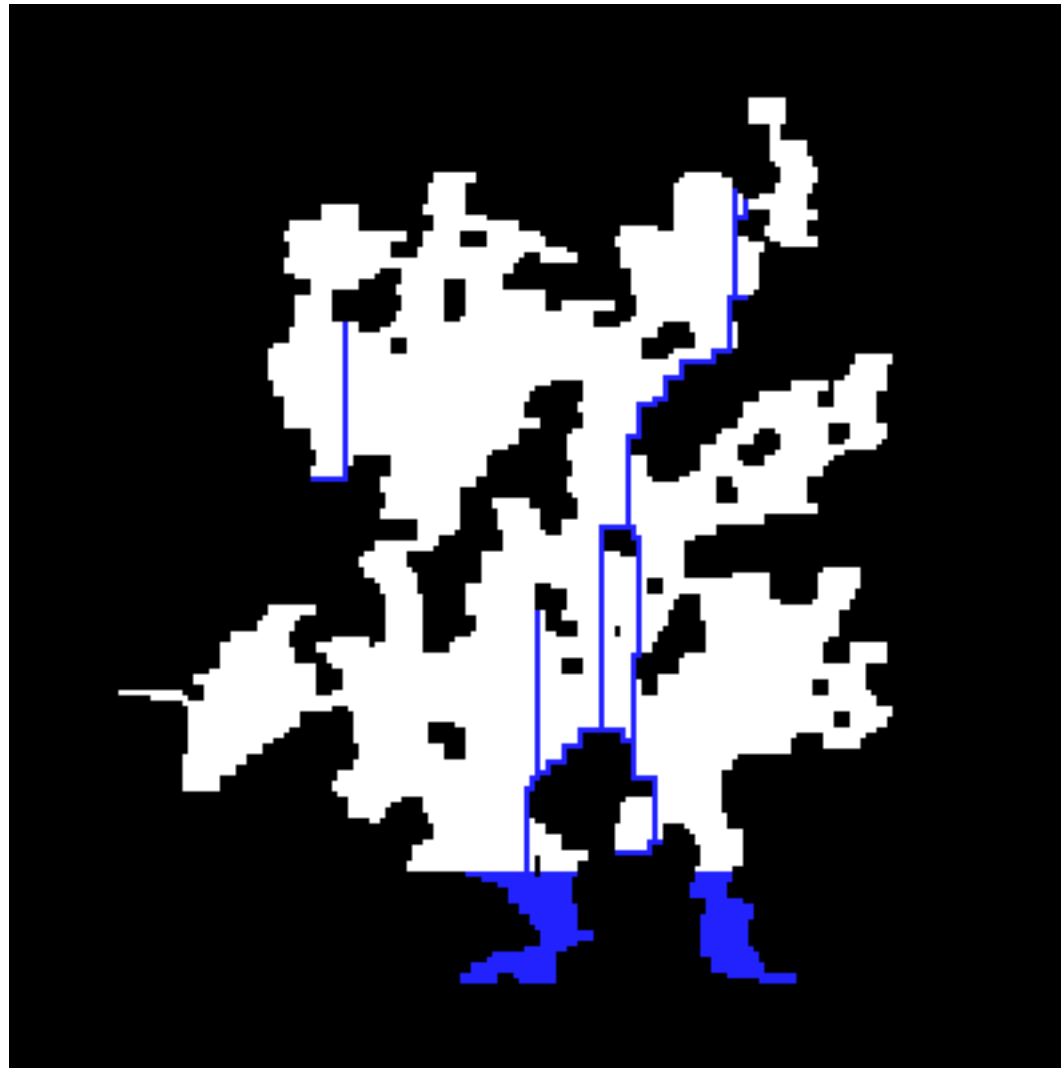




Botcaves

A workshop **with** Matthew Plummer-Fernandez

WORKSHOP [NOT SO] BRIEF!

Algorithmic and autonomous **software** agents known as **bots** are increasingly participating in everyday life. Bots can potentially gather data from both physical and digital activity, store and share **data** in the ‘**cloud**’, and develop ways to communicate and learn from their **databases**. In essence bots can animate data, making it useful, interactive, visual or legible. Bots although software-based require **hardware** from which to run from, and it is this under-explored crossover between the physical and digital presence of bots that this workshop investigates.

You will be asked to design a physical ‘housing’ or ‘interface’, either bespoke or hacked from existing objects, for your personal bots to run from. These *botcaves* would be present in the home, workspace or other, permitting novel interactions between the digital and physical environments that these bots inhabit.

Algorithmic and autonomous **software** agents known as **bots** are increasingly participating in everyday life.

A bot is another way of saying a piece of software running autonomously that accesses the internet and the network of people and things connected to it.

- Webcrawlers (Search Engine indexers - robot.txt)
- Wikipedia bots
- Twitter bots, Tumblr bots, Facebook bots
- Botnets, viruses, worms
- Trading bots (HFT)
- Quake bots

Bots can potentially gather data from both physical and digital activity, store and share **data** in the '**cloud**', and develop ways to communicate and learn from their **databases**. In essence **bots can animate data**, making it useful, interactive, visual or legible.

Data can be collected and collated from almost anywhere.

- Digitised literature
- Digitised Records/ Archive material
- Social Media
- Emails / Communication
- Meta-data
- Photos and videos - anything from smartphones
- Sensors
- Quantified Self
- Crowd-Sourced / Human knowledge

The Internet in Real-Time

How Quickly Data is Generated

Like 17k Share 17k Tweet 6.1K +1 5k in Share 1.4K Share 7.5K



By the way, in the 216 seconds you've been on this page, approximately 4875984 GB of data was transferred over the internet.

