



Netzwerke, Security, Hard- & Software Vortrag Einstieg

# Was macht "gute" IoT Produkte aus?

*Thomas Amberg*

Beginn um 17:00 Uhr im Raum Erkerzimmer (1. OG), Dauer: 30min

Der IoT Hype hat den Höhepunkt längst überschritten, aktuelle News sind vor allem negativ: Geräte spionieren, Firmen verlieren Daten, Produkte passen nicht zusammen. Mit [betteriot.org](https://betteriot.org), initiiert von Alexandra Deschamps Sonsino und Usman Haque von IoT London, versucht eine internationale Gruppe zu definieren, was "gute", vertrauenswürdige Internet-verbundene Produkte ausmacht. Thomas Amberg von IoT Zürich gibt als Core Contributor einen Einblick in diese bottom-up Community-Initiative.

# Making good design actionable.



Better IoT (formerly known as The Open Internet of Things Certification Mark) is a community-led effort to help startups and SMEs design better connected products.



Create a Meetup



## Internet of Things London

Location

London, United Kingdom

Members

12,412



Organizer

Alexandra Deschamps-Sonsino

You're a member



### Next Meetup

See all

24  
APR

Tuesday, April 24, 2016, 7:00 PM

### London Internet of Things Meetup 77: Spring

Attend



[Create a Meetup](#)



## IoT Zurich

Location

Zürich, Switzerland

Members

1,896

Organizers

Thomas Amberg and 1 other

### Next Meetup

[See all](#)

19  
MAR

Monday, March 19, 2018, 6:30 PM

**Open #iotmark for connected products**

Organizer tools ▾



Alexandra D-S

@iotwatch

Following

For those who missed it, I wrote some thoughts on the current state of @iot\_mark a certification mark for #iot



**What does it take to make better connected products?**

This time last year, Usman Haque and I were reminded that it had been almost five years since our 'Open Internet of Things Definition'...

Home

Who is



Alexandra D-S

@iotwatch

#iot consultant

@designswarm

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**Peter Bihr** @peterbihr · Follow you  
Curious about the impact of emerging tech, IoT, AI, blockchain, etc. Strategy, research & trends. [@TheEdgeFund](#) Advocate for a responsible digital. [@peterbihr](#)

[buff.ly/2n2gCJ2](https://buff.ly/2n2gCJ2) \*A simple looking #iot label designed after nutritional labels. (A solid approach, I believe, but the devil is in the details.)

IoT Facts	
Overall Thing Rating	☆☆☆☆☆
Expiration Date	MM/DD/YYYY
Rating Breakdown	
Security	☆☆☆☆☆
Privacy	☆☆☆☆☆
Connectivity	☆☆☆☆☆
Interoperability	☆☆☆☆☆
Standards	☆☆☆☆☆



4:25 PM · Retweeted 1 · 100% Public · 100% Public · 100% Public  
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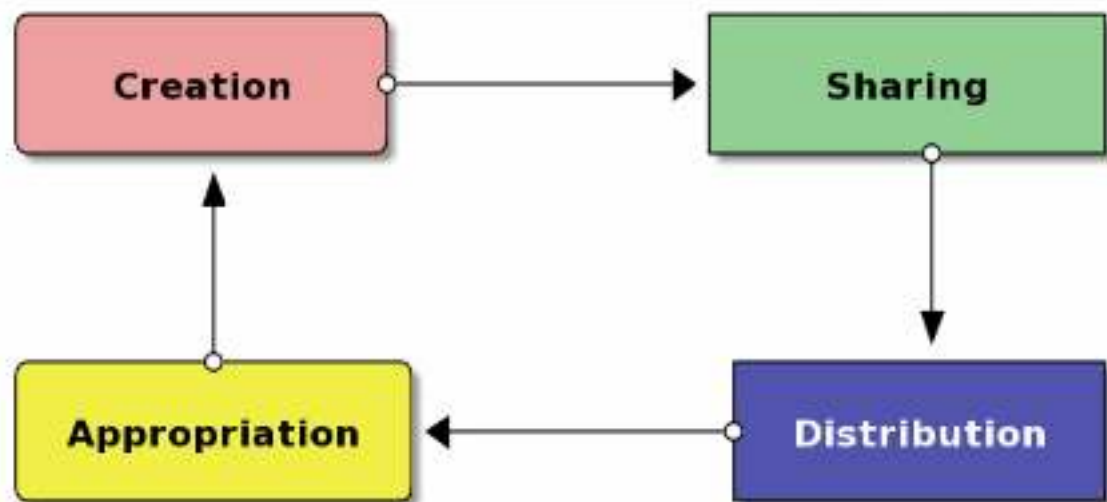
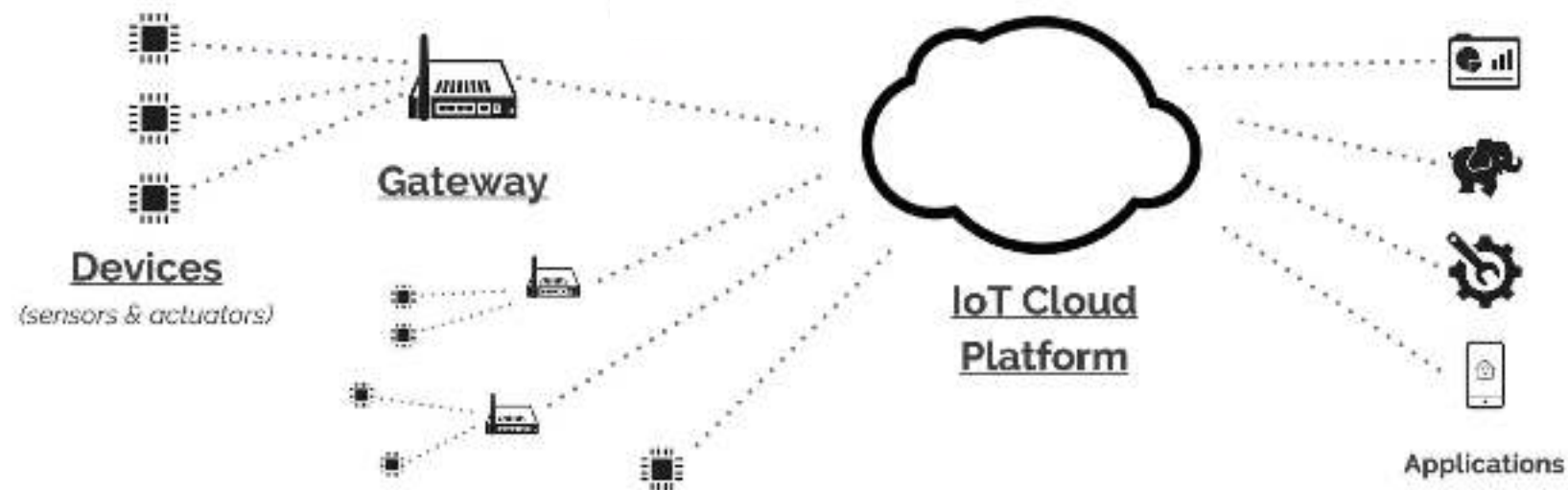


