Humanizing IoT

with

Smartphones and the Web.

Dietrich Ayala

PDX JavaScript & IoT Meetup

Portland, Nov 17, 2016

mozilla

Internet for people, not profit ...

Mozilla Foundation (US) | https://www.mozilla.org/en-US/

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ABOUT | WEB INNOVATIONS | FIREFOX

Internet for people, not profit.

Hi. We're Mozilla, the proudly non-profit champions of the Internet, helping to keep it healthy, open and accessible to all.

~~*INTERNET OF THINGS*~~

UBIQUITOUS PHYSICAL COMPUTING

THE CONSUMER EXPERIENCE TODAY.

PAYING LOTS OF MONEY

TO HAND YOUR WHOLE LIFE

OVER TO A FOR-PROFIT

CORPORATE CLOUD.

AFFLUENT

CONNECTED

OPAQUE

GARBAGE

SECURE

PRIVATE

SENSITIVE

SHAREABLE

COMPLEXITY

USER CONTROL

PRIVACY

LOOKS LIKE DEAD ROBOTS

EASE OF USE

CLOUD

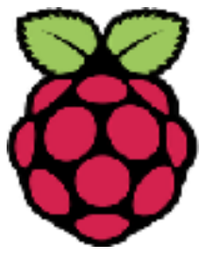
FEATURES

BEAUTIFULLY DESIGNED

MAKER / DIY

KICKSTARTER / STARTUPS

MASS MARKET CONSUMER



HomeKit

THERE'S A LOT GOING ON IN IOT...

SO MANY DEVELOPER BOARDS

SO MANY CLOUD SERVICES

SO MANY LIBRARIES

SO MANY APIS

SO MANY...

WHO ARE YOUR PEOPLE?

WHAT IS THEIR PROBLEM?

AUTOMATED SHOPPING DOESN'T MAKE MY LIST OF PROBLEMS.

REAL TALK.

I DON'T HAVE ENOUGH MONEY.

I DON'T HAVE ENOUGH TIME.

I'M HUNGRY. I'M LONELY.

ME OR MY PEOPLES ARE SICK.

I'M AWAY FROM HOME.

MY GOVERNMENT IS HUNTING ME.

