

Makers: The Next Frontier for Open Source

Ruth Suehle
@suehle
ruth@redhat.com



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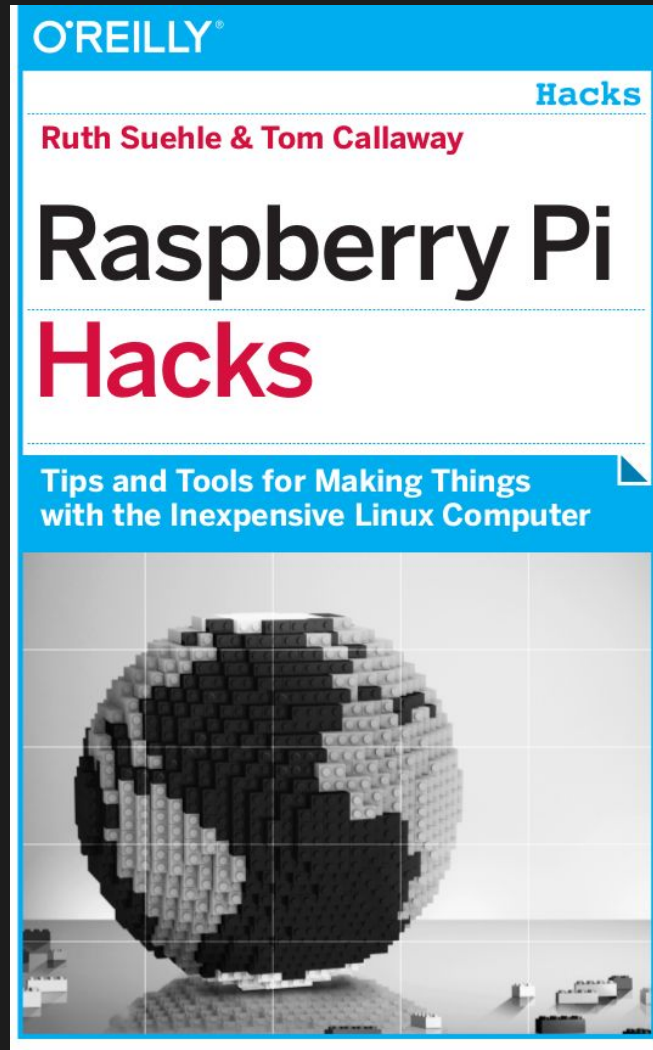
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OPEN SOURCE AND STANDARDS



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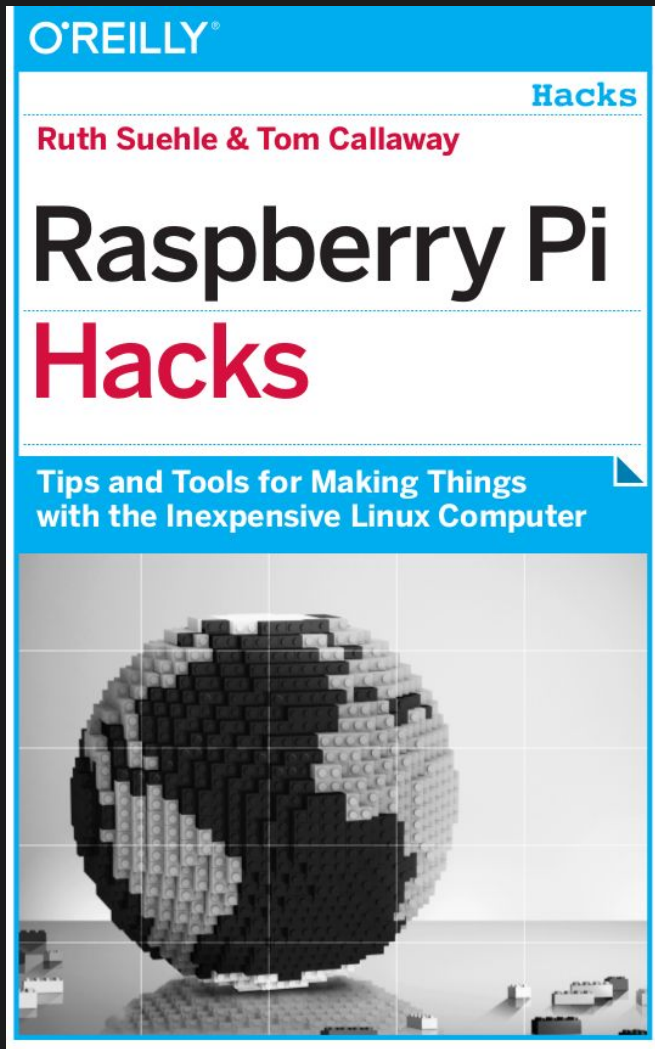
OPEN SOURCE AND STANDARDS





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OPEN SOURCE AND STANDARDS



opensource.com is where we explore what happens when the open source way is applied to the world

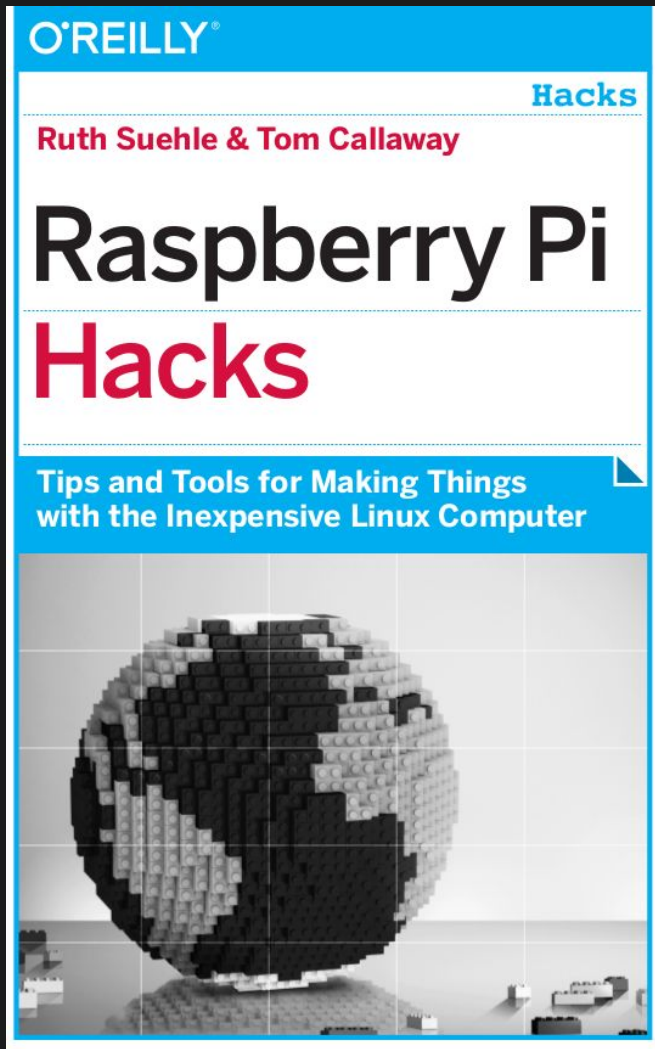


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OPEN SOURCE AND STANDARDS







horn share technology CC passion new copy
digital resources development collaboration upload DOCUMENTARY surf
transmedia stream culture hacker influence mash-up
animation community social innovation graphic
graffiti sound art WE world music copyright
project partner download opportunities hope PIONEERS film
freedom create portrait photo inspire Creative Commons remix
epic open source future digital natives
express

CULTURE PIONEERS



Index

1. The church is a community of people who are united by their faith in Jesus Christ. It is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

2. The church is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

3. The church is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

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9. The church is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

10. The church is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

7.00
3.00

(Bill) No Forward
How 11000

City's Building 2nd Floor

5/10 Check

updated plan

500 = Ann (1/2 check) → 1100 = better Oct 1
 400 = Ann (1/2 check) → *Will pay Oct 1st
 100 = Ann (1/2 check) → *Will pay Oct 1st

BENT

Borrow \$2000 = from mon
 2 1000 = to savings
 2 2000 = cover rent through Dec - 08 (rental 4000)
 ABEI = deposit

BILLS

Concert → internet only
 Council insurance
 Keep electricity & water low
 Clean 1000 / month
 Total = like \$3000 / mo

Months - Oct → April \$1000 / 7
 7000 / 7 = 1000 / mo

Both cars →
 my dad -
 Capt key = my
 stuff of people

take while can?
 or add \$150 to each monthly payment

500:
 @ bank
 balance none back

1. The church is a place where we can find love, support, and guidance. We are called to love one another and to serve the world.

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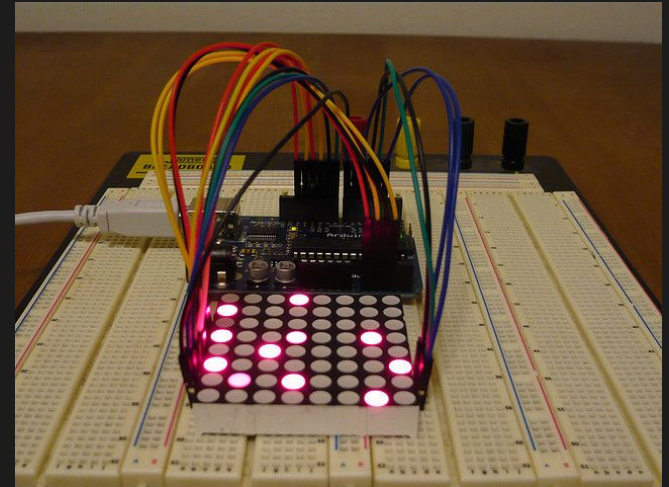
Step 1: Make cool stuff

Step 2: ???

Step 3: Profit!

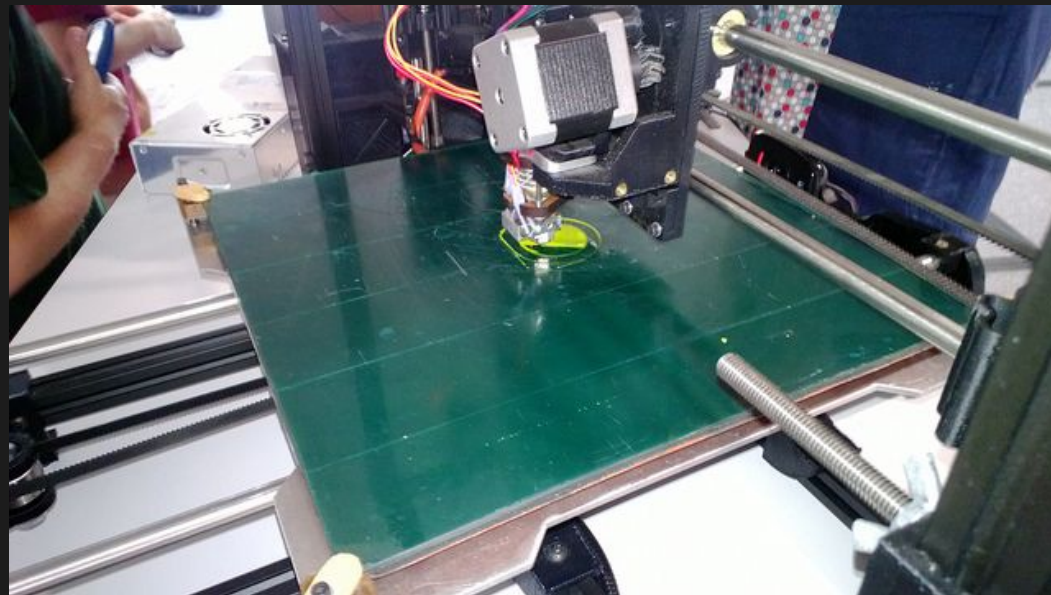






CC BY-NC Steven Kreuzer

MAKER



CC BY-SA Iwan Gabovitch



CC BY-NC-SA noone



CC BY-NC-SA Victoria Pickering



CC BY-SA Tajchman



CC BY-SA Berna



A long, long time ago in a galaxy pretty much right here....



