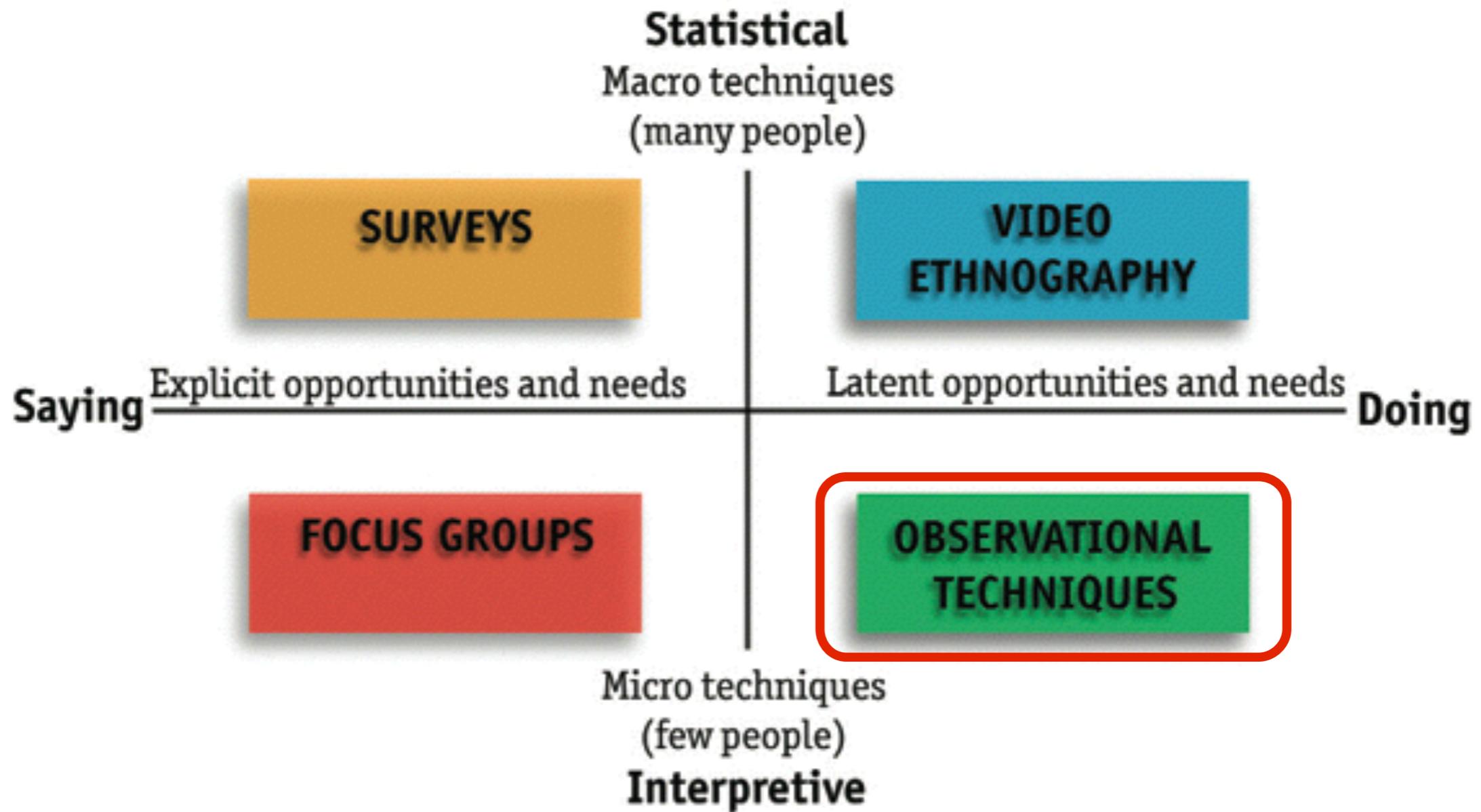


Interaction Design

Chapter 7 May 28th, 2014, 9am-12pm):

Prototyping UX - From Sketch to Prototype

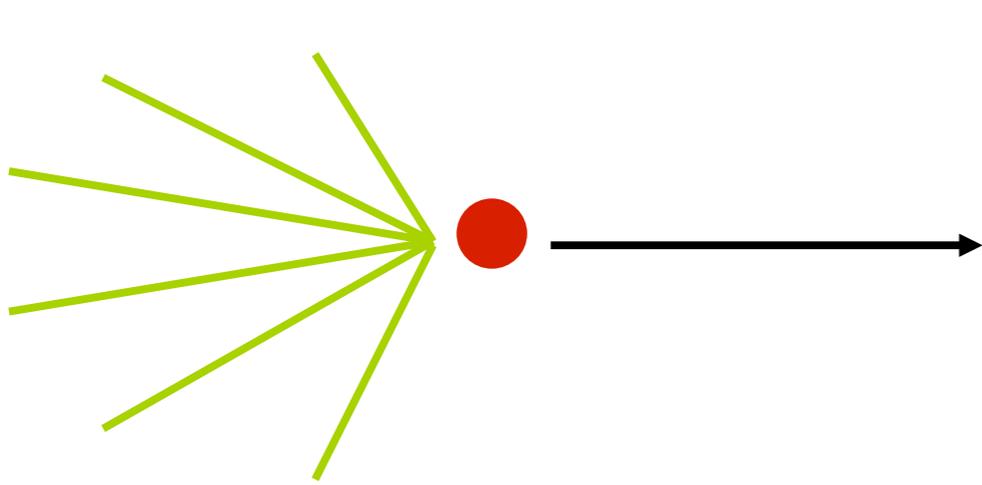
Recap Day 6:



source: [8]

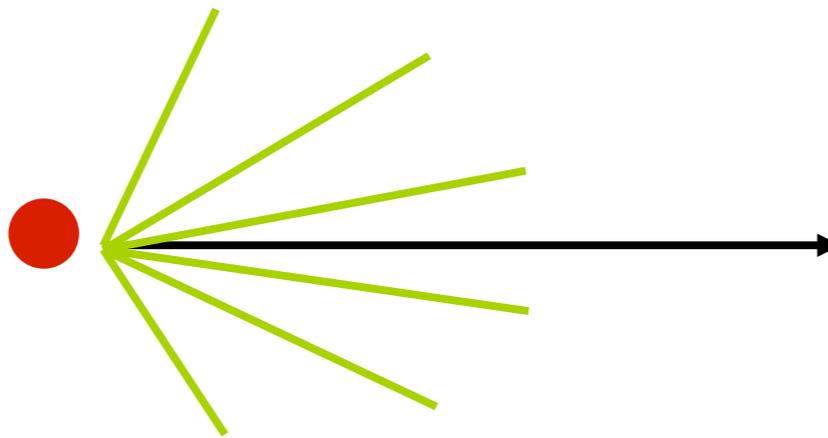
ANALYSIS

Definition of the system
What is the problem?



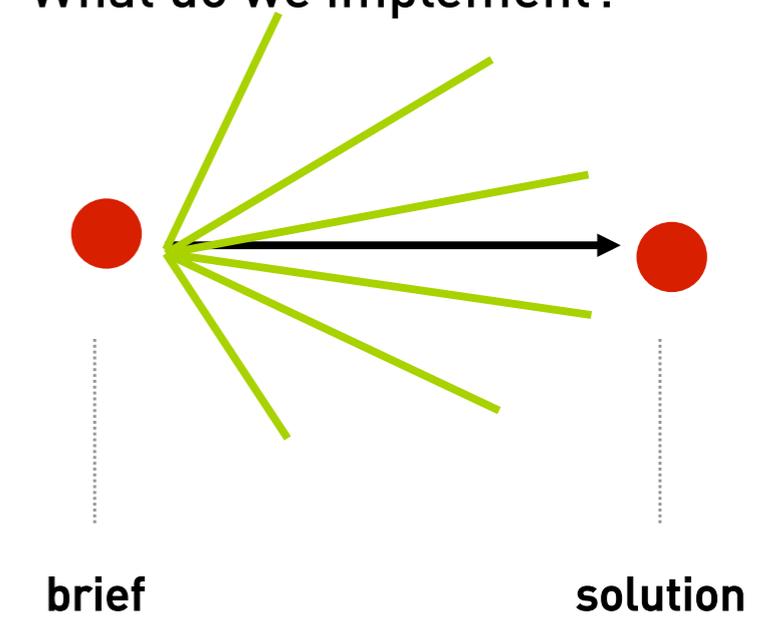
EVALUATION

Possible alternatives
What future do we want?



SYNTHESIS

Design of final solutions
What do we implement?



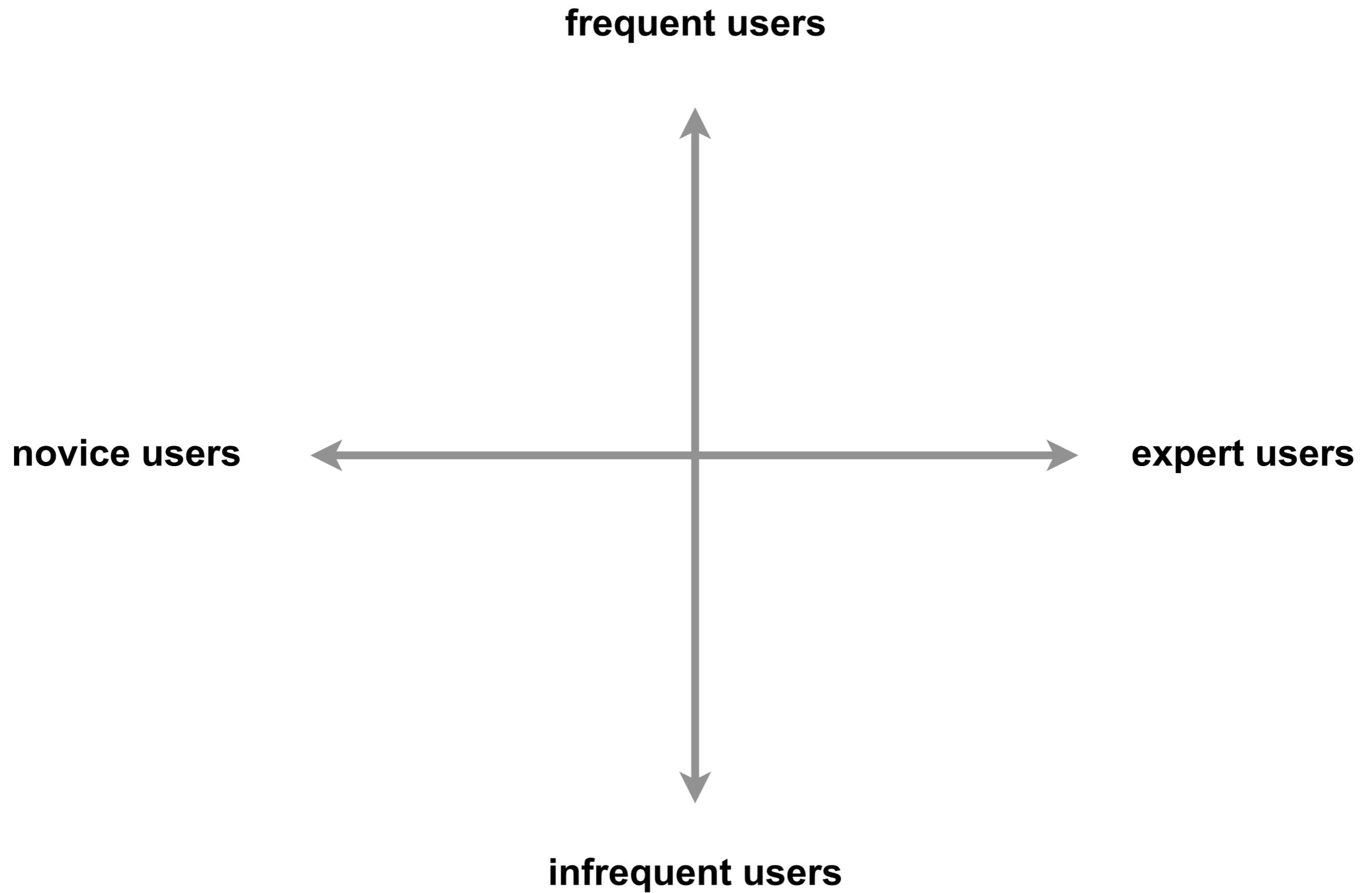
The designer is a
'problem-scouter'

The designer is a
'story-teller'

The designer is an
'executor'



source: [4]





BMW Racing Cockpit

image source © BMW

**Different user types and usage frequency
will require dedicated solutions.**

Summary

- Three main data gathering methods: interviews, questionnaires, observation
- Four key issues of data gathering: goals, triangulation, participant relationship, pilot
- Interviews may be structured, semi-structured or unstructured
- Observation may be direct or indirect, in the field or in controlled setting
- Techniques can be combined depending on study focus, participants, nature of technique and available resources



source: [8]

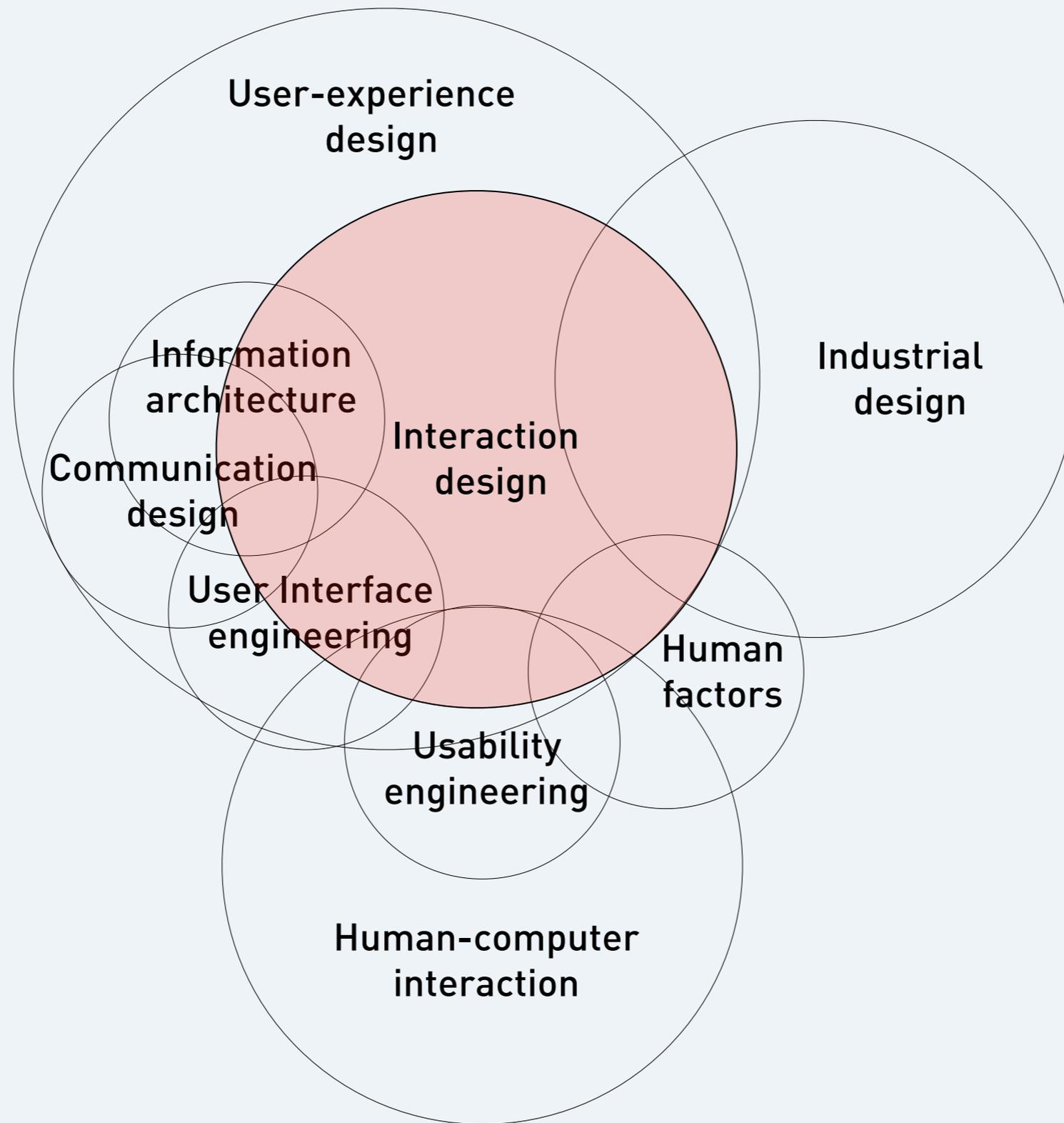
Summary Creating a Good Questionnaire:

