

A Case Study for Universal Design in the Internet of Things

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What is universal design?

Two aspects

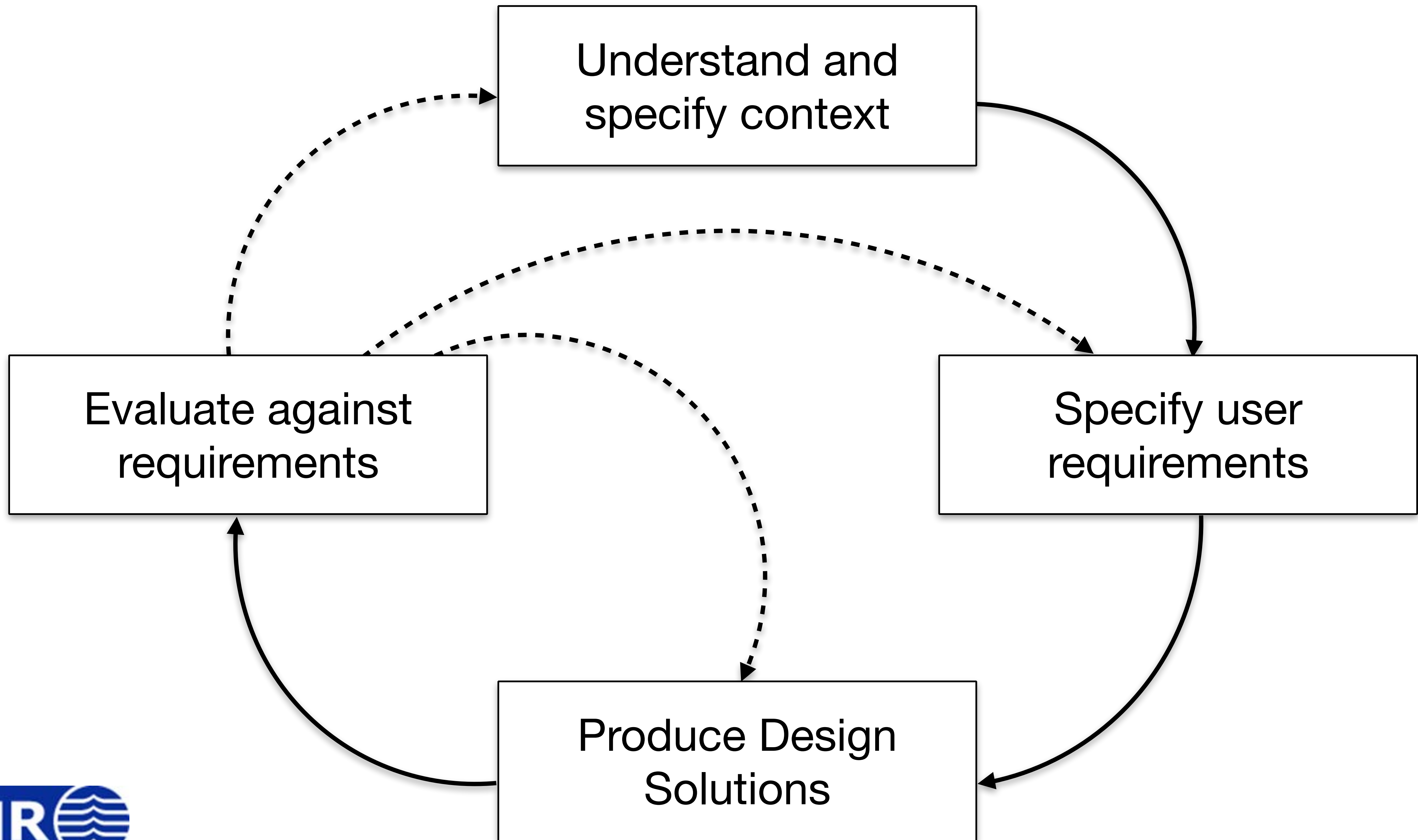
1. A process

2. A result

Guidelines are not enough...

What is user-centered design?

