

Calm Technology

Design for the Next Generation of Devices

Amber Case | [@caseorganic](https://twitter.com/caseorganic)

Research Fellow, Harvard Berkman Klein Center, [@medialab](https://twitter.com/medialab)

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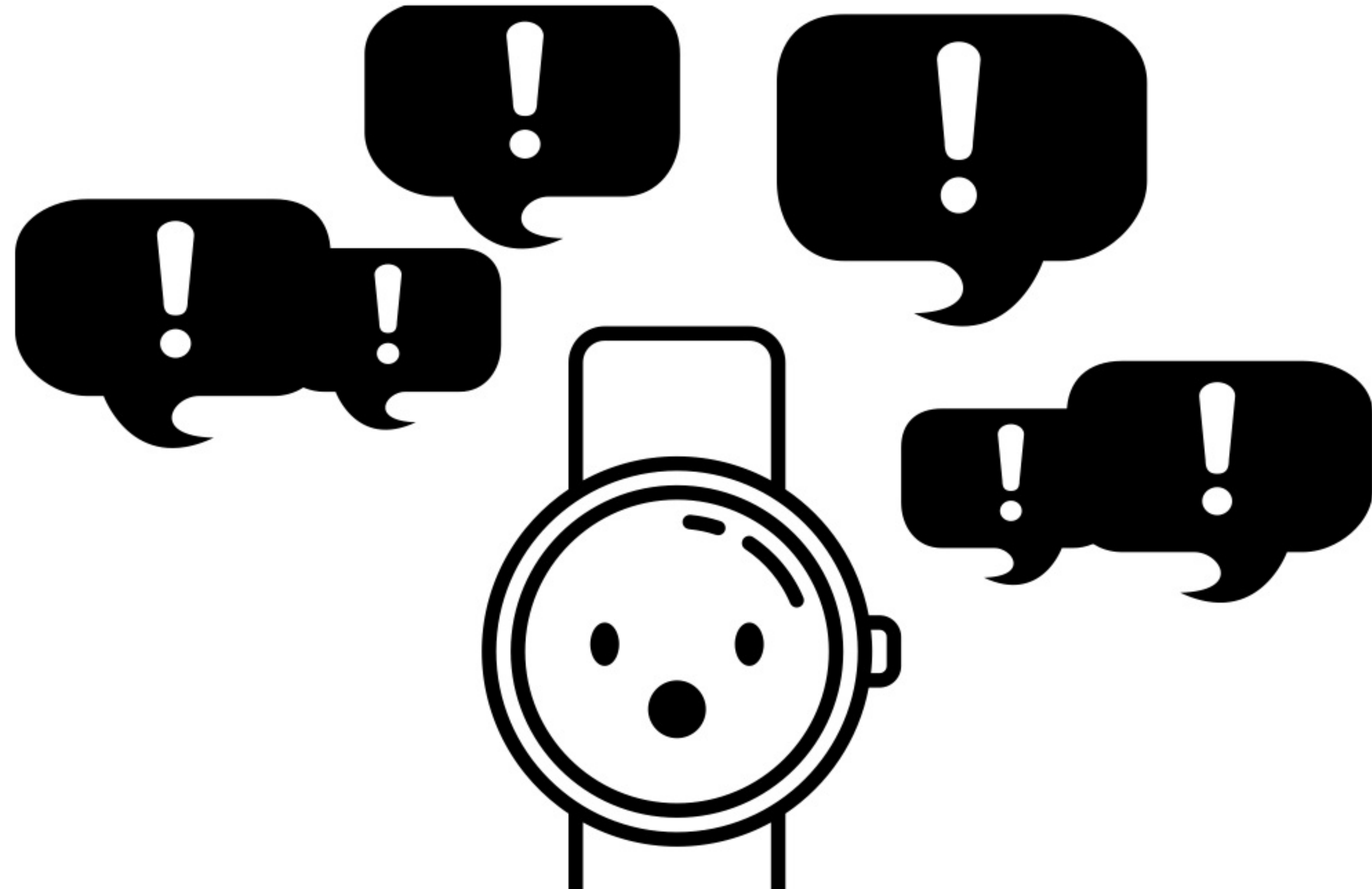
calmtech.com