Figure 5: Semiotic square of virtuose creation

The first striking difference I observed here is that the direction is inverted. The circularity suggests that **any moment represented can be a starting point for agencies that focus on the process rather than a final result**. The ideal starting point is Sharing which, in the semiotic square formulation is the node furthest from Appropriation.





## Connected product

The entirety of one or more devices, gateways, backend, apps and the services they represent.

*E.g.*

*Philips Hue, "smart lighting"*

*Kindle, "never be without a book"*

*Good Night Lamp, "share your presence"*

*Alexa, "control your home, using just your voice."*

[Safecast](#), *"crowd-sourced radiation ground truth"*

## Device / ~~Thing~~ / ~~Product~~

A physical device with connectivity, an embedded computer, sensors and actuators.

(Some devices are "product + connectivity", others are rather "service avatars". The term *product* becomes ambiguous given the above definition, so the term *device* is preferred.)

# Principles

Privacy

Interoperability

Openness

Data Governance

Permissions & Ownership

Transparency

Security

Lifecycle



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# Better IoT Principles

Better IoT (fka Open IoT Certification Mark) Principles – June 13th 2018

This work by [betteriot.org](#) is licensed under [Creative Commons BY-SA 4.0](#).

## Introduction

This is the latest version of a working document to develop a [certification mark for connected products](#) by IoT community members worldwide. This is a work in progress and you may [comment](#) freely, [join the conversation on Slack](#), [sign up to our newsletter](#) or [give us feedback in writing \(alex@iot.london\)](#) or on our [monthly open calls](#).

This is a set of principles that we think a vendor — a connected product manufacturer, team or founder — would use to make a



# Better IoT Principles

March 9th 2018

## Must have

Privacy	Interoperability	Openness	Data governance	Permissions	Transparency	Security	Lifecycle
The connected product supplied by the organisation is GDPR compliant.				The organisation gives users the ability to transfer ownership of the device.	The organisation makes it explicit to the user what the implications of substantially changing usage of the device are.	The organisation enforces a strong user identity policy.	The organisation lets a user do a factory reset on the device.
The organisation doesn't sell customer data without consent.				When ownership of a device is transferred, the new user doesn't have access to the previous user's data.	The organisation makes explicit the expected duration of the terms of service.	The organisation has clear admin user management policies.	The organisation is clear about the expected lifetimes of the device and backend.
Customer data isn't used for profiling, marketing or advertising without transparent disclosure.					The organisation asks the explicit permission of the customer when it wants to change the length of the terms of service.	The organisation provides minimum cryptographic security on its backend & secure configuration.	The organisation is clear about the levels of customer support that are provided during the lifetime of the product.
					The organisation informs the user about firmware updates.	The device firmware is compliant with industry security standards.	

### Nice to have

	<p>The organisation grants third parties the same functional scope on the backend as its own clients.</p>		<p>The organisation doesn't degrade or change the current core functionality of the device over the product lifetime.</p>	<p>The organisation lets users export their data.</p>		<p>The organisation implements reliable and appropriate backend patching procedures which are evidenced.</p>	<p>The organisation supplies a list of the first level of suppliers involved in their supply chain.</p>
	<p>The organisation allows third parties to communicate directly with its devices without going through the backend.</p>		<p>The organisation makes it possible for customers to turn off the connector to the backend, this might mean that functionality of the device is reduced.</p>			<p>The device uses strong cryptographic schemes.</p>	<p>The organisation supplies spare parts or recues during the lifecycle of the product.</p>
	<p>The organisation allows third parties to connect clients to its backend.</p>						<p>The organisation supplies a list of the geographic regions involved in the supply chain.</p>
							<p>The organisation gives clear documentation for any parts that a customer can repair using commonly accessible tools and skills.</p>

### Best scenario

	<p>The organisation allows third parties to connect devices to its backend.</p>	<p>The organisation publishes the device source code under an open source license.</p>				<p>The organisation's backend implements additional secure setup options.</p>	
--	---	--	--	--	--	---	--



Alexandra D-S

@iotwatch

Following

Testing 1, 2, 3. #iotmark #iot #tools



Who is



Alexandra D-S

@iotwatch

#iot consultant

@designswarm



Tweet



And why are people saying such terrible things about her.



**Albrecht Kurze**

@AlbrechtKurze

Following

Tweet



I just made my @iot\_\_mark card set- having them ready for an #IoT workshop at @Miteinander\_TUC. Thanks to @iotwatch of @KnowCards for the template. Download yours: [github.com/openiotmark/iot ...](https://github.com/openiotmark/iotmark) I slightly modified my set (colored backside). #iotmark #IoTcards #IoTtools #IoTworkshop



**Albrecht Kurze**

@AlbrechtKurze

PostDoc & IoT Researcher at Miteinander TUC and @MiteinanderTUC

Chemnitz, Saxony

nabeneinander

Joined September 2015



# Privacy

Build GDPR compliant  
connected products.



