



TORONTO
16 - 19 Oct 2017



Not all that glitters is gold: Avoiding fear-based technology decisions



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Better than a thousand days of
diligent study is one day with a
great teacher.

Japanese proverb



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Amber Case

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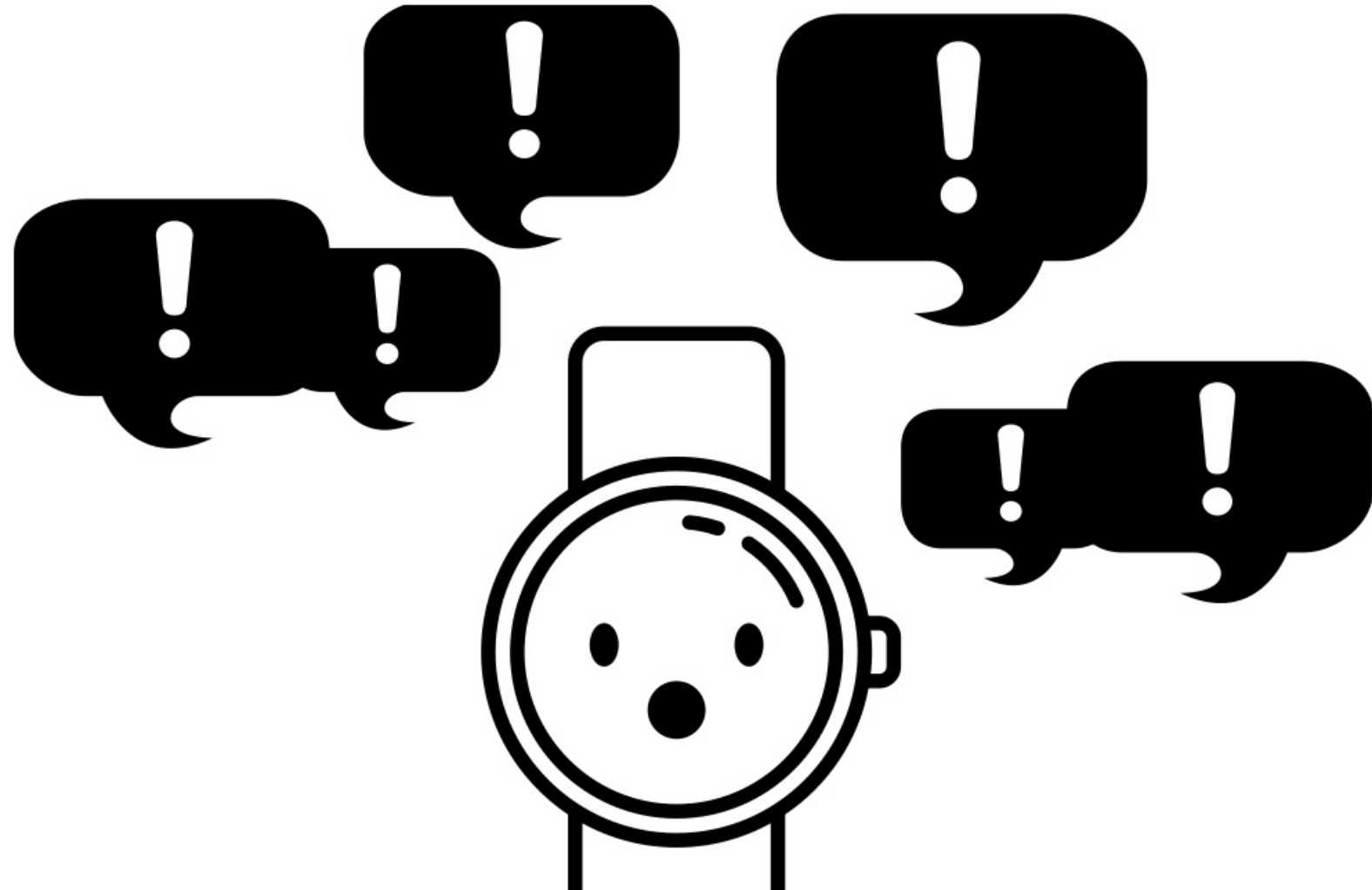
@caseorganic
calmtech.com