- Keep your questionnaire **short**. In fact, the shorter the better.
- Use **simple and direct language**. The questions must be clearly understood by the respondent.
- Begin with a few **non-threatening** and interesting items.
- Place the **most important items in the first half** of the questionnaire
- Leave **adequate space** for respondents to make comments.
- Perform **iterative pre-tests** and eliminate or replace questions that are hard to understand or lead to useless / unsatisfying results.
- Accommodate **all answers**

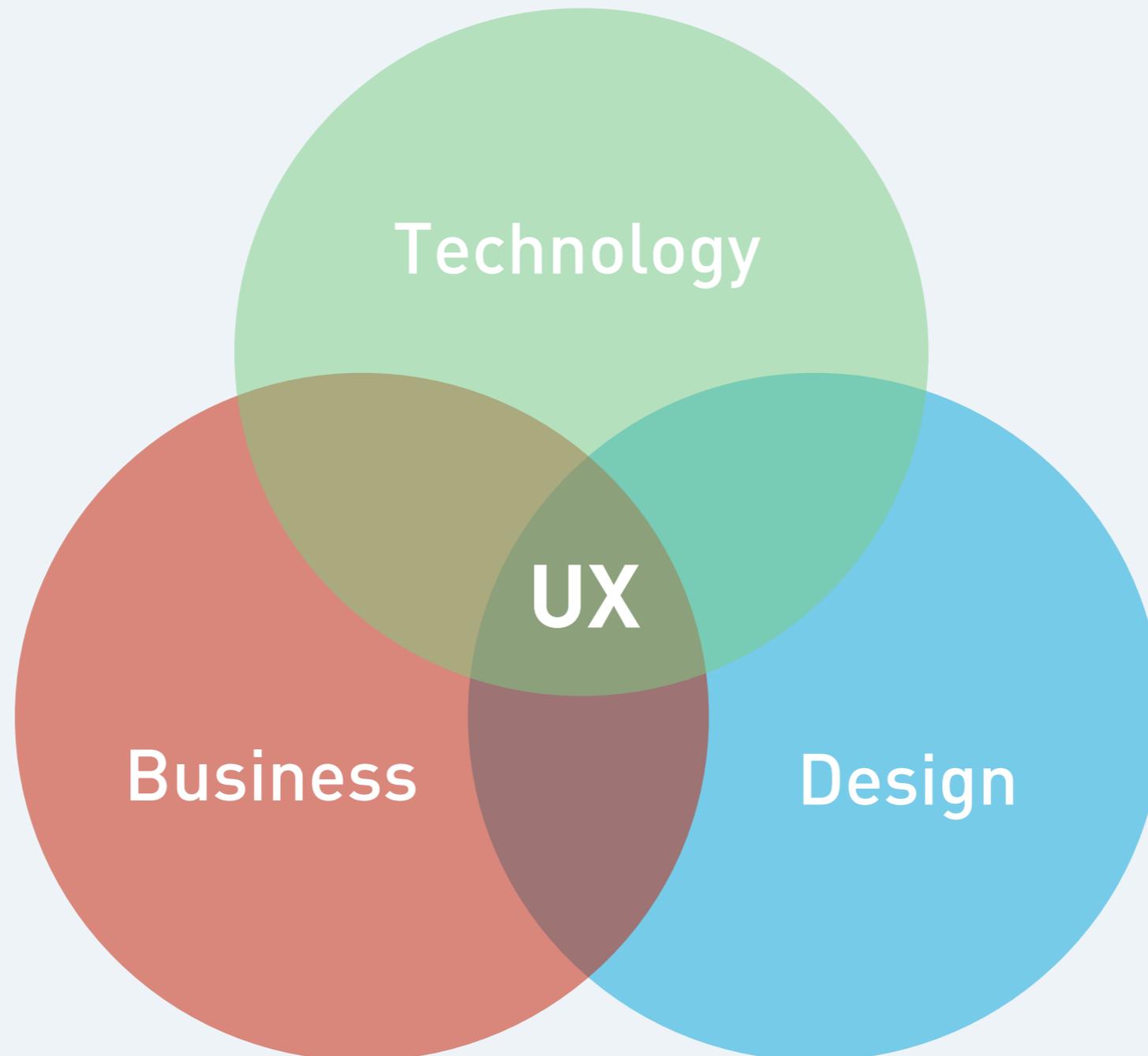
Note the difference between interviews and questionnaires!

Overview:

- Intro & Designprocess Phase
- Values and Levels of Prototyping
- UX Prototyping Techniques
- Prototyping Case Study



User Experience Design



User Experience Design



Getting the right Design and the Design right...

Bill Buxton - Sketching User Experiences



Front Stage



Back Stage

<http://blog.entrepreneurhearts.com/etablog/wp-content/uploads/2010/08/backstage.jpg>

