

DesignWorkshop 2

Physical Interfaces for AI Assistants

Marin Zec - Johanna Schlechter - Beat Rossmly - Alexander Wiethoff

Welcome! - 15.04.2024



Welcome! Course Organisation and Teaching Modules:



Marin Zec



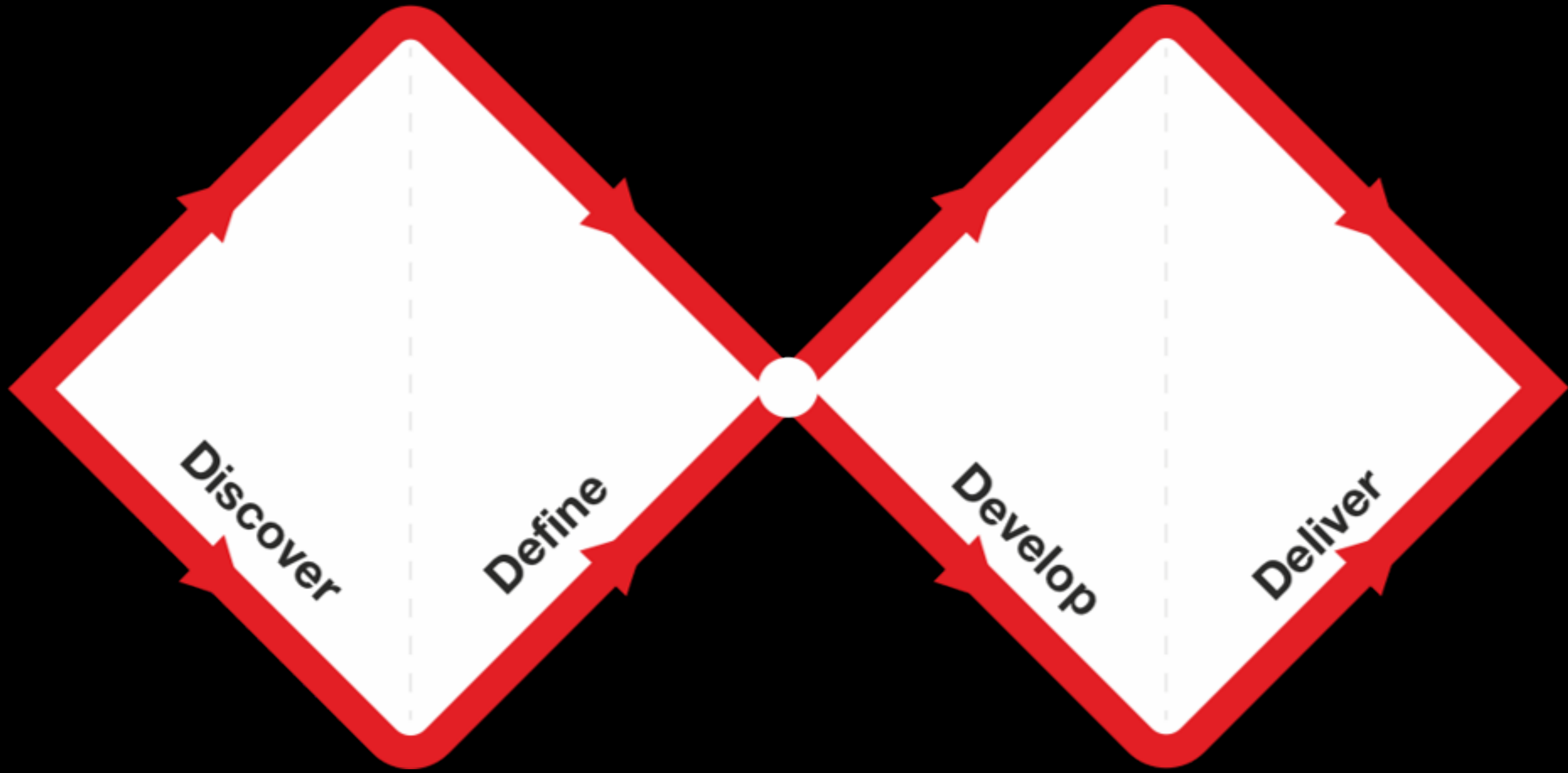
Johanna Schlechter



Alexander Wiethoff