50 billion devices
will be online by
2020. *-Cisco*

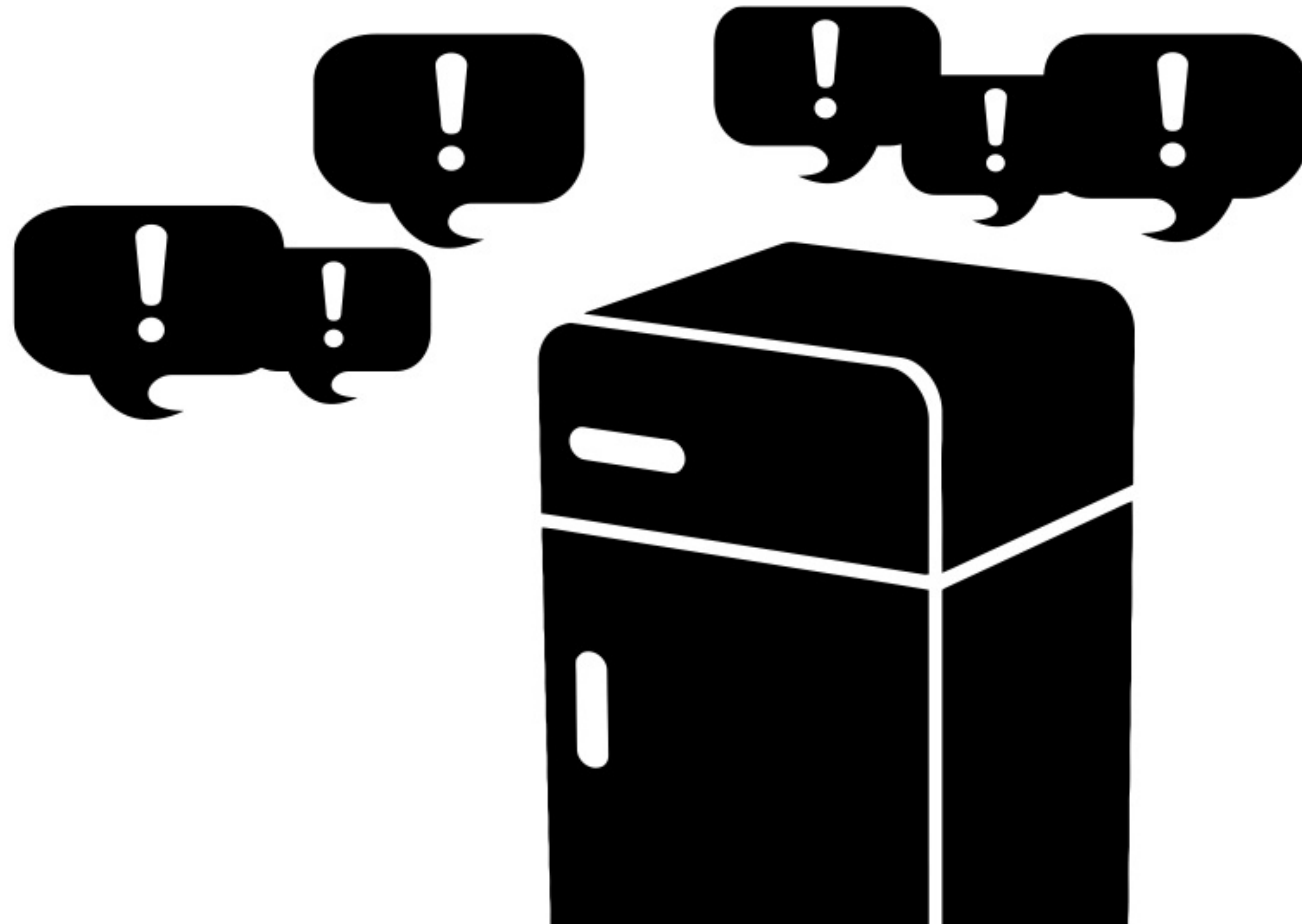
Sound good?

Consider...

