

# Collaborative UX Design



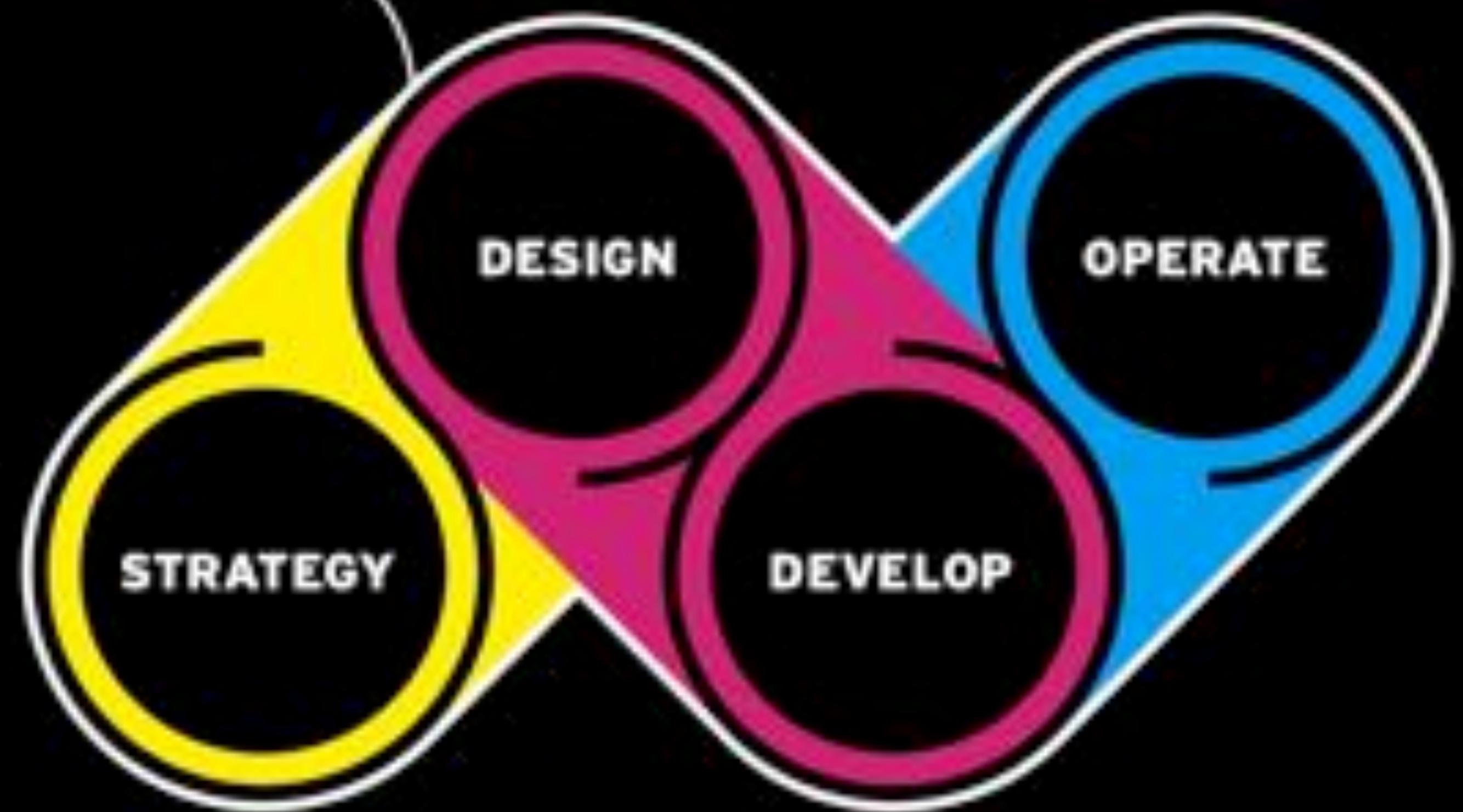


We believe in digital products that  
empower people in their work  
and delight their everyday lives.



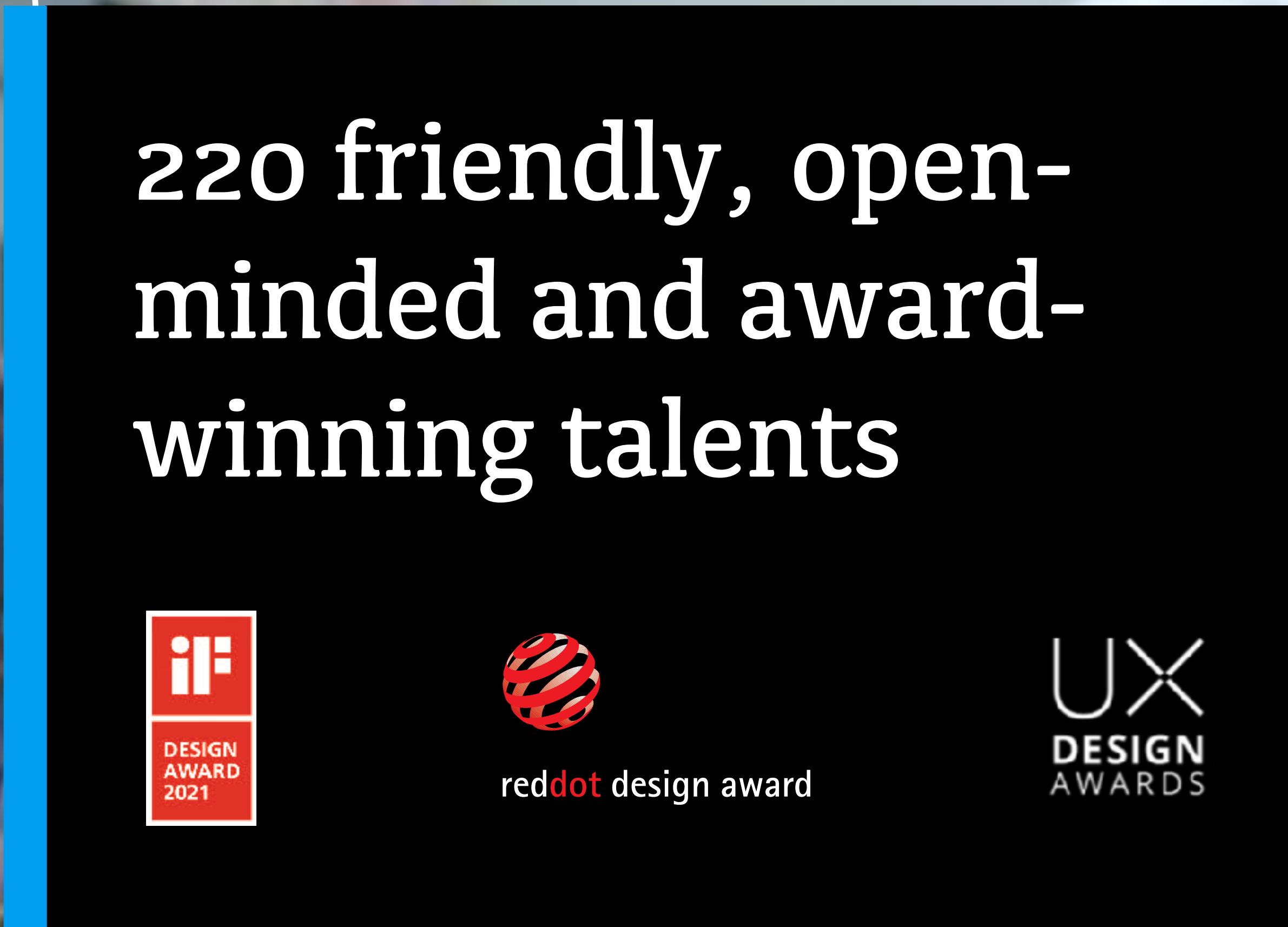


Our full service approach is based on a  
human-centered, goal-oriented and  
collaborative mindset.





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220 friendly, open-minded and award-winning talents

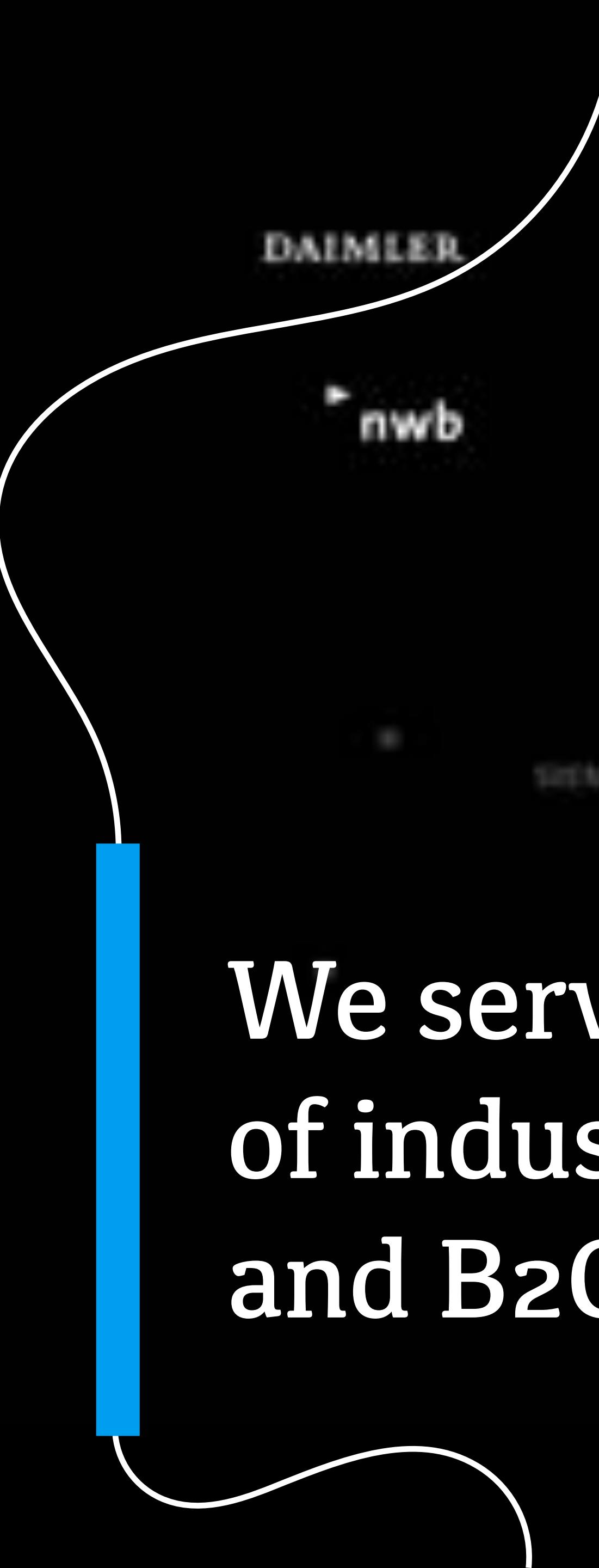


reddot design award





We are passionate  
about exploring future  
trends and driving  
digital transformation.



We serve customers from a wide variety  
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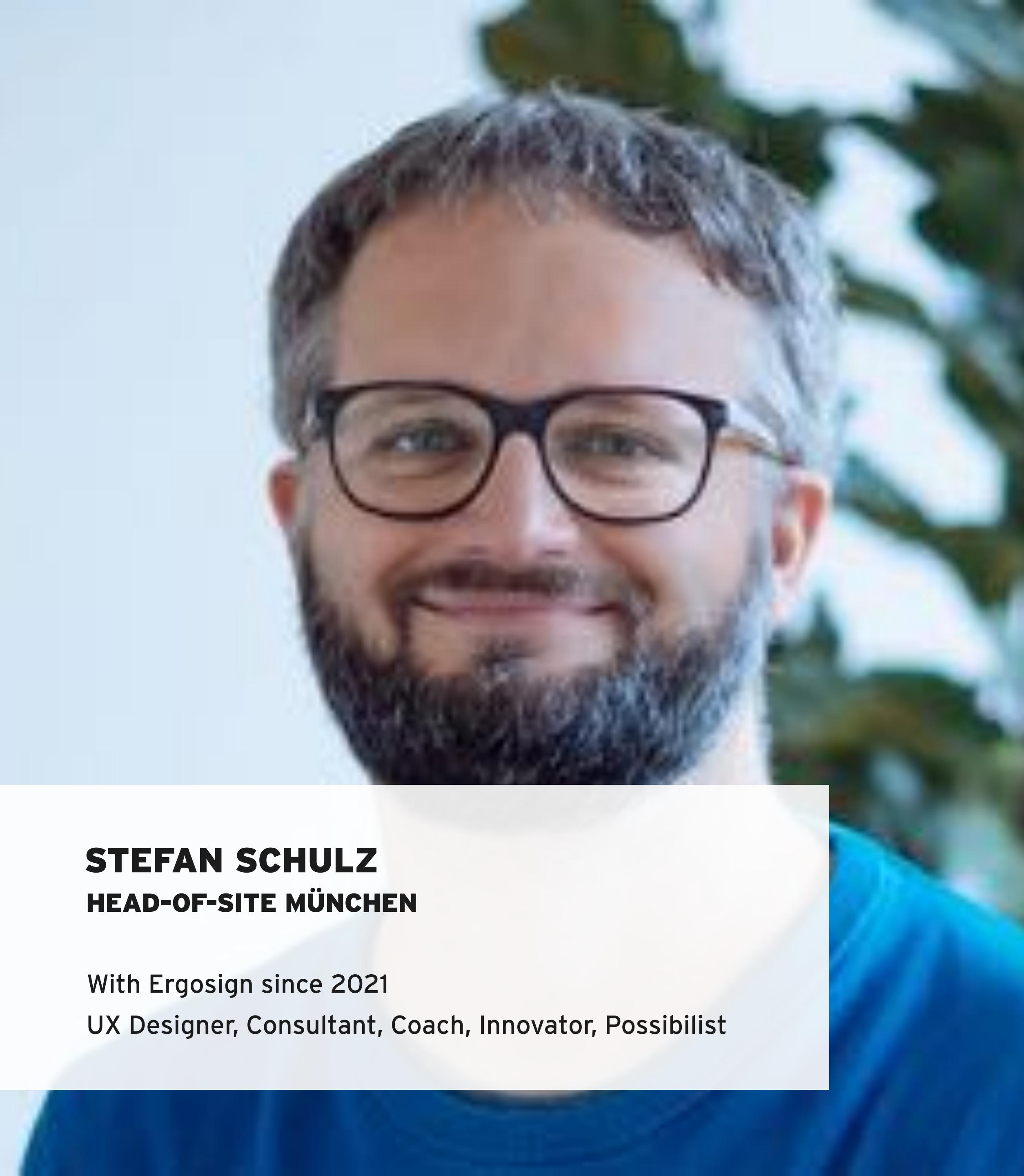
JURIS

GARD



The logo consists of the word "ERGOSIGN" in a bold, white, sans-serif font. Above the letter "E", there is a small graphic element: a blue "X" shape with a red dot at its top-right vertex.

ERGOSIGN



**STEFAN SCHULZ**  
**HEAD-OF-SITE MÜNCHEN**

With Ergosign since 2021  
UX Designer, Consultant, Coach, Innovator, Possibilist

## QUICK FACTS

- › Media Informatics, Minor Psychology
- › 12 years UX Design within Volkswagen Group:  
Classic Automotive HMI, but also conversational  
interfaces, gesture interaction, connected car,  
mobility services, UX strategy, ...
- › 3 years Strategic Design agency: New products  
and strategies with design methodology. Main  
focus on understanding challenges early and  
mid- to high-fidelity prototyping.
- › At Ergosign focusing on Industry, Enterprise,  
Health und Mobility experiences.

# **UX DESIGN**

## **WHAT DO WE MEAN BY UX?**

## **WHAT DO WE MEAN BY DESIGN?**

# **WHAT DO YOU SUSPECT...**

...when was the term Usability  
first used?



# WHAT DO YOU THINK ...

...when was the term Usability first used?



# **WHAT DO YOU THINK ...**

...when was the term Usability first used?

The image shows the front page of "The Palm Beach Post" from March 6, 1938. The masthead at the top right reads "THE PALM BEACH POST". Below it, the date "SUNDAY MORNING, MARCH 6, 1938" is printed. On the left, there's a box containing circulation information: "PORT - TAKEN: Circulation - General Electric Desires Power To Generate." Below this is another box: "VOL. XXVIII: No. 27 Full Coverage of Palm Beach County". The main headline on the left side reads "WAR MOVEMENT IN EUROPE NOT BELIEVED NEAR". To its right, under the heading "HOOVER CLAIMS", is the sub-headline "NEW DEAL FAILED NATION'S JOBLESS". Below these are several other news items and columns. A large red rectangular box is overlaid on the bottom right portion of the page, containing the word "PROOF" in large letters and some smaller text below it.

## PROOF 4

Walter, minister, handling the other. Portable  
Utility Shalt. Full-Middle Sliding Windows,  
and many more. Same size. Same price.  
Gardiner is your authority.

# You can't beat Proof!



**PROOF 1** *Lower operating costs*

**PROOF 2** **SUPER FOOD  
PROTECTION**

**PROOF 3** *FAVORITE FRENCH WORDS—MURKIN, ETC.*

**PROOF 4** MORE  
INTEGRITY

**PROOF 5** FIVE-YEAR  
PROTECTOR PLAN

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- 20 -

# USABILITY

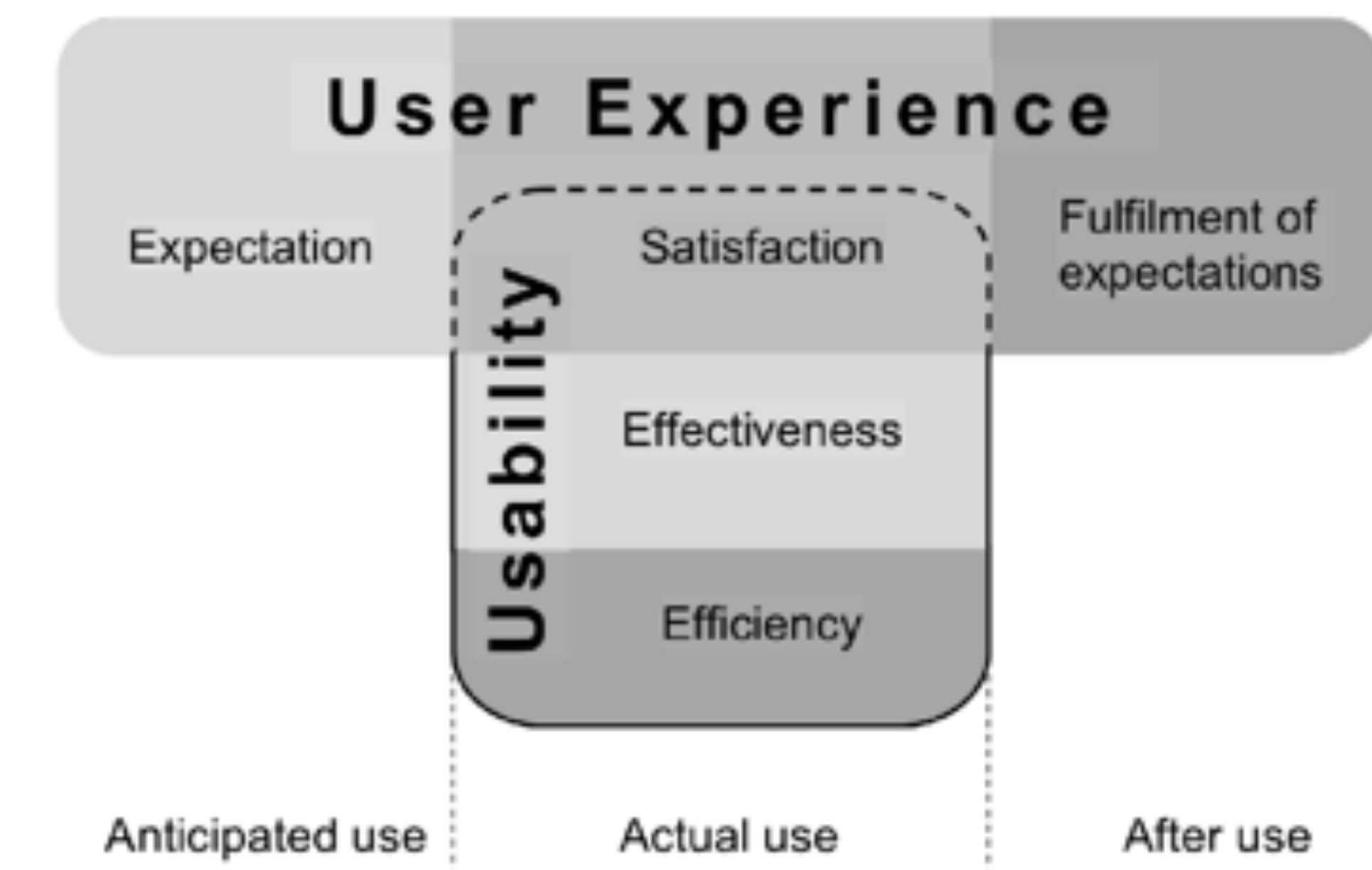
## DEFINITION

The extent to which an **interactive system** can be used by **specific users** to achieve **specific objectives effectively, efficiently and satisfactorily** in a **specific context** of use.

# USER EXPERIENCE

## DEFINITION

A user's **perceptions** and **responses** that result from the **use** and/or **anticipated use** of an interactive system.



# USABILITY & USER EXPERIENCE





# EXAMPLE

ORDERING FLOWERS FOR DELIVERY FROM A FLOWER STORE'S WEBSITE:

Usability problems encountered during checkout affect both the **user experience** and **usability**.

The quality of the physical flowers delivered affects only the user experience. It does not affect **usability** of the flower store's website.

The experience of visiting the physical store affects the **user experience** of subsequent visits to the website. It does not affect the **usability** of the flower store's website.

**UX DESIGN  
AND NOW? HOW WE MAKE IT WORK?  
DO I HAVE TO STUDY DESIGN?**



# UX DESIGN HERO



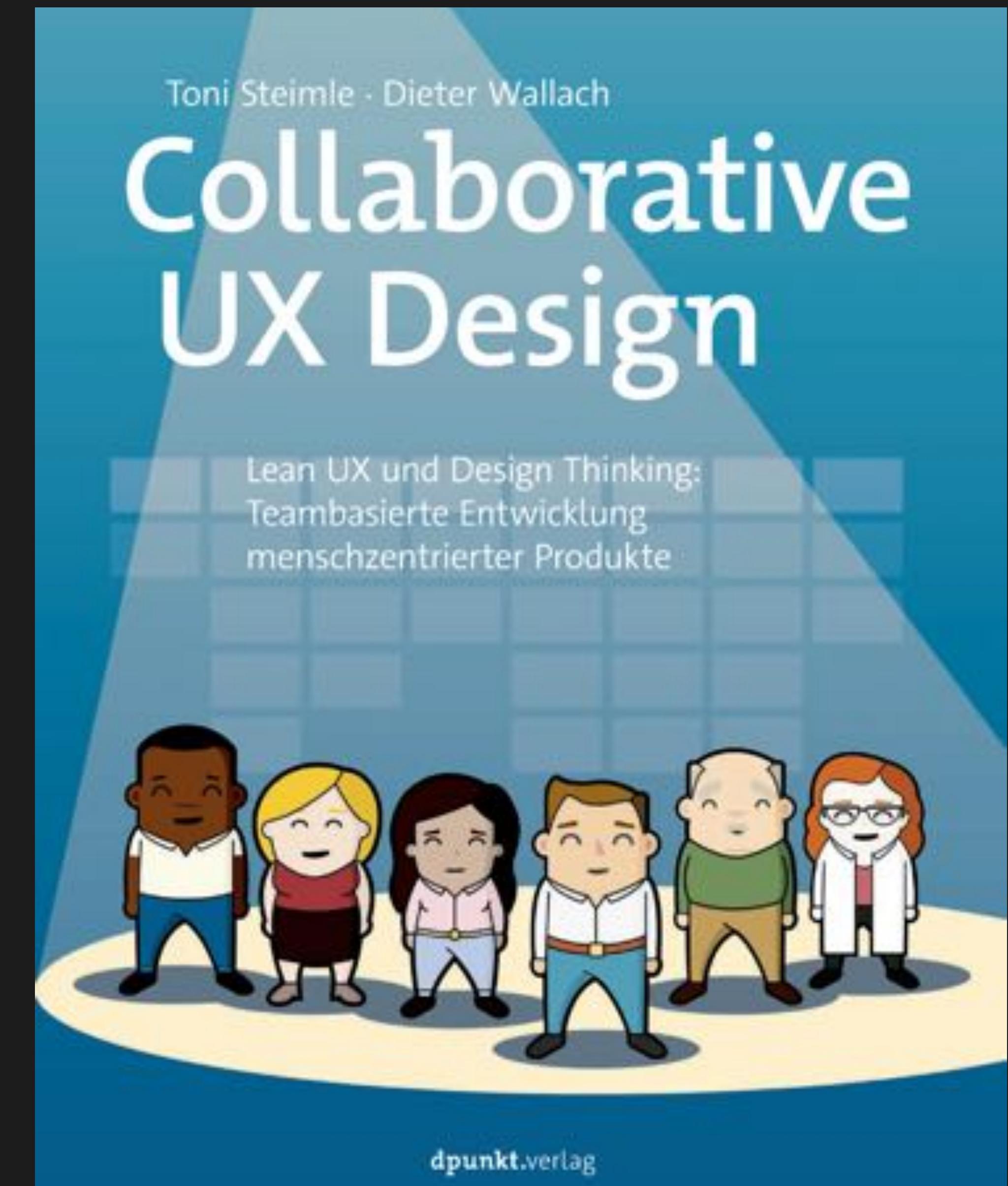
# COLLABORATIVE UX DESIGN

TONI STEIMLE & DIETER WALLACH

The book "Collaborative UX Design: Lean UX and Design Thinking: Team-based development of human-centered products" offers a practice-oriented overview of the fundamentals and applications of collaborative methods of user experience design.

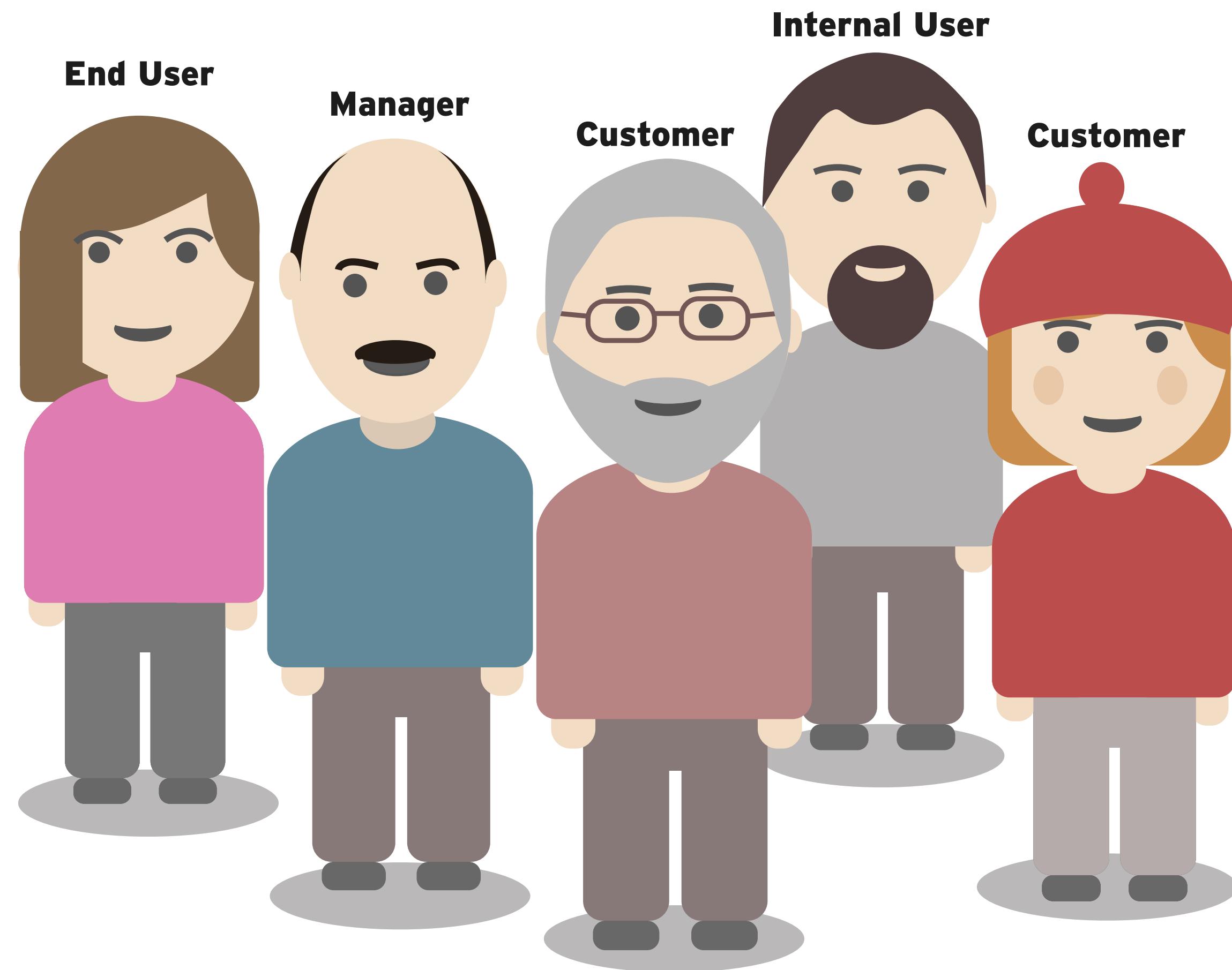
The two authors Toni Steimle (site manager of Ergosign Switzerland AG and lecturer at the University of Applied Sciences Rapperswil) and Professor Dr. Dieter Wallach (managing director of Ergosign GmbH and professor at the University of Applied Sciences Kaiserslautern) present UX methods for interdisciplinary teams using an ongoing practical example.