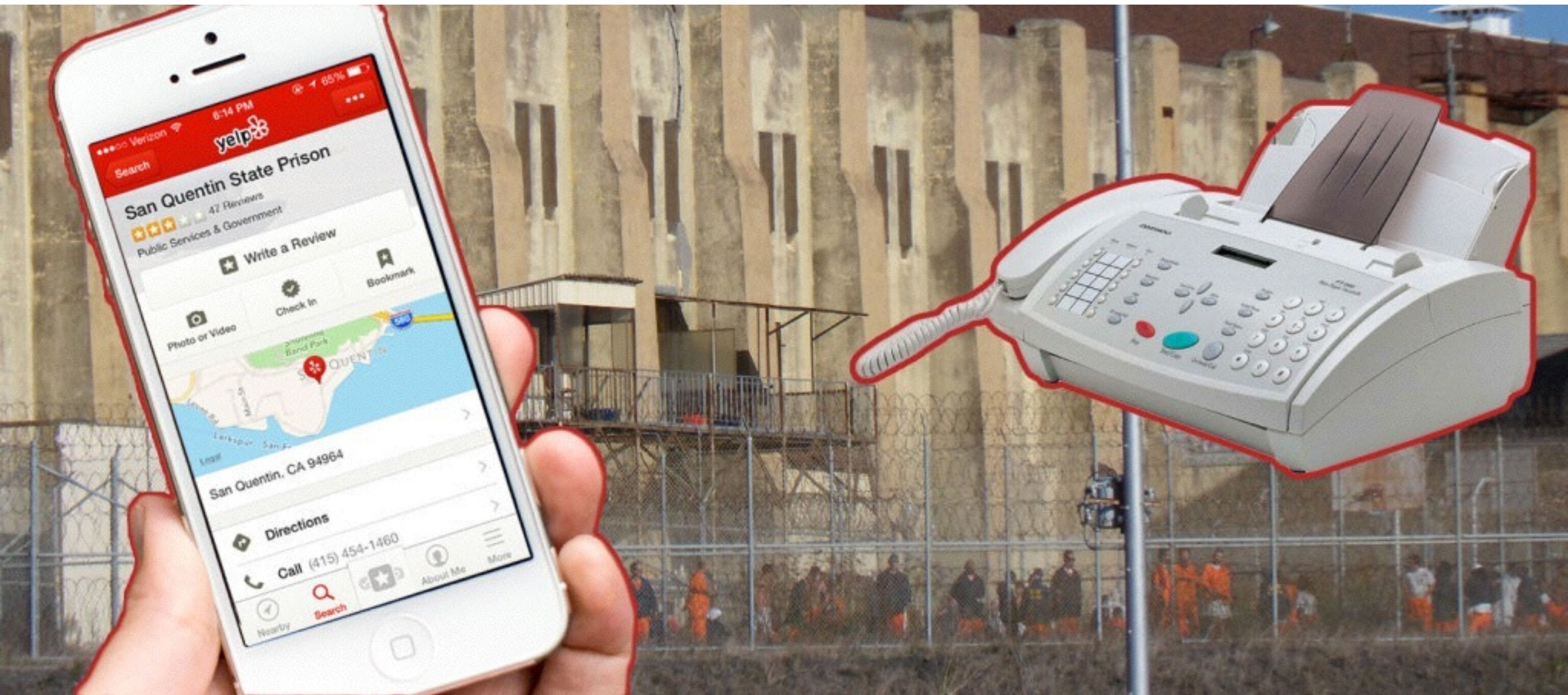
Databases and 'Big Data' are illegible, unusable, impractical, and boring, unless a piece of software processes it for us. That could mean:

- Sorting
- Visualising
- Statistical Analysis
- Pattern Finding
- Translating into 'Natural Language' (NLTK)
- Machine Learning
- Curating
- Remixing

Delivering that more succinct and legible information also becomes part of the bot's remit. Who does it share this with and how?

- Publish on a webpage
- Share on social media
- Send email
- File into another database
- Send to print
- Send SMS
- Fax
- Physical space alert - sound/ lights
- Send to another bot or process

My new favourite Bot



Yelp Prison Review Faxbot, 2014 by Sam Lavigne by Fletcher Bach

They can also make decisions :)

```
~/Projects/randomshopper/phantomjs-1.7.0-linux-x86_64/bin $ ./run.sh
step 1
load started
load finished
step 2
Enter Credentials
Amazon.com Sign In
step 3
login
Amazon.com Sign In
load started
load finished
step 4
get page url
Amazon.com: Recommended for You
espial
http://www.amazon.com/s/?field-keywords=espial
step 5
open page for product
load started
load finished
step 6
search page
Amazon.com: espial
18.26
step 7
product page
Amazon.com: espial
test complete!
18.26
half price... 20
BOUGHT
```

January Shipment

For this month's shipment, I got two books: *Machiavellian Democracy*, by John P. McCormick; and *Canadian Notabilities Volume I*, by John Charles Dent.



Bots although software-based require **hardware** from which to run from, and it is this under-explored crossover between the physical and digital presence of bots that this workshop investigates.

Bots run from computers. Either **personal computers or servers** (dedicated computers that deliver content over the internet). Datacenters are warehouses full of servers, these are getting increasingly large, offering remote storage and computation services.

- Websites
- Storage of email
- Social media content
- Storage of music, photos
- Rendering for animation (render-farms)
- Web-apps
- Banking services
- File-sharing platforms - sometimes defined by file formats.
- Bots (Dedicated services for leaving scripts running)



Amazon Data Center, 2012

A way to digest/ infantilise/ mystify/ **abstract** this is to call it 'the cloud'.



This is the Microsoft Cloud, 2014

Alternatively we can focus on running bots from a personal computer. These things are getting smaller and more ubiquitous, they can be:

- laptop
- tablet
- smartphone
- A Wearable
- Micro-computer
- Internet of Things Thing
- Anything that can compute and connect to the Internet.

You will be asked to design a physical 'housing' or 'interface', either bespoke or hacked from existing objects, for your personal bots to run from. These **botcaves** would be present in the home, workspace or other, permitting novel interactions between the digital and physical environments that these bots inhabit.



