Being a modern tester for safety's sake!

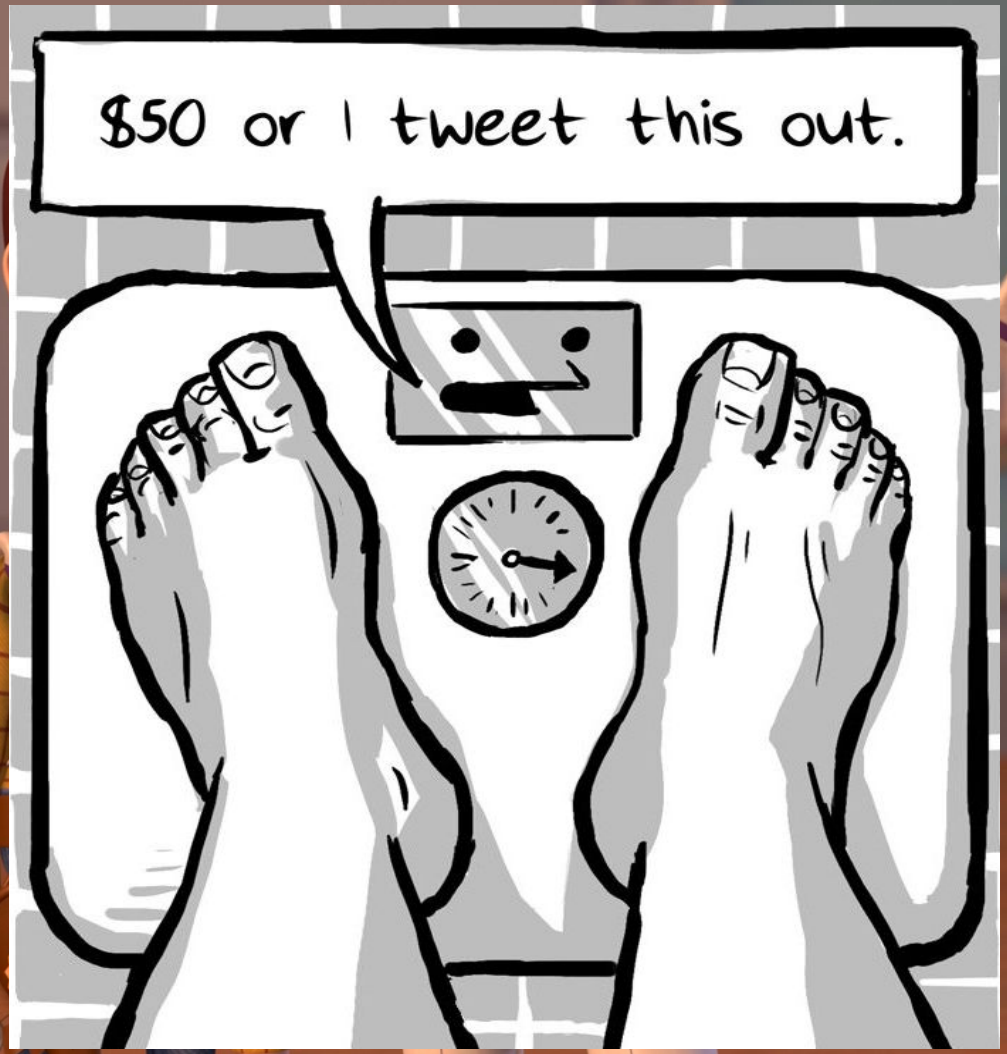
Dawid Pacia

Hello! I am Dawid

UkrainQA

KRAQA

BRAINLY



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Let's begin!

