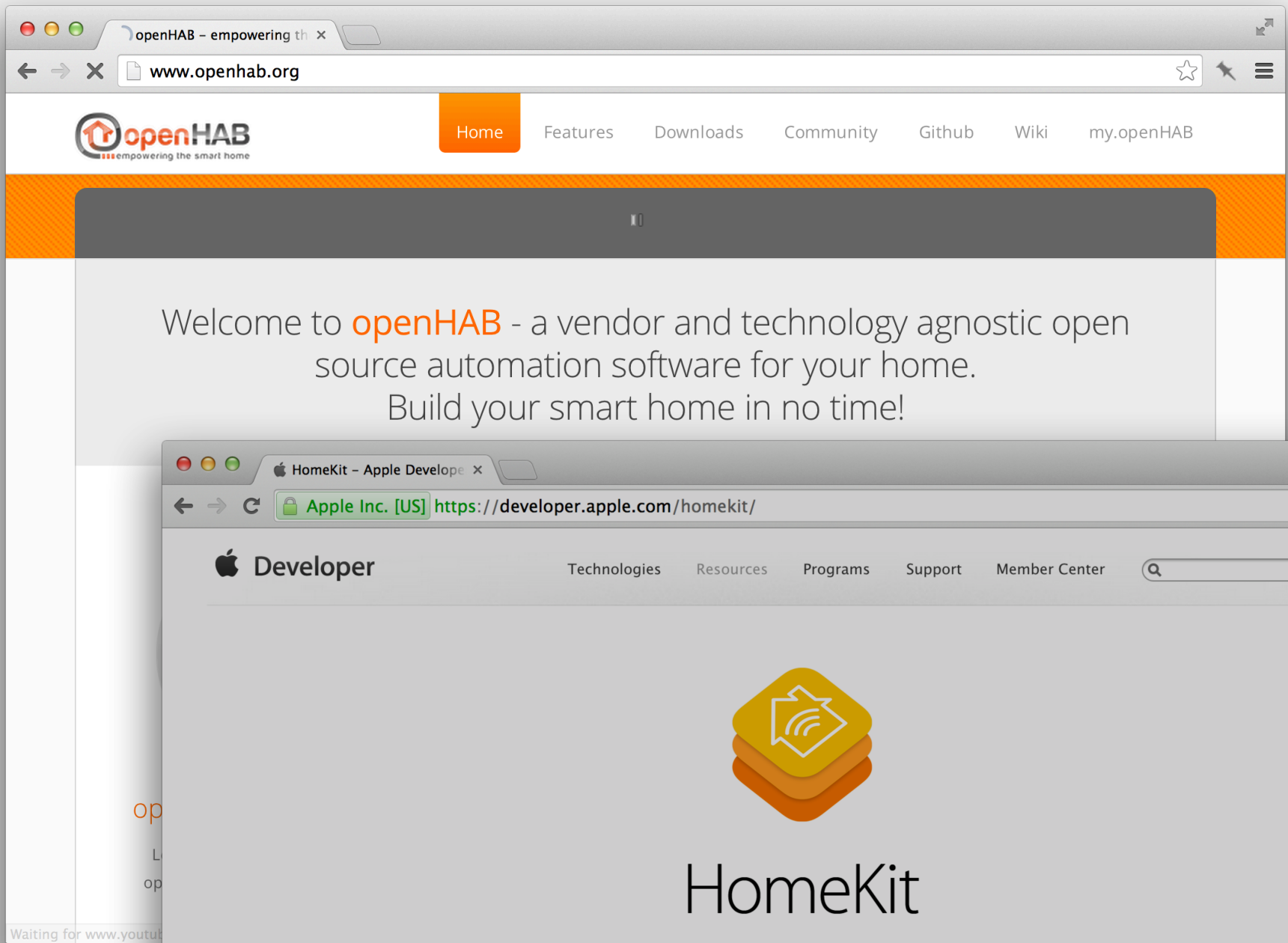
decentlab.ch



nest.com/thermostat



blog.spark.io



Home - HAXLR8R x

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HAXLR8R ⚙️ ⚙️ ⚙️


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HAXLR8R is a new kind of accelerator program.

