

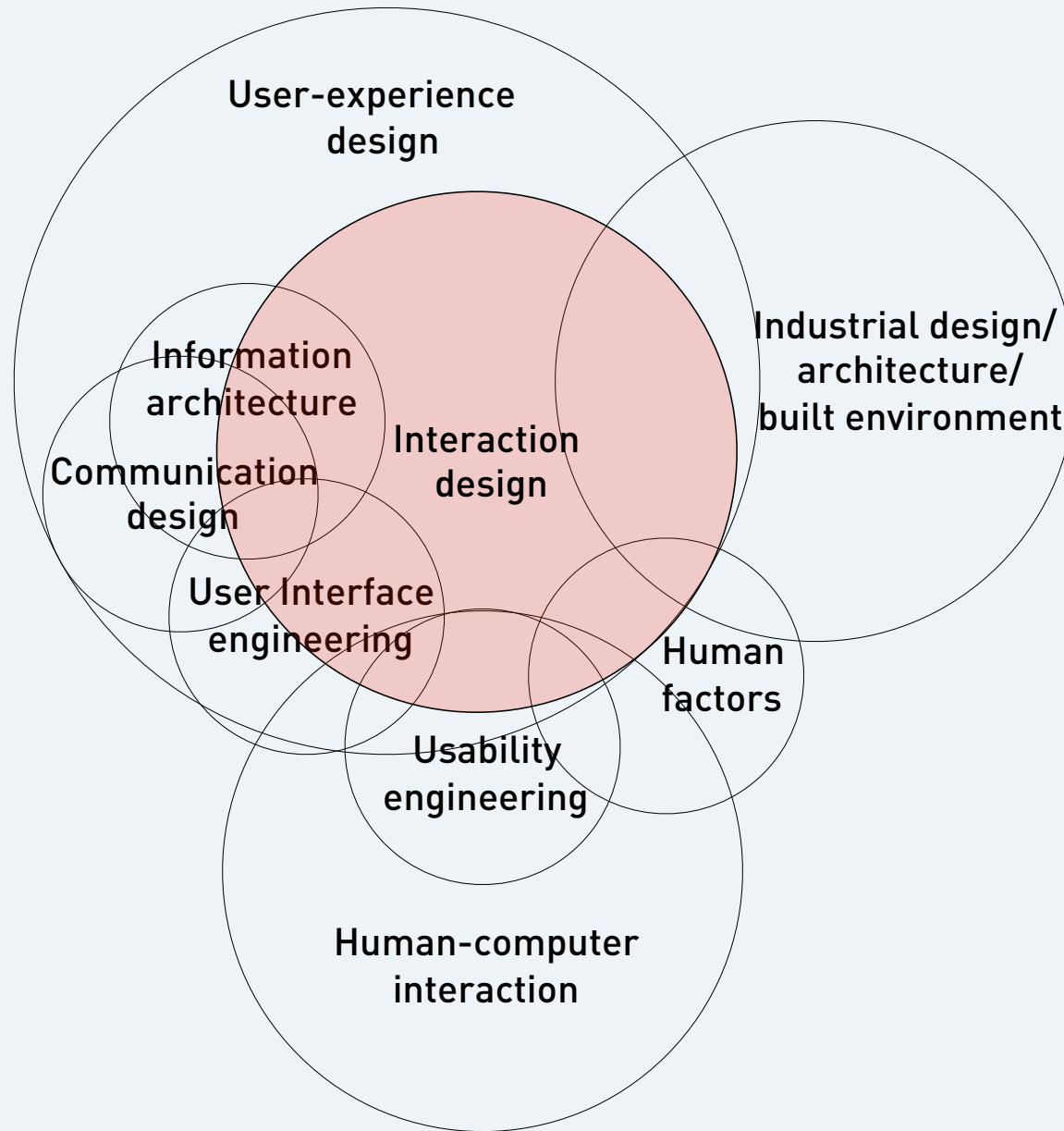


**TUM**  
TECHNISCHE  
UNIVERSITÄT  
MÜNCHEN

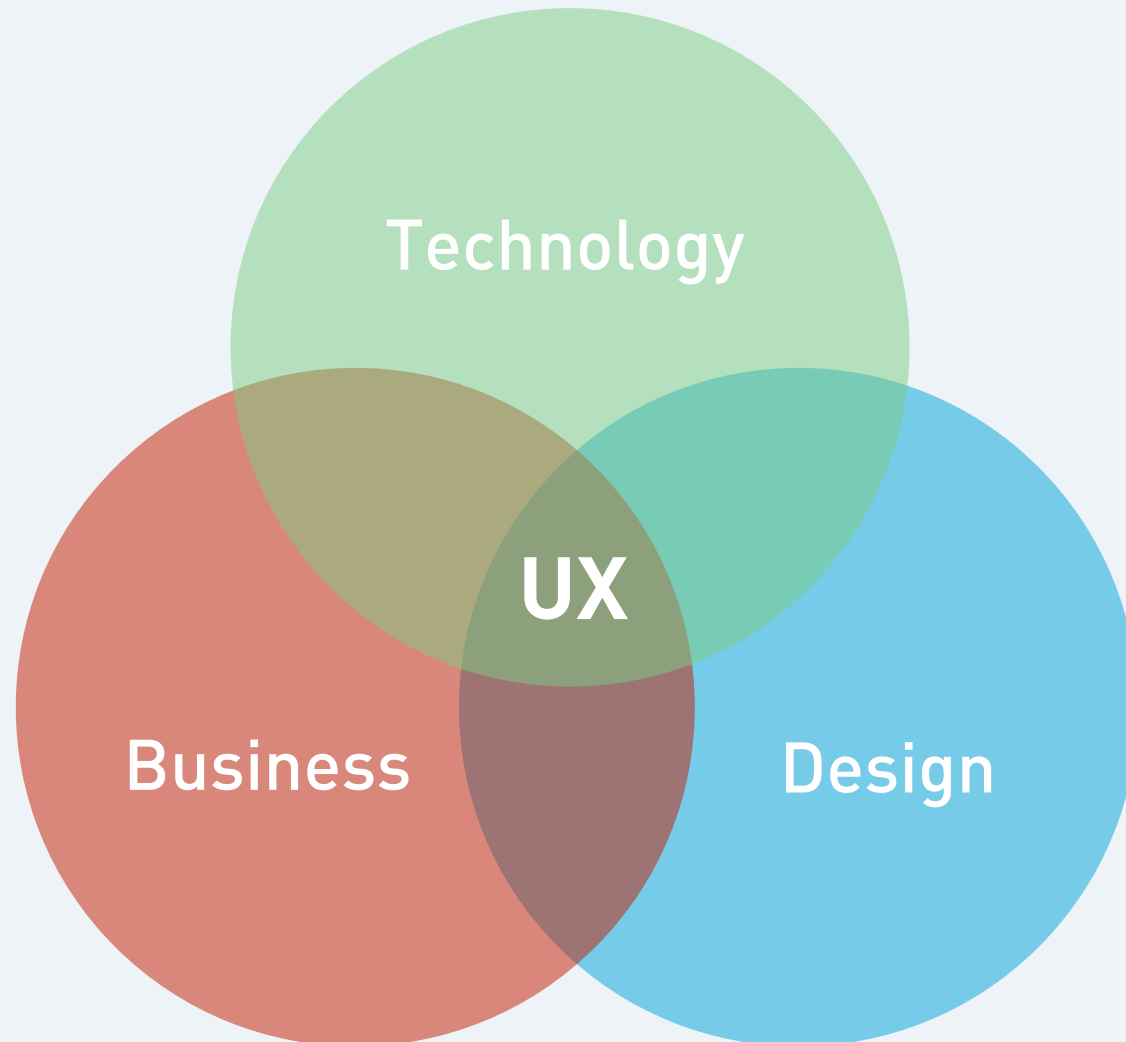
Welcome!

# Designworkshop II

What are we doing here ?