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4 years ago...
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...and nothing changed

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THEY SAID THIS JOB WOULD BE EASY
YOU GOTTA BE KITTEN ME

(1) Risks & challenges

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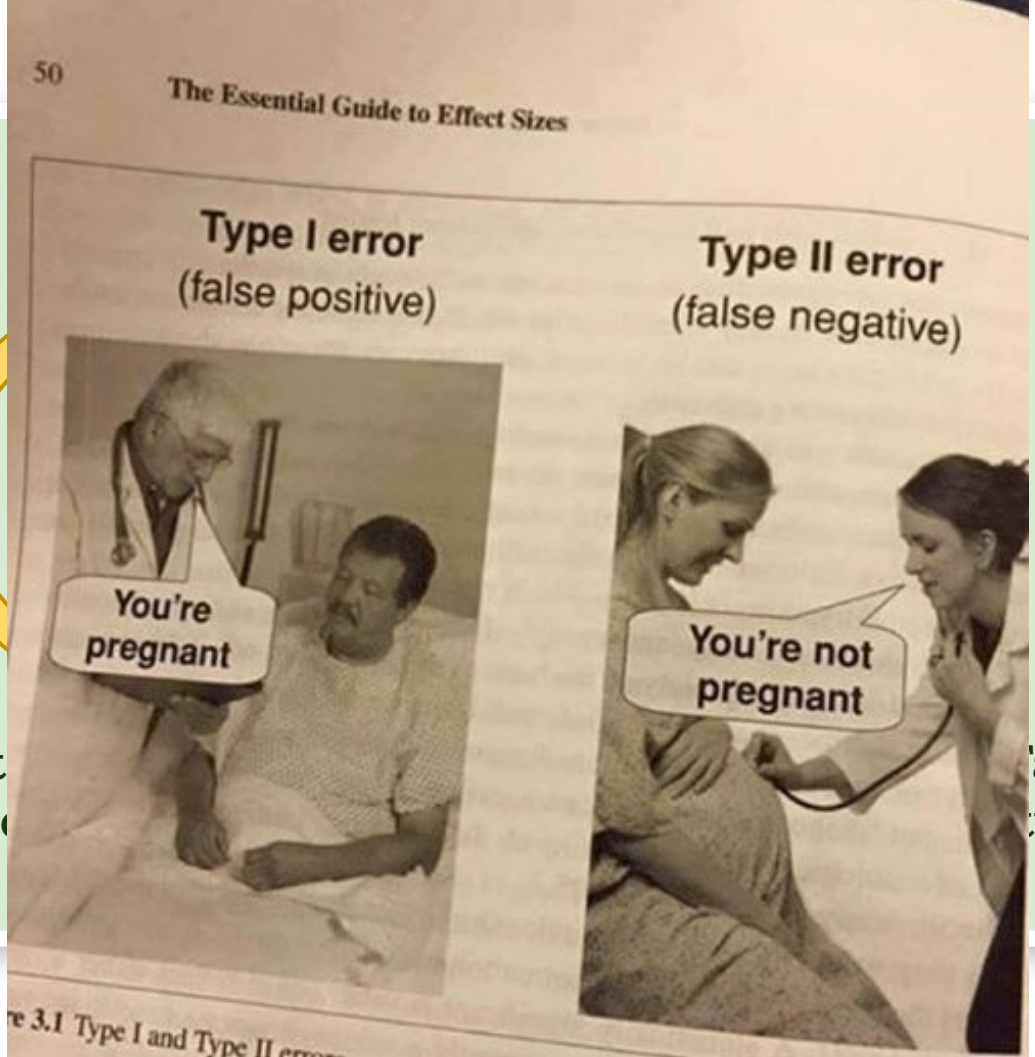
WHAT DO WE WANT?

TO DELIVER BETTER SOFTWARE!

WHEN DO WE WANT IT?