**Chris Adams**

@mrchrisadams

Following

Are you in Berlin on April 21st? If you're thinking about GDPR (and if you store \*any\* data that can identify people, you should be), come to #OMGDPR, a free community-run unconference about making it work in your organisation. [bit.ly/omgdpr-tix](https://bit.ly/omgdpr-tix)  
RT for reach folks!

**OMGDPR**

**Chris Adams**

@mrchrisadams

Intro talks, sustain  
politeness, coffee  
Devops, Research  
management & LL  
Berlin co-organis

📍 Berlin, occasio

📧 chrisadams@

Home

**Steven Frank**

@stevenf

Follow

There's a crew of us at Panic evaluating the EU GDPR regulations and what we might need to do to comply and can I just say how much easier life is if you simply have humane business ethics in the first place.

7:03 PM - 3 Apr 2018

189 Retweets · 562 Likes



7



189



562



Tweet your reply

**Jonas** @anomalistk · 19h

Replying to @stevenf

I know right. GDPR is like an exam in ethics. If you didn't do your homework or

**Steven Frank**

@stevenf

Panic co-founder  
Houston, TX · Idiot

Tweet



## Privacy

v1.0, 2018-01-03. For updates, follow [@yaler](#).

### In general

We do not use any third party tracking services.

We try our best to minimize the data we collect.

We keep access logs to our servers for 10 days.

### Analytics

Our site [www.yaler.net](#) logs the time, IP address, user agent, path and status for 10 days.

The [status.yaler.net](#) subdomain is served by a third party with their own privacy policy.

The [\\*.yaler.io](#) subdomains accessible via our relays are served by third parties, too.

# Interoperability

Document the API of your device and backend.

[Home](#)

[Getting started](#)

[Application Design  
Guidance](#)

**[Philips hue API](#)**

[Terms of use](#)

[Find Answers](#)

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apps](#)

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# Philips hue API

## Full API Documentation

The full API documentation is only available to registered users. Please [login](#) or [register](#) to view the full API documentation and become a member of our exciting hue community. It only takes a few seconds.

## See what you can do

Your feedback following our hue launch was clear. You want to use light as you want it. Here we provide you some material to do so. The hue bridge has a powerful [RESTful](#) interface, which behaves like a simple web service. Use it as your tool. We hope this will help you to truly use light as you want it, by making new apps, websites and digital installations; integrating hue into something else or just playing around.

## Getting started

We've started off by releasing the core parts of our bridge interface along with some easy to follow examples for how to use them. This should be enough to get you up and running controlling lights from your applications.

• [Learn how hue works](#)

Home



Dana M. Lewis | #OpenAPS

@danamlewis

Following

Also, here's what a modern #OpenAPS rig looks like :) cc @Berci



Dana M. Lewis  
#OpenAPS

@danamlewis

Built artificial pancreas

Tweet




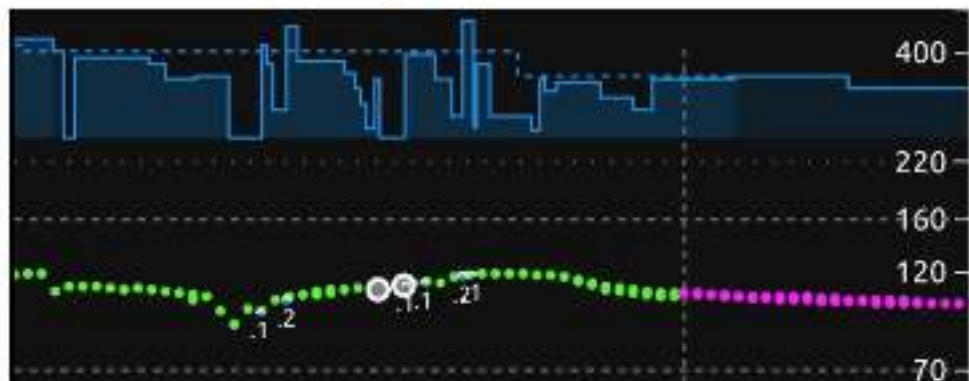


Dana M. Lewis | #OpenAPS

@danamlewis

Following

Been looping (aka, using DIY closed loop artificial pancreas, aka #OpenAPS) for multiple years. Still so incredibly thankful this tech makes diabetes not a blip on the radar with my (crazy) travel schedule. Much  to the community that helps make this possible. [#WeAreNotWaiting](#)



Dana M. Lewis  
#OpenAPS  
@danamlewis

Built artificial pancreas



# OpenOmni

## BOUNTY SOURCING THE CREATION OF AN OMNIPOD PLUGIN FOR THE OPENAPS PROJECT

Understanding that the Open Source world is based on scratching your own itch, here's some scratch. We have placed a bounty on a working, accepted plug-in for the [Insulet OmniPod](#) into the [OpenAPS](#) Project.

To be complete, this means that the project would use COTS hardware and [Open Source](#) software to communicate with the OmniPOD device placed on a T1 patient, controlling temporary basal rates to control blood glucose levels. This work will be delivered open source and will be shared and reviewed by existing members of the OpenAPS community. If multiple people are part of the submittal, they can agree on a split, or on a charity to receive the funds.



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OUR WORK

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# JDRF Announces New Initiative to Pave Way for Open Protocol Automated Insulin Delivery Systems

*—Initiative encourages manufacturers to give users greater control over insulin devices; JDRF to provide funding, support with regulatory, liability hurdles—*

**NEW YORK, October 18, 2017** — JDRF, the leading global organization funding type 1 diabetes (T1D) research, is announcing a new initiative that will [support the development of open protocols](#) for artificial pancreas (AP) technology.