User Interface

Visible

Behind the Scenes

Capturing

Connecting

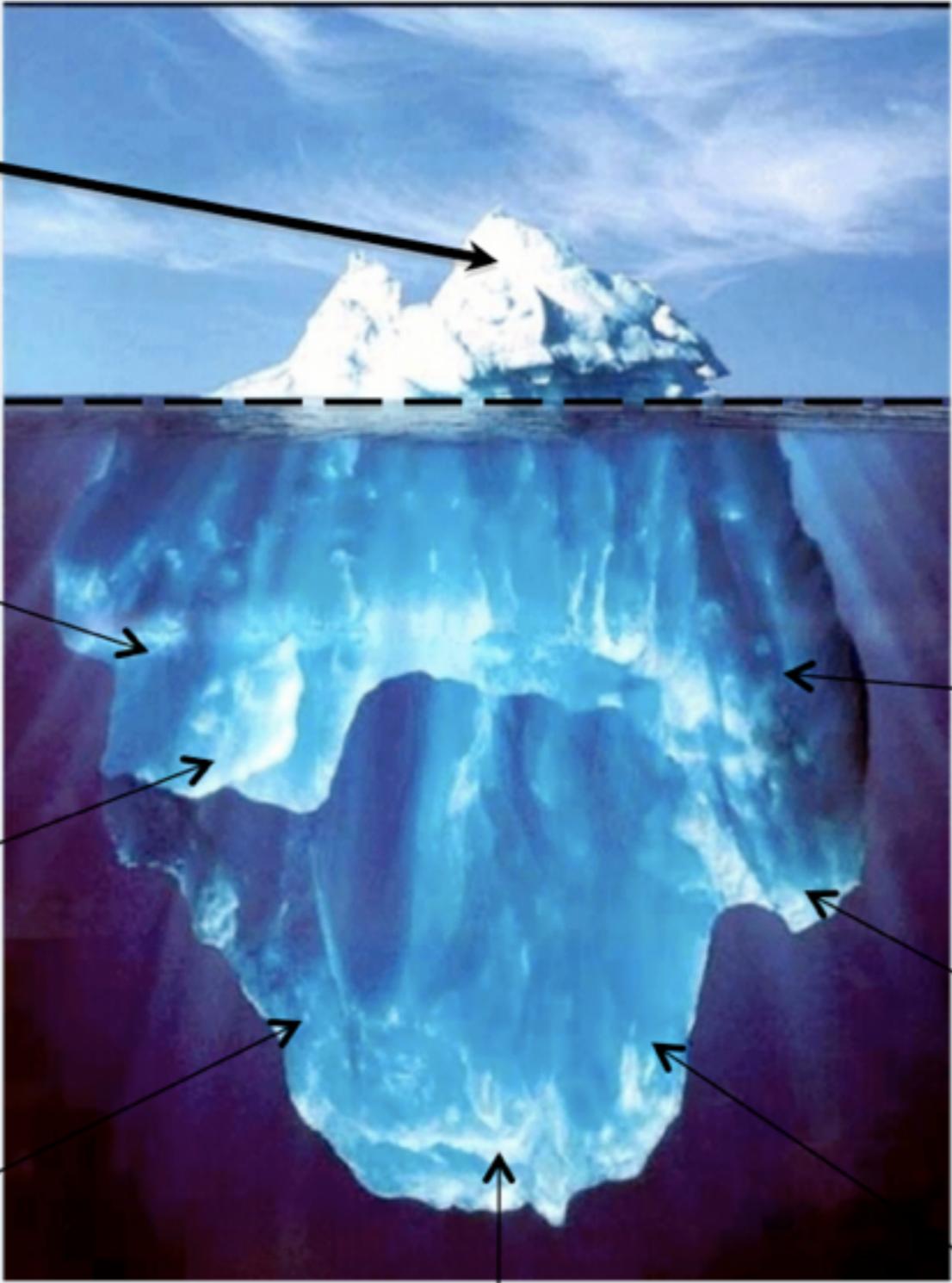
Combining

Contextualizing

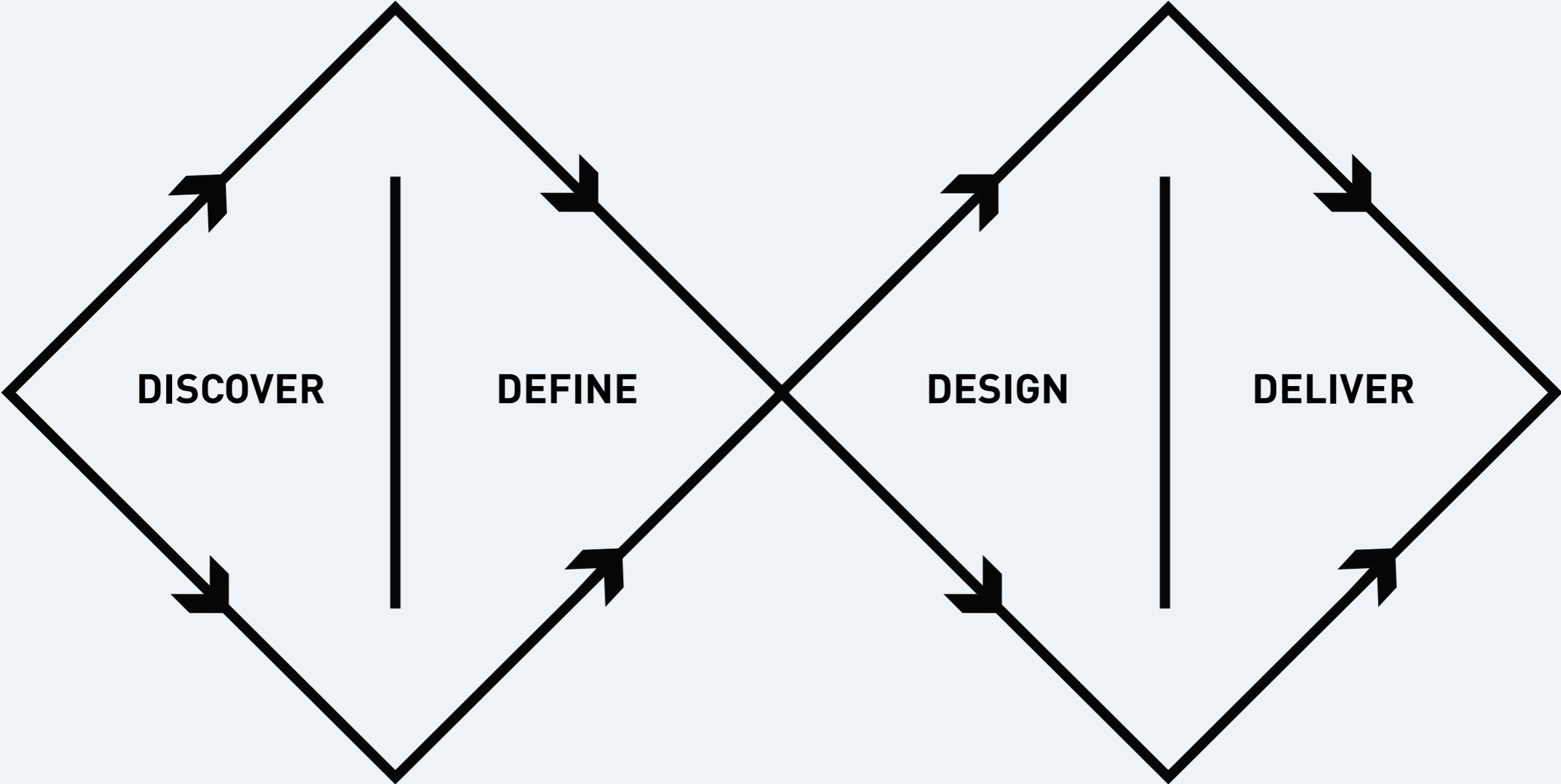
Transferring

Coordinating

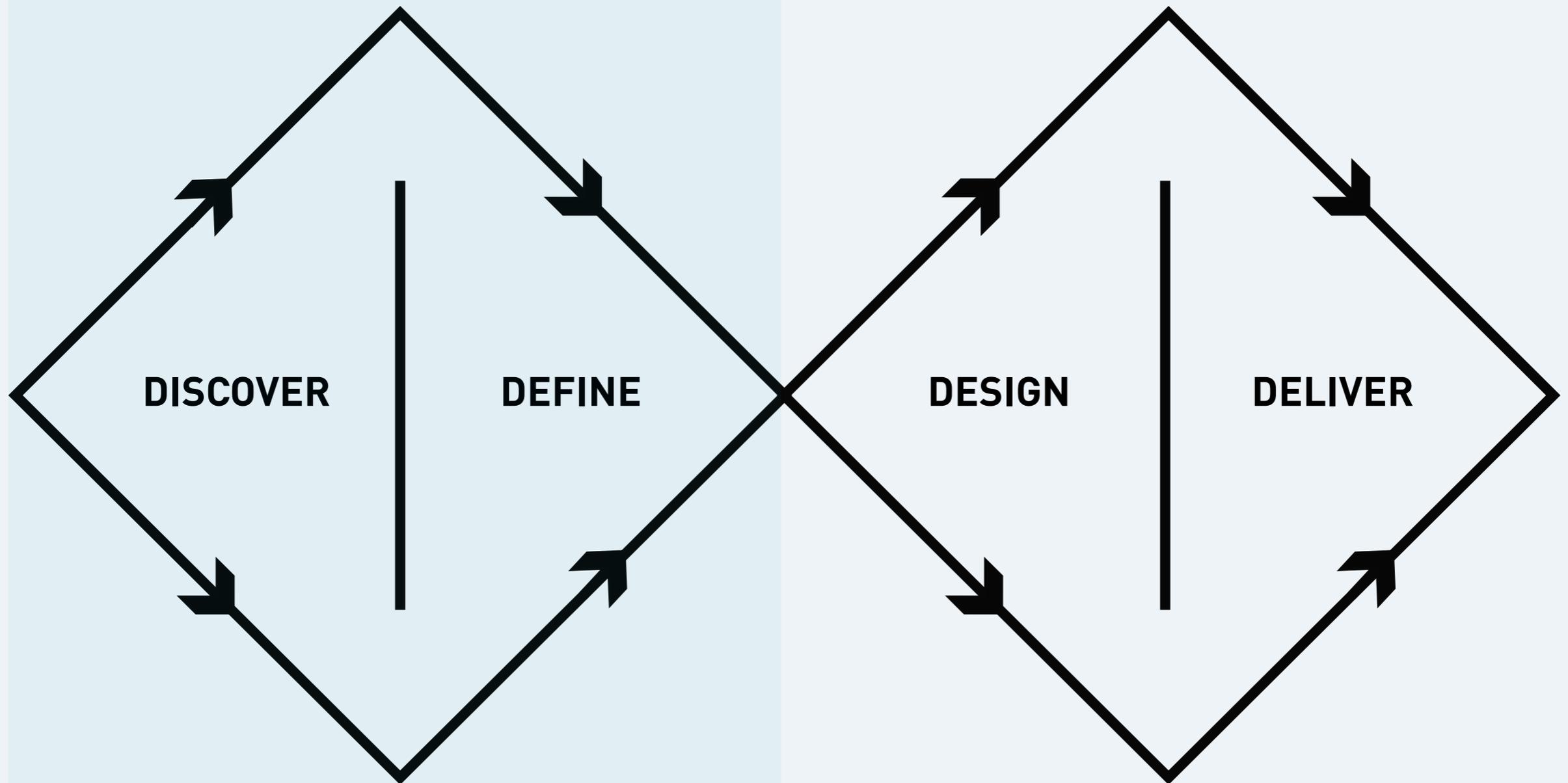
Storing



Double Diamond

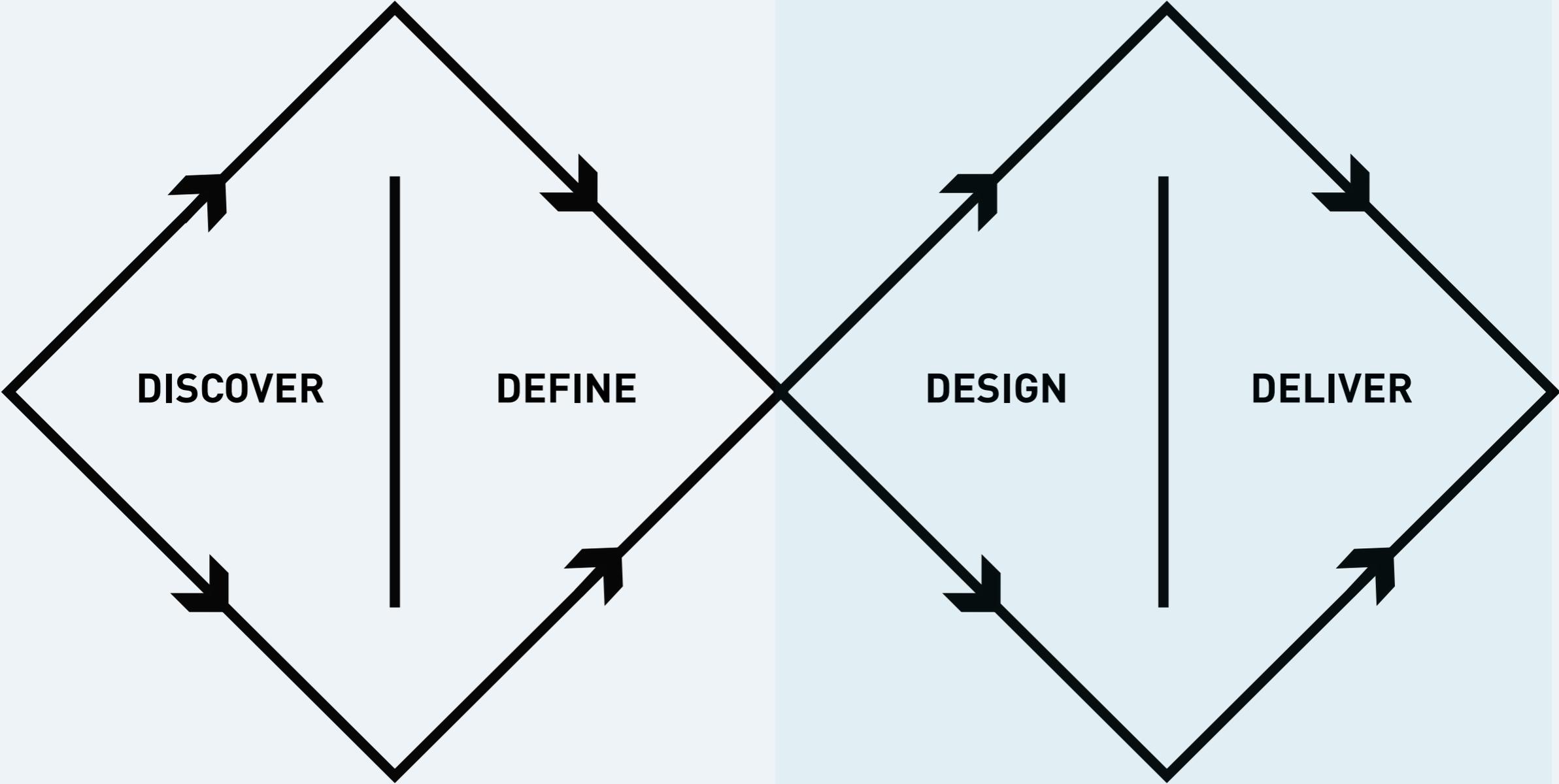


Double Diamond



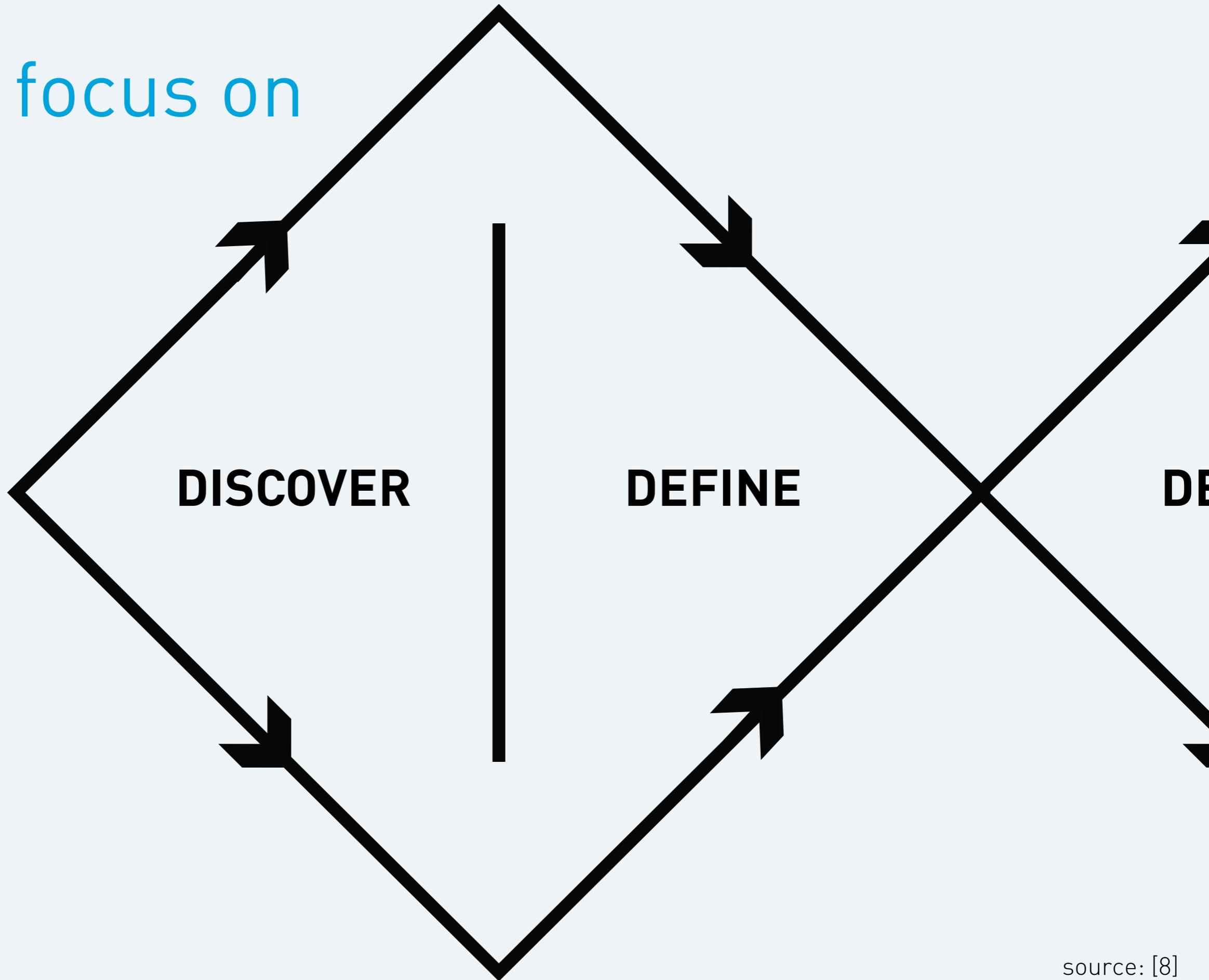
Why? and How?

Double Diamond

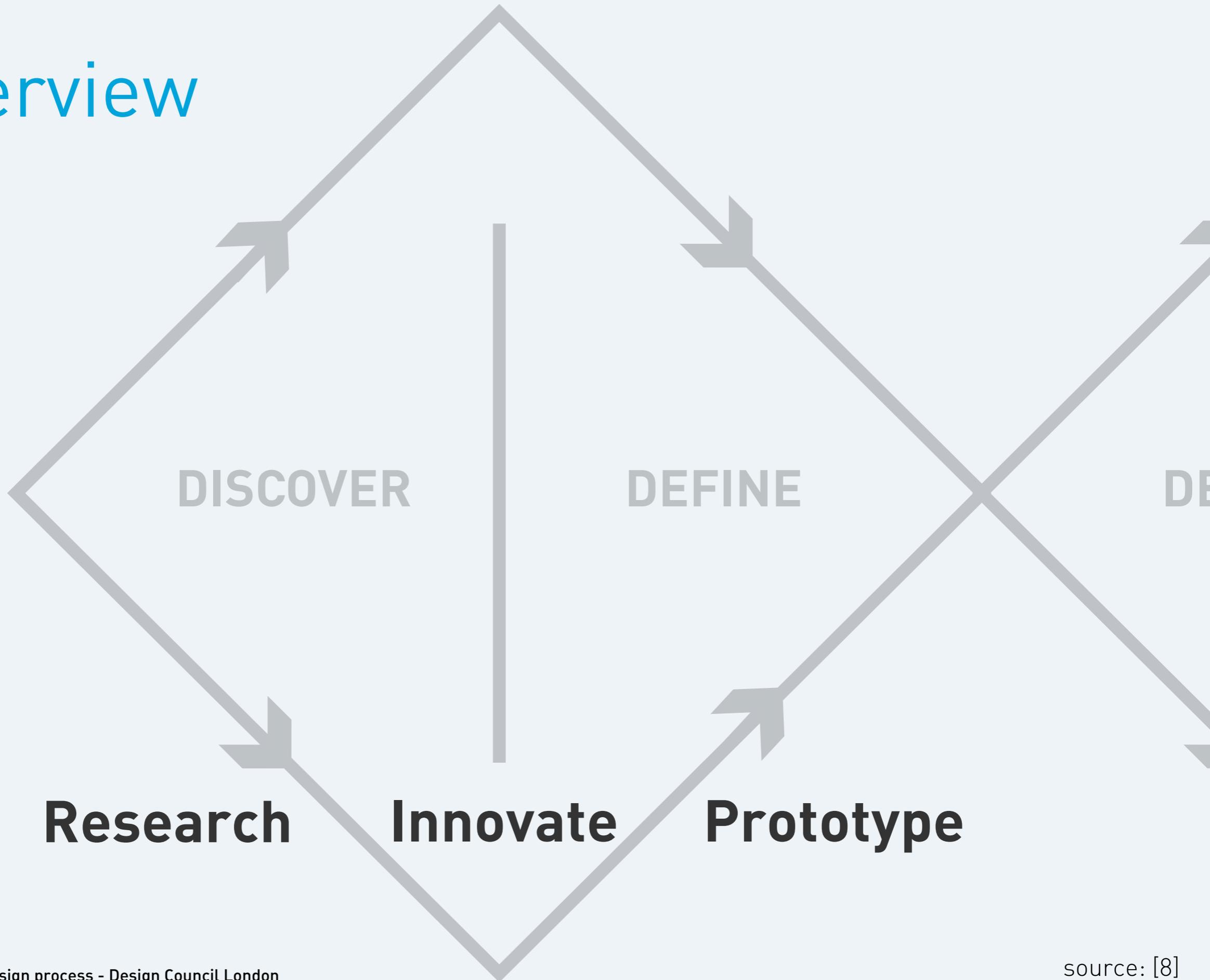


What?

We focus on



Overview



Overview

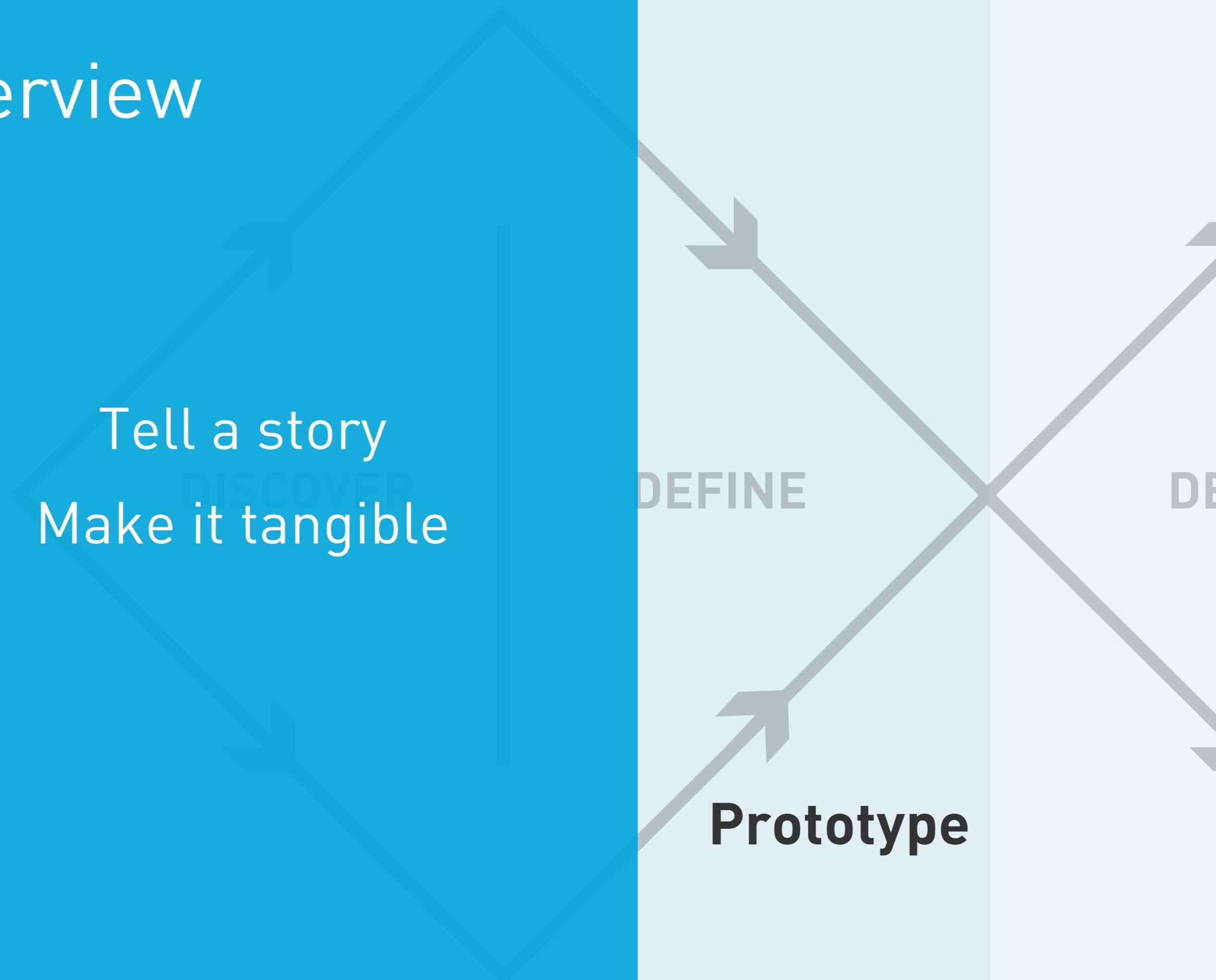
Tell a story
Make it tangible

DISCOVER

DEFINE

DE

Prototype



Overview:

- Intro & Designprocess Phase
- Values and Levels of Prototyping
- UX Prototyping Techniques
- Prototyping Case Study

For the Designer: Exploration
Visualisation
Feasibly
Inspiration
Collaboration

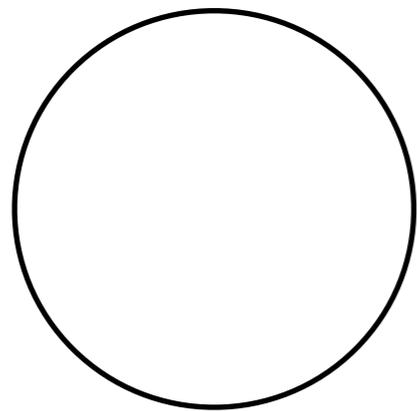
For the End User: Effectiveness / Usefulness
A change of viewpoint
Usability
Desirability

For the Producer: Conviction
Specification
Benchmarking

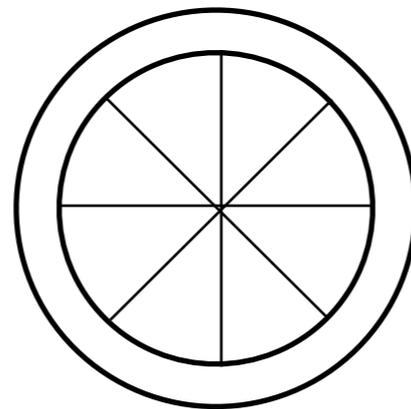
It's really hard to design products by focus groups. A lot of times, people don't know what they want until you show it to them.