Beat Rossmly



Discover

Define

Develop

Deliver

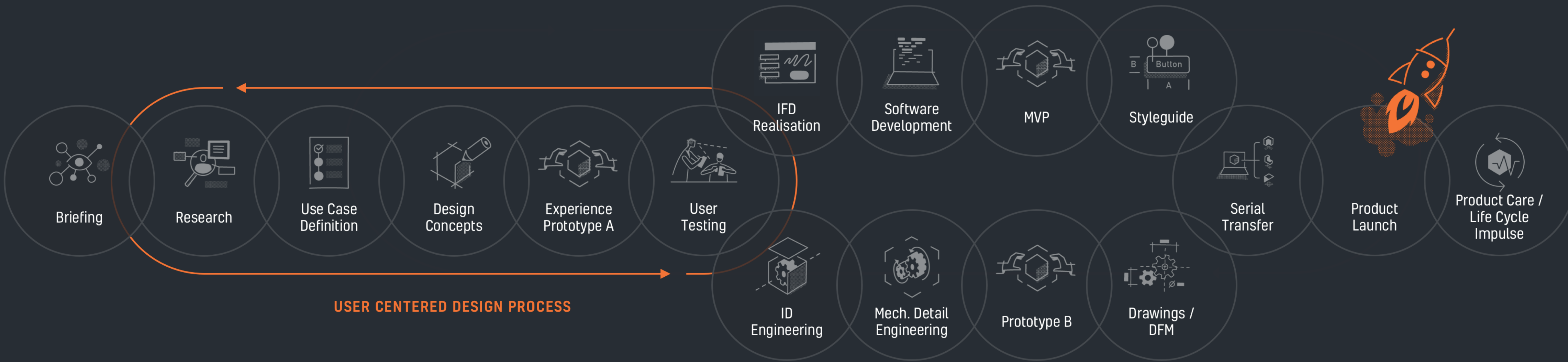
Process

UNDERSTAND

EXPLORE

MATERIALIZE

LIVE



Topic:

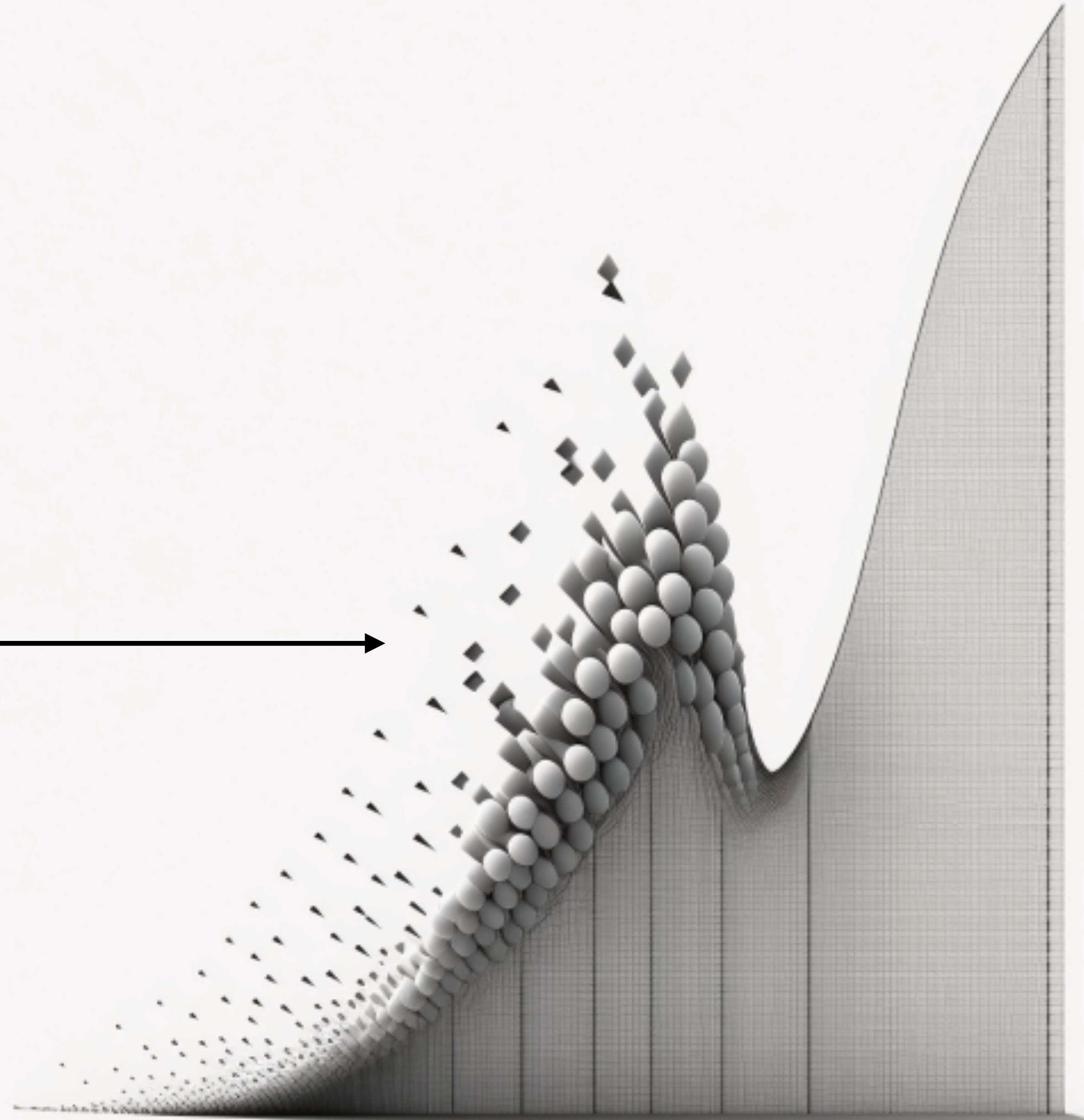
- Physical AI Assistants
- Identification of new input/output metaphors for AI Assistants
- Brainstorming through prototyping