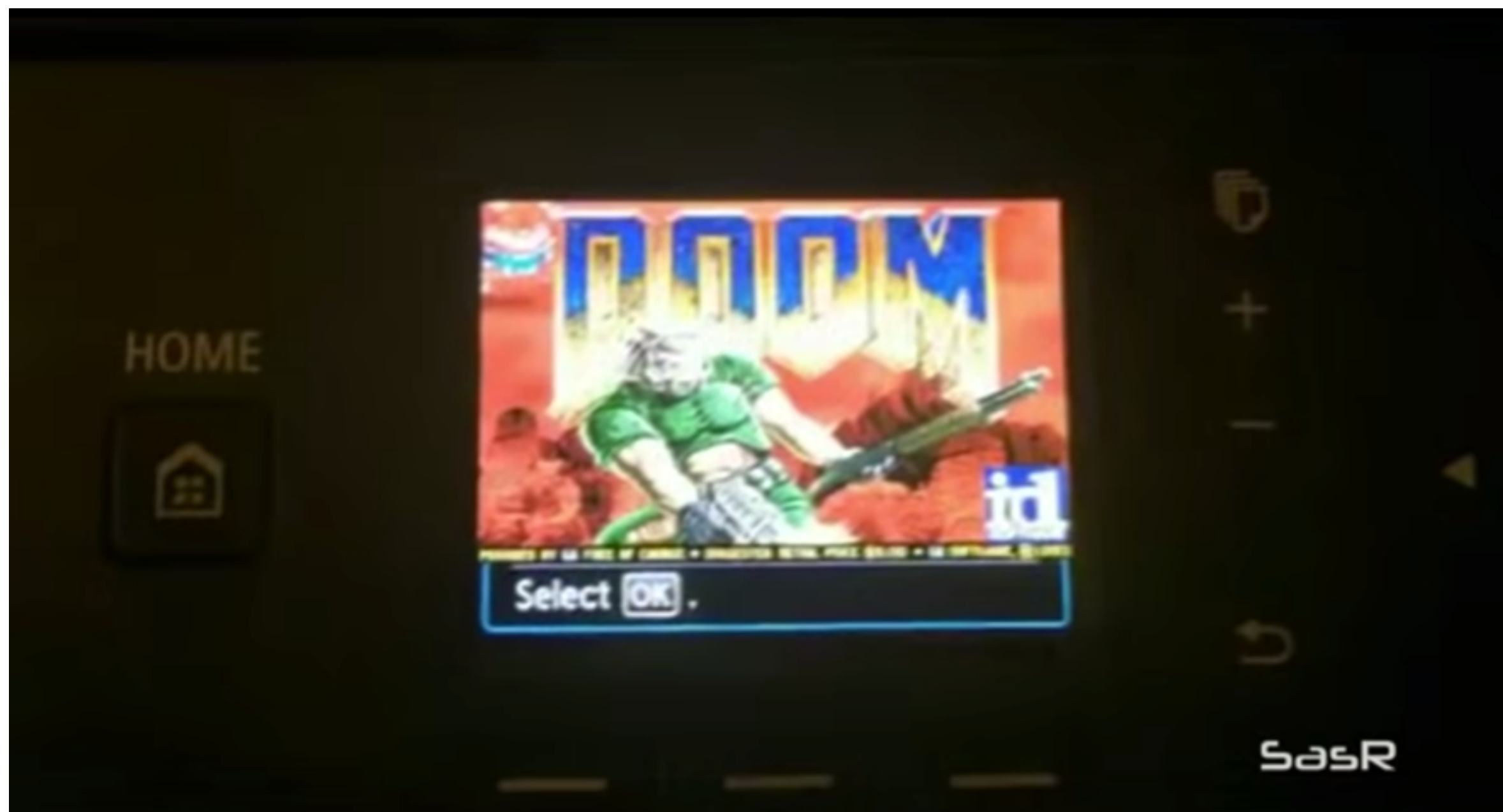
Where I keep my bots, 2014 - Jeff Thompson



Web Popularity Products by Valerio Loi



Real Prediction Machines by Jimmy Loizeau and James Auger



Hacking Canon Pixma Printers to play Doom - Michael Jordon



Home Server/ Radiator by Qarnot



Raspberry Pi micro-computers! Our starting point!

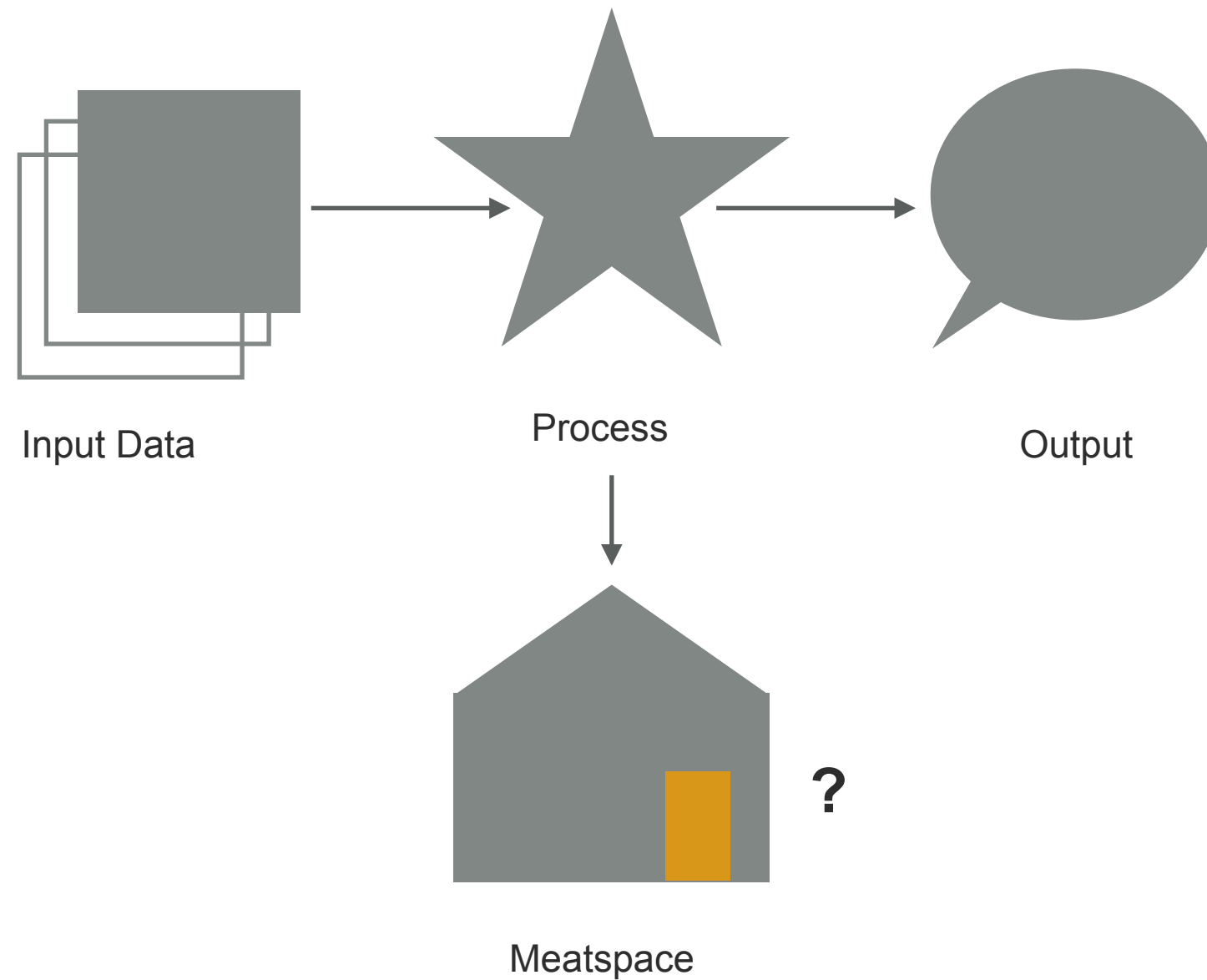


Or at least run something from your beloved apple :)