CONTINUOUSLY!!!



re 3.1 Type I and Type II errors

The test ailed
when th y is

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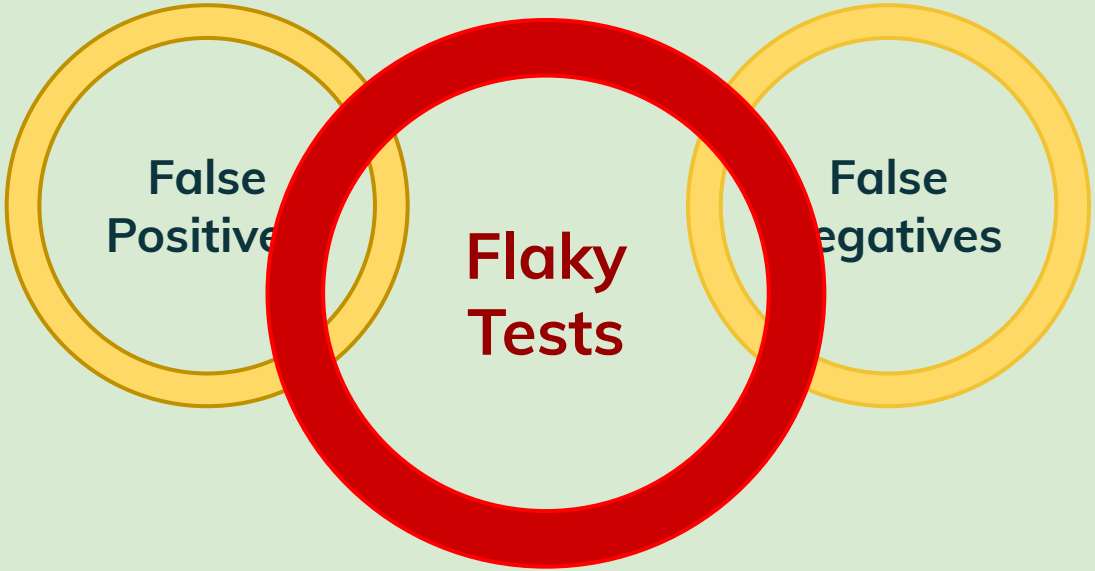
...you can encounter something worse!



TESTS FAILING INTERMITTENTLY

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I Flakiness & reasons

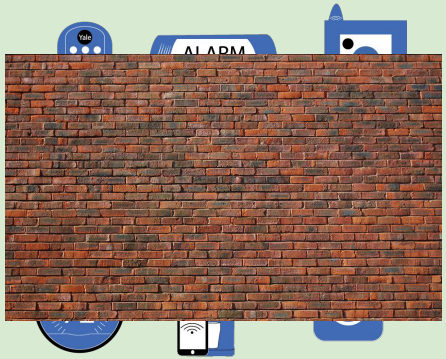
Environmental issues:

- Humidity
- Temperature
- Daylight (!?)
- Walls/bricks/obstacles

“Accidental” ones:

- Loose wires
- Sudden peaks in electricity usage
- Memory leaks and other issues
- “Bad boy”

II Updates



OTA "safety belt"

Continuous upgrade and(!) downgrade	Small batches at start	'Backdoor' solution
Internal lab	Alfa/beta users	Manual, wired update
Automation!	Early adopters	Backup before update
CI	Trusted customers	Several partitions

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III

Scale matters!

What to consider:

- Connectivity issues
  - ☆ Number of devices
  - ☆ Configuration ∞
  - ☆ Geolocation
  - ☆ External influences

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IV Real user behaviour

What can a user do?

- Turn on/off power
- Connect/disconnect ETH
- Buttons
  - ☆ Play/pause
  - ☆ Change volume
  - ☆ Soft/factory reset
- ????