<http://www.collaborative-uxdesign.com>

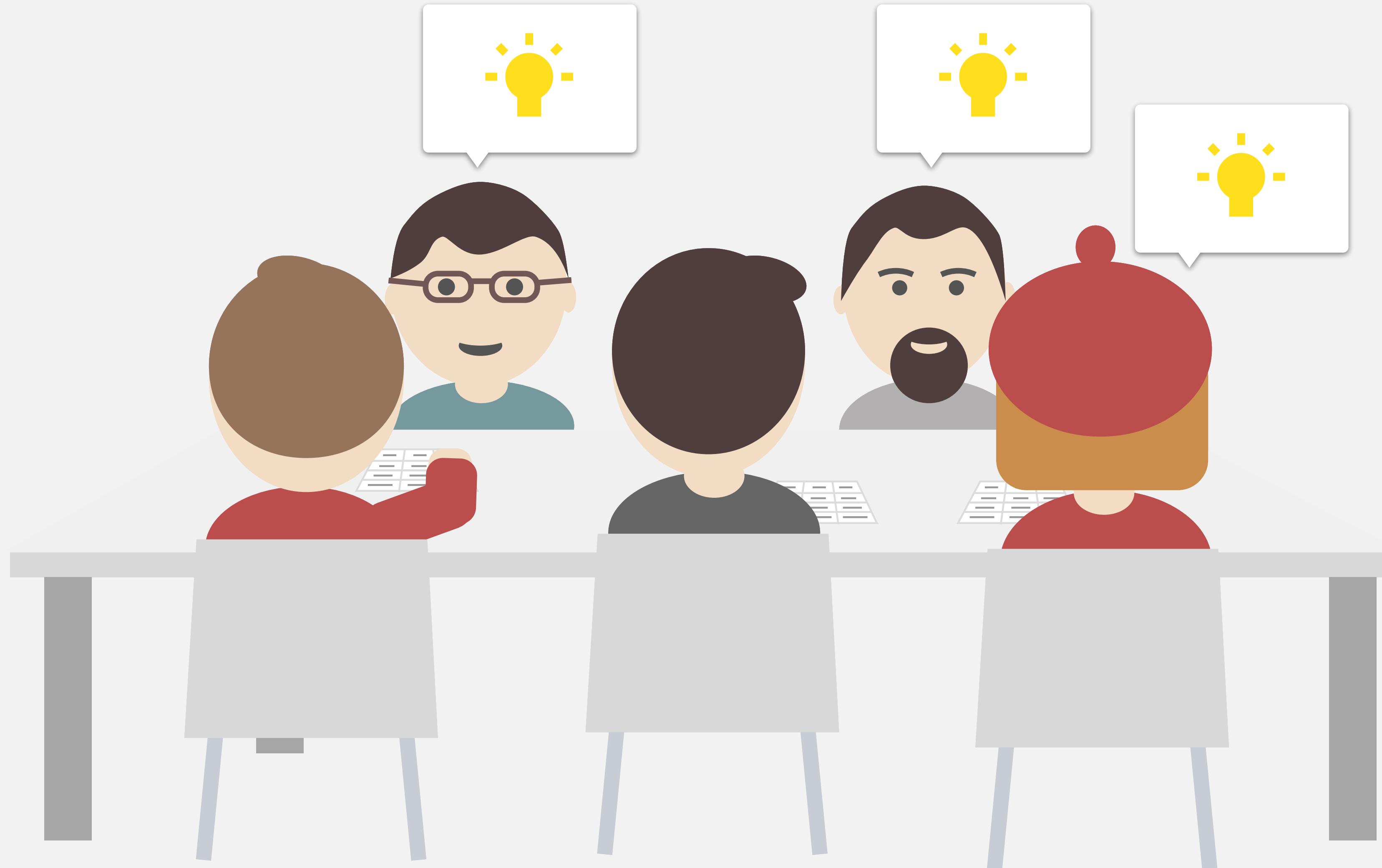


dpunkt.verlag

# HUMAN-CENTERED



# IDEATION





Explore opportunities

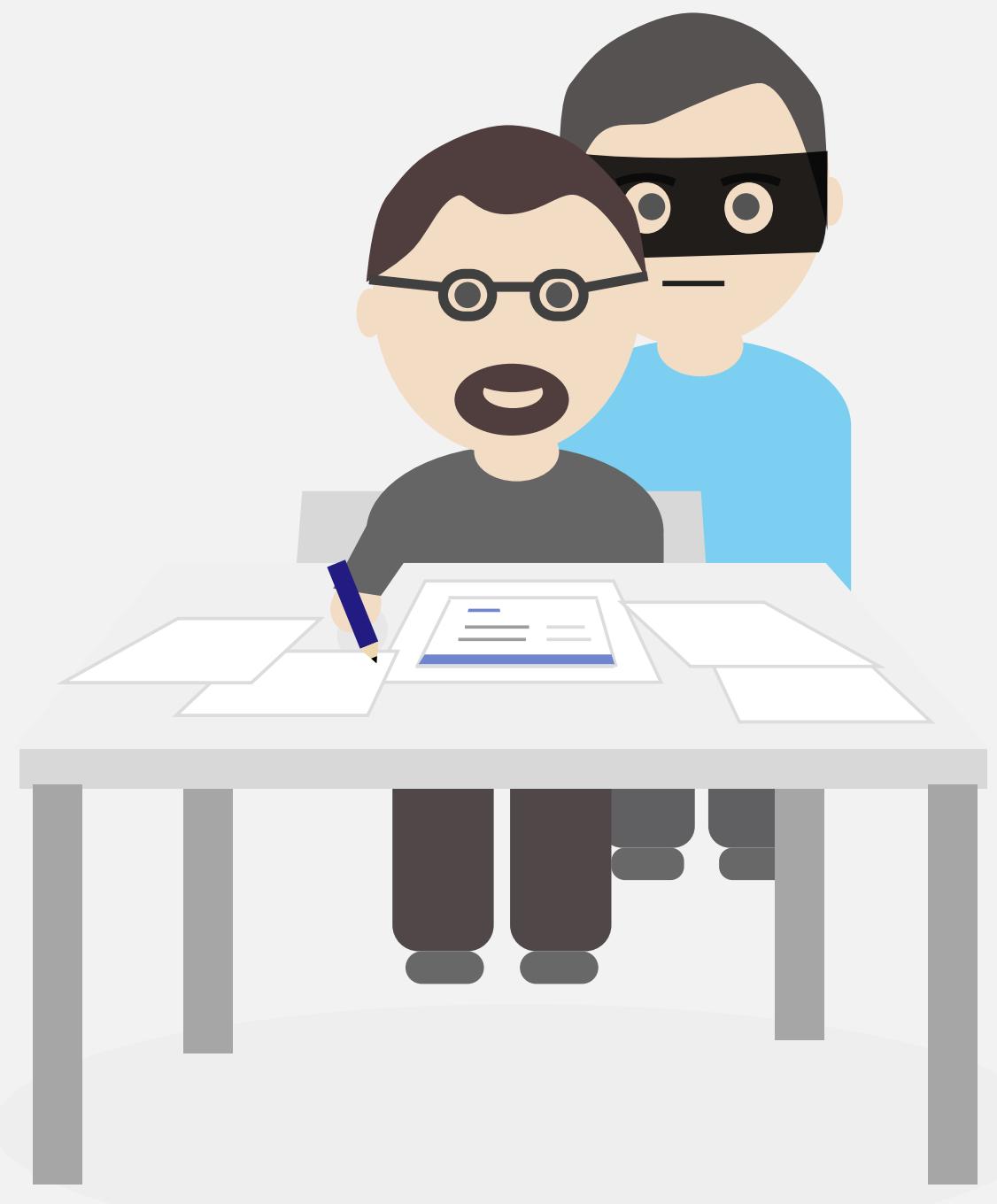
Iterate to find **right** thing

Build the **thing right**

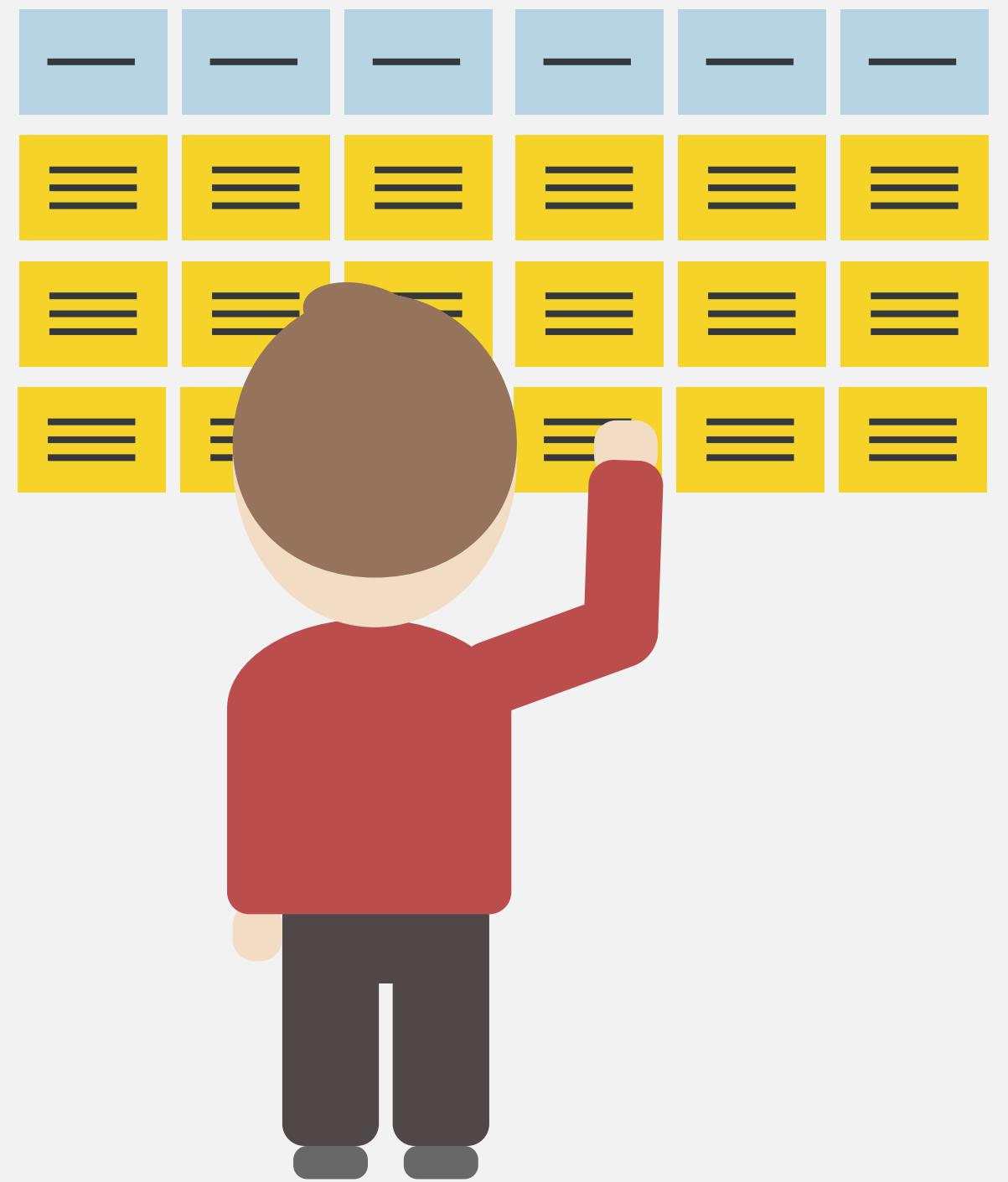
# EFFICIENT COLLABORATION



Doing the right thing together

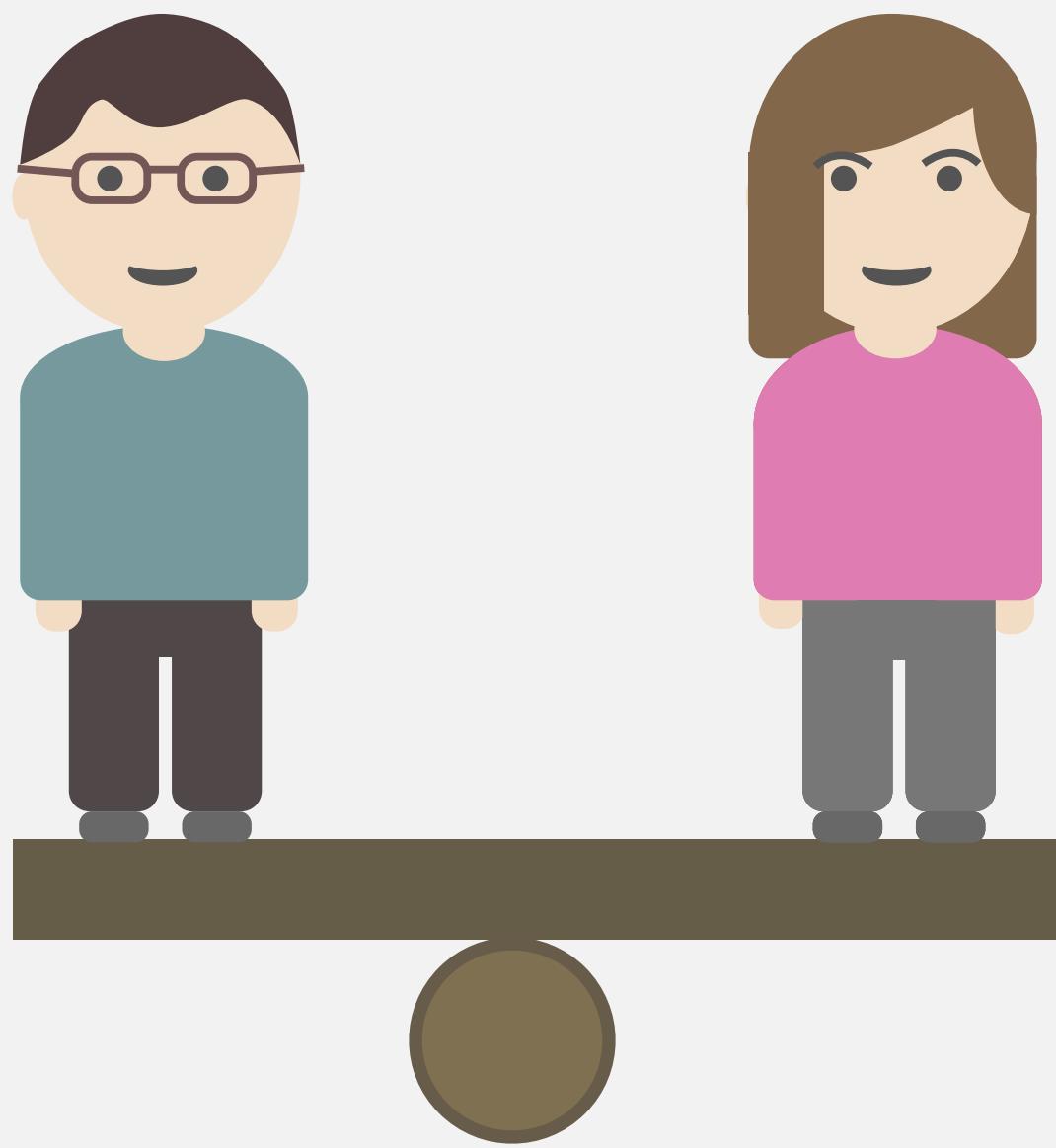


Learning from each other

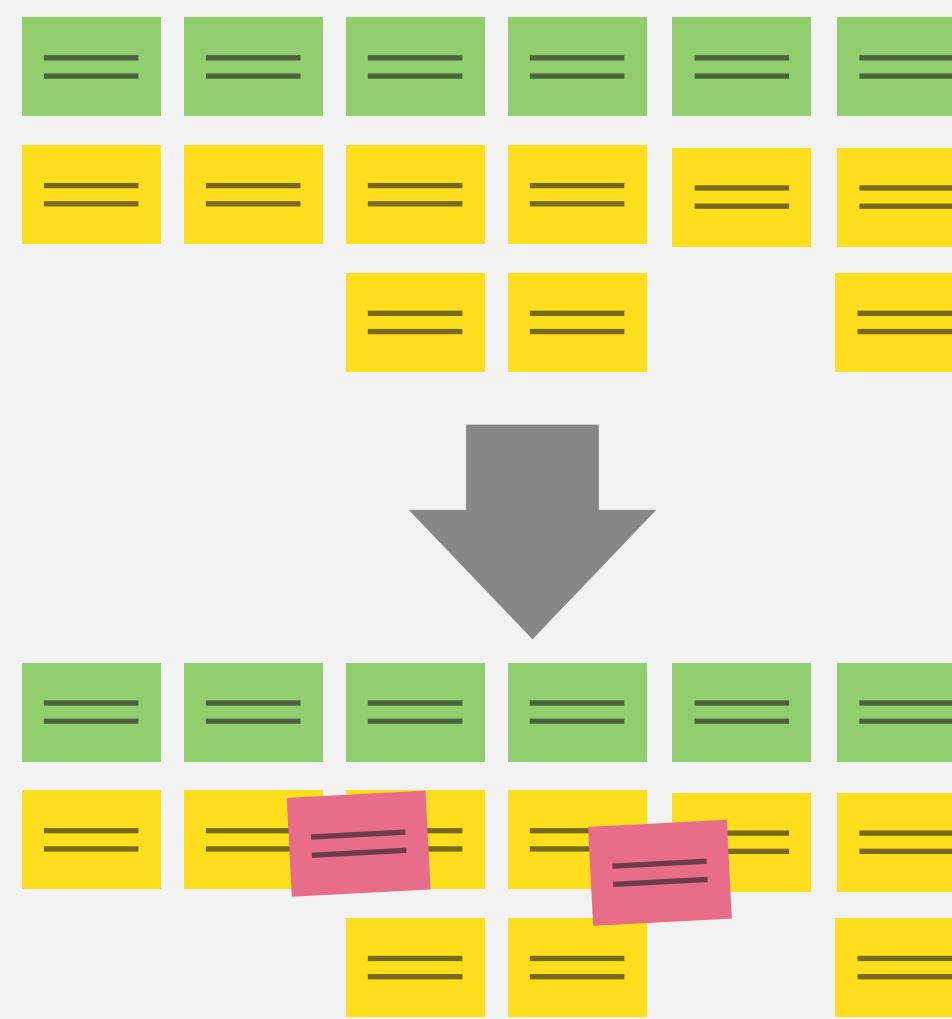


For all visible and editable  
artifacts

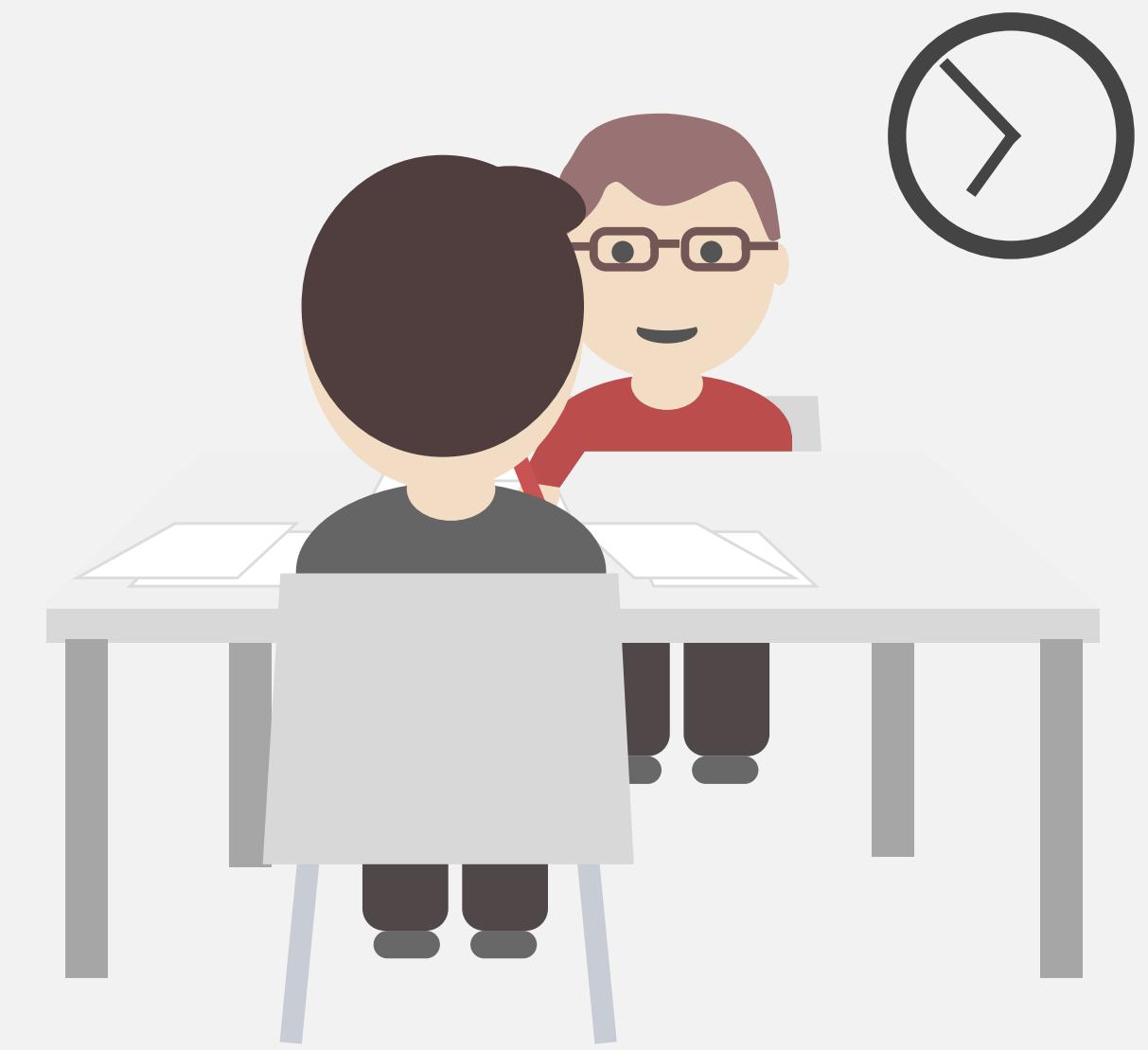
# EFFICIENT COLLABORATION



Balanced: Everyone gets involved



Logical structure



Time-boxed: Time constraints for activities

# COLLABORATIVE UX DESIGN

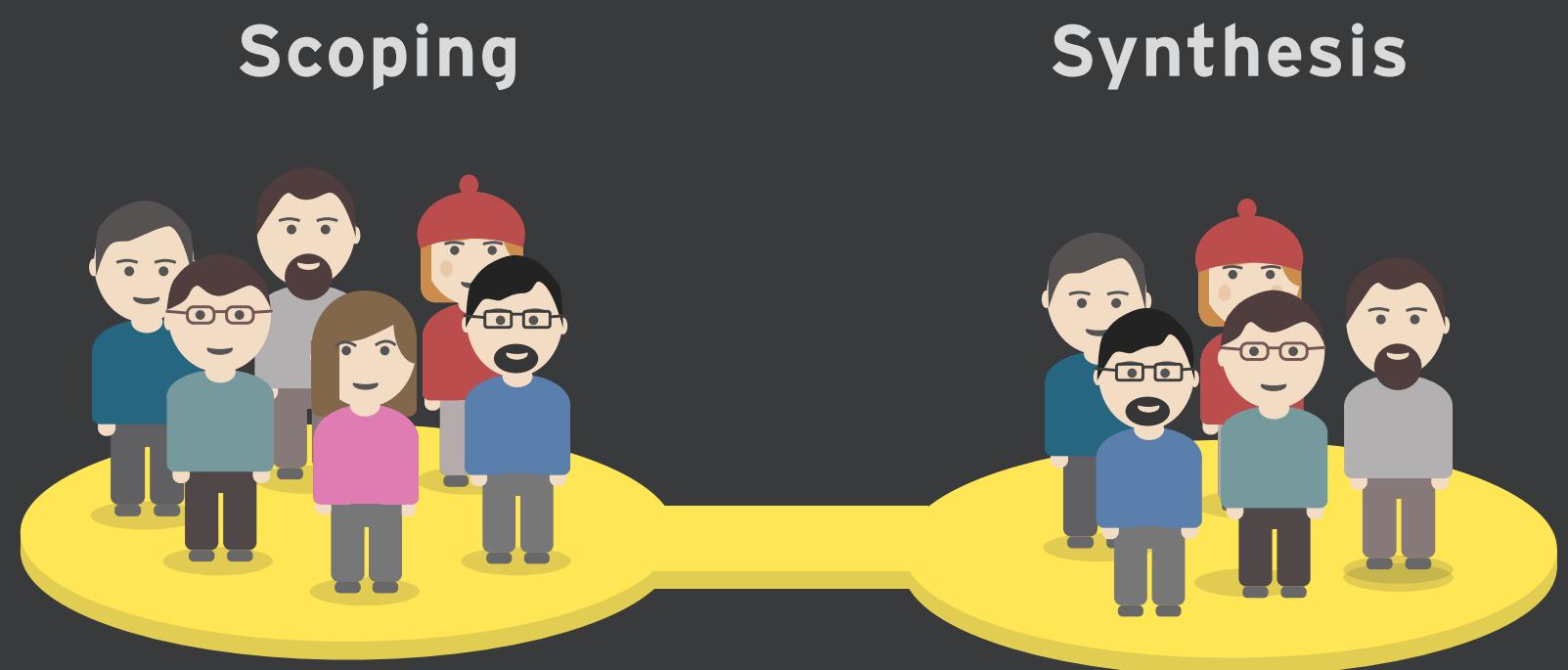
**UNDERSTAND**

**EXPLORE**

**REALIZE**

# COLLABORATIVE UX DESIGN

## UNDERSTAND



# COLLABORATIVE UX DESIGN

## UNDERSTAND

Scoping



Synthesis



## EXPLORE

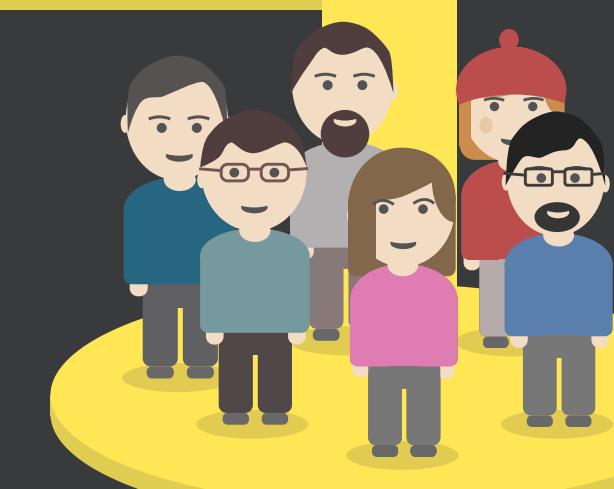
Ideation



Concept



Validation



Prototype



# COLLABORATIVE UX DESIGN

**UNDERSTAND**

Scoping



Synthesis



**EXPLORE**

Ideation



Concept



**REALIZE**

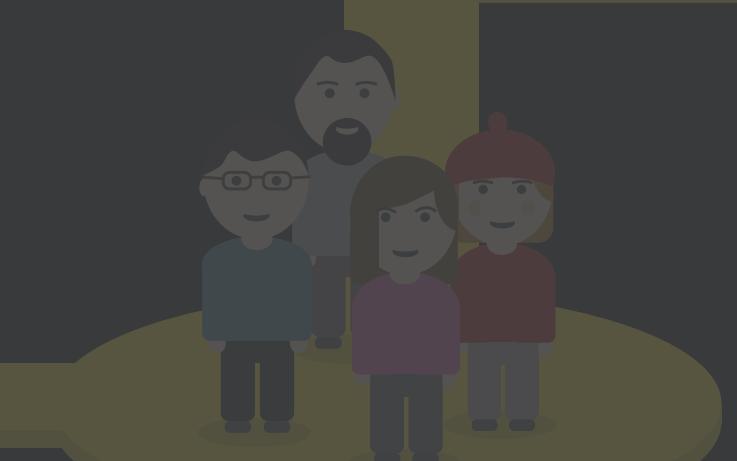


MVP Planning

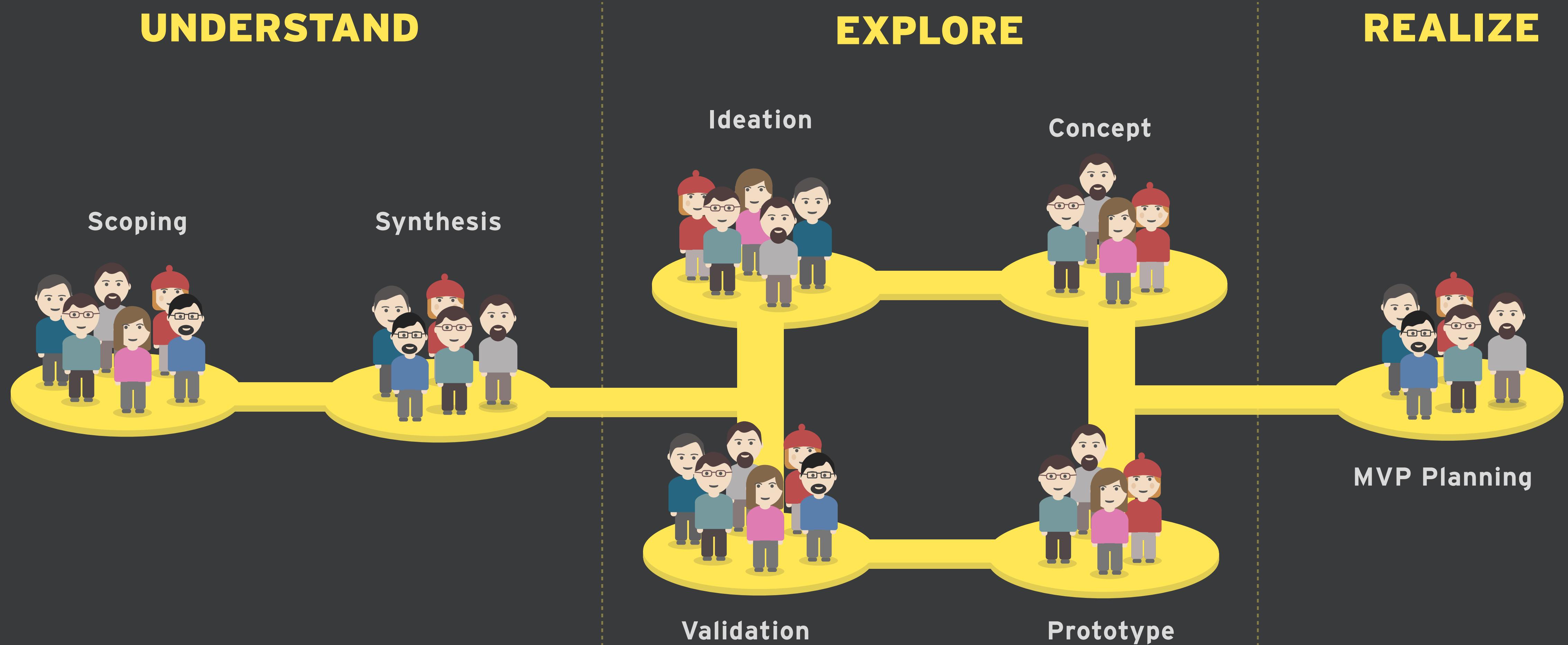
Validation



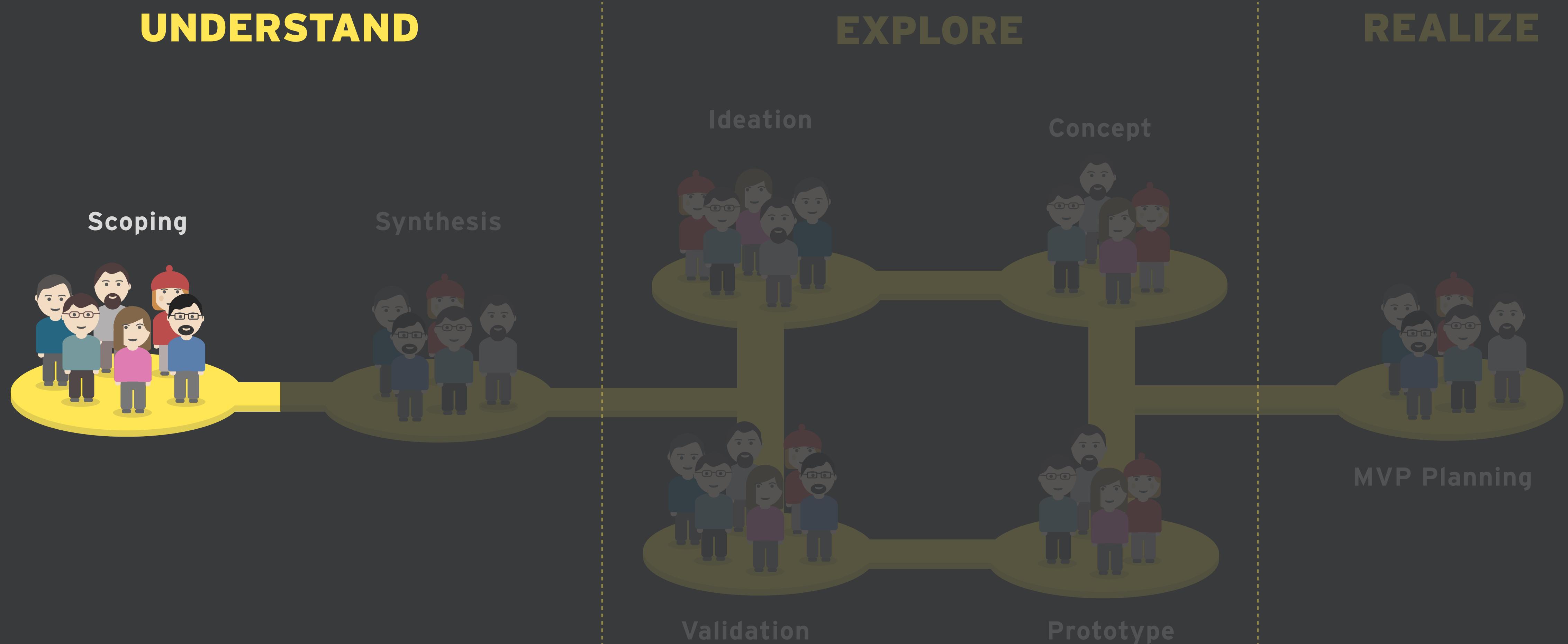
Prototype



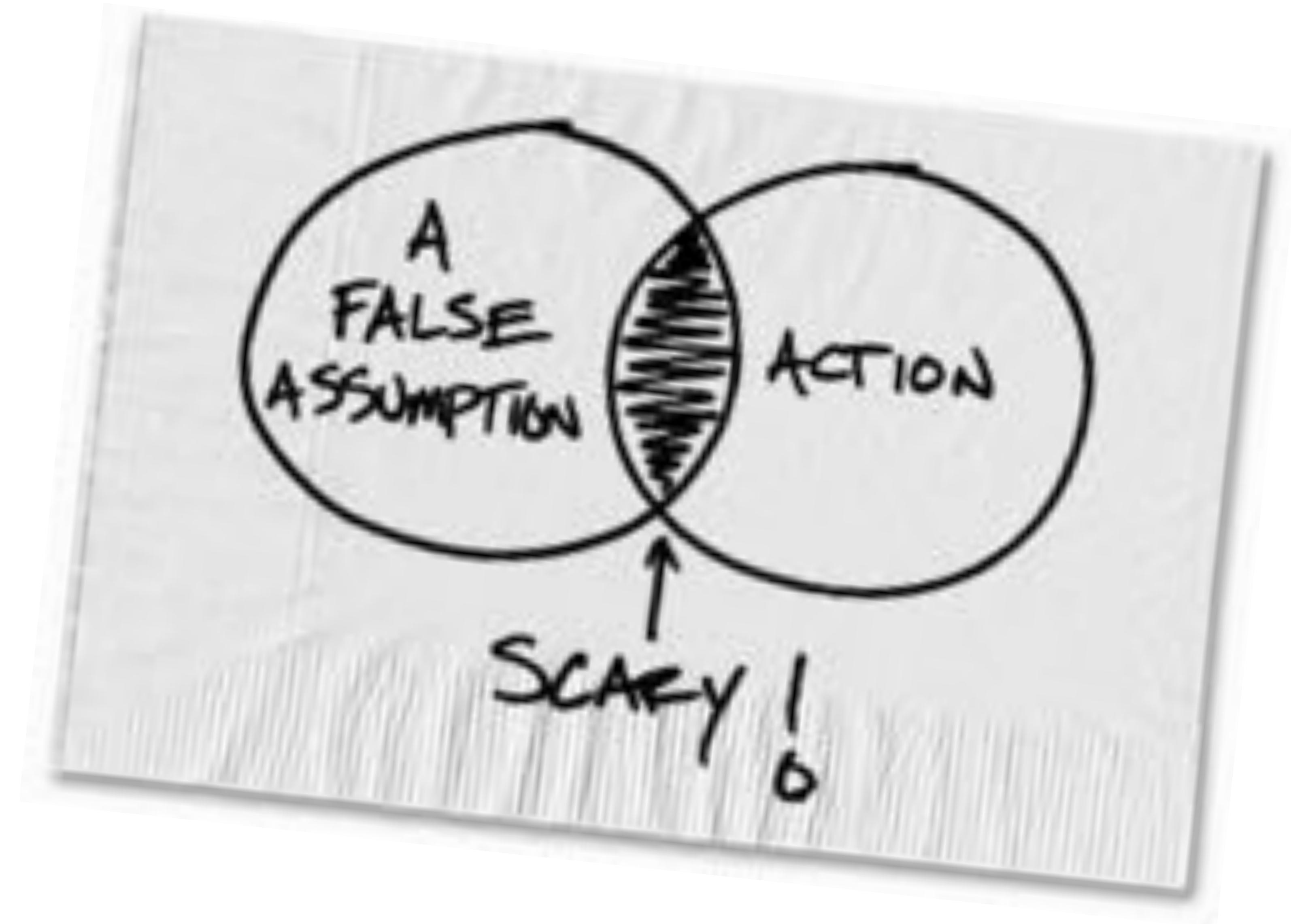
# COLLABORATIVE UX DESIGN



# COLLABORATIVE UX DESIGN

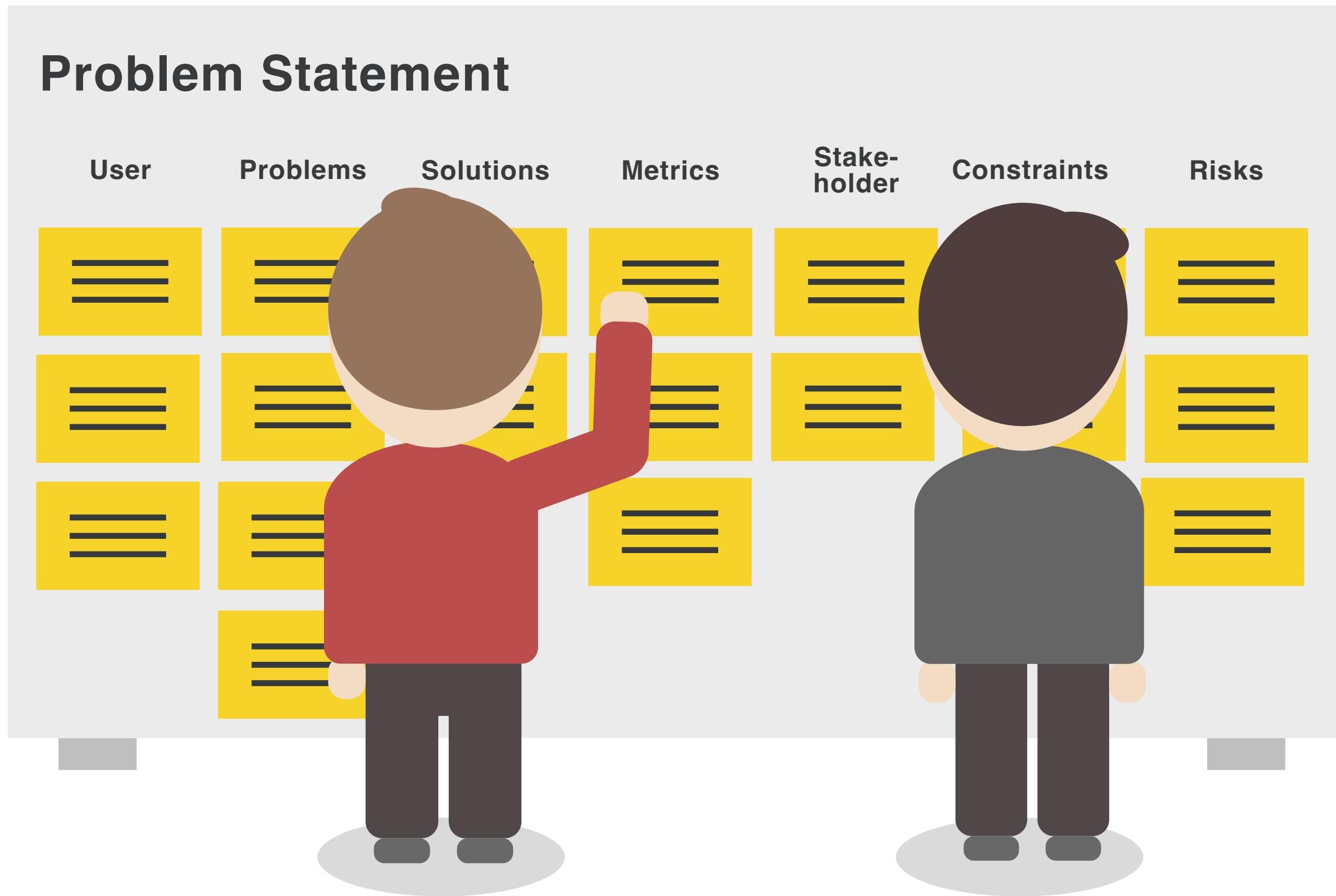


# ASSUMPTIONS CAN BE SCARY



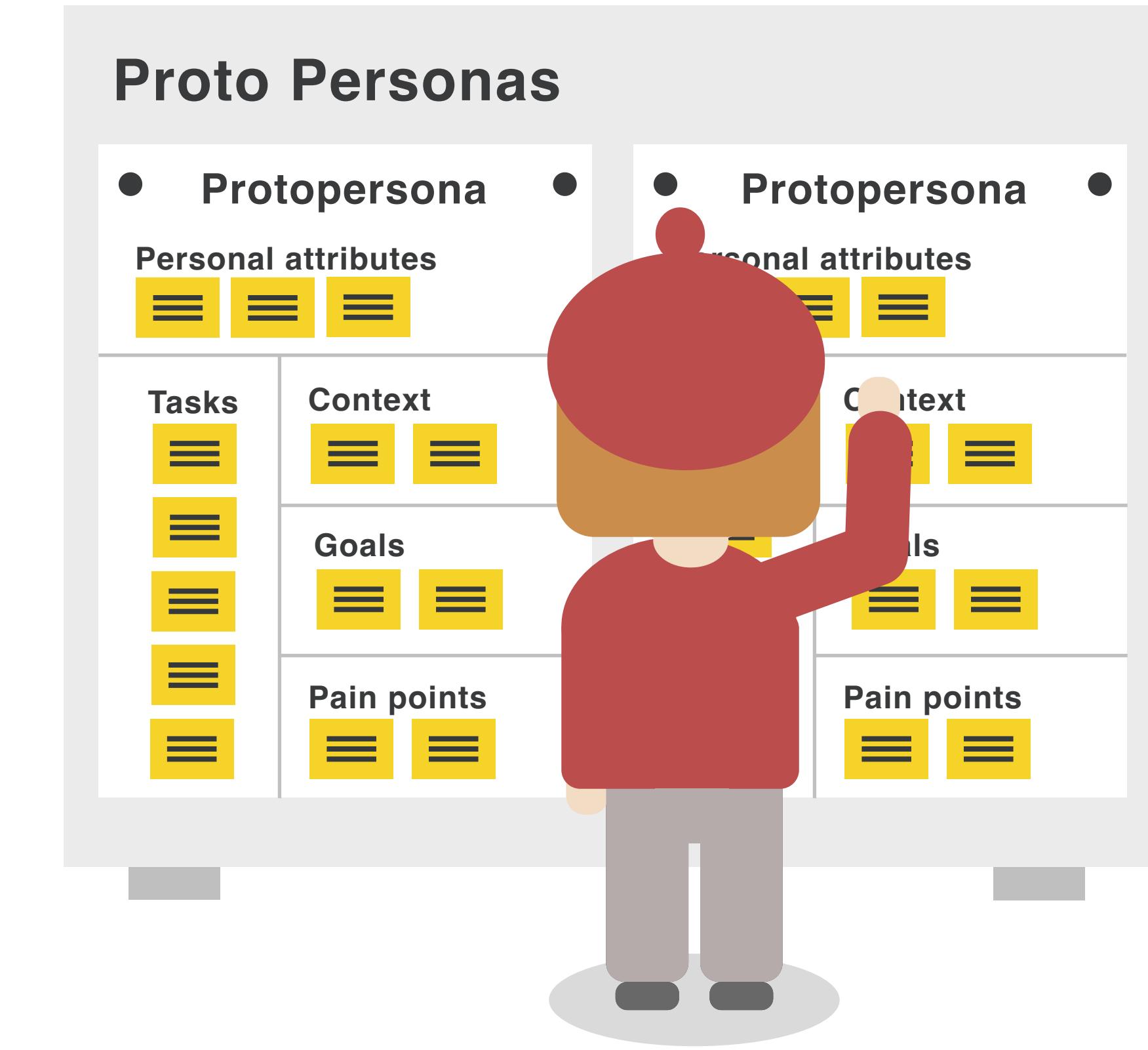
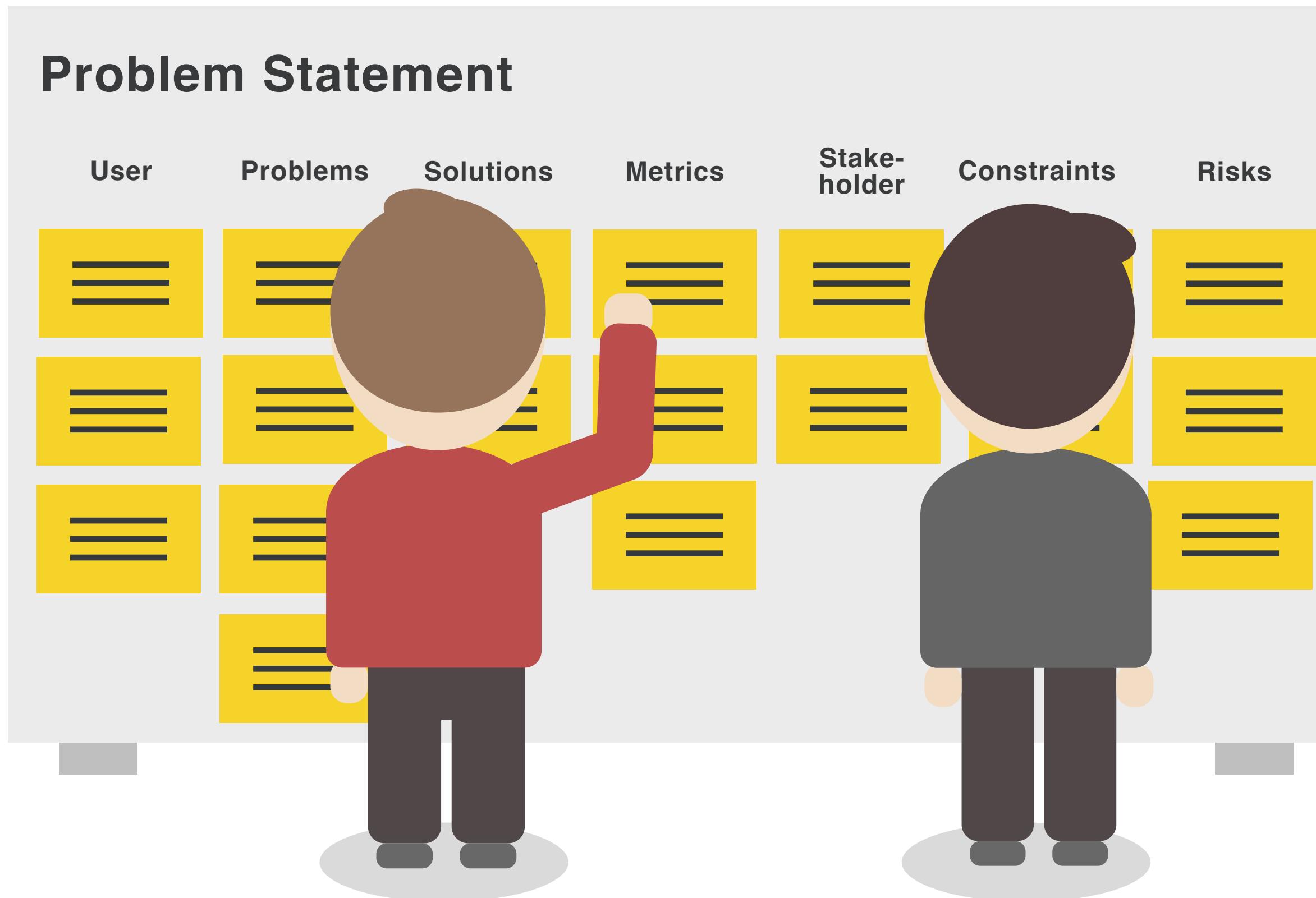
# SCOPING

## RECOGNIZE THE ASSUMPTIONS



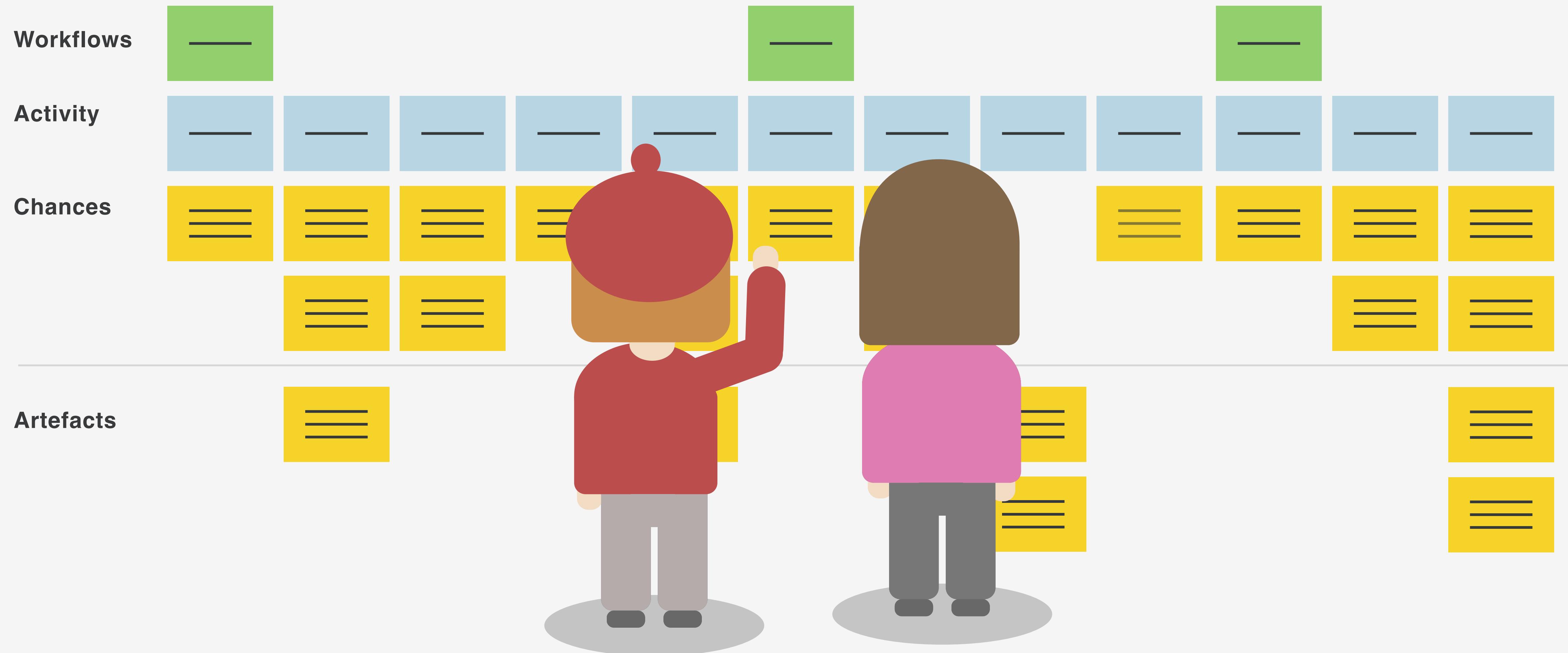
# SCOPING

## RECOGNIZE THE ASSUMPTIONS



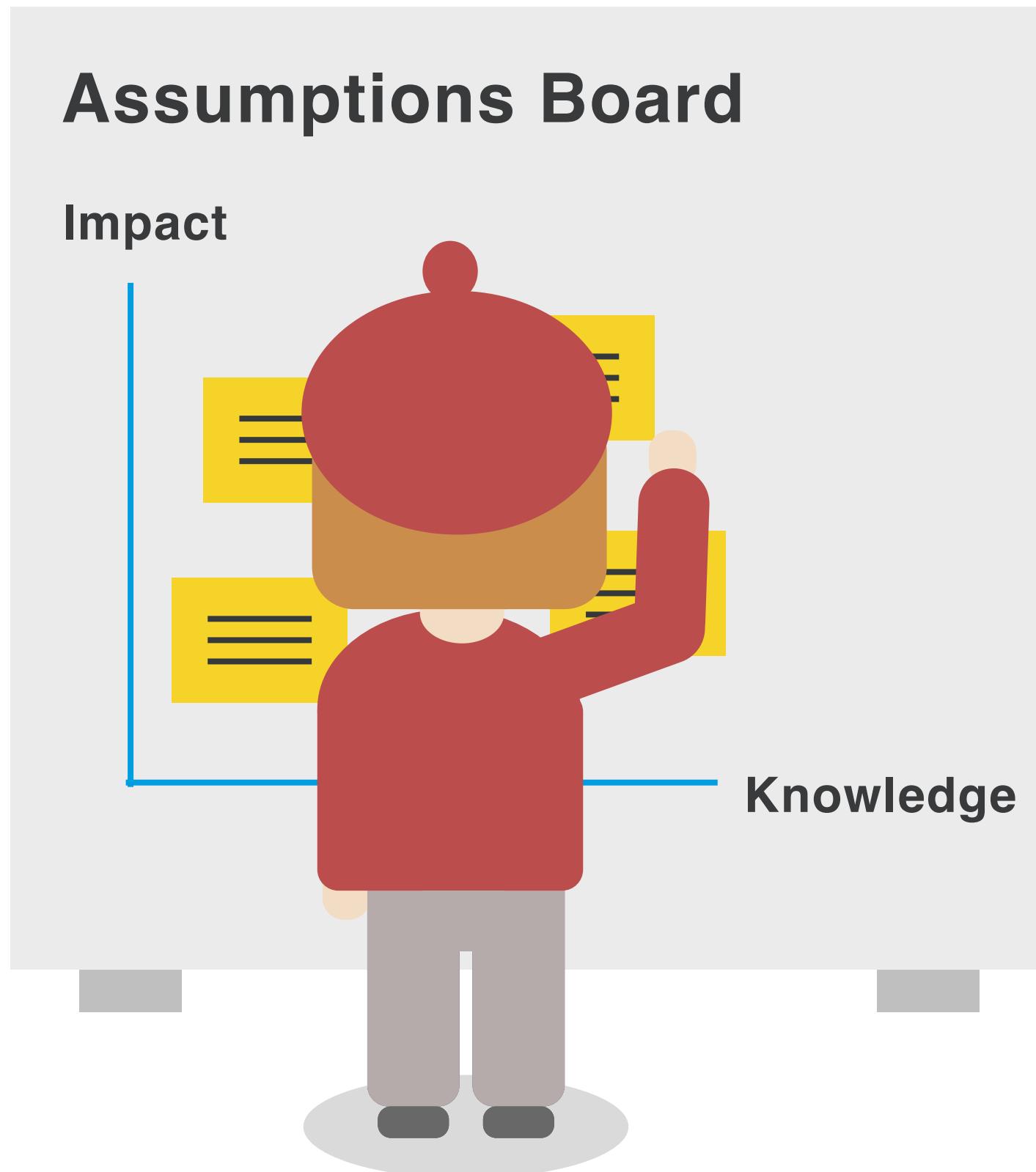
# SCOPING

## PROTO-JOURNEY MAP



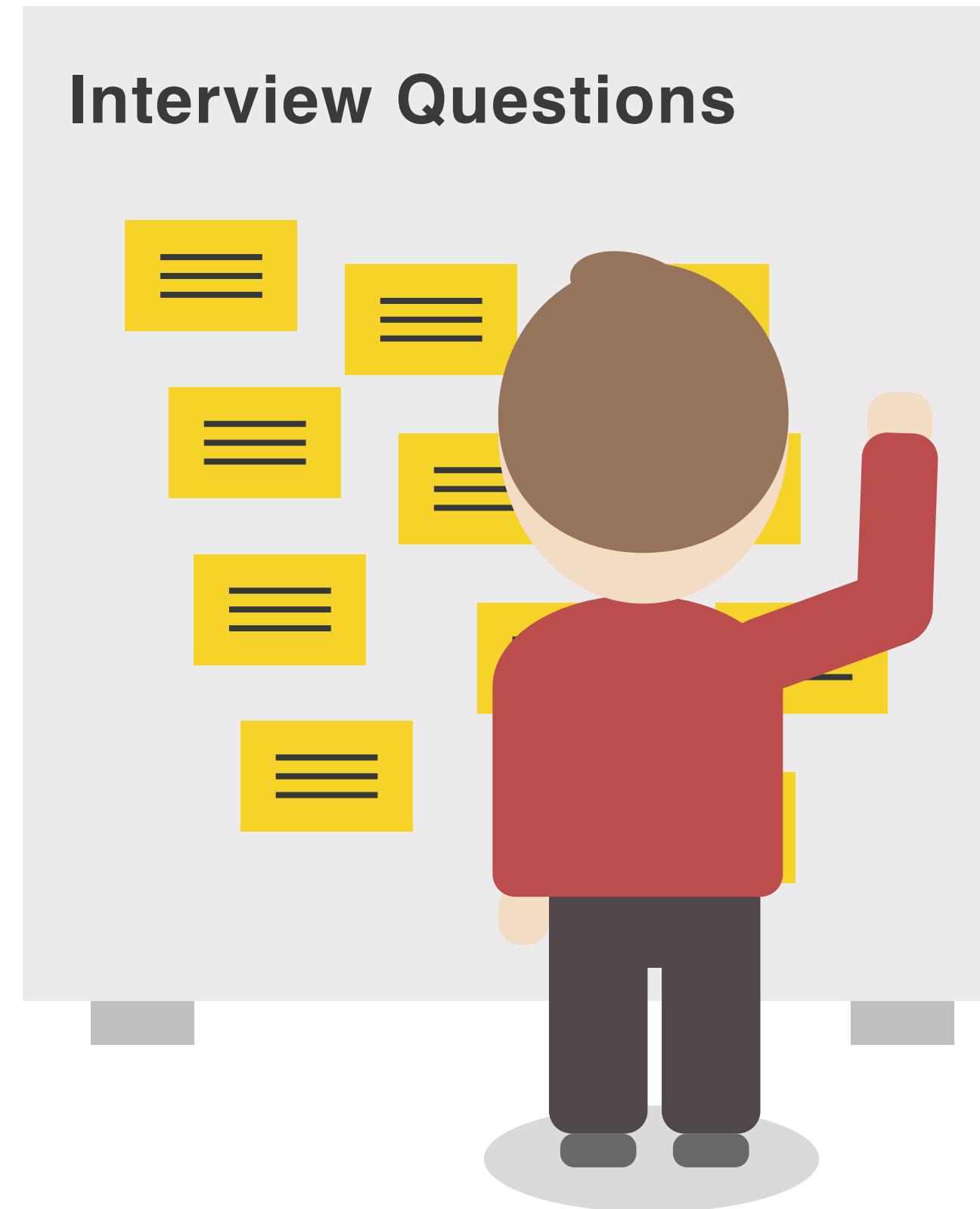
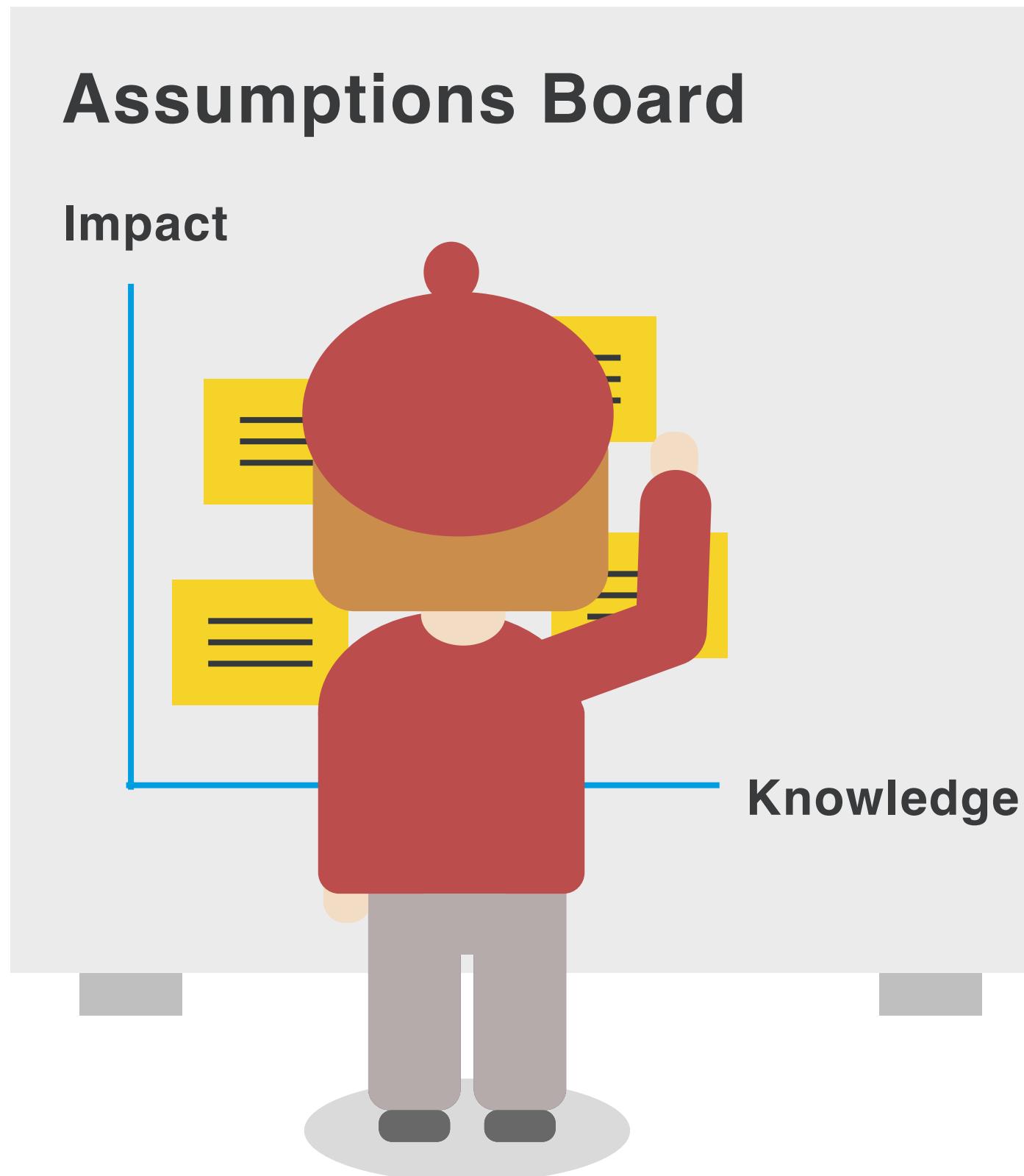
# SCOPING

## PREPARE THE USER RESEARCH



# SCOPING

## PREPARE THE USER RESEARCH



# **CASE STUDY**

## **MEETING ROOMS**

**«NEVER ENOUGH OF THEM»**

















## Example: Meeting Rooms



# Reserved rooms without people

## Meeting room occupancy plan

09:00	09:00 Teammeeting	09:00 Sprint Review	09:00 Usability Test	09:00 Weekly	09:00 Team Planning