Steve Jobs

Fidelity v. Resolution



low resolution
low fidelity



high resolution
low fidelity



high resolution
high fidelity

Low Fidelity

High Fidelity



Open Discussion

Sharp Opinions

Prompting Required

Self Explanatory

Quick and Dirty

Deliberate and Refined

Early Validation

Concrete Ideas

Low Resolution

High Resolution



Less Details

More Details

Focus on core interactions

Focus on the whole

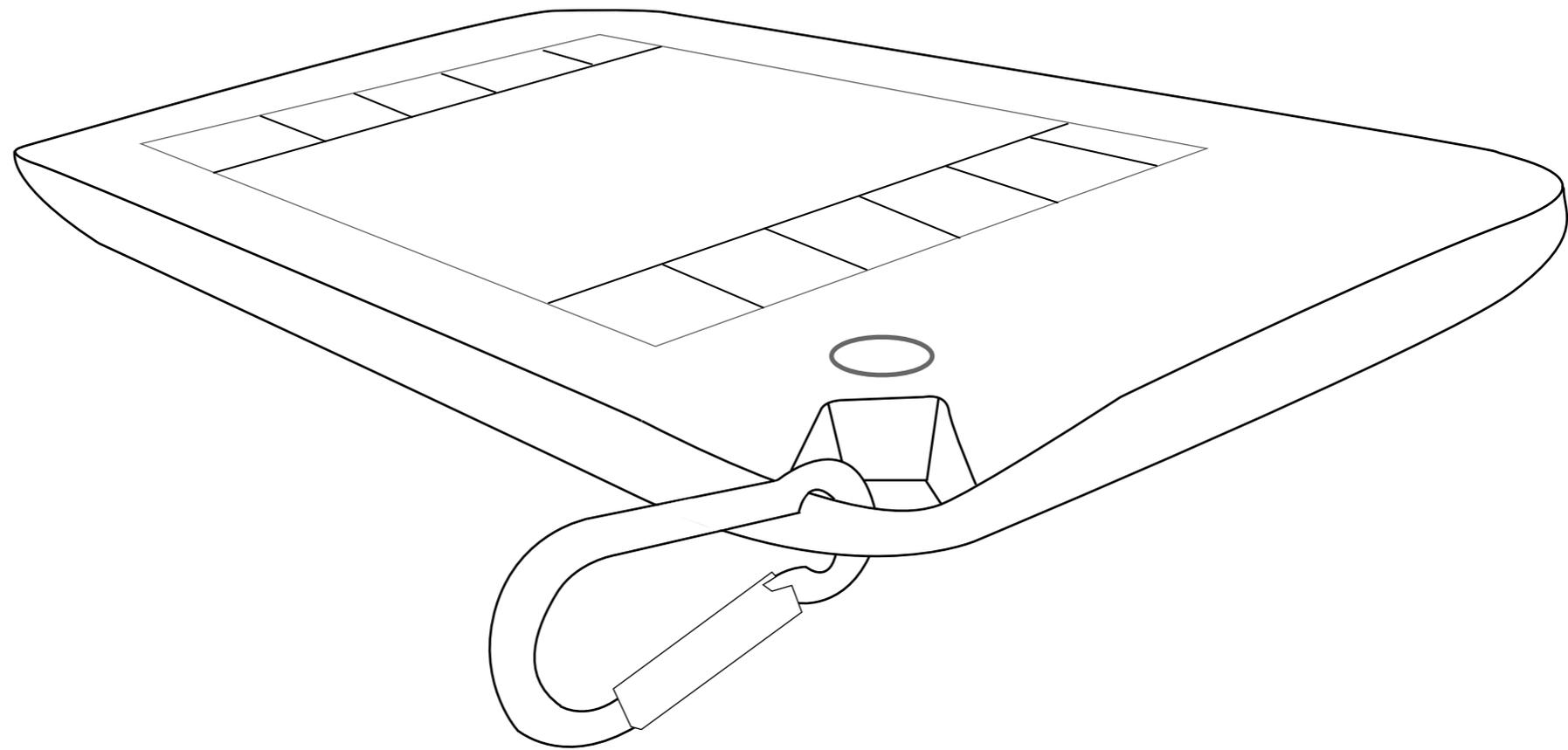
Quick and Dirty

Deliberate and Refined

Early Validation

Concrete Ideas

1st Iteration
low-res/low-fi

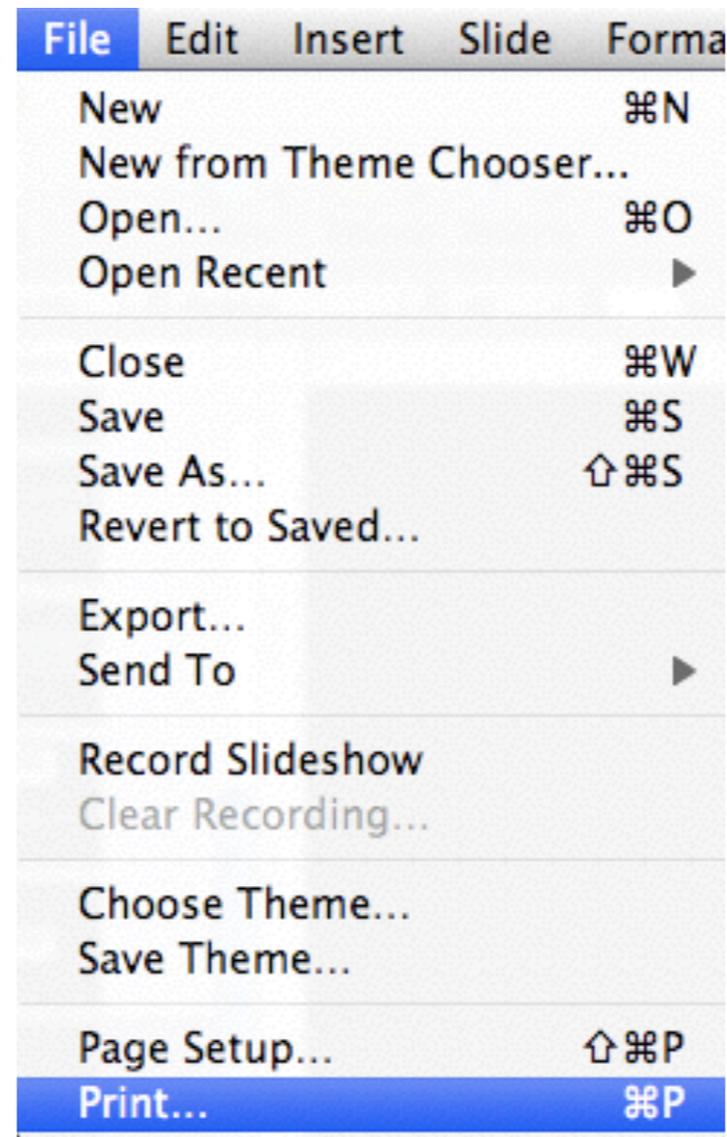


4th Iteration
high-res/high-fi





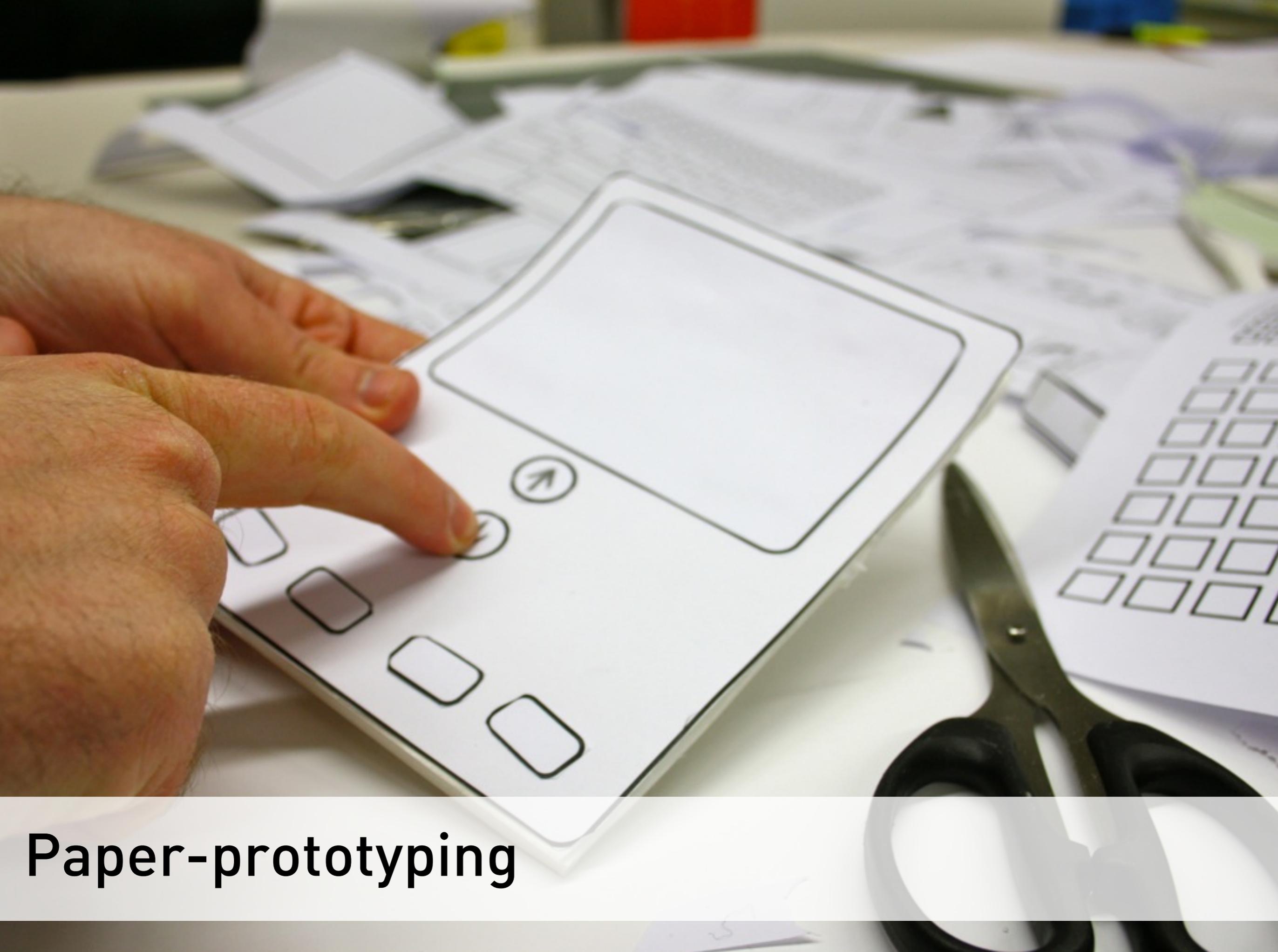
80/20 rule



A principle for setting priorities: users will use 20% of the features of your product 80% of the time. Focus the majority of your design and development effort (80%) on the most important 20% of the product.

Overview:

- Intro & Designprocess Phase
- Values and Levels of Prototyping
- **UX Prototyping Techniques**
- Prototyping Case Study



Paper-prototyping

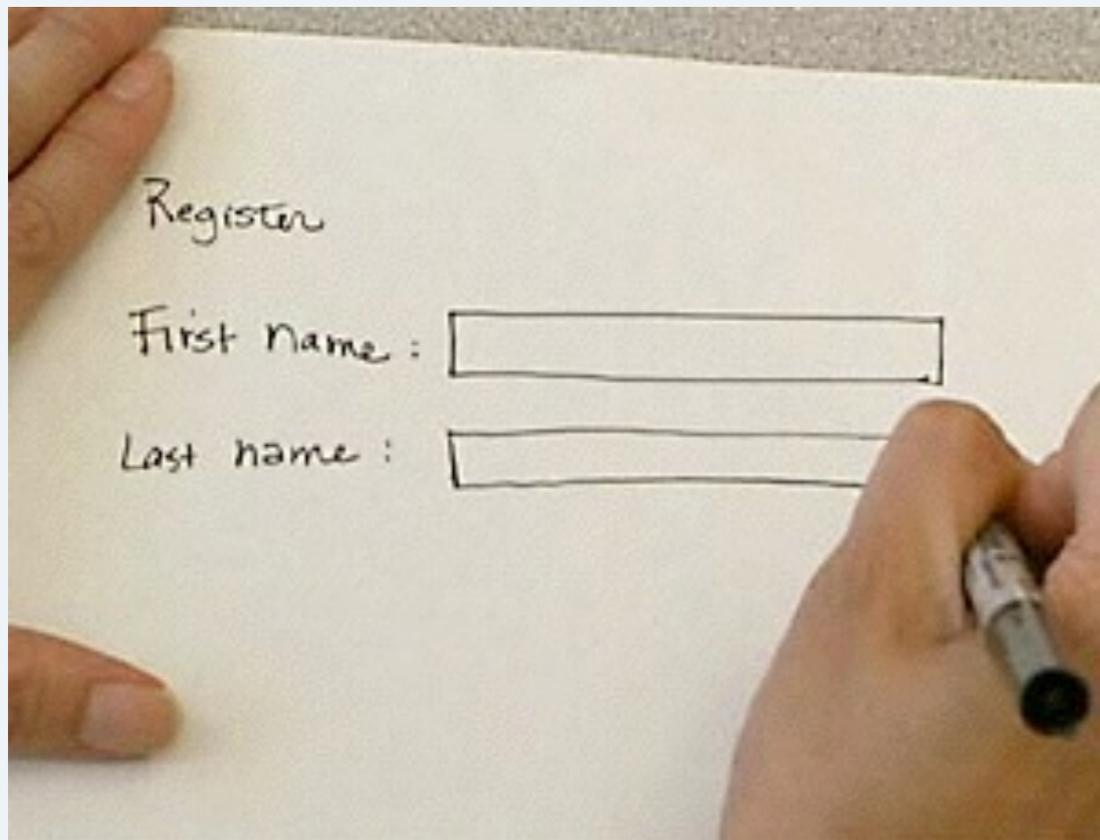
What is it?