# 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

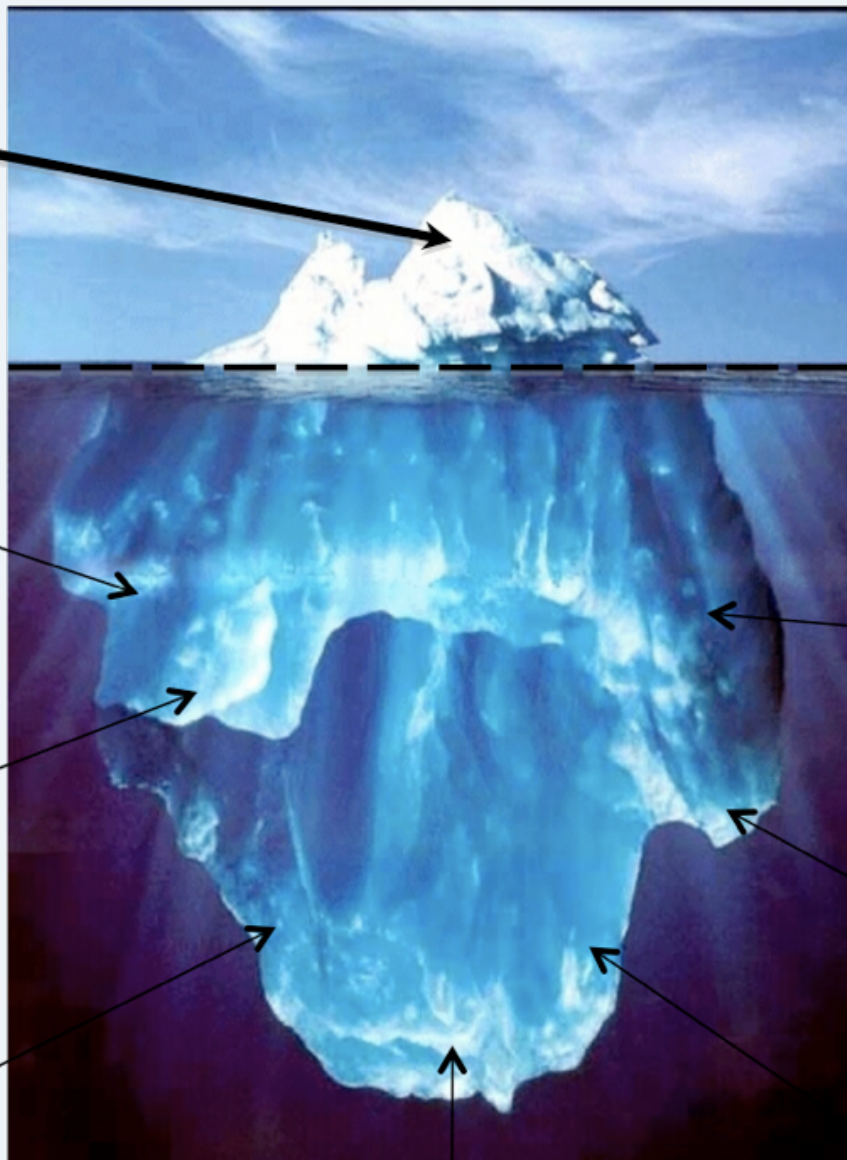
Combining

Contextualizing

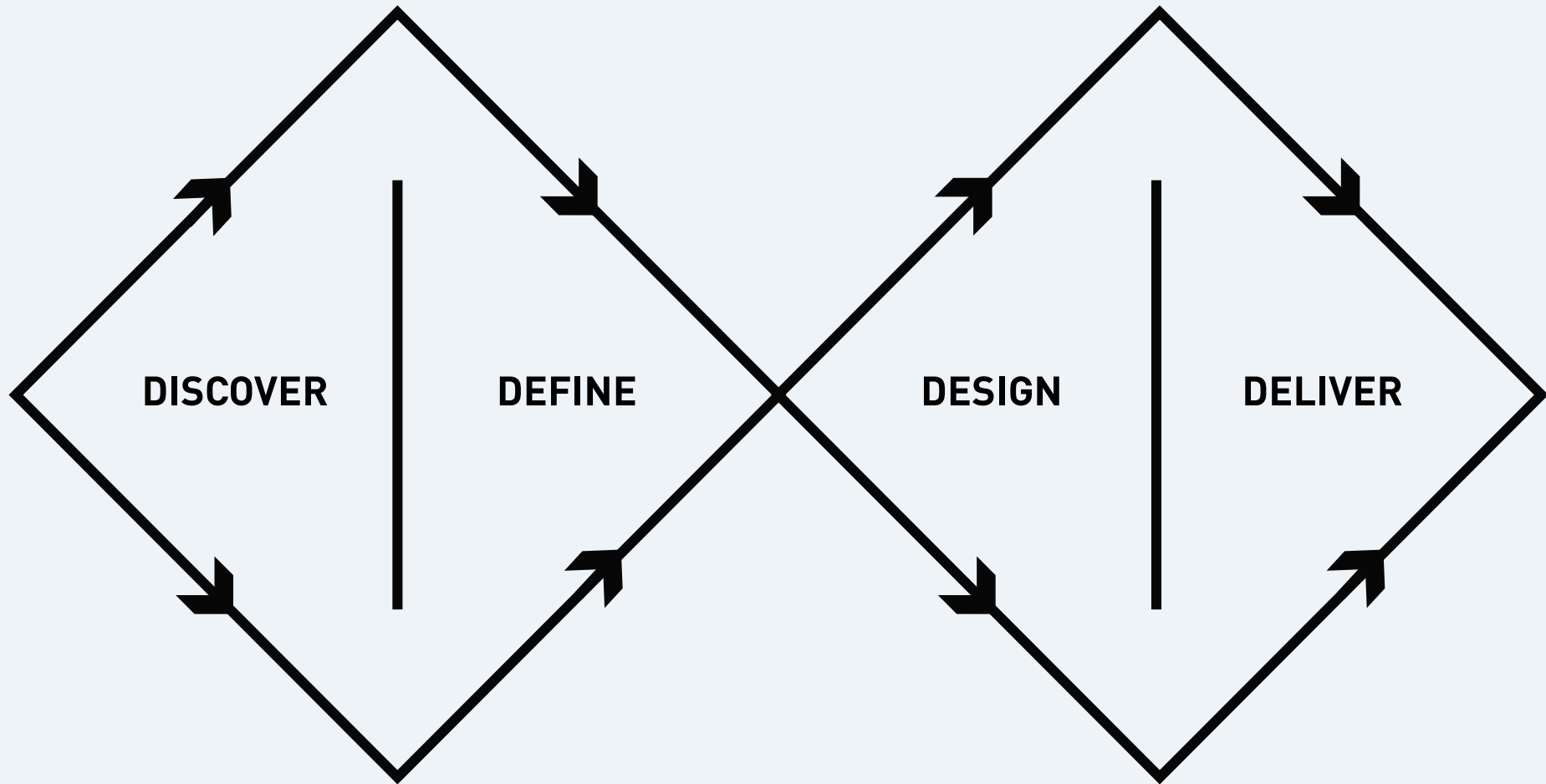