10:00	10:00 Sprint Planning				10:15 (10:15 MESZ) Globale Ressourcenrunde
11:00		11:00 Verkauf Präsentation			
12:00					12:00 Retrospektive
13:00	13:00 LH Workshop			13:00 Landolt	
14:00			14:00 Vorstellungsgespräch		
15:00		15:00 Vorbereitung Testing			
16:00					
17:00					
18:00					

## **Problem Statement**

**User**

**Problems**

**Solutions**

**Metrics**

**Stakeholders**

**Constraints**

**Risks**

## Problem Statement

### User

Meeting participants

Meeting organizers

### Problems

Meeting rooms fully booked - but empty

### Solutions

App which shows meeting occupancy

### Metrics

### Stakeholders

### Constraints

### Risks

## Problem Statement

User	Problems	Solutions	Metrics	Stakeholders	Constraints	Risks
Meeting participants	Meeting rooms fully booked - but empty	App which shows meeting occupancy	Today: rooms less than 60% occupied  After that: Rooms more than 80% occupied	Internal IT  Executive Board	Not too costly  Must work for all sites	Calendar interface
Meeting organizers						

## Proto Persona Oliver Organizer

### Tasks/Goals

Reserve meeting room

Find meeting room spontaneously

Pain points

### Context

Smartphone or PC

At the workplace

All rooms occupied

## Proto Persona Tim Participant

### Tasks/Goals

Context

Search meeting room

On the road in the building

Spontaneously use room

All rooms occupied

Pain points

Does not find room

Meeting far in the future

# Assumptions Board

## Impact

Meeting rooms  
fully booked -  
but empty

Rooms are  
actually little  
occupied

No access to  
appointment  
booking of the  
room

Really have to  
move so often

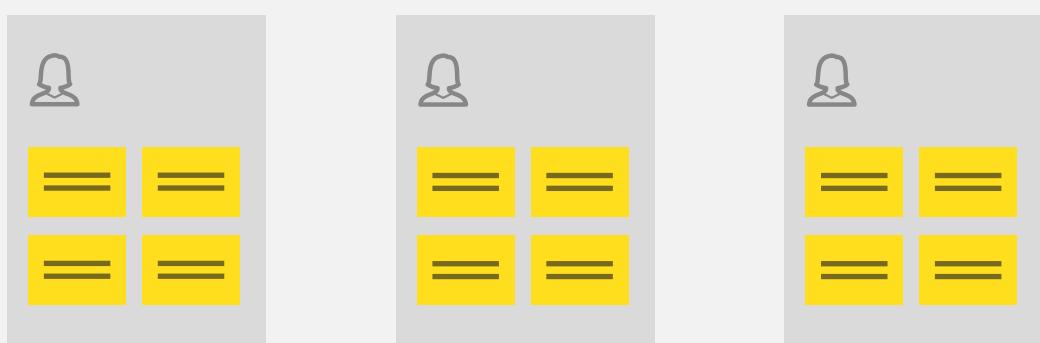
## Knowledge

# CHECK ASSUMPTIONS ABOUT OPPORTUNITIES

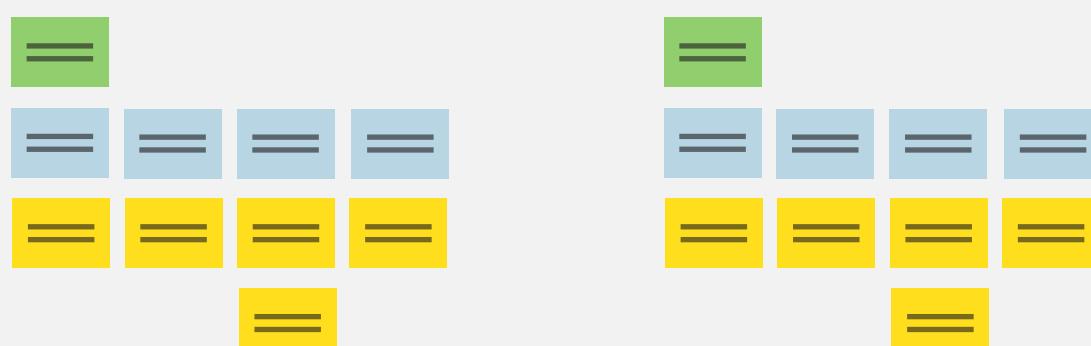
## Proto Problem Statement



Problem Statement



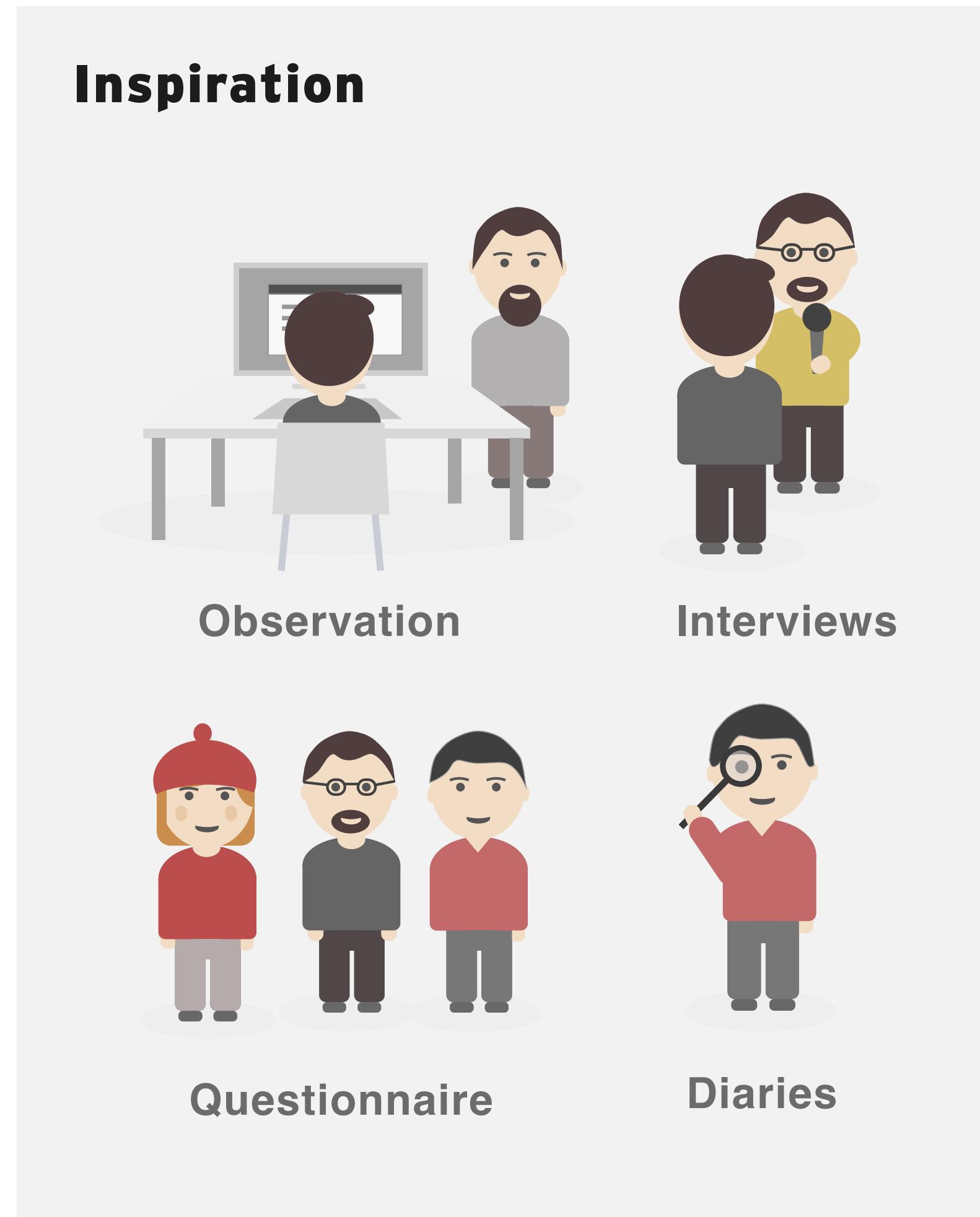
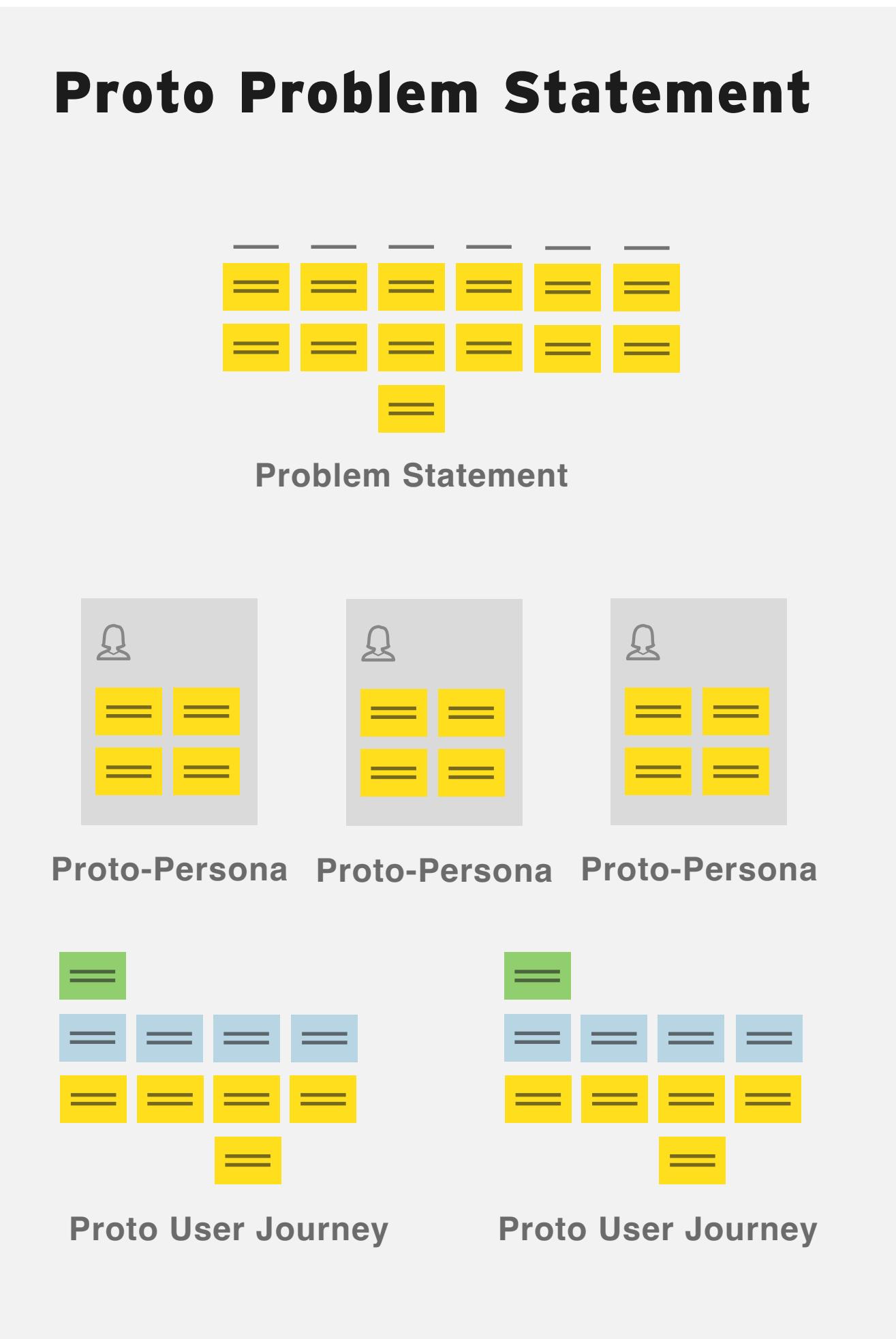
Proto-Persona Proto-Persona Proto-Persona