Paper prototyping is a widely used method in the user-centered design process, a process that helps developers to create products/screen based applications that meets the user's expectations and needs.

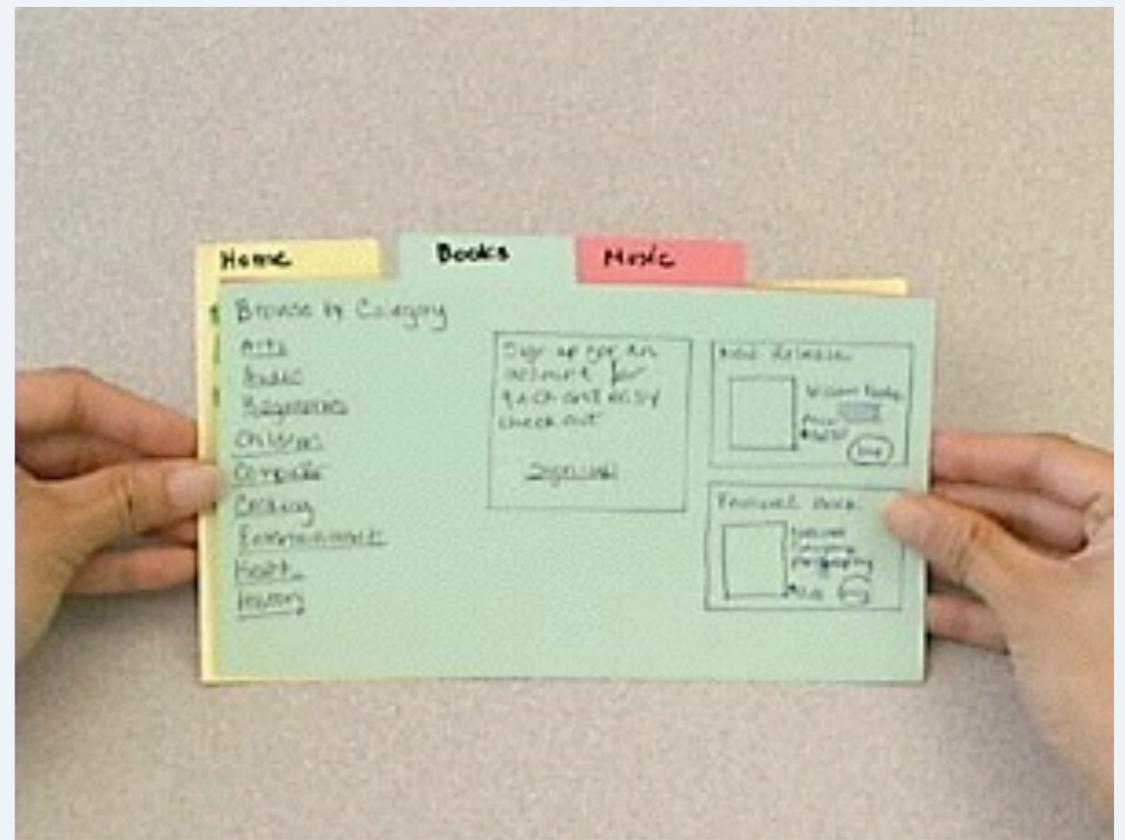
It is **throwaway prototyping** and involves creating rough, even hand sketched, drawings of an interface to use as prototypes, or models, of a design.

History

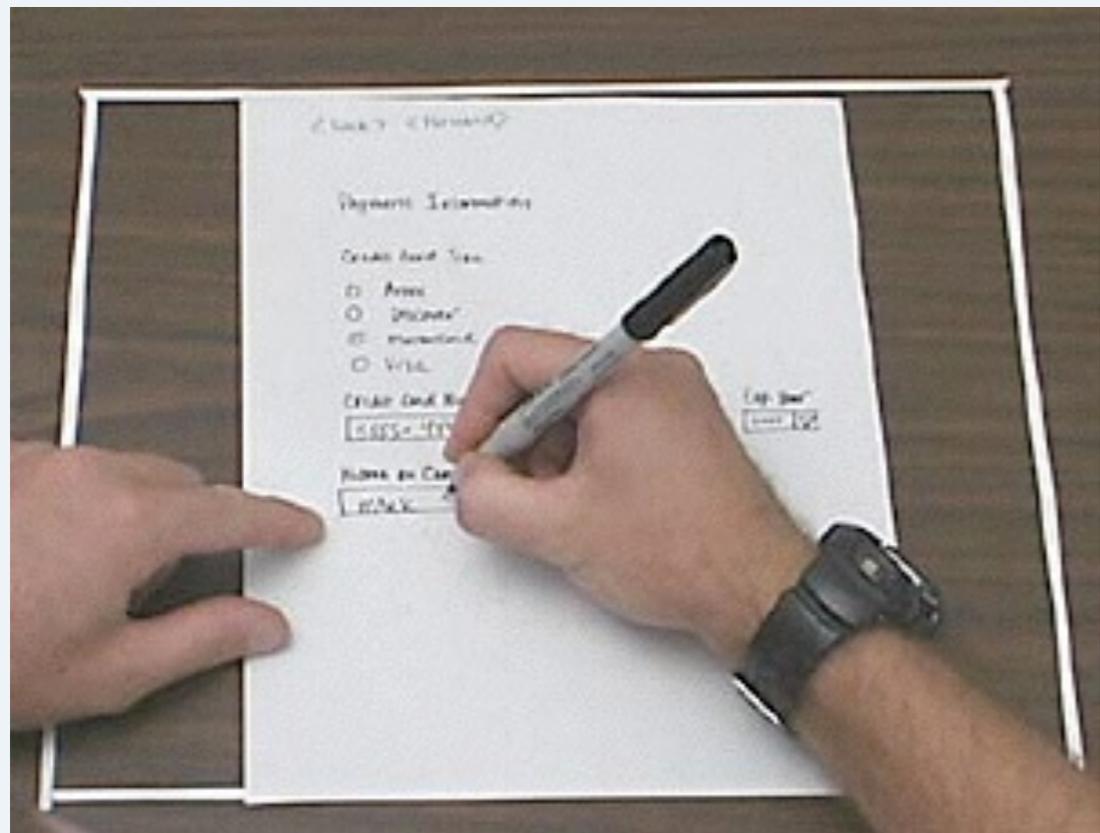
Paper prototyping started in the mid 1980s and then became popular in the mid 1990s when companies such as IBM, Honeywell, Microsoft, and others started using the technique in developing their products.



Paper prototype of a typical form-filling screen



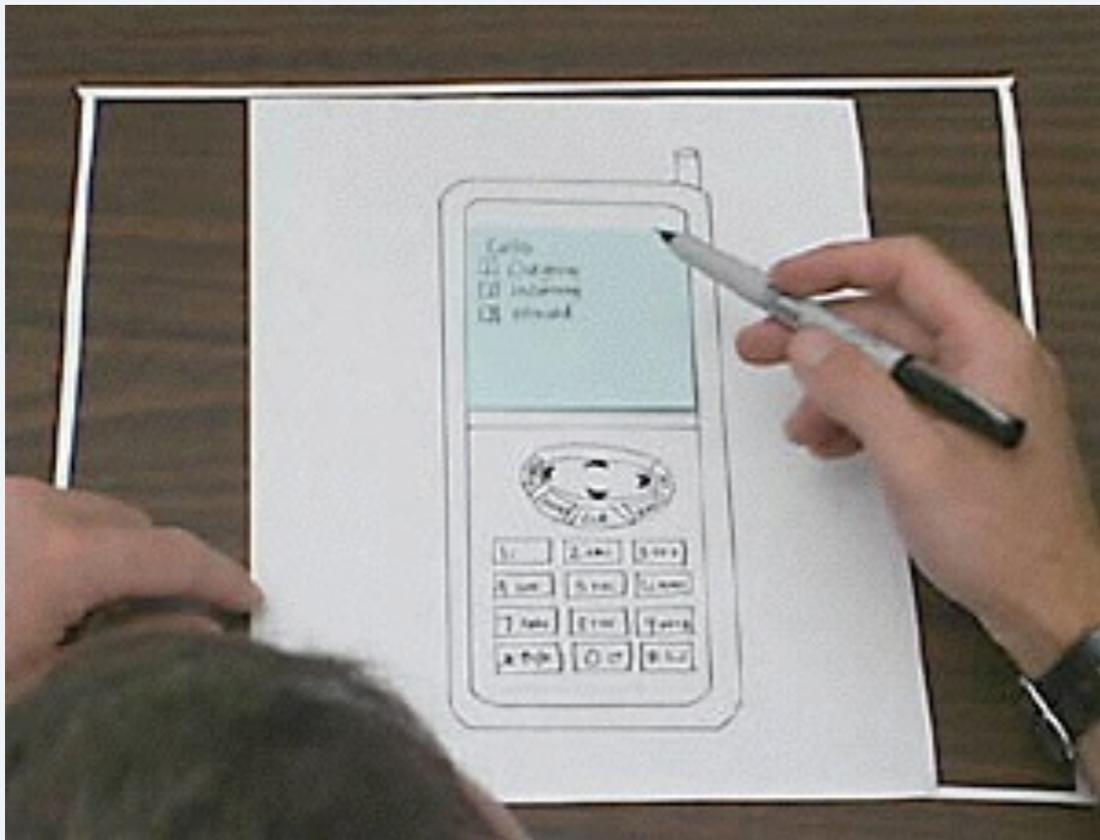
Paper prototype of a tabs-based design



User test of a low-fidelity paper prototype of a website



Typical set-up of the usability laboratory for a test session with a paper prototype



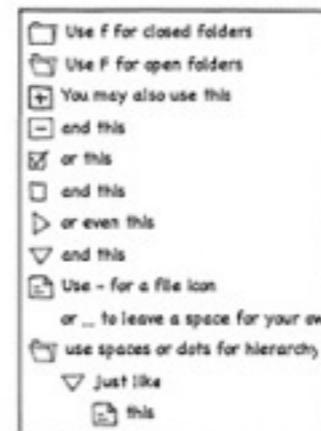
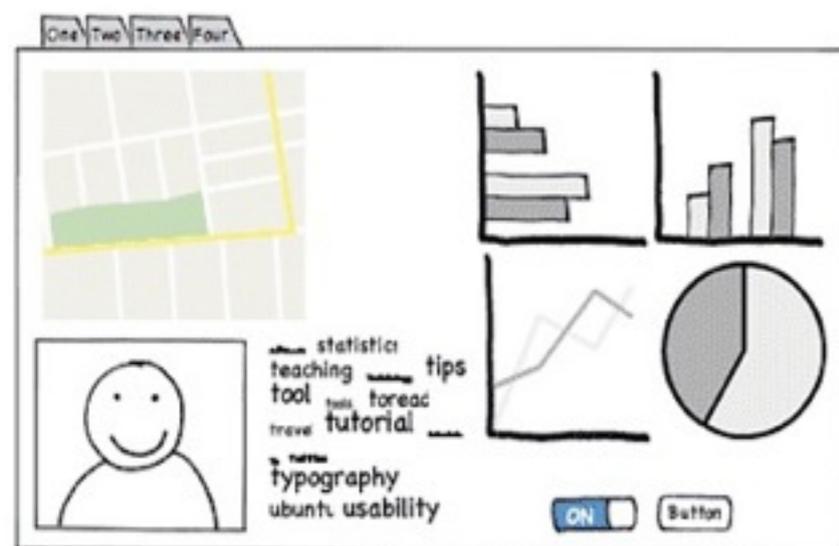
User test of a device-based interaction



User test of a high-fidelity paper prototype of a homepage.



Testing hardware user interfaces: mockup of a kiosk.



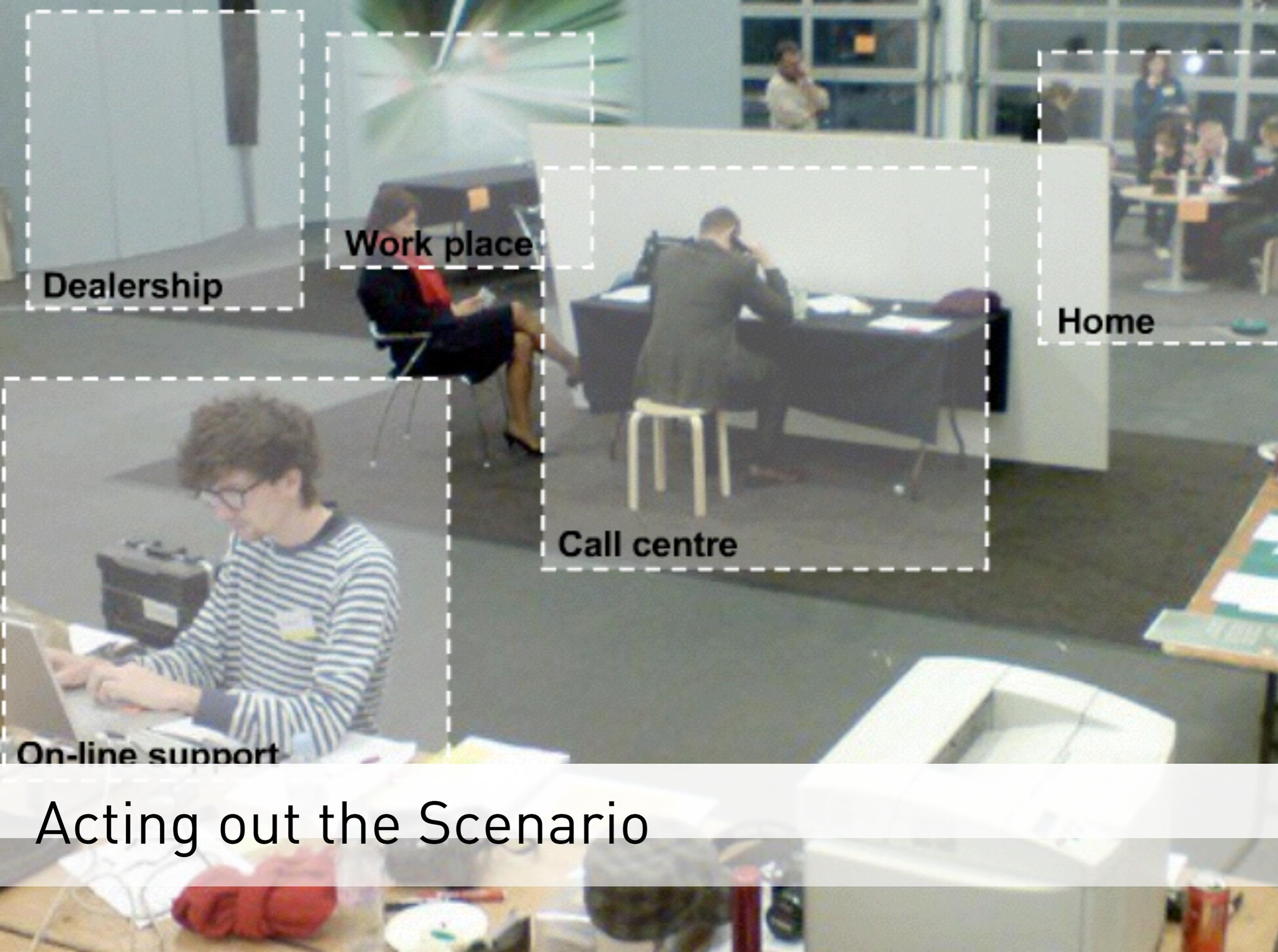
Handwritten notes on a piece of paper with a header "Dawn" and a table of data. The table has columns for "Date", "Time", "Location", "Description", and "Remarks".

Header: Dawn

Date	Time	Location	Description	Remarks
11/03	10:00	...	...	...
11/03	11:00	...	...	...
11/03	12:00	...	...	...
11/03	13:00	...	...	...
11/03	14:00	...	...	...
11/03	15:00	...	...	...
11/03	16:00	...	...	...
11/03	17:00	...	...	...
11/03	18:00	...	...	...
11/03	19:00	...	...	...
11/03	20:00	...	...	...
11/03	21:00	...	...	...
11/03	22:00	...	...	...
11/03	23:00	...	...	...