Transferring

Coordinating

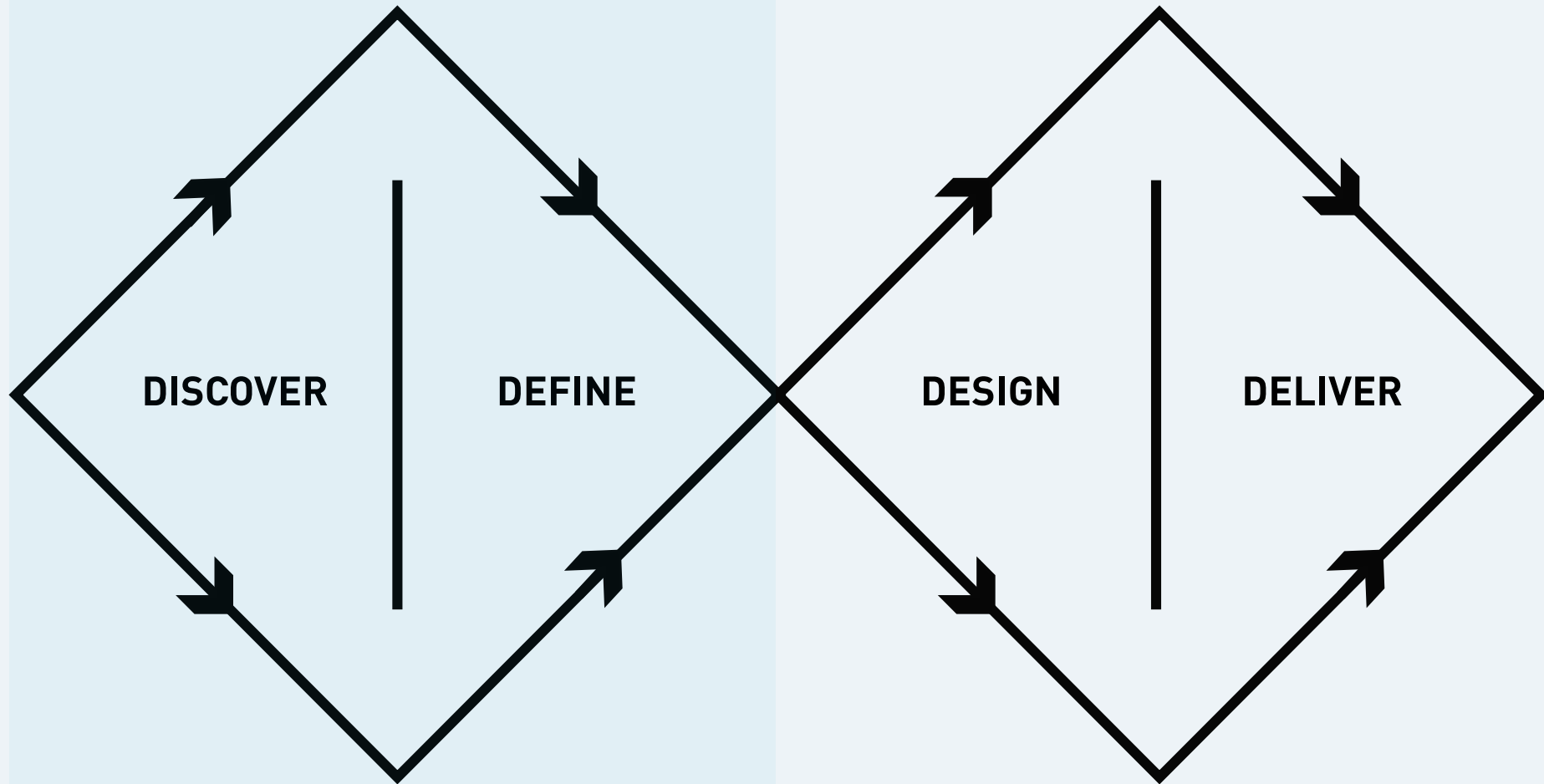
Storing



# Double Diamond

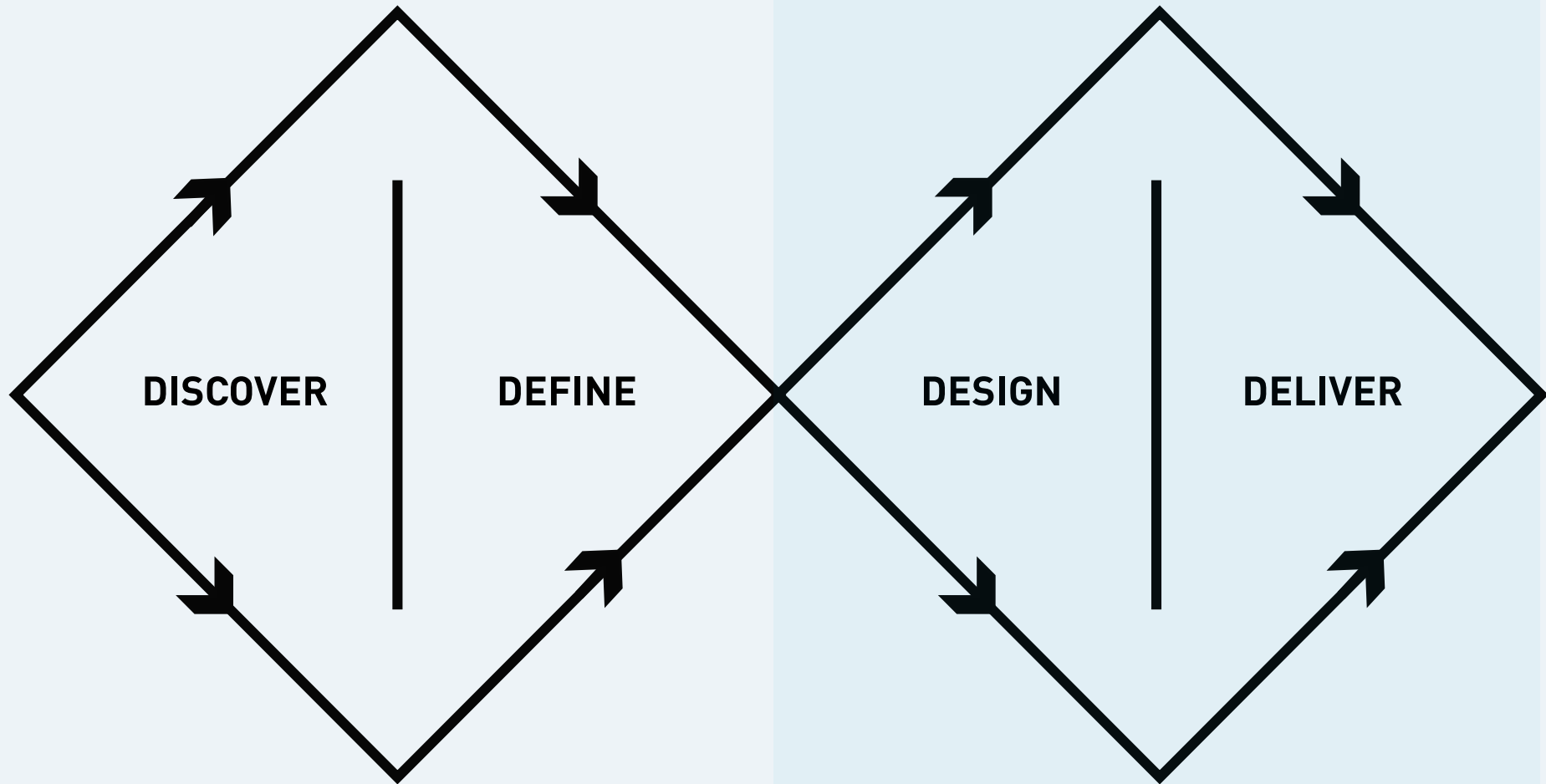