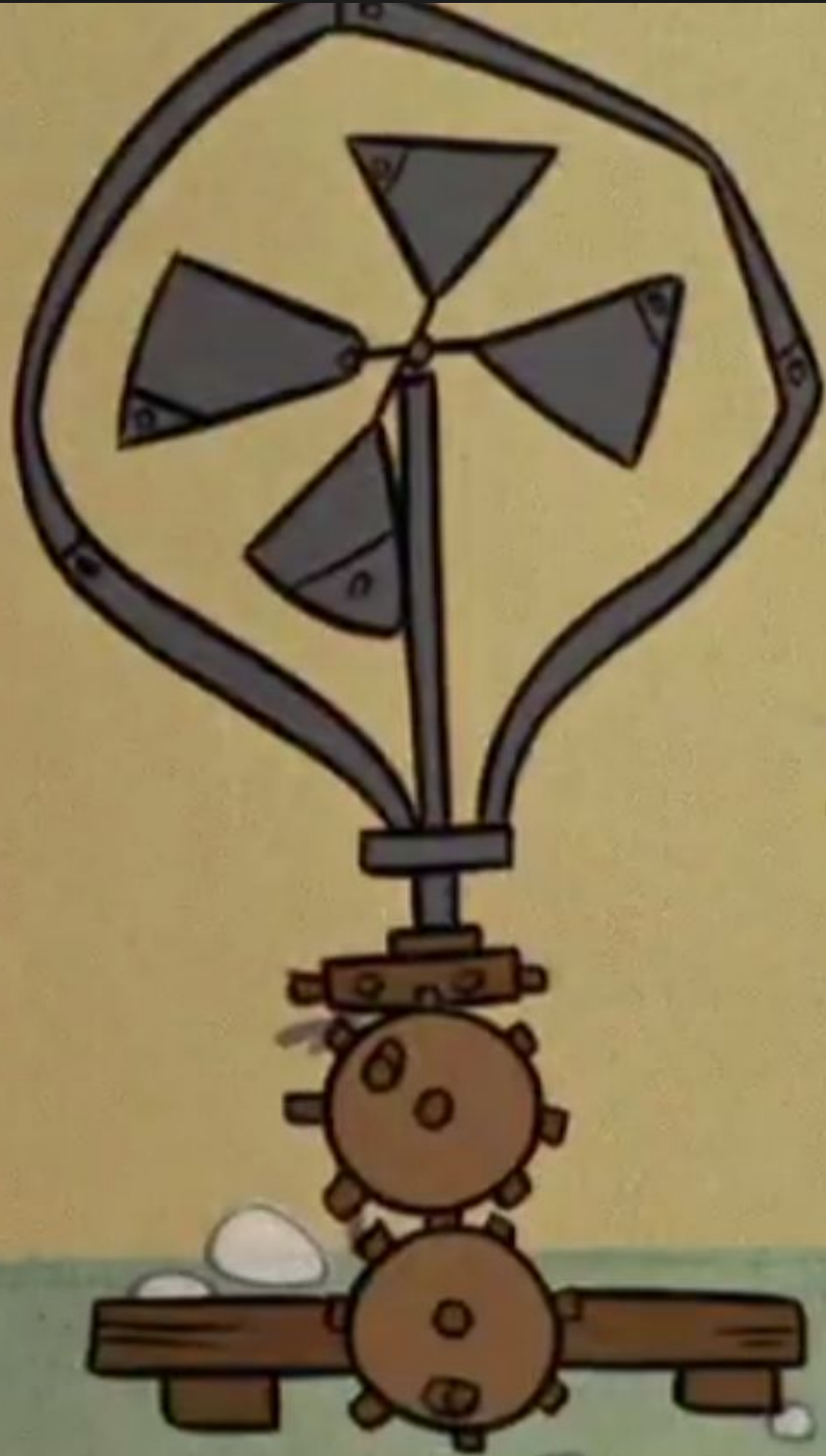


CC BY-SA Mike R

Long time ago

~4 million years ago







10,000-year-old tools found in Les Combarelles cave in France on display in Les Eyzies-de-Tayac CC BY-SA Sémhur

Long time ago

~4 million years ago

Closer to 2 million years ago now





CC BY-NC-ND 24andDltmars

~4 million years ago

~2 million years ago

~10,000 years ago





CC BY-SA Mariano

~4 million years ago

~2 million years ago

~100,000 years ago





CC BY-SA TimJN1 - Bradshaw Art



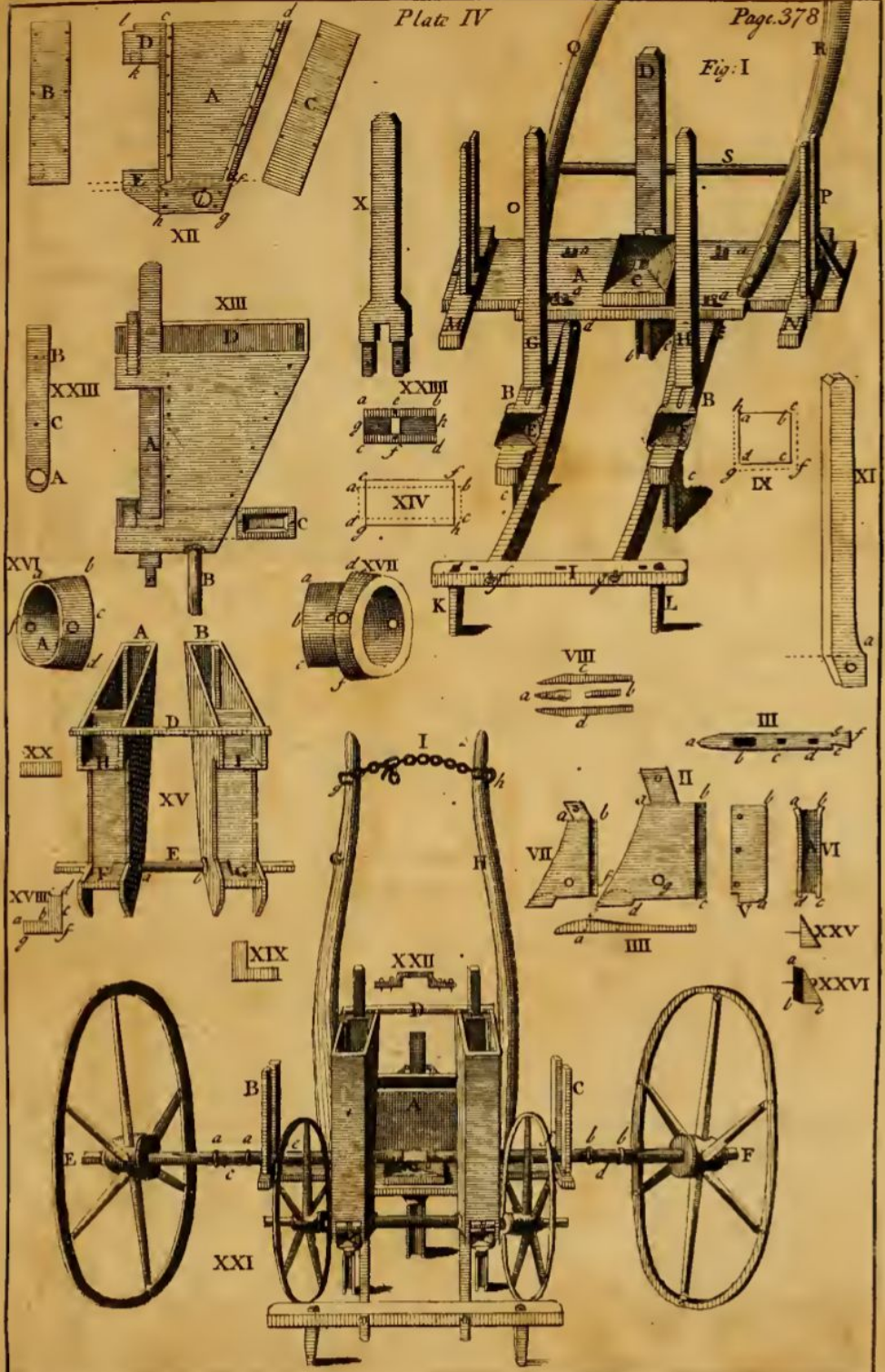
CC BY-SA Luca Giarelli

~10,000 years ago

40-60,000 years ago



Fig: I





5

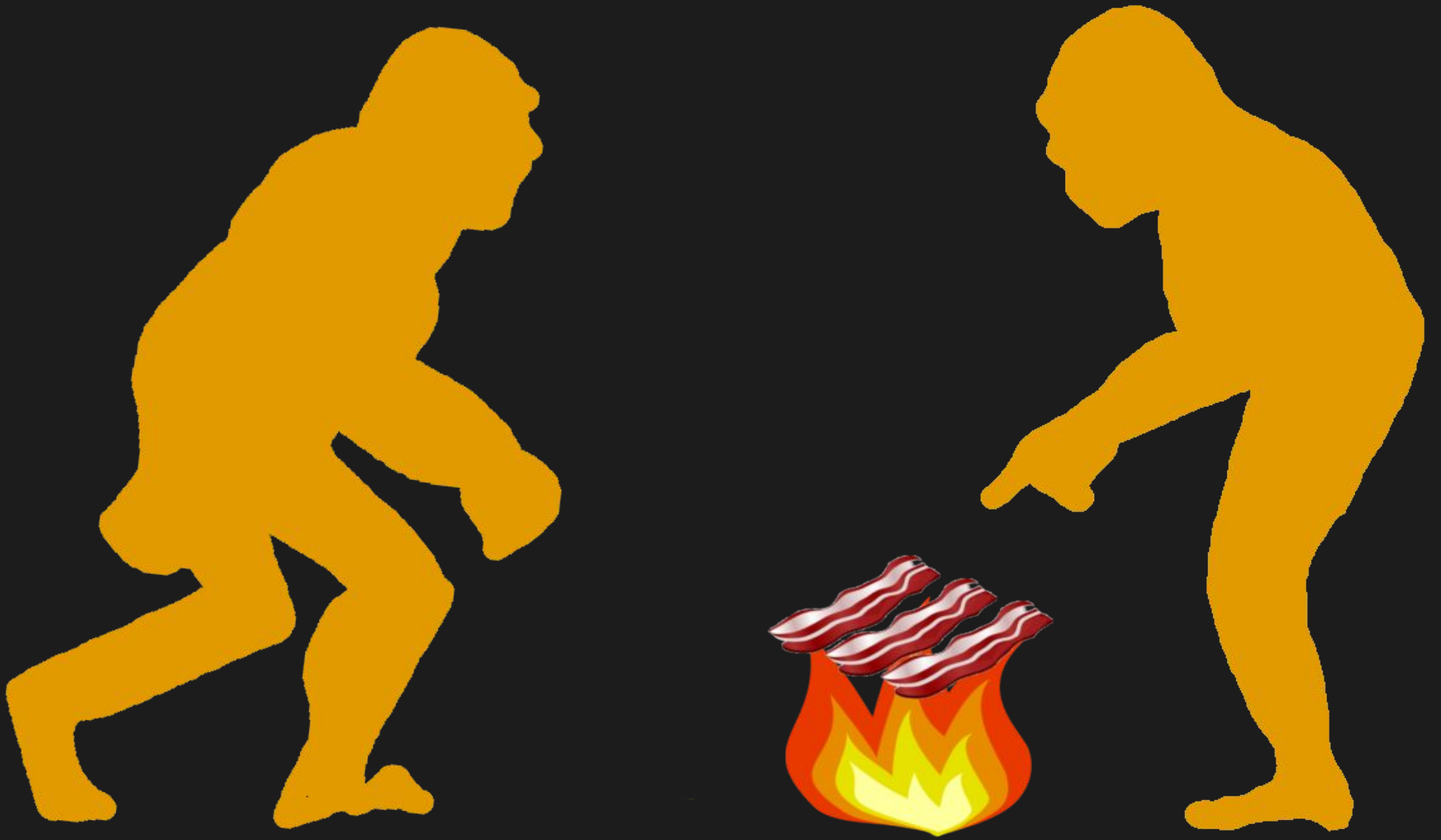






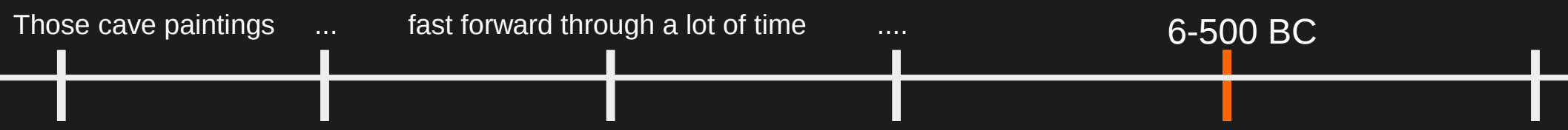
opensource.com

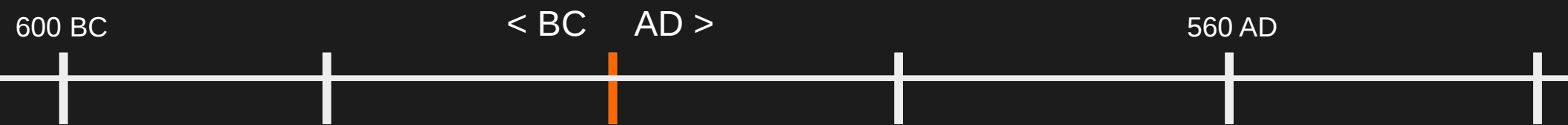






CC BY-SA Peter Stewart





Vili habitata in adiutorio altissimi
in privateca onedi caeli commonabitur
Cic & dno susceptor meus est
& refugium meum in die meo sperabo in eum
quonia in preliberavit me de laqueo

uenturum & auerbo a spero

In scopulis suis obumbravit te

& sub pinnis eius sperabis. 卐 † 卐

sicut circumdabit te veritas eius

AD >

560 AD

1260

"It is not right that the divine words in that book should perish, or that I or any other should be hindered from writing them or reading them or spreading them among the tribes."