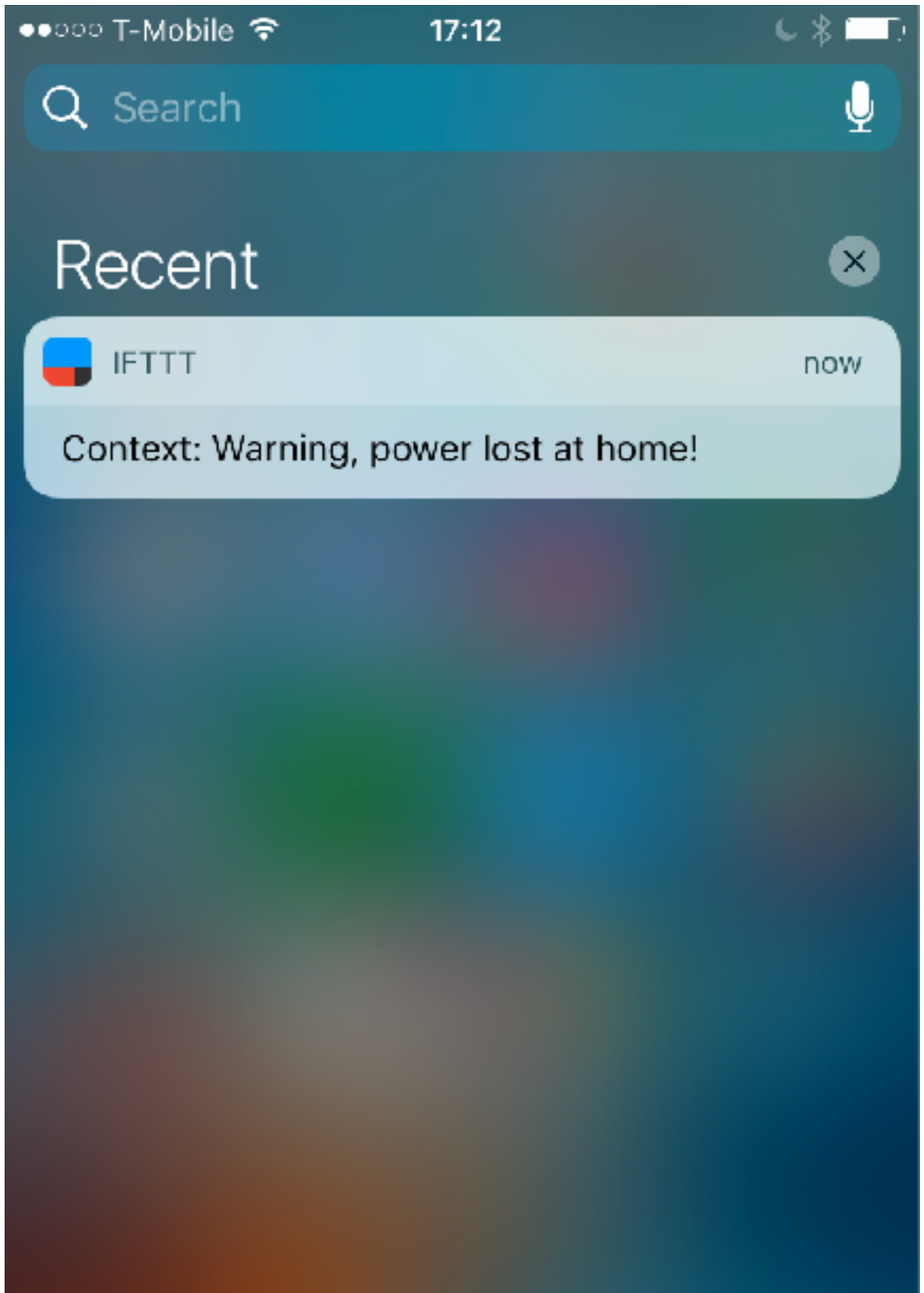
I'M AT WORK.