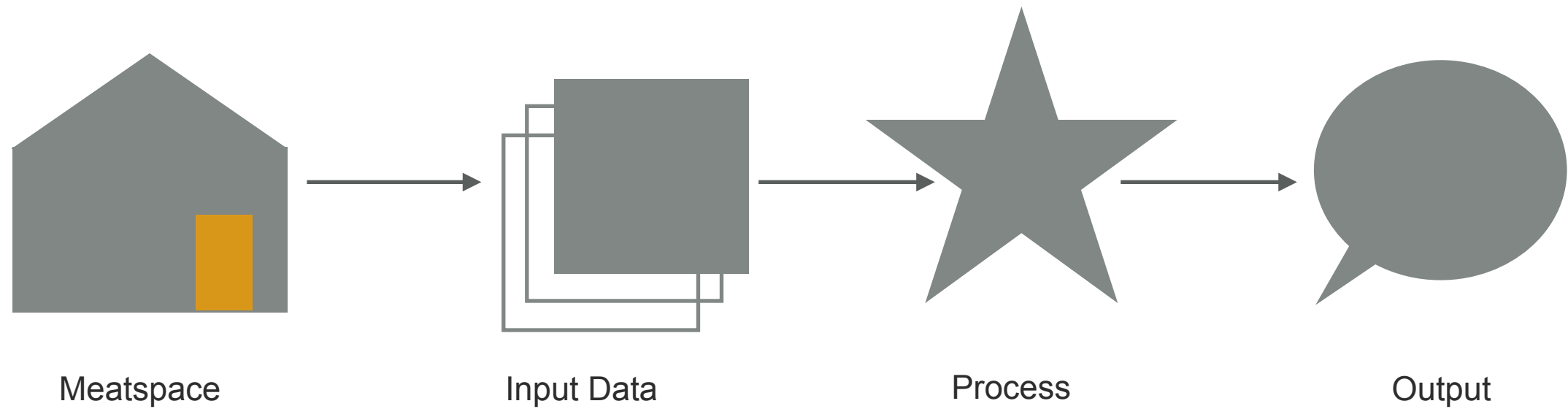
So each group has two options:

- 1. Begin sketching out ideas
- 2. Begin setting up hardware and software

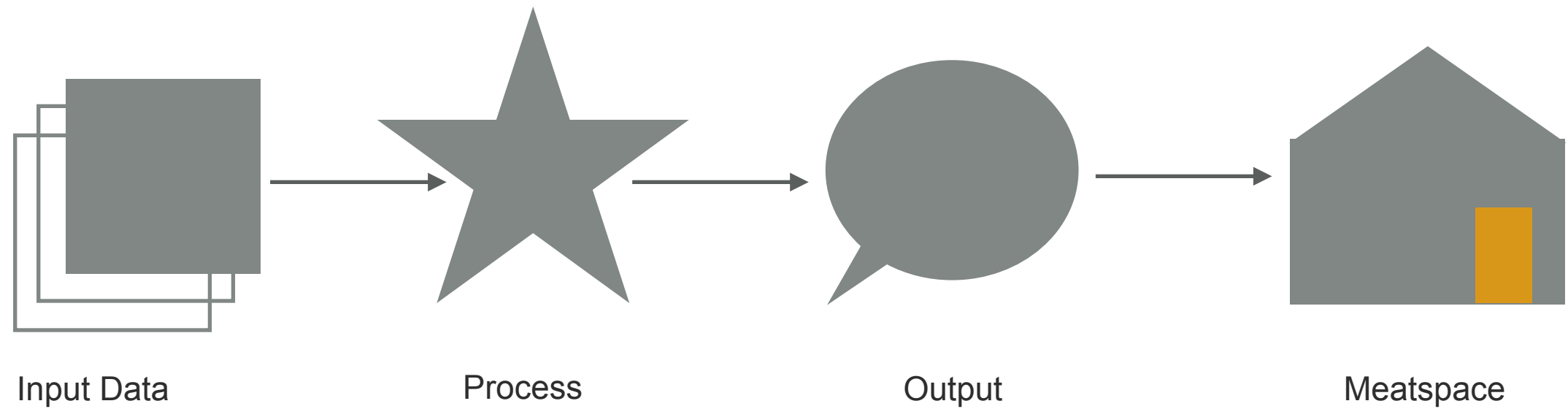
1. Suggestion A for mapping out a bot idea:



2. Suggestion B for mapping out a bot idea:



2. Suggestion C for mapping out a bot idea:





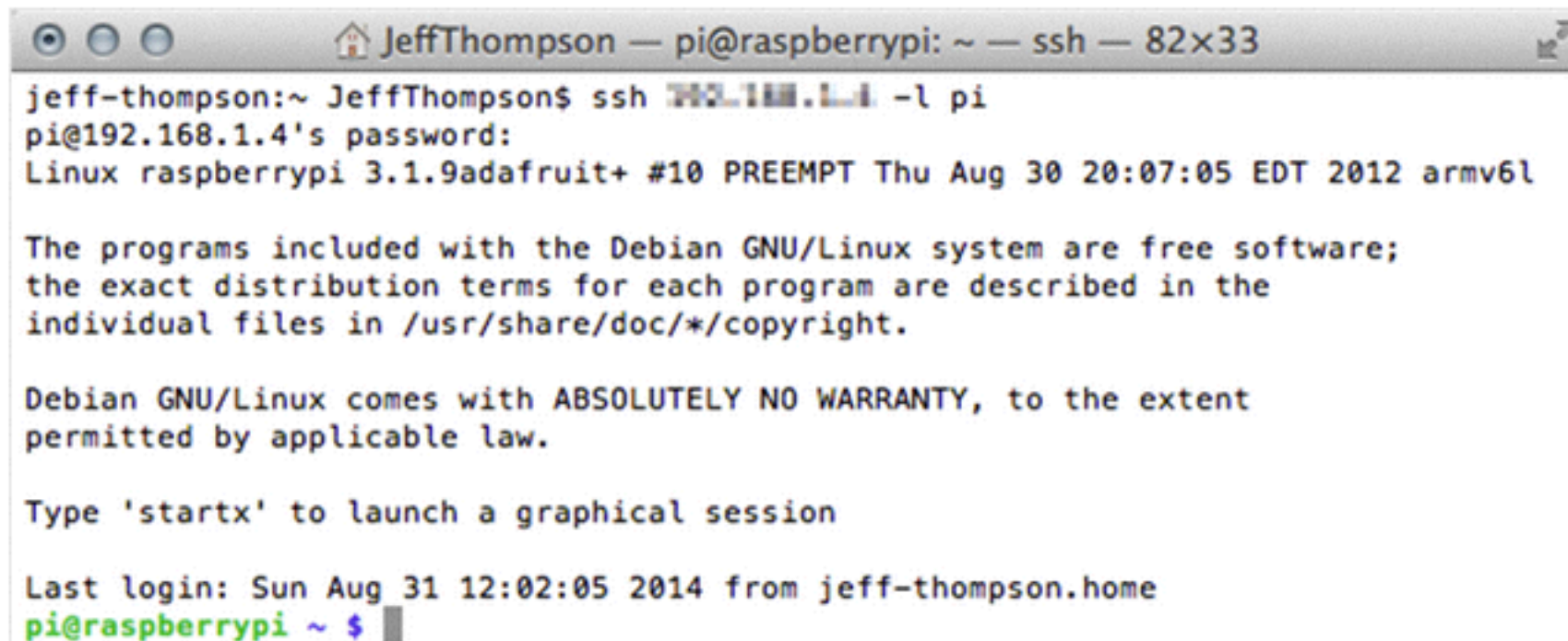
But I want to tinker with one of those first...