- St. Columba

"To every cow belongs its calf;
to every book its copy."

- King Diarmait mac Cerbhiall

AD >

560 AD

1260





CC BY-SA Ludie Cochrane

560

1260

1383



1260

1383

1600s



1383

1600s

1600s

Anno Octavo

Annæ Reginae.

An Act for the Encouragement of Learning, by Vesting the Copies of Printed Books in the Authors or Purchasers of such Copies, during the Times therein mentioned.



Whereas Printers, Bookellers, and other Persons have of late frequently taken the Liberty of Printing, Reprinting, and Publishing, or causing to be Printed, Reprinted, and Published Books, and other Writings, without the Consent of the Authors or Proprietors of such Books and Writings, to their very great Detriment, and too often to the Ruin of them and their Families: For Preventing therefore such Practices for the future, and for the Encouragement of Learned Men to Compose and Write useful Books; May it please Your Majesty, that it may be Enacted, and be it Enacted by the Queens most Excellent Majesty, by and with the Advice and Consent of the Lords Spiritual and Temporal, and Commons in this present Parliament Assembled, and by the Authority of the same, That from and after the

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AND FOREIGN
COPYRIGHTS



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AND
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A COPYRIGHT
WILL PROTECT YOU FROM PIRATES.

And make you a fortune. If you have a PLAY, SKETCH, PHOTO, ACT, SONG or BOOK that is worth anything, you should copyright it. Don't take chances when you can secure our services at small cost. Send for our **SPECIAL OFFER TO INVENTORS** before applying for a patent, *it will pay you.* **HANDBOOK on patents sent FREE.** We advise if patentable or not, **FREE.** We incorporate **STOCK COMPANIES.** Small fees. Consult us.

WORMELLE & VAN MATER,
Managers,
Columbia Copyright & Patent Co. Inc.,
WASHINGTON, D. C.

**MINE, MINE, MINE, MINE, MINE, MINE, MINE, MINE, MINE,
MINE, MINE, MINE, MINE, MINE, MINE, MINE, MINE, MINE,
MINE, MINE, MINE, MINE, MINE, MINE**



MINE







CC BY-NC-ND marcmo

TIFFANY & Co.

Cartier



CC BY-SA Curtis Palmer



Make: Arduino Pavilion

MAXIMUM OCCUPANCY
NOT TO EXCEED
PER
STATE LAW
THIS TENT
EVACUATE
IF WIND GUSTS

Make:

M

ShopBot

DELTA
S1
LASER ENERGY

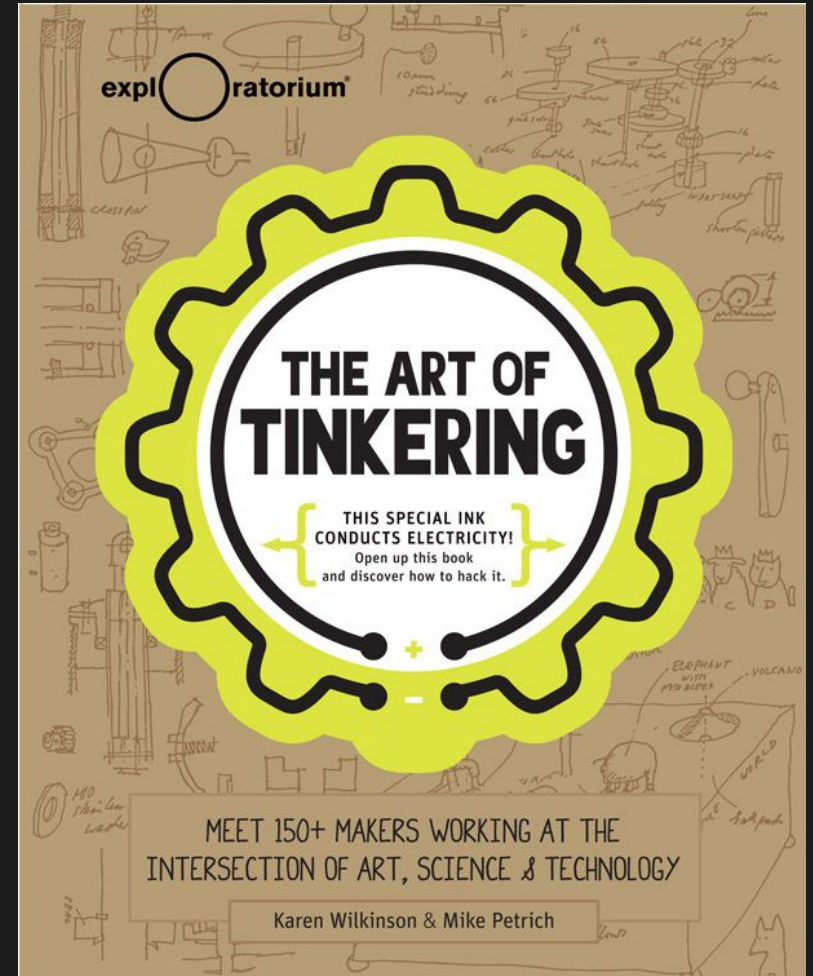
ShopBot Circuit for
Your School
or Business?

to have things made

ShopBot
All You Make Today
shopbottools.com



CC BY-NC-ND dominiqueb





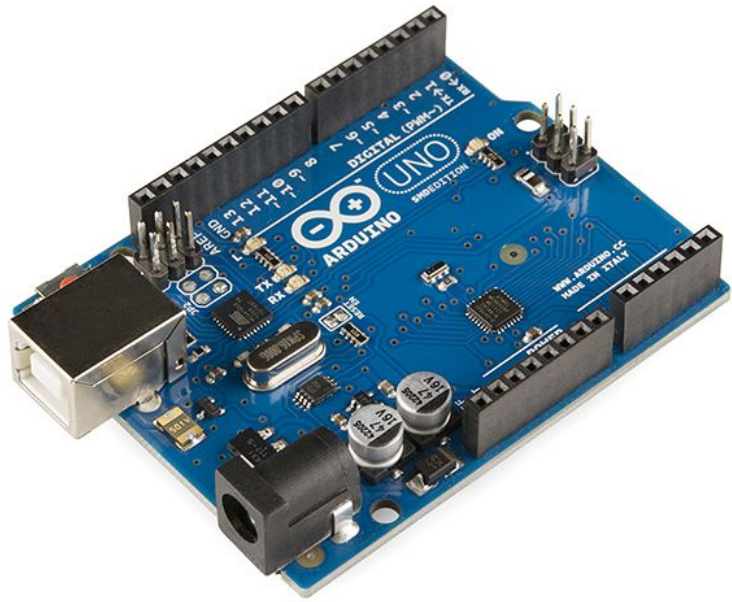


Vintage
TOMORROWS

The image features a title card with a warm, golden-brown, textured background. The background is filled with faint, glowing mechanical gears and abstract patterns. The word "Vintage" is written in a white, serif font, and "TOMORROWS" is written in a golden, serif font. The letter 'O' in "TOMORROWS" is replaced by a small, detailed gear. The overall aesthetic is steampunk or industrial.

**IF YOU CAN'T
OPEN IT,
YOU DON'T OWN IT**

makezine.com



CC BY-NC-SA Chris (spike55151)





open source
hardware

Essential freedoms

In order to be recognized as "free" under this definition, a license must grant the following freedoms without limitation:

- The freedom to use and perform the work.

- The freedom to study the work and apply the information.

- The freedom to redistribute copies.

- The freedom to distribute derivative works.

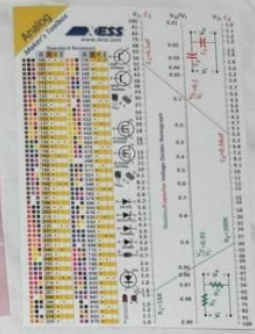


We're taking this show to Manhattan. Introducing the **MakerBot Store**. Everyone should have a chance to experience the awe-inspiring of making things. That's why we opened the **MakerBot Store**, where visitors can learn first-hand how to make their ideas real with the all new **MakerBot Replicator 2 Desktop 3D printer**.

What to expect:
 Demonstrations, unique gifts made by our BotFarm, awesome projects from our staff, and amazing MakerBotted pieces from around our shared community.

The **MakerBot Store** is located in Houston between East Houston and Sawyer Square.

SWITCHSCIENCE
 This USB stick just blinks for fun!
 The hardware is V-USB compatible. You can develop your own firmware to blink different colors!
<http://www.switchscience.com>



circuits.io
 Design I/O in your browser
 Full featured online prototyping environment
 Share with your peers
 Build your creations
<http://circuits.io>

TOTES OPEN

SUPPORT OPEN SOURCE HARDWARE



Use this Ultimaker and make your ideas come to life right on your desktop



• Max print size 21x21x21 cm - 8.26" x 8.26" x 8.26"
 • Prints with PLA and ABS a plastic
 • Fast print speeds available
www.ultimaker.com



creative commons
RTFM
Maker Faire
 open hardware



FUSION PCB SERVICE COUPON
 fused studio

CONTROL ITEM BEAR
cosm HANDLY INVITES YOU TO THE OFFICIAL PARTY
 AFTER 10PM
OHS
 @LAWL 100 MACDONALD STREET # 812



Open Hardware Summit open to hybrid models

Posted 05 Oct 2012 by [Ruth Suehle](#) (Red Hat) 

Rating: ★★★★★



Image by : [opensource.com](#)

 **Tweet** { 20 }  **reddit this!**  **Submit**  **Like** { 0 }  **g+1** { 3 }

If there was an overarching message from the speakers at last week's Open Hardware Summit, particularly those in the first morning block, it's that openness isn't that critical. It sounds strange coming from a conference whose name starts with "open," but speaker after speaker talked about hybrids and doing whatever worked, not just doing what was open.

“Everything I've learned as I built my own business is because people shared what they knew.”

“Everything I've learned as I built my own business is because people shared what they knew.

I don't think we should be dogmatic.

We need to consider other possibilities and approaches to open-based innovation.”



MAKE: interview, October 2011

The funding doesn't change our commitment to being open source. Why would we change a winning strategy? Being open is the future of manufacturing, and we're just at the beginning of the age of sharing. **In the future, people will remember businesses that refused to share with their customers and wonder how they could be so backwards.**

Our commitment to open source stems from our passion for sharing. We know that if we share with our users and the world, there is a natural positive effect.

I think people worry on our behalf that as an open hardware company, we'll get knocked off and undercut. First of all, that happens all the time to businesses that are not open hardware. In order to be truly competitive, we've got to keep rocking it!

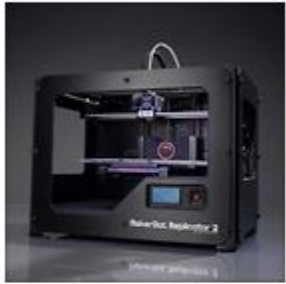
Open Hardware Summit, September 2012

For the Replicator 2, we will not share the way the physical machine is designed or our GUI because we don't think carbon-copy cloning is acceptable and carbon-copy clones undermine our ability to pay people to do development.

People said, 'You did open source hardware; this is totally allowed under the license. What did you expect?'" It's true. They're right. This is the result of something we did, but that doesn't mean we have to like it.