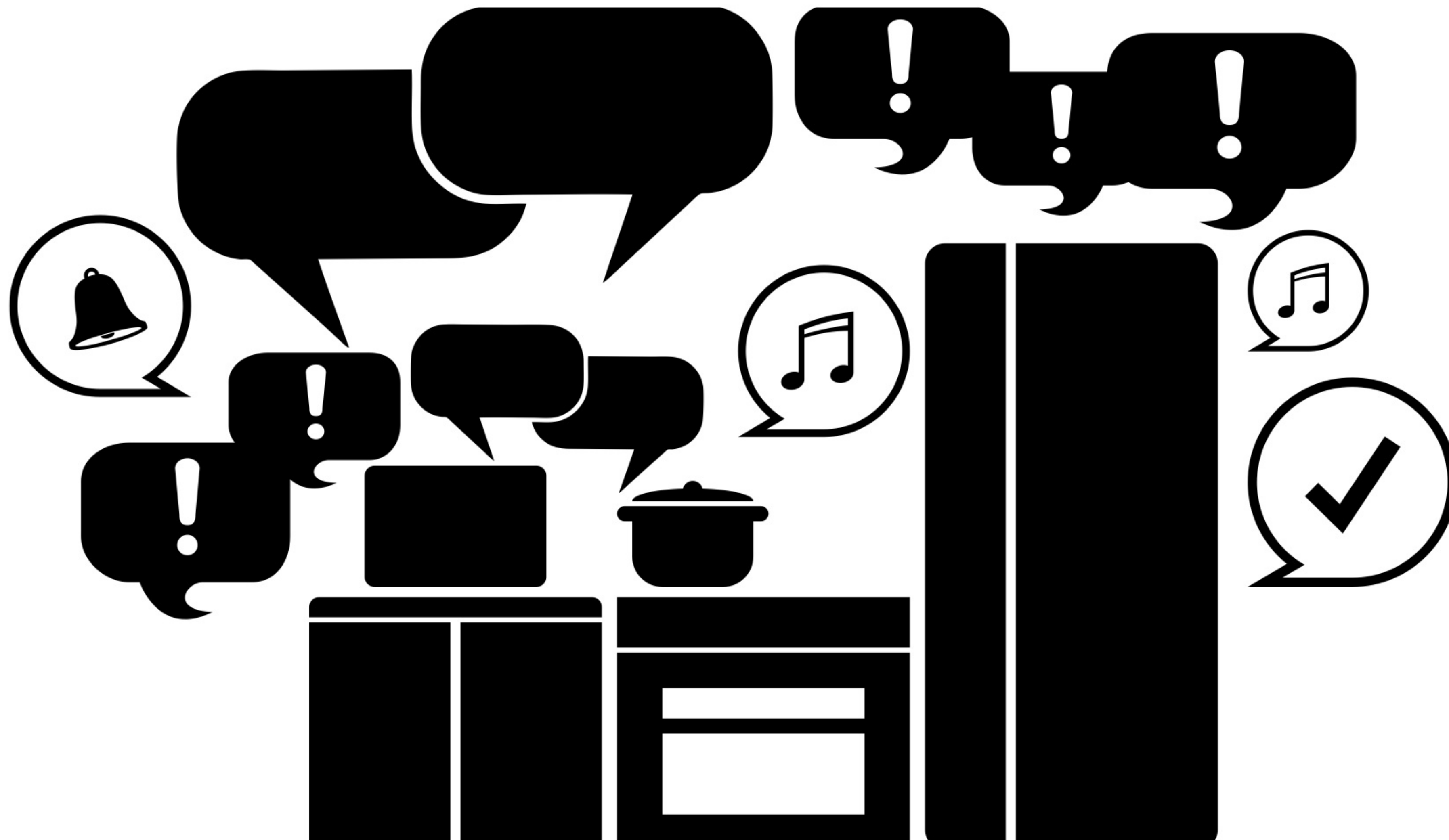
The "Smart" Watch



The "Smart" Fridge



The Dystopian Kitchen of the Future



Connected Animals



Petnet^{io}

The new Schrödinger's Cat



DATA CENTER SOFTWARE SECURITY TRANSFORMATION DEVOPS BUSINESS PERSONAL TECH SC

Data Center ▶ **Cloud**

Cats, dogs starve as web-connected chow chute PetNet plays dead

Failure forces humans to 'manually' feed ravenous pets



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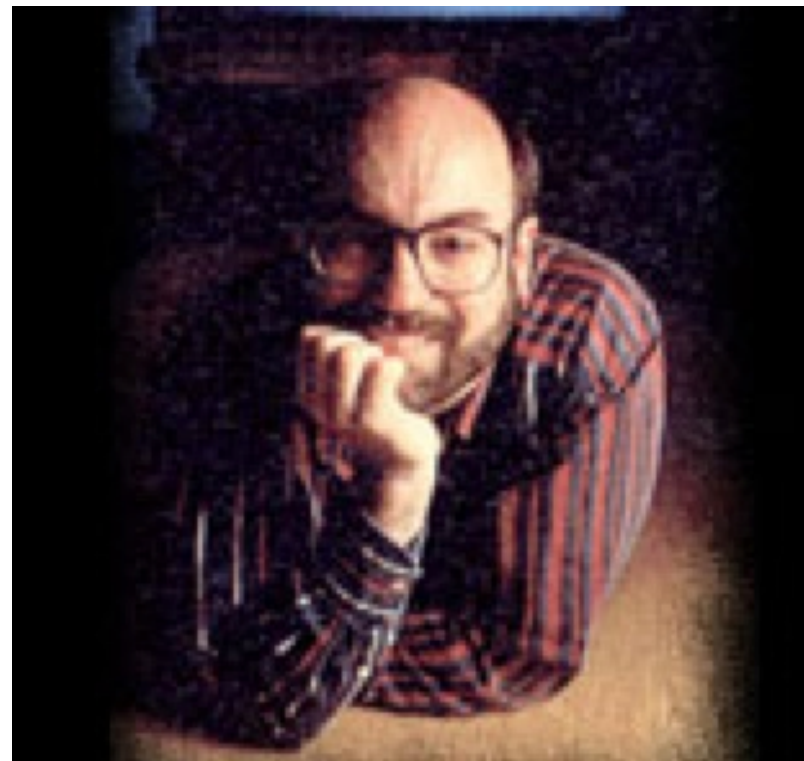
Source: <http://readwrite.com/2016/08/01/petnet-shows-happens-iot-fails-dl1/>