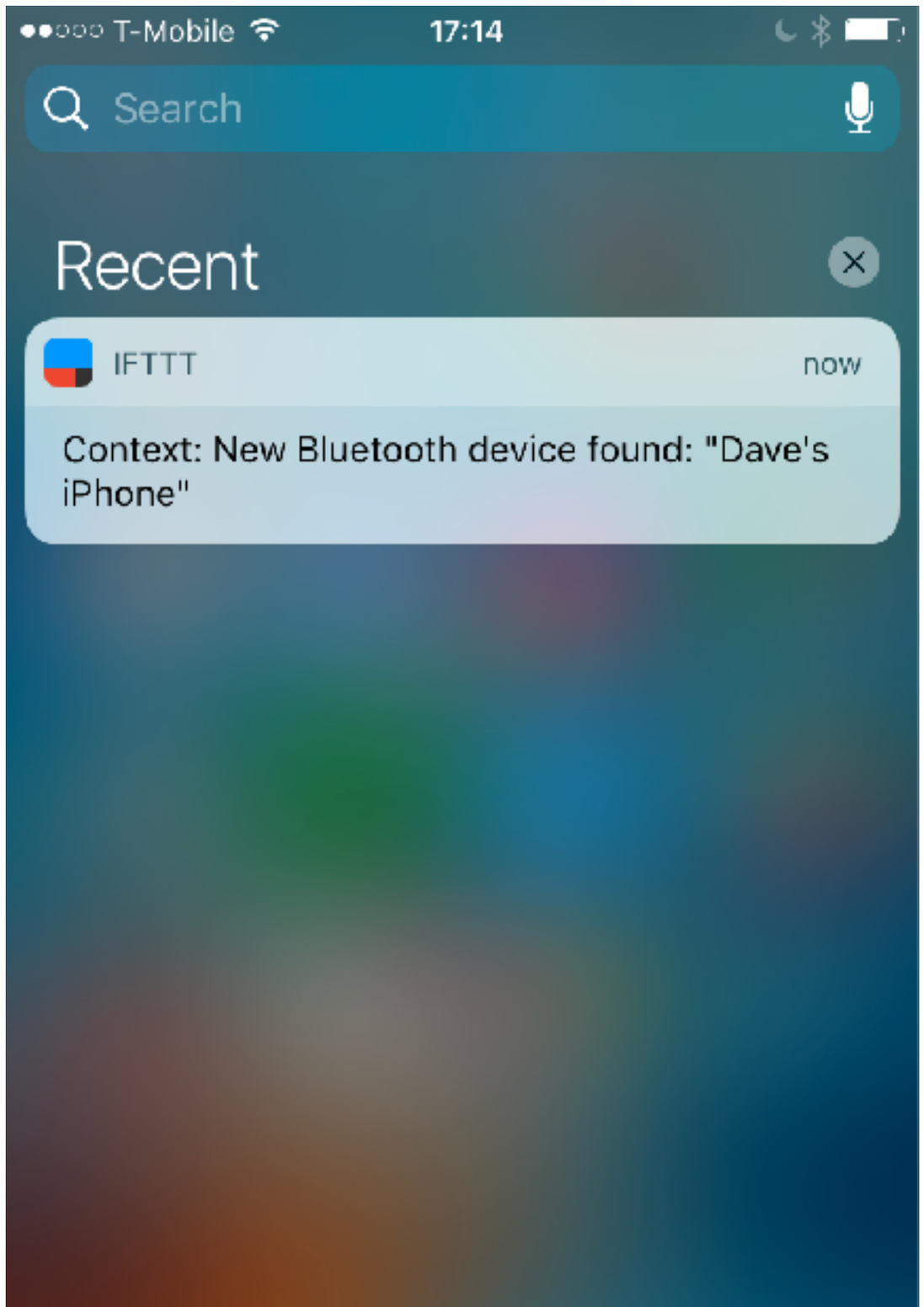
I WANT TO KNOW

IF THE POWER

WENT OUT AT

HOME.





I'M TRAVELING.