Proto User Journey

Proto User Journey

# CHECK ASSUMPTIONS ABOUT OPPORTUNITIES



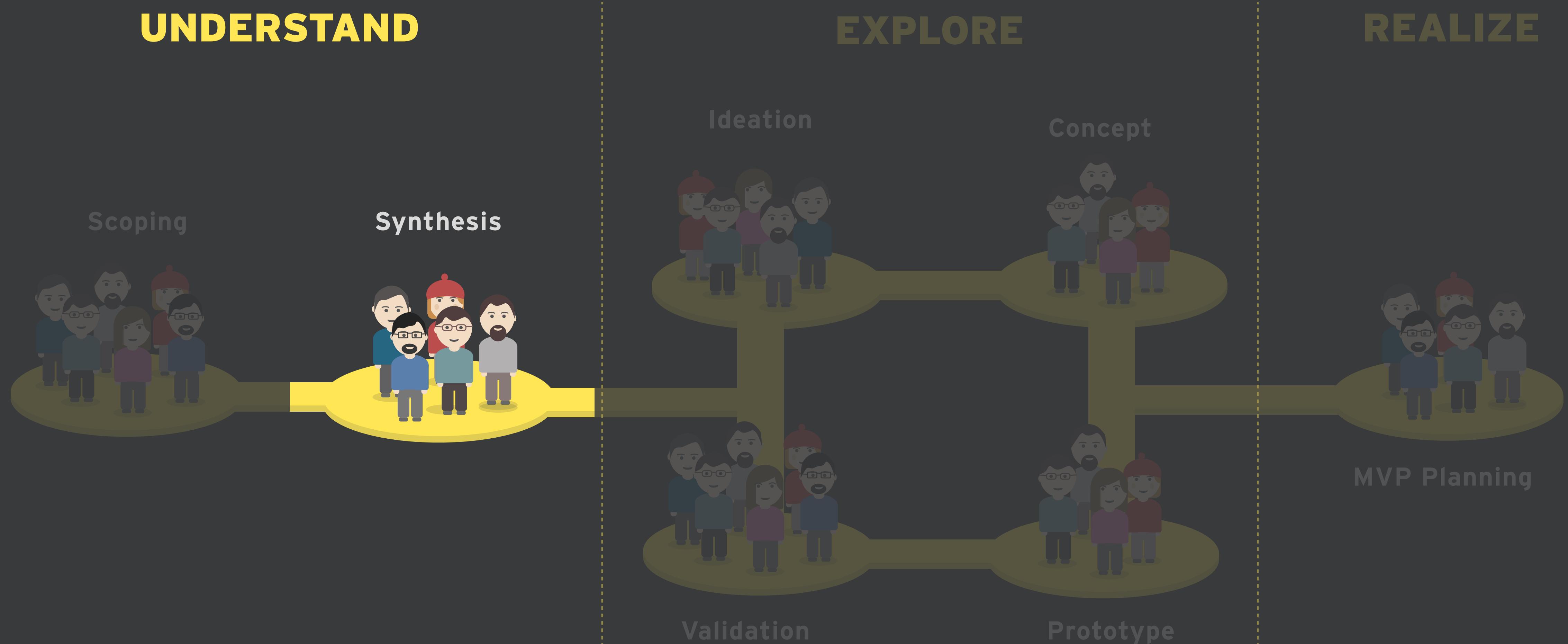
# CHECK ASSUMPTIONS ABOUT OPPORTUNITIES



# CHECK ASSUMPTIONS ABOUT OPPORTUNITIES



# COLLABORATIVE UX DESIGN



# SYNTHESIS

## ACTUAL JOURNEY MAP

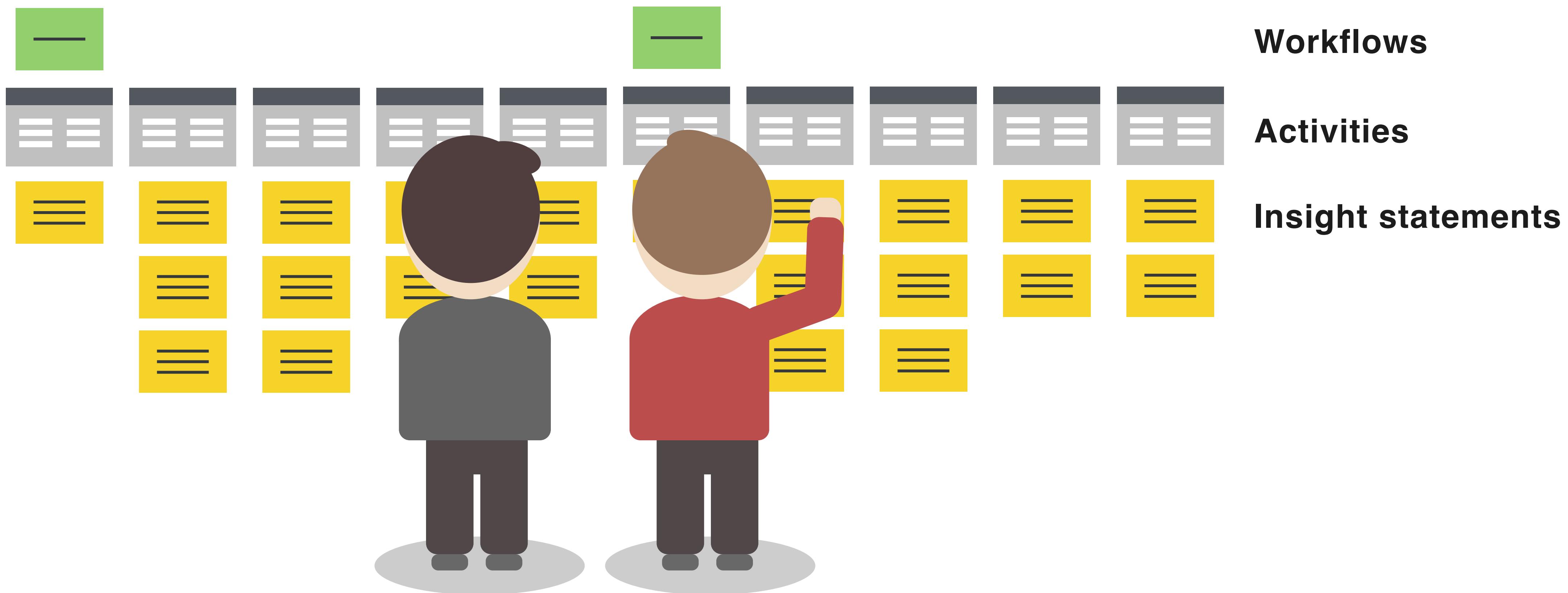


**Workflows**

**Activities,  
Screenshots,  
Photos**

# SYNTHESIS

## ACTUAL JOURNEY MAP



## INSIGHT STATEMENTS & OPPORTUNITY AREAS

- › Insight Statements build on your findings about **users**
- › Which findings provide **opportunities to improve a product or service?**
- › Identify the **opportunity areas!**
- › Opportunity Areas can then be addressed in a subsequent **Ideation** phase



## Actual Journey

Plan meeting	Change meeting room	Search free meeting room	Conduct meeting	Extend meeting	Move meeting	End meeting
Very difficult to find free meeting rooms	Only organizer can change meeting room	Participants look for free space	Meeting often lasts longer than planned	Once again all occupied	Take all material with you	Meeting finished earlier
No information about equipment and size	Same problems as with planning	Do not search in the calendar	Pens empty, no flipcharts available	Swap meeting rooms	One time ok, multiple moves really annoying	Room is not released
No information on exact location		Do not know how long it is free			You lose the flow	

# SYNTHESIS

## ACTUAL JOURNEY MAP



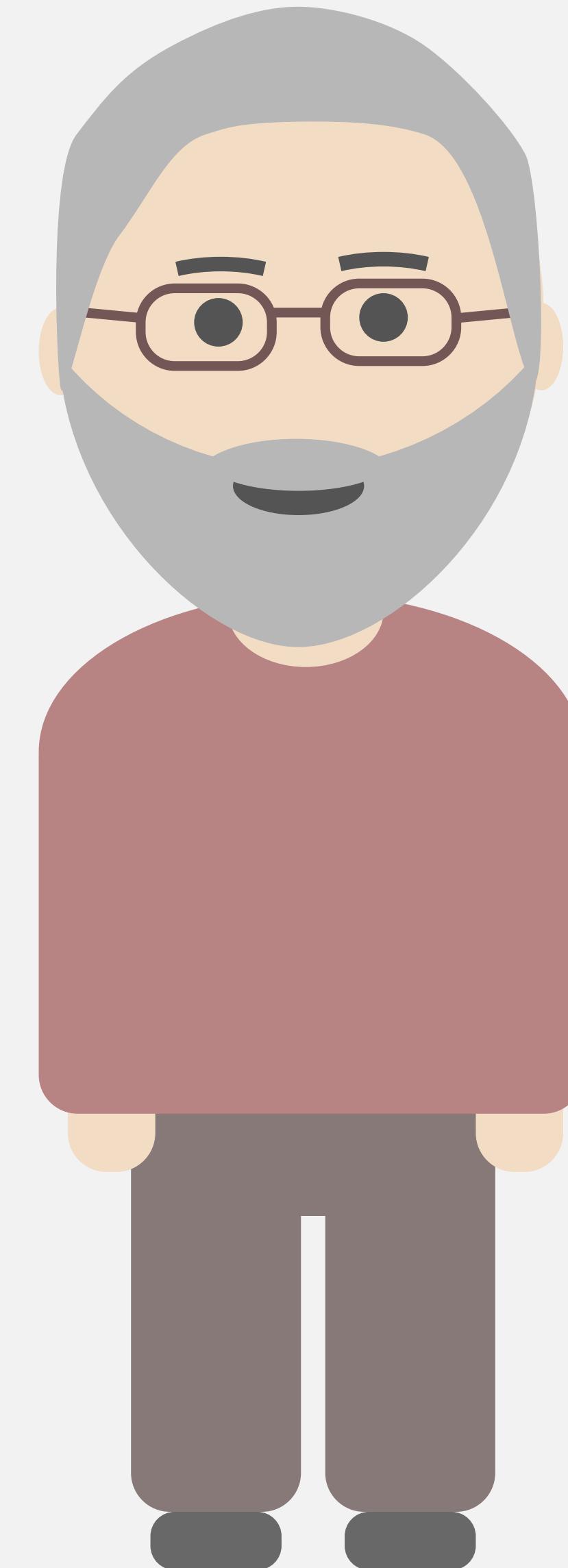
## Actual Journey



Designers don't search for a solution until they have determined the real problem,

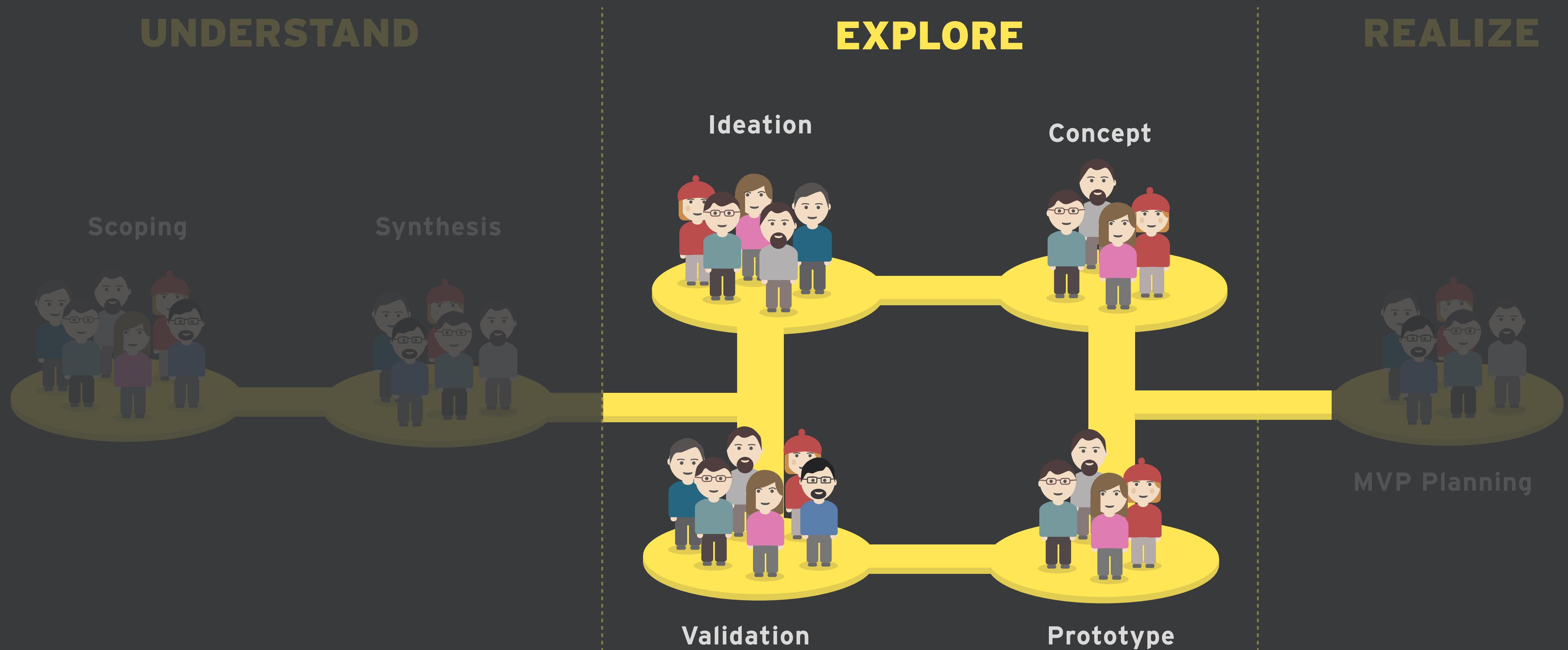
and even then, instead of solving that problem, they stop to consider a wide range of potential solutions.

Only then will they converge upon their proposal.

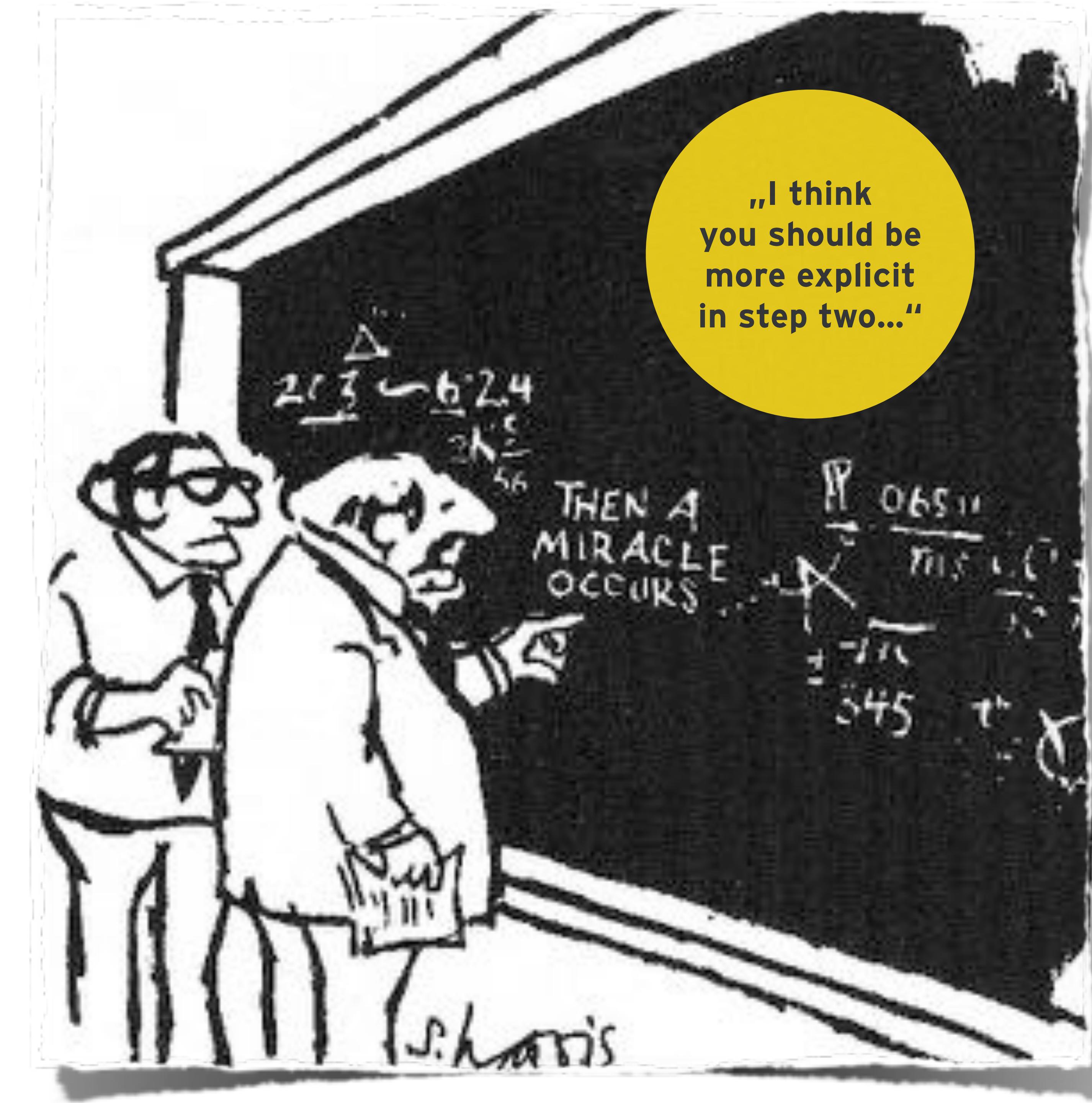


**Donald Norman**

# COLLABORATIVE UX DESIGN



# FROM ANALYSIS TO THE DESIGN

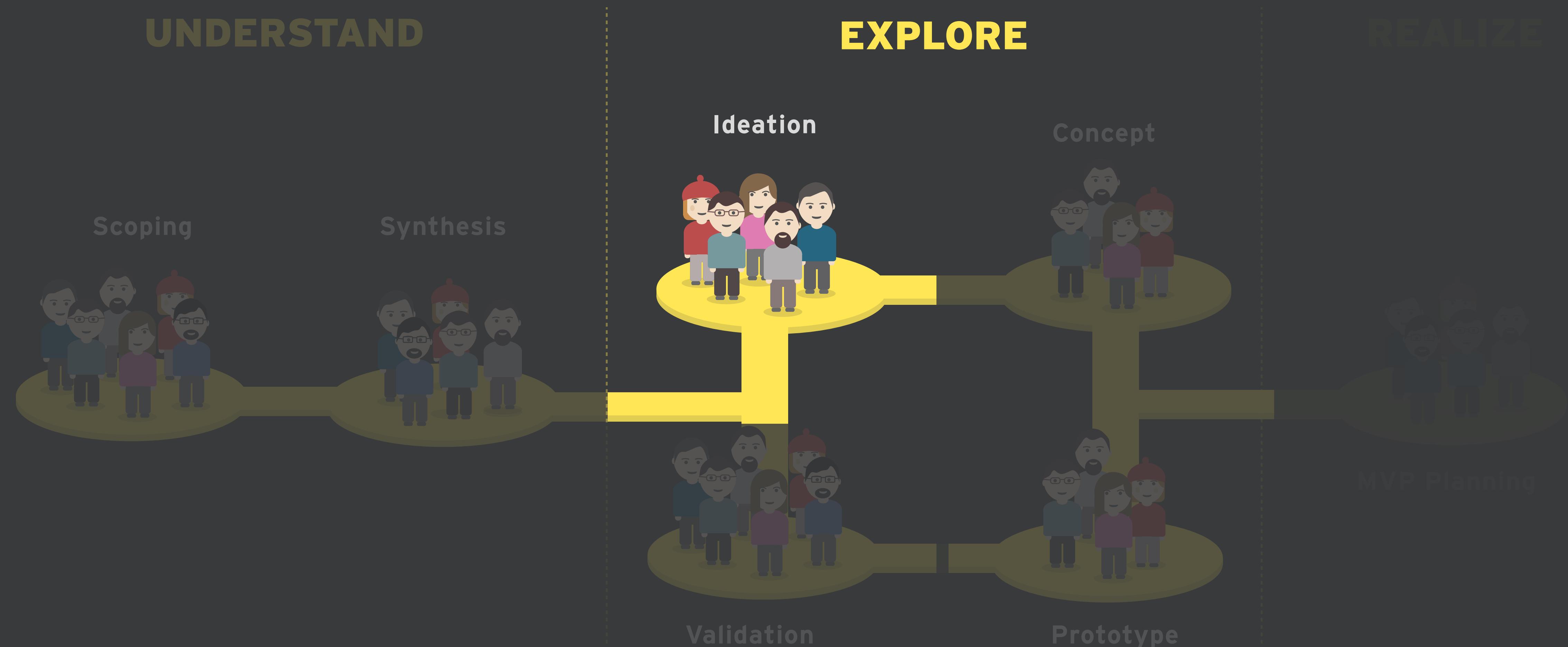


# COLLABORATIVE UX DESIGN

**UNDERSTAND**

**EXPLORE**

**REALIZE**



# IDEATION BASICS

- > Stealing is allowed (and appreciated)!
- > Quantity before Quality!
- > Everyone is involved!
- > Some things are more efficiently done alone!
- > Criticize always positively!
- > |: Work, Iterate :|
- > Visualize!

## HOW-MIGHT-WE QUESTIONS

- > How-Might-We-questions describe concrete **challenges for ideation** formulated as **questions**:
  - > How can we overcome a **problem**?
  - > There can be more than one **HMW-** questions for an opportunity area



# „HOW-MIGHT-WE?“ QUESTIONS

The slide has a dark gray background with a subtle watermark-like pattern of computer icons (database, server, user interface) repeated across it.

**Opportunity Area**

**How Might WeQuestion**

How can we ensure that

Who?

When?

What?

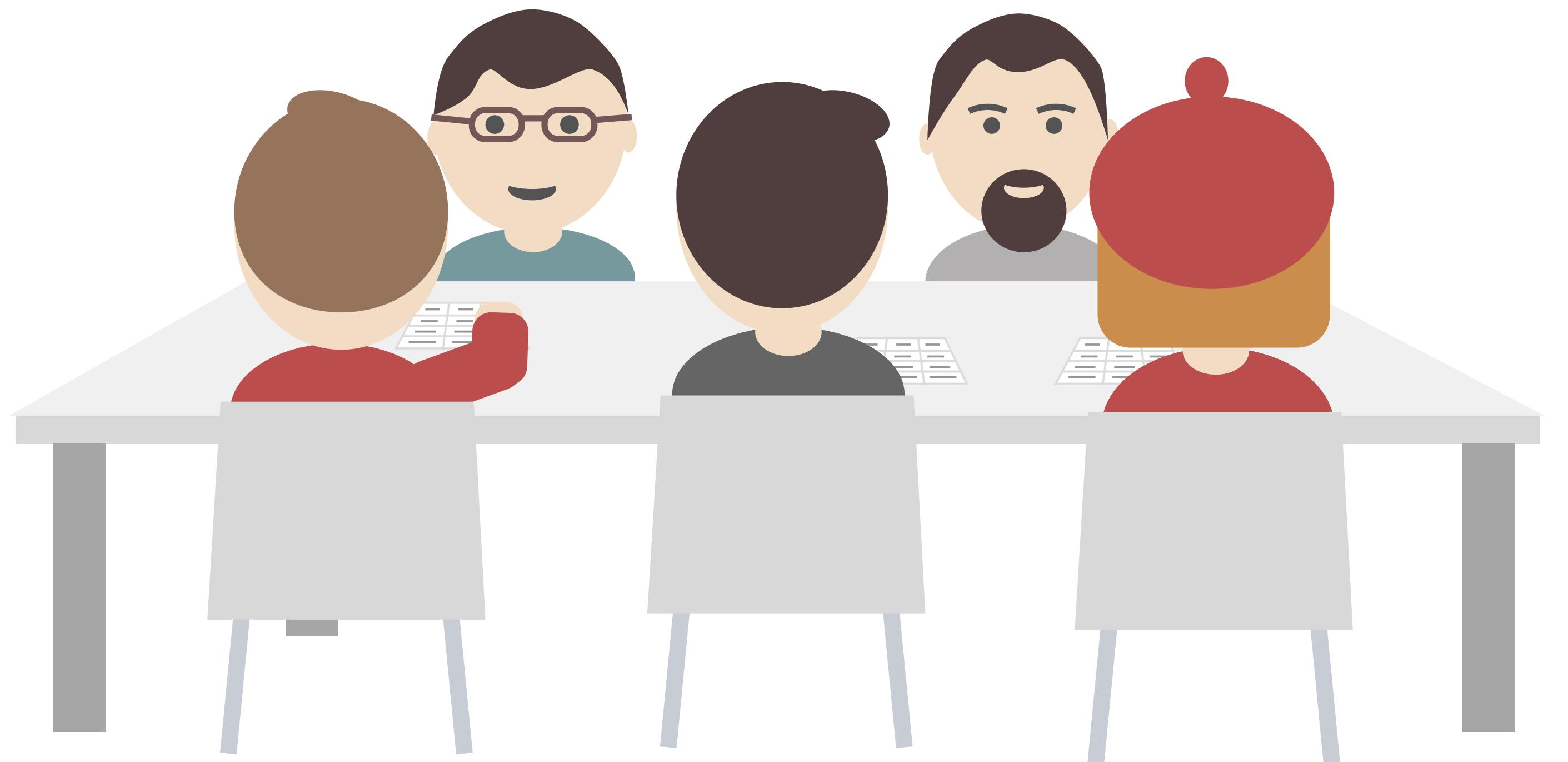
Workflows

Aktivitäten, Screenshots,

ht-

Opportunity-Areas

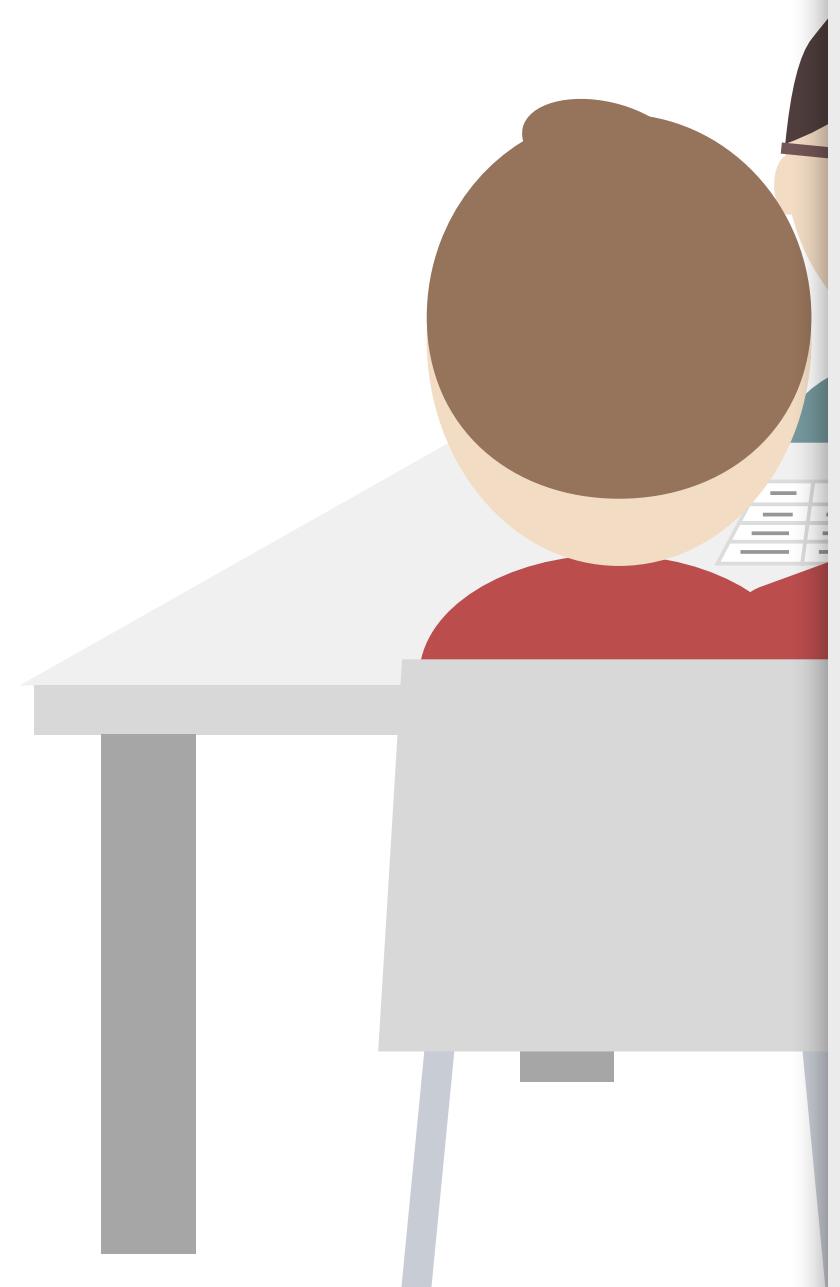
**6-3-5**



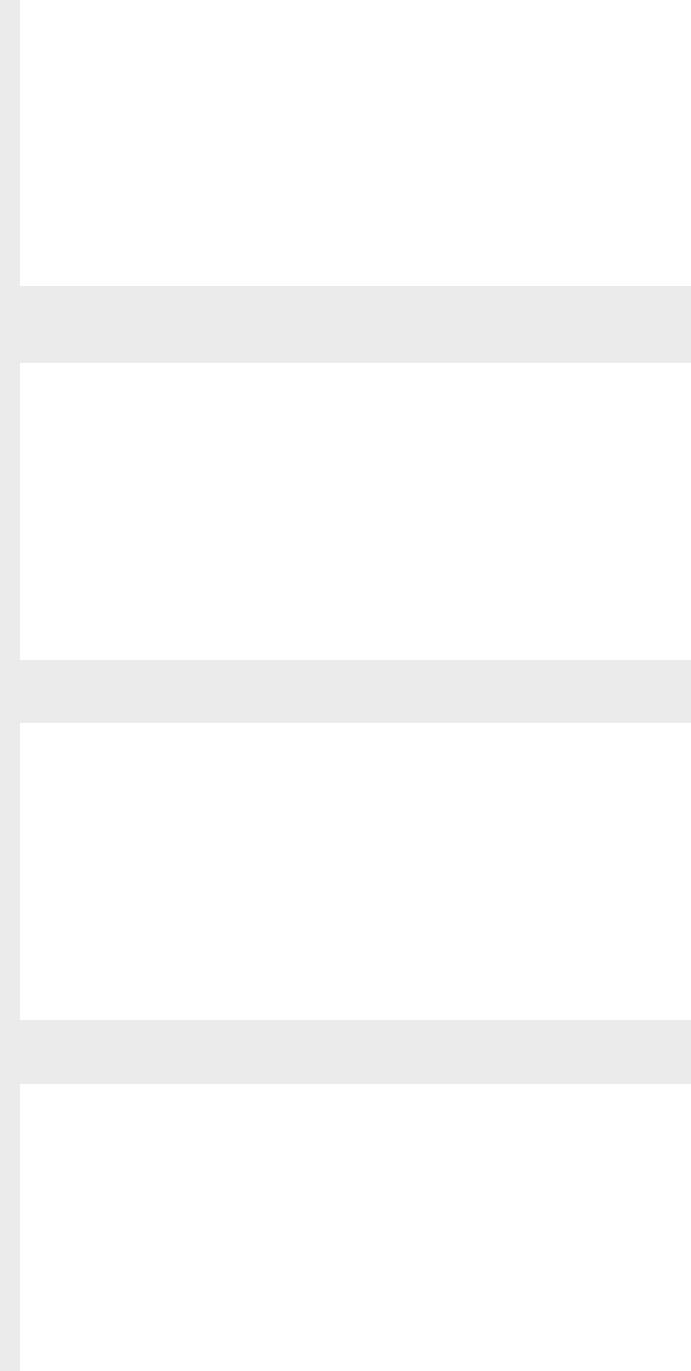
# 6-3-5

Problem:

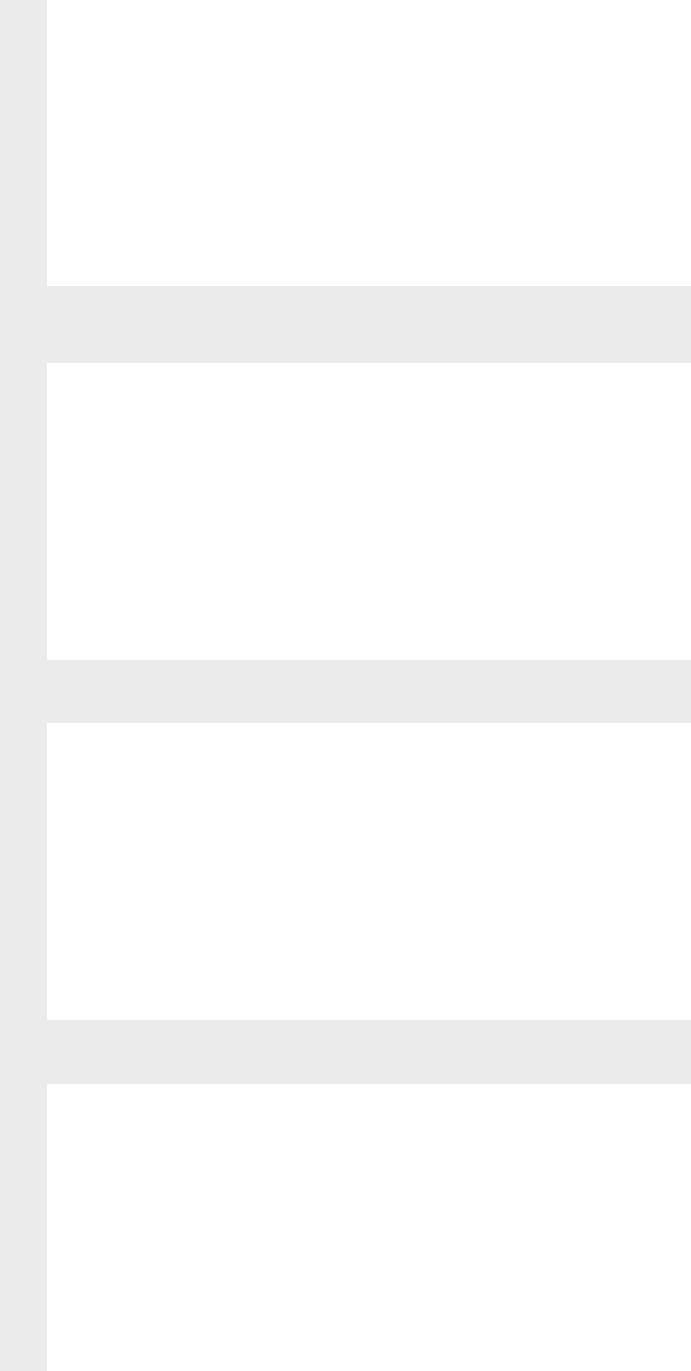
Solution Idea 1



Solution Idea 2



Solution Idea 3



## **Problem:** No quickly available info on occupancy during spontaneous search

Idee 1

Display of the current occupancy at the meeting room itself.

Show also the next dates.

Offer directly the possibility to book a meeting room.

Won't that be way too expensive?

Idee 2

We build an app with which the current occupancy can be determined.

Via NFC we could find out which meeting room the participants are standing in front of.

We could give hints which meeting room will be available soon.

A clear visualization would be cool!

Idee 3

.We offer a system with signal lamps, similar to parking lots or hospital rooms

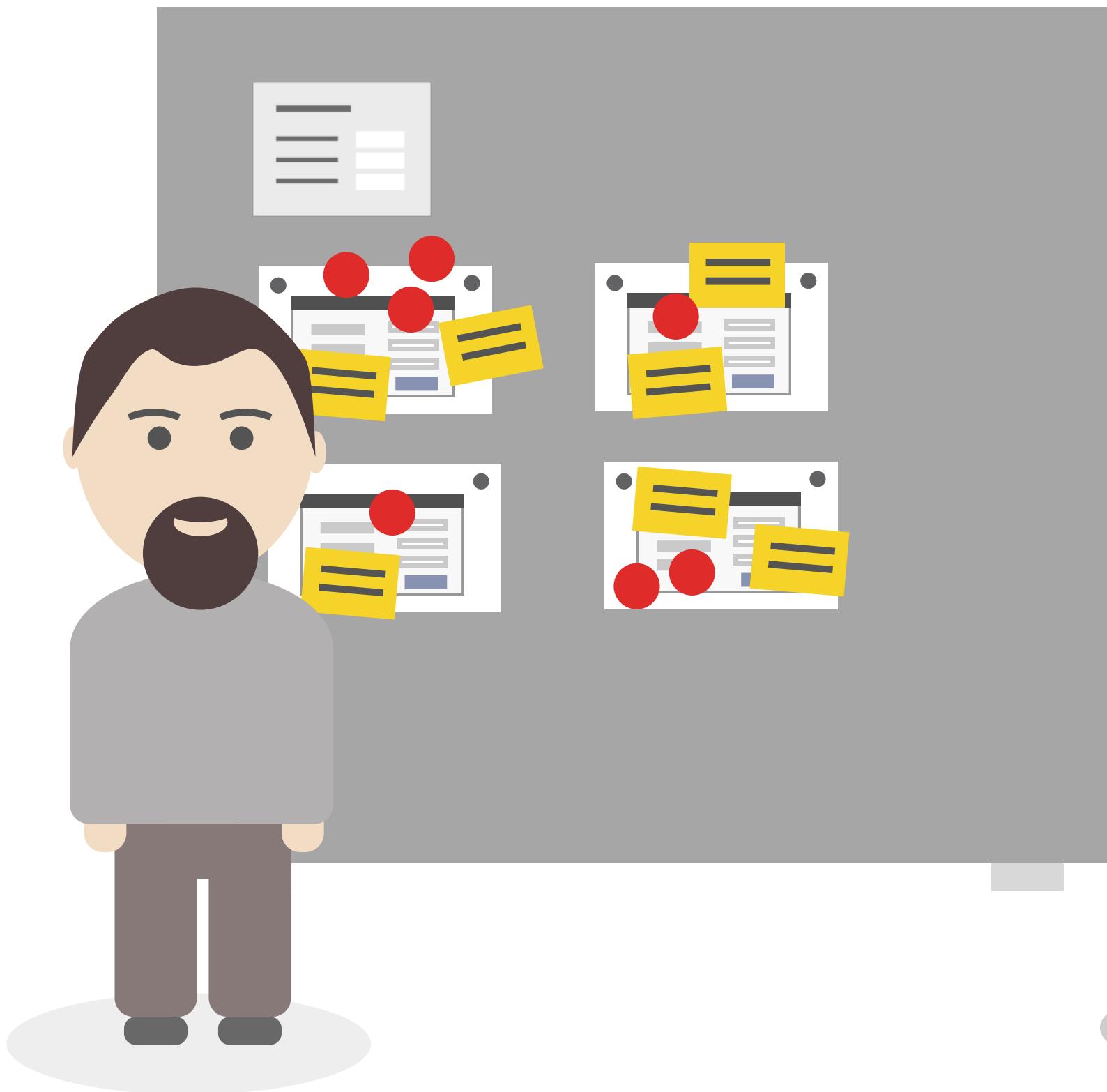
Orange could mean: currently still occupied, but soon free.

So in the next 20 minutes the room will be free.