Learning Objectives:

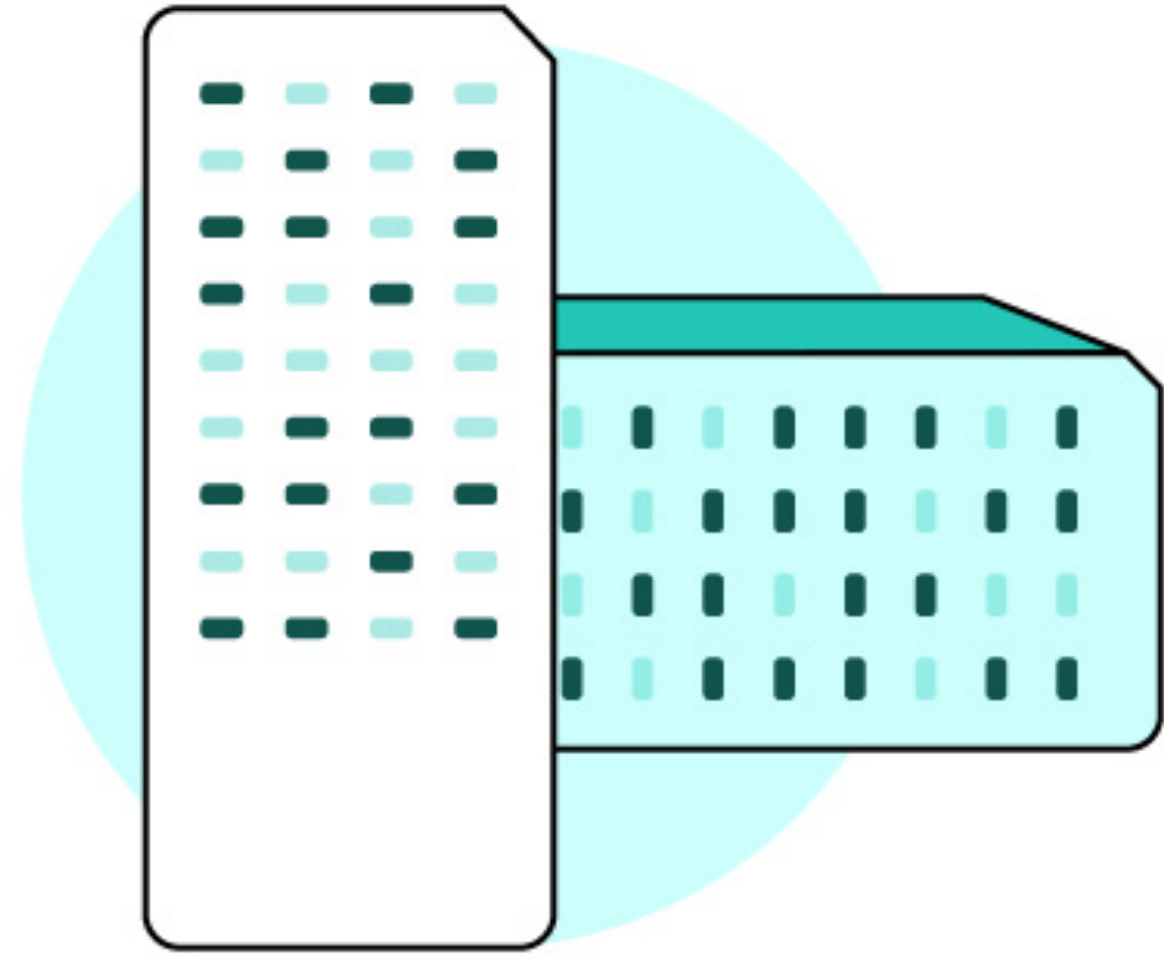
- Interdisciplinary collaboration
- Prototyping experiences (Design Process)
- Critical thinking