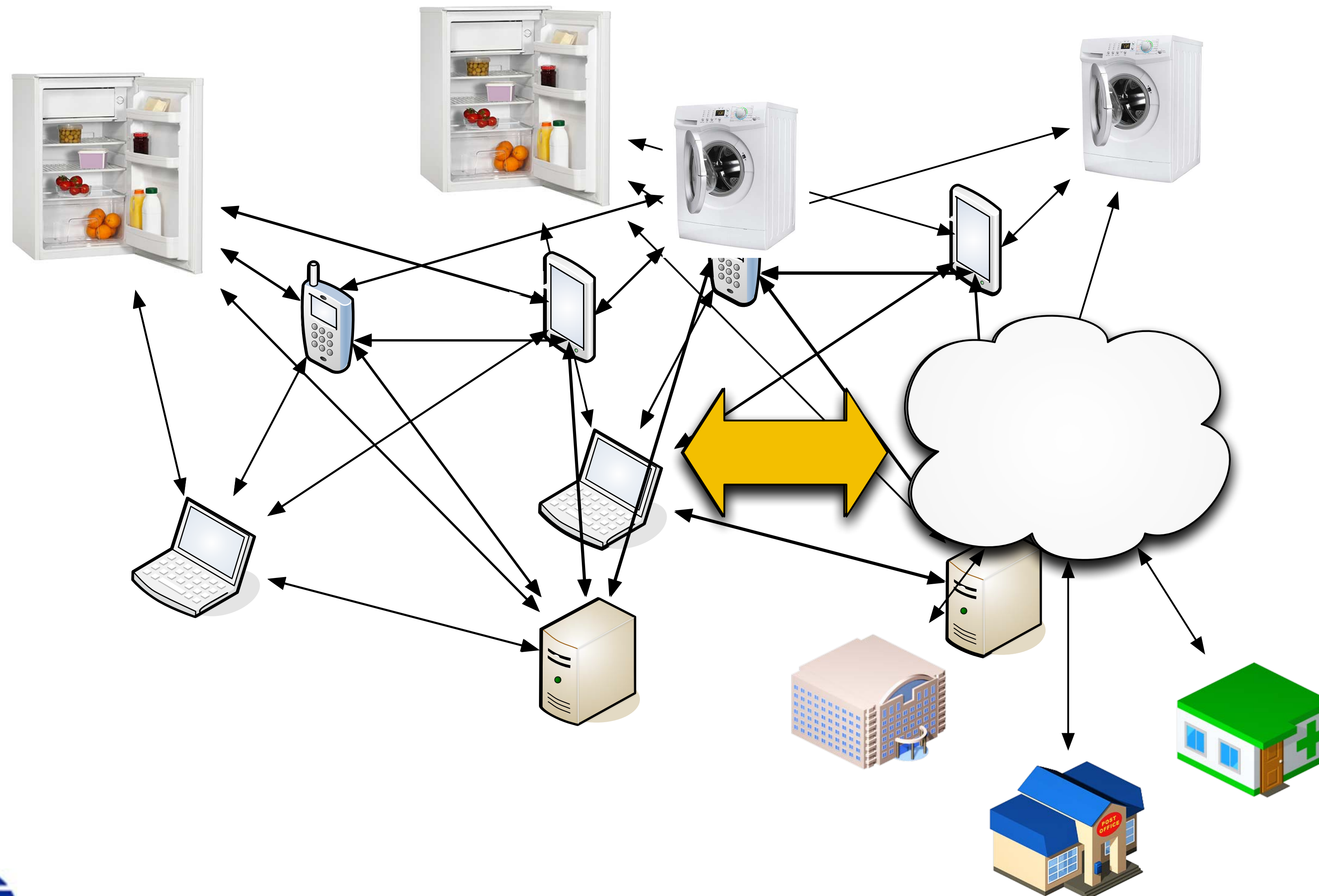
ISO 9241-210:2010



Mapping universal design onto user-centered design

The Case





Needed to build our own prototypes

Prototypes must work for people with disabilities



Help from organizations



Norges Blindeforbund
Synshemmedes organisasjon

Mapping universal design onto user-centered design

The Accessibility Champion...