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

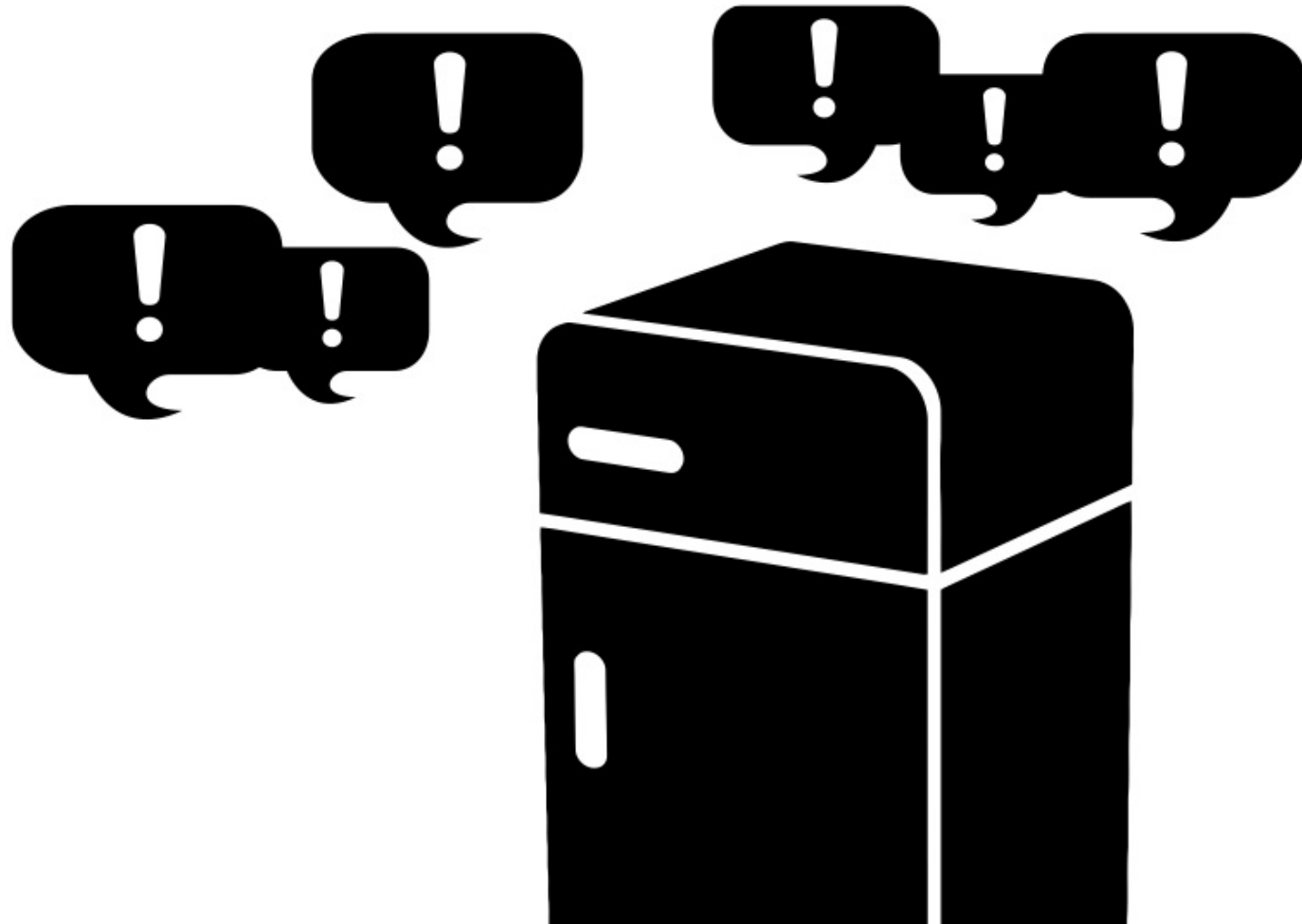
Sound good?

Consider...