AI

What's here ?



User-Interface Paradigms of Computing



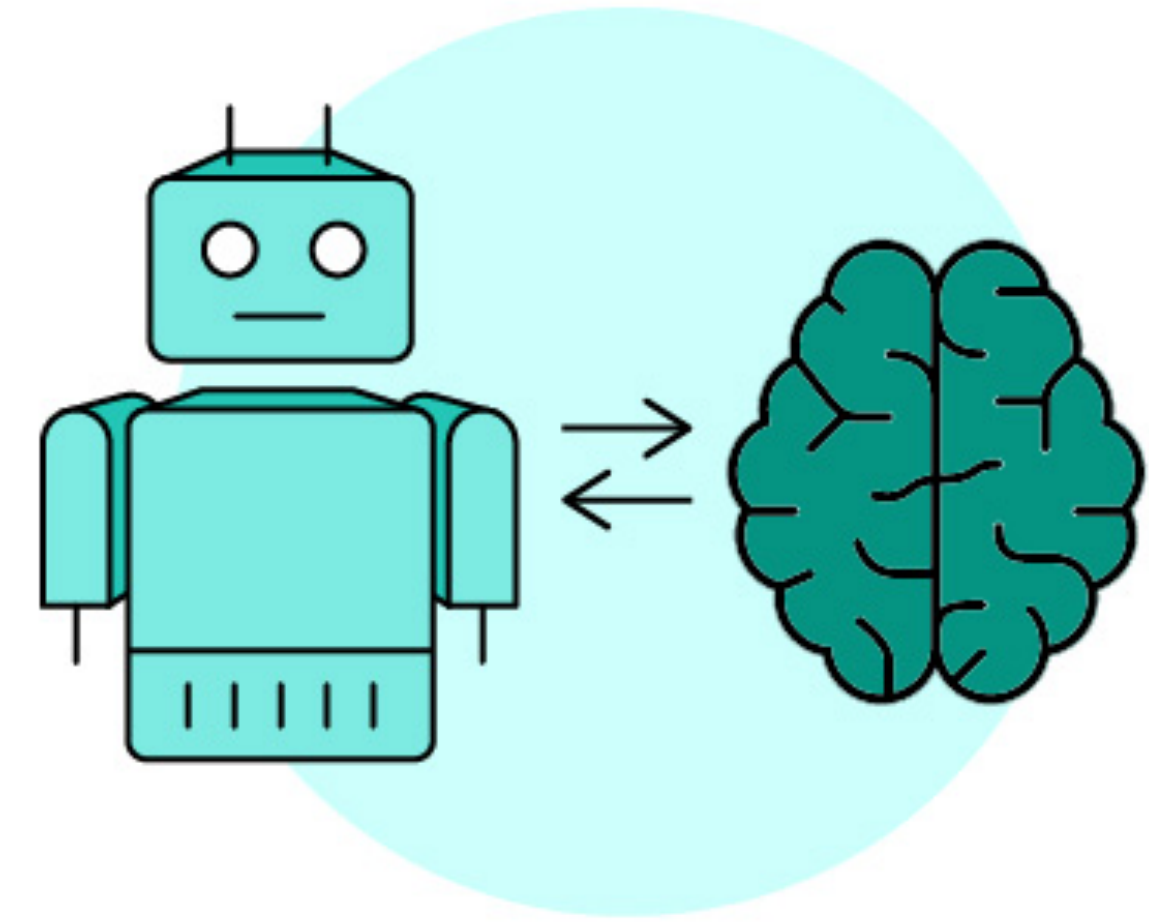
Paradigm 1

Batch Processing



Paradigm 2

**Command-Based
Interaction**



Paradigm 3

**Intent-Based
Outcome Specification**

ChatGPT

DALL-E

Logo Creator

Explore GPTs

Previous 7 Days

New chat

New chat

Kaffee-Maschine AI-Funktionen

Raspberry Pi Spotify Client.

Previous 30 Days

Büroinnenraum Darstellung

Windows KW Icon Addon

Moodboard A

Kaffee und Kuchen Kombinationen

KI-Startup Dienstleistungen für Ku

LEGO-style Cappuccino Illustratio


Empty the glass

Refer a friend

Add Team workspace
Collaborate on a Team plan

Johannes Klaer

ChatGPT 4 ▾



How can I help you today?

Create a workout plan
for resistance training

Write a course overview
on the psychology behind decision-making