# Double Diamond



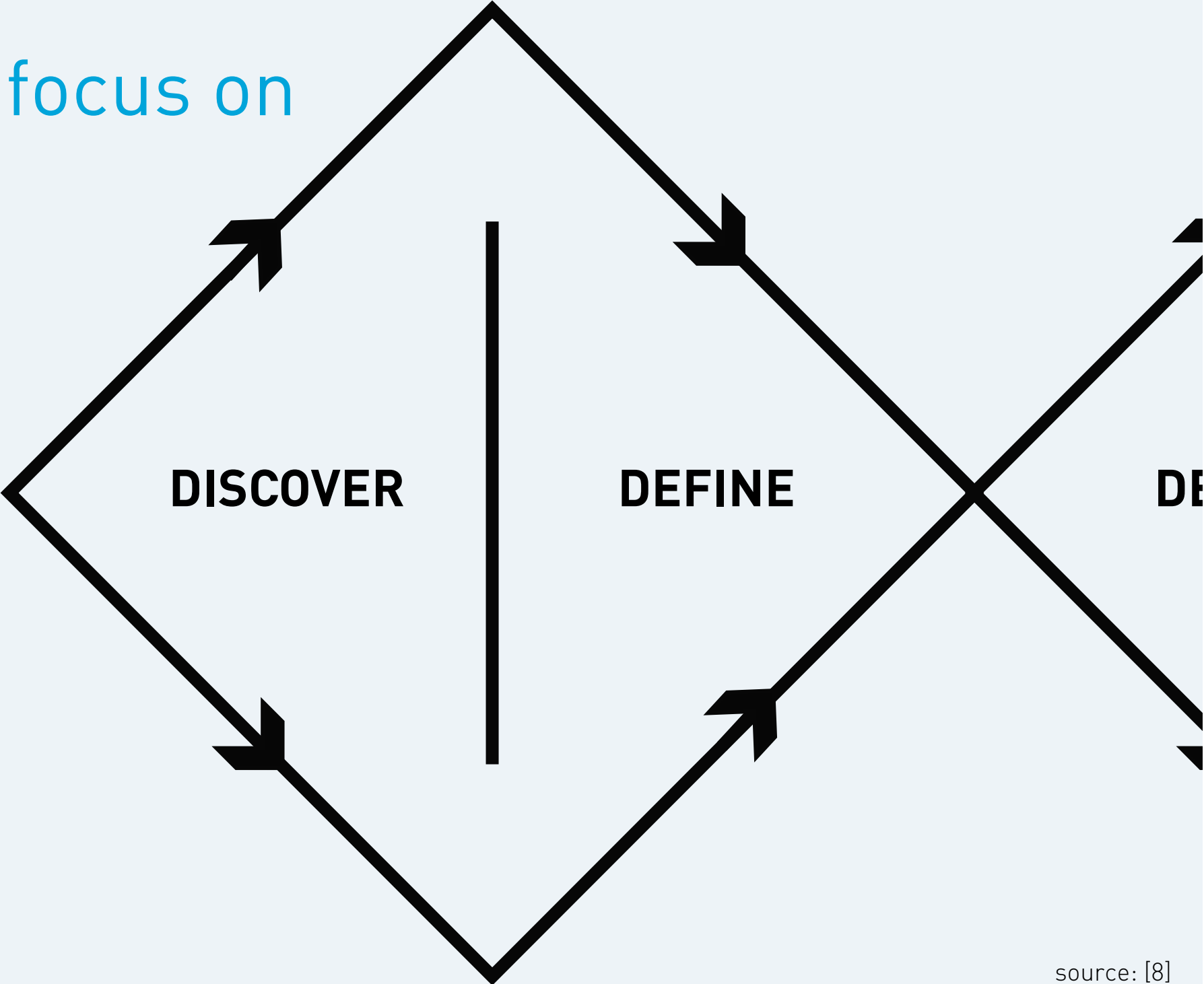
**Why? and How?**

# Double Diamond



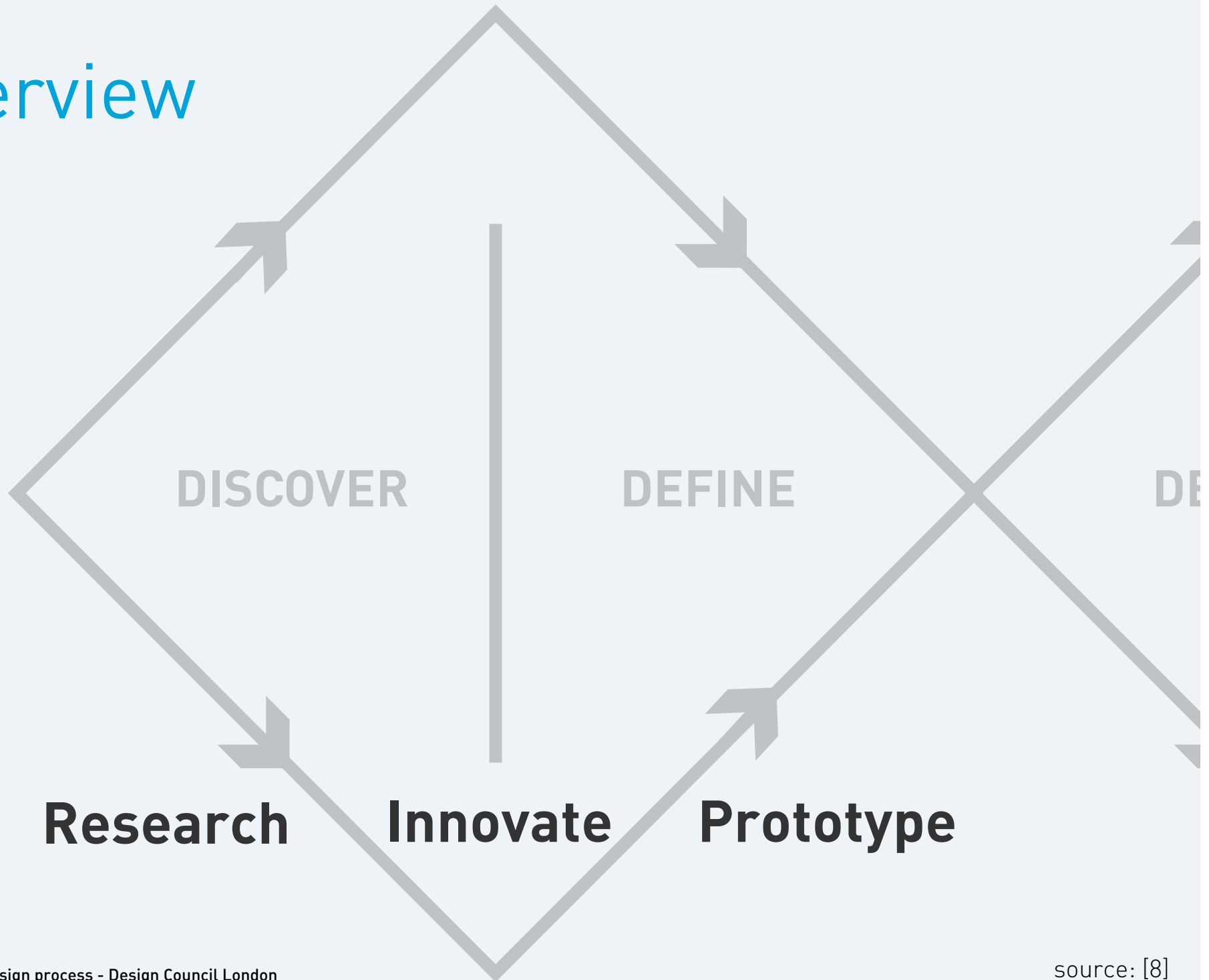
**What?**

We focus on



source: [8]