Understand and specify the context

Specify user requirements

Skeleton 2

Man (50-60), Clerk, Family

Is easily frustrated by technology
Wants a system which is easy to use and needs no technical knowledge
Ask friends (home) or technician (work) for help – do not read manuals
Is unsure if the system tells him the truth- (trust)
Afraid of what happen if system does not work

Office:

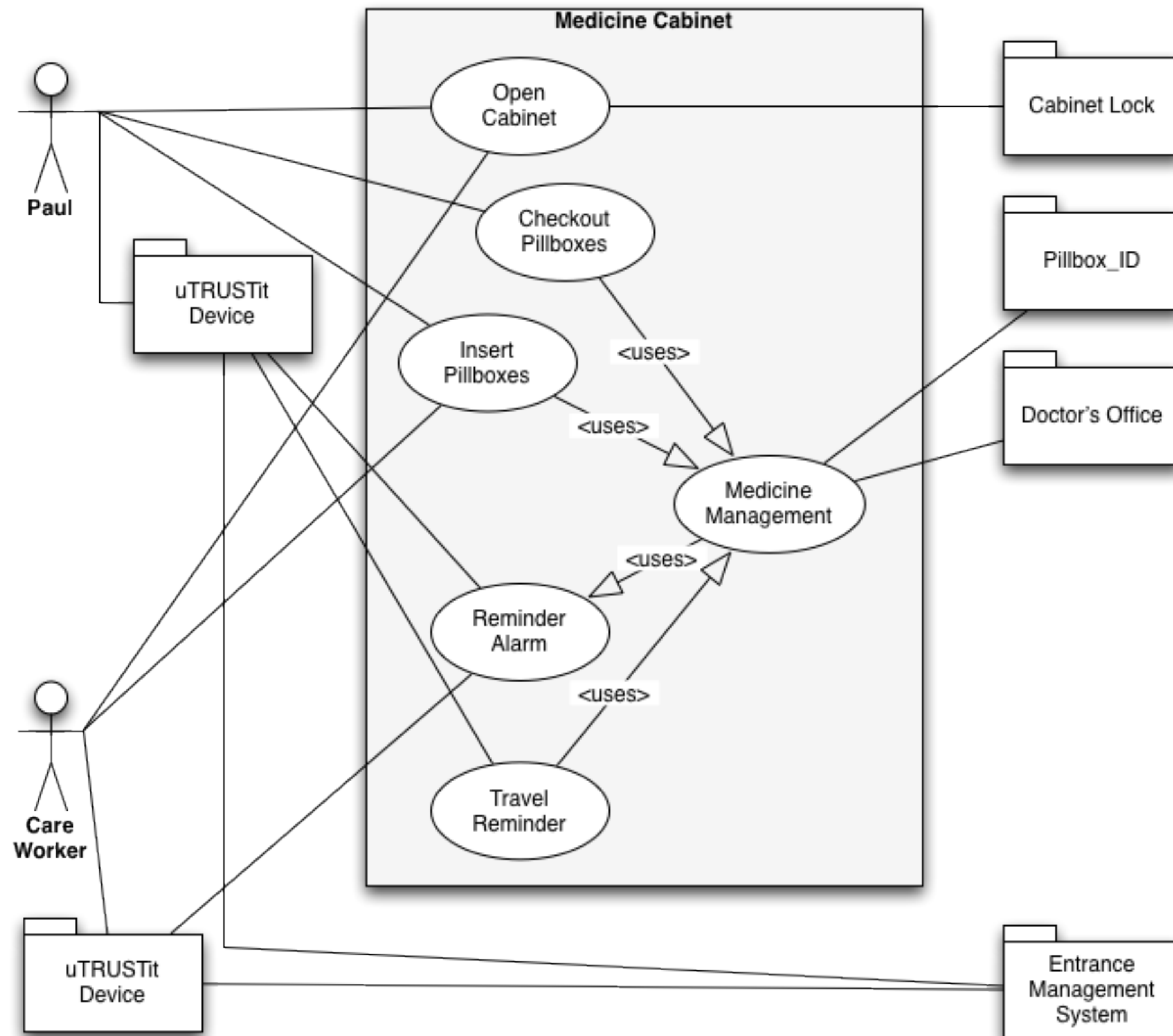
'I just want to print – how hard can it be'
Visitor key card for meeting partners (Access to meeting room, printer and office kitchen)
Wants to know where his boss is – do I disturb him if I call him now?