I WANT TO KNOW

IF A STRANGER

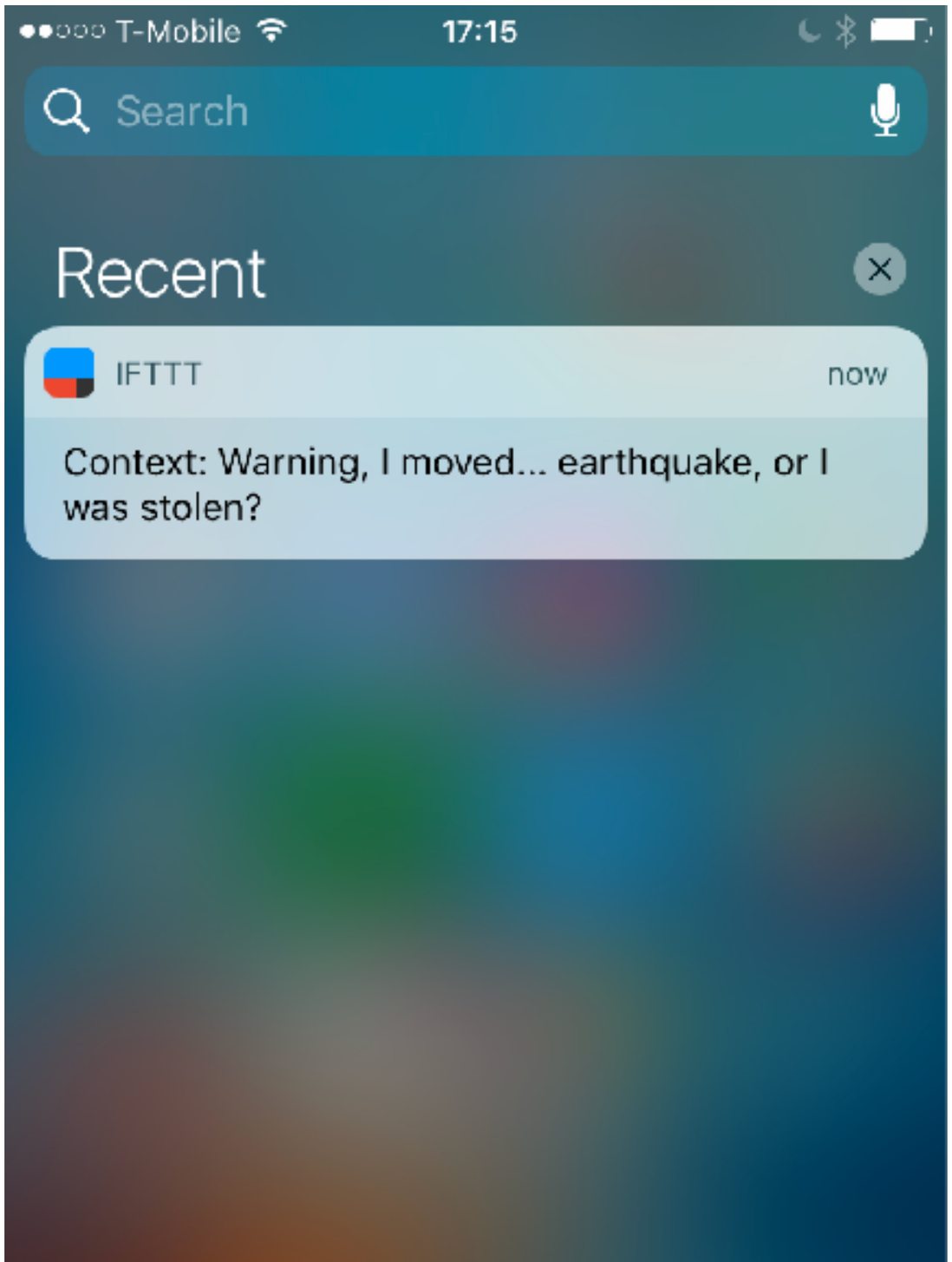