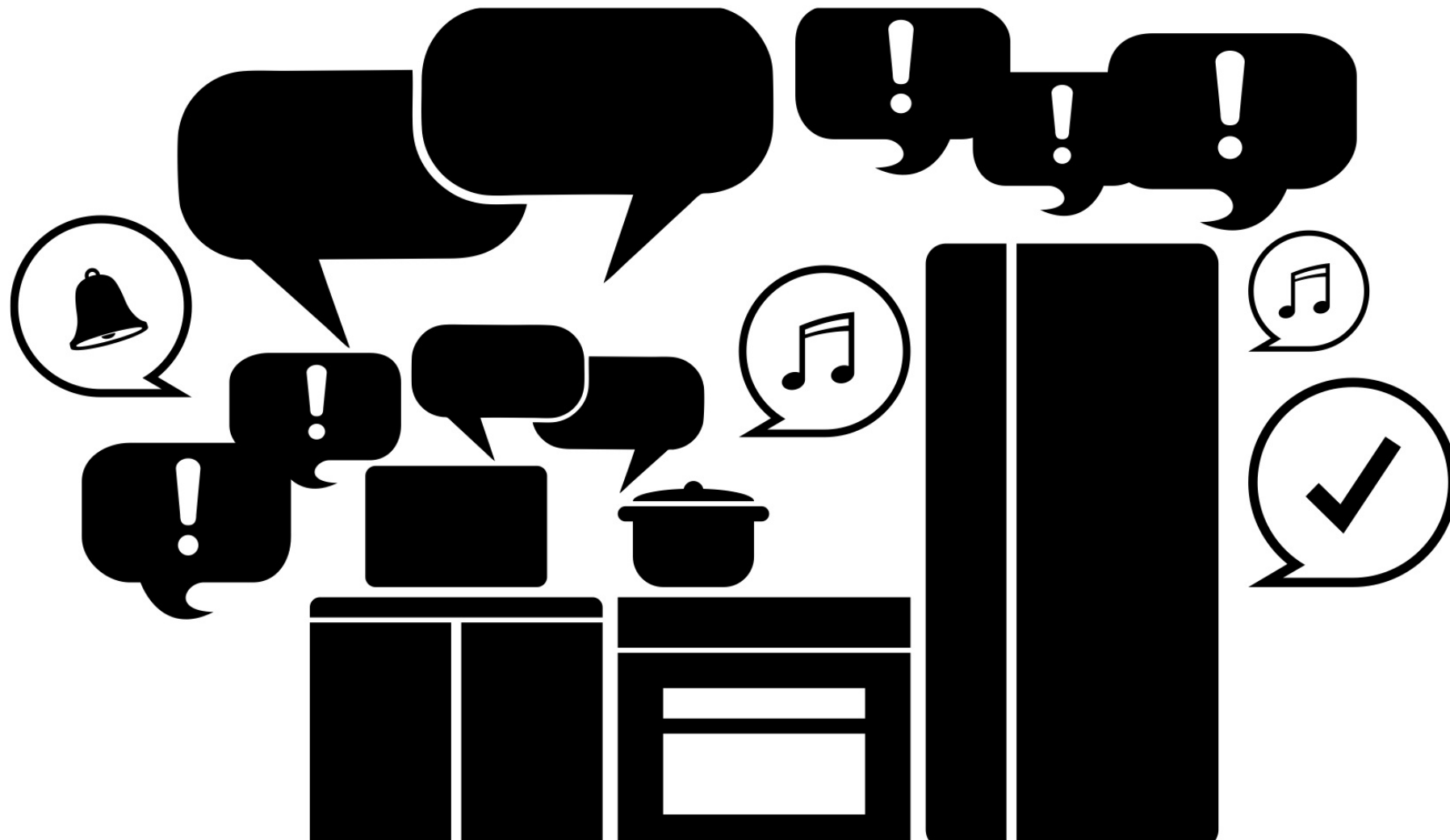
The "Smart" Watch



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 SK

Data Center ▶ **Cloud**

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

Failure forces humans to 'manually' feed ravenous pets



PetNet is not held responsible for any service failures:

wherever you access or use the Website or use the Services.

3. Limitations of Services

(a) Intended Use. The Services are intended to be accessed and used for non-time-critical information and control of Petnet products. While we aim for the Services to be highly reliable and available, they are not intended to be reliable or available 100% of the time. The Services are subject to sporadic interruptions and failures for a variety of reasons beyond Petnet's control, including Wi-Fi intermittency, service provider uptime, mobile notifications, and mobile carriers, among others. You acknowledge these limitations and agree that Petnet is not responsible for any damages allegedly caused by the failure or delay of the Services.