For more than a decade, JDRF has played a leadership role in accelerating the development and commercialization of AP systems that automate insulin delivery, defining a roadmap for increasingly sophisticated systems that would, with each generation, improve outcomes and reduce burden for people with T1D. Now, the first commercial system, which has been shown to provide significant benefit to people with diabetes, is on the market, and other systems are in development.

FDA News Release

# FDA authorizes first fully interoperable continuous glucose monitoring system, streamlines review pathway for similar devices

For Immediate Release

March 27, 2015

Release

The U.S. Food and Drug Administration today permitted marketing of the Dexcom G6 integrated continuous glucose monitoring (iCGM) system for determining blood glucose (sugar) levels in children aged two and older and adults with diabetes. This is the first type of continuous glucose monitoring system permitted by the agency to be used as part of an integrated system with other compatible medical devices and electronic interfaces, which may include automated insulin dosing systems, insulin pumps, blood glucose meters or other electronic devices used for diabetes management. Today's authorization also classifies this new type of device in class II

Inquiries

Media

Tara Flavin  
240-402-3157

Consumers

888-INFO-FDA

Related Information

- Diabetes Information
- Medical Devices
- CDRH Office of In Vitro Diagnostic Device Evaluation and Research

# Openness

Consider open sourcing your device hardware, software and backend.

Explore Start a project

**KICKSTARTER**

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# The Things Network



The Things Network is a global, crowdsourced, open, free and decentralized internet of things network.

Created by

Wienke Giezeman

---

934 backers pledged €295,331 to help bring this project to life.



### Device Address



26 01 2D 6B



### Network Session Key



.....



### App Session Key



.....





This repository Search

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TheThingsNetwork / ttn

Watch 69 Unstar 287 Fork 197

Code Issues 43 Pull requests 1 Projects 0 Wiki Insights

The Things Network Stack V2 <https://www.thethingsnetwork.org>

iot internet-of-things lorawan lora network-server golang open-source lora-server lorawan-server

3,177 commits 12 branches 23 releases 20 contributors MIT

Branch: develop New pull request Create new file Upload files Find file Clone or download

Johanstokking committed on 11 Jan Merge pull request #592 from TheThingsNetwork/feature/eu-rx2-data-rate Latest commit 6s87cda on 11 Jan

.env	Add localhost IPs to certificates	3 months ago
.github	Update README, CONTRIBUTING and ISSUE_TEMPLATE	10 months ago
amqp	Add details to mott/amqp errors	10 months ago
api	Fix locking for conn closing	3 months ago

# Choose an open source license

Which of the following best describes your situation?



**I want it simple and permissive.**

The **MIT License** is a permissive license that is short and to the point. It lets people do anything they want with your code as long as they provide attribution back to you and don't hold you liable.



**I'm concerned about patents.**

The **Apache License 2.0** is a permissive license similar to the MIT License, but also provides an express grant of patent rights from contributors to users.

**Android, Apache, and Swift** use the Apache License 2.0.



**I care about sharing improvements.**

The **GNU GPLv3** is a copyleft license that requires anyone who distributes your code or a derivative work to make the source available under the same terms, and also provides an express grant of patent rights from

creative commons

## License Features

Your choices on this panel will update the other panels on this page.

**Allow adaptations of your work to be shared?**

Yes  No  Yes, as long as others share alike

**Allow commercial uses of your work?**

Yes  No

## Selected License

**Attribution-ShareAlike 4.0 International**







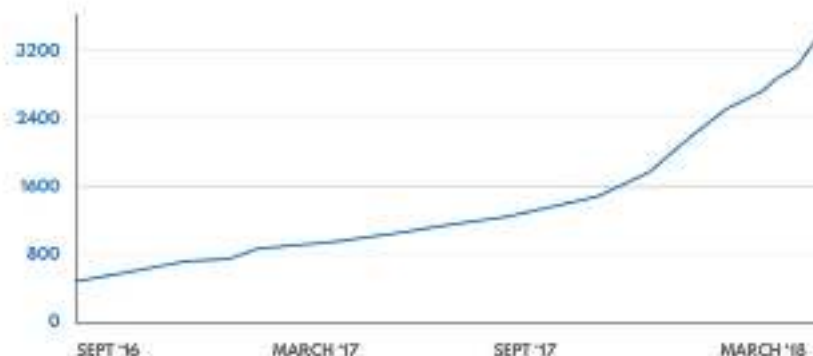
Home



**The Things Network**

@thethingsntwrk

Following



GATEWAYS

11:35 AM · 20 Mar 2018

21 Retweets 53 Likes



THE TH  
NETW

**The Things**

@thethingsntwrk

We are on a missi  
open #crowdsour



**Jürg Lehni**

@juerglehni

Following

Let's talk about open-source. I've been developing and maintaining @PaperJS for years. It has 8700 ★ on GitHub. Multiple big companies have done projects and products with it. Yet donations and sponsored features are very few, and I need to accept other work to sustain a living.