ENTERS MY

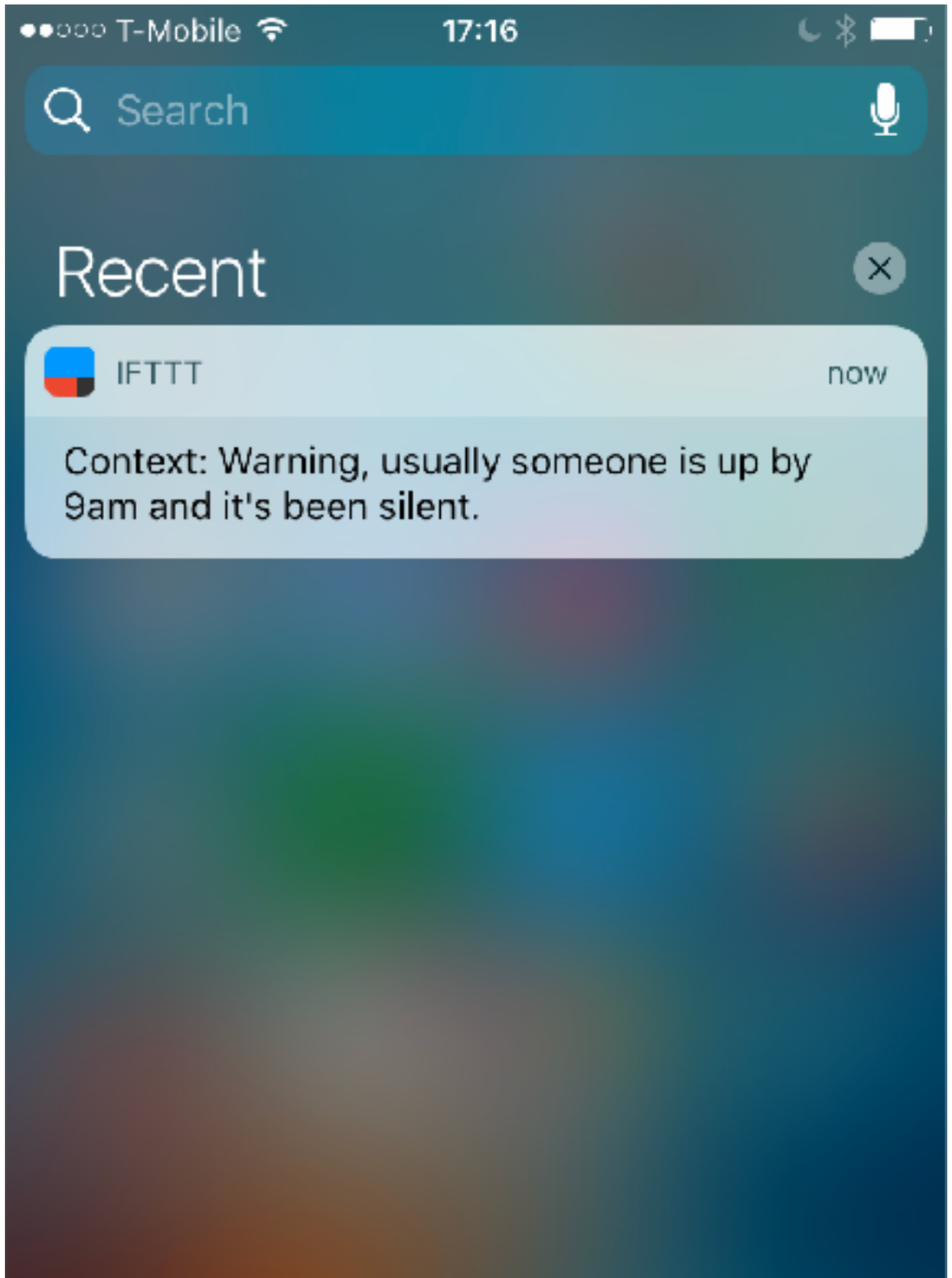
HOME.