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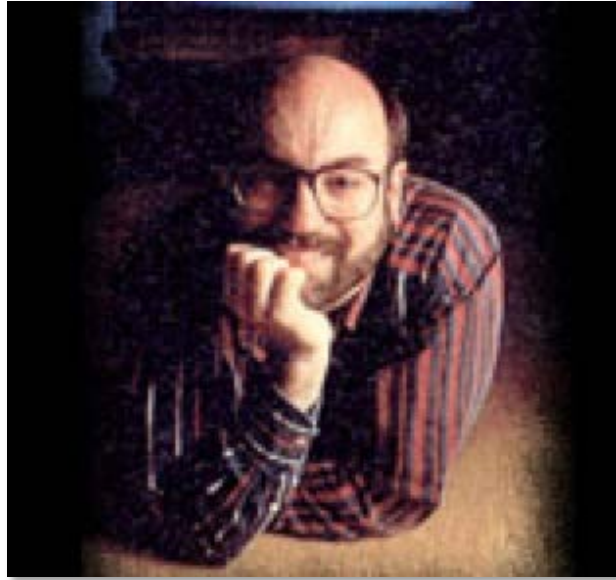
(c) Temporary Suspension. The Services may be suspended temporarily without notice for maintenance and repair, or other circumstances. You agree that you will not be entitled to



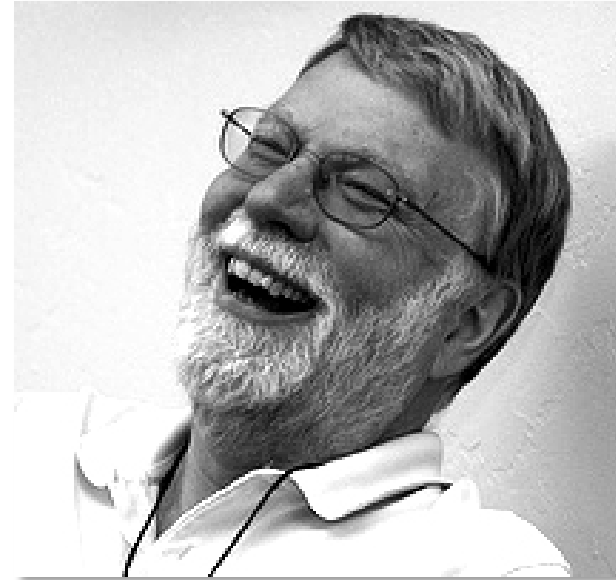
An era of interruptive technology

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.