9:34 AM - 16 Jan 2018

148 Retweets 271 Likes



11



148



271

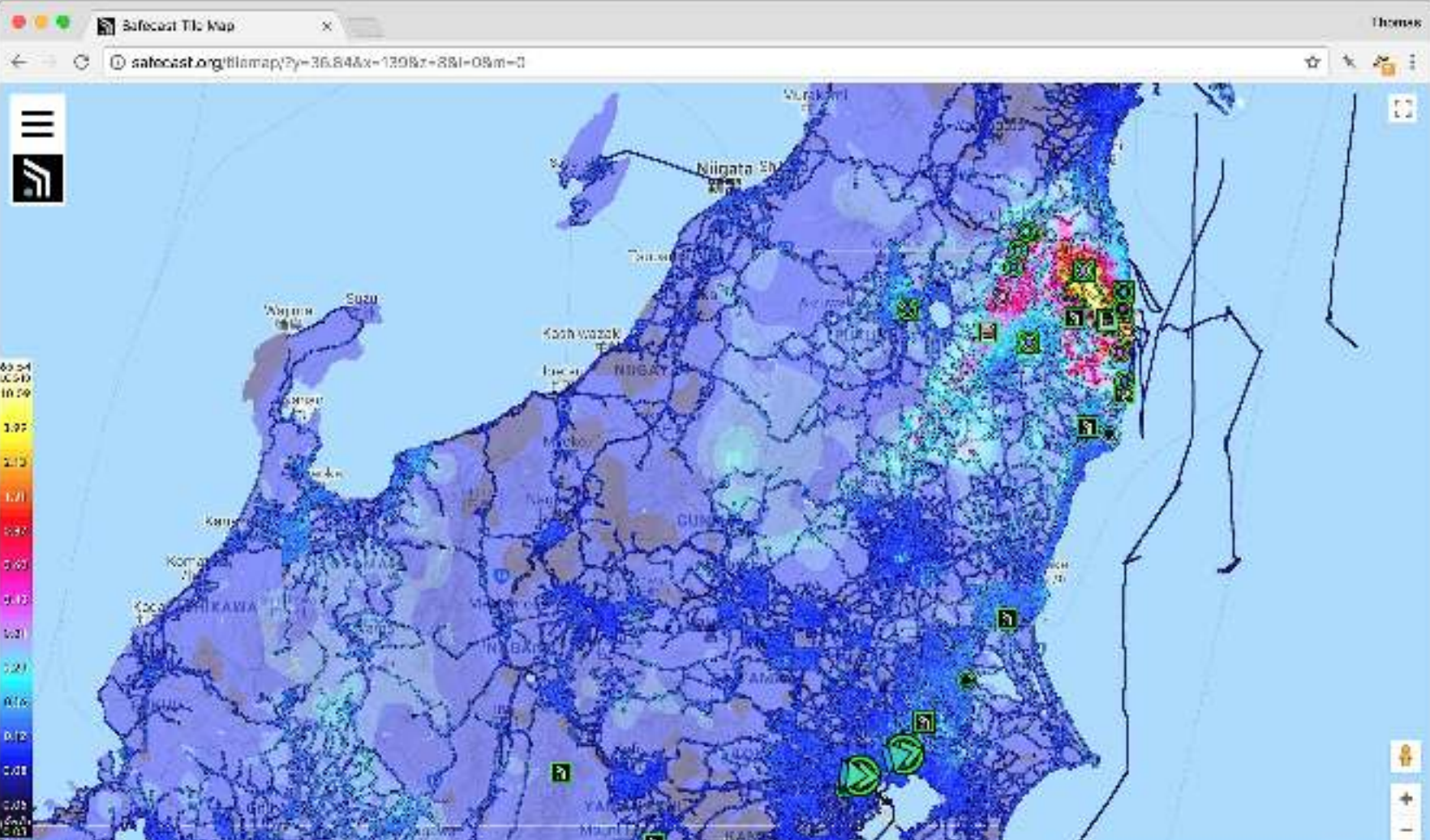


Tweet your reply



## OPEN ENVIRONMENTAL DATA FOR EVERYONE

Safecast is a global volunteer-centered citizen science project working to empower people with data about their environments. We believe that having more freely available open data is better for everyone. Everything we do is aimed at putting data and data collection know-how in the hands of people



# DATA

## **Safecast data is published under a [CC0 designation](#)**

This is a public domain designation and means the data is free and open for anyone to use under any circumstance. We have done this to enable to most flexibility in it's use by others. While you are not legally required to attribute the data back to us, it's a nice thing to do – collecting the data was a lot of hard work. ([Joi Ito has written more about this here.](#)) To learn more about the other licenses we use please [go here](#).

# Data Governance

Let users export data.

Provide an "offline" switch, explain the consequences.

Never change core functionality.

Home



**Sarah Gold**

@sarahtgold

Following



I think data ownership is the wrong Q, I think we should be asking how we can each \*control\* and have agency over data that's about us (nb. this is nuanced - so much data is not just about 1 person, it's about a relationship/ family/ office)

**Martin Tisné** @martintisne

.@BBC4today I can't see how data ownership works even in the medium term, does it not put unrealistic burden unto the individual consumer? Eg companies will hide behind the equivalent of obscure T&Cs @hubmum. Good design will help @sarahtgold but not sure that will be enough

Show this thread

10:03 AM · 22 Mar 2018

1 Retweet 10 Likes



**Sarah Gold**

@sarahtgold

Working on trust,

projectday1 My



Tweet







**Joachim Bondo**

@osteslag

Follow

Replying to @arni

Oh, didn't you hear? Danish insurance company retracts (future) payments to woman after gaining access to her @Endomondo profile. Article in @politiken (in Danish):



**Deling af motionsdata koster kvinde hendes forsikring**

En kvinde, der fik udbetalt forsikring for tabt erhvervsevne, har tabt sag efter bevis for labelure fra app.

politiken.dk

11:47 AM - 20 Mar 2016

4 Retweets 10 Likes



3



4



10



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Königsplatz, Norddeutsche Löhndruckerei, 20095

## Global Heatmap

## Heatmap Color

Hot

Blue

Grey

Red

## Activity Type

All

Run

Cycling

Swimming

Skiing

Other

## Heat Opacity

0%

40%

60%

80%

100%

## Layers

Map

Labels

Satellite

[Discover](#) how the heatmap was built.[Learn about heatmap updates.](#)

# US military reviewing security practices after fitness app reveals sensitive info



By [Joshua Boringer](#) and [Maegan Vazquez](#), CNN

Updated 1514 GMT (2314 HKT) January 29, 2018



## Internet of Things beta

### Is the Amazon Echo mic mute a hardware switch?



18

I recently got my hands on an Echo Dot. I'm hesitating to install it, since I'm concerned about my privacy. According to Amazon's privacy notice, they may use all data they capture.



3

I've noticed that the Amazon Echo comes with a mic mute button, which would be perfect for cutting down on voice data. But since Alexa is closed-source, I wouldn't be convinced that this button will keep my mic off *under all circumstances*.