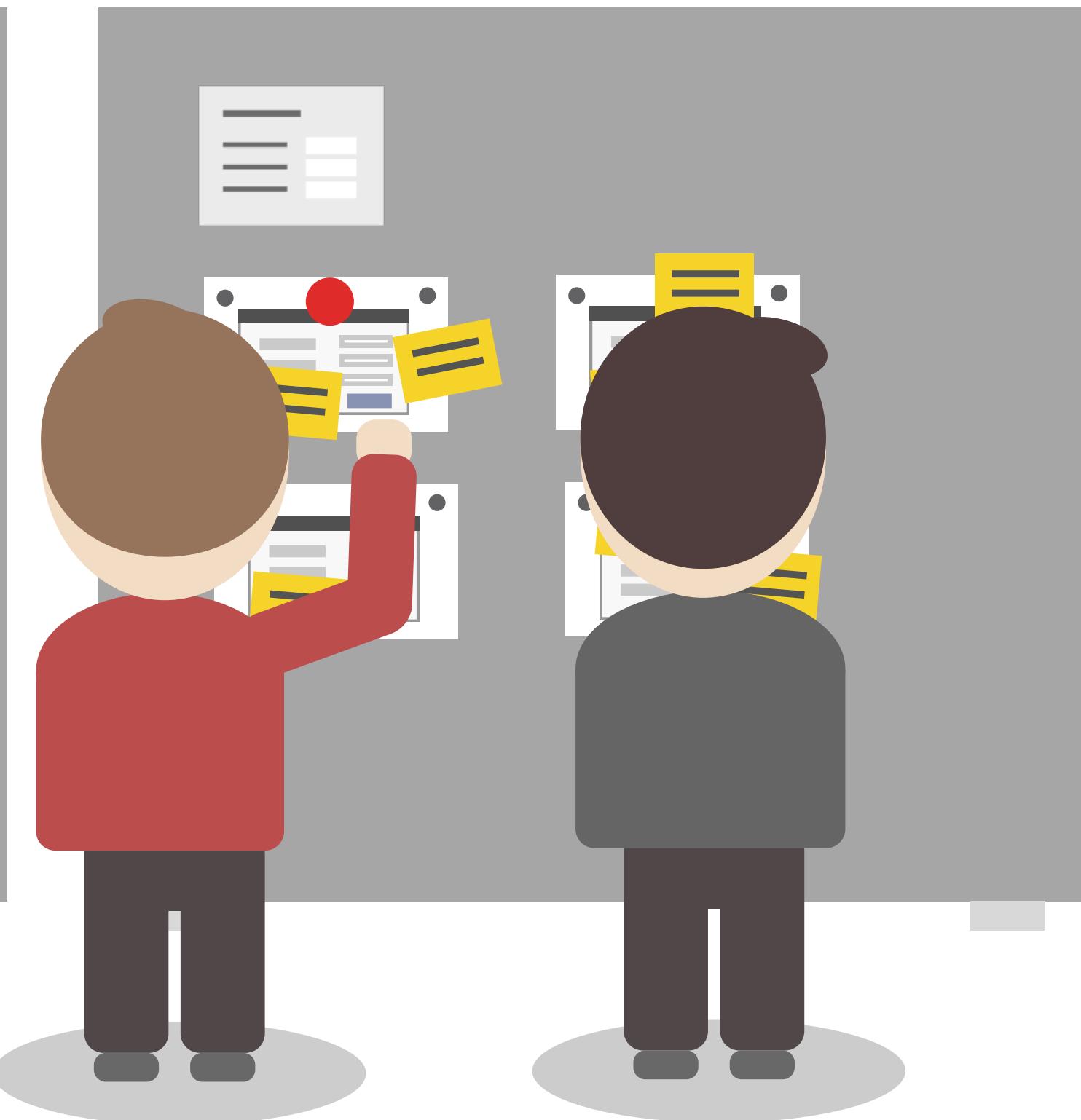
You could still build an app for it.

# EVALUATE IDEAS

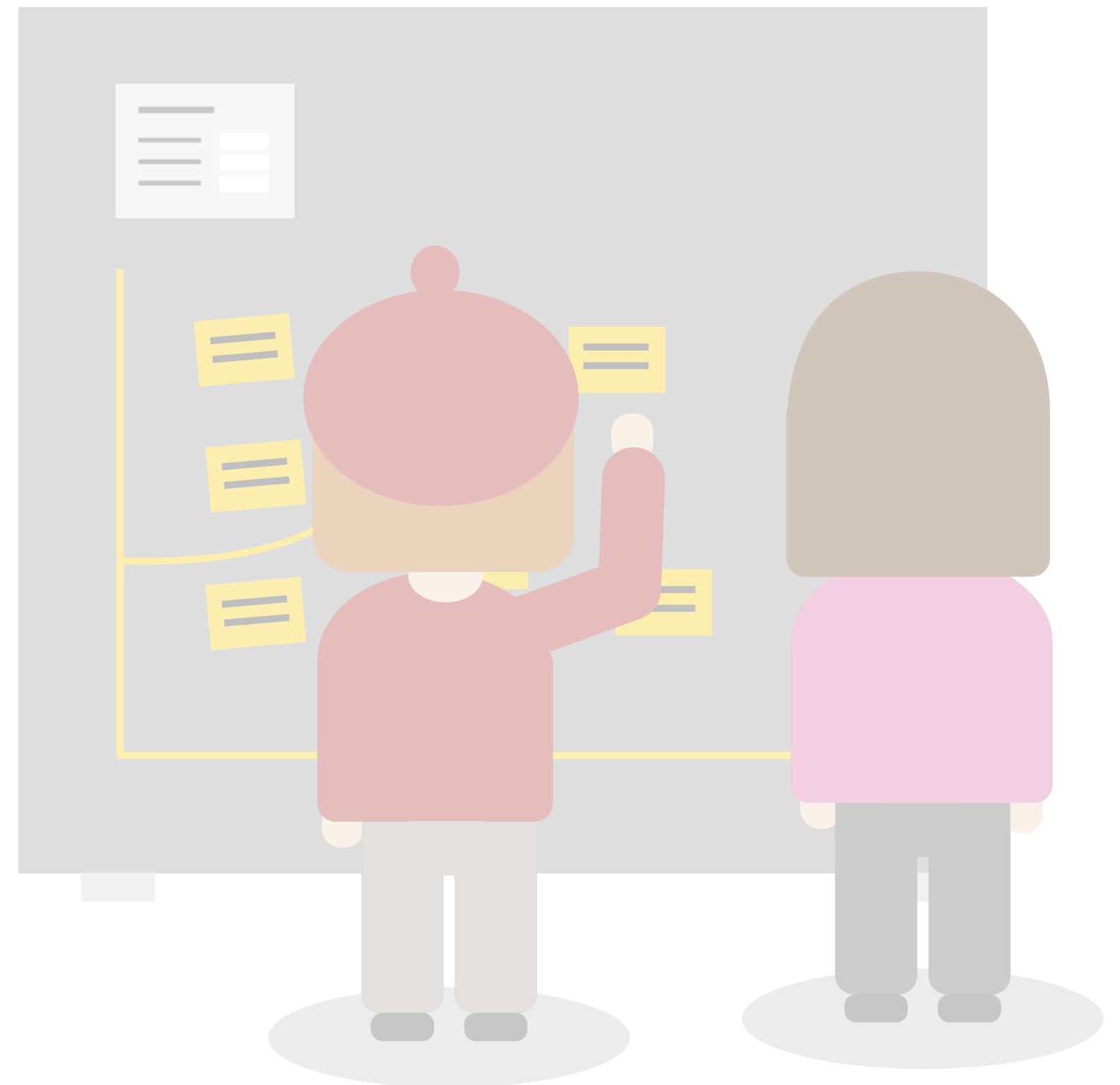
**Promote ideas!**



**Rate them!**



**Cost-Benefit**



## **Problem:** No quickly available info on occupancy during spontaneous search

Idee 1

Display of the current occupancy at the meeting room itself



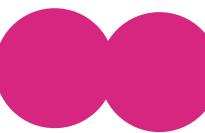
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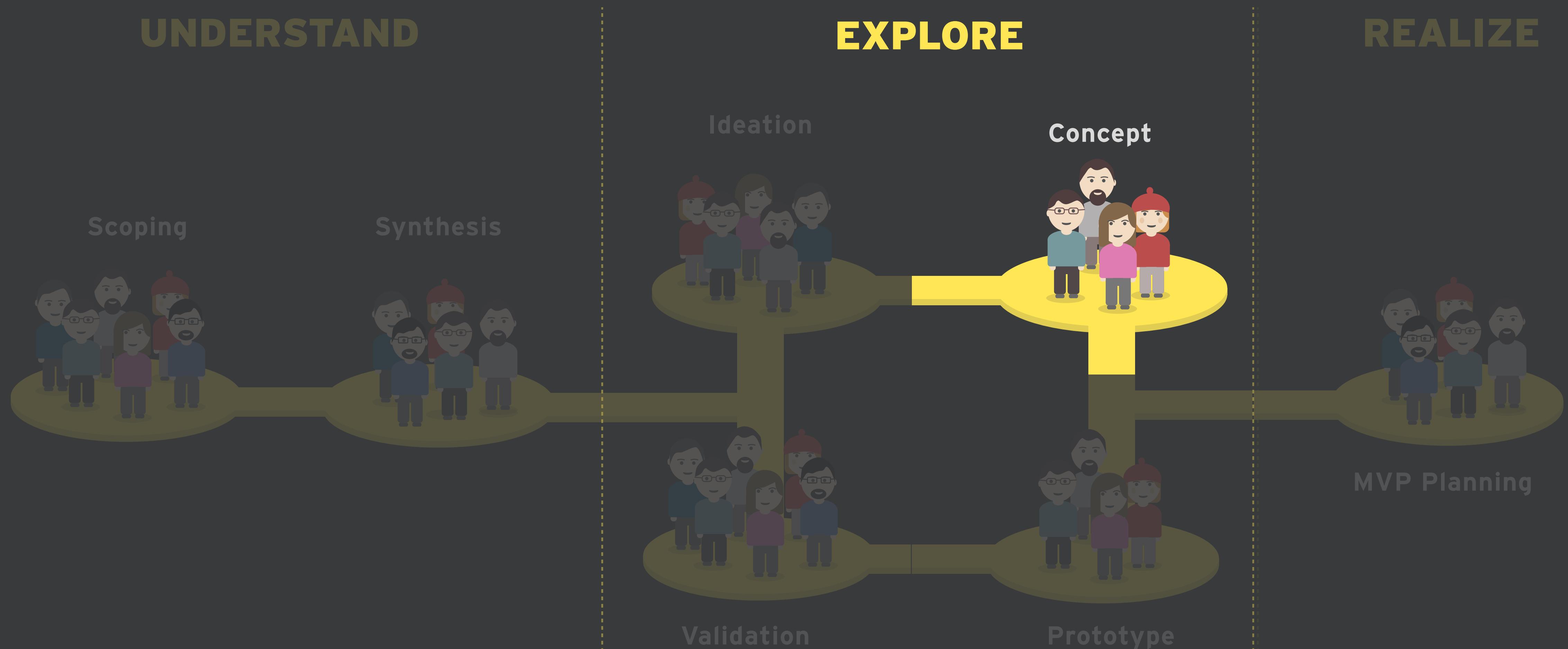


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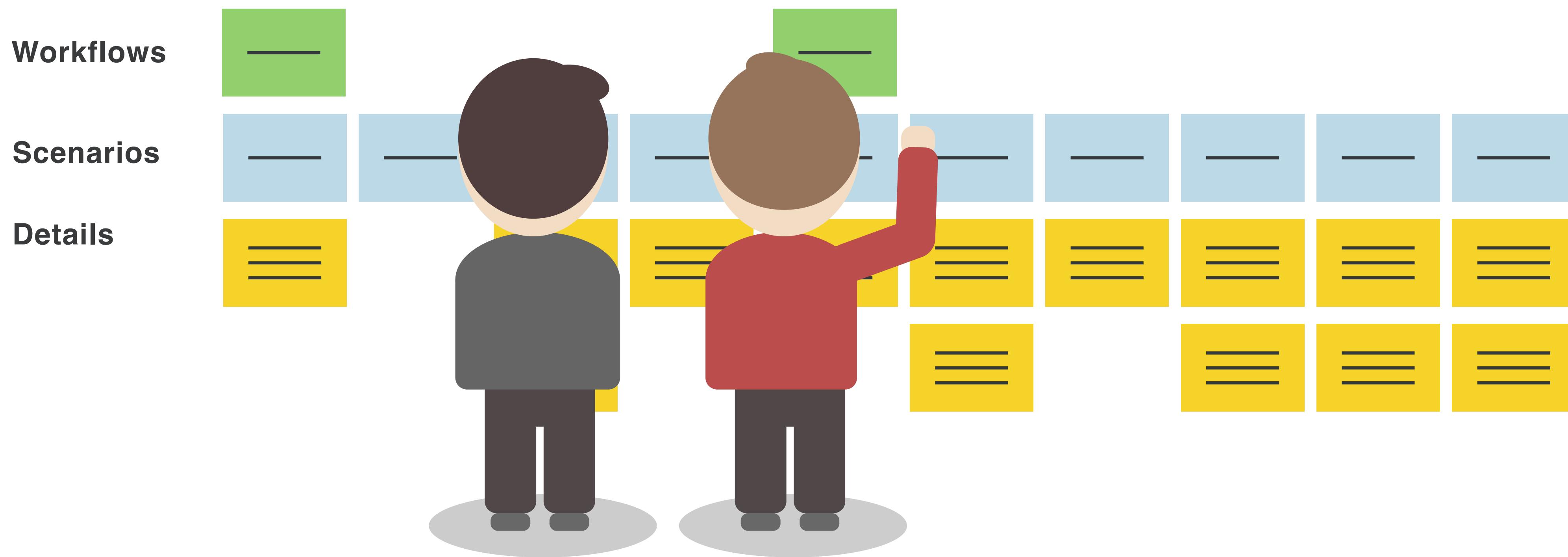
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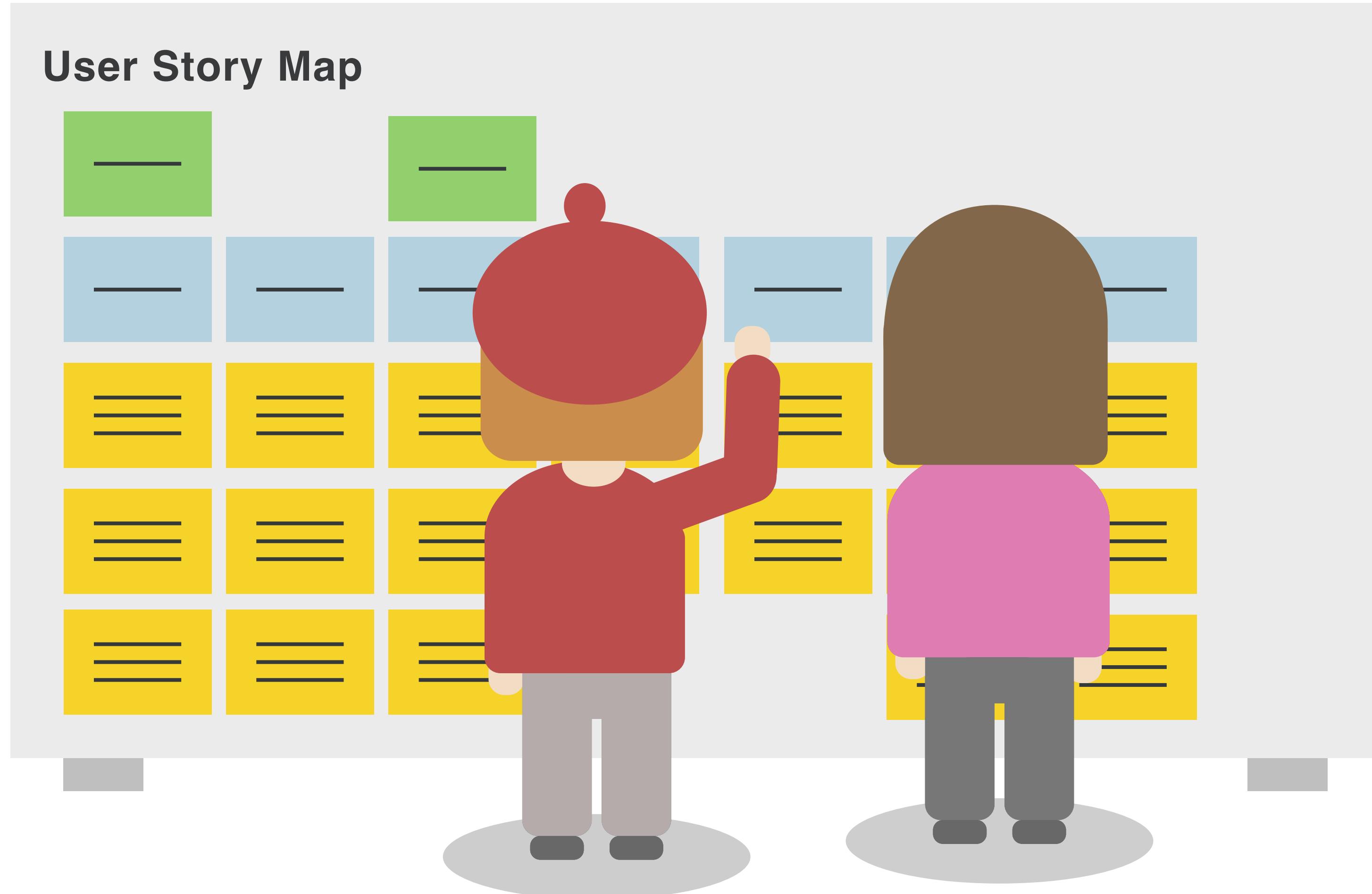
# COLLABORATIVE UX DESIGN



# TARGET USER JOURNEY



# USER STORY MAP



## TARGET Journey

### Plan meeting

Based on number of participants suitable rooms

information about equipment and size

Location description directly in invitation

### Search free meeting room

Panels show occupancy

Direct booking via panel possible

### Conduct meeting

CO2 detector

### Extend meeting

Meeting can be extended directly with pillar

Automated swapping of meeting rooms

### End meeting

Motion sensor releases meeting rooms

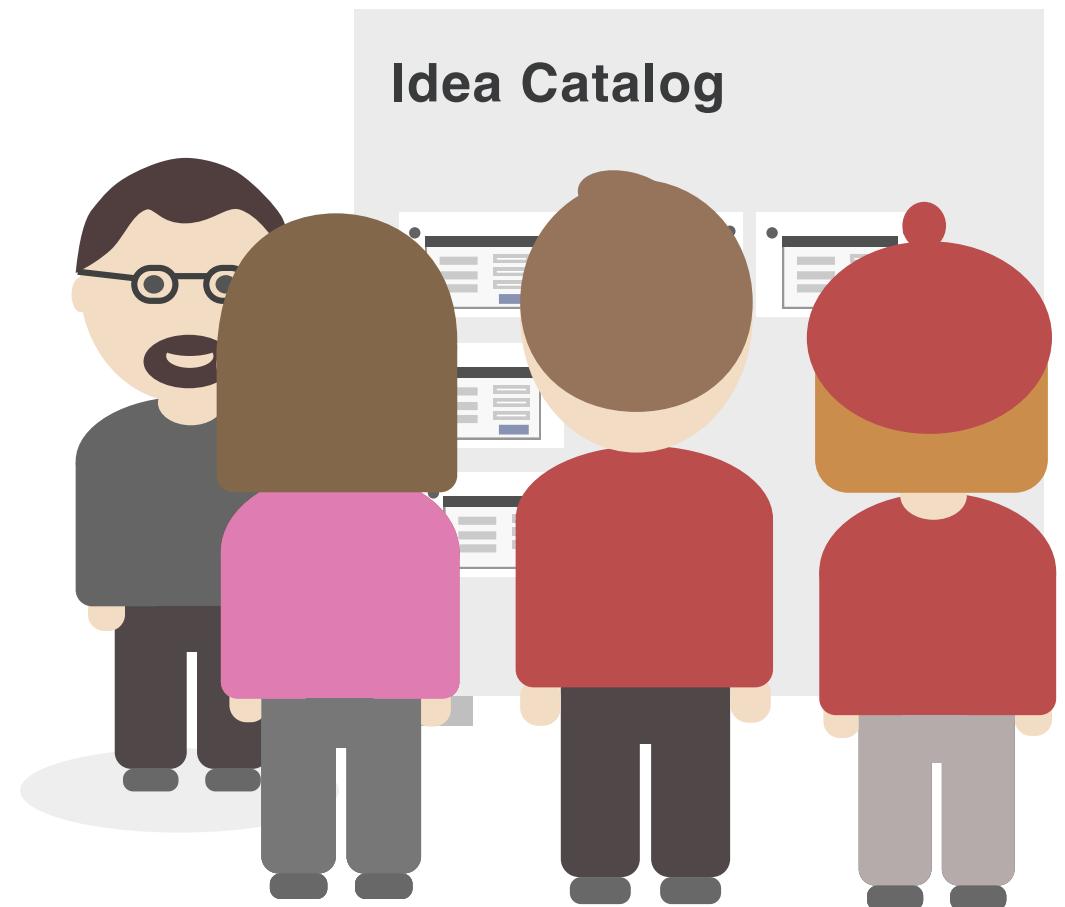
# DESIGN STUDIO

The team agrees on a scenario or on certain key screens.

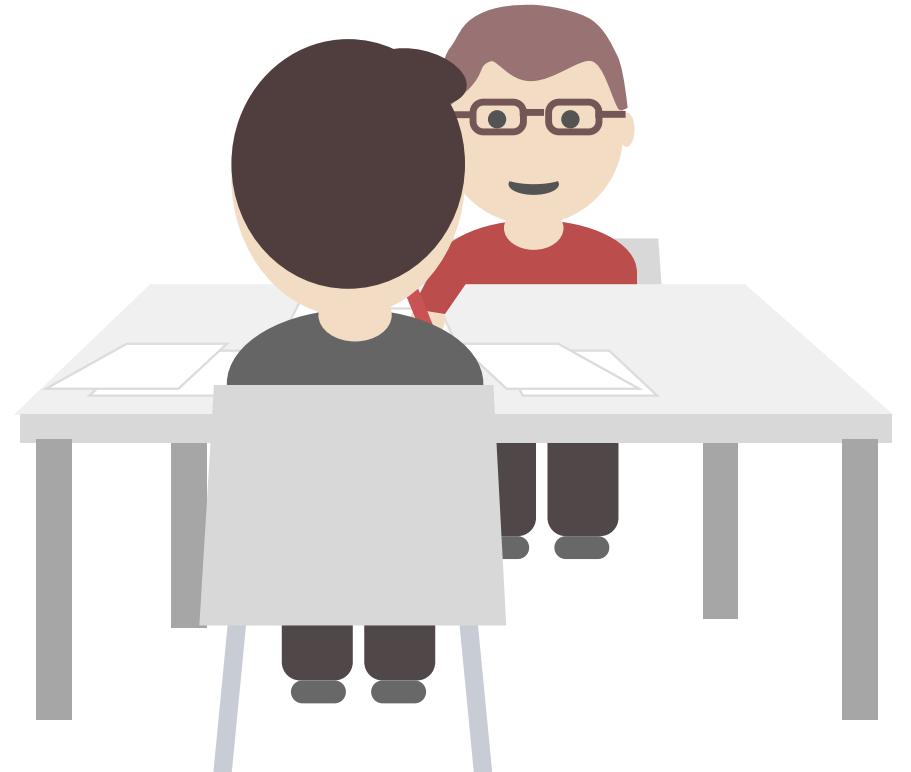
The work is done in groups of four, for example.



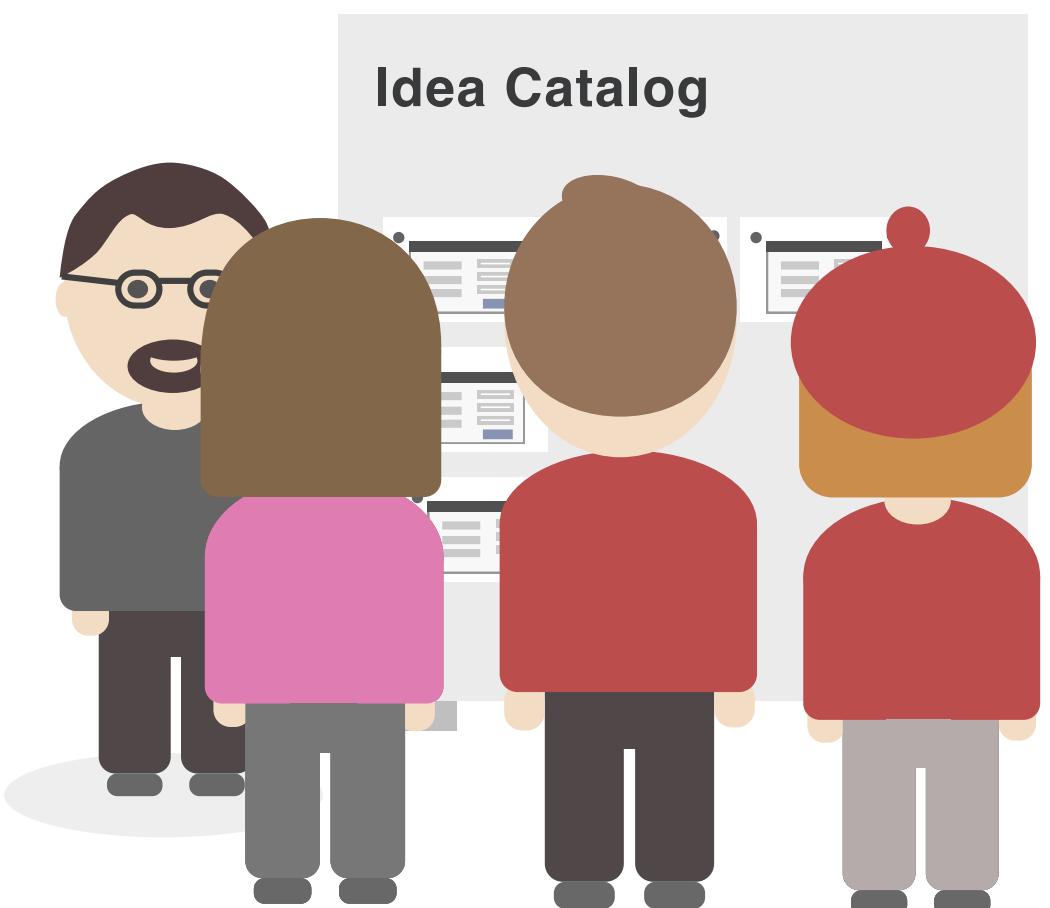
Each participant creates three variants



The team presents the variants to each other and gives feedback.



In pairs, a new variant is now created. This time, however, only one.

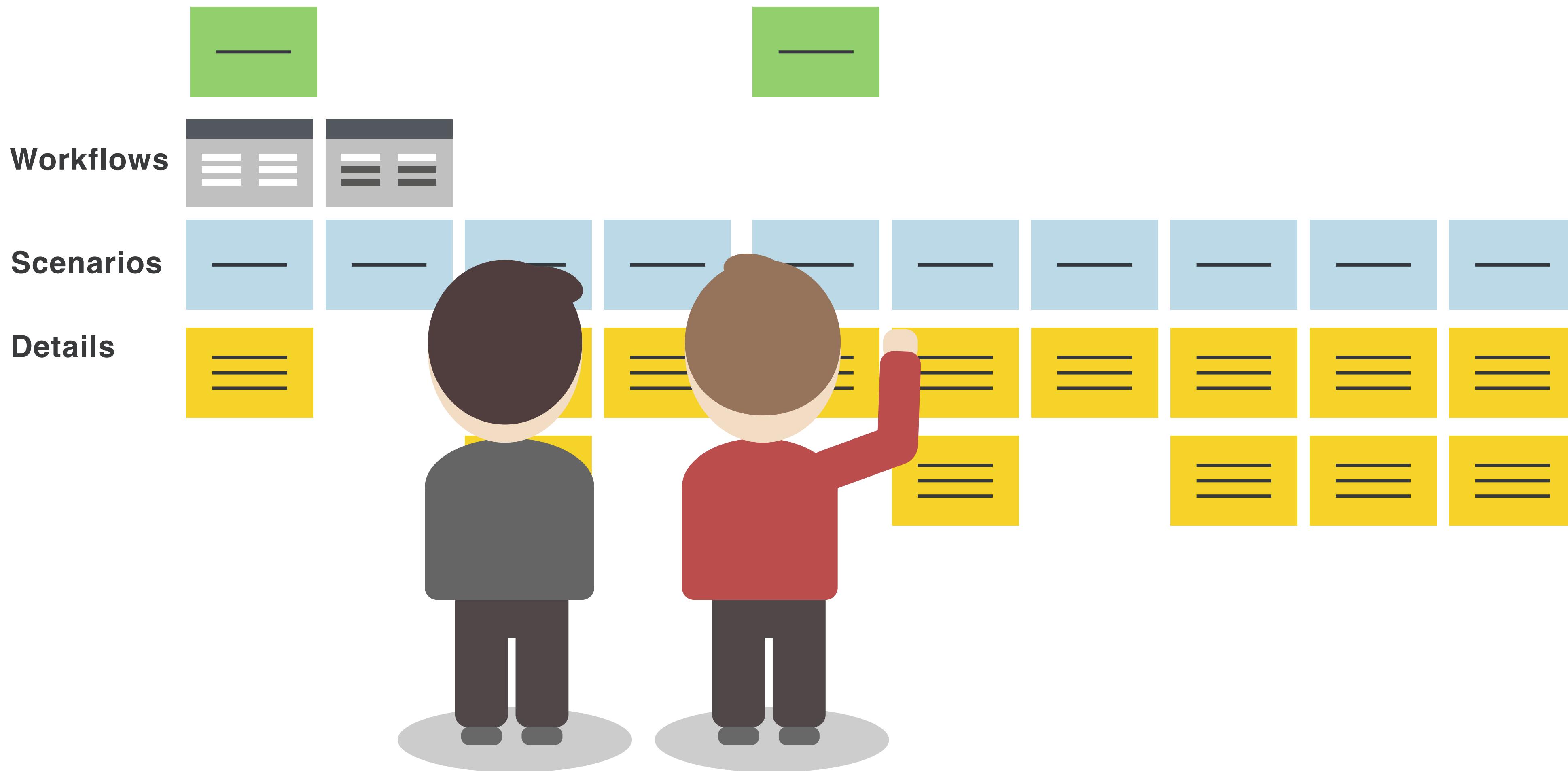


In the end, there are now two of the 12 variants. The team now presents these to each other again and evaluates them.

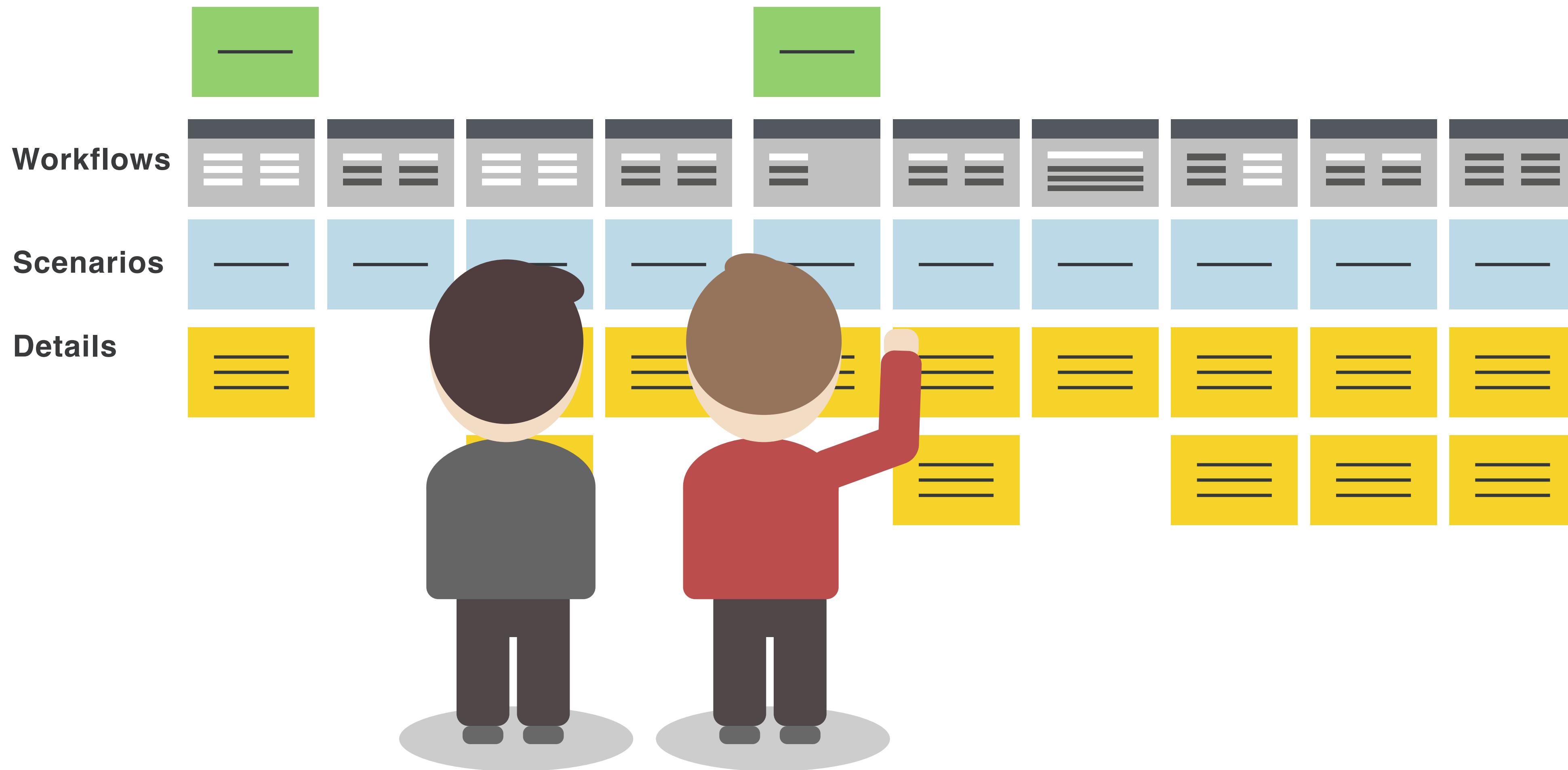
## Design Studio

Scribbling solution approaches and initial structures for interaction design ...