Designing Calm Technology

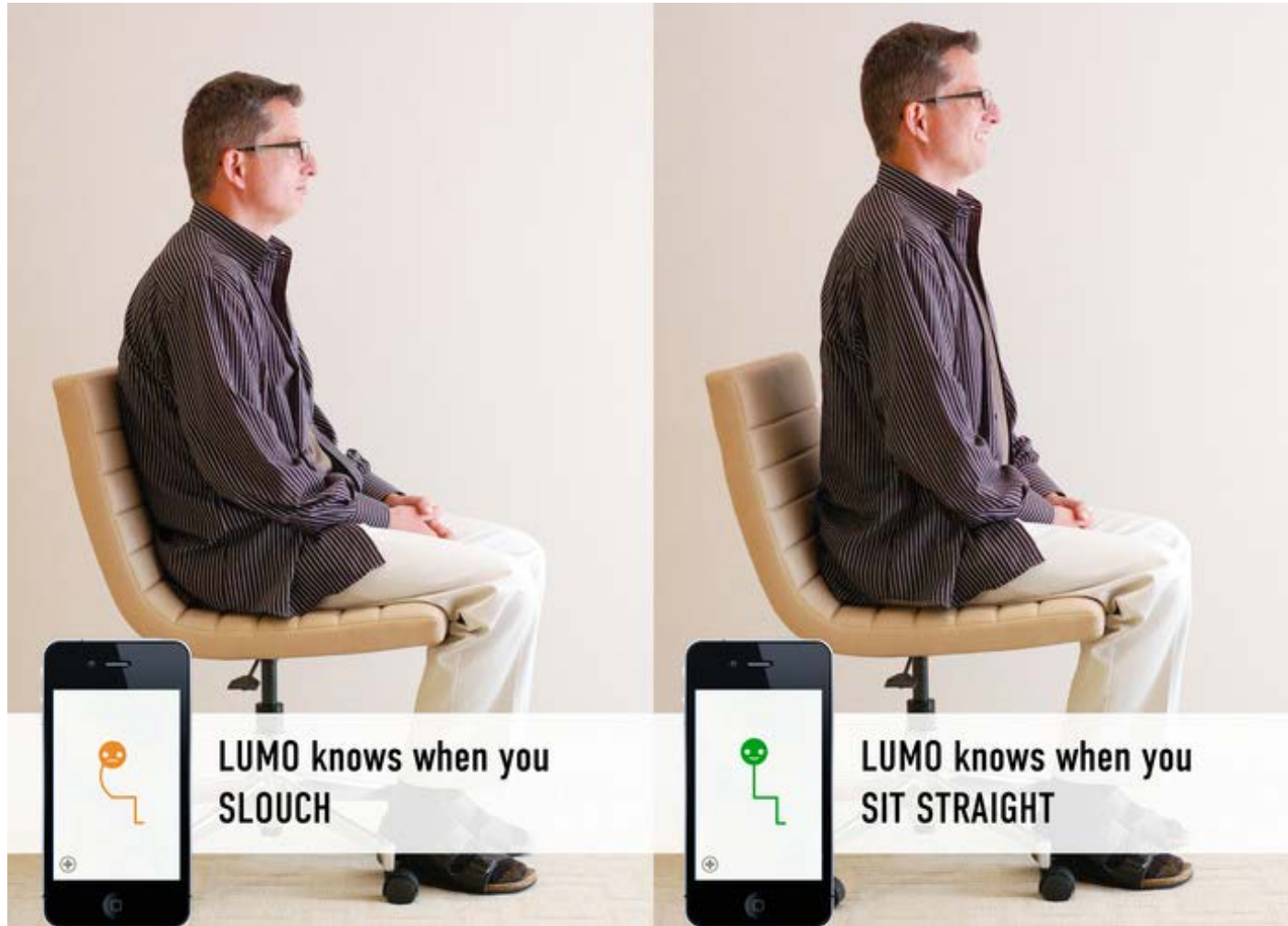
I. Technology shouldn't require all of our attention, *just some of it*, and *only when necessary*

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*

Ambient Awareness

Create ambient awareness through different senses

1. Haptics vs. auditory alerts (haptic compass)
2. Light status vs. full display (on/off)
3. Positive or negative tones (home electronics)
4. Transparency (inner-office windows)