#### Is the Echo mic mute button a software or hardware kill switch?

My searches didn't turn out much, mainly because the web is filled with low-quality news and non-technical articles.

asked 3 months ago

viewed 5,775 times

active 3 months ago

#### Related

14 [Making Amazon Echo / Alexa work outside of US, UK, Germany and Canada](#)

21 [Is the Amazon Echo 'always listening' and sending data to the cloud?](#)

18 [How to change the Amazon Echo wake word?](#)

Or take the case this week of Sonos updating its terms of service to gather more data from users ahead of building out integrations with smart home products like the Amazon Echo. Sonos changed some of its privacy practices to ensure it could gather certain data from its connected speakers. Users could opt out, but it meant that in the future their Sonos devices, which could have been purchased years ago, may one day [“cease to function.”](#)

Sonos customers are outraged. The idea that a company could break a device that you purchased years before simply by updating its terms of service was not something consumers have ever considered.

And therein lies the problem. At this moment, we're turning our hardware into a platform for software and services, but we still have a mindset that because we own a physical object, we own the functionality associated with it. The Tesla and Sonos



**Jared Spool**

@jmspool

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Users don't hate change.

- Users hate when you take control from them.
- Users hate when your change shows no value for them.
- Users hate when they've invested in learning your design, only for you to disregard that investment.

Users don't hate change.

It's you, not them.

2:28 PM - 4 Apr 2018



**Jared Spool**  
@jmspool

Exploring the boundaries of user experience and usability.

# Permissions & Ownership

Allow users to switch service providers.

TIDEPOOL



## About Tidepool

Tidepool is an open source, not-for-profit company focused on liberating data from diabetes devices, supporting researchers, and providing great, free software to people with diabetes and their care teams.





**Tidepool**   
@Tidepool\_org

Following

However you see your #Dexcom data, we've got options for you to see your data in Tidepool. [bit.ly/2ABhQUn](https://bit.ly/2ABhQUn)



**Tidepool**   
@Tidepool\_org

Tidepool is an open source effort to liberate d

Welcome to Loop

Introduction

Development History

Stay in the Loop!

Contribute





**Tidepool**  
@TidepoolOrg

Following

👏👏 Kudos to @contourascensia (formerly Bayer) for always making device protocols openly available. [bit.ly/2yEV2BB](http://bit.ly/2yEV2BB) #diabetes



7:10 PM - 20 Oct 2017

4 Retweets 11 Likes



# Transparency

Make legal implications of product usage clear.

State how long you will support the product for.



## *EU Roaming Regulations*

---

To comply with EU regulations BT have introduced the following changes that impact mobile usage and associated charges when travelling within the EU (excluding the UK).

### **1) A welcome SMS will be sent to all customers within the EU**

This will **notify customers of the EU charges** that will be incurred when:

- making or receiving voice calls
- sending or receiving texts (SMS)
- sending or receiving picture messages (MMS)
- sending or receiving data (mobile internet)

### **2) Price reduction introduced for roamed calls and SMS originating and terminating within the EU.**



# Country List

The Good Night Lamp works in the following countries (even when you move!)

## Africa

Benin

Cape Verde

Democratic Republic of Congo

Egypt

Gambia

Ghana

Kenya

# Koubachi will retire

After the acquisition by Husqvarna Group and the availability of the GARDENA smart system, Koubachi discontinues selling own products. The Koubachi servers will go through a sunset period of 3 years. You have our guarantee that we will not shutdown our systems before end of 2018.

## A journey ends and a new one begins

After being [acquired by the Husqvarna Group](#), Koubachi is now part of the [GARDENA smart system](#) team. Koubachi will continue to innovate and shape the gardening of the future.

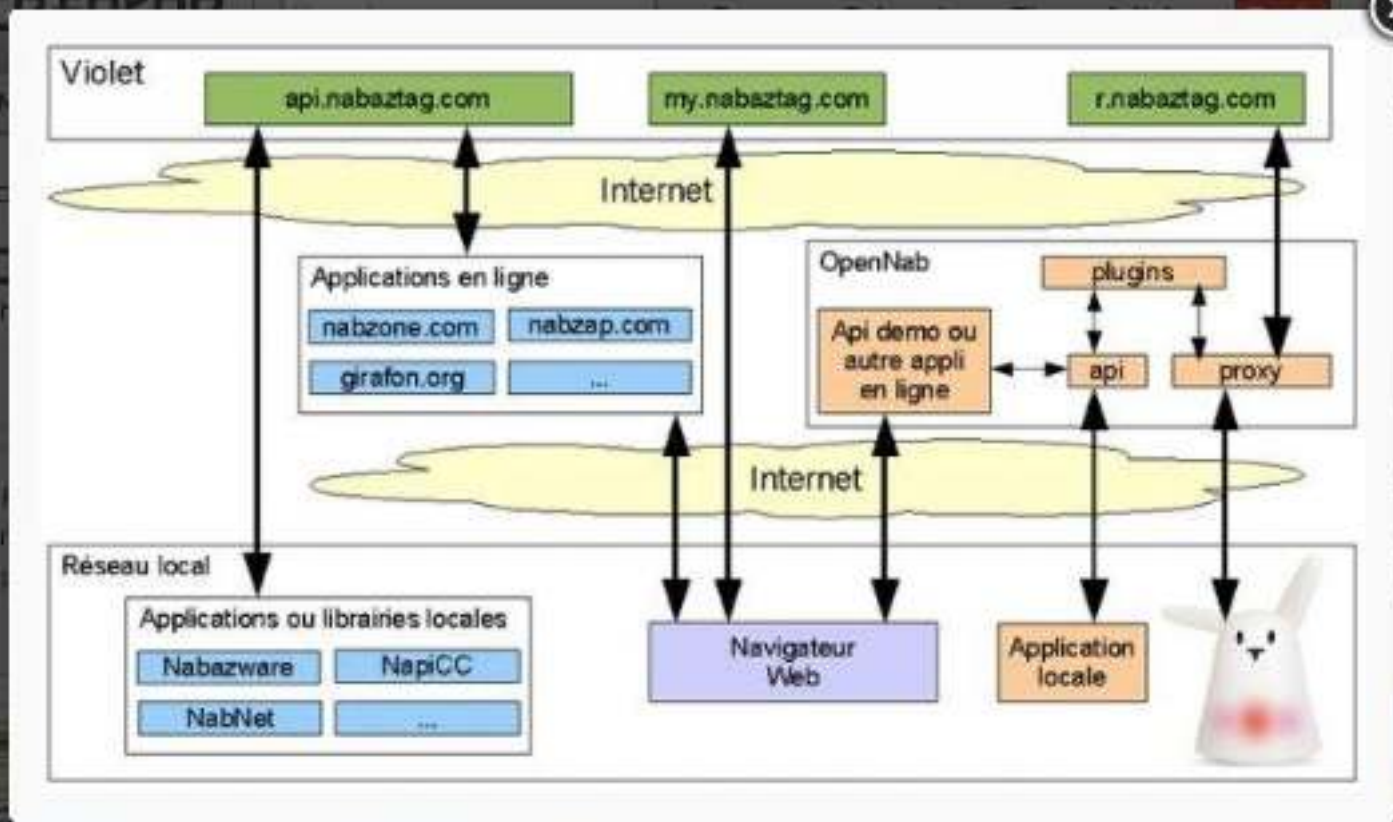
*The last six years have been the ride of our lives. We love doing what we do and are very happy to now be part of the Husqvarna family. I'm looking forward to bringing our excitement for excellent smart products to GARDENA customers world wide.*