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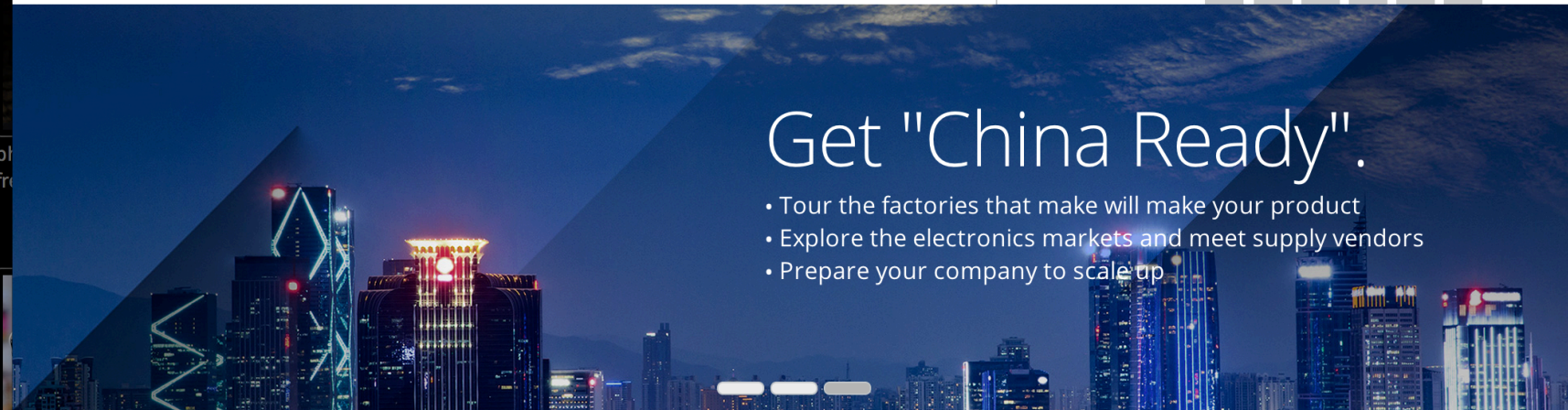
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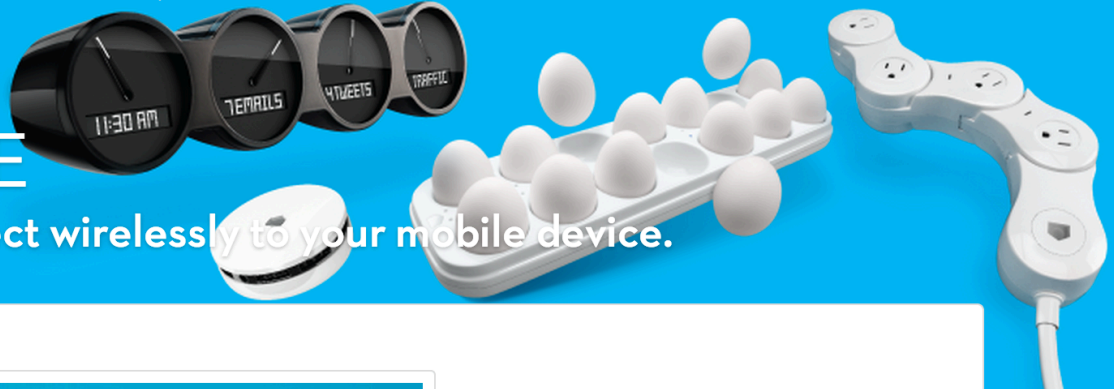
Quirky

Invent Influence Shop

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QUIRKY + GE

Inventions that connect wirelessly to your mobile device.



AROS

Smart window A/C

Aros learns from your budget, location, schedule, and usage to

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Intel CEO Announces Colla x

newsroom.intel.com/community/intel_newsroom/blog/2013/10/03/intel-ceo-announces-collaboration-with-ardu...