Weather Status Lighting

Hue Lightbulb connected to a
weather report
@aaronpk 2014

Make the invisible visible

Ambient Awareness and Synesthesia



Heat
Sink

Vuforia and ThingWorx display from PTC



Tormach PCNC Cell #3
Pre-fini shing



Final Assembly

Final Assembly

Tormach PCNC Cell #4
Pre-fini shing



Plant 78, Pre-Fini shing Line 2

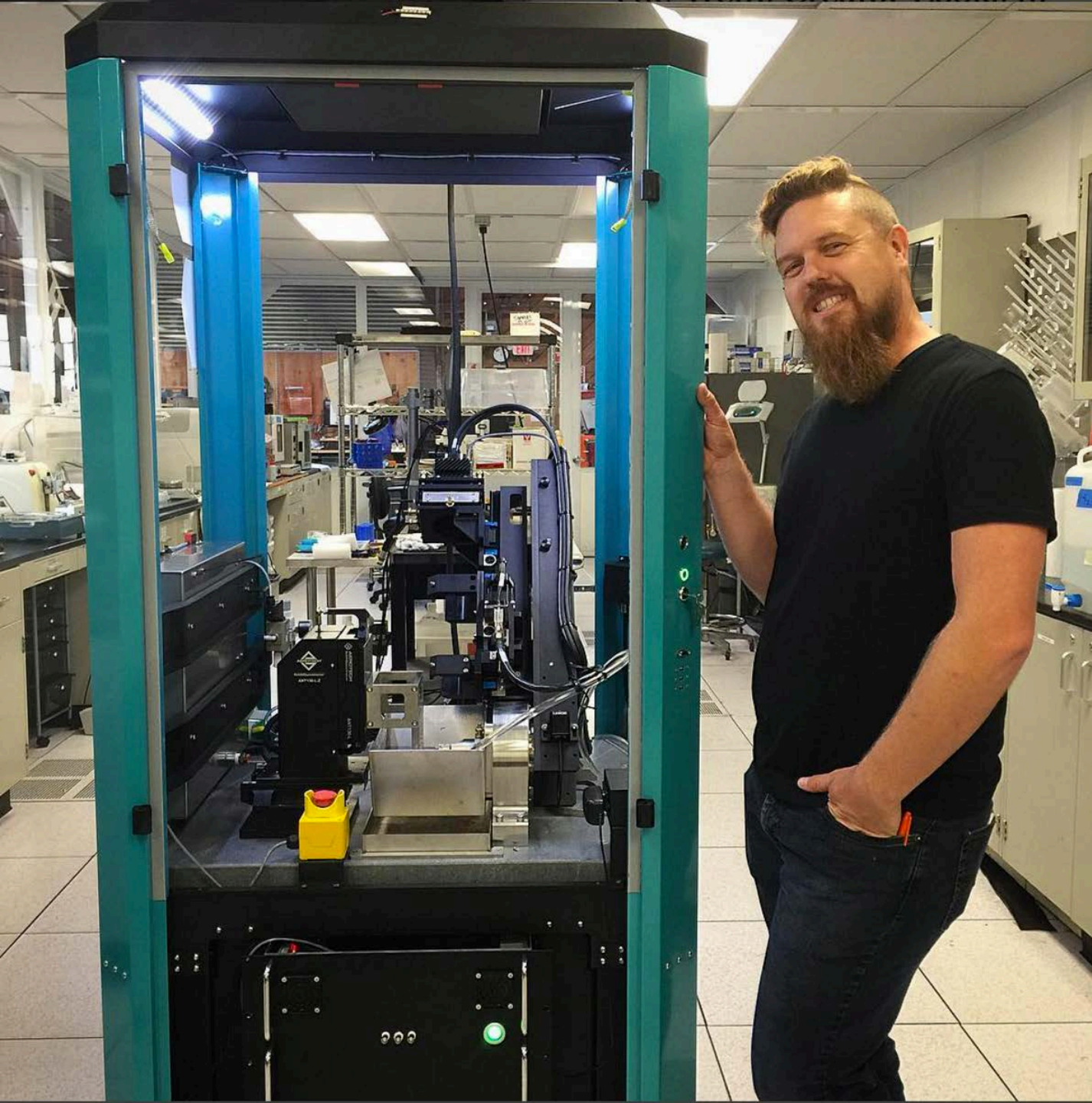
15 cells 45% Operational 2 faults



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



When
automation
goes right

3Scan:
1500 times