# Overview



Overview



DISCOVER

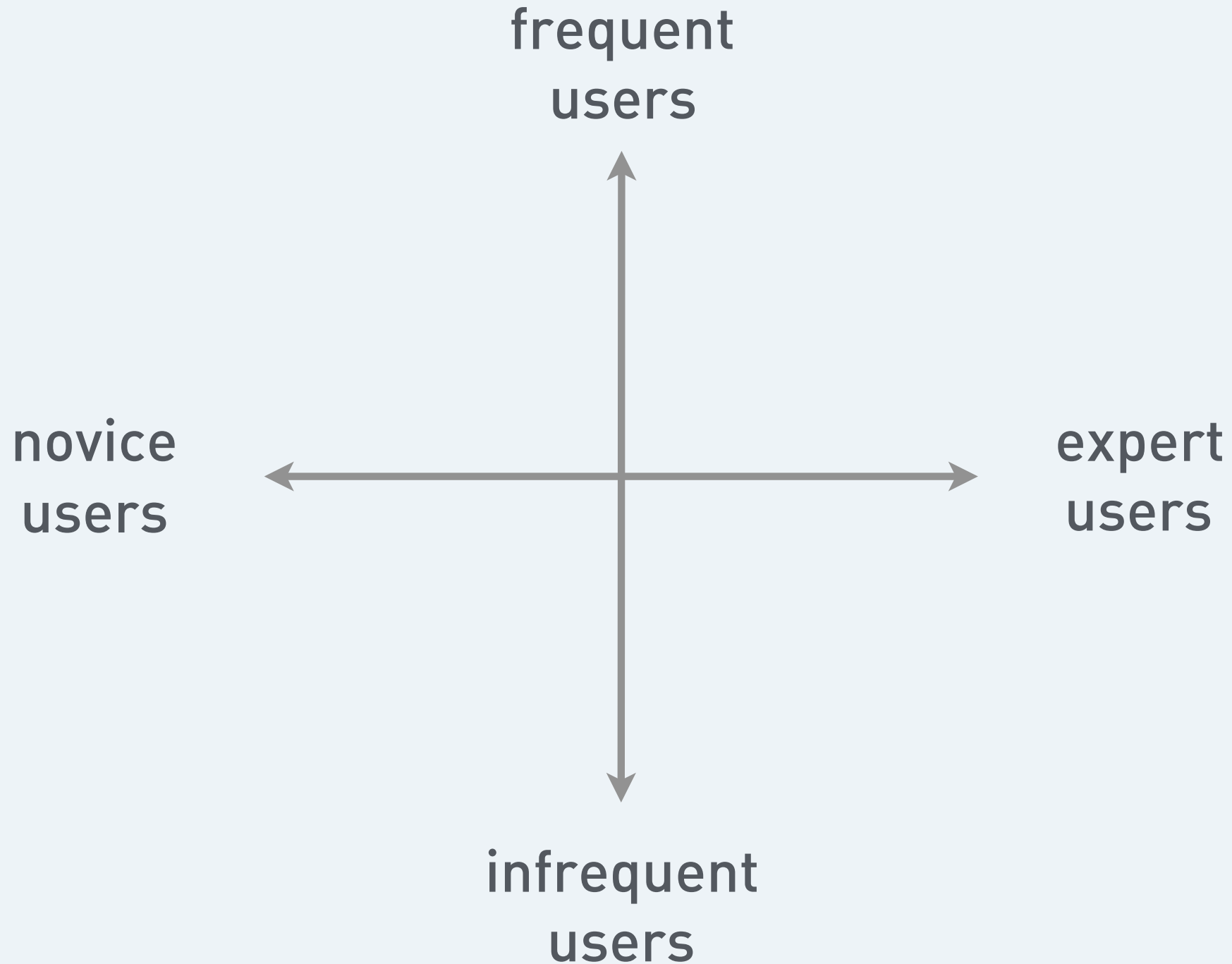
Get to know your problem/  
subject

Gather insights about the  
user and their life

Collect artefacts &  
impressions

Record tasks

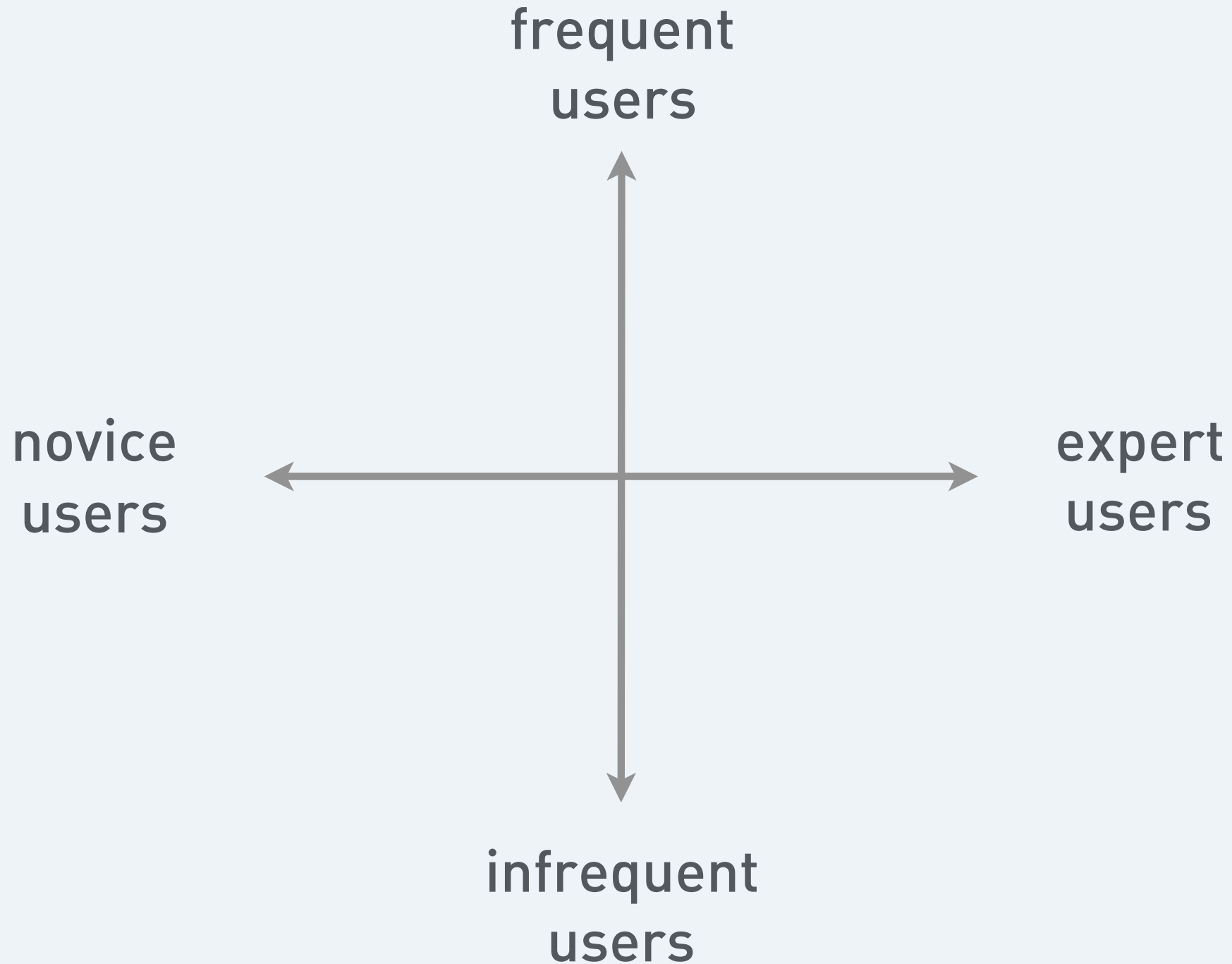
**Research**







BMW i8 Cockpit



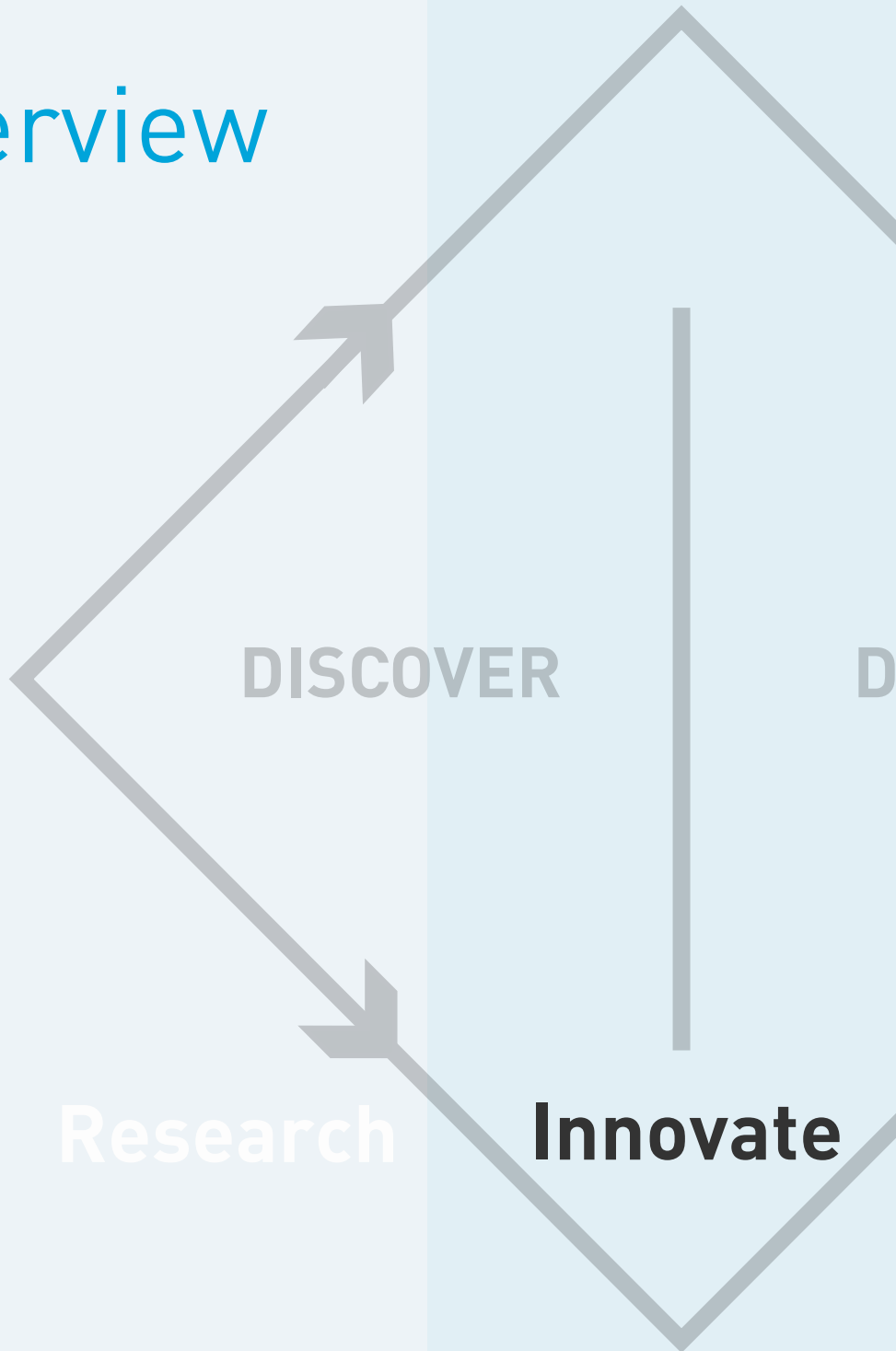


# BMW DTM Racing Cockpit

[http://2.bp.blogspot.com/\\_SM9A\\_sqVGm/S9XON6l\\_WtI/AAAAAADww/HcrQgfuHgl/s1600/Audi+R15+Plus+Cockpit.jpg](http://2.bp.blogspot.com/_SM9A_sqVGm/S9XON6l_WtI/AAAAAADww/HcrQgfuHgl/s1600/Audi+R15+Plus+Cockpit.jpg)