Explain options trading
if I'm familiar with buying and selling stocks

Brainstorm content ideas
for my new podcast on urban design

Message ChatGPT...

ChatGPT can make mistakes. Consider checking important information.

- ImagoDesign
- Events
- SPRACHKANÄLE
- Allgemein
- TEXTKANÄLE
- # instructions
- # ifd
- # vos-elo
- # prototyping
- # private-projects
- # leica
- # playground
- # met-nxt

playground



U1	U2	U3	U4	🔄
V1	V2	V3	V4	

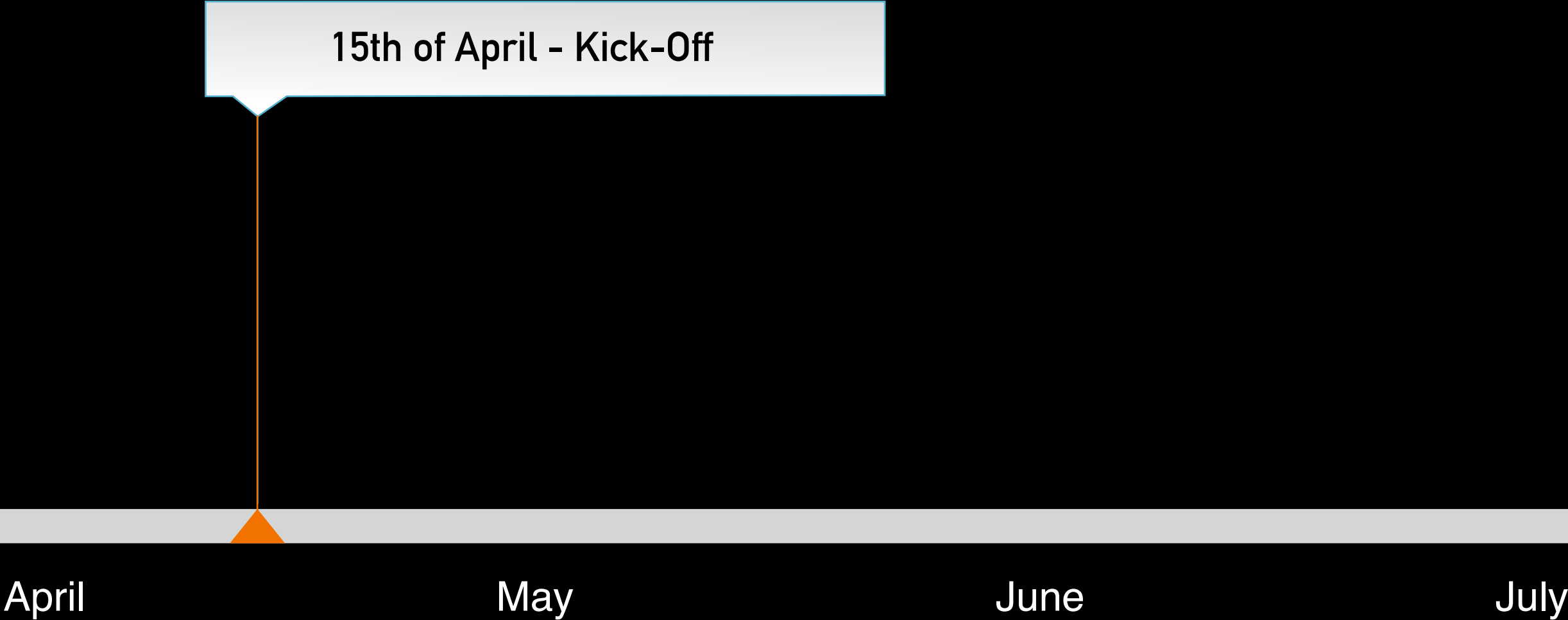
11:18 **product photography for a modern [pcr testing device], large display, sample catrige hatch, pharmacy, professional, UX, UI, UX/UI, usability, industrial design, apple style, white background, hyper realistic, professional lighting, e-commerce --v 6.0 - @ImagoDesign** (fast, stealth)