All Categories



3D Printing



Art



Fashion



Gadgets



Hobby



Household



Learning



Models



Tools



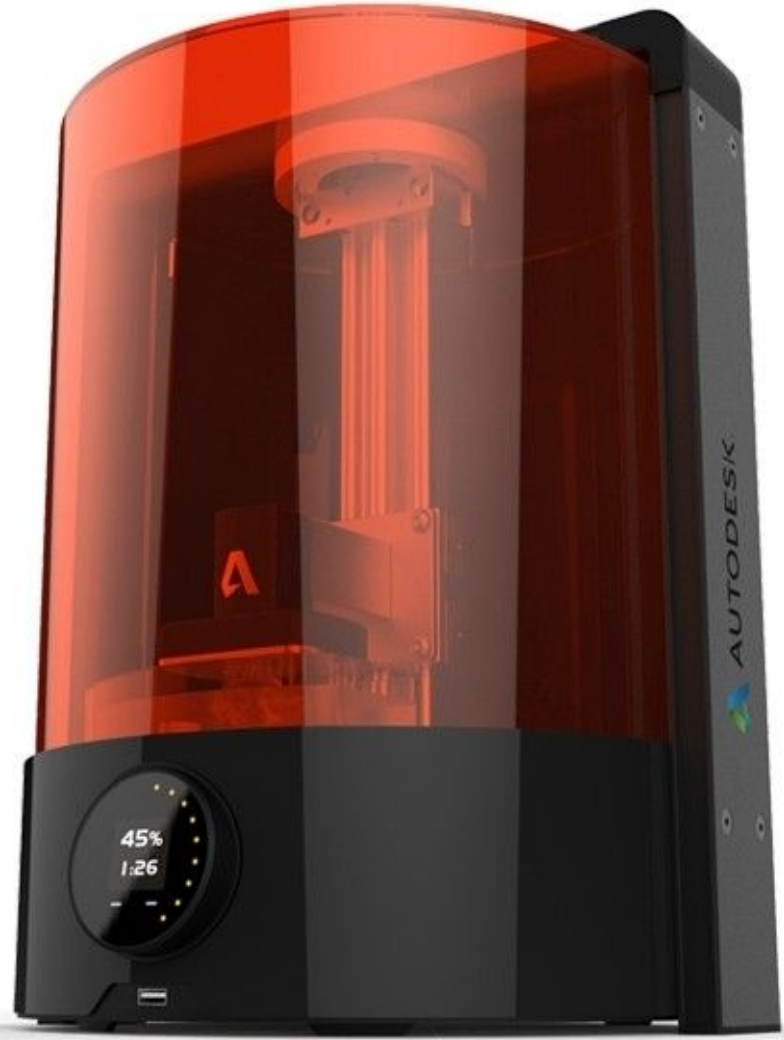
Toys & Games

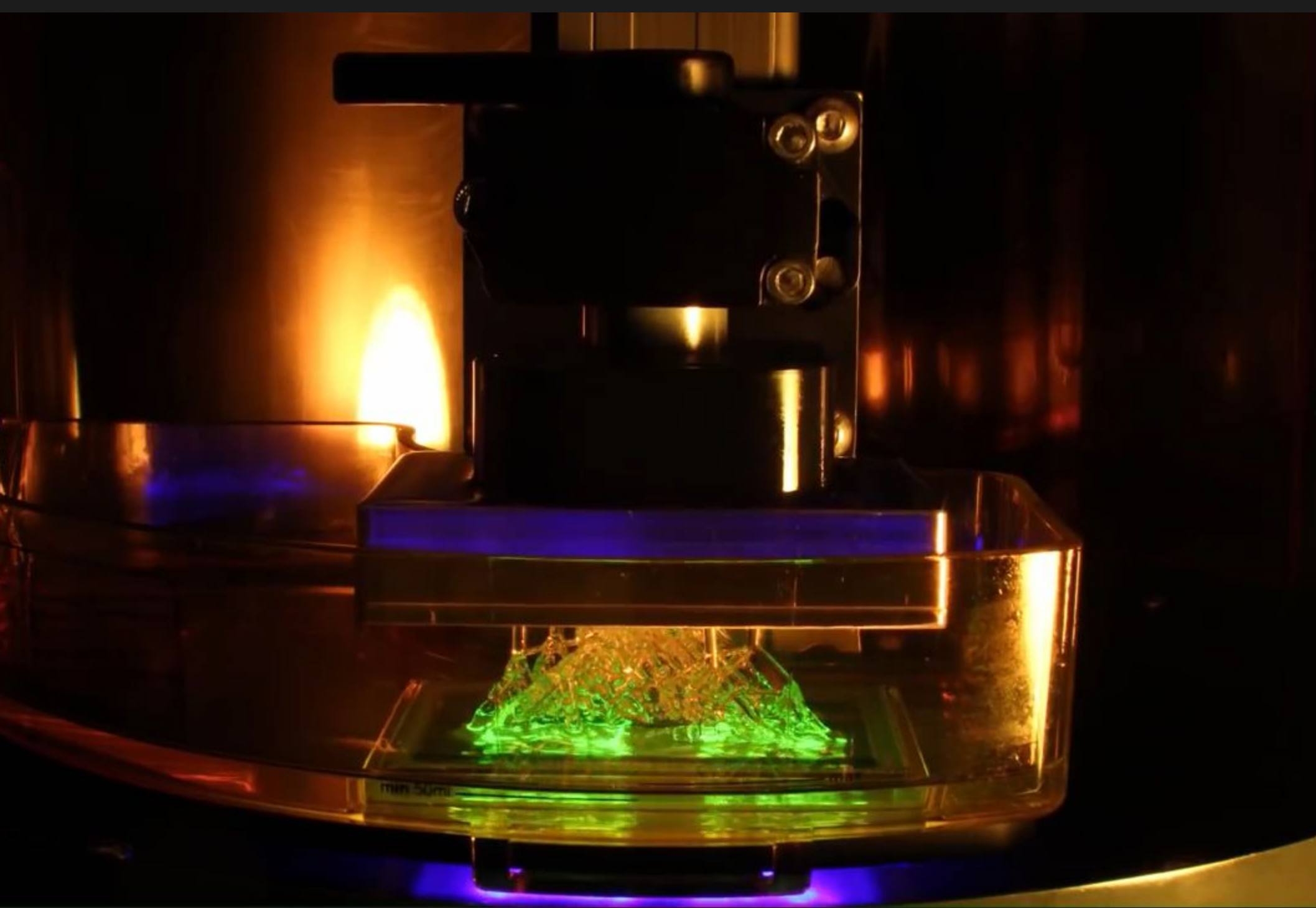


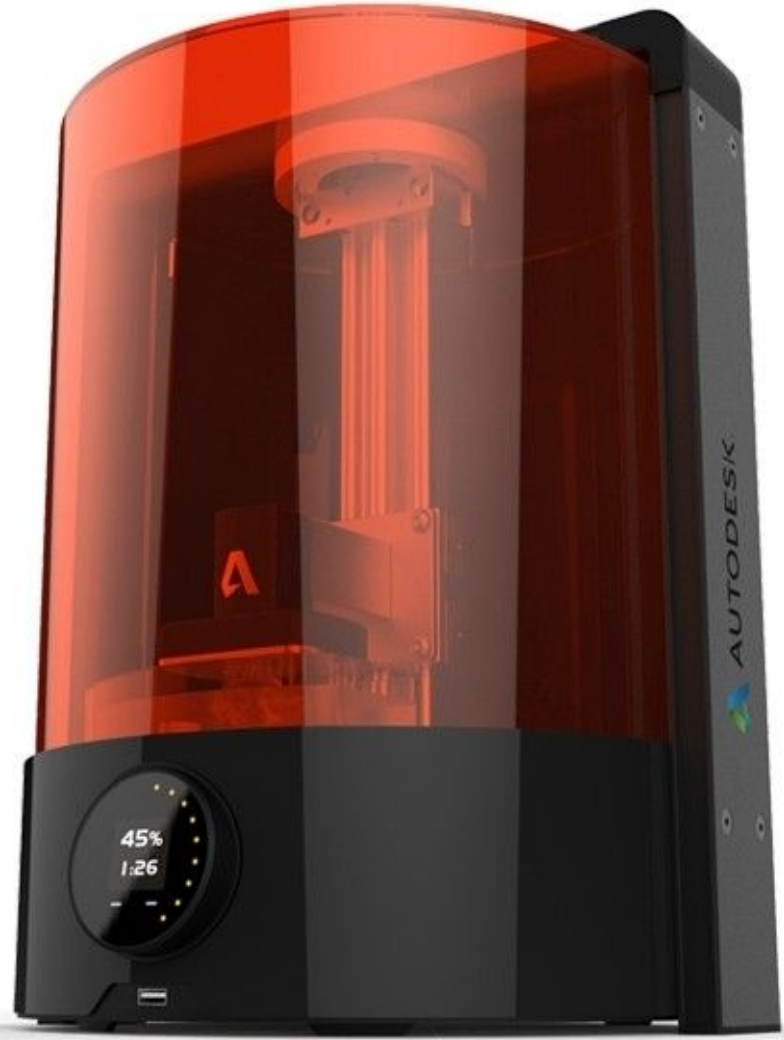
LULZBOT™

Freedom in the 3D Printing Community

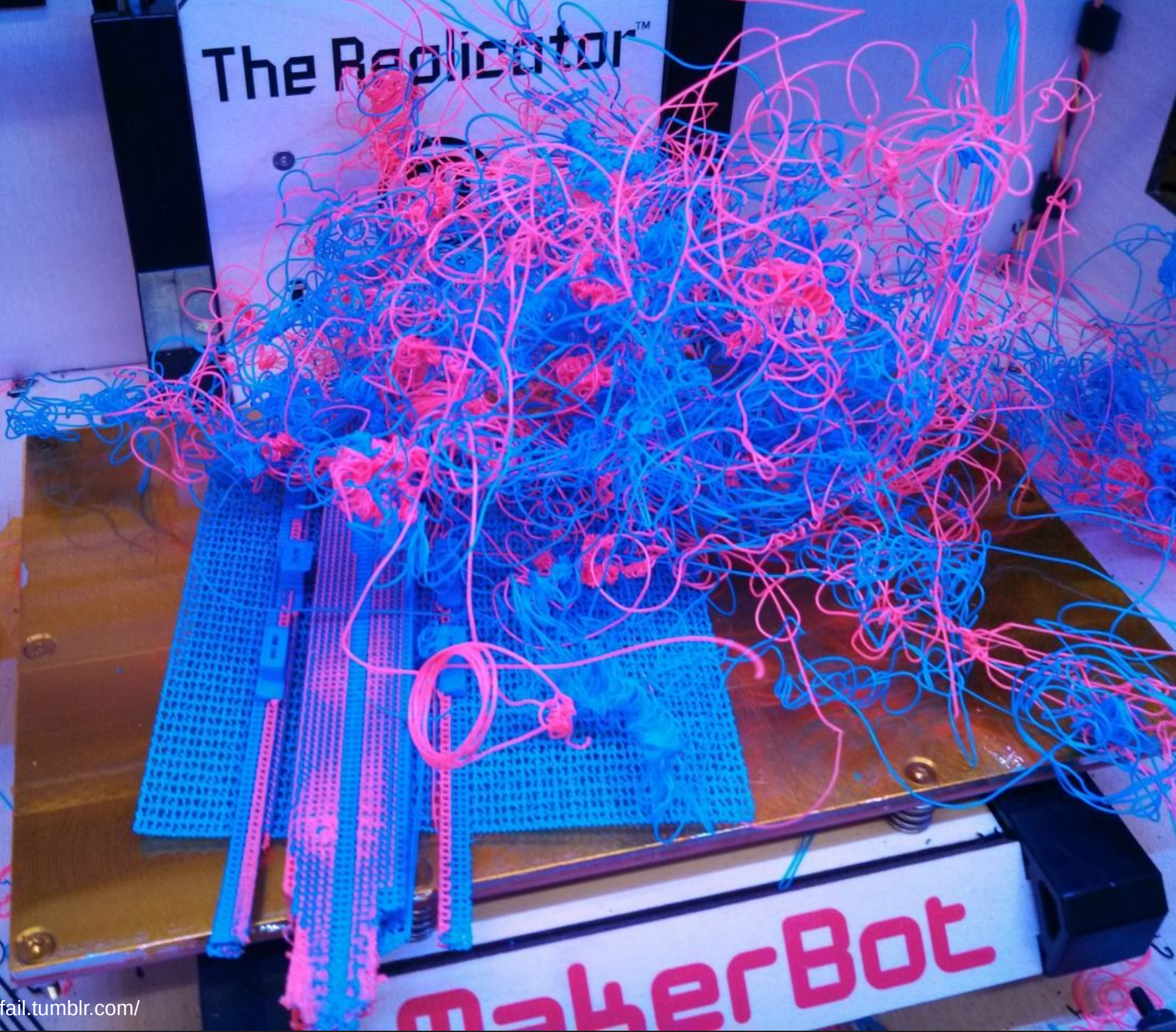
Aleph Objects, Inc. is committed to Open Source Hardware, Free Software, and Libre Innovation. That's why we are proud that our LulzBot product line of 3D printers are the first hardware product ever certified by the Free Software Foundation to Respect Your Freedom. We are proud to support the communities that uphold this philosophy.







The Replicator™



MakerBot



USE ME



THE
GREATEST
SHOW
(and TELL)
ON EARTH



THE
GREATEST
SHOW
(and **S**ELL)
ON EARTH



?