PHYSICAL AWARENESS.

DO APPLIANCES KNOW IF THEY MOVED OR NOT?

WHAT DOES IT MEAN IF THEY MOVED?

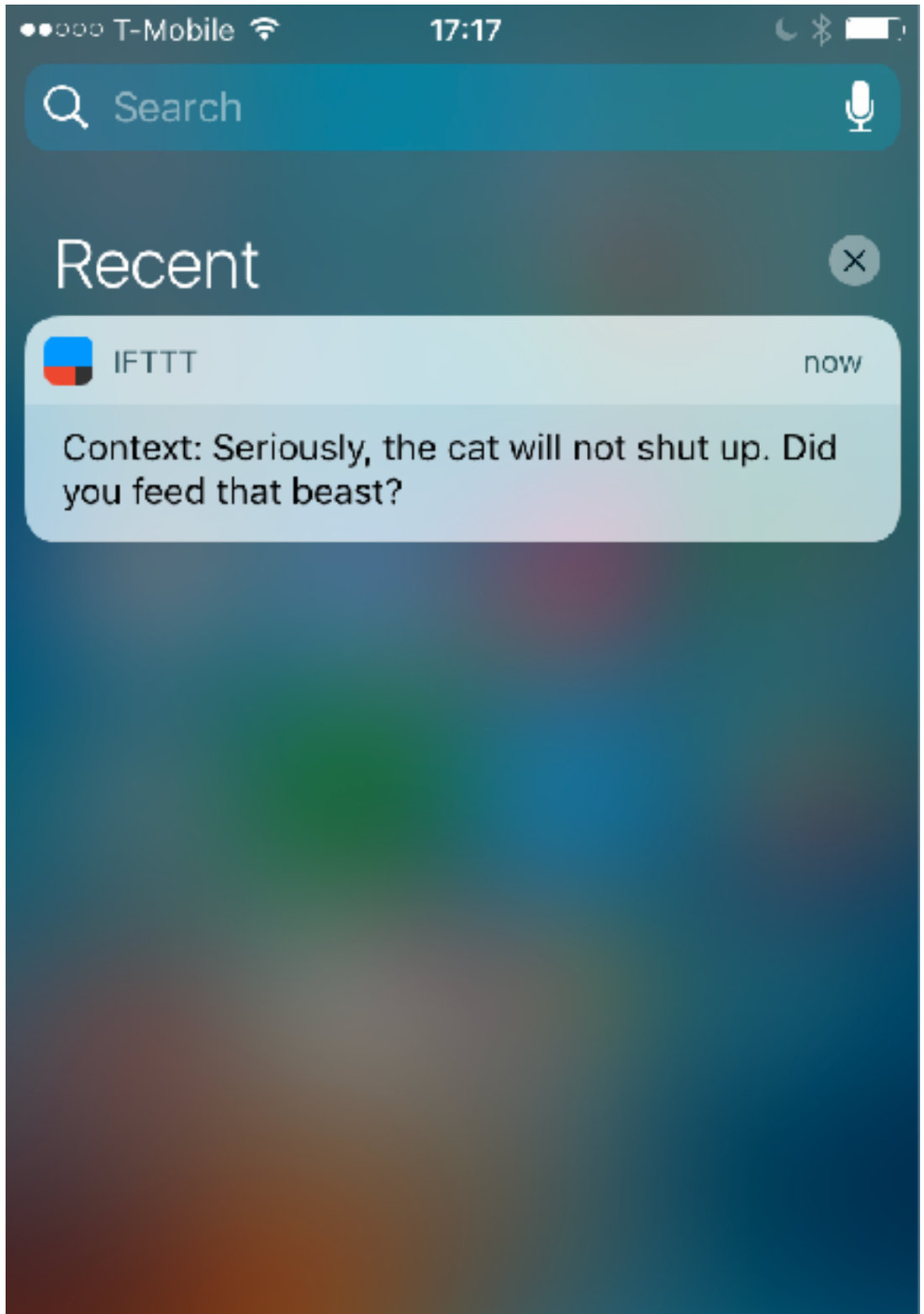




GRANDPA LIVES ALONE NOW.

IF HE'S NOT UP AND AROUND BY 9AM, THEN SOMETHING MIGHT BE WRONG.

MEOW.


T-Mobile
17:17
Search
Recent
IFTTT
now
Context: Seriously, the cat will not shut up. Did you feed that beast?

YOU CAN GET

CONTEXT FROM

SMARTPHONE

DEVICE APIS.