An era of
interruptive
technology

We need a
Calm Technology

XEROX PARC: mid-90s

Mark Weiser



John Seeley Brown



THE COMING AGE OF CALM TECHNOLOGY¹

Mark Weiser and John Seely Brown

Xerox PARC

October 5, 1996

INTRODUCTION

The important waves of technological change are those that fundamentally alter the place of technology in our lives. What matters is not technology itself, but its relationship to us.

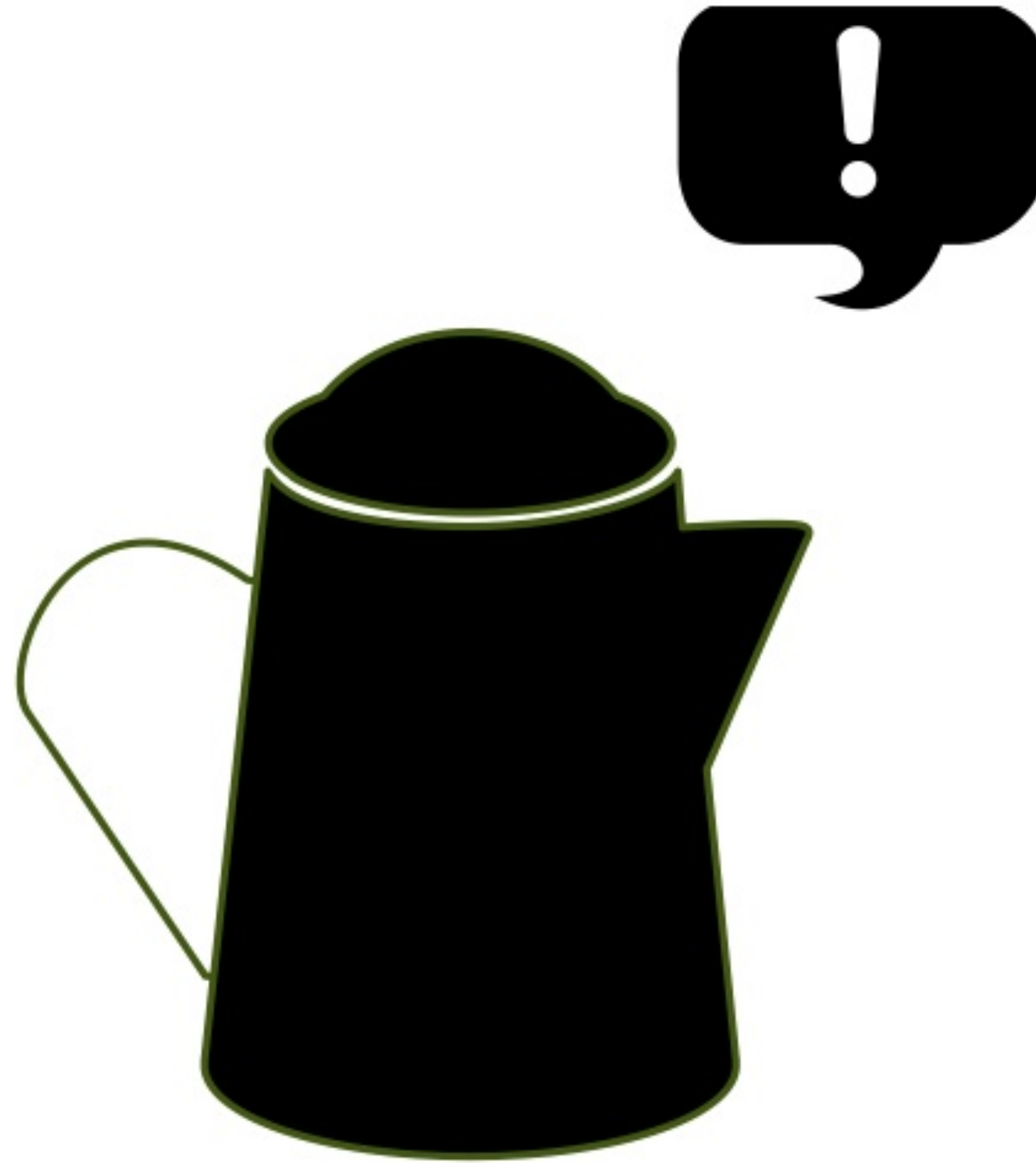
"A good tool is an **invisible tool**.
By invisible, we mean that the
tool **does not intrude** on your
consciousness; you **focus on the**
task, not the tool."