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Intel CEO Announces Collaboration with Arduino to Inspire Creativity, Learning and Invention with Makers and Students

Posted by [IntelPR](#) in [Intel Newsroom](#) on Oct 3, 2013 4:00:10 AM

Introduces First Intel-Based Arduino-Compatible Development Board; Announces Donation to 1,000 Universities Worldwide

MAKER FAIRE ROME, Oct. 3, 2013 – Intel Corporation CEO [Brian Krzanich](#) today announced a collaboration agreement with [Arduino](#) LLC, the leading open-source hardware platform in the maker and education community. Krzanich also unveiled the Intel® Galileo board, the first product in a new family of Arduino-compatible development boards featuring Intel®

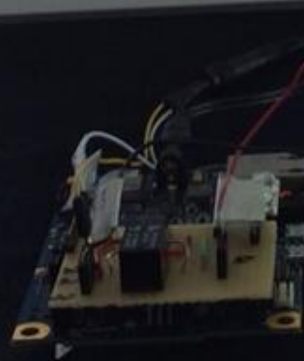
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By tag:

[2nd_generation_core](#) [appup](#) [appup_center](#) [atom](#) [computing](#) [consumer](#) [core](#) [core_i5](#) [core_i7](#) [education](#) [intel](#) [processors](#) [research](#) [software](#) [technology](#)

Intel® Galileo #bubbleao Demo


Maker application that listens
and responds to Twitter



Patents

www.makerbot.com/legal/patents/

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Patents

MakerBot Industries, LLC is a world leading manuf...

The following listings serve as notice under 35 U.S.C. § 161.

MakerBot Replicator Desktop 3D Printer (Fifth Generation)
U.S. Pat. Nos. 6,004,124, 7,384,255.
Additional patent applications pending.

MakerBot Replicator Z18 3D Printer
U.S. Pat. Nos. 6,004,124, 6,722,872, 7,384,255.
Additional patent applications pending.

MakerBot Replicator Mini Compact 3D Printer
U.S. Pat. Nos. 6,004,124, 7,384,255.
Additional patent applications pending.

MakerBot Replicator 2 Desktop 3D Printer
U.S. Pat. Nos. 6,004,124, 7,384,255, D677723.

MakerBot Replicator 2X Experimental 3D Printer
U.S. Pat. Nos. 6,004,124, 6,749,414, 7,384,255, D677723.

MakerBot Digitizer Desktop 3D Scanner
Patent applications pending.

Help

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Twitter, Inc. [US] https://twitter.com/josefprusa/status/24852983...


25

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Twitter


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14



Josef Jo Průša

@josefprusa





So I called @makerbot support and asked.
Replicator 2 is NOT Open Source! #FAIL
#reprap :-(\ I'm sad! /cc @bjepson
@adafruit @make @hackaday


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44

FAVORITES

7



11:11 PM - 19 Sep 2012

Makerspace | DARPA MENT x

makerspace.com/press/darpa-mentor-award-to-bring-making-to-education

MENTORing Kids into Makers

Stocking Up on Tools and Materials (for Feedback)

DARPA MENTOR Award to Bring Making to Education

By Dale Dougherty On January 16th, 2012 · 11 Comments

O'Reilly Media's **Make division**, in partnership with **Otherlab**, has received an award from The Defense Advanced Research Projects Agency (DARPA) in support of its Manufacturing Experimentation and Outreach (MENTOR) program. The award will support the development of a new Makerspace Playbook, a guide for educators and makers on how to create a makerspace in their schools, libraries, or community centers. The Playbook will be available for free download and is expected to be published in the near future.

Want to make a makerspace?

Check out our playbook. It covers many of the challenges involved in creating a makerspace.



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Mitch Altman

@maltman23

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It's official. I'm greatly saddened I won't be helping at US Maker Faires after they applied for and accepted a DARPA grant.

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8



4:04 AM - 3 Apr 2012



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Hardware at <http://shop.klingler.net/>, <http://digitec.ch/> or <http://google.com/search?q=adafruit+starter+pack>

Learn through <http://learn.adafruit.com/> and Google, e.g. <http://google.com/search?q=instructables+web+controlled>



Thanks.

thomas.amberg@yaler.net

This presentation is online at
<http://goo.gl/7X1hXm>