APIS -> TRIGGERS

BATTERY API ..... POWER OUTAGE

ACCELEROMETER..... EARTHQUAKES/ THEFT

BLUETOOTH ..... PRESENCE / ABSENCE

WI-FI ..... NEIGHBORHOOD

MICROPHONE ..... PRESENCE / ABSENCE

CAMERA ..... PRESENCE OF CATS

PHYSICAL APIS

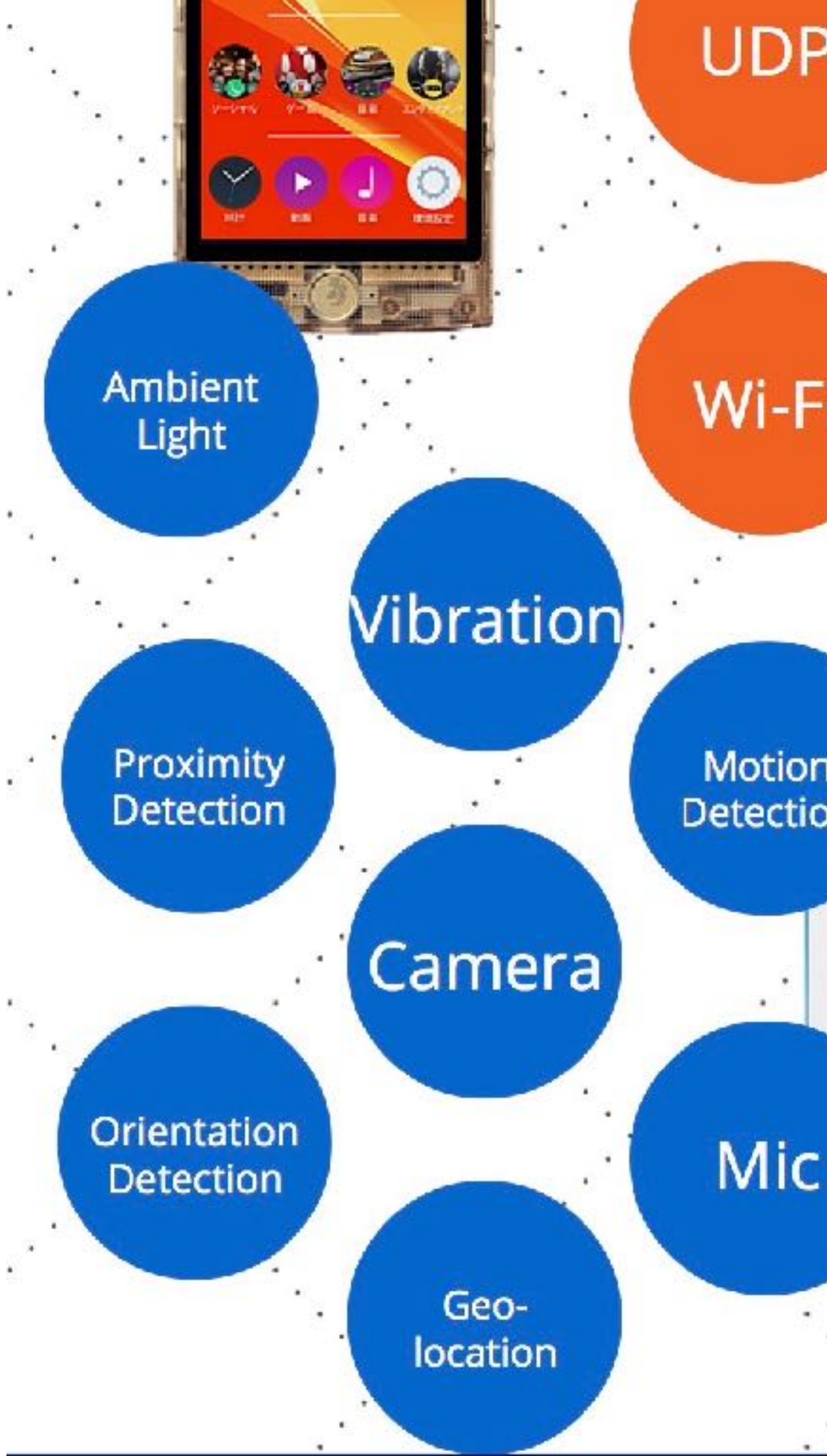
ACCELEROMETER

ORIENTATION

PROXIMITY DETECTION

AMBIENT LIGHT DETECTION

POWER / BATTERY



MEDIA APIS

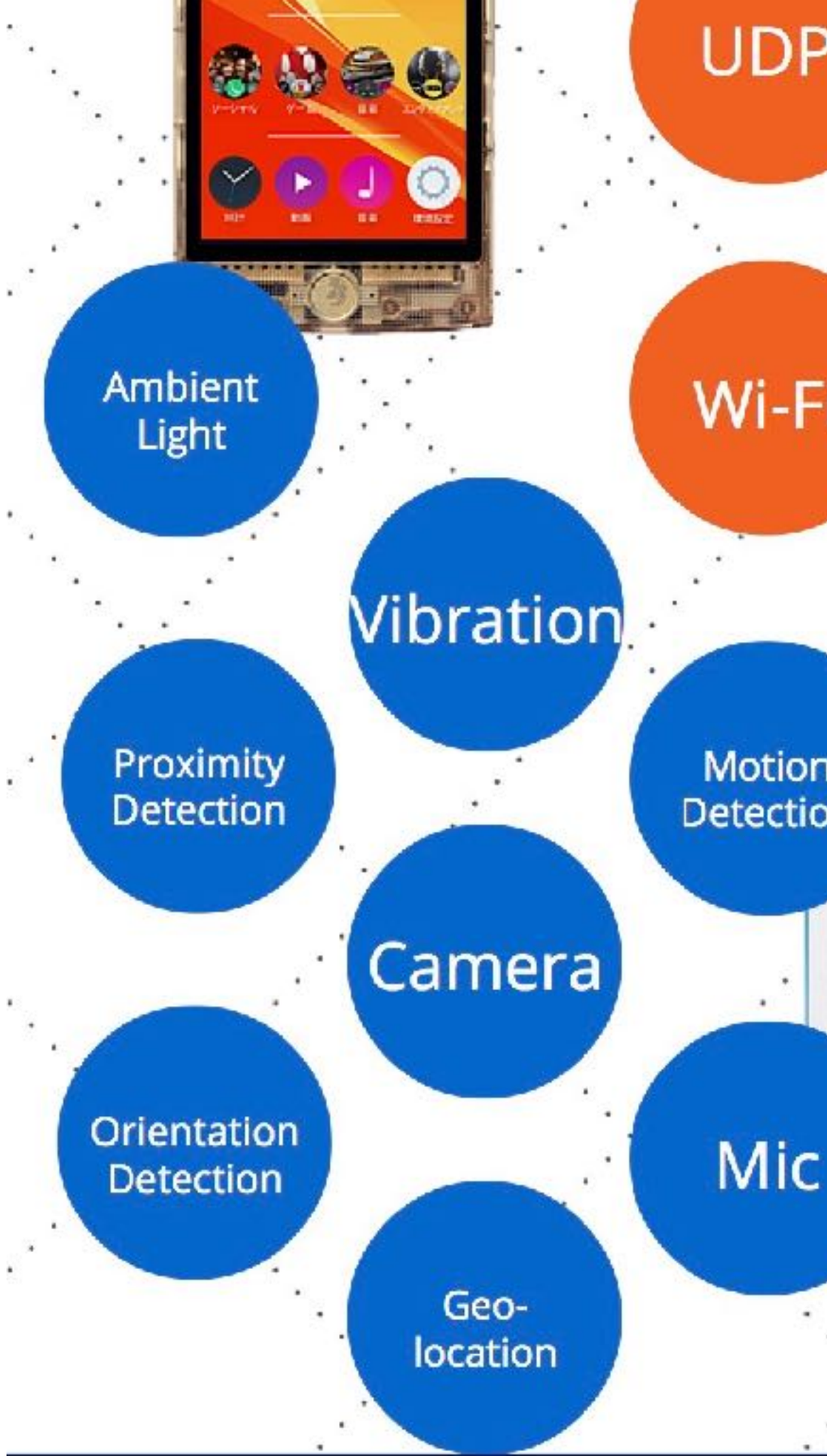
MICROPHONE

CAMERA

SPEECH RECOGNITION

SPEECH SYNTHESIS

A SPEAKER



RADIO APIS

BLUETOOTH (LE)

NFC

GEOLOCATION

WI-FI

NETWORK APIS

XHR

TCP & UDP SOCKETS

MDNS / BONJOUR

SSDP

DLNA

YOU CAN GET

SOME OF THESE

WITH THE WEB.

ENTER CONTEXT.

SENSORS -> SIGNALS

```
// Set up power loss alerts
var trigger = {
    source: 'source-power',
    signal: ‘batteryCharging’,
    value: false
};

var notification = {
    title: 'Power alert!',