Mark Weiser -- 1993

Designing Calm Technology

I. Technology shouldn't require all of our attention, just *some of it*, and *only when necessary*

A Tea Kettle



II. Technology should
empower the *periphery*

LUMOBack Smart Posture Sensor



Buzzes you when
you exhibit poor
posture.

III. Technology should inform and *encalm*



Weather Status Lighting

Hue Lightbulb connected to a weather report

Aaron Parecki
@aaronpk 2014

IV. Technology should amplify the best of technology and the best of humanity.

1. Machines shouldn't act like humans
2. Humans shouldn't act like machines

Google

Search Google or type URL



Sleep Cycle Sleep Tracker and Alarm Clock

sleepcycle.com



6 20

7 25

8 : 30 AM

9 35 PM

10 40

Wake up between 8:00 AM - 8:30 AM

Start

Sleep Cycle Sleep Tracker and Alarm Clock

sleepcycle.com



V. Technology can
communicate,
but it doesn't need to speak

Live Wire (Dangling String)

by Natalie Jeremijenko, Mark Weiser (advisor)
Xerox PARC, 1995



The Roomba Robotic Vacuum Cleaner



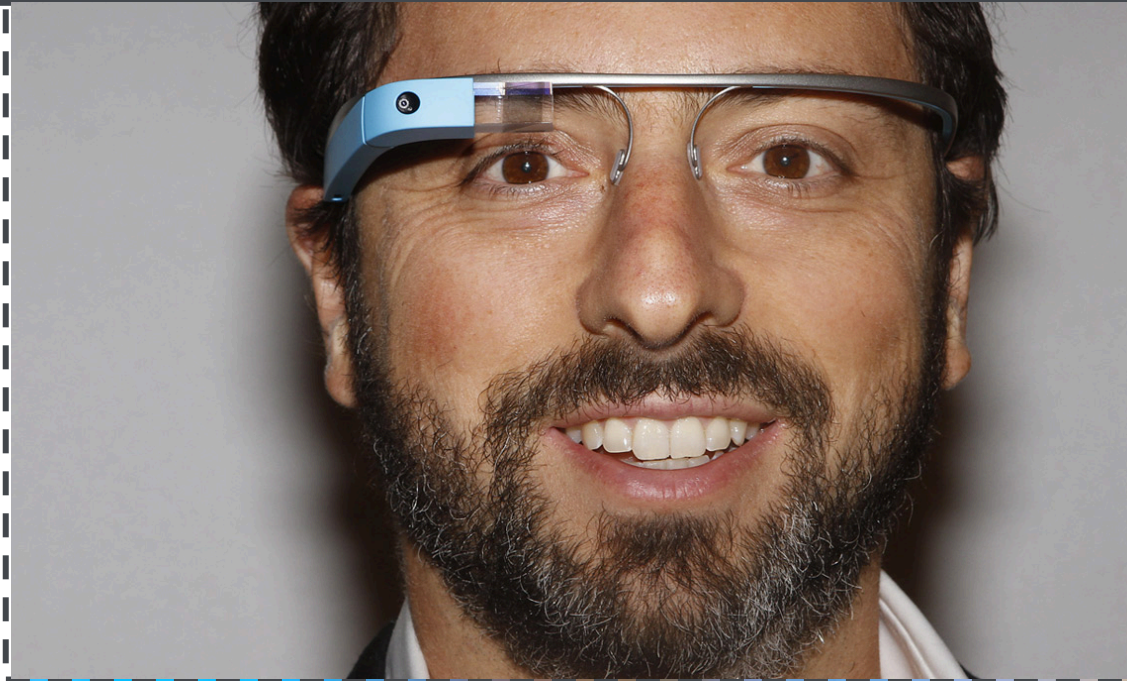
VI. Technology should
consider social norms