# TARGET USER JOURNEY



# TARGET USER JOURNEY



## TARGET Journey

### Plan meeting

Based on number of participants suitable rooms

information about equipment and size

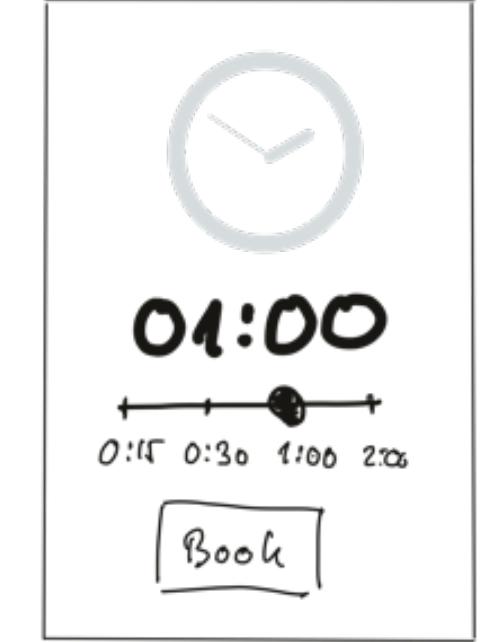
Location description directly in invitation

### Search free meeting room



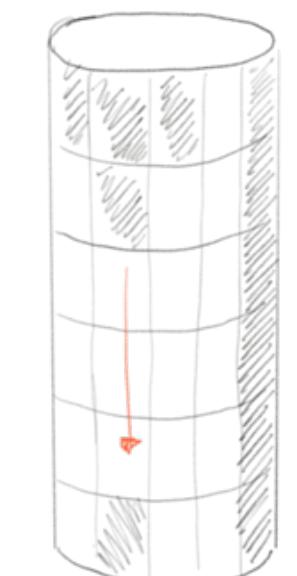
Panels show occupancy

### Book ad hoc meeting



Direct booking via panel possible

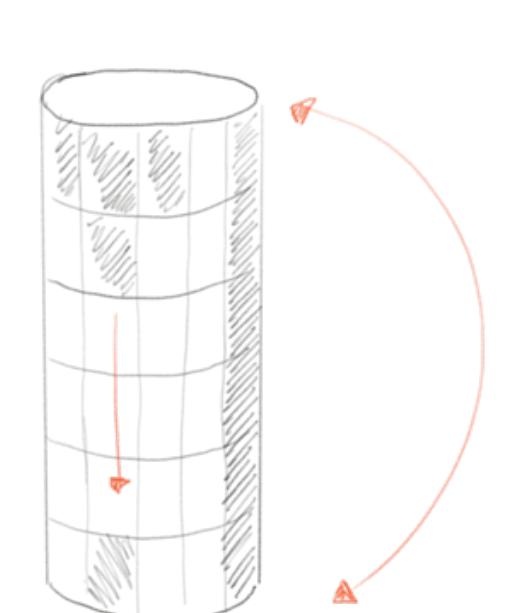
### Conduct meeting



CO2 detector

Time still available is visualized

### Extend meeting



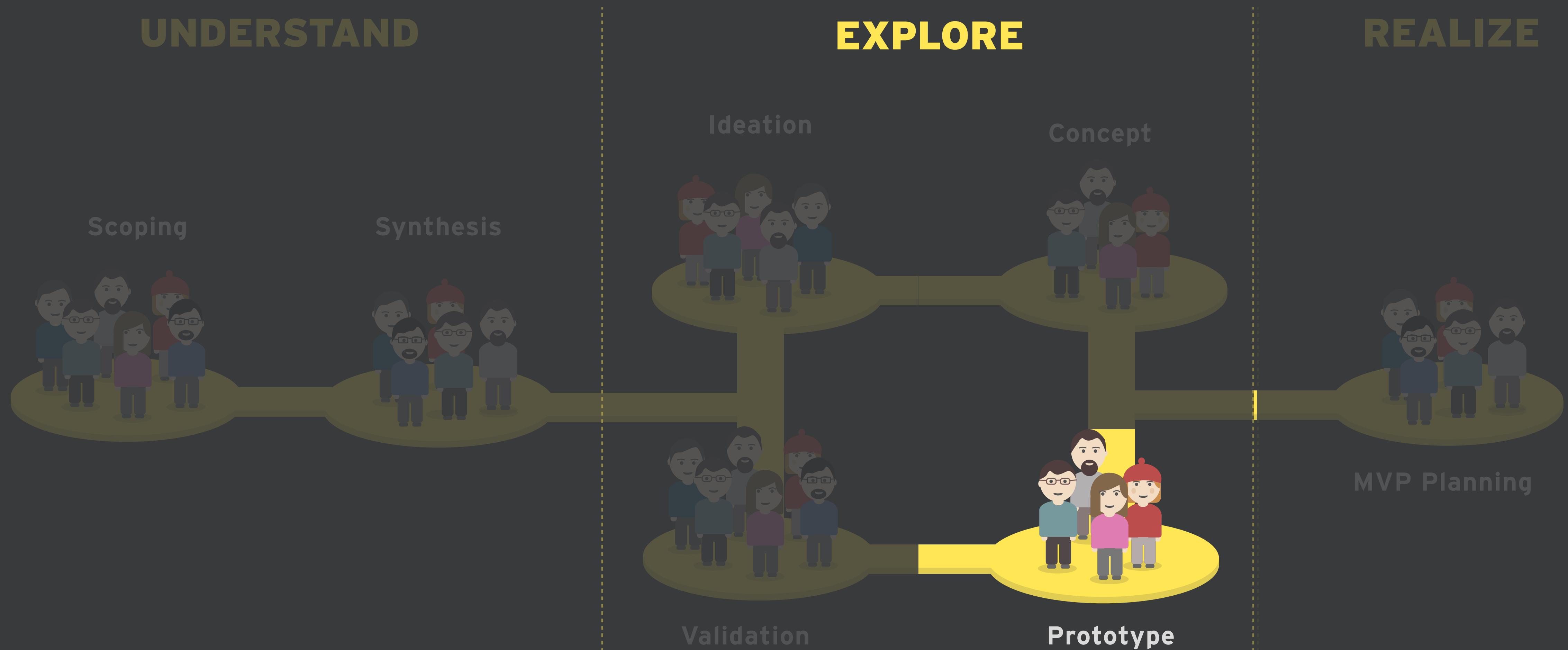
Meeting can be extended directly with pillar

### End meeting

Motion sensor releases meeting rooms

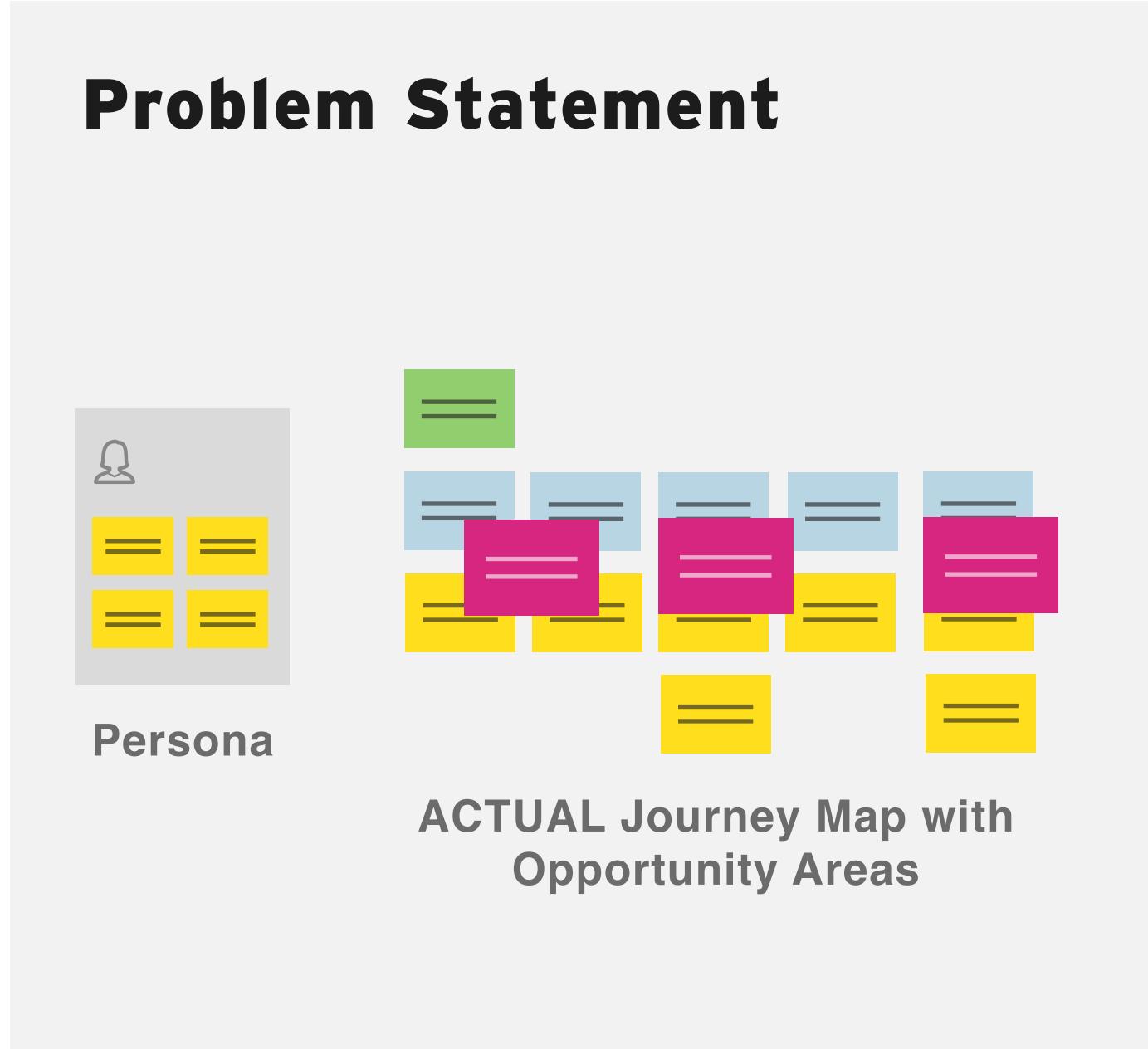
Automated swapping of meeting rooms

# COLLABORATIVE UX DESIGN



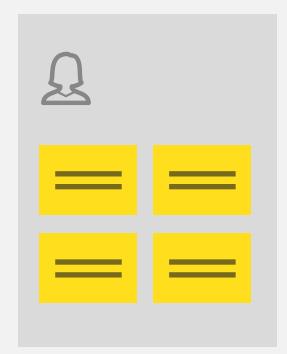
# EVALUATE HYPOTHESES

# Problem Statement

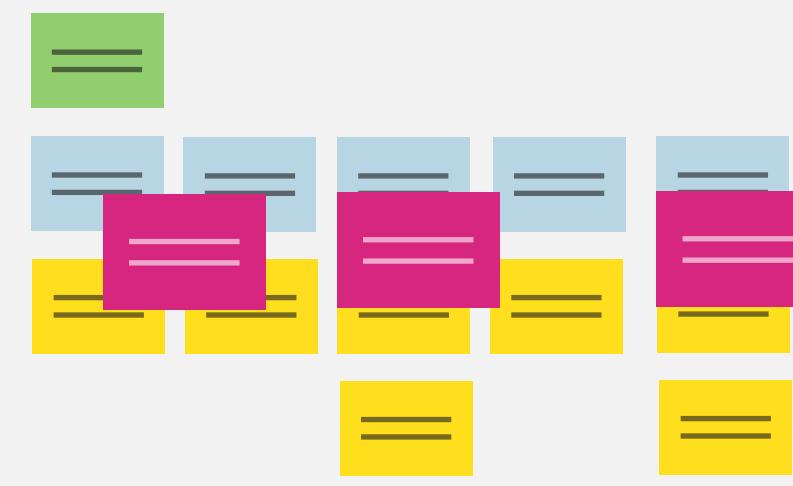


# EVALUATE HYPOTHESES

## Problem Statement



Persona



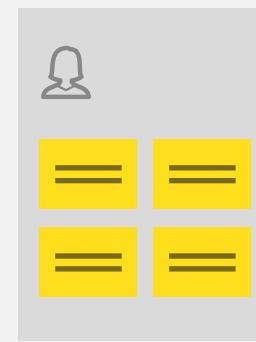
ACTUAL Journey Map with  
Opportunity Areas

## Ideation & Concept Development

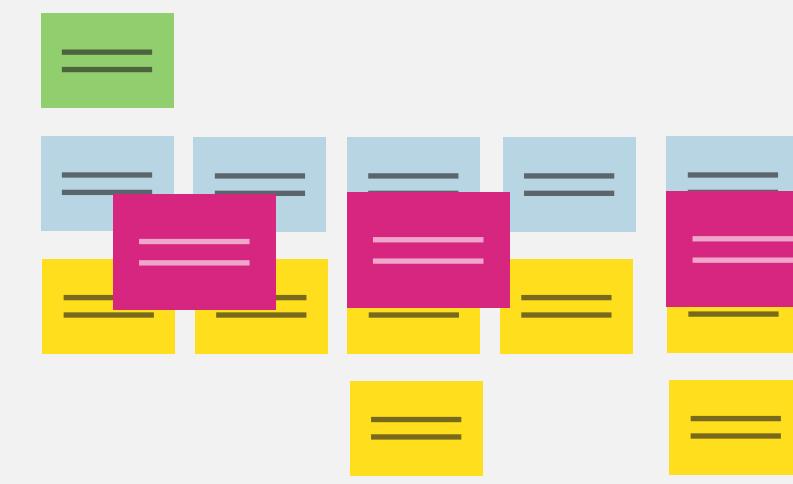


# EVALUATE HYPOTHESES

## Problem Statement



Persona



ACTUAL Journey Map with  
Opportunity Areas

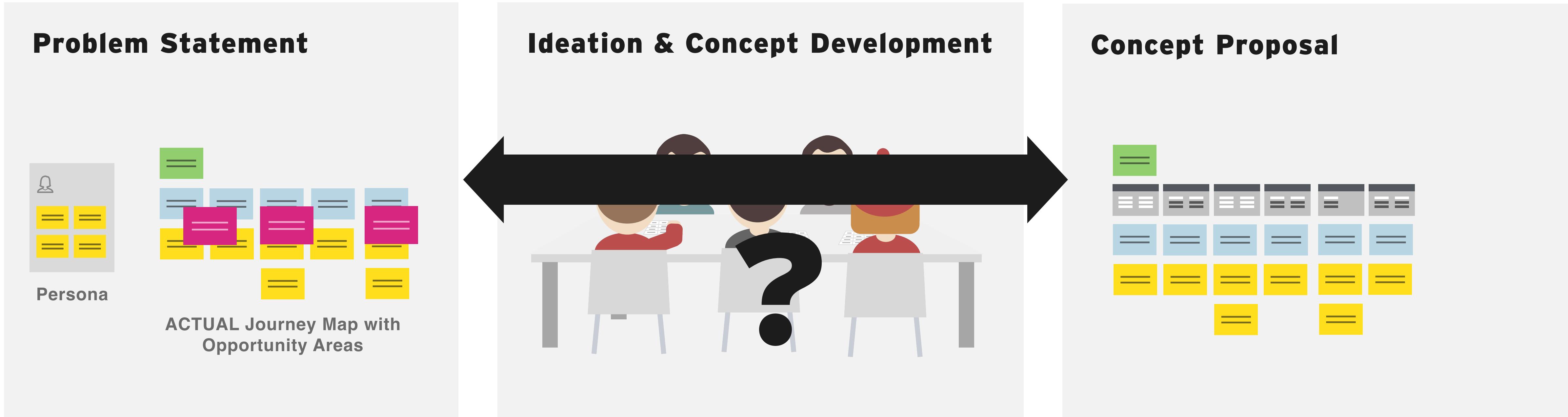
## Ideation & Concept Development



## Concept Proposal

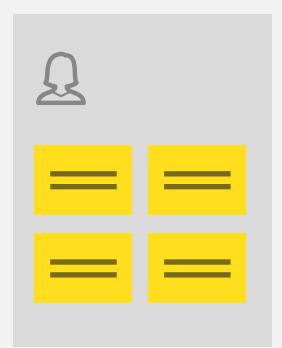


# EVALUATE HYPOTHESES

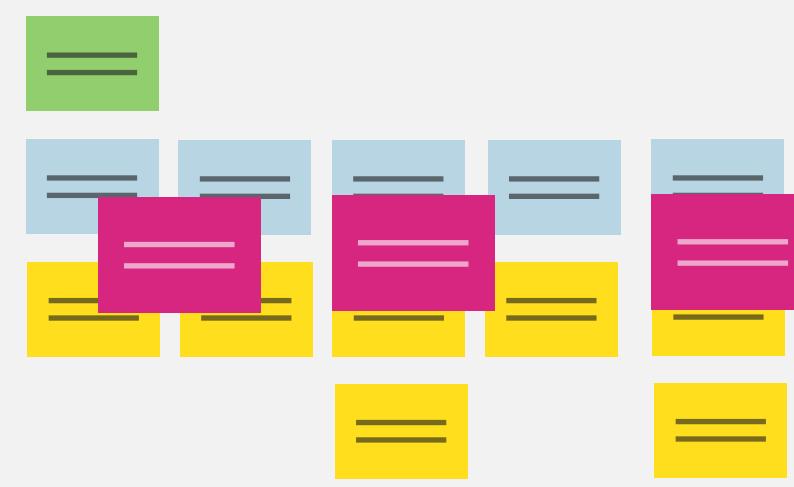


# EVALUATE HYPOTHESES

## **Problem Statement**



## Persona



# ACTUAL Journey Map with Opportunity Areas

# Challenge Card

# We believe that the opportunity

is solved with the concept

We check this with the prototype:

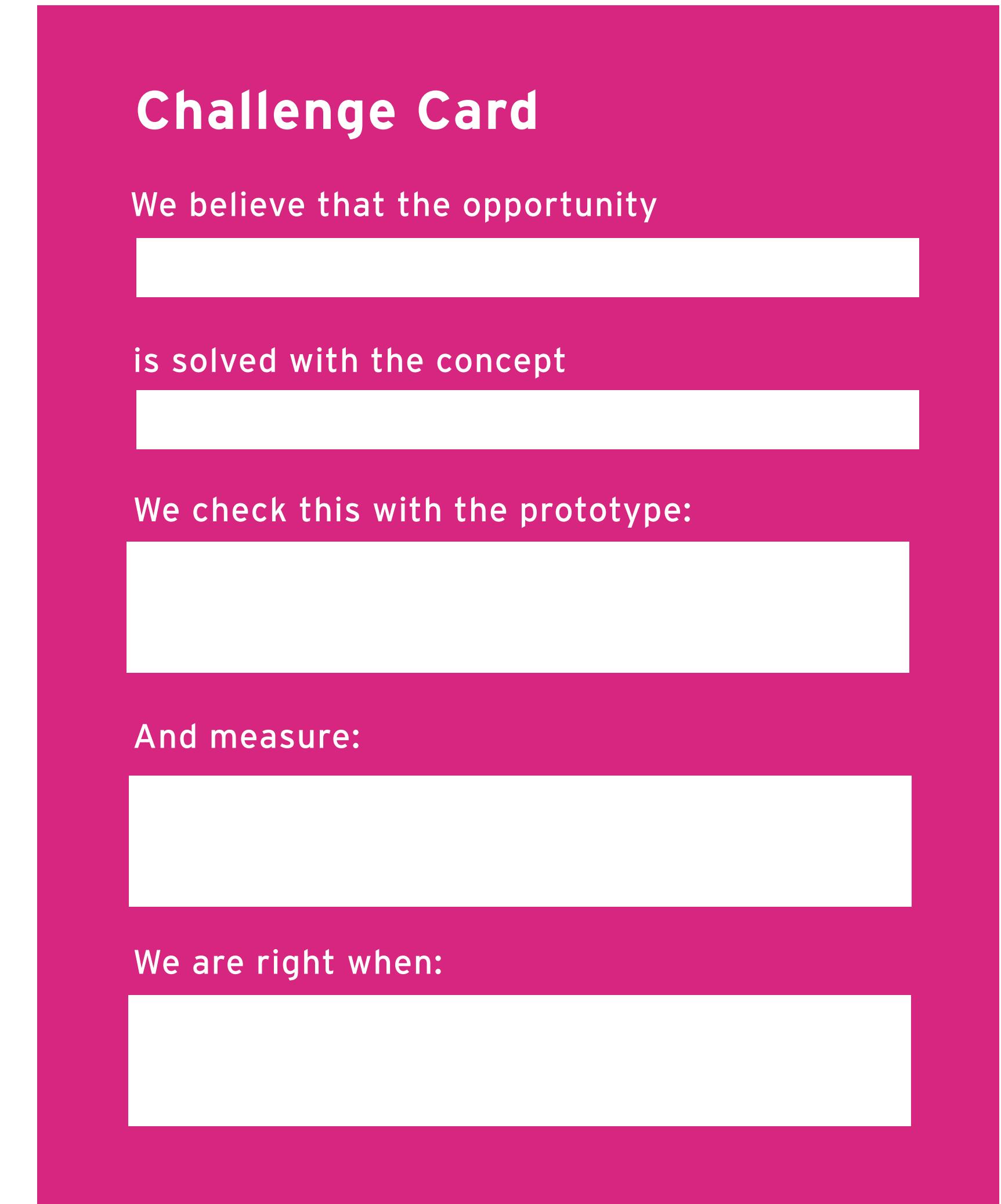
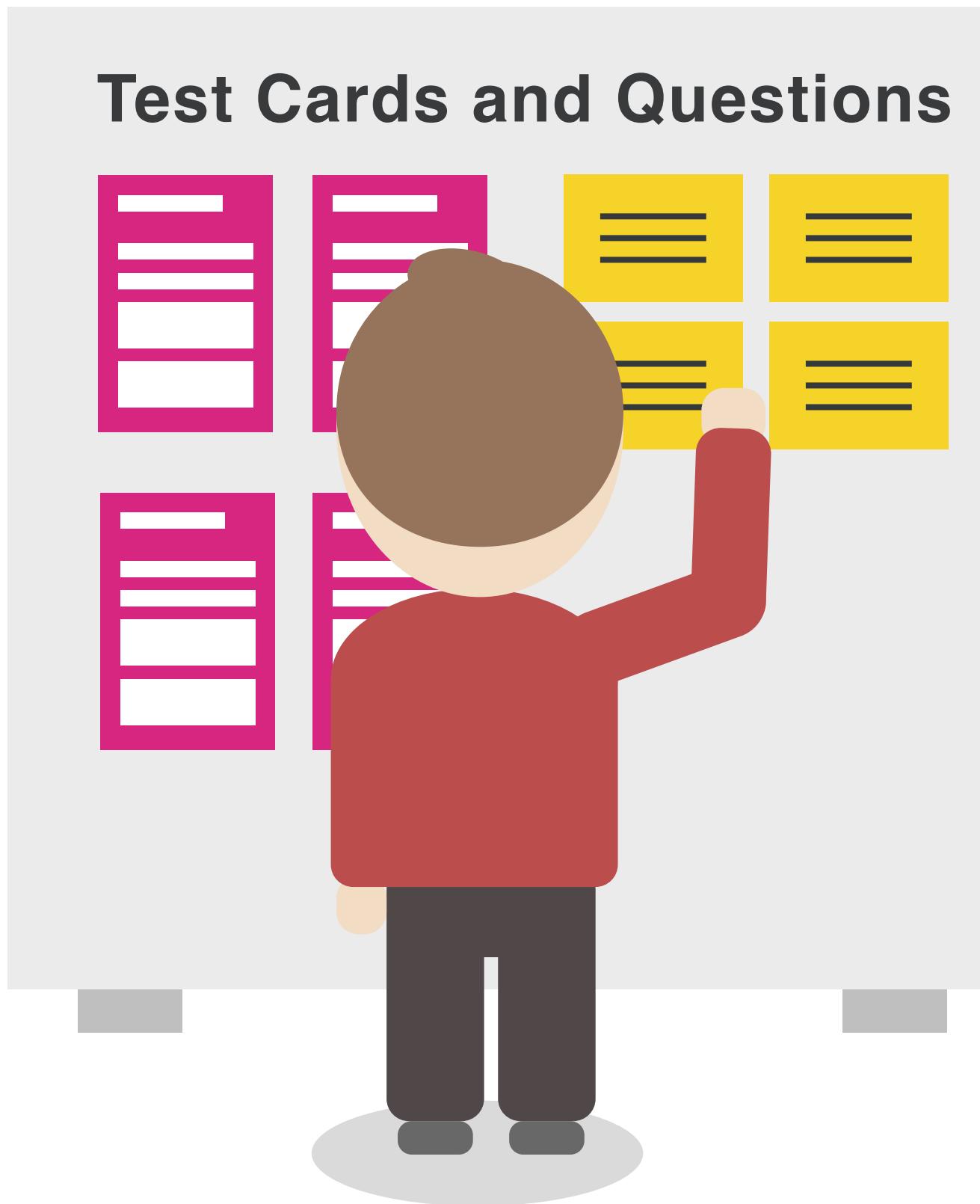
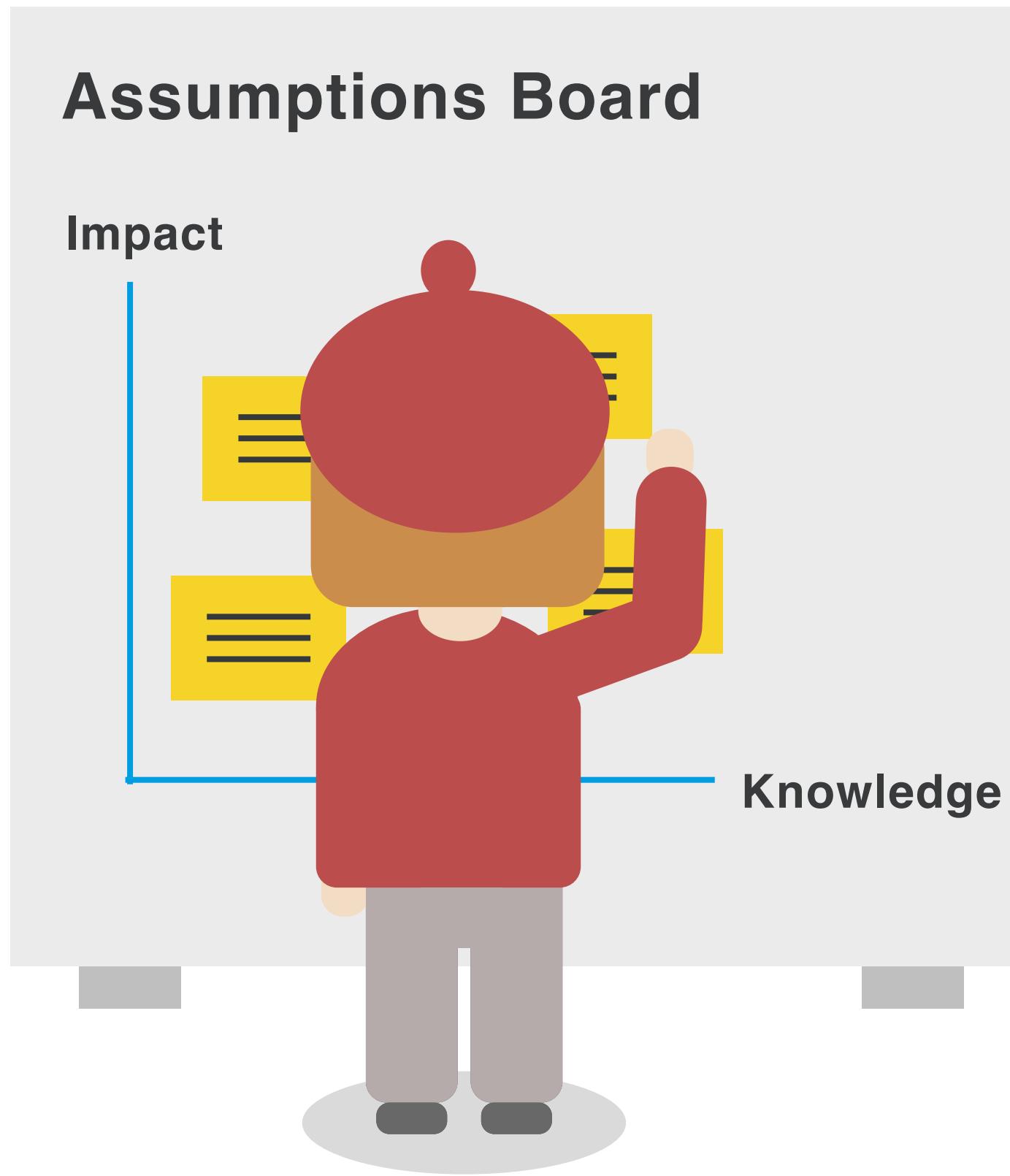
## And measure:

## We are right when:

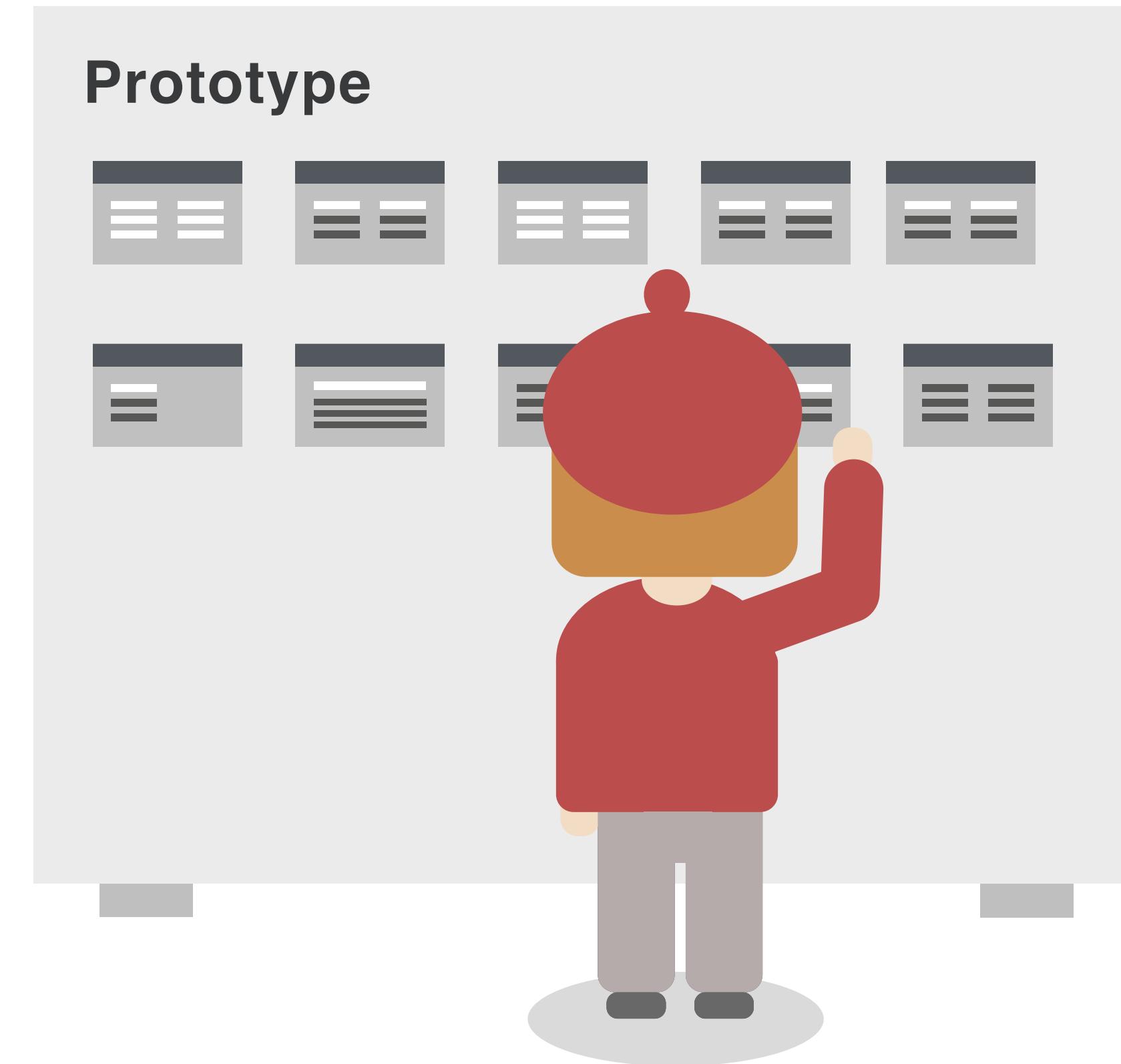
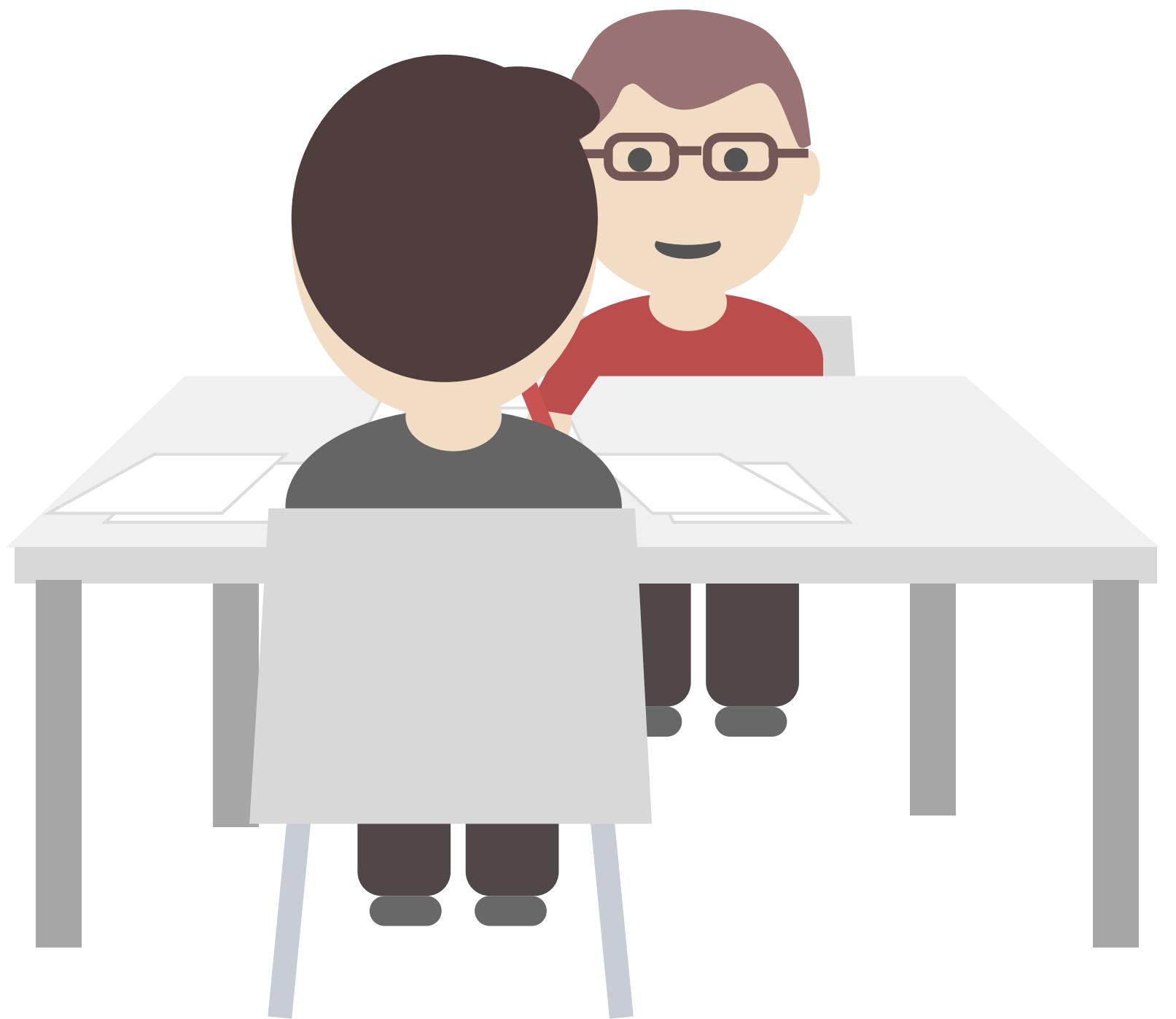
# **Concept Proposal**



# TEST CARDS AND QUESTIONS

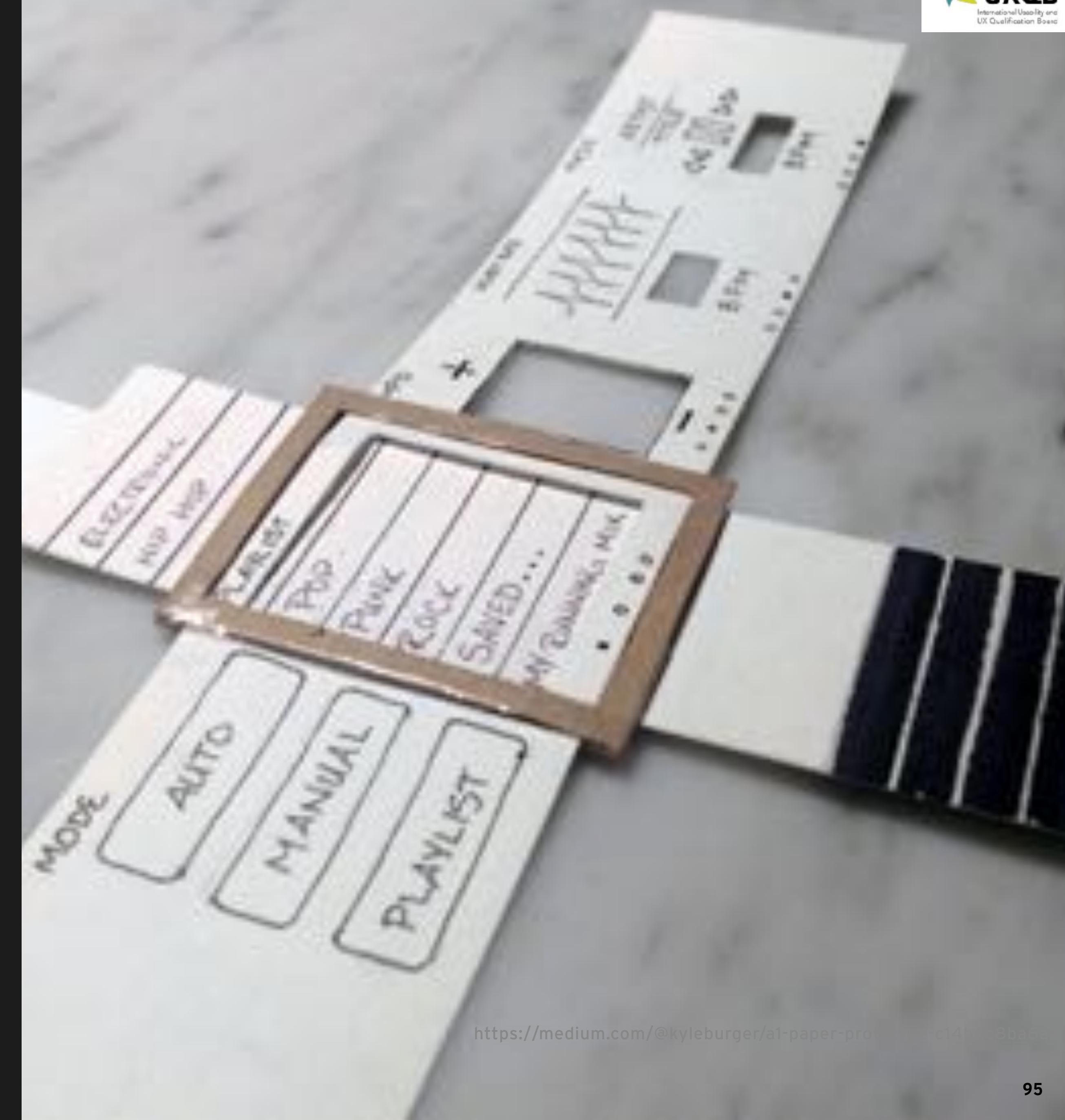


# BUILD PROTOTYPES



# PROTOTYPE

A representation of all or part of an **interactive system** that, although limited in some way, can be used for analysis, design and evaluation.