Different, usage contexts, user types  
and usage frequency will require  
dedicated solutions.

Overview



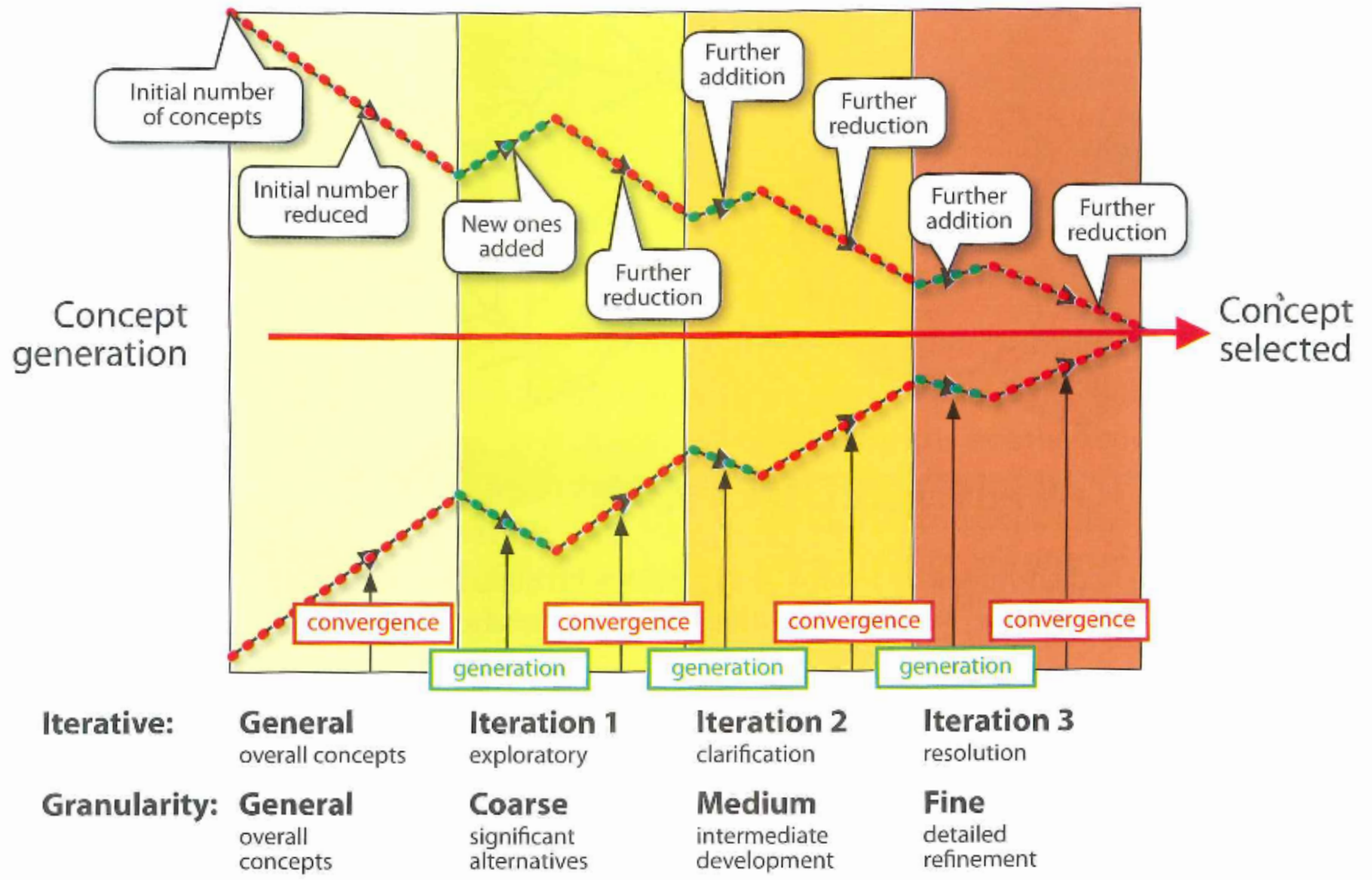
Make sense of your data

Identify important facets

Keep all players in mind

Collect and prioritise ideas

Develop & validate solutions



# OVERVIEW

The Course

# Approach

Tackling a real world architectural design challenge by:

- Applying an iterative design process in all phases from research to final prototype
- Working in teams