    description: 'Power has been lost or disconnected',
};

registerTrigger({ trigger: trigger, notification: notification });
```

NOTIFICATIONS

IFTTT'S MAKER CHANNEL

SMS

SLACK BOT

GOOGLE SPREADSHEET

WEB PUSH NOTIFICATIONS

NOTIFICATIONS

```
function notifyIFTTT(value1, value2, value3) {
  var url =
    'https://maker.ifttt.com/trigger/yourAppName/with/key/yourIFTTTKey';

  var msg = {
    value1: value1,
    value2: value2,
    value3: value3
};

sendJSON(url, msg);
```

YOU CAN TRY THIS AT HOME.

OPEN IN A WEB BROWSER!

HTTPS://AUTONOME.GITHUB.IO/CONTEXT

SOURCE CODE:

HTTPS://GITHUB.COM/AUTONOME/CONTEXT

STATUS

SOURCES ALL WRITTEN

CODELESS AUTOMATION

ZERO CONFIG UI

NOTIFICATION PLUG-INS

BEST PRACTICES

TURN OFF SCREEN LOCK

AND SCREEN TIMEOUT

SHOULD CHECK POWER CONSUMPTION

RUNS FOR WEEKS ON END

BUT YOU NEVER KNOW

MAKE THOUGHTFUL AND PERSONAL THINGS.

THANK YOU.

@DIETRICH