— Dr. Philipp Bolliger, CEO & Co-Founder



## Continued Support & 3-year Sunset Period

Koubachi will be offering support until the end of the sunset period. If you have purchased a product you can contact our support at [support@koubachi.com](mailto:support@koubachi.com) or via our [support portal](#). The Koubachi Server will be operated until the end of the sunset period and then will be shutdown permanently.



Nabaztag system with OpenNab

No, thanks



## Cessation of service [ edit ]

---

Mindscape, filing for bankruptcy, discontinued the Nabaztag/tag web service in late July 2011.<sup>[18]</sup>

Alternative servers are available, including:

- [NabaztagLives.com](#)
- [NablzDead](#)
- [OpenJabNab](#)
- [OpenNab \(written in PHP\)](#)
- [Trudy](#)
- [other services](#)

It however should be noted that these services, and others not listed here, can't support the older Nabaztag.

The older units can currently be connected to a user-driven restoration

# Security

Adopt good practices across hardware, firmware, user identity management, admin functions and backend services.

Offer factory reset.



**Azeria**  
@Fox0x01

Following

When in doubt, encrypt.  
When not in doubt, be in doubt.

1:06 PM - 27 Mar 2016

432 Retweets 567 Likes



 6  432  567 



Tweet your reply



Azeria



## What makes consumer IoT security so bad?

We all know that the majority of consumer smart IoT products are insecure, but I wanted to investigate **WHY security of these devices is so bad.**

What are the underlying causes? Why and how does insecure product get to market?

I've spoken to numerous IoT vendors, hardware manufacturers, IoT integrators and platform

### Categories

Show all

See the other cool stuff we've been doing...

**MARITIME CYBER SECURITY**  
Maersk wasn't hacked  
03 APR 2018

**MARITIME CYBER SECURITY**  
Crashing ships by hacking NMEA sentences  
26 MAR 2018

**INTERNET OF THINGS**  
PTP and Microsoft to brief EU Parliament  
19 MAR 2018

Security Blog

# Internet Of Things

Internet Of Things (117)

INTERNET OF THINGS

FTP and Microsoft to brief EU Parliament  
19 MAR 2018

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WHY is consumer IoT insecure?  
07 MAR 2018

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Security by Design: UK Gov's first stab at IoT consumer protection isn't good enough  
07 MAR 2018

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Hijacking & rick rolling a smart guitar amp  
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You're Fired!

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Runtastic deserves more 'heat' than Strava!  
02 FEB 2018

Runtastic



# IIC Endpoint Security Best Practices

IIC:WHT:IN17:V1.0:PB:20180312

Application Note:  
Mapping the IoT Security  
Foundation's Compliance  
Framework to the DCMS  
proposed Code of  
Practice for Security in  
Consumer IoT

March 7

2018

Applying technical controls from the IoT Security Compliance Framework to meet the DCMS proposed Code of Practice for Security in Consumer IoT Products and Associated Services

IoTTF Working  
Group  
Document

# Internet of Things security best practices

📅 01/17/2018 • ⌚ 6 minutes to read • Contributors 

## In this article

[Secure an IoT infrastructure](#)

[IoT hardware manufacturer/integrator](#)

[IoT solution developer](#)

[IoT solution deployer](#)

[IoT solution operator](#)

[See also](#)

Securing an Internet of Things (IoT) infrastructure requires a rigorous security-in-depth strategy. This strategy requires you to secure data in the cloud, protect data integrity while in transit over the public internet, and securely provision devices. Each layer builds greater security assurance in the overall infrastructure.





## Meet [ORWL].

[ORWL] is a tamper proof open source **physically secure by design** endpoint (embedding a workstation computer) that allows its user to operate work with sensitive and/or valuable data within a potentially hostile environment.

This physically protected device will instantly destroy all (hardware encrypted) data it contains at the first physical attempt to tamper with it.

# Lifecycle

Help users repair things.

Offer spare parts for the lifetime of your product.

Be transparent about production processes and who you buy from.



- Fairphone 2 Repairability Score: 10 out of 10 (10 is easiest to repair)
- The LCD and cover glass are fused, simplifying removal, but significantly increasing the cost of replacement.
- The most commonly failing components, battery and display, can be replaced without tools.
- Internal modules are secured with Phillips #0 screws and simple spring connectors.
- Individual modules can be opened, and many components can be individually replaced.
- All buttons and cables are easily accessible. Spring contacts allow for future upgrades and easy component swaps.