U1	U2	U3	U4	🔄
V1	V2	V3	V4	



Draft Timeline



Draft Timeline



Draft Timeline

April

May

June

July

29th of April - Portfolio Wall



Draft Timeline

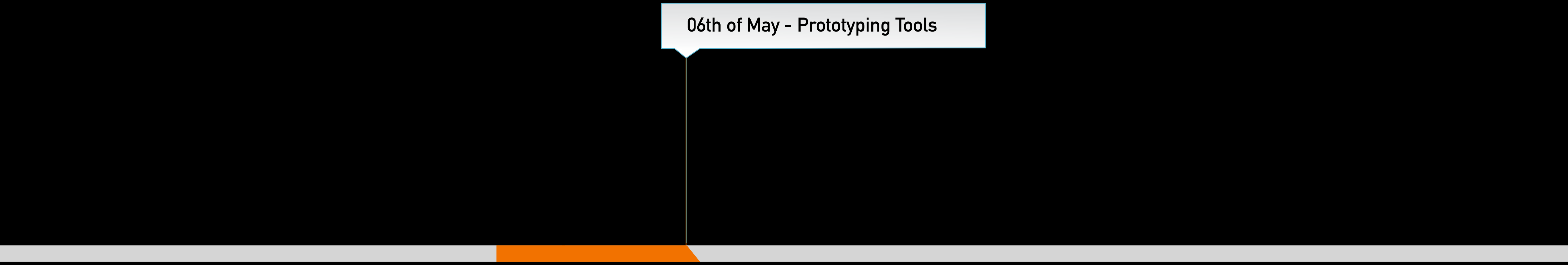
April

May

June

July

06th of May - Prototyping Tools