faster than
humans

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

The Roomba Robotic Vacuum Cleaner



VI. Technology should
consider social norms

Enhancing



Fear-inducing

Normal



Invisible

Restorative



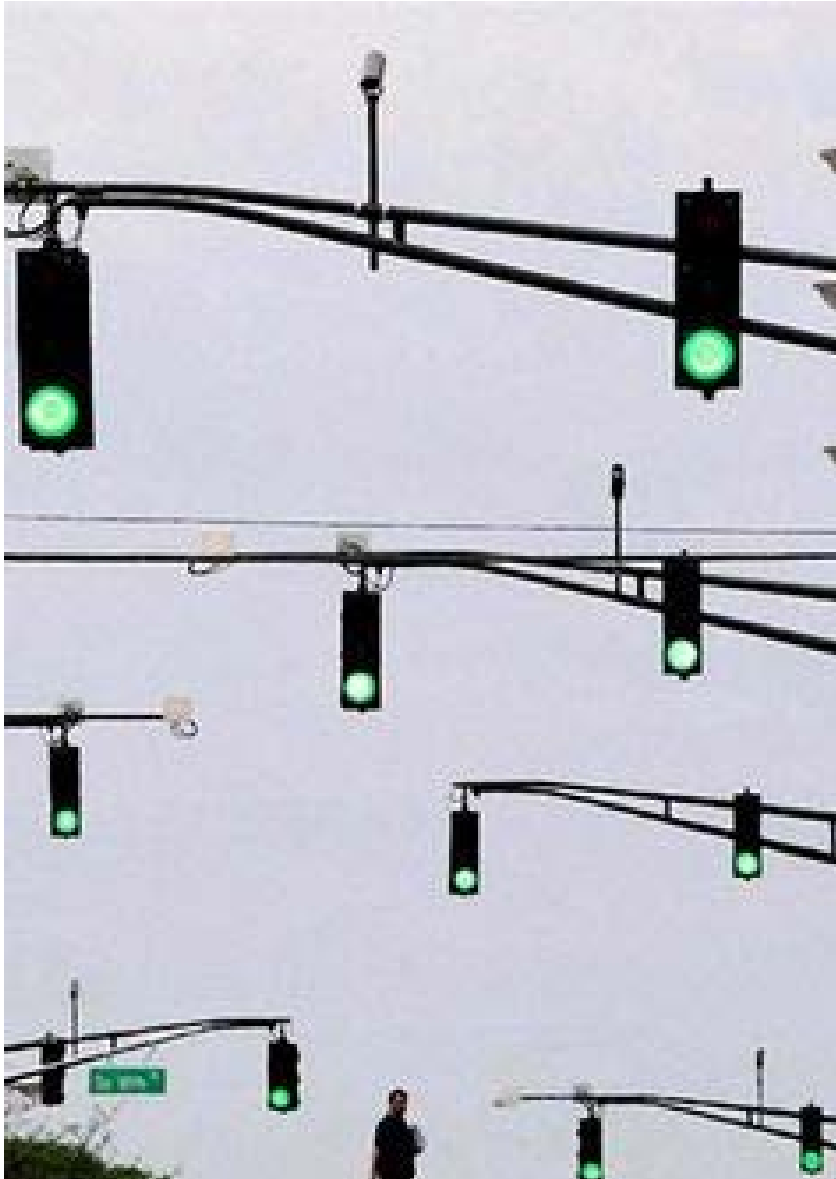
Accepted

Google Glass



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

Street Lights

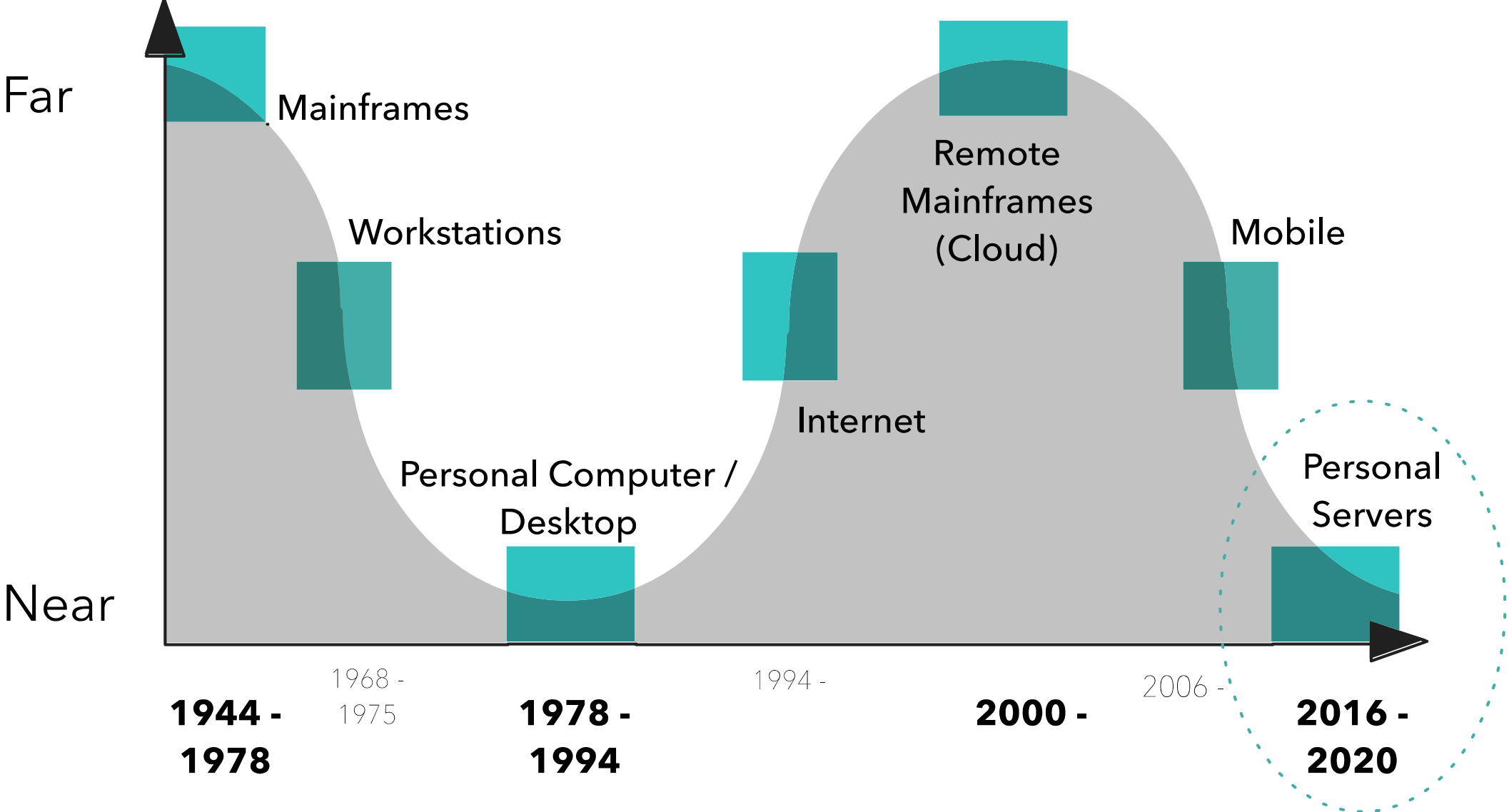


Toilet Occupied Sign



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

Evolution of Computers Over Time



Technology should work