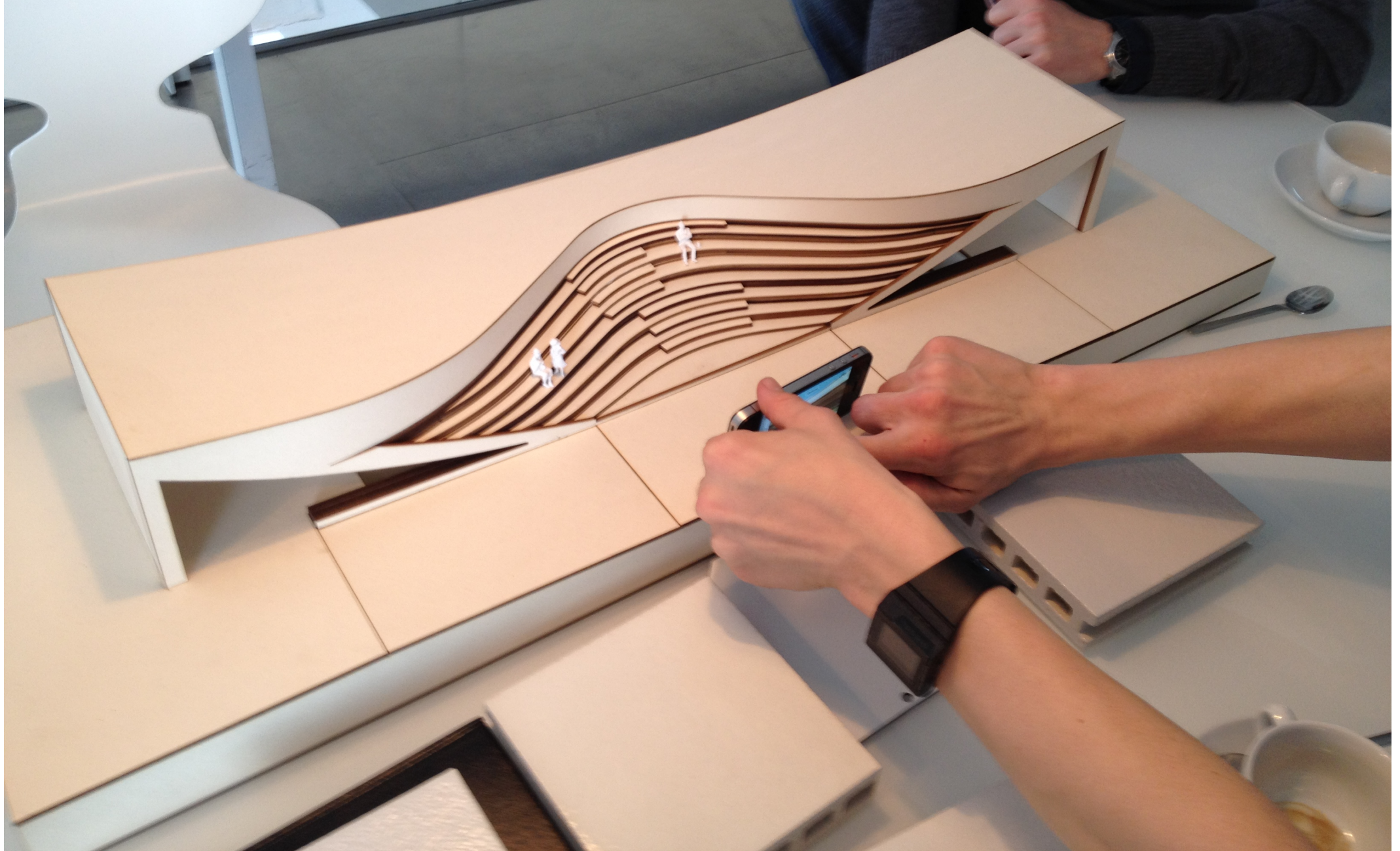
# The Goal

A final presentation that includes milestone deliverables for each phase and a self-explanatory and functioning prototype\* at the end of the semester.

\*transportable, maximum size of a standard desk

# Workshop Theme:

Escaping Flatland -  
Tools zur Gestaltung der  
Urbanen Zukunft



Standard Method: Scale Model



# Grading

- Attendance of & participation in meetings

- 4 deliverables: in time, complete

- Strength of conceptual work (deliverables 1,2)

  - Quality of research

  - Is your concept solving the problem you framed?

  - Is your concept merging hard- and software?

  - Is it supporting ease of usability, conveying information, an emotional experience?

  - How innovative is your concept?

- Strength of prototyping (deliverables 3,4)

  - Does it make the idea experienceable?

  - Does it work? Is it self-explanatory?

- Presentation

  - How crisp could you bring your work across?

  - Presentation skills, material

# Milestones & Deliverables

NOW: Kick off



May

June

July

August

# Milestones & Deliverables: Research

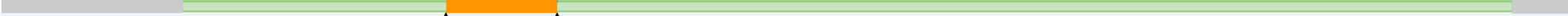
15th May Testat: Portfolio wall

May

June

July

August



# Milestones & Deliverables: Concept

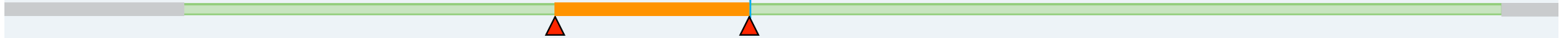
12th June: 3 Storyboards - Decision

May

June

July

August





# Milestones & Deliverables: Low-Fi Prototyping

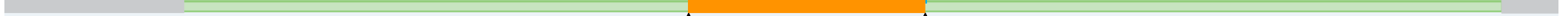
03rd July: Low Fidelity  
Prototypes Presentation

May

June

July

August



# Milestones & Deliverables: High-Fi Prototype

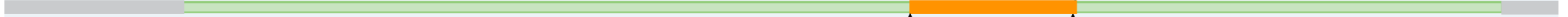
24th July Final Presentation

May

June

July

August



# Until 15.05.17

Research: Problem Framing & Use Case

- Desk Research on interaction concepts & existing applications
- Analysis of current design practice
- Portfolio Wall as tangible output

# Competitive Analysis / Current Interface

## Four different adjustments

just to make AC right the way you like it.

## Too many buttons

Buttons could be simplified and grouped further.

## AC adjustments

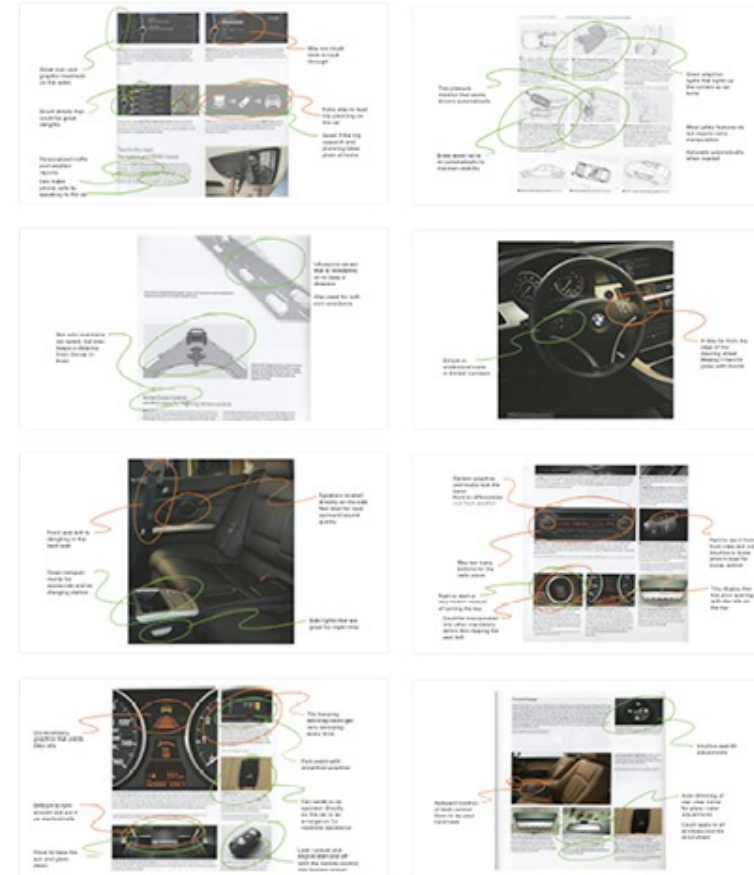
do not show up on navigation screen.

## Turning Knob

for the screen on top is far back; Poor ergonomic.



Buttons with simple icons are centralized at a convenient location.



## What is working?

- Screen does not need to be at the same place as control.
- Tactile feel of button/Button grouping
- Use of color, materials, textures, and lights can improve information heirarchy.