*random IoT device

V CXA at the 1st place

CXA risk mitigation

- Customer Support - 2-way feedback channel (e.g. transparent process of Support Tickets handling)
- Crowdtesting
- Amazon - the top feedback channel

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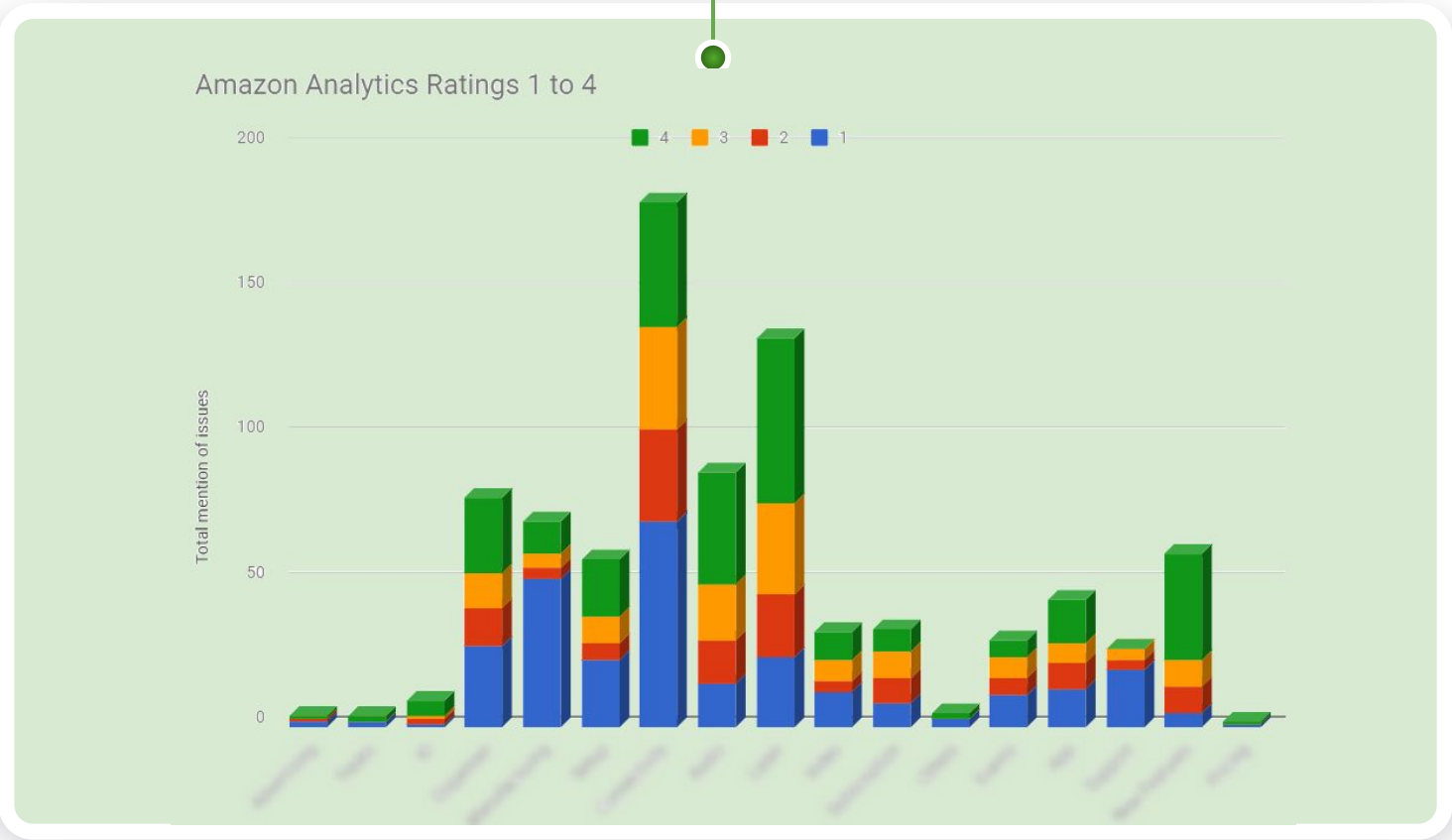
Amazon Analytics Ratings 1 to 4
4
3
2
1
200
150
100
50
0
Total mention of issues