2. A. Setting up hardware

<http://is.gd/pibot>

STEP 3: CONNECT VIA SSH

Secure Shell (SSH) lets us connect to the Pi via another computer on the same network. With SSH, you can change configurations on your Pi, run maintenance, and most anything else via the command-line on your computer – much easier than finding a monitor cable and spare keyboard!



```
JeffThompson — pi@raspberrypi: ~ — ssh — 82x33
jeff-thompson:~ JeffThompson$ ssh 192.168.1.4 -l pi
pi@192.168.1.4's password:
Linux raspberrypi 3.1.9adafruit+ #10 PREEMPT Thu Aug 30 20:07:05 EDT 2012 armv6l

The programs included with the Debian GNU/Linux system are free software;
the exact distribution terms for each program are described in the
individual files in /usr/share/doc/*/copyright.

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.

Type 'startx' to launch a graphical session

Last login: Sun Aug 31 12:02:05 2014 from jeff-thompson.home
pi@raspberrypi ~ $
```

2. B. Setting up software

- Python
- Twython (Twitter API)
- pyTumblr (Tumblr API)
- Processing (easy to use but not for bots)
- IFTTT (great ready-made tool)



everyword

@everyword

TWEETS

109K

FOLLOWING

12

FOLLOWERS

89.1K



everyword @everyword · Jun 6

zoosperm



278



167



everyword @everyword · Jun 6

ZOOS



37



38



everyword @everyword · Jun 6

zooplasty



15



12



everyword @everyword · Jun 6

zooplanktons



35



33



everyword @everyword · Jun 6

zooplankton



61



62



everyword @everyword · Jun 6

zoophytic



10



9



Everyword

10. 'sorry'

9. 'what'

8. 'tits'

7. 'swag'

6. 'titties'

5. 'ugh'

4. 'shit'

3. 'vagina'

2. 'weed'

And the most popular word in the English language is...

1. 'sex', with 2601 retweets and 1274 favorites



Museum Bot @MuseumBot · 12h
Fan metmuseum.org/collection/the...



3



3



Museum Bot- Darius Kazemi

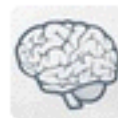


Two Headlines - Darius Kazemi.