\$





(RIP Radio Shack)



Purina ONE® Elevates Feeding Experience For Cats At Maker Faire

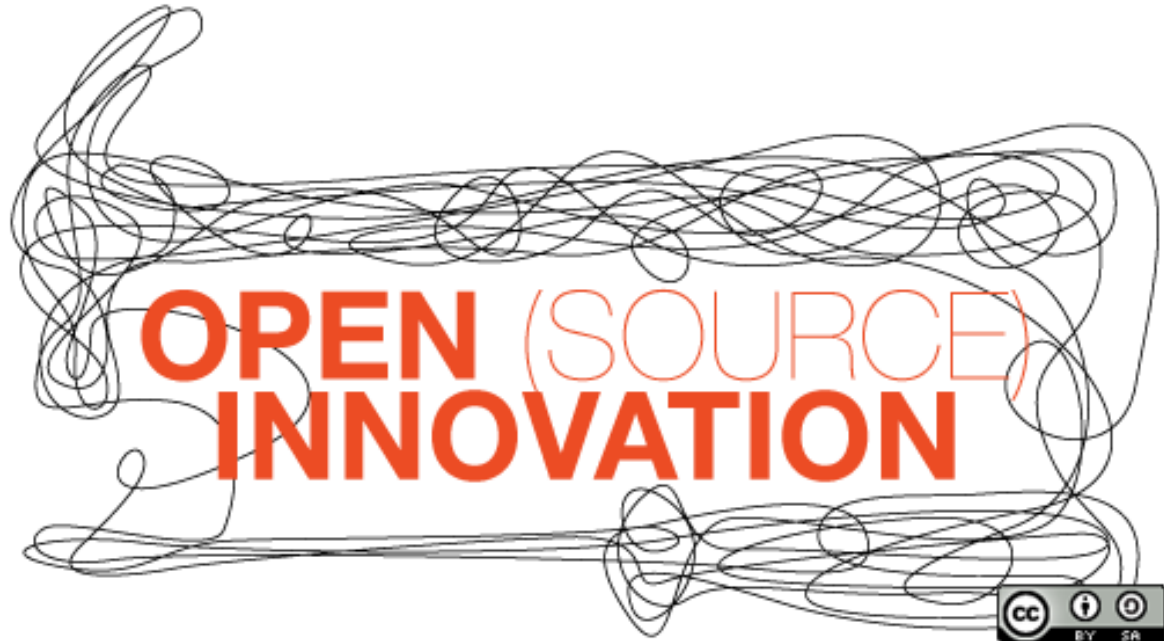
Calling For DIY Projects to Help Enrich the Lives of Cats



ST. LOUIS, Aug. 26, 2013 /PRNewswire/ -- What you feed your cat is just as important as *HOW* you feed your cat. Cats are designed to hunt for their food, and while domestic cats have it much easier they still benefit from the stimulation that comes from the hunt. Swapping a bowl for a puzzle feeder encourages your cat to work for her food, stimulating her mind and body and helping her live her True Nature. So Purina ONE® is calling on the cat community to create and share do-it-yourself (DIY) puzzle feeder projects to help enrich the feeding experiences of cats. Designs will be featured on Purina ONE's DIY Cat Projects Pinterest board and in the brand's booth at Maker Faire in New York on September 21 and 22, where Purina ONE will work to challenge common misconceptions and educate cat owners about their cats' True Nature.

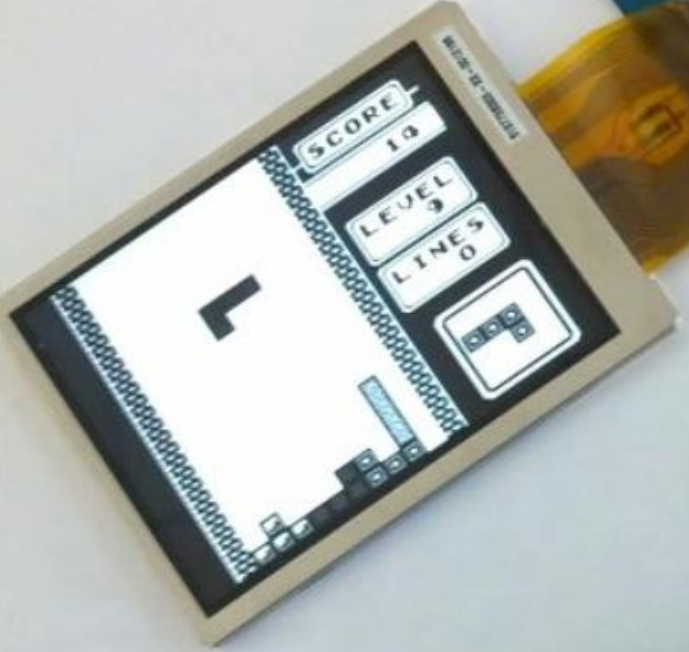
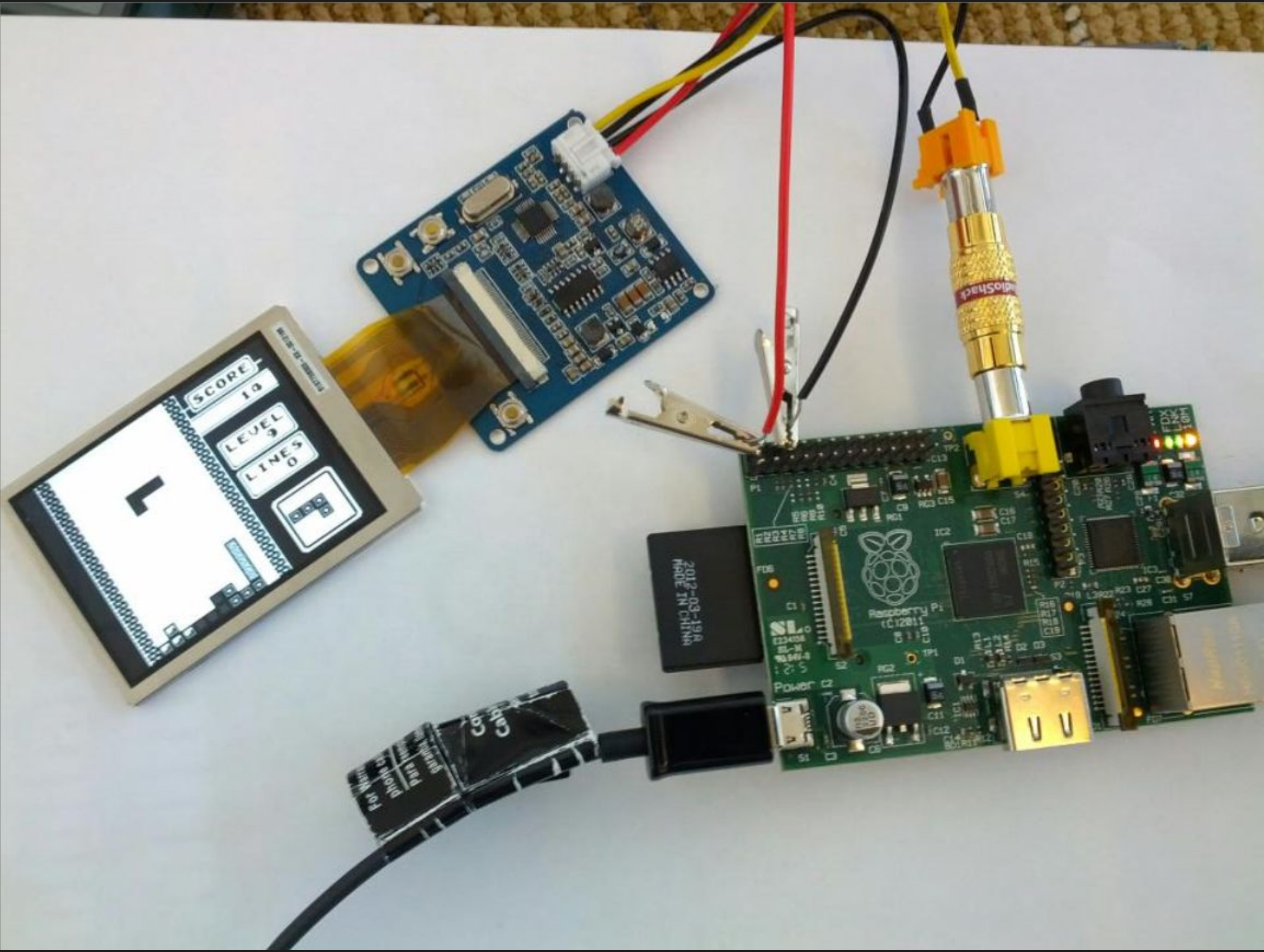
(Photo: <http://photos.prnewswire.com/prnh/20130826/LA69621>)

"The True Nature of Cats movement is about letting our cats be who they were born to be through proper nutrition and enriching experiences," says Nida Bockert, director of Purina ONE brand cat food. "The active pursuit of food is in a cat's True Nature, and using a puzzle feeder is one great way to appeal to your cat's natural desire for physical and mental stimulation."



[Opensource.com](https://opensource.com)



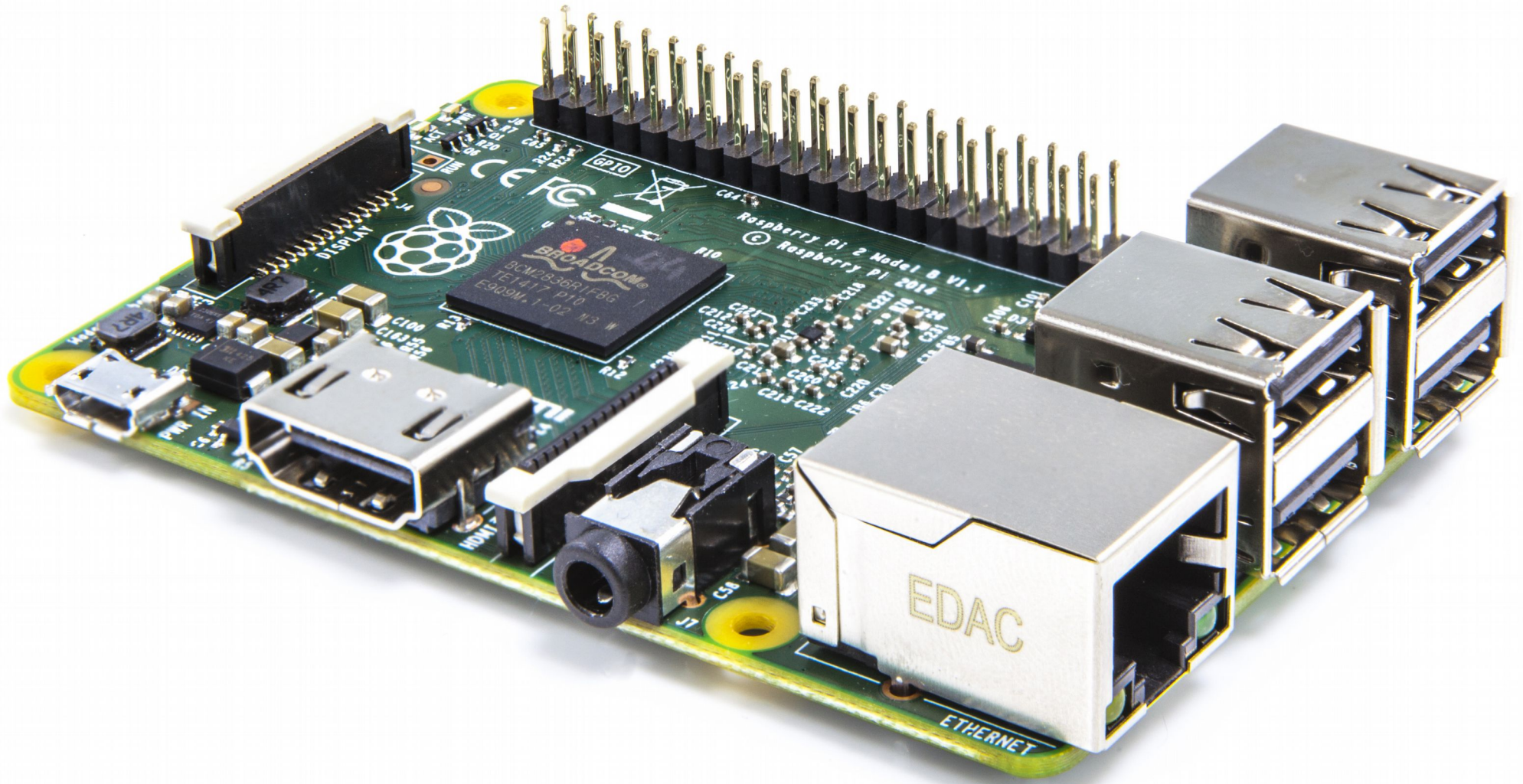




+



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Broadcom
BCM2836R IC B6
TE1417 P10
E909M 1-02 M3

Raspberry Pi 2 Model B V1.1
© Raspberry Pi 2014

EDAC

ETHERNET



Opensource.com

"DIY and open source are still part of the solution. They're messy and sometimes ineffective tools, but sometimes scratching your own itch is the best way to get something done."

**- Jonathan Kuniholm
Open Prosthetics Project founder**

You can help!