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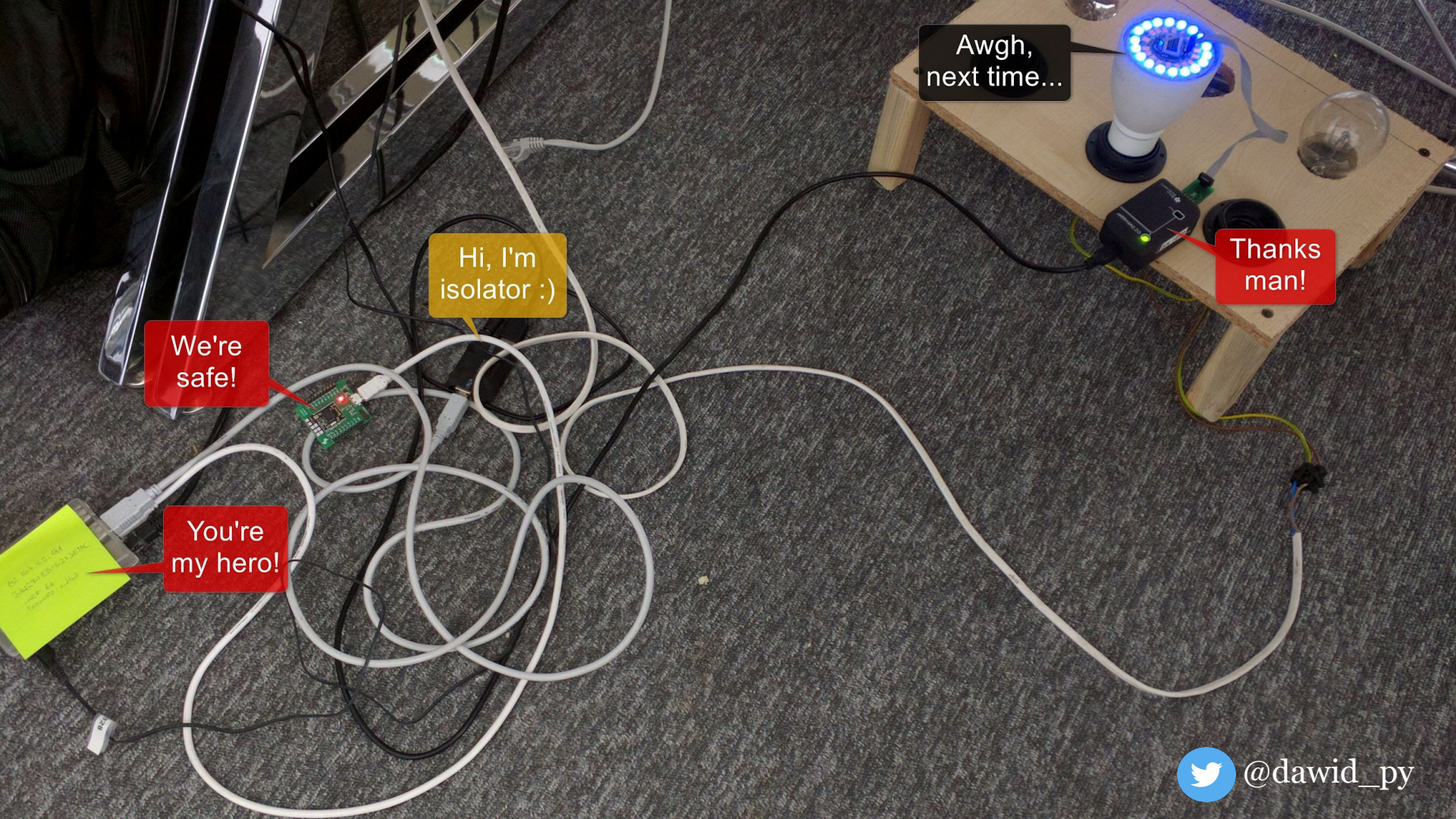
VI

Danger! High voltage! Can explode!