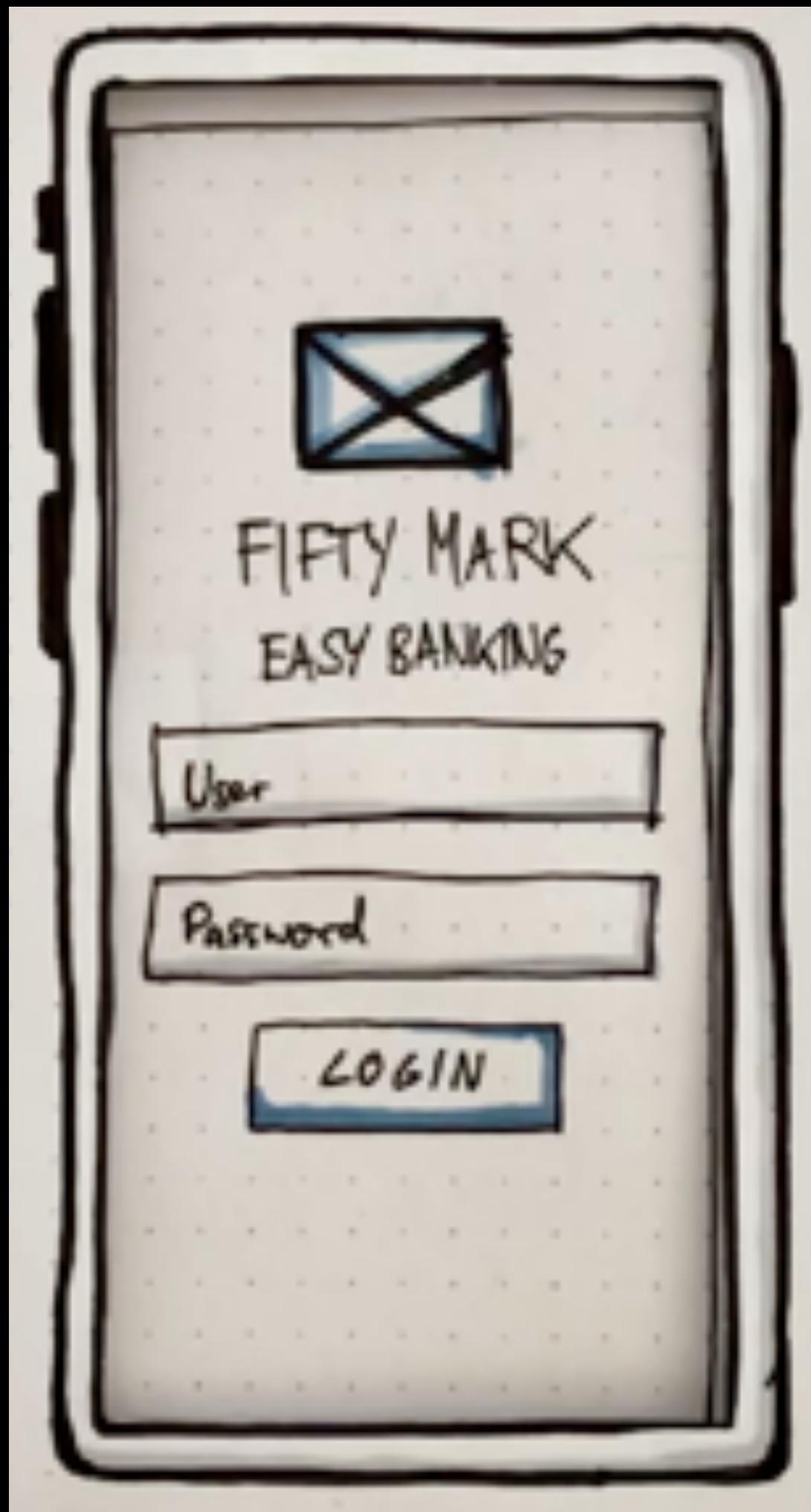


<https://medium.com/@kyleburger/a1-paper-prototyping-c14b7c8bab0>

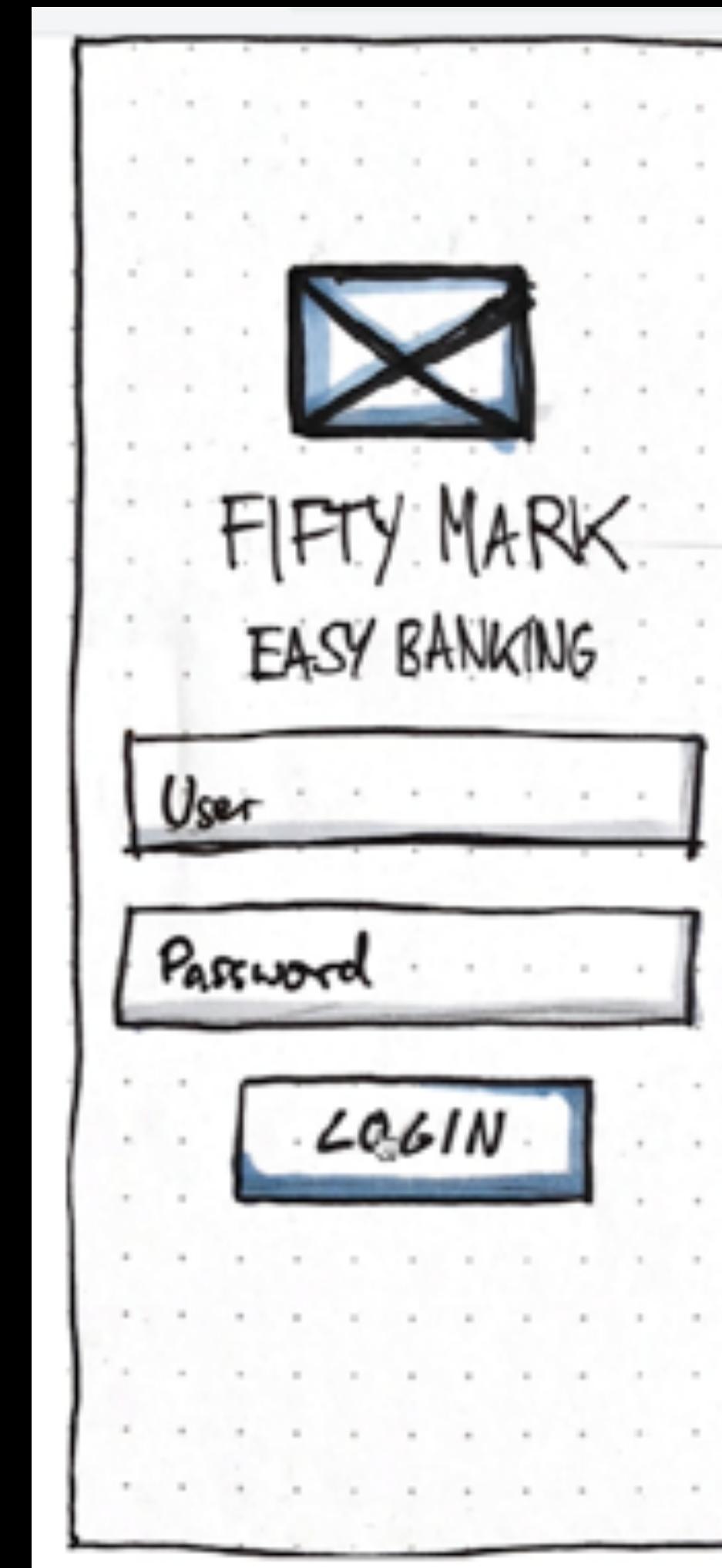
# PROTOTYPE FIDELITY



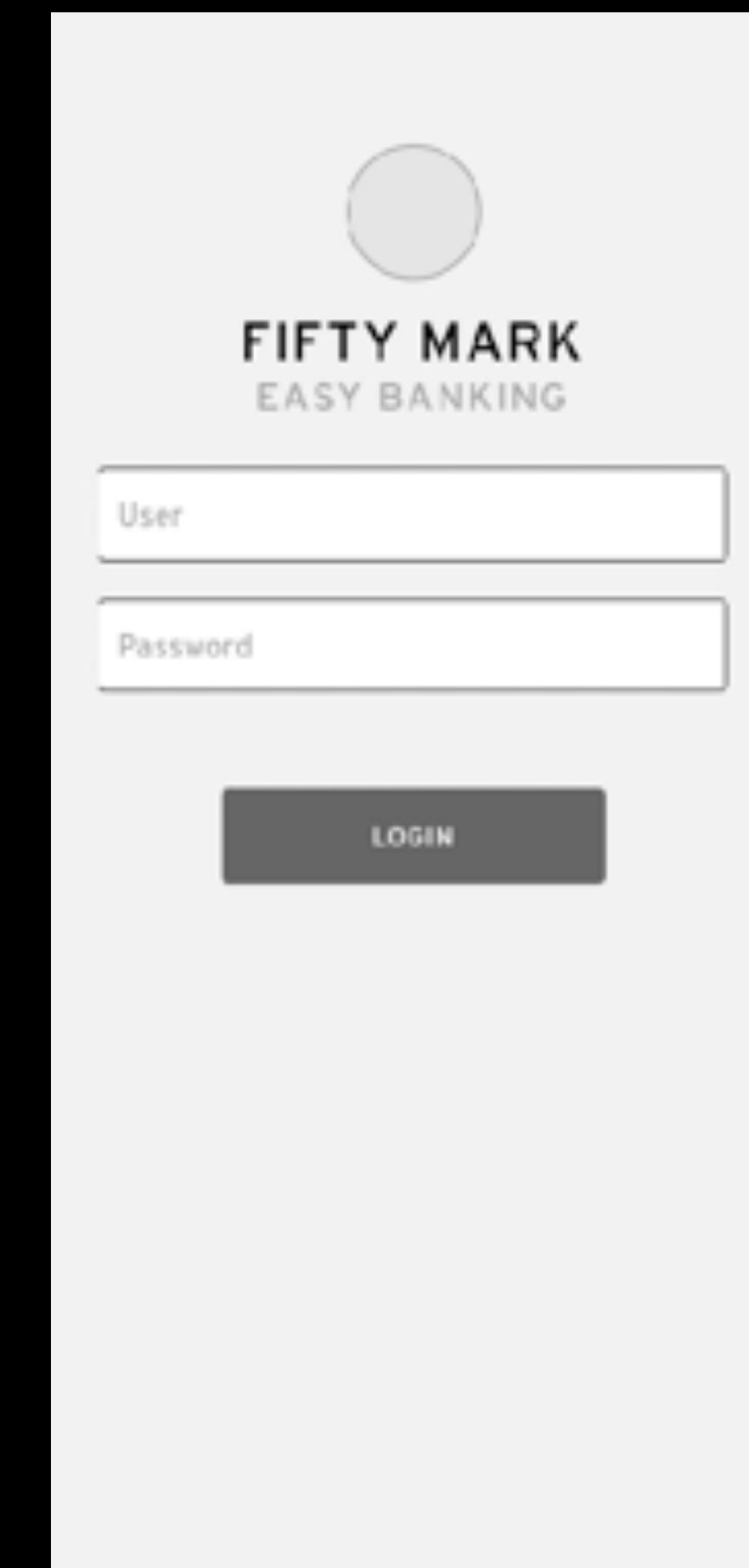
PAPER SCRIBBLES



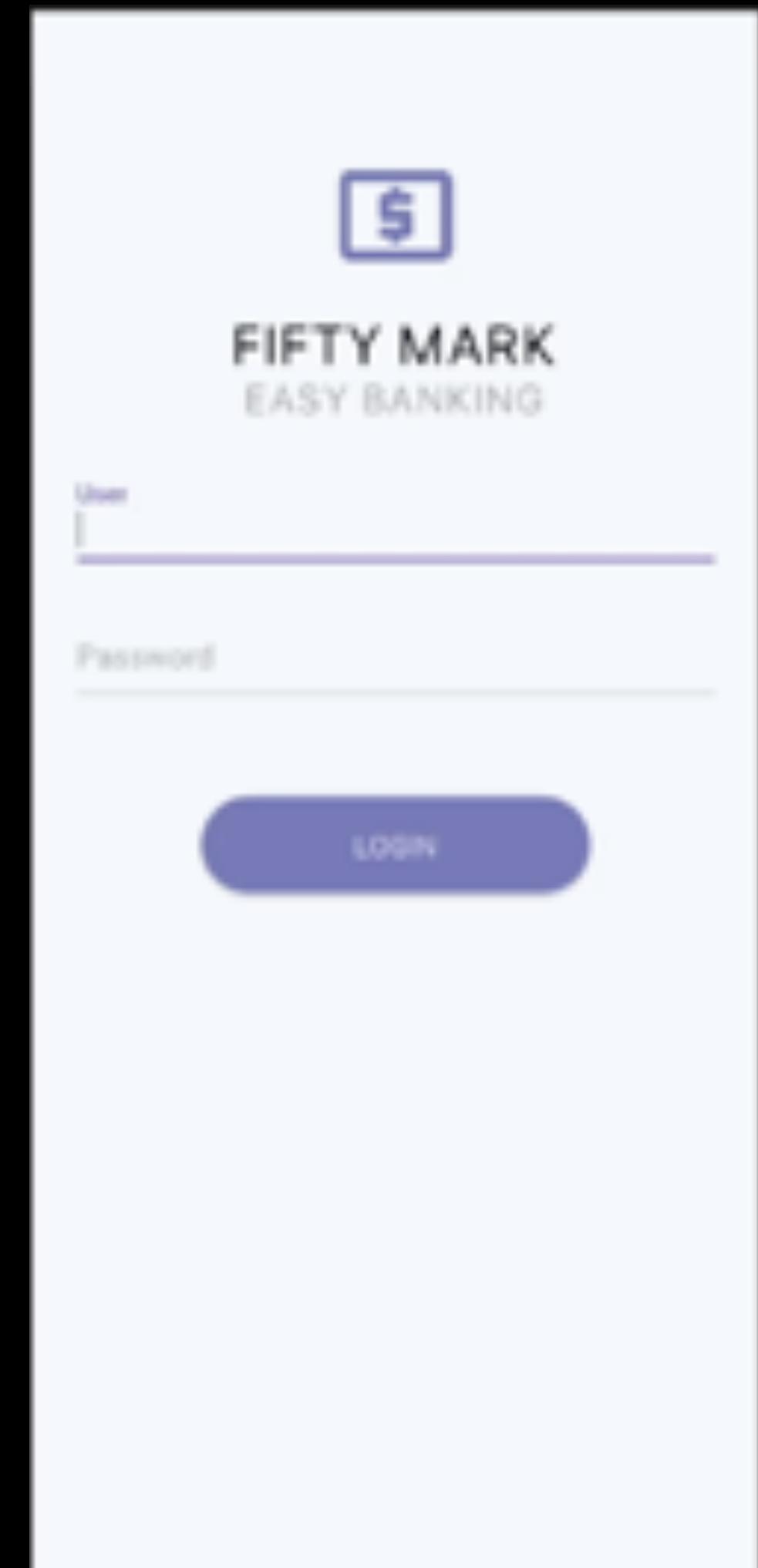
PAPER SCRIBBLES



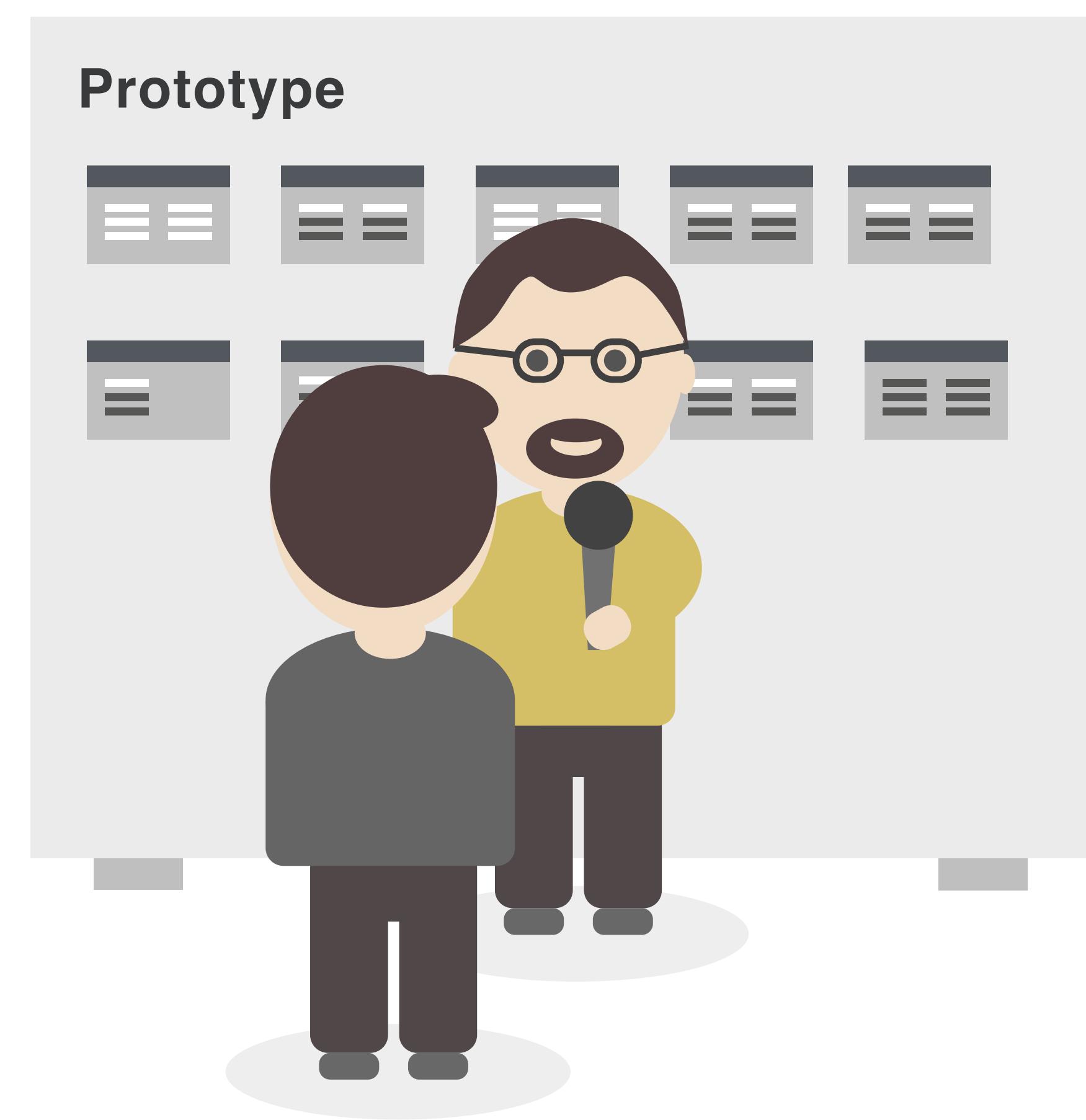
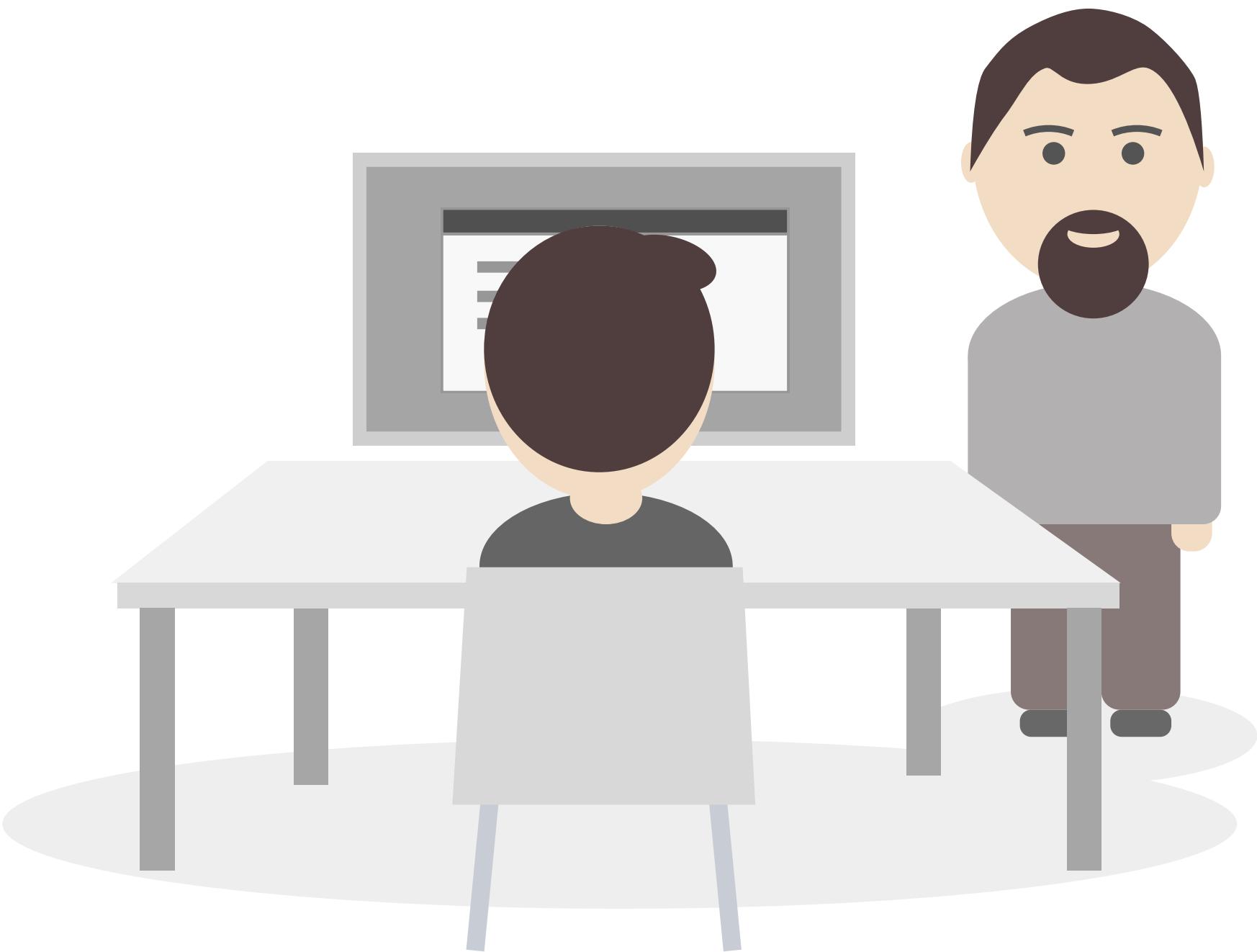
WIREFRAMES

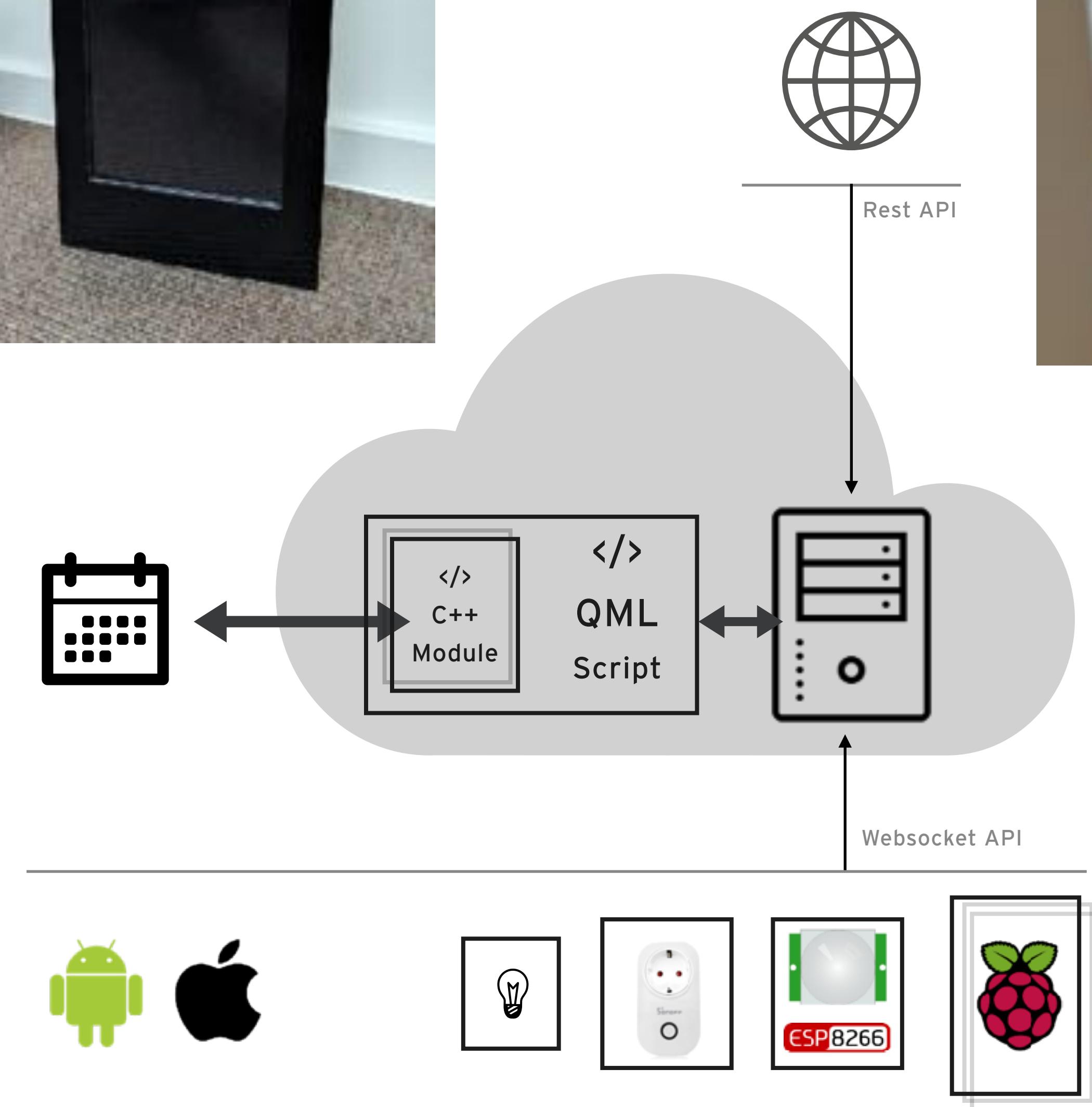
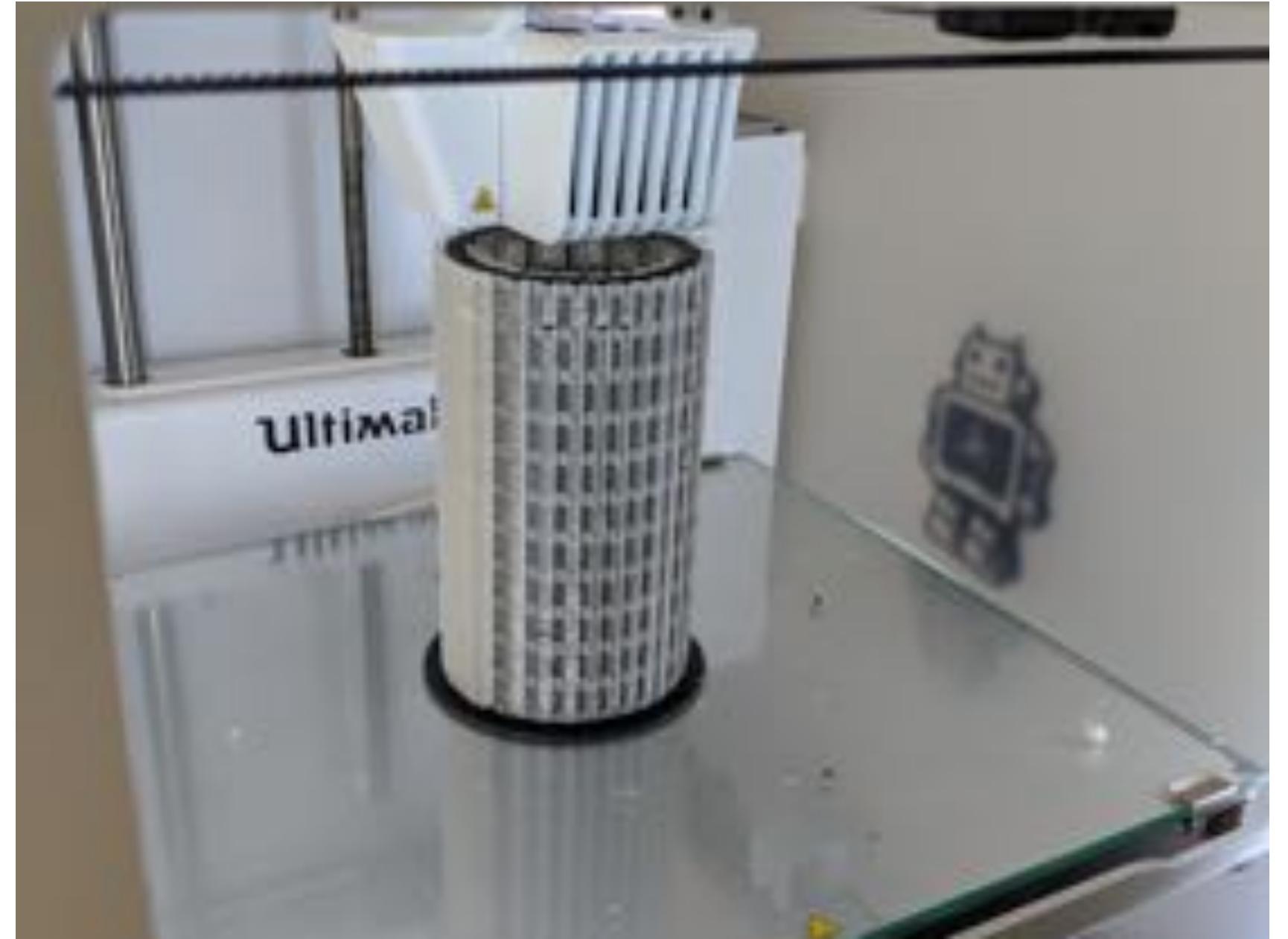