Time / Home

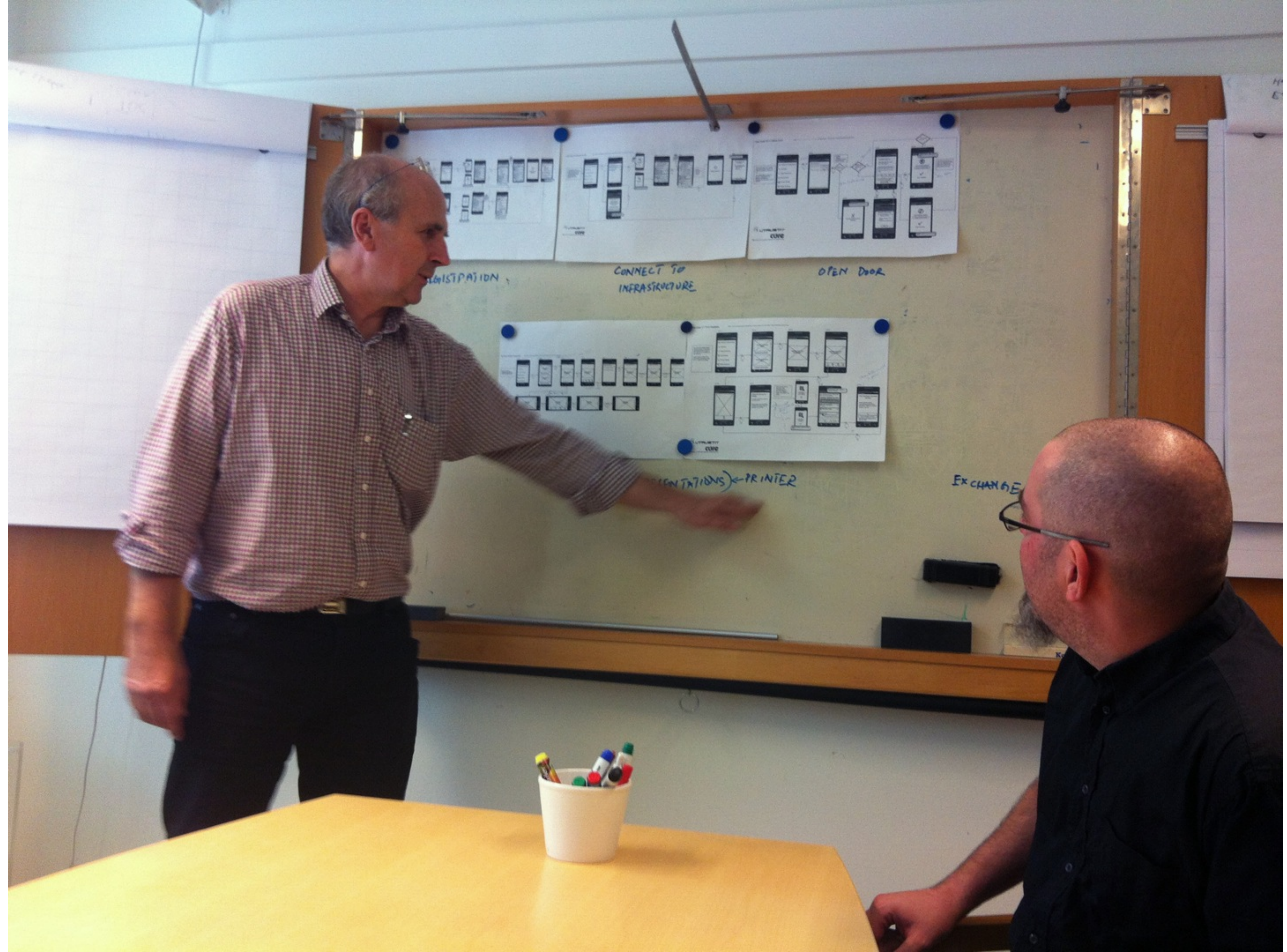
books but I normally select and







Produce Design Solutions







Evaluate against requirements





medicine
cabinet

11/2

Bitte nehmen Sie folgende



Small Jar

WeCare Medical

Medikament auffinden

UTRUSTIT



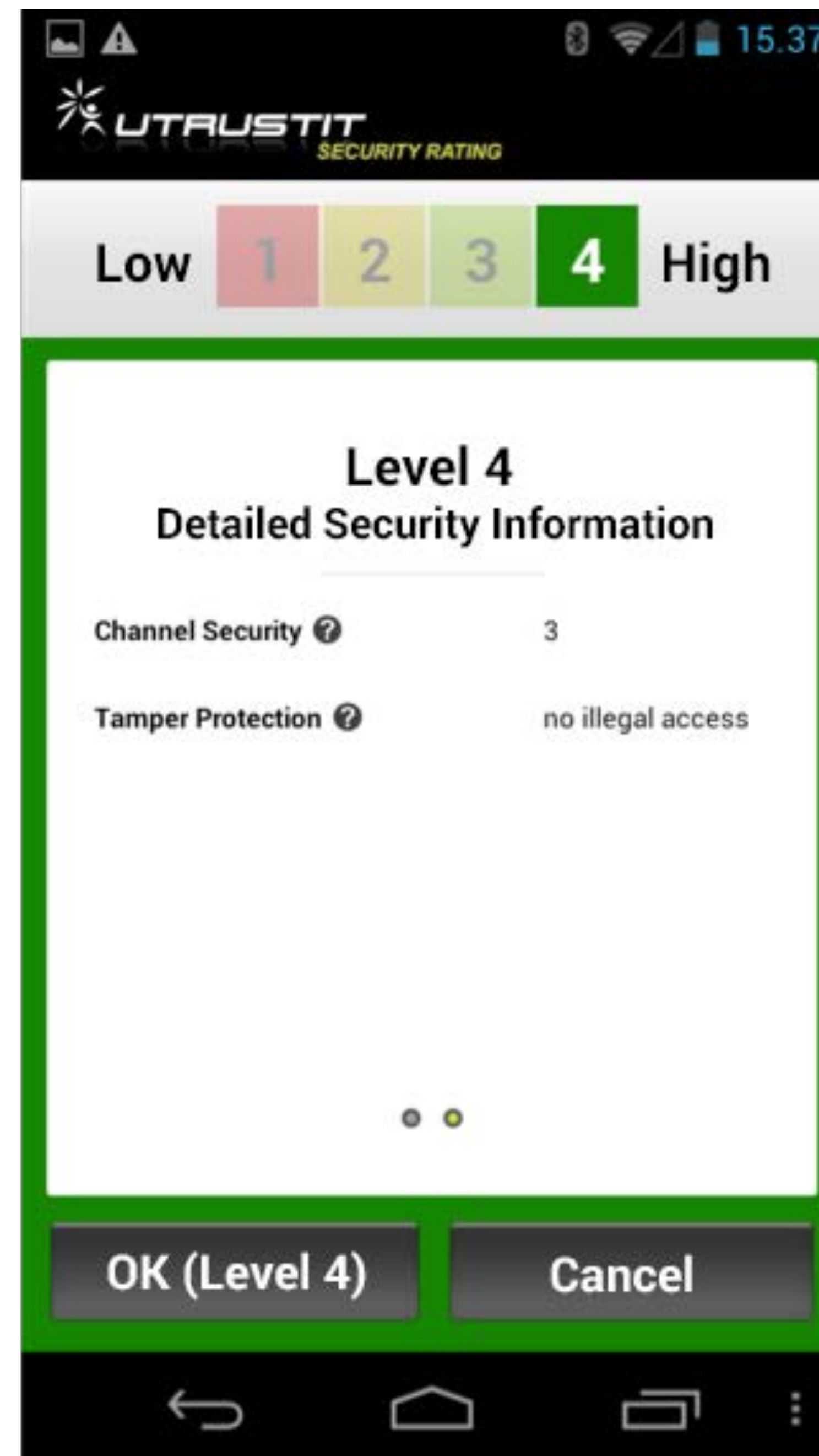