Awgh, next time...
Thanks man!
Hi, I'm isolator :)
We're safe!
You're my hero!
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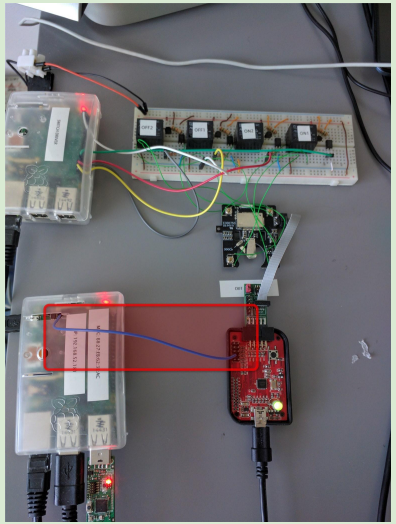
VII Open source - yes, but...



open source initiative

open source hardware

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(2)
Shit just
happens...
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Smart Locks Used by Airbnb Get Bricked by Software Update

Rhett Jones
8/14/17 6:39pm • Filed to: IOT FAILURES

25.1K 22

GIF Source: Lockstate

There are many reasons not to buy a smart lock, but high on the list is the risk of getting remotely locked out of your shit. For hundreds of customers using Lockstate's smart locks, that potentiality became a reality last week—with some Airbnb users getting screwed the hardest.

Petnet's failure is a warning to IoT developers

Posted on August 1, 2016 in CONNECTED DEVICES

CATE LAWRENCE
Contributing Writer

719 Shares
387
316

News sites and social media has been abuzz the last few days with the situation that the Petnet automated pet feeder was experiencing system failure raising significant questions about the reliability of connected devices.

The situation unfolded on Wednesday when angry PetNet owners posted a email from Petnet to Twitter which advised them:

> "You may experience a loss of scheduled feeds and failed remote feedings. Please ensure that your pets have been fed manually until we have resolved this issue".

(3)

No risk,

no....fun!

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Reason 1

Not just HW!