We can't do the best possible job without people with diverse skill sets and backgrounds; we need your help.

Be a user: Do you have an amputation or limb deficiency? Help us test our prosthetic ideas by using them in your daily life and/or suggesting modifications.

Be a donor: We need money to pay for prototyping and keep the lights on! [Find out how you can donate.](#)

Be a grant writer: Do you have experience writing and receiving grants? Help us secure long-term funding.

Be our legal team: Do you provide legal services related to intellectual property? Help us make sure that our designs stay in the public domain.

Be a service provider: Do you provide machining, rapid prototyping, or casting services? We need your help turning our models into working prototypes. You can also help us by fulfilling orders for prosthetic parts when our designs are usable.

Be a researcher: Can you read through vast quantities of technical information and pull out the interesting stuff? Do you have expertise with the US patent system? We can use your skills to find answers to technical questions and find existing solutions to our problems.

Or maybe you have some other skills or advice we could use. Please [contact us](#) right away!



<https://www.youtube.com/watch?v=ovU6Qv6QSXM>



open
pacemakers



[Opensource.com](http://opensource.com)

RECALL

NOT CONFIDENTIAL



[Opensource.com](https://opensource.com)

Because these hardware designs are closed to public scrutiny, it is relatively easy for surveillance at the Internet's infrastructural level to go undetected. To make the Internet less susceptible to mass surveillance, we need to recreate the physical layer of its infrastructure on the basis of open-source principles.

- Eli Dourado

The New York Times

October 8, 2013

"[We wanted to] learn new things while making something we would actually use on a daily basis."

- Bunnie Huang
Project Novena



Hacking the Xbox

An Introduction to Reverse Engineering

Andrew “bunnie” Huang

“Without the right to tinker and explore, we risk becoming enslaved by technology; and the more we exercise the right to hack, the harder it will be to take that right away.”

[nostarch.com/
xboxfree](http://nostarch.com/xboxfree)

7
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CASES IN
COURT OF
SESSION

VOL. IX. N. S.
1846-47

CASES IN
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SESSION

VOL. X. N. S.
1847-48

CASES IN
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VOL. XI. N. S.
1848-49

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1849-50

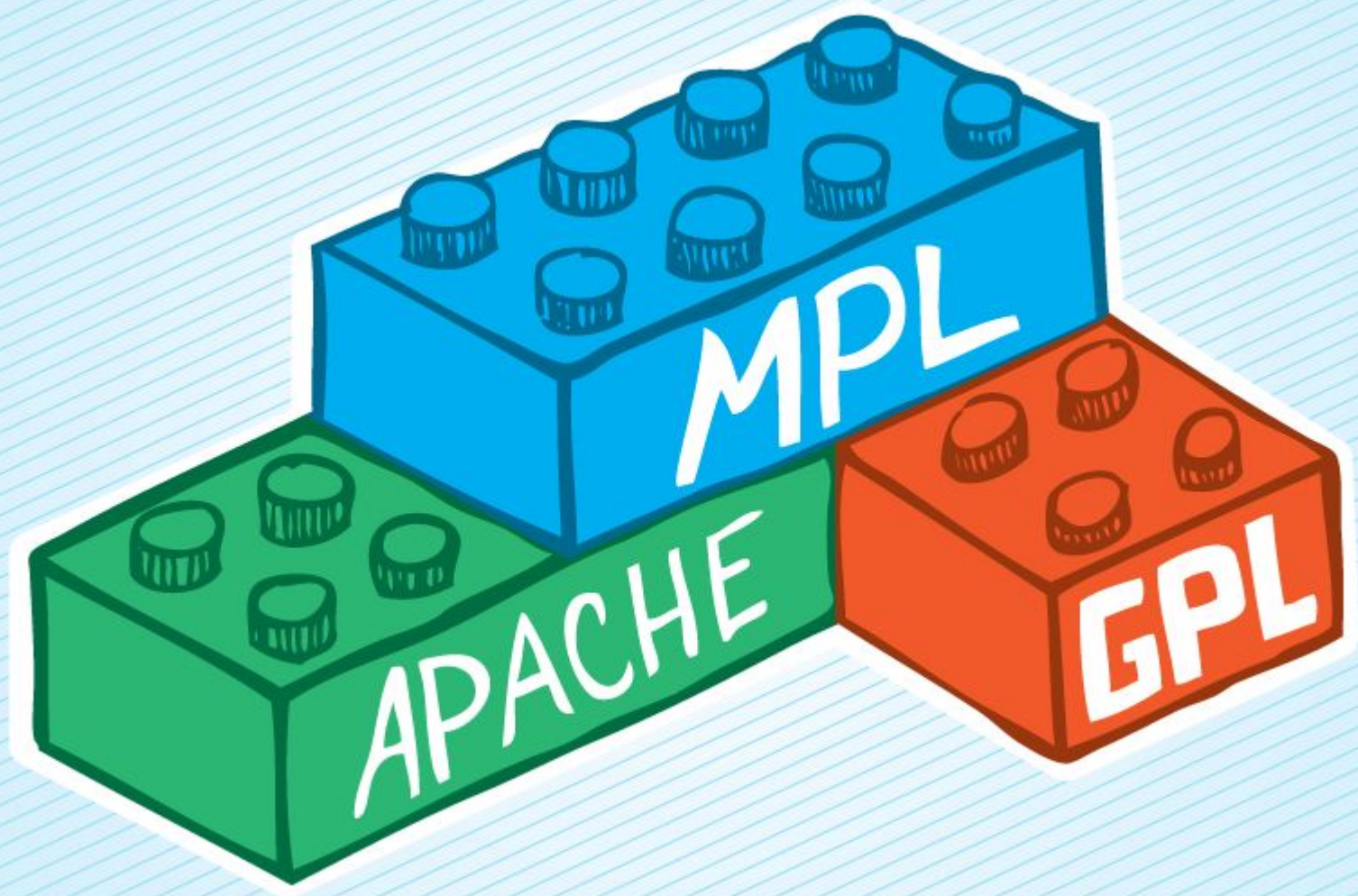
VOL. VIII.
1845-46

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1845

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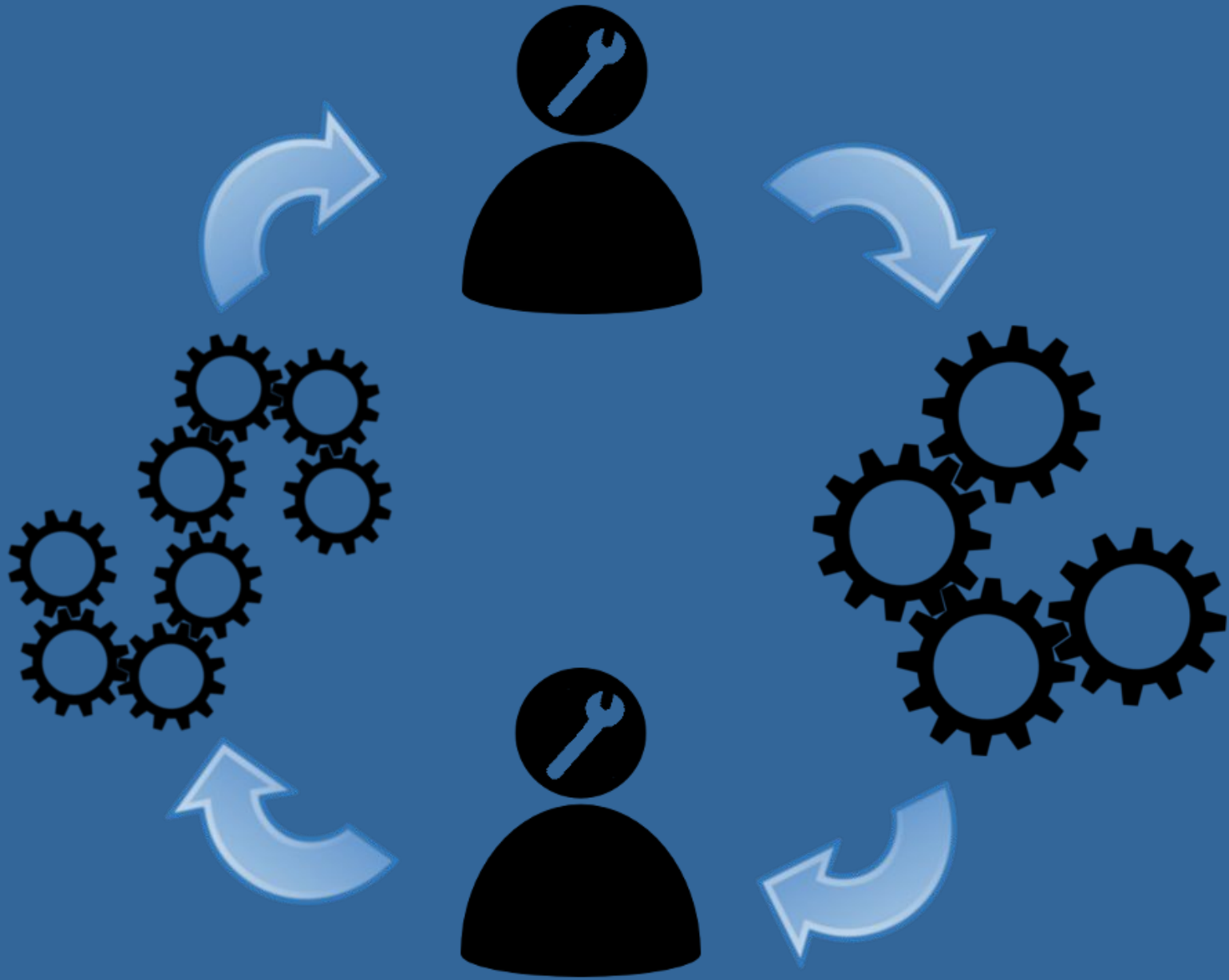