VISUAL DESIGN

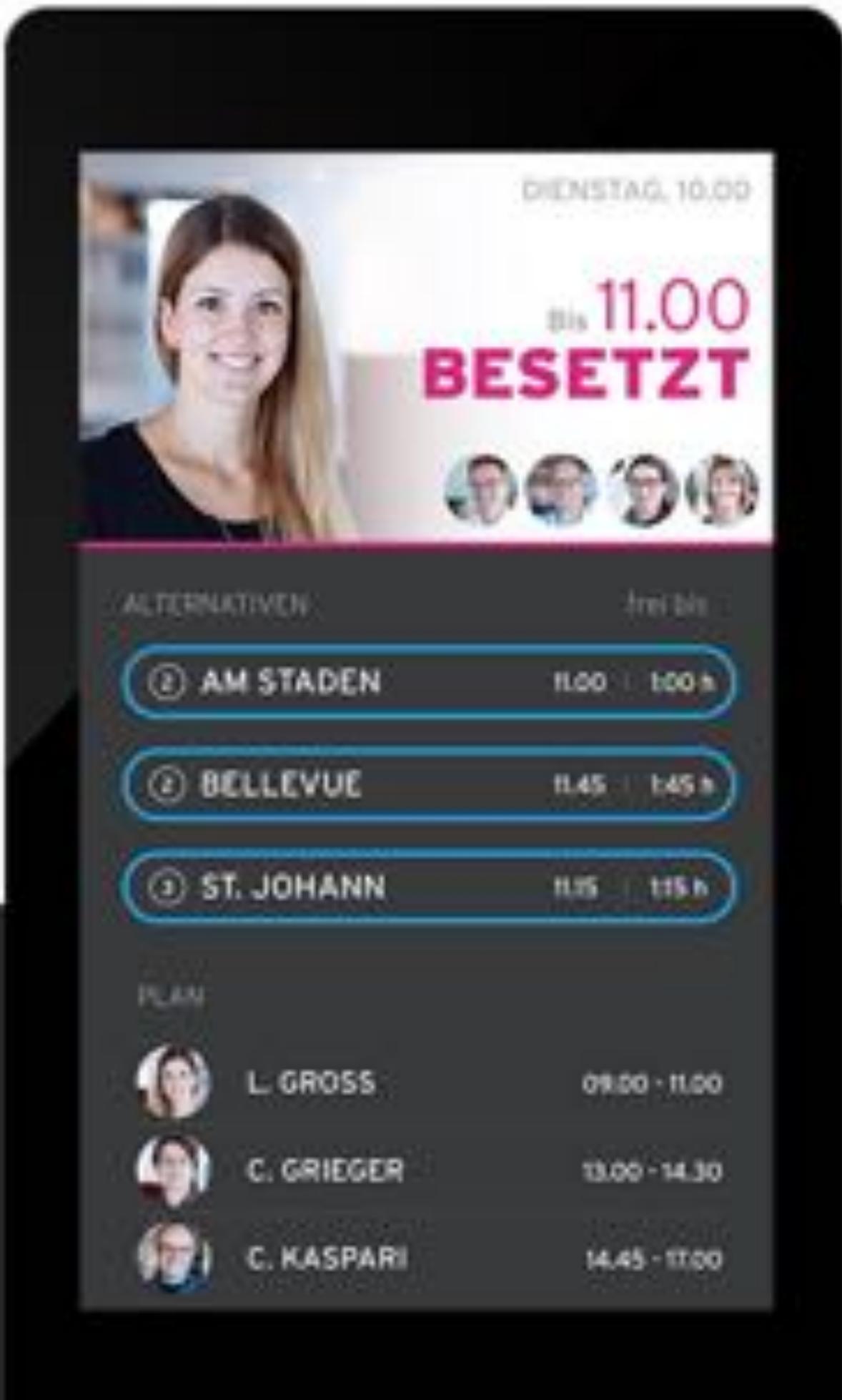


# VALIDATE PROTOTYPES

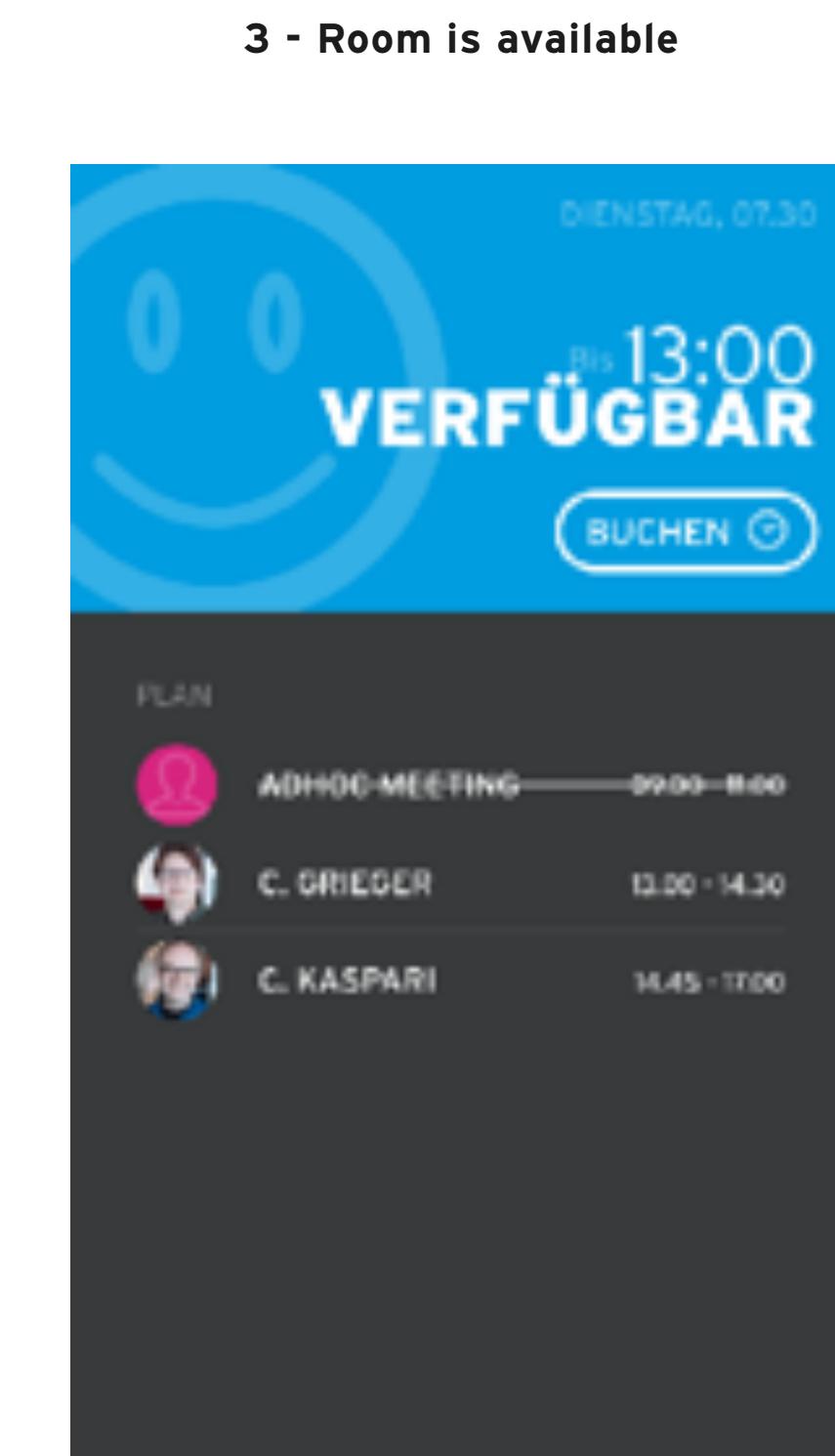
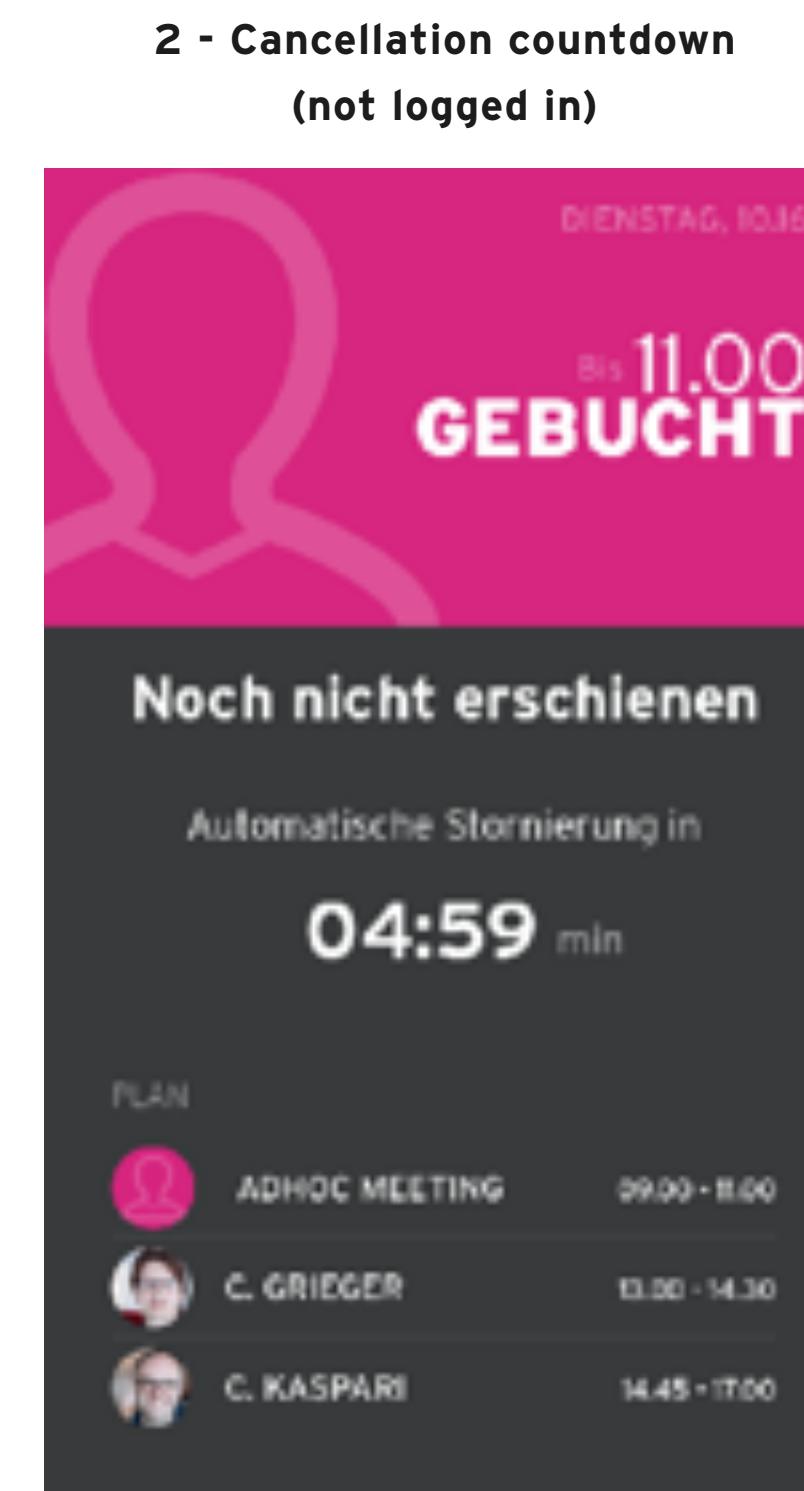
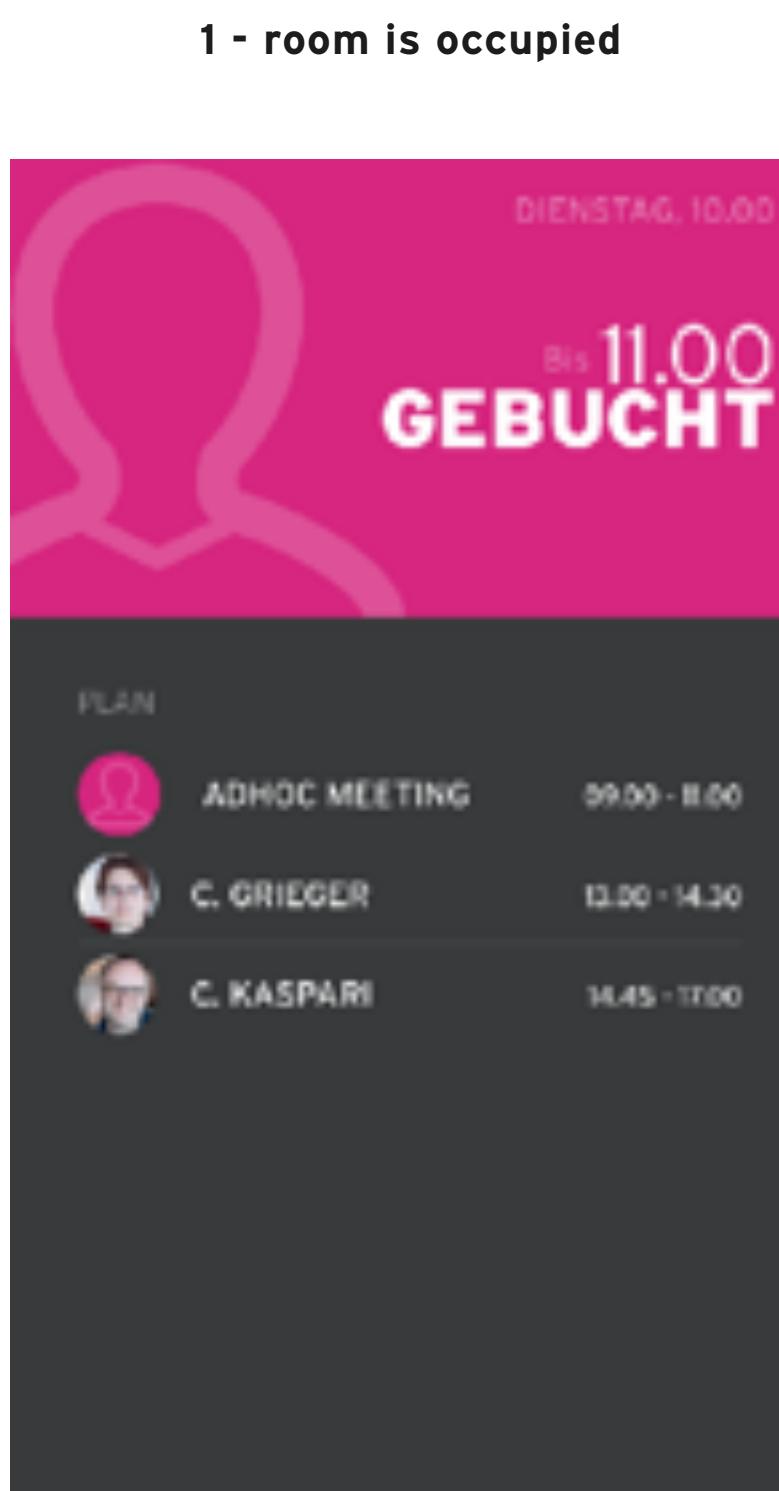




# ERGOSPACE



# ROOM BOOKED, NO ONE APPEARS



If booked space is not used within a certain period of time (e.g. 10 minutes) (detectable by motion detector), this activates a cancellation countdown.

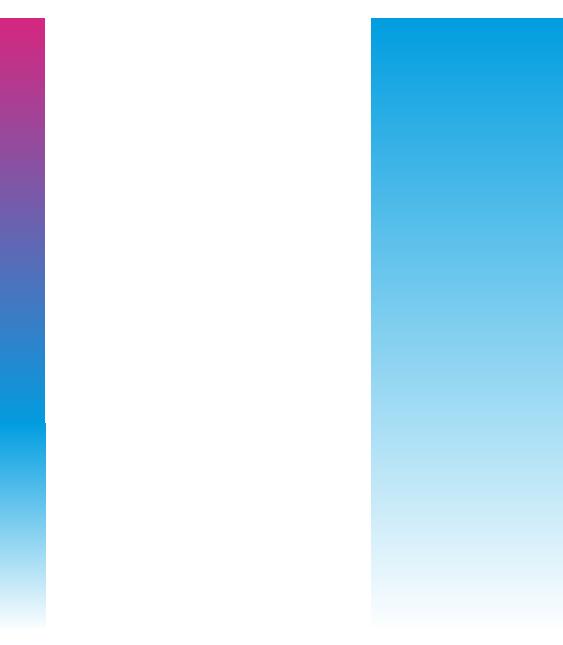


Countdown runs for a certain period of time (maybe 5-10 minutes). If in this time the booked meeting is not perceived or no one appears in the room, the meeting is automatically canceled and the status of the room is switched to "available".

Blinking



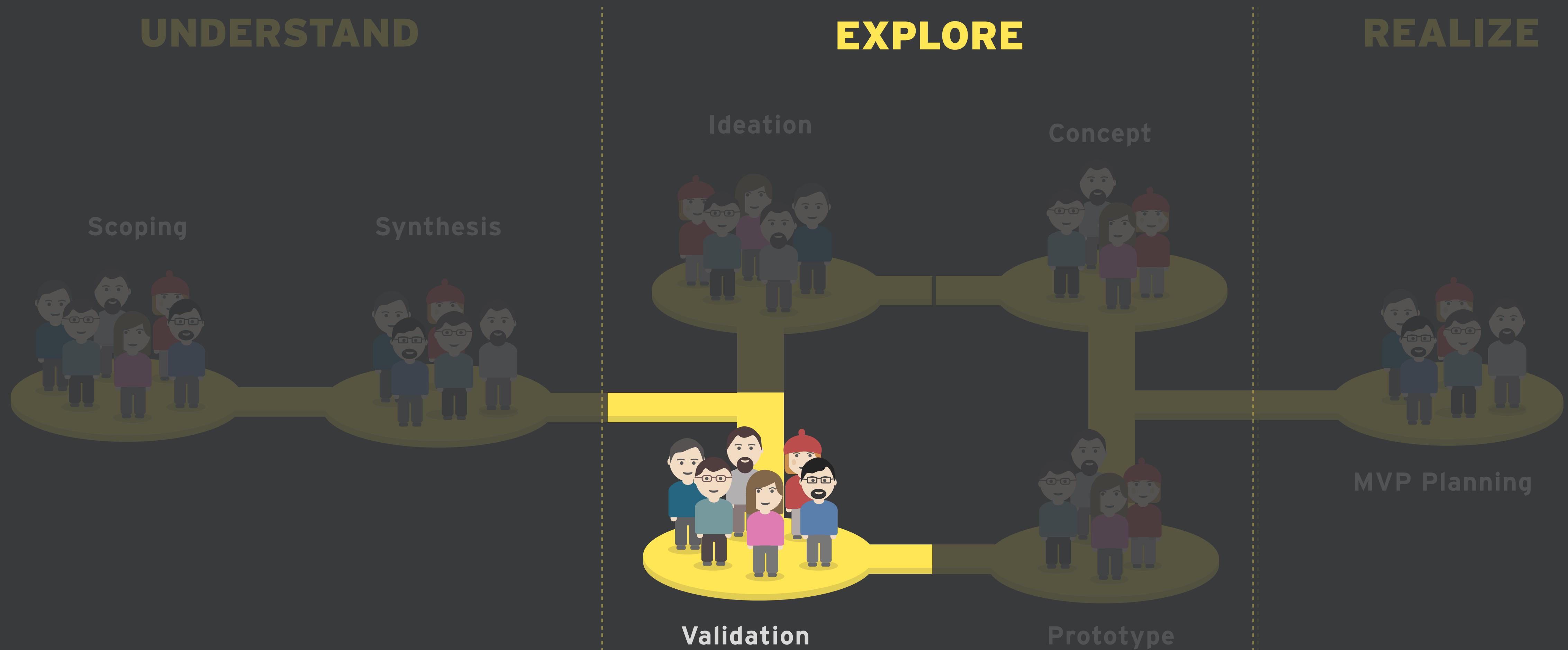
Blinking



Transition

Room is released.  
Mark any cancelled meeting entry (here: crossed out).

# COLLABORATIVE UX DESIGN



# TEST RESULTS

## Front

### Challenge Card

We believe that the opportunity

is solved with the concept

We check this with the prototype:

And measure:

We are right when:

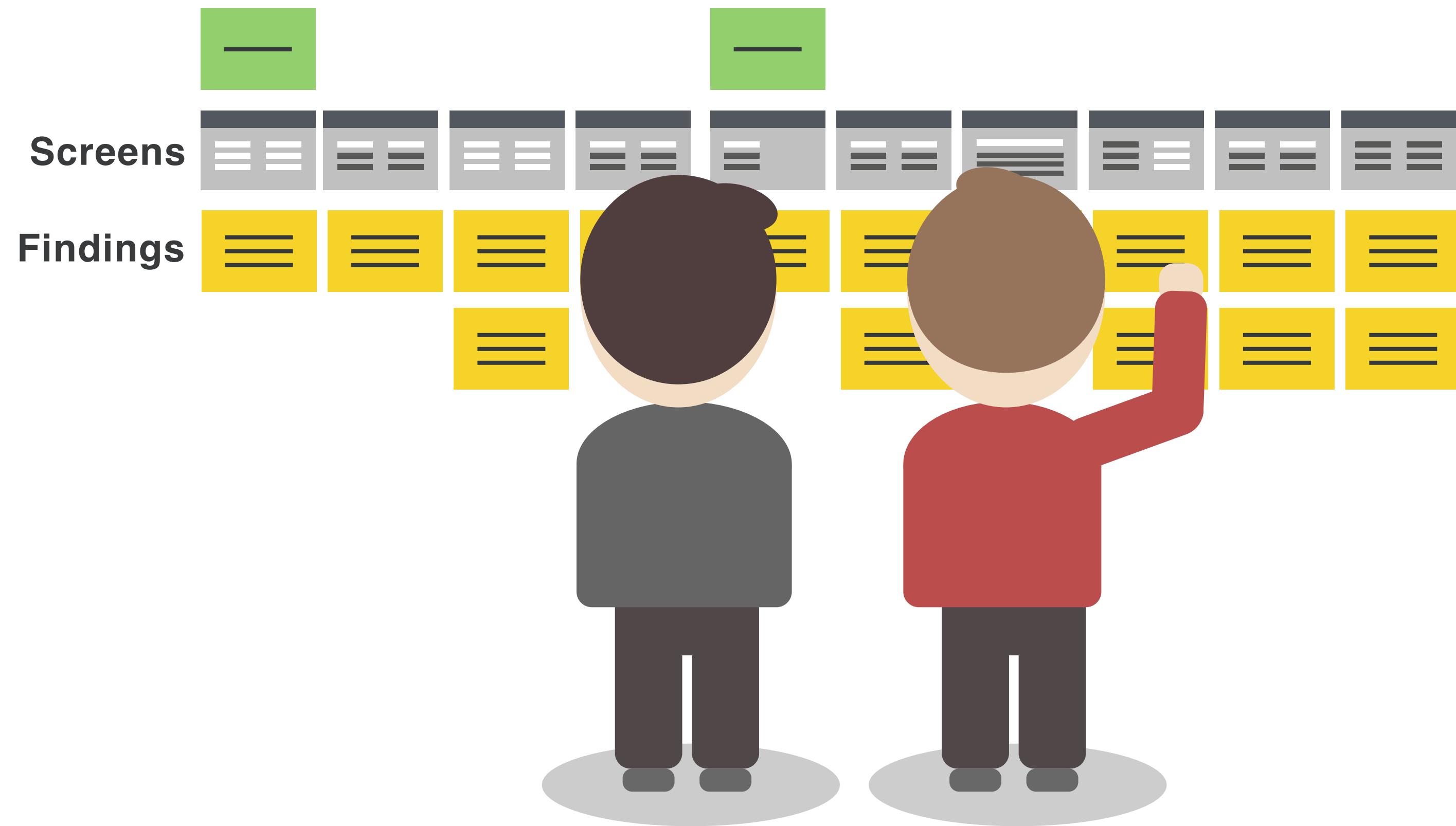
## Back

### Challenge Result

The measurement result was:

The conclusion is:

# OTHER FINDINGS



# COLLABORATIVE UX DESIGN

## UNDERSTAND

Scoping



Synthesis



## EXPLORE

Ideation



Concept



Validation



Prototype



# COLLABORATIVE UX DESIGN

**UNDERSTAND**

Scoping



Synthesis



**EXPLORE**

Ideation



Concept



**REALIZE**

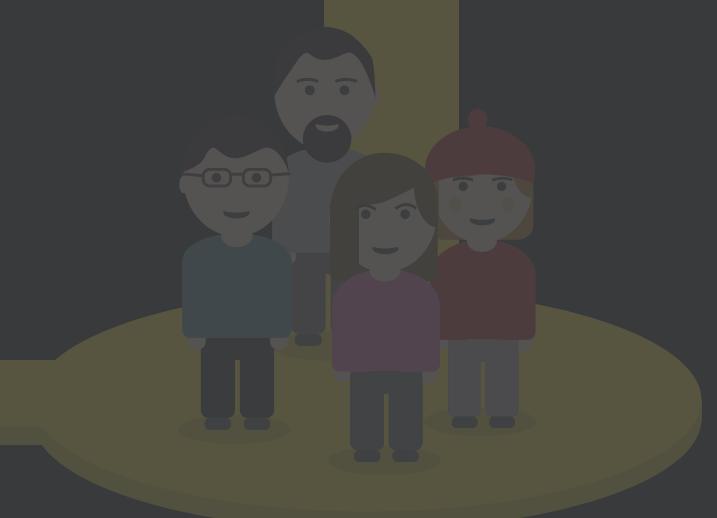


MVP Planning

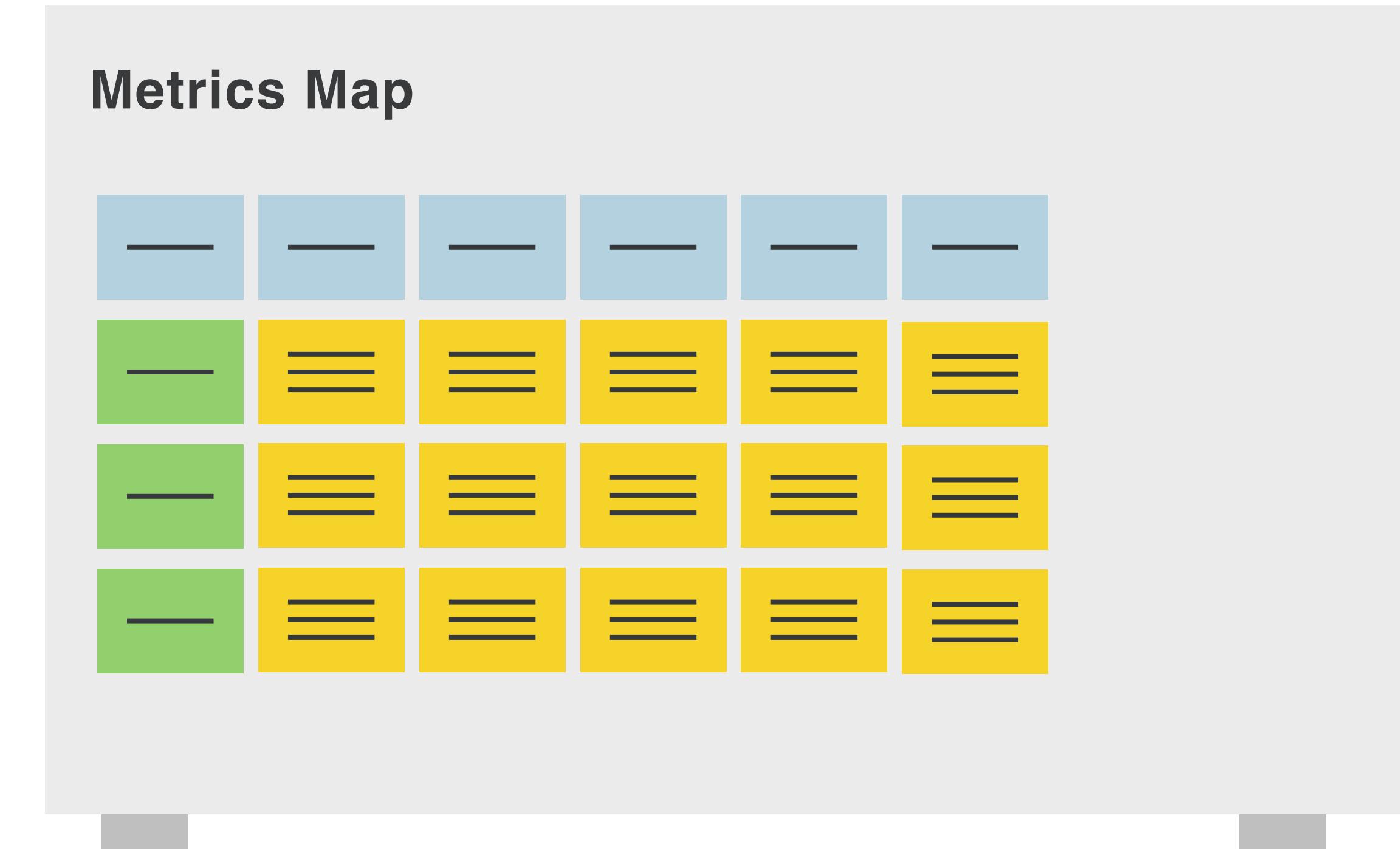
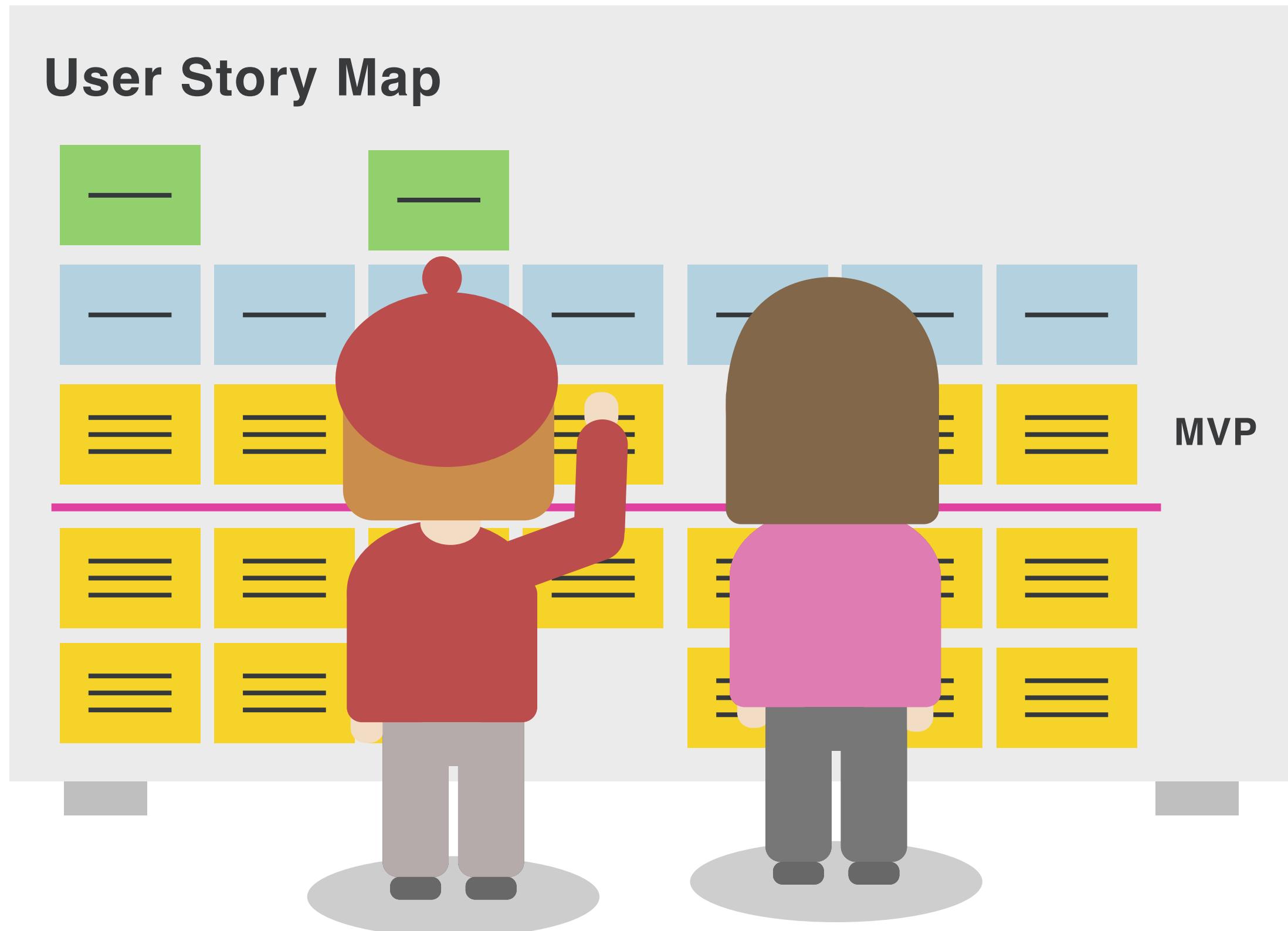
Validation

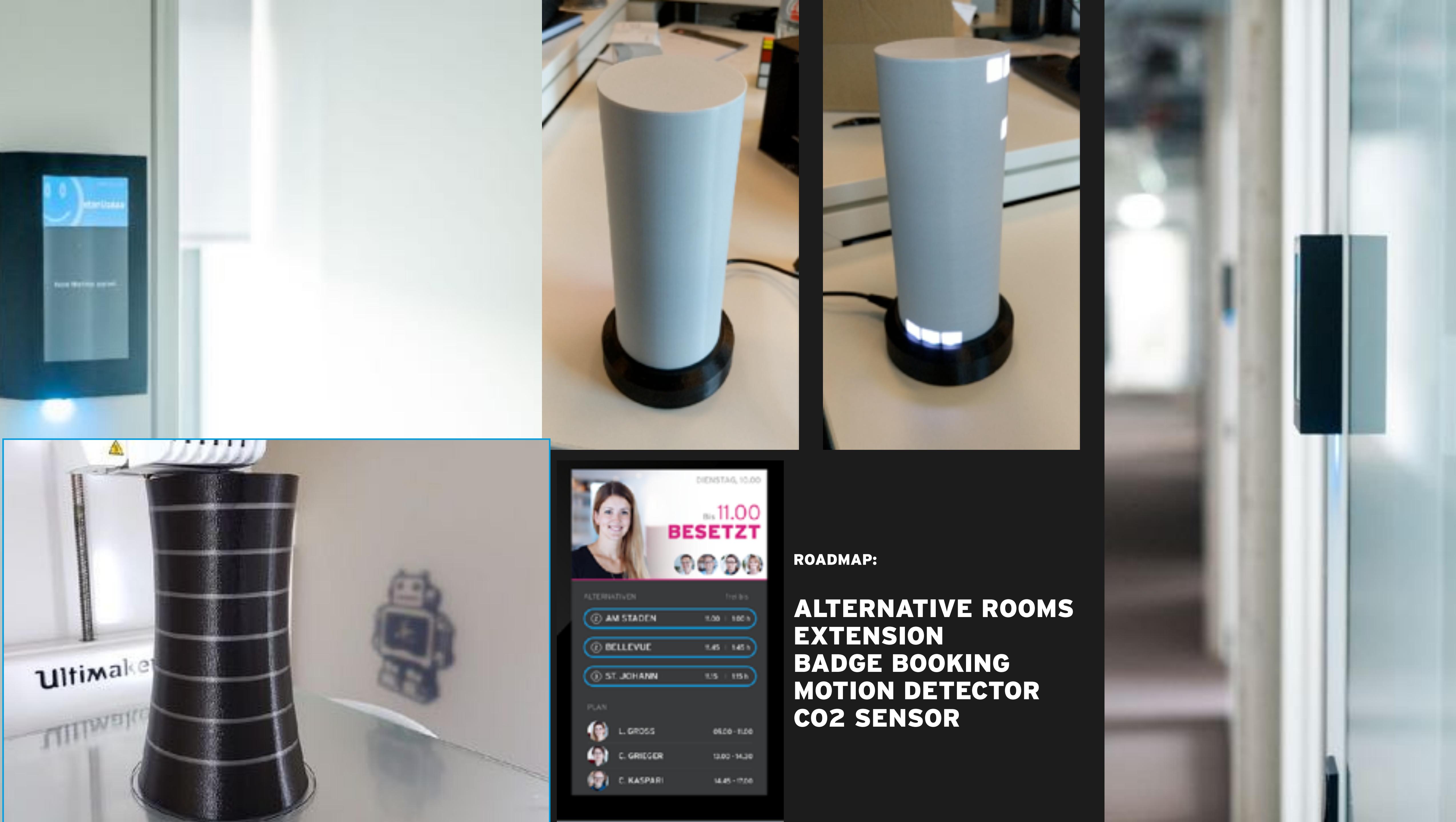


Prototype



# ROADMAP

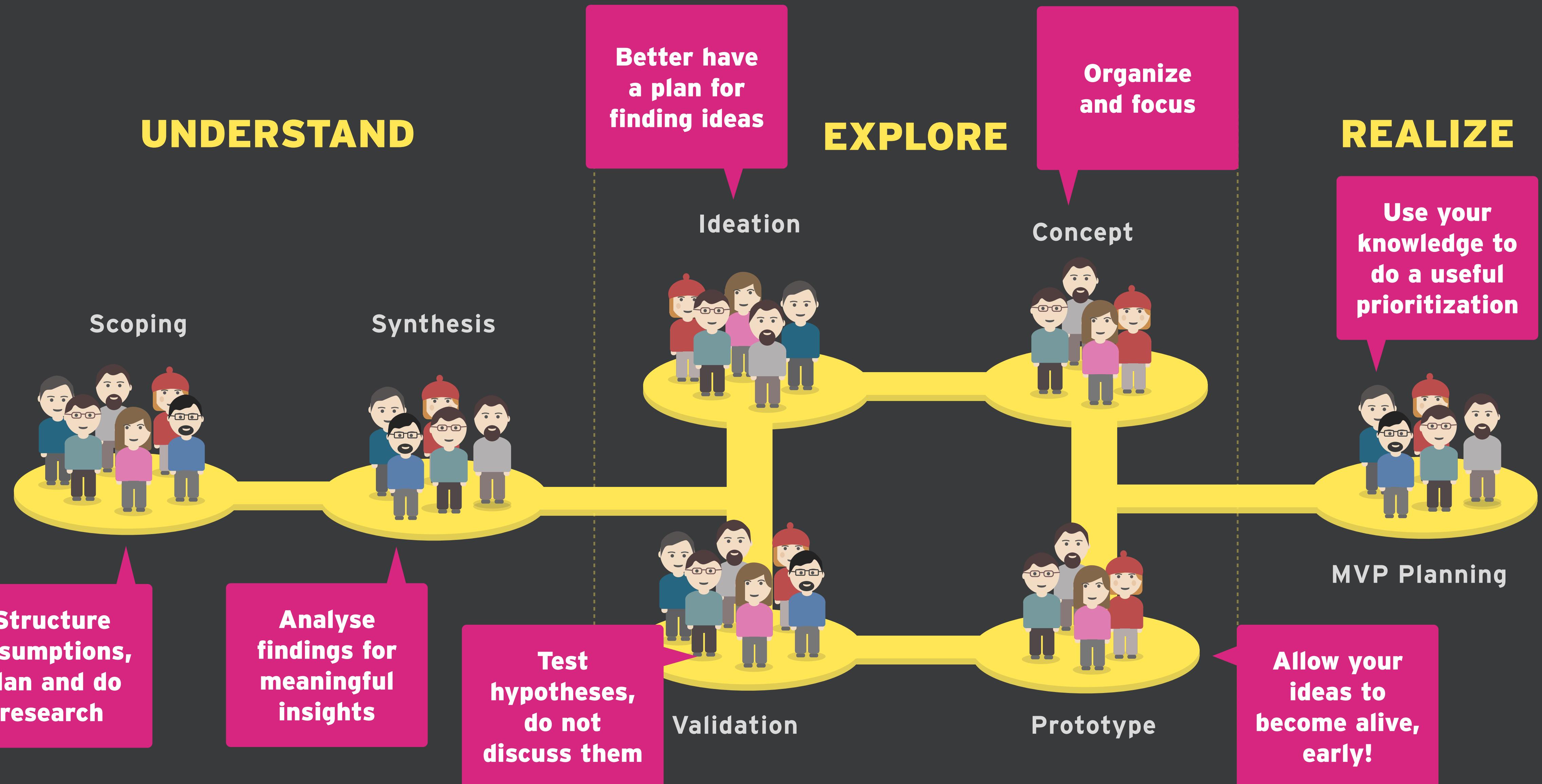




**ROADMAP:**

**ALTERNATIVE ROOMS  
EXTENSION  
BADGE BOOKING  
MOTION DETECTOR  
CO2 SENSOR**

# COLLABORATIVE UX DESIGN - WRAP UP





Let's shape the  
future together!



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