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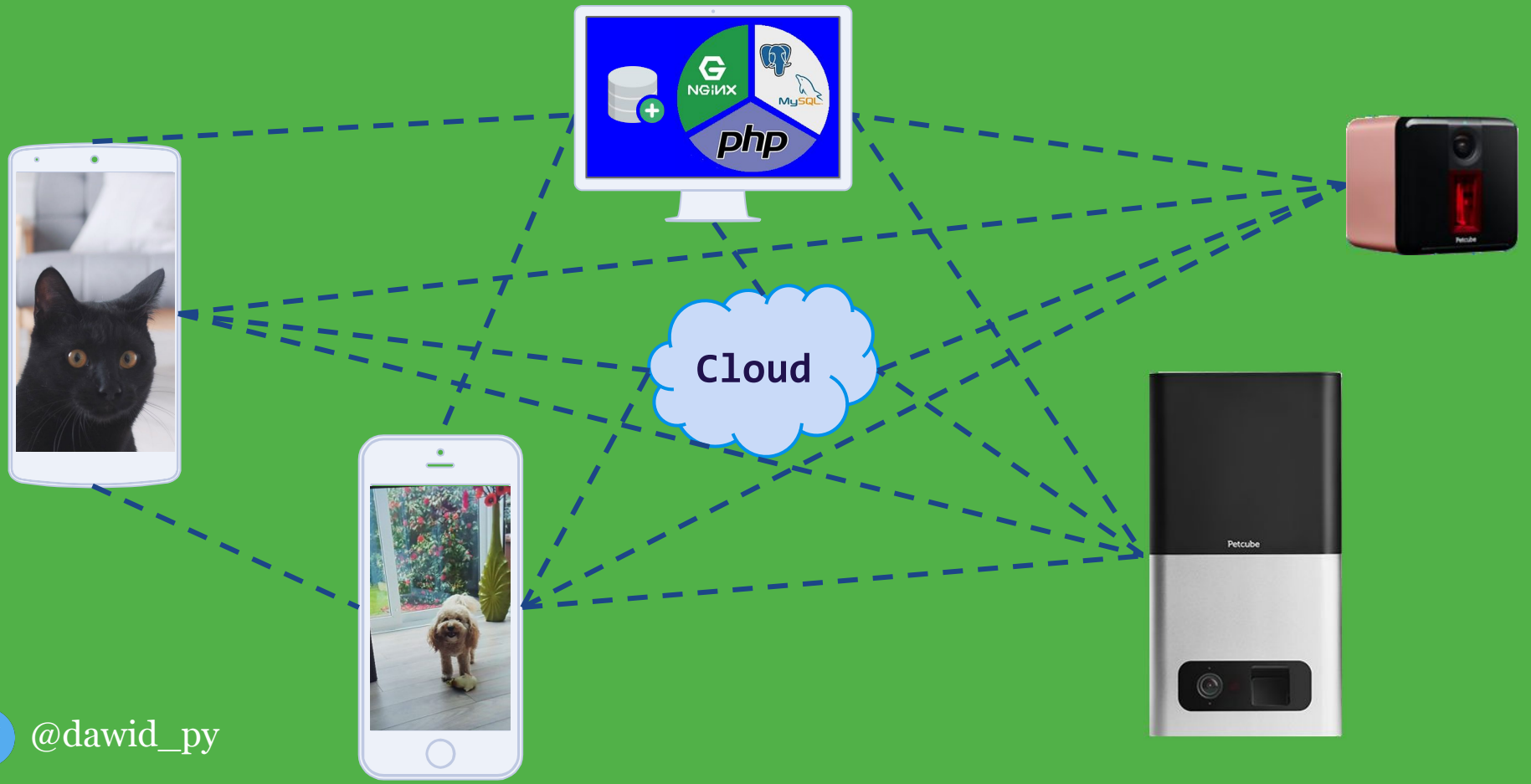
There is always another endpoint...



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Reason 2

Practical usage at home

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motionEye APP 6:14 PM
"Open the door!"

Feb 22nd

motionEye APP 8:17 AM
"Open the door!"

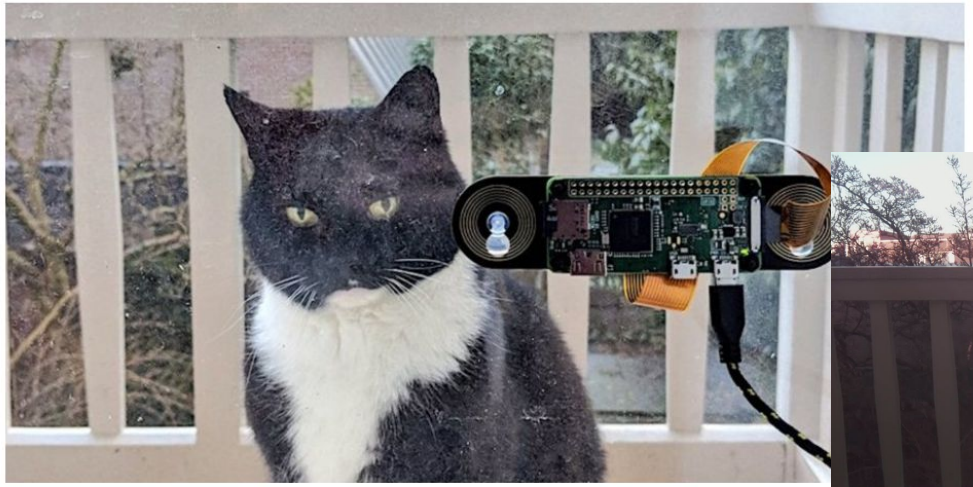
Feb 23rd

motionEye APP 8:19 AM
"Open the door!"