Towards a Functional Licence for Open Hardware

<http://www.ifosslr.org/ifosslr/article/view/69/131>

ALL PROBLEMS
ARE OPPORTUNITIES
IN DISGUISE

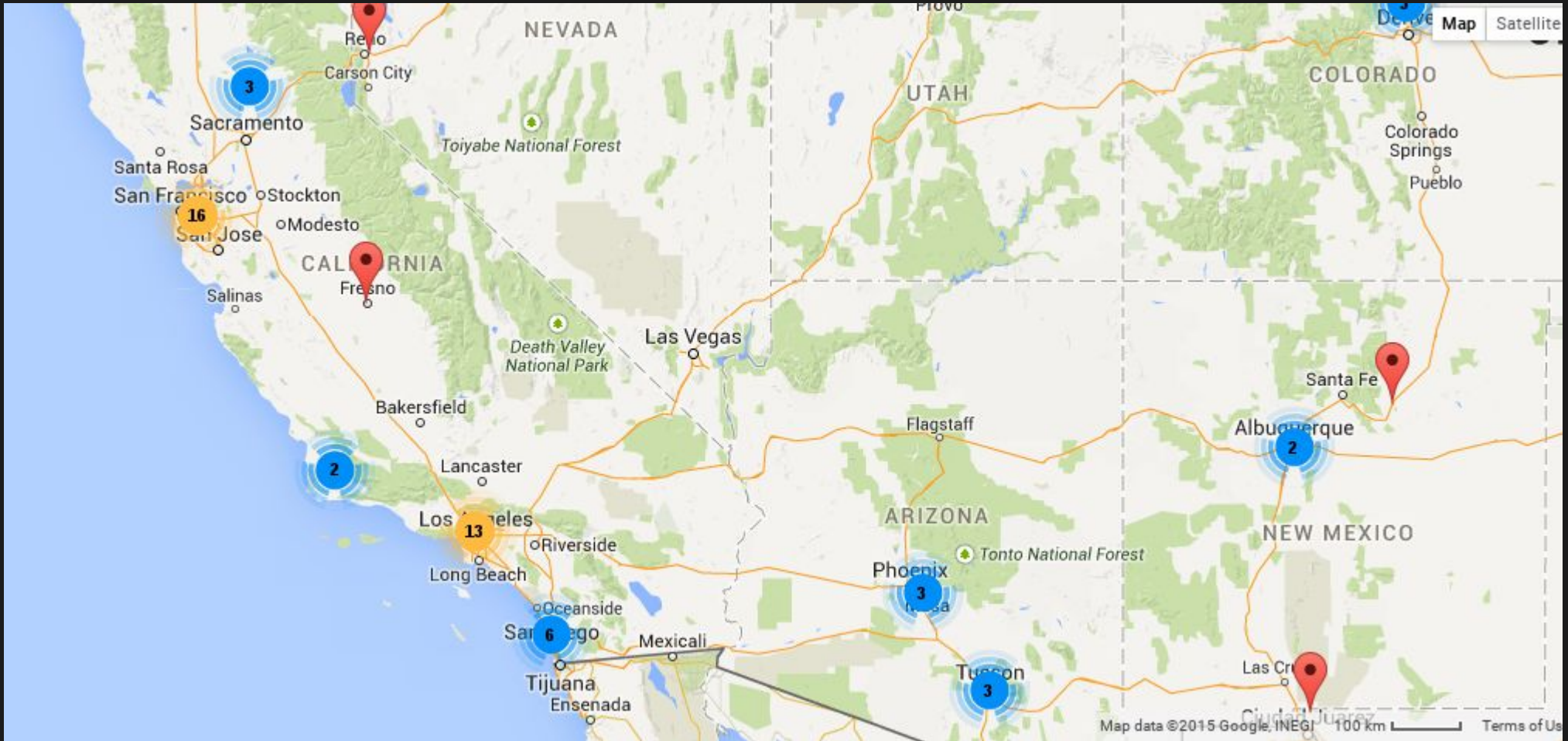




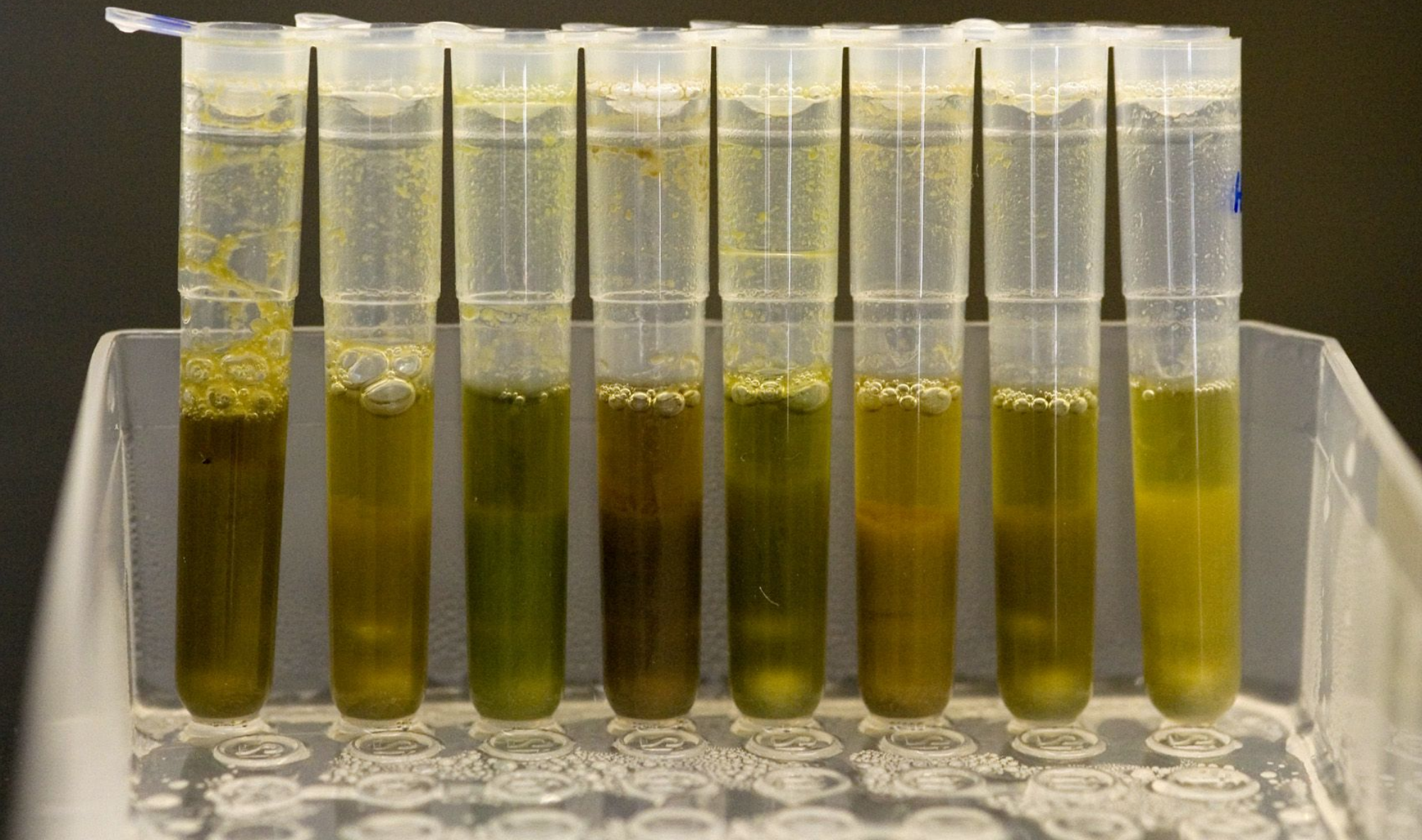
Ohm Sweet Ohm

A resistance
is not futile.

— III —



hackerspaces.org



リアルタイム放射線情報 | [航空機モニタリング情報](#)

地球環境スキャンニングプロジェクトとSAFECASTによって定点計測された全国の放射線量情報をリアルタイム（5分ごと）に更新します。各地点で計測した速報値、24時間平均値を数値とグラフでわかりやすく掲載します。（[リアルタイム放射線情報について](#)）

2014年10月26日（日）4時20分更新 ※各計測地点の数値は5分ごとに更新されています

[すべての地点の計測値を見る>>](#)

[ツイートする](#)

[シェア](#)



[C]Yahoo Japan,[C]OPeNBook

新しく追加された計測地点（2012年5月24日時点）

[静岡県静岡市清水区有東坂2丁目](#)、[大阪府東大阪市小阪1丁目](#)、[山形県山形市松見町](#)、[福岡県福岡市城南区七隈8丁目](#)、[岐阜県山県市高富](#)、[福岡県筑紫野市二日市中央3丁目](#)

[これまでの追加地点、お知らせ>>](#)



The Maker Movement

JOIN THE Revolution!

MANIFESTO

Mark Hatch

Radicalize!



TOOLS
of Industrial
Revolution



are at the
CHEAPEST

if we could bring
more folks...



MAKERS
ARE CHANGING...

Make is Fundamental.



Share

Give away small pieces
of yourself.

LEARN

Tool up



Participate

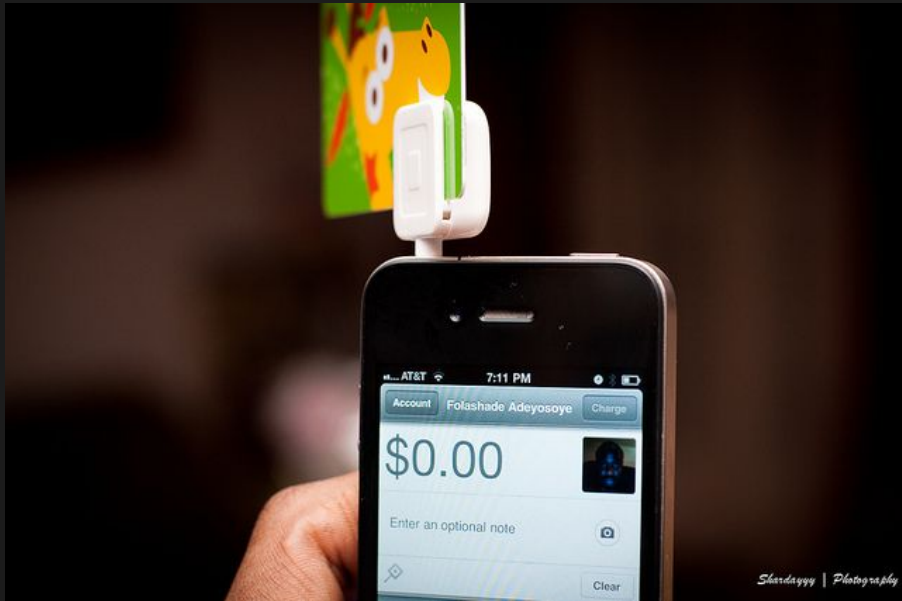
SUPPORT

embrace
Change

Make
something
For Christmas!



**"the unique opportunity to
arm a Maker Movement army
with the tools it needs to
change itself and the world."**



 Square



 DODOcase



**PHINEAS: WE'RE FIXING THIS
TIME MACHINE.**

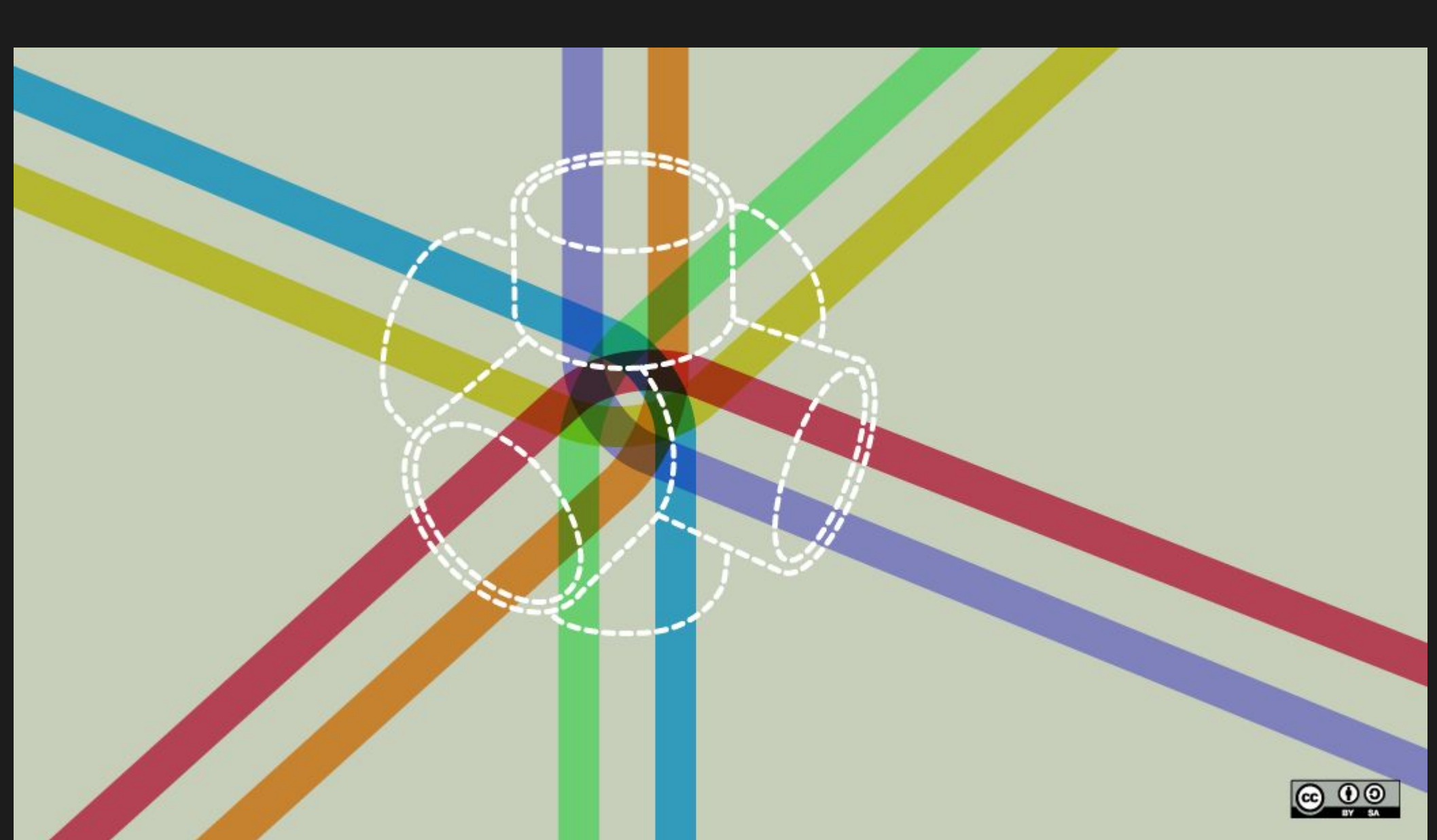
**ISABELLA: ISN'T THAT KINDA
IMPOSSIBLE?**

PHINEAS: THAT'S A POSSIBILITY.