Technology

Example

Social Effect

Enhancing



Fear-inducing

Normal



Invisible

Restorative



Accepted



THINKSTOCK/PHOTO ILLUSTRATION

The arrival of the smartphone camera

Google Glass

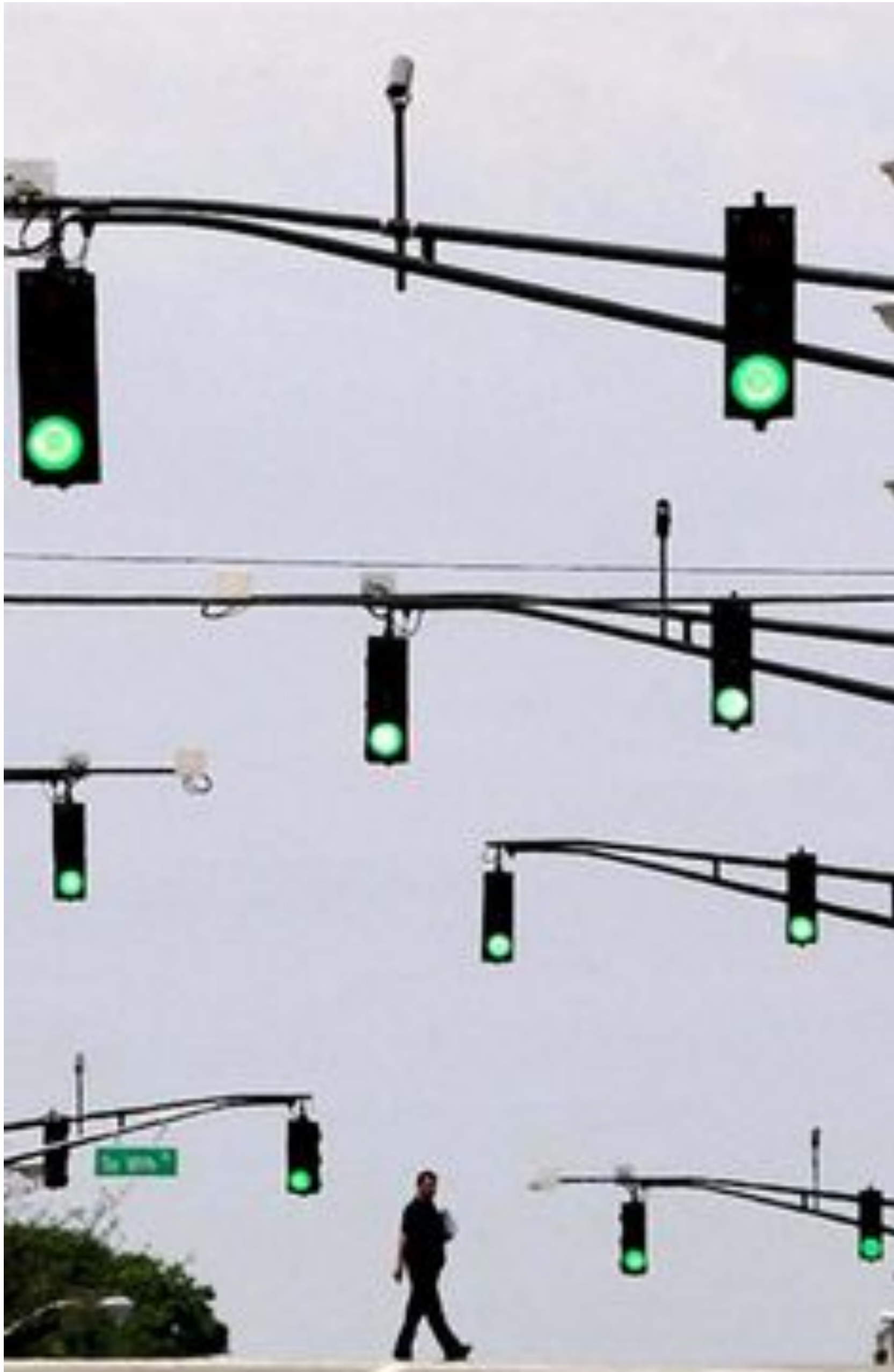


Compare to the iPhone Launch

- Improvement on an existing system (smartphones)
- Developer onboarding
- Limited Features