even when it fails

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

O'REILLY



Calm Technology

PRINCIPLES AND PATTERNS FOR NON-INTRUSIVE DESIGN

Amber Case

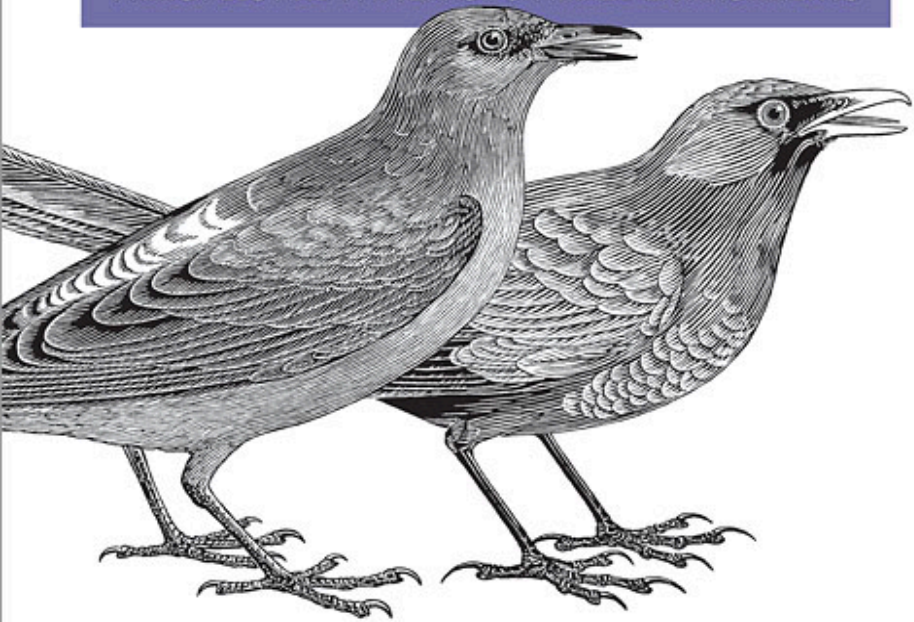
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Designing with Sound

PRINCIPLES AND PATTERNS FOR MIXED ENVIRONMENTS



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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

Thank you very much!

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Questions