Video-prototyping



Dealership

Work place

Home

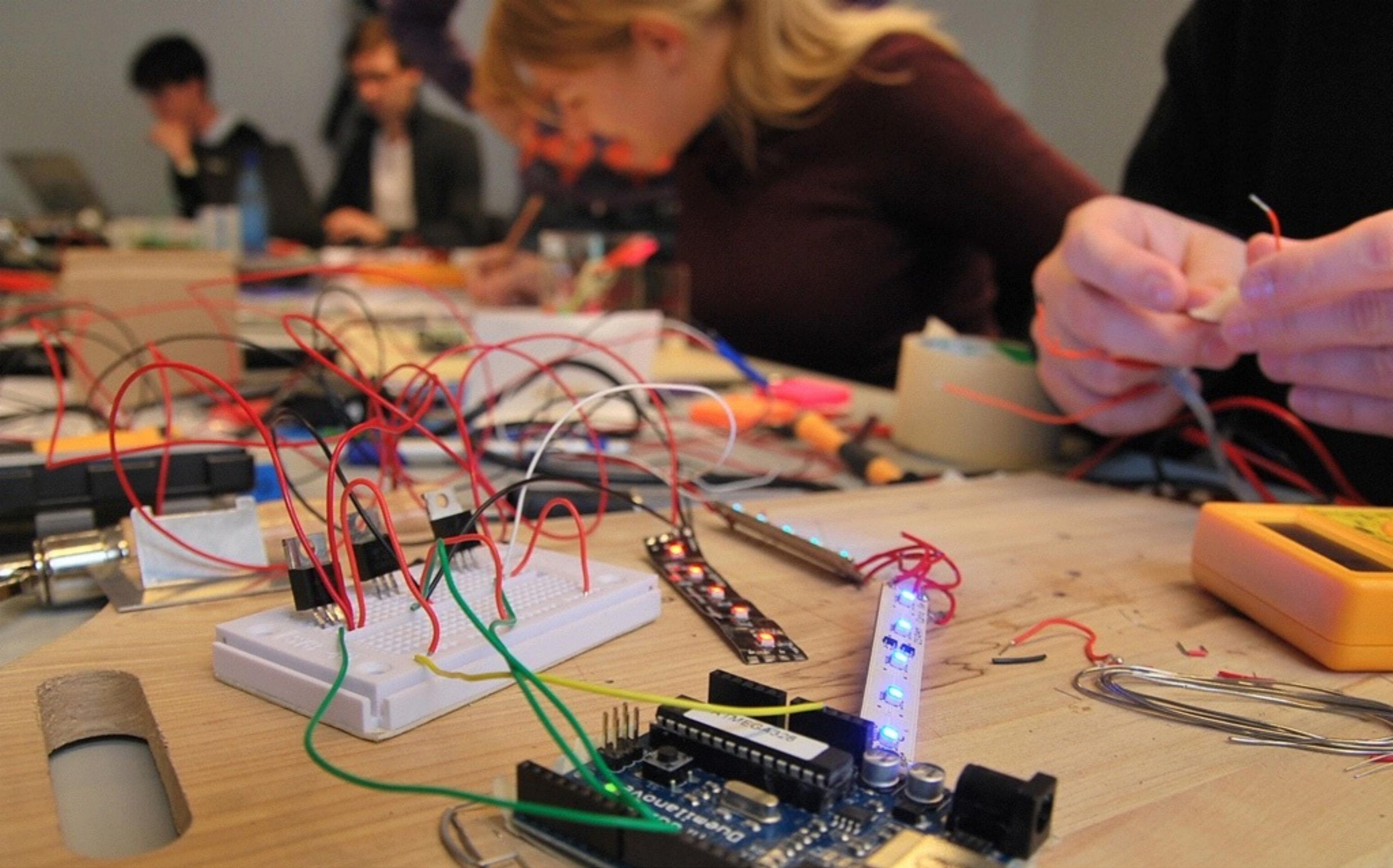
Call centre

On-line support

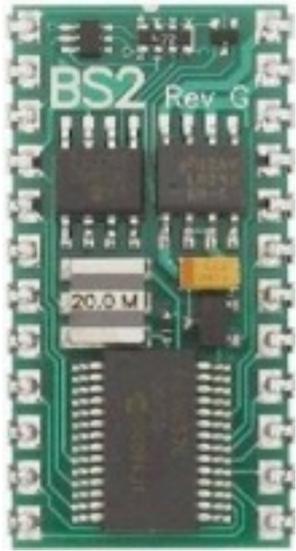
Acting out the Scenario



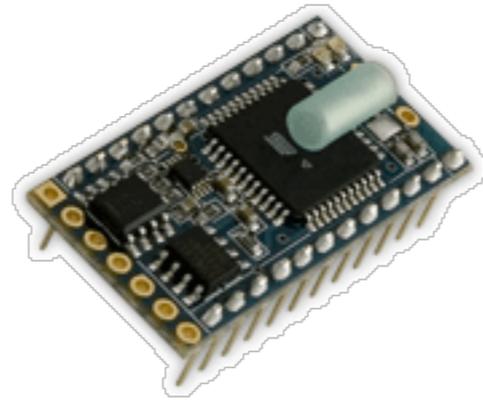
Quick Kiosk Mock-up



Sketching with Hardware



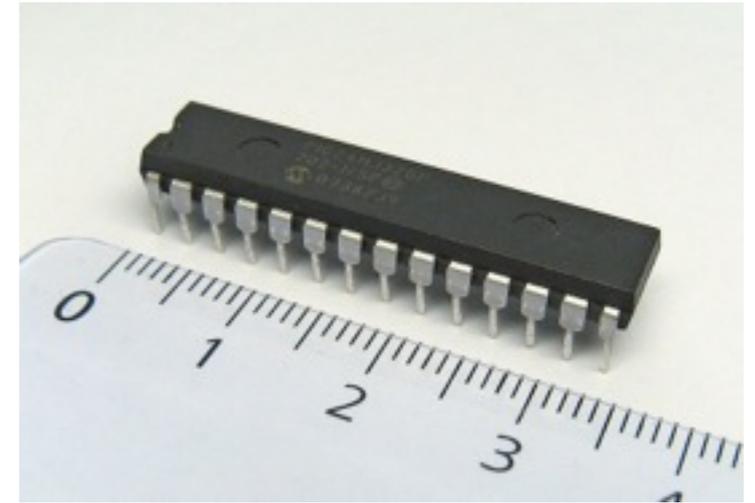
basic stamp



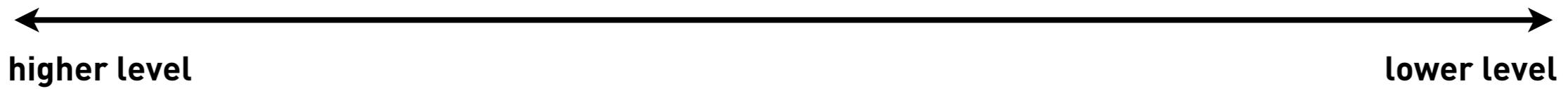
bx 24



basic atom



pic



Assembly



Atmel AT Mega 328



Raspberry Pi



Thermistor



Bend Sensor



PIR Sensor



Force Sensor



Potentiometer



Magnet Switch



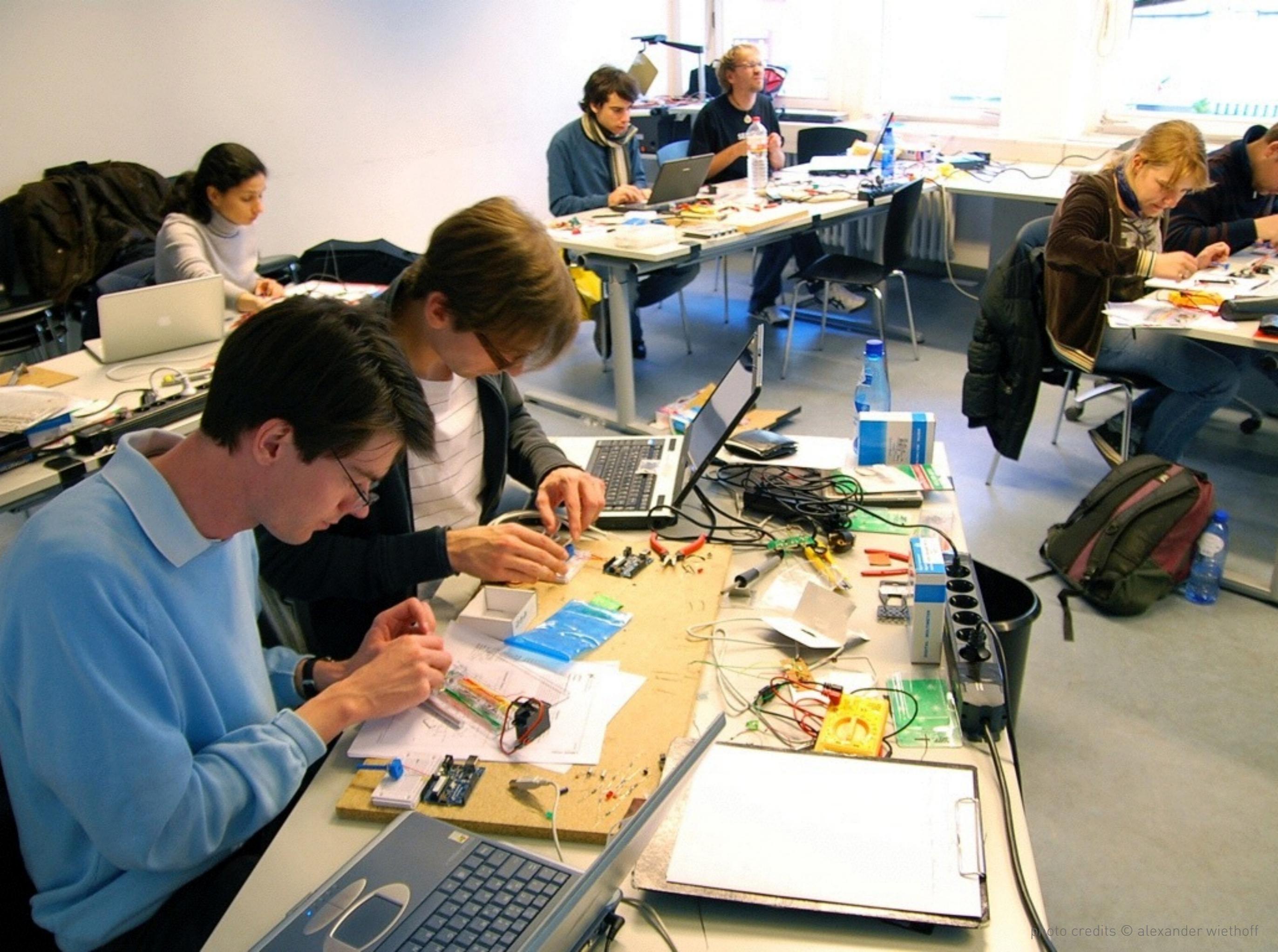
Distance IR Sensor

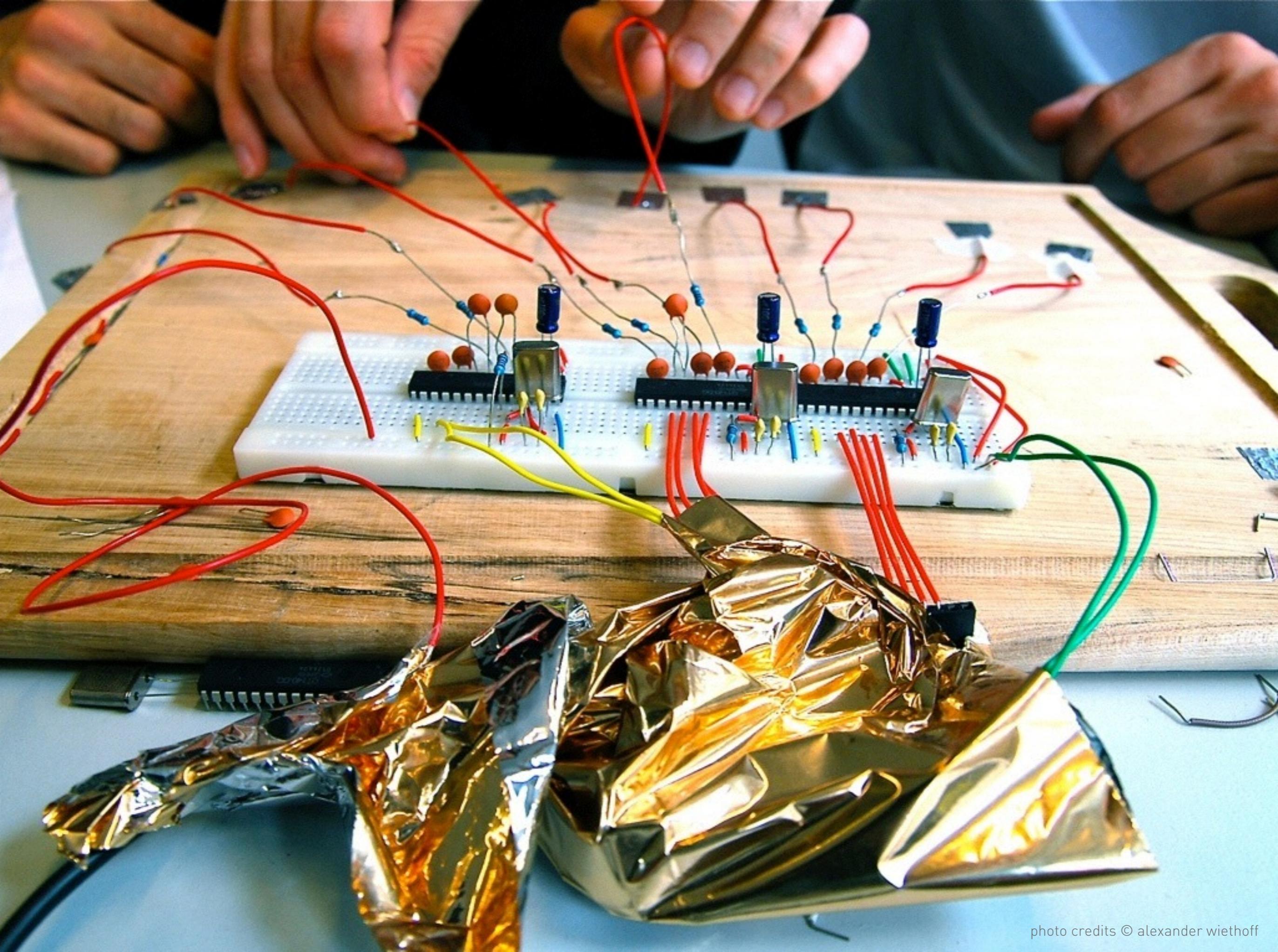


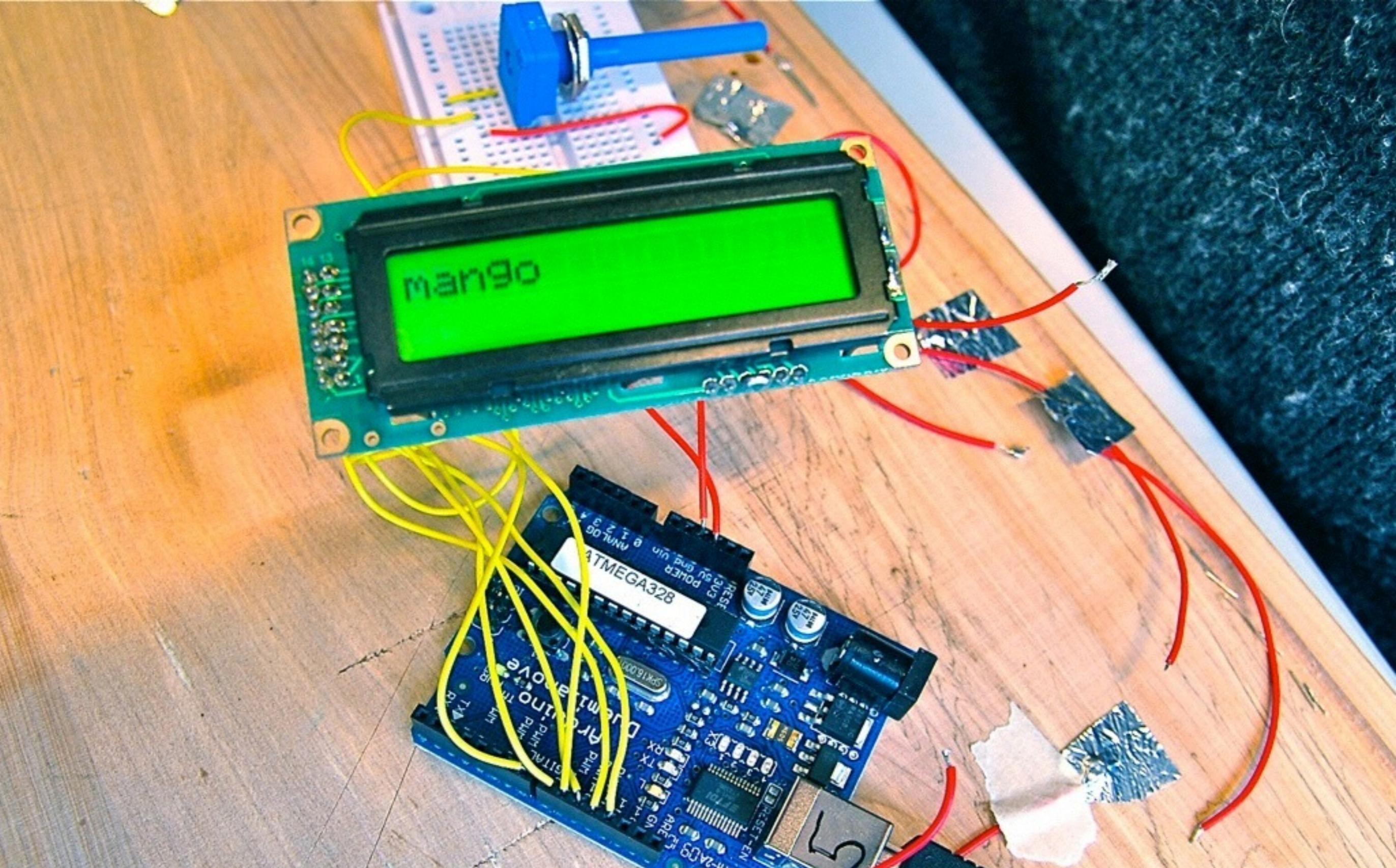
Touch QT Sensor



Ultrasound Sensor







Quick video overview

Overview:

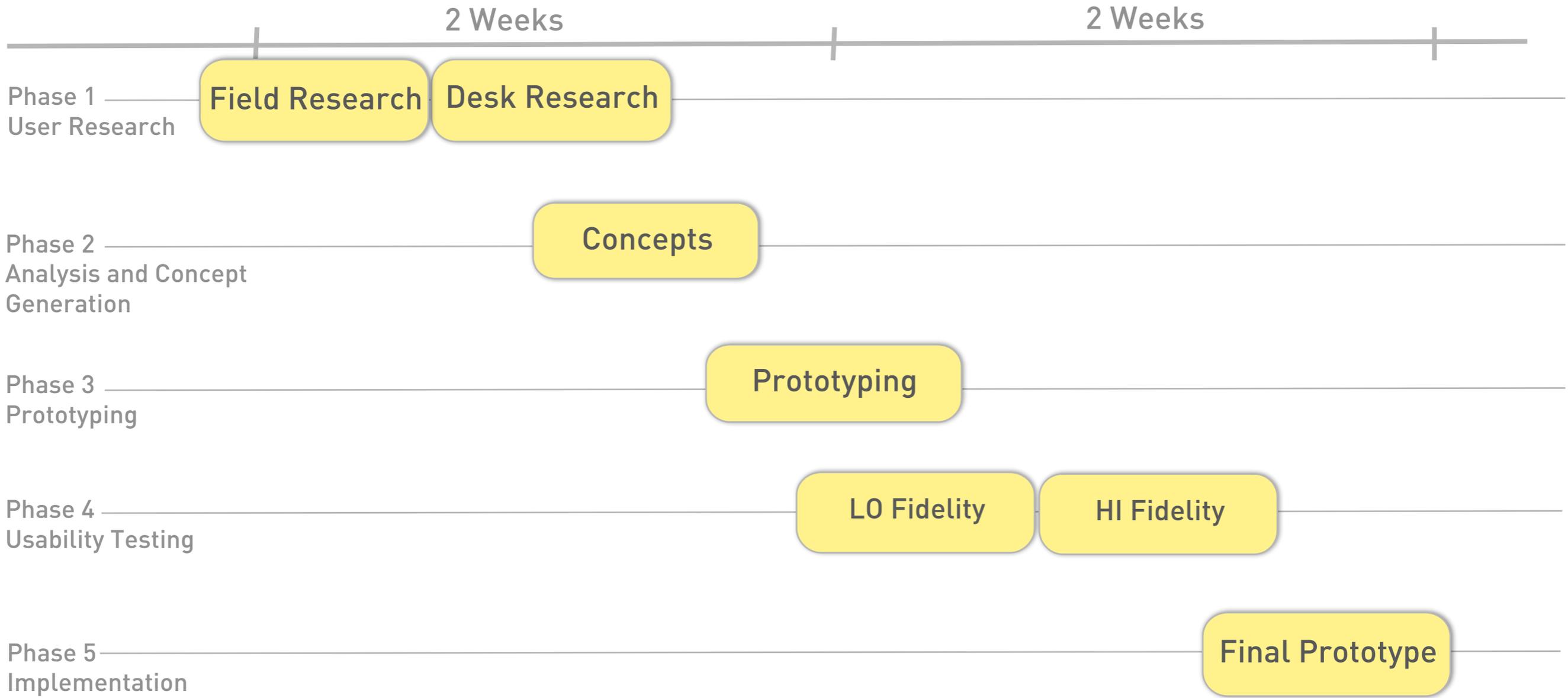
- Intro & Designprocess Phase
- Values and Levels of Prototyping
- UX Prototyping Techniques
- Prototyping Case Study



Some Examples
from a school
called
**Copenhagen
Institute of
Interaction
Design
(CIID)**



Some Examples
from a school
called
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Institute of
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Design
(CIID)**





- SOCIAL NETWORKING
- OTTIUM™
- SCREEN WALL
- E-MAIL - TO - LETTER