Home



nathantolbert

@nathantolbert

Christian Geek Do

Joined October

Tweet to

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My ancient Super Nintendo went POP and died, so on a whim I called the support number on the back just to see what would happen.

A nice lady from @NintendoAmerica spent 10 minutes with me troubleshooting possible causes. On a nearly 30-year old system.



Tweet



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said "that was

# Similar initiatives

The time is right.



## Similar initiatives

[http://www.consumersinternational.org/media/154809/iot-principles\\_v2.pdf](http://www.consumersinternational.org/media/154809/iot-principles_v2.pdf)

Securing consumer trust in the IoT, Principles and Recommendations 2017 - Connectivity and Inclusion; Information and transparency; Ownership and use; Security and safety; Liability; Data protection and privacy online; Complaints handling and redress; Competition and choice; Lifecycle

<https://harpur.wirelessink.com/2006/02/15/everyware-the-dawning-age-of-ubiquitous-computing/>

Everyware Principles - Do no harm; Default to harmlessness; Be self-disclosing; Be conservative of face; Be conservative of time; Be deniable

<https://www.thewavingcat.com/iot-trustmark/>

A Trustmark for IoT - Good data practices; Good security practices; Openness; Lifecycle management; Establishing that the producing organization is trustworthy

<https://www.crowdsupply.com/about>

Proclamation of user rights - Curiosity; Independence; Association; Longevity; Transfer; Discourse; Privacy; Security

<https://docs.google.com/spreadsheets/d/1u-4g1XjtdYNaLh1f1SPzsw1v6OuTfTM3Mu0/aFE1fQ>

IoT Mark Landscape of 30+ similar initiatives

<https://docs.google.com/document/d/1SN6nYeKa3eRK6x9D0Sr7GpCA4nirpyo3u68xG1A6NDs>



By contributing you agree that this work by iotmark.org is licensed under CC BY-SA 4.0

Name	URL	Assessed by (please put your name down if you're looking at it)  Add "prod" for individual data points to a sheet comment if not obvious =>	Organisation	Origin country	Language	Zoom level	Focus											
					Technical language	Simple words	High level or overview	Detailed advice or requirements	Safety	Security	Privacy	Data ownership	Provenance	Impact or environment	Resiliability	Interoperability	Openness	Transparency
IoT Mark Principles	<a href="https://github.com/openiotmark/iotmark-principles/">https://github.com/openiotmark/iotmark-principles/</a>		#londoncommunity	UK	X			X		X	X	X	X		X	X	X	X
IoT Security Foundation Principles	<a href="https://www.securityfoundation.org/wp-content/uploads/2015/12/ISF-Establishing-Principles-for-IoT-Security-Download.pdf">https://www.securityfoundation.org/wp-content/uploads/2015/12/ISF-Establishing-Principles-for-IoT-Security-Download.pdf</a>		IoT Security Foundation	UK			X			X	X							
Securing consumer IoT in the IoT: Principles and Recommendations 2017	<a href="https://www.consumersinternational.org/media/15480/Securing-IoT.pdf">https://www.consumersinternational.org/media/15480/Securing-IoT.pdf</a>		Consumers International	UK		X	X	X	X	X	X	X		X	X			X
TÜV Rheinland - IoT Privacy Certificates	<a href="https://www.tuv.com/landingpages/infot-privacycertificates">https://www.tuv.com/landingpages/infot-privacycertificates</a>	G	TÜV Rheinland	Germany	X			X			X							

IOT DESIGN MANIFESTO 1.0

# IOT DESIGN MANIFESTO 1.0

**Guidelines for responsible  
design in a connected world**

ABOUT • DOWNLOAD • SIGN



Better things is a standard and a certification system for connected products.



### **Technological Opportunities**

Utilization of capabilities that are unique to Connected Objects.



### **Context**

How well this product integrates in the lives of the persons using it.



### **Interusability**

The operation of the product in the larger ecosystem of connected things.



### **Privacy**

The application of privacy measures in the product, ecosystem and company.



### **Meaning & Purpose**

The function, contribution and significance of the product.



### **Health & Safety**

The product's effect on the health and safety of those who use it.



### **Community**

The effect of the product on the community in which it resides.



### **Cost & Access**

Availability and cost-effectiveness.



### **Sustainability**

Design for maintenance, upgradability and eco-friendliness.

# SECURING CONSUMER TRUST IN THE INTERNET OF THINGS

PRINCIPLES AND RECOMMENDATIONS  
2017

# Future

Spread the word.

Make, learn, share.

Automate assessment?



## Understanding Terms and Conditions

Terms and conditions are broken — people don't have time to read them and some companies use them for permissions people would find surprising. Unreadable T&Cs aren't a meaningful, two-way agreement between a person and a company. They likely won't meet GDPR's high standard for getting consent. What's more, they can be harmful to a company's bottom line.

Over the last few weeks we've been thinking about improving terms and conditions. We've been learning by making and talking to experts.

### We started out with a tool to parse and display terms

The first thing we did was build a prototype to test making it easier for people to read terms and conditions by highlighting certain words and phrases, for example 'personal information'.

This was a simple starting point that could lead to more sophisticated natural language processing and automatic analysis of terms.

You are here: Home > Projects > SSL Server Test > yaler.net

## SSL Report: yaler.net (46.137.85.10)

Assessed on: Thu, 06 Apr 2018 00:06:05 UTC [Help](#) | [Disclaimer](#)

[Scan Another »](#)

### Summary

Overall Rating



Visit our [documentation page](#) for more information, configuration guides, and books. Known issues are documented [here](#).

DNS Certification Authority Authorization (CAA) Policy found for this domain. [MORE INFO »](#)





# Thank you.

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I'm @tamberg

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