iris was discovered by
Kanye West in 77 B.C.
when he conquered
Belgium

@factbot1



factbot @factbot1 · 3h

#17033 iris was discovered by Kanye West in 77 B.C. when he conquered Belgium



7



3



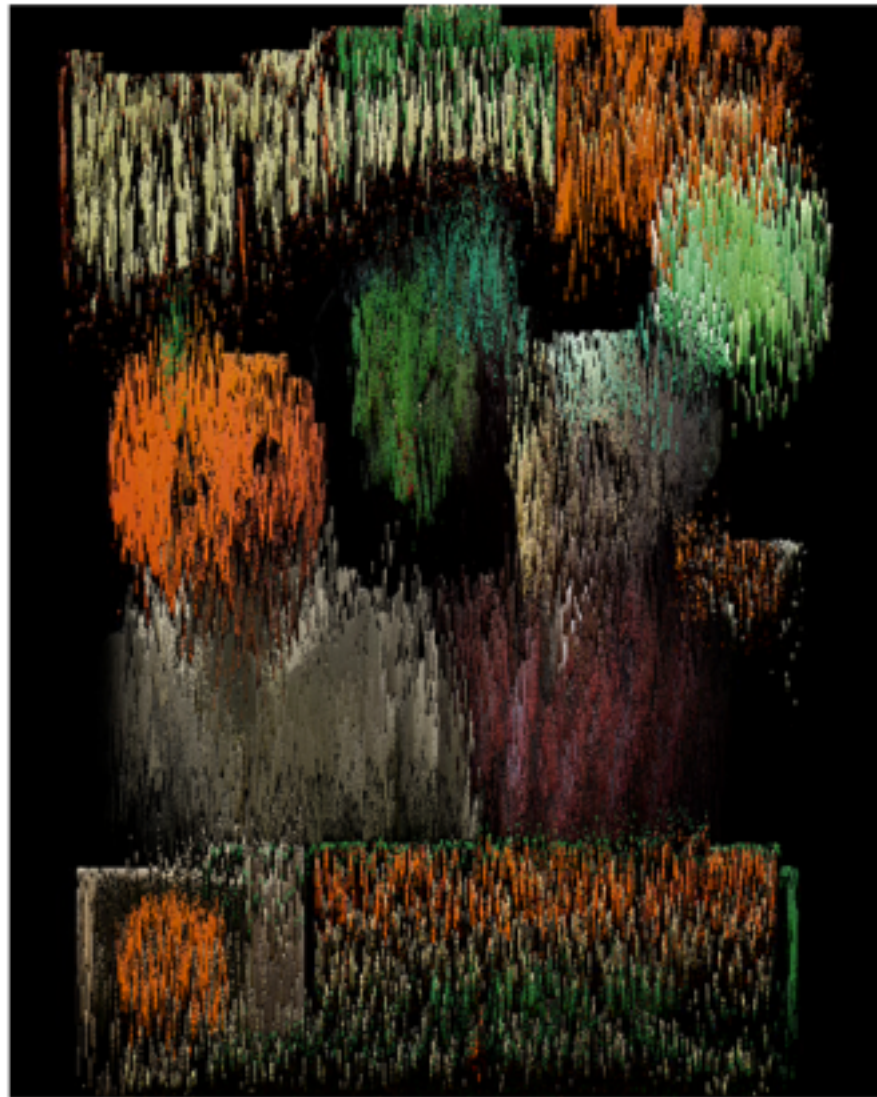


Love Machine- Julien Deswaef



Follow

.@smpwned: hi



m35 · @n2cio Salmon
@Lowpolybot



1



Lowpoly Bot
@Lowpolybot



Follow

@n2cio Your picture is ready: #triangles
#gradient #noedges



Pixelsorter and Lowpolybot



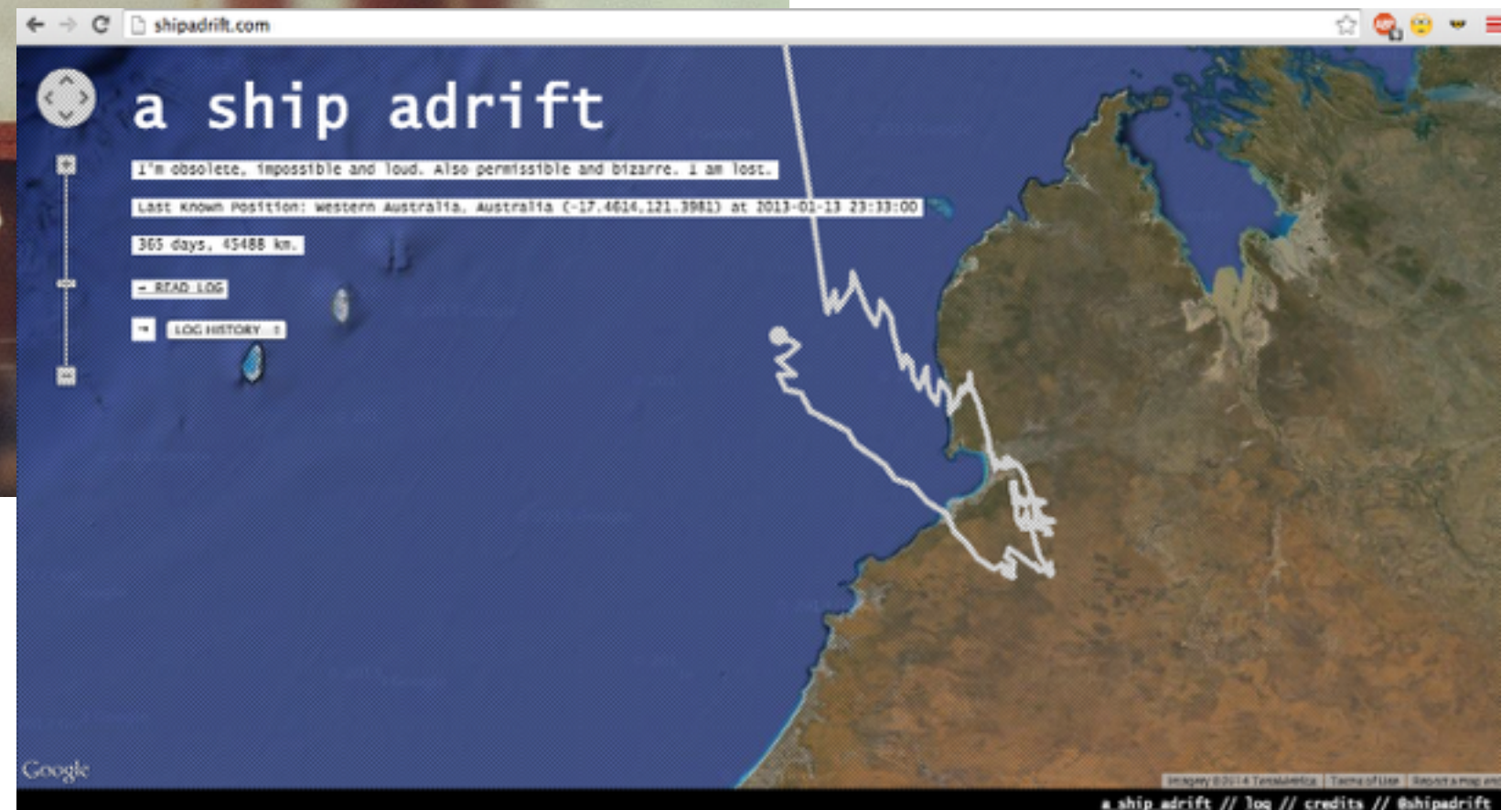
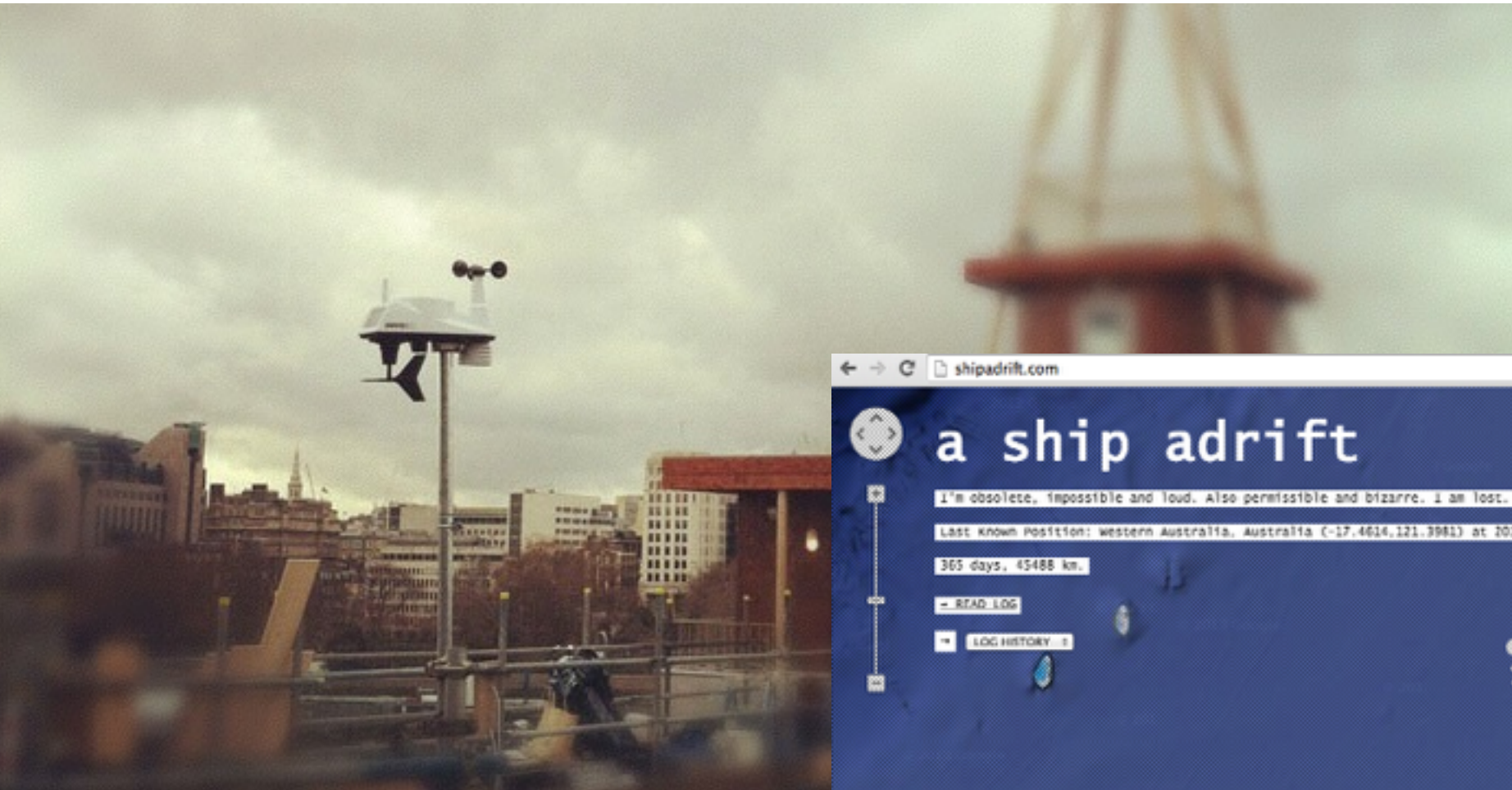
M Plummer Fernandez @M_PF · 28m
@EarthRoverBot status