- SKYPE - TV
- FAMILY FRAME + POLAROID
- ELDERLY AS RESOURCE (~~SCREENPHONE~~)
- GREEN HOUSE (PET HOME?)
- TIME MACHINE
- STORYTELLING DEVICE
- MEMORY - TRIVIA

ELDERLY EXPERIENCE

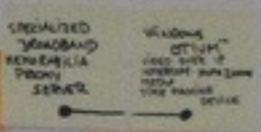
CONNECTIONS AND EXPERIENCE KNOWLEDGE OF THE ELDERLY... THE CONTINUED LIFE OF SENIORS... (Mentored) A SERIES OF... & THE SCHOOL KIDS WILL... LINK TO THE ELDERLY, LEARN & APPRECIATE WHAT THEY HAVE TO OFFER.

NANNY

EXCURSIONS

SCREENPHONE

UI - interface and portal for the elderly



TV channel's elderly focus OTTIUM PROF

CHINA - Link to... 1-8-03

RFD'S SHEETLIER



MEMORIES - Experience - Title - content - objects - photos, videos, old memories

Small storytelling

See through walls / see what's behind

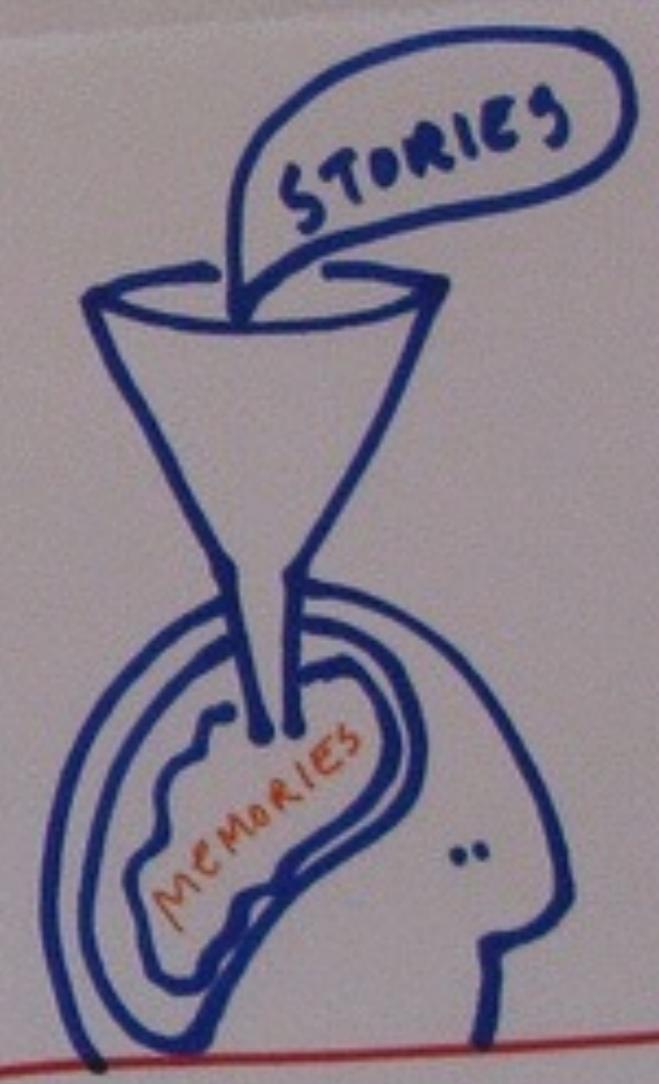
SCREEN WALL - virtual / common space

changing walls (walls turn into streets)

WITH POLAROID

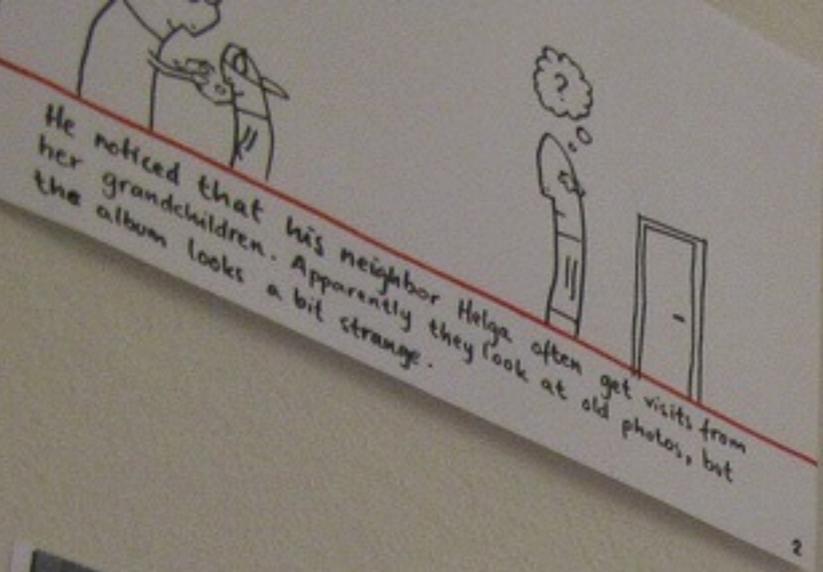
SKYPE TV

PICTURE FRAME 1 ASPECT

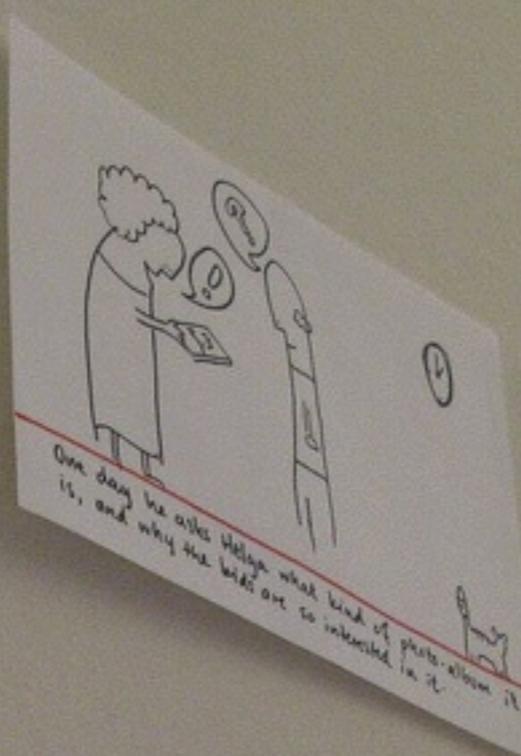


↳ Social studies!

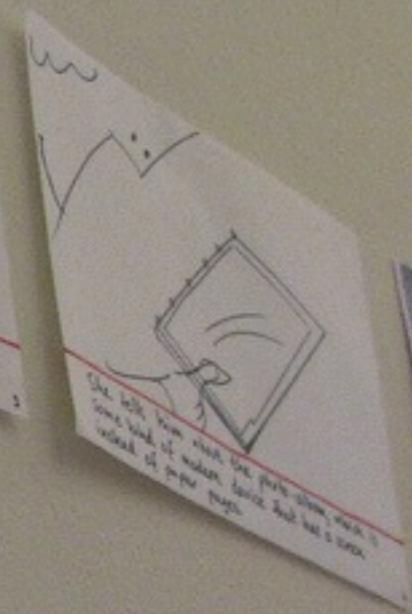
els a bit



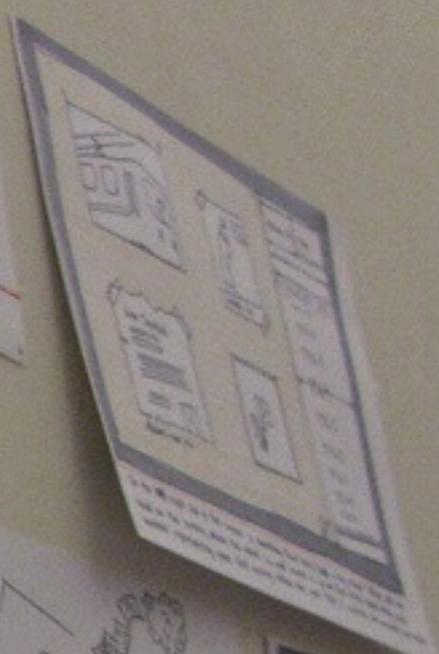
He noticed that his neighbor Helga often get visits from her grandchildren. Apparently they look at old photos, but the album looks a bit strange.