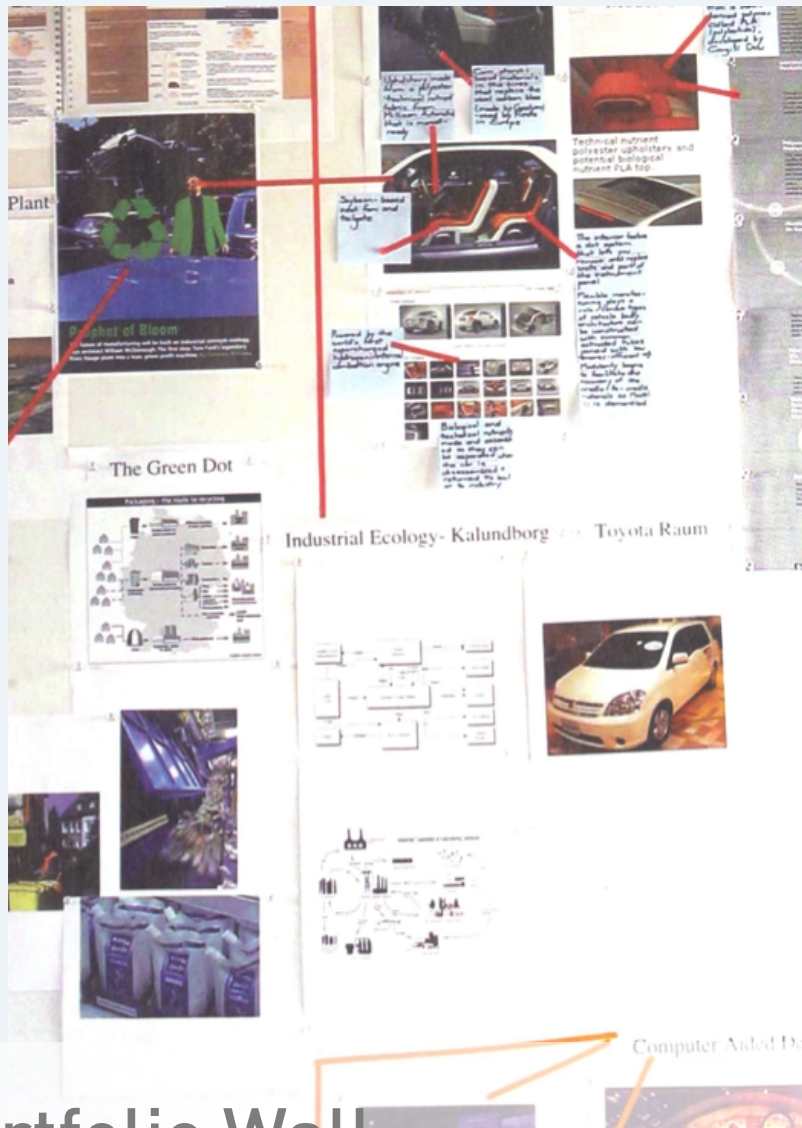
## What is NOT working?

- Appropriate position for frequently used buttons is important.
- Too many buttons are intimidating.
- Buttons are scattered and not intuitive position.
- Touchscreen requires too much attention.
- Buttons rely on small icons/text which is hard to read.

# Competitive Analysis

# References:

- [1] Buxton, W. Sketching User Experiences, Morgan Kaufmann 2007.
- [2] Blom, J & Chipchase, J : Contextual and cultural challenges for user mobility research, ACM Press 2005.
- [3] CHI '10 Panel Discussion on User Research, 2010.
- [4] Copenhagen Institute of Interaction Design, User Research Workshop 2008.
- [5] Jonas, W. A Scenario for Design, MIT Press 2001.
- [6] Norman, D. The Psychology of Everyday Things, Basic Books 1988.
- [7] Moggridge, B. Designing Interactions, MIT Press, 2006.
- [8] Rogers, Y., Preece, J. & Sharp, H. Interaction Design, Wiley & Sons 2011.
- [9] Saffer, D. Designing for Interaction, New Riders 2009.
- [10] Walonick, D. Survival Statistics, 2004.



# Portfolio Wall

# Competitive Analysis / Current Interface

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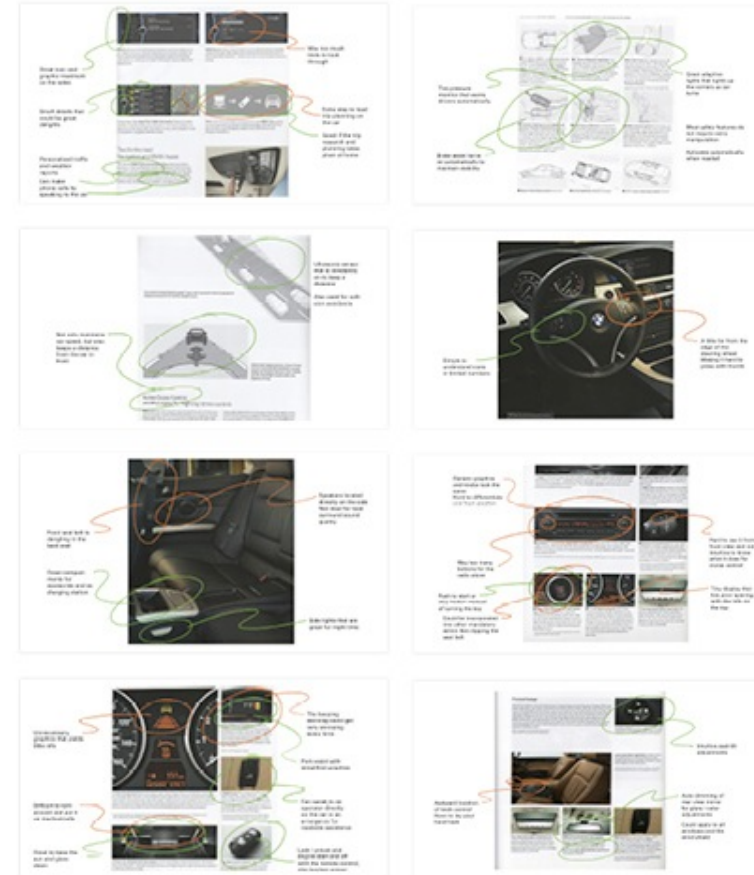
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## What is working?

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- Tactile feel of button/Button grouping.
- Buttons on steering wheels.
- Use of color, materials, textures, and lights can improve information heirarchy.

## What is NOT working?

- Appropriate position for frequently used buttons is important.
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- Buttons rely on small icons/text which is hard to read.

**Trends Insight**

- More wireless connectivity to information and to others.
- More seamless integration between digital and physical world.
- Devices are more content driven and user centric.
- Better customization capabilities and mobile computing is more prevalent.

**Interior Comforts**

**Communication between Driver and Passengers**  
Taking the comfort to the next higher plane, models like the 2007 Ford Expedition have ensured better communication between passengers from first to third row by using improved materials in the carpet and other features.

**Sound Insulation from Exterior**  
The SUV provides more insulation behind the dashboard and door panels, thick glass and a steady roof panel, thus preventing itself from blocking the sounds.



**Competitive Analysis**



# Literaturrecherche

Google / Google Scholar

<http://scholar.google.de>

ACM Digital Library

<http://portal.acm.org/dl.cfm> -> BibTex, Referenzen, Verweise

Citeseer

<http://citeseer.ist.psu.edu/cs>

IEEE Xplore

<http://ieeexplore.ieee.org/Xplore/guesthome.jsp>

# Literaturrecherche

Zugriff auf diverse Literaturdatenbanken (ACM, IEEE) über LRZ-VPN und -Proxy:

<http://www.lrz-muenchen.de/services/netzdienste/proxy/browser-config/>

Zugriff auf das ACM Portal und IEEE über LRZ-Proxy:

<https://docweb.lrz-muenchen.de/cgi-bin/doc/nph-webdoc.cgi/000110A/http/portal.acm.org/portal.cfm>

Zugriff auf Zeitschriften:

<http://docweb.lrz-muenchen.de/>

# Webrecherche

Techblogs:

[engadget.com](http://engadget.com)

[ted.com](http://ted.com)

Zugriff auf Zeitschriften:

<http://docweb.lrz-muenchen.de/>