VII. The right amount of technology is the minimum amount to solve the problem

Street Lights

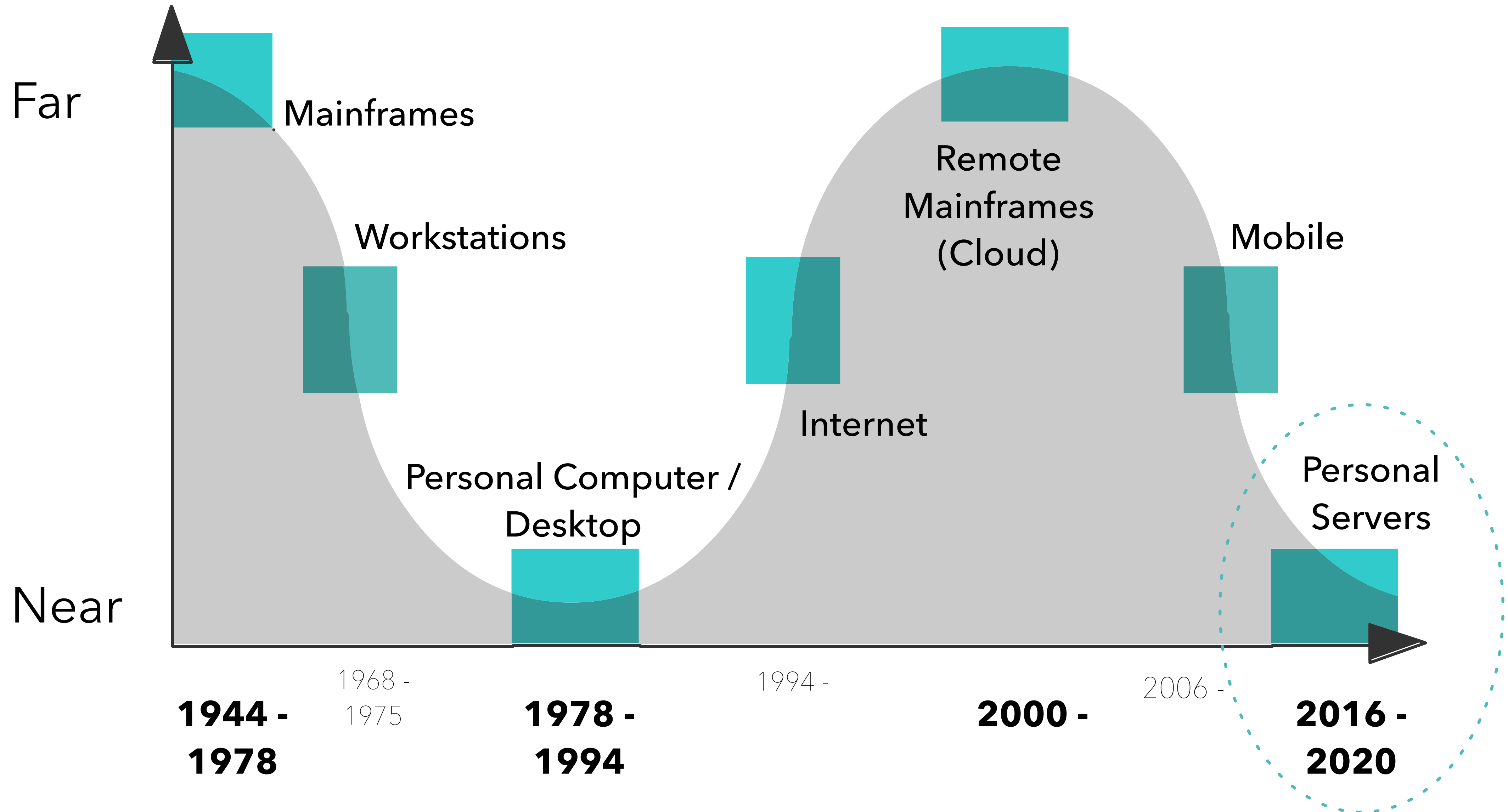


Toilet Occupied Sign



VIII. Technology should make use of the near and the far

Evolution of computers over time



Process as much as possible on the device itself.



...



Good design allows people to accomplish their goals in the least amount of moves

Calm Technology allows people to accomplish the same goals with the *least amount of mental cost*

A person's primary task
should not be computing, but
being human.

The scarce resource in the 21st
Century will not be *technology*.
It will be *attention*. - Mark Weiser

8 Principles at Calmtech.com

CalmTechnology.com

Papers

People

Products

Press

PARC

The world around is made up of information that competes for our attention. How much is necessary? How much is not?

We cannot interact with our everyday life in the same way we interact with a desktop computer.

