Being a modern tester for safety's sake!

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Hello! I am Dawid
$50 or I tweet this out.
Let’s begin!
4 years ago...
...and nothing changed
THEY SAID THIS JOB WOULD BE EASY

YOU GOTTA BE KITTEN ME
(1) Risks & challenges
WHAT DO WE WANT?
TO DELIVER BETTER SOFTWARE!
WHEN DO WE WANT IT?
CONTINUOUSLY!!!
In the world of false...

False Positives

False Negatives

The test is marked as Passed when the functionality is not working.

The test is marked as Failed when the functionality is working.

Type I error
(true positive)

Type II error
(true negative)

You’re pregnant

You’re not pregnant
...you can encounter something worse!

TESTS FAILING INTERMITTENTLY

Flaky Tests

False Positives

False Negatives

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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”
 Updates
OTA “safety belt”

- Continuous upgrade and(!) downgrade
- Small batches at start
- ‘Backdoor’ solution

- Internal lab
- Automation!
- CI

- Alfa/beta users
- Early adopters
- Trusted customers

- Manual, wired update
- Backup before update
- Several partitions

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III Scale matters!

What to consider:

❄ Connectivity issues
☆ Number of devices
☆ Configuration
☆ Geolocation
☆ External influences
What can a user do?

- Turn on/off power
- Connect/disconnect ETH
- Buttons
  - Play/pause
  - Change volume
  - Soft/factory reset
- ????
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
Danger! High voltage! Can explode!
Open source - yes, but...
Shit just happens...
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.

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

Knock knock. Answer: Gato.
Reason 3
Work with awesome technologies
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Reason 4

Exciting real test cases
CAN I HAZ

Gimme some test cases!

SOME ATTENTION
HELLO

YES THIS IS DOG
And expect unexpected...
JUST ONE MORE CAT

I PROMEOWSE
Walk (30mins) . . . . $20

Bulldog Delux

Add a Dog

Contact customer service

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