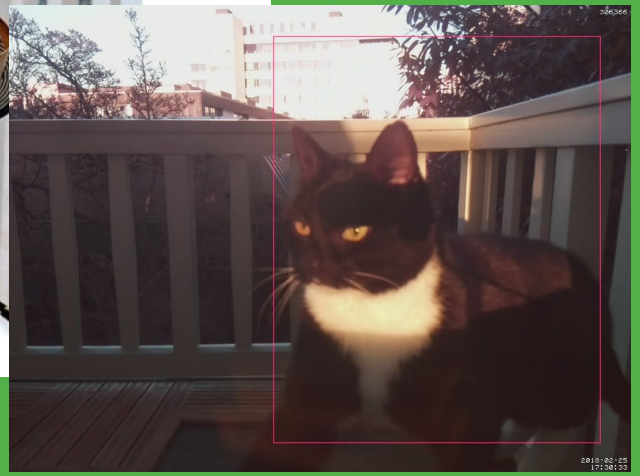
This engineer built a facial recognition gadget to notify him when his cat wants to come inside

Rob Price
Feb. 27, 2018, 9:15 AM 9,235

FACEBOOK LINKEDIN TWITTER EMAIL COPY LINK



Knock knock. Arkaitz Garro



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Reason 3

Work with awesome technologies

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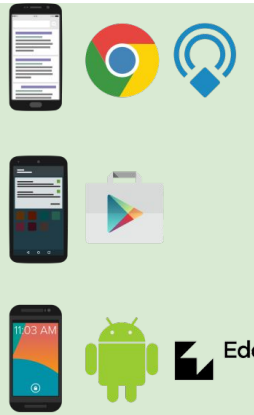
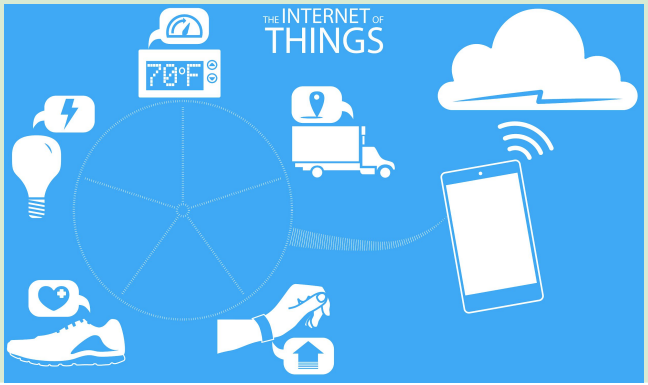
amazon

Home
Plug
Under the TV
Shade
15
Lamp
Nearby Sofa
20
Iron
Laundry
Kettle
Kitchen
73
20


11:03 AM
Eddystone


THE INTERNET OF
THINGS
70°F

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Reason 4

Exciting real test cases

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Gimme some test cases!

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HELLO
YES THIS IS DOG

And expect unexpected...

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JUST ONE MORE CAT
I PROMEOWSE

Prices for Chicago

Walk (30mins) $20

Bulldog Delu

Add a Dog

Contact customer

CLOS

Gadgets
Events
Videos
—
Crunchbase
More

Search

Robinhood
Lyft
Blockchain
Softbank

Login / Sign up

On-demand dog walking app Wag raises $300 million from SoftBank Vision Fund

Megan Rose Dickey @meganrosedickey / Jan 30, 2018

Comment

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TAKEAWAYS

- Be aware of **flaky tests {1}**
- Updates (OTA) as **the most risky** area **{2}**
- **Scale** matter **{3}**
- Testing **real user behaviour {4}**
- Focus on **CXA** (CEA) **{5}**
- **Limited trust** in open source **{6}**
- IoT is **HW**. HW “uses” **physics**. Physics is a bi*@#! **{7}**
- **Just have fun! :)**

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You can find me at:

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- / paciadawid