Technology shouldn't require all of our attention, just some of it, and only when necessary.

Take a teapot, for example. It tells us when it is ready, and is off or quiet the rest of the time. If technology works well, we can ignore it most of the time.

"The most profound technologies are those that **disappear**. They weave themselves into the fabric of everyday life until they are **indistinguishable from it**."

-Marc Weiser (1952-1999) Xerox Parc, 1988

O'REILLY



Calm Technology

PRINCIPLES AND PATTERNS FOR NON-INTRUSIVE DESIGN

Amber Case

Calm Technology Book

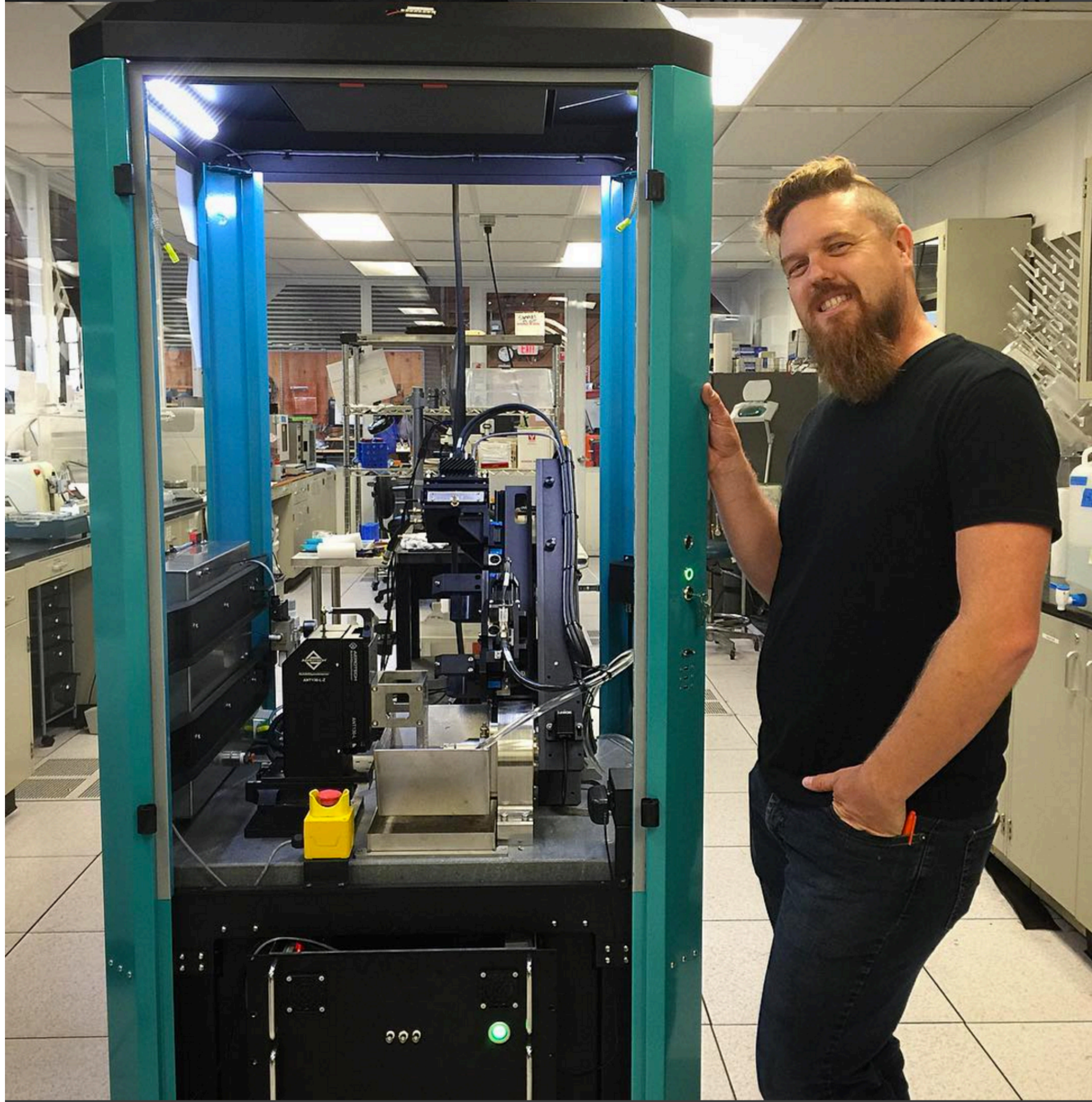
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Thank you very much!

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3Scan:
1500
times
faster
than
humans