Earth Rover Bot @EarthRoverBot · 28m
@M_PF Transfer Lane, Derry, NH 03038,, lat: 42.866330, lon: -71.333048,
bearing: 7° (6dr)



Earth Rover Bot



A Ship Adrift - James Bridle



Zazzle Marketplace bot

www.zazzle.co.uk/create

Shop

Create

Sell

 Gifts







Search



Women

[T-Shirts](#) 27

[Hoodies](#) 4

[Maternity](#) 1

Accessories

[Wristlets](#) 4

[Cosmetic Bags](#) 3

[Accessory Bags](#) 2

[Tote Bags](#) 8

[Key Rings](#) 25

[Luggage Tags](#) 1

Men

[T-Shirts](#) 29

[Hoodies](#) 6

[Jackets](#) 4

[Polos](#) 4

[Tank Tops](#) 2

[Sweatshirts](#) 1

[Ties](#) 1

Accessories

[Hats](#) 3

[Messenger Bags](#) 6

[Laptop Bags](#) 1

[Belt Buckles](#) 2

Kids & Baby

[T-shirts](#) 27

[Baby](#) 8

[Hoodies](#) 7

[Sweatshirts](#) 2

Accessories

[Badges](#) 12

[Bumper Stickers](#) 1

[Skateboards](#) 8

Cards & Invitations

[Invitations](#) 80

[Postcards](#) 1

[Photo Cards](#) 2

[Greeting Cards](#) 4

Electronics

[Cases](#) 84

[Sleeves](#) 15

[Planners](#) 2

[Speakers](#) 3

Office Products

[Business Cards](#) 8

[Mugs](#) 17

[Rack Cards](#) 1

[Mouse Pads](#) 2

[Dry Erase Boards](#) 8

[Flyers](#) 6

[Planners](#) 2

Home & Pets

[Drinkware](#) 28

[Stickers](#) 9

[Decorations](#) 26

[Aprons](#) 3

[Plates](#) 3

[Tiles](#) 2

[Cushions](#) 13



Happy Bot
@happyBOT



 Follow

And OH MY GAWD I LOVE YOU SO MUCH !



RETWEETS

5

FAVORITES

4



9:37 AM - 19 Jul 2012



Sad Bot
@sadBOT



 Follow

Life is hard enough with just my natural expression.

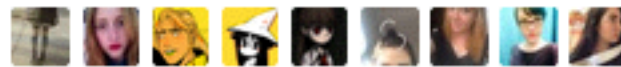


RETWEETS

7

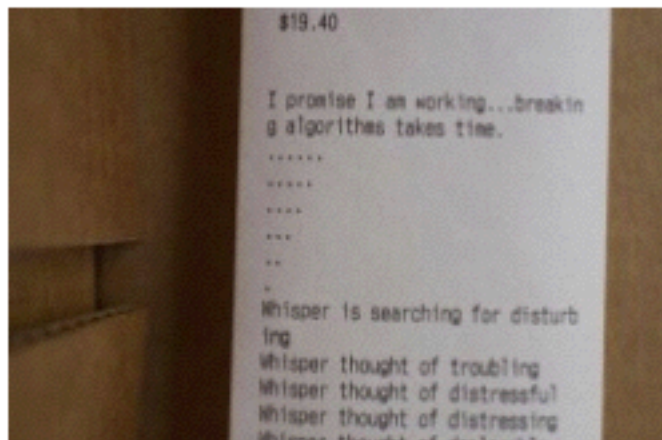
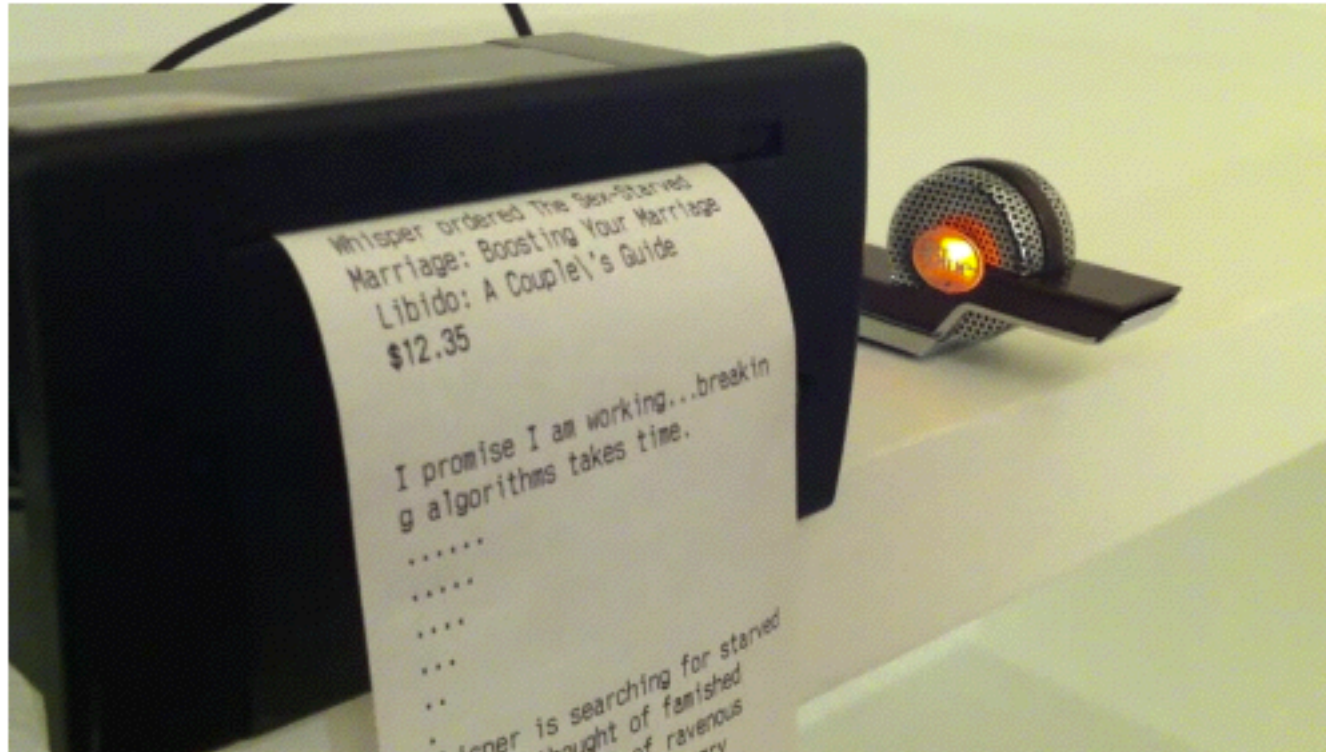
FAVORITES