TELL Me
MORE



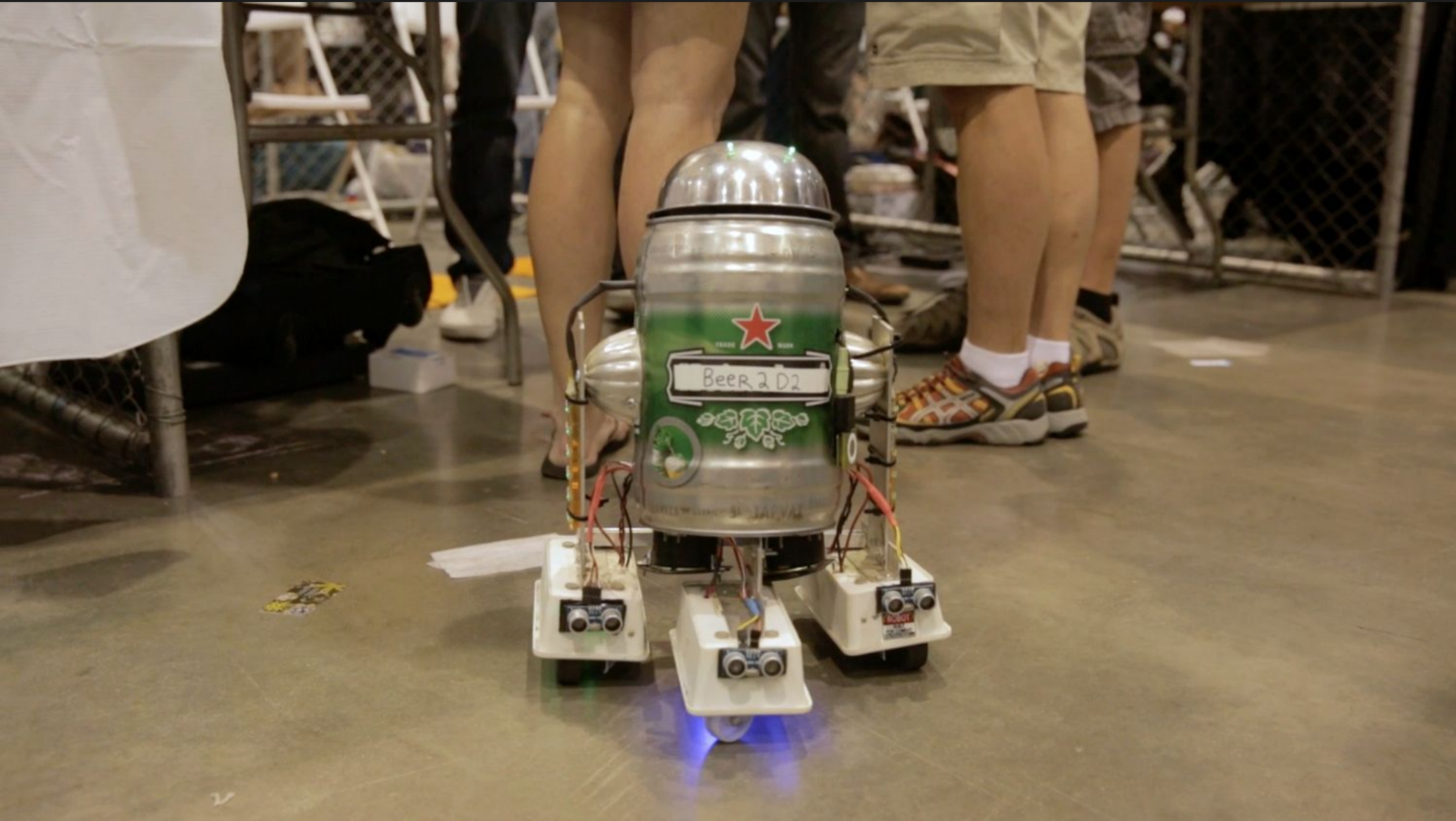




Project	Date	Goal	Funding	Description
Cooler Cooler	Aug. 2014	\$50,000	\$13,285,227	Cooler with blender, speaker, USB charger, etc.
Pebble	May 2012	\$100,000	\$10,266,845	E-paper smartwatch
Exploding Kittens	Feb. 2015	\$10,000 (reached in 8 minutes)	\$8,782,571	Card game from Matthew Inman.
Ouya	Aug. 2012	\$950,000	\$8,596,474	Video game console
Pono Music	Apr. 2014	\$800,000	\$6,225,354	FLAC music player

maker

A documentary on the
maker movement









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MESH: Creative DIY Kit for the Connected Life

Tokyo, Japan Technology

Story Updates 7 Comments 25 Funders 346 Gallery 11

1.4k

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MESH

Make, Experience, SHare



\$46,736 USD

RAISED OF \$50,000 GOAL



This campaign started on Jan 06 and will close on March 07, 2015 (11:59pm PT).

Fixed Funding ?

Select a contribution amount below:

\$1 \$50 \$100

\$ USD

CONTRIBUTE NOW



MESH project

VERIFIED

Campaign Team



SELECT A PERK

“Crowdfunding helps us to collect feedback from early adopters and users before products go on the market.”

- Sony
New Business
Creation Department



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ON REDDIT**

**THAT GIRL YOU LIVED
WITH IN 2008**

YOUR FRIENDS

MOM

YOU

 **AngelList**

KICKSTARTER

Bountysource 

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 **INDIEGOGO**



MERITOCRACY

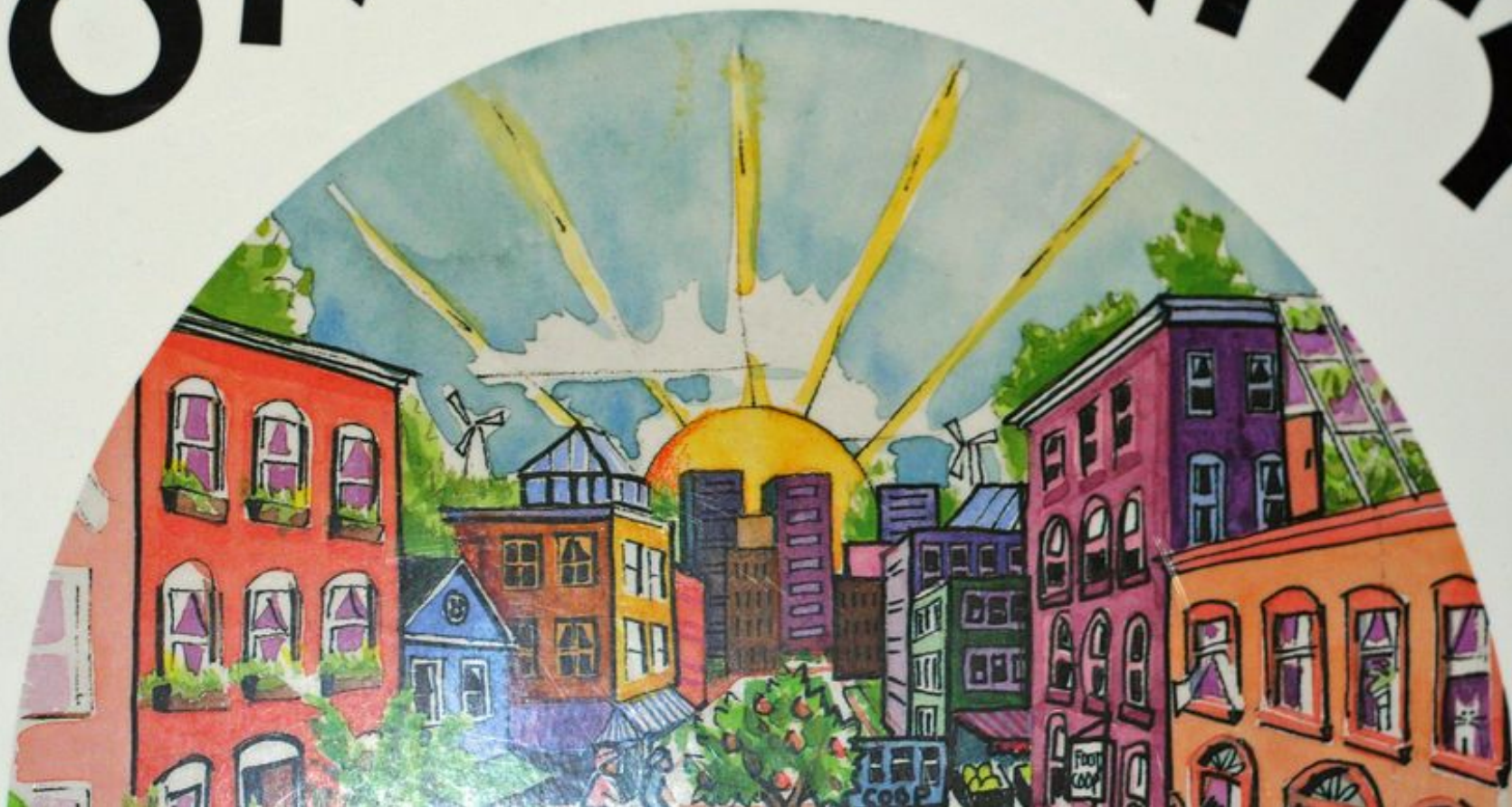


opendesk





HOW TO BUILD COMMUNITY





THE OPEN SOURCE WHY

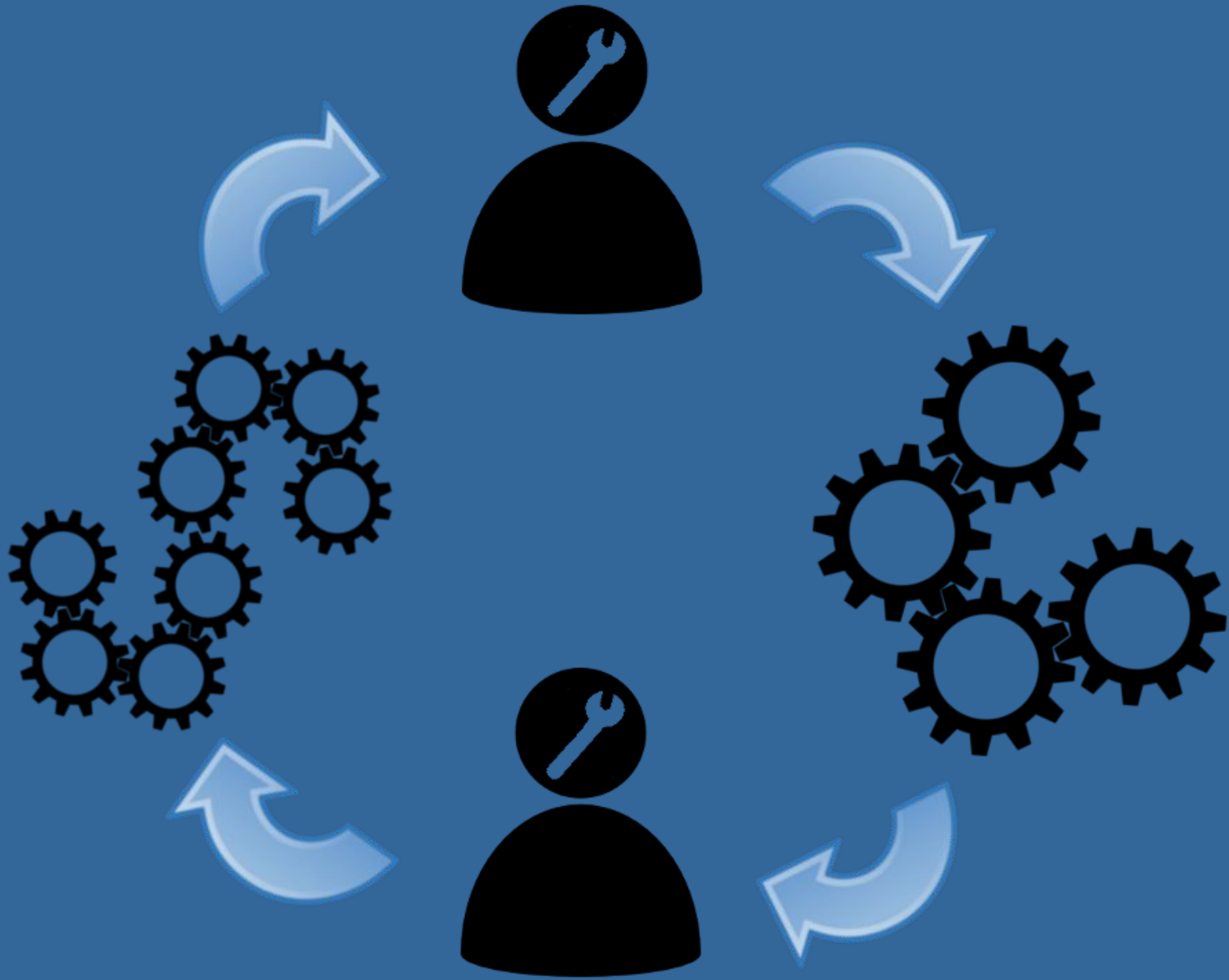














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We are standing on the foundation of the largest explosion of creativity, knowledge creation, and innovation in all of human history.

We are surrounded by a cloud of witnesses who wait to see what we will do in the next 10 to 20 years of profound innovation...

**The real question is,
what are you going to do?**

- Mark Hatch, TechShop CEO

**MAKE
THINGS
BETTER.**

SECRET PIZZA PARTY

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