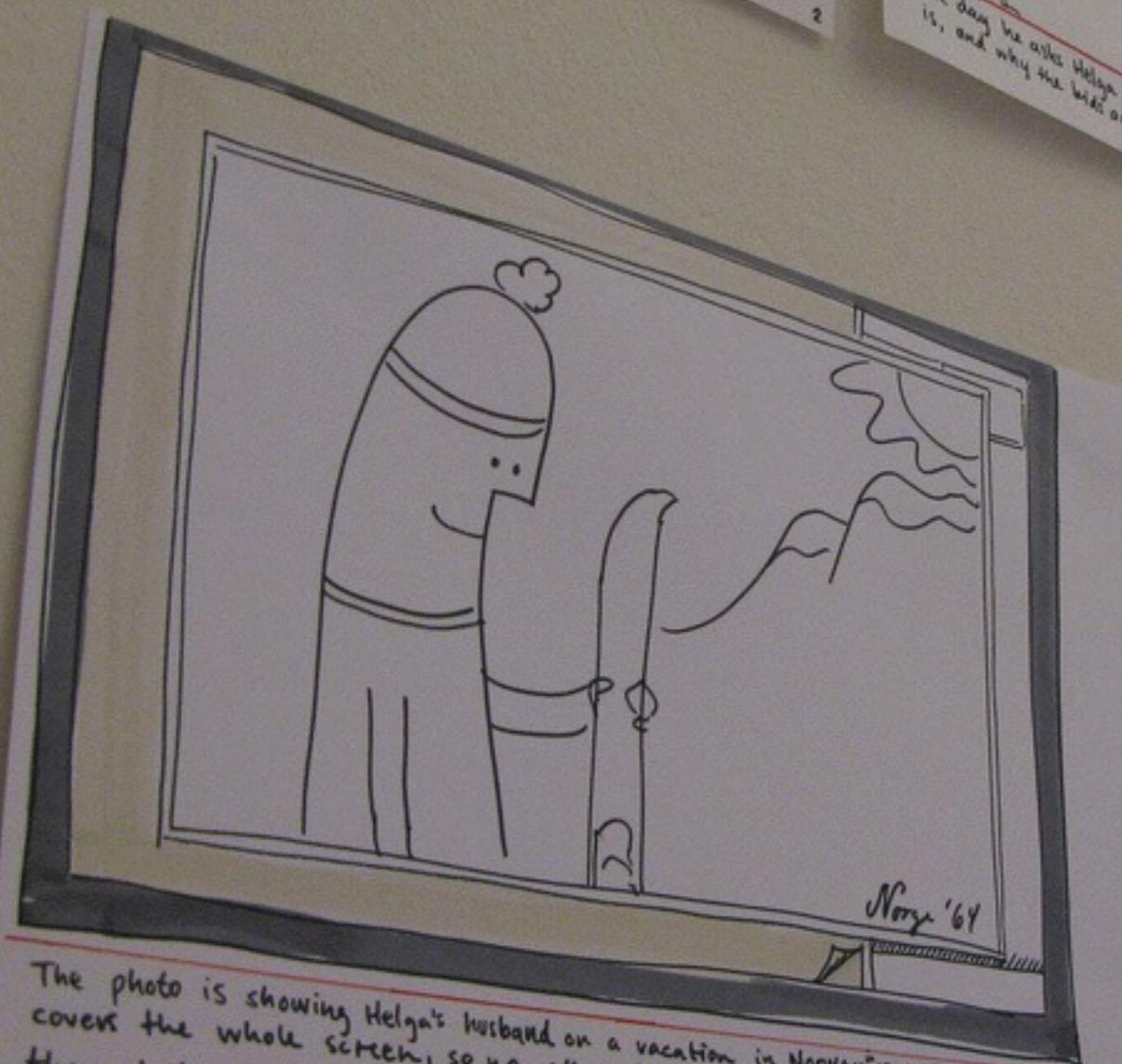
One day he asks Helga what kind of photo-album it is, and why the kids are so interested in it.



She tells him that the photo-album, which is some kind of modern device that had a screen instead of paper pages.



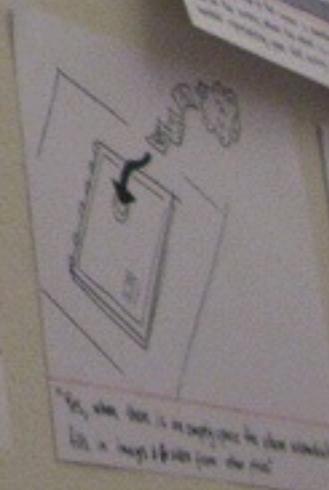
The photo album is a modern device that has a screen instead of paper pages. It is a photo album that has a screen instead of paper pages.



The photo is showing Helga's husband on a vacation in Norway 1964. The photo covers the whole screen, so no other buttons can be pressed. She touches the photo again, and it shrinks to its original size.



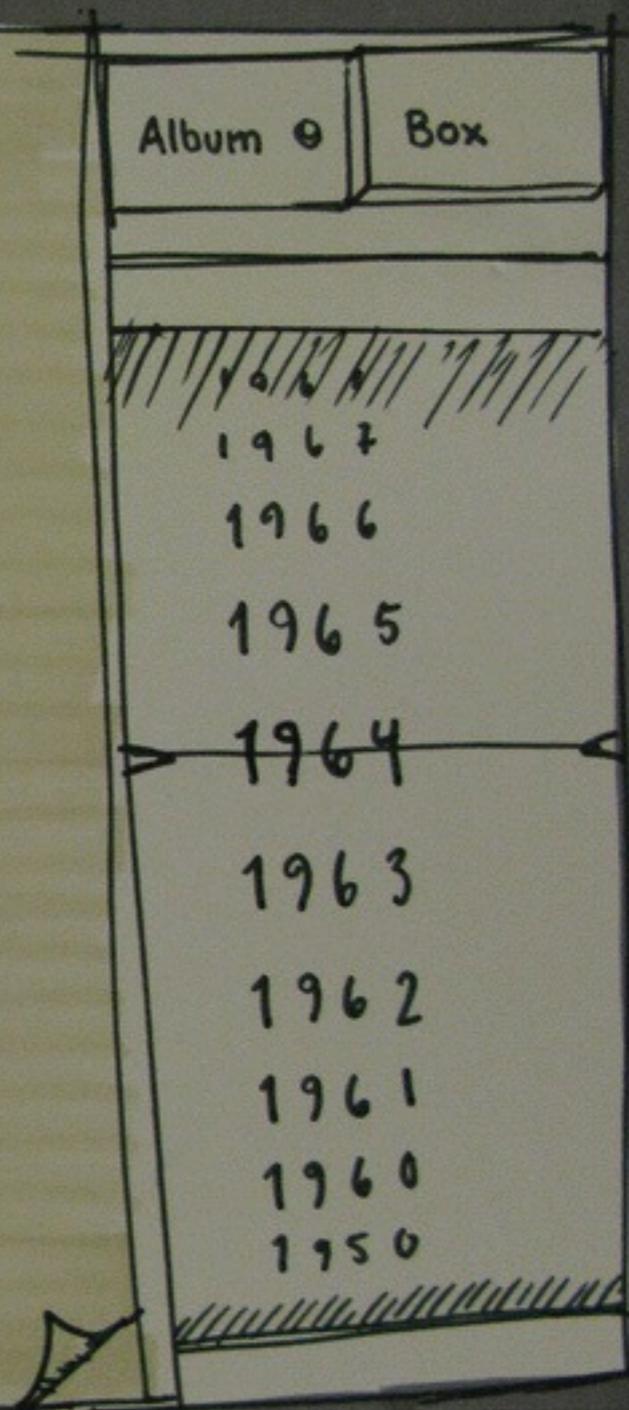
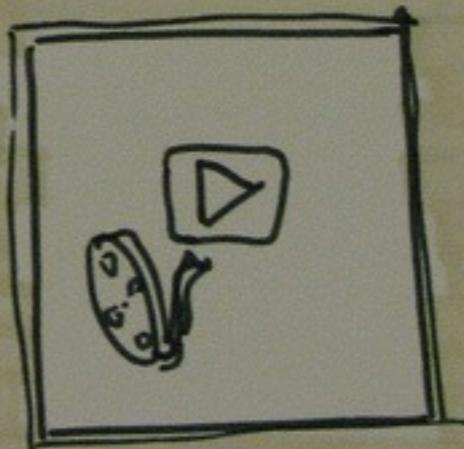
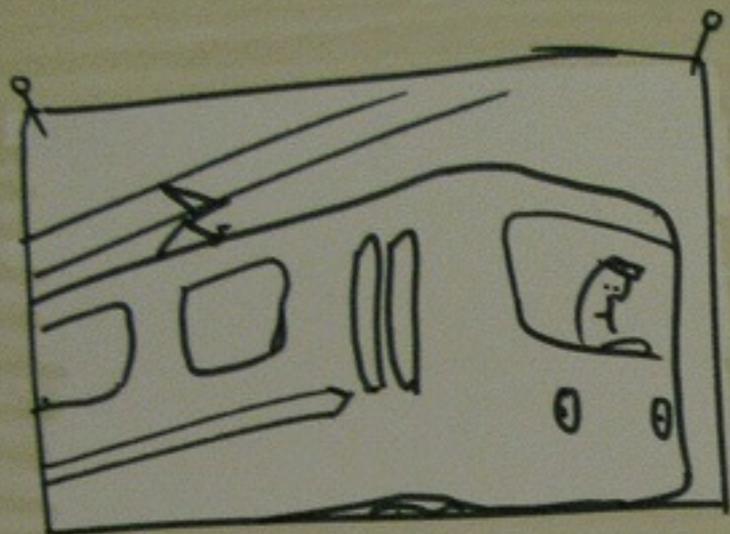
"So you have personal photos in it? But why didn't I also see a photo from Polviken in there?" Albert asked.



"Yes, when there is no space more the photo automatically fits in images & photos from other times."



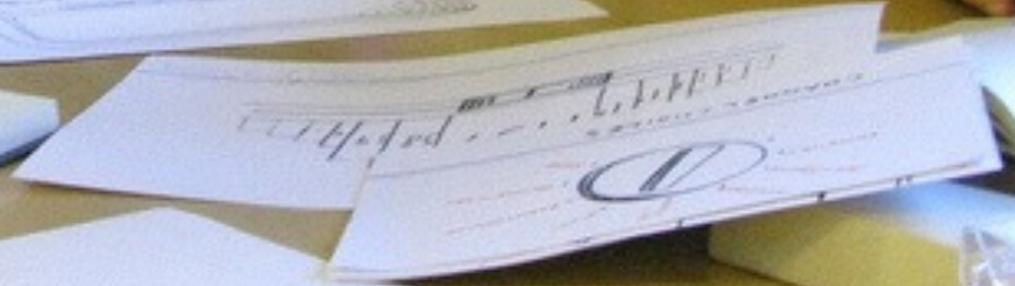
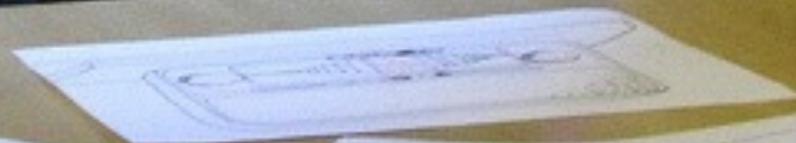
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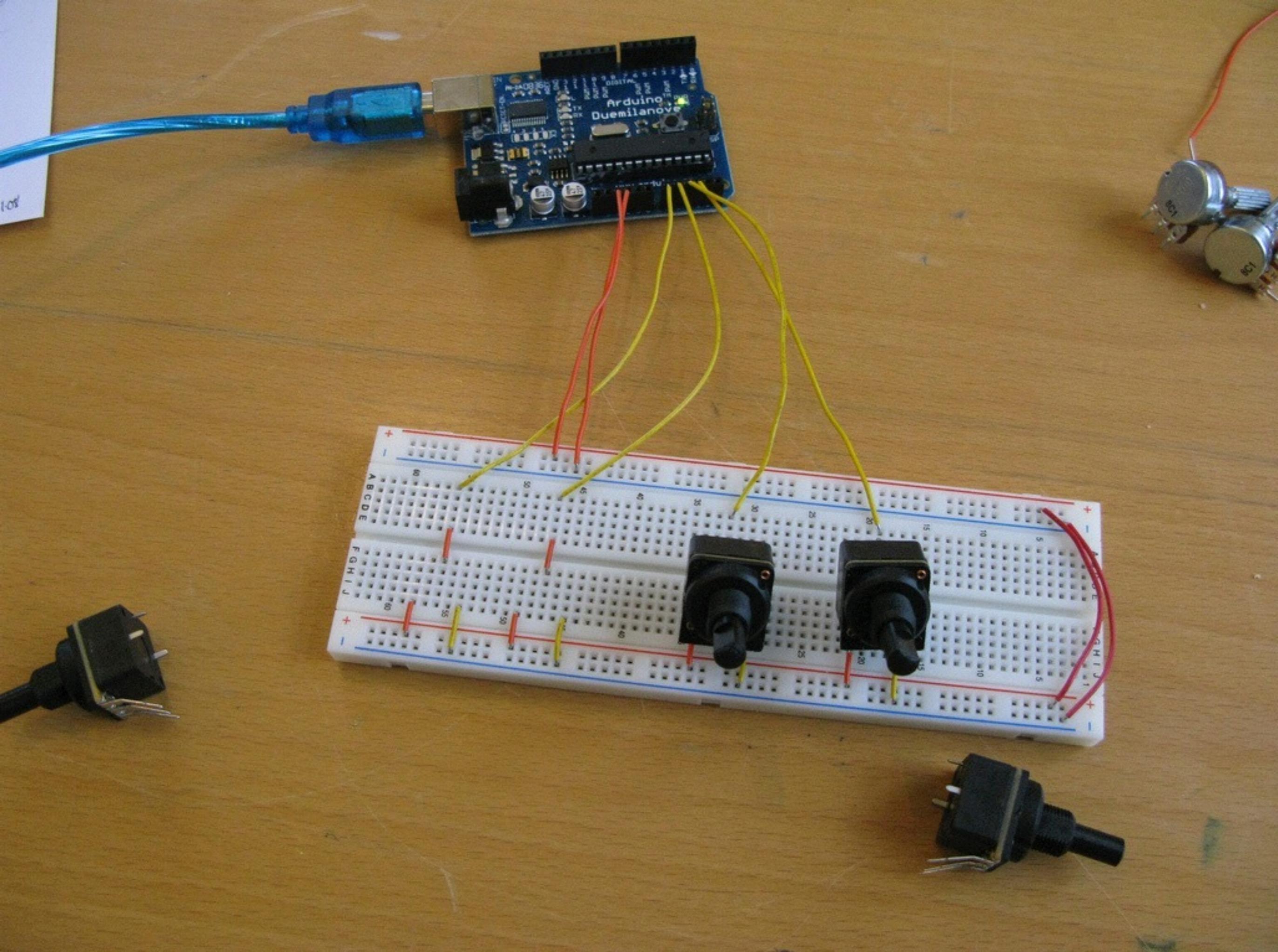
On the ~~left~~ right side of the screen is something that looks like a big wheel. Helga puts her hand on the screen, where the wheel is, and moves it up. The wheel starts rolling and numbers representing years start moving. When the year 1964 is centered, she removes her hand.



ROSINA WACH









Viseaften
Journalistforeningen
1968, Music

1965 1970 15 Favorites





Viseaften

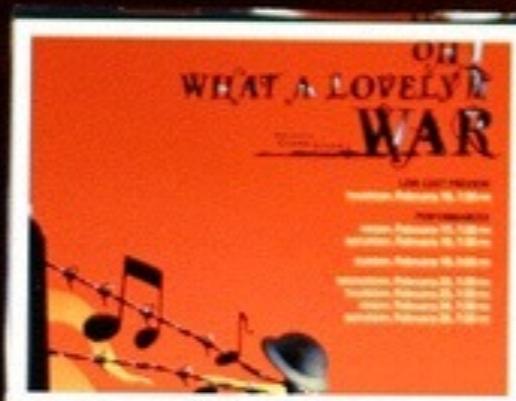
Journalistforeningen

1968, Music

198

Favorites

De



What a lovely war

Glenn Gauer

1978, Radio Theater

1975

1980

19

Favorites

DC

OH I
WHAT A LOVELY
WAR

Glenn Gauer
1978, Radio Theater

1975 1980 19 Favorites DC

Thanks for your attention !

References (books)

Bill moggridge: designing interactions

Publisher: The MIT Press; 1 edition (October 1, 2007)

ISBN-10: 0262134748

Bill buxton: sketching the user experience

Publisher: Morgan Kaufmann (March 30, 2007)

ISBN-10: 0123740371

Don norman: the design of everyday things

Publisher: Basic Books (September 17, 2002)

ISBN-10: 0465067107

Kevin mullet: designing visual interfaces

Publisher: Prentice Hall PTR (December 15, 1994)

ISBN-10: 0133033899

links: www.ciid.dk

www.arduino.cc

http://www.useit.com/papers/guerrilla_hci.html