8



4:03 AM - 26 Jul 2012

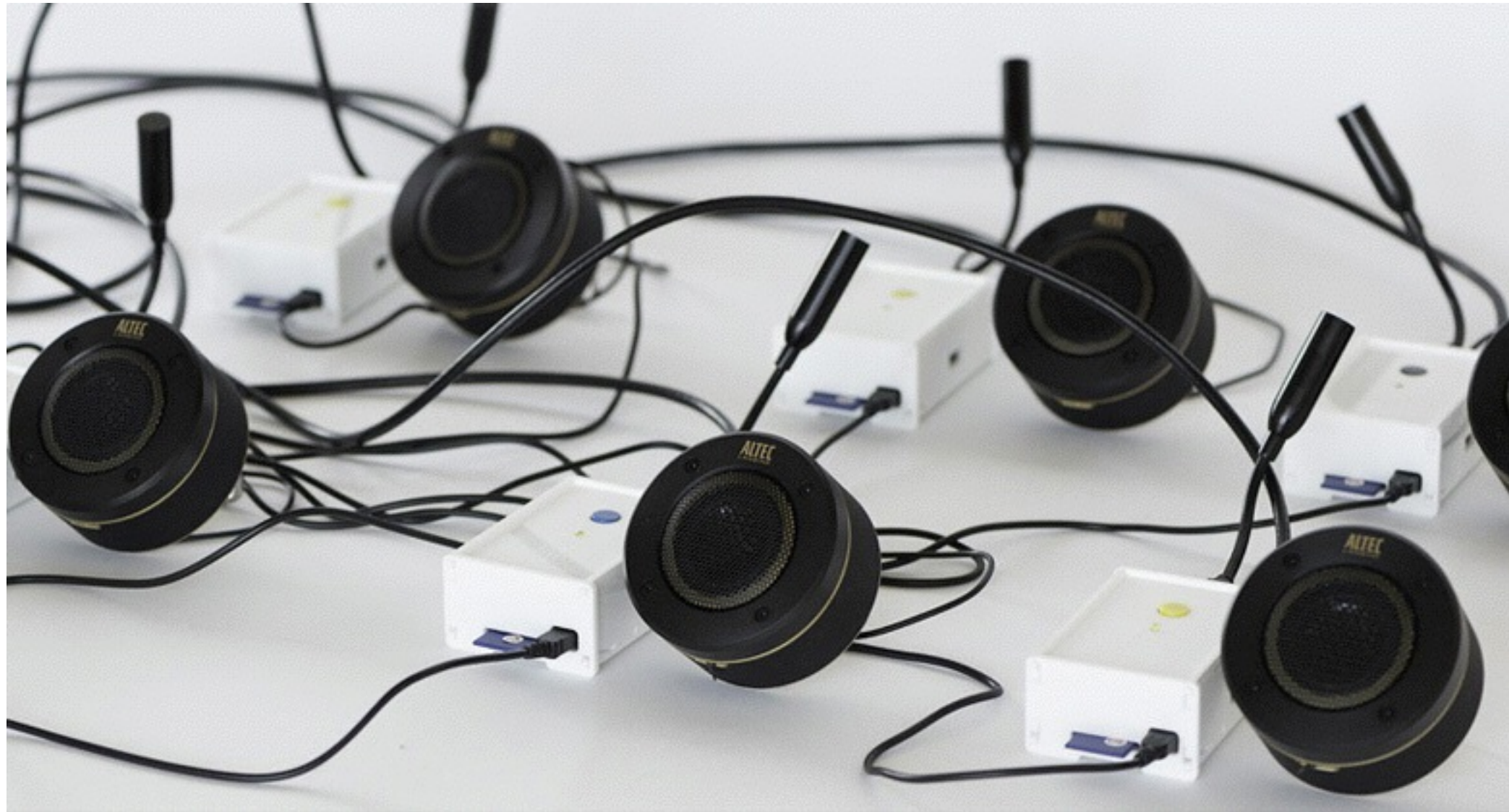
happybot & sadbot, 2012 by MP-F



Whisper, 2014 by Zachary Kaiser and Gabi Schaffzin



Babble, 2014 by Interaction Research Studio



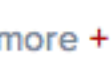
Babble Prototype, 2014 by Interaction Research Studio

CNET > Appliances > Fridge caught sending spam emails in botnet attack

Fridge caught sending spam emails in botnet attack

In the first documented attack of its kind, the Internet of Things has been used as part of an attack that sent out over 750,000 spam emails.

by Michelle Starr [@riding_red](#) / 20 January 2014 12:53 am GMT

 0 /  0 /  2 /  0 /  /  more +

In the first documented attack of its kind, the Internet of Things has been used as part of an attack that sent out over 750,000 spam emails.





Circuit Breakers for High Frequency Trading 2010 - .



CIRCUIT-BREAKER LEVELS FOR Second QUARTER 2011

In the event of a **1200-POINT** decline in the DJIA (10 percent):



Before 2 p.m.
1-HOUR HALT



2-2:30 p.m.
30-MIN. HALT



After 2:30 p.m.
NO HALT

In the event of a **2400-POINT** decline in the DJIA (20 percent):



Before 1 p.m.
2-HOUR HALT



1-2 p.m.
1-HOUR HALT



After 2 p.m.
MARKET CLOS

In the event of a **3600-POINT** decline in the DJIA (30 percent), regardless of the time, **MARKET CLOS** for the day.