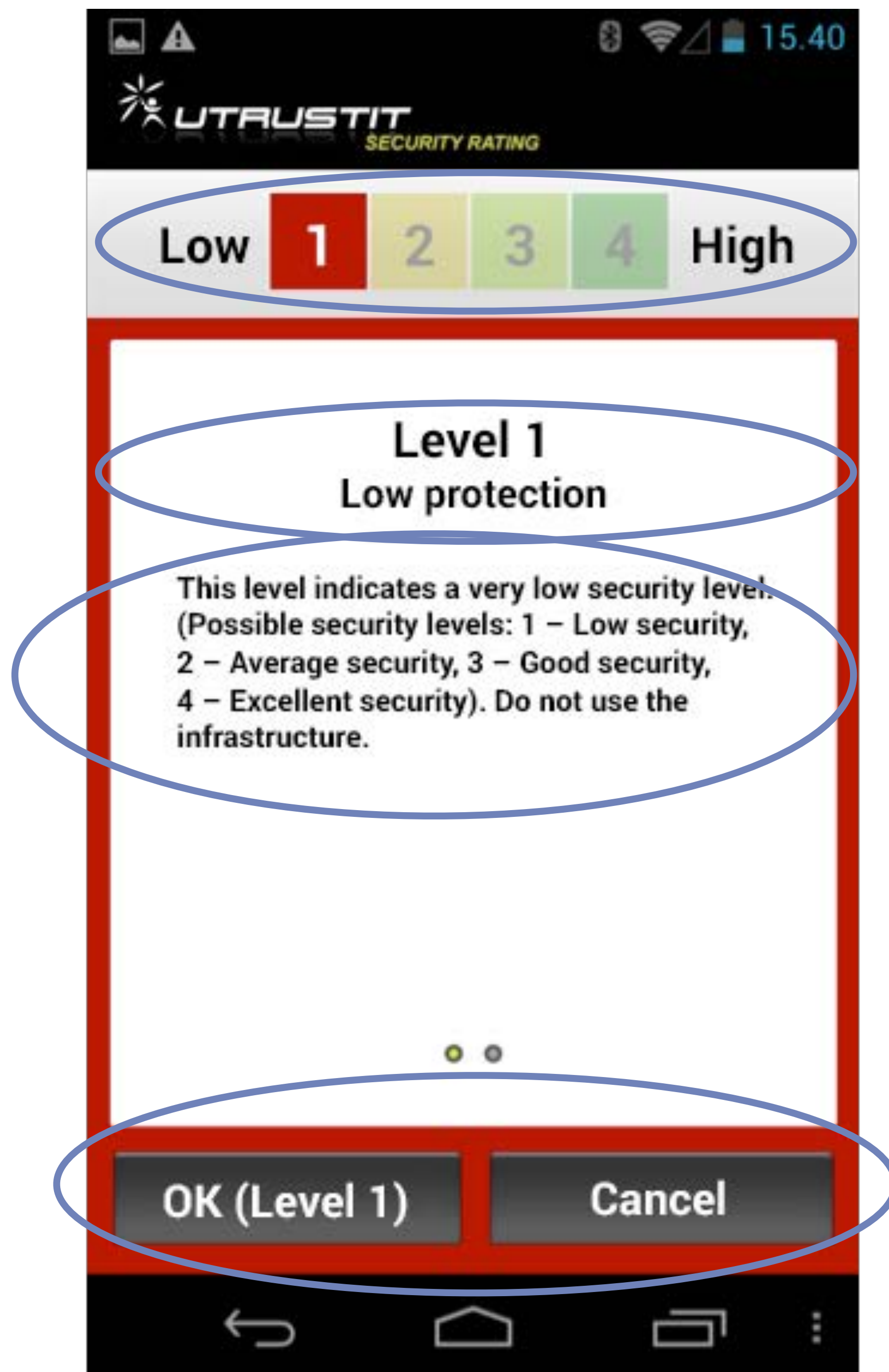
Findings

**Possible to see where UD was needed
at each step...**

**Accessibility
Champion works
well...**



How accessible were the prototypes?



What could we have done differently?

Include more users...

There are different levels of impairment

**Be careful when finalizing
requirements...**

**Including UD from the beginning
makes it part of regular project work...**

Recommendations

**Determine level of user involvement
when defining the project**

**Have an
accessibility
champion**



Be aware of the complexity of assistive technology

**Perform user evaluations including
people with disabilities**