Draft Timeline

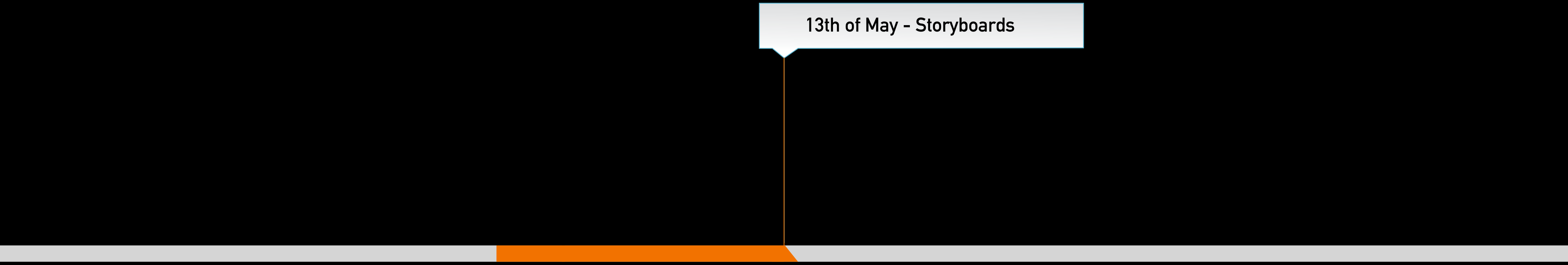
April

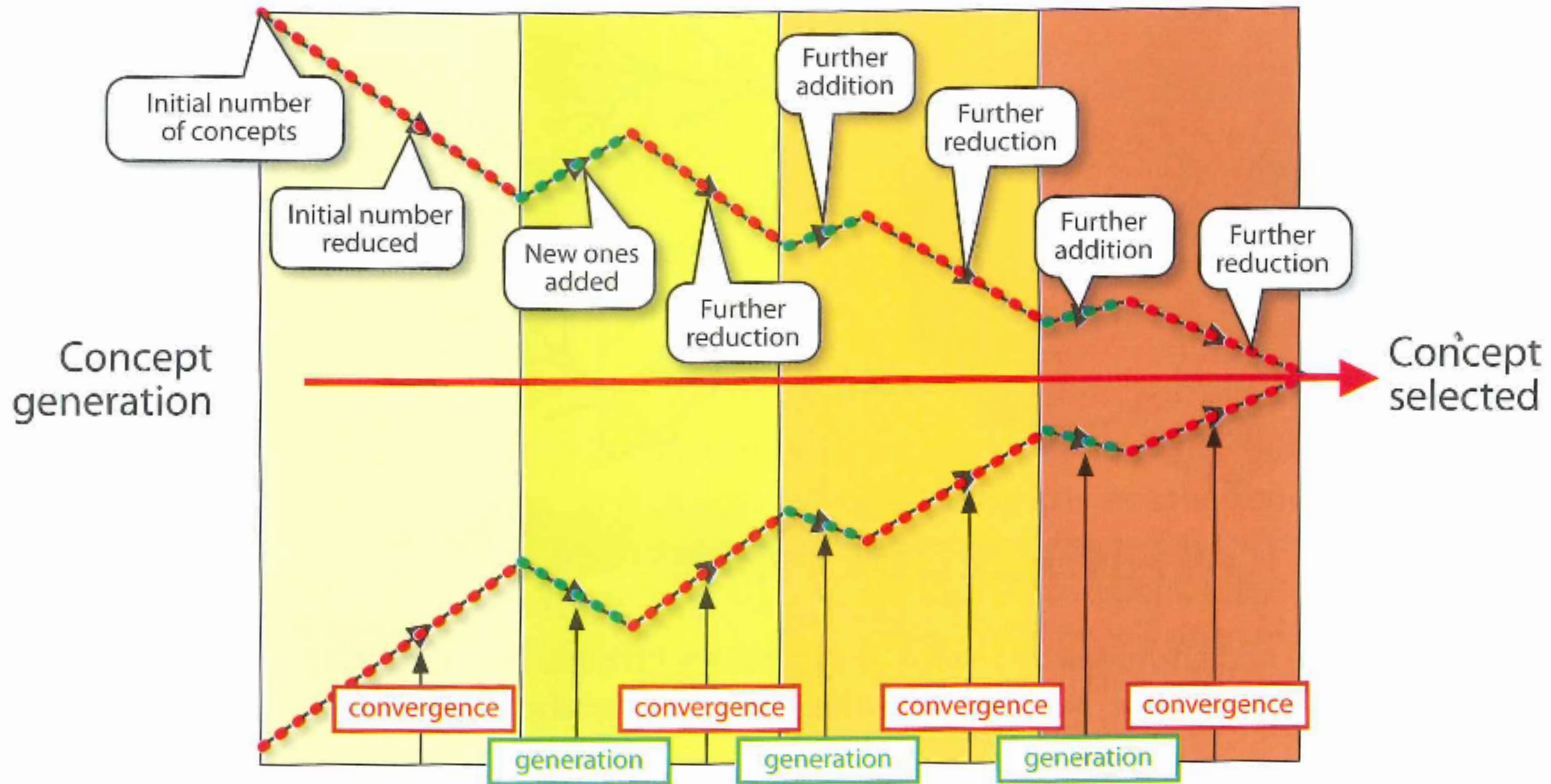
May

June

July

13th of May - Storyboards





Iterative:

General
overall concepts

Iteration 1
exploratory

Iteration 2
clarification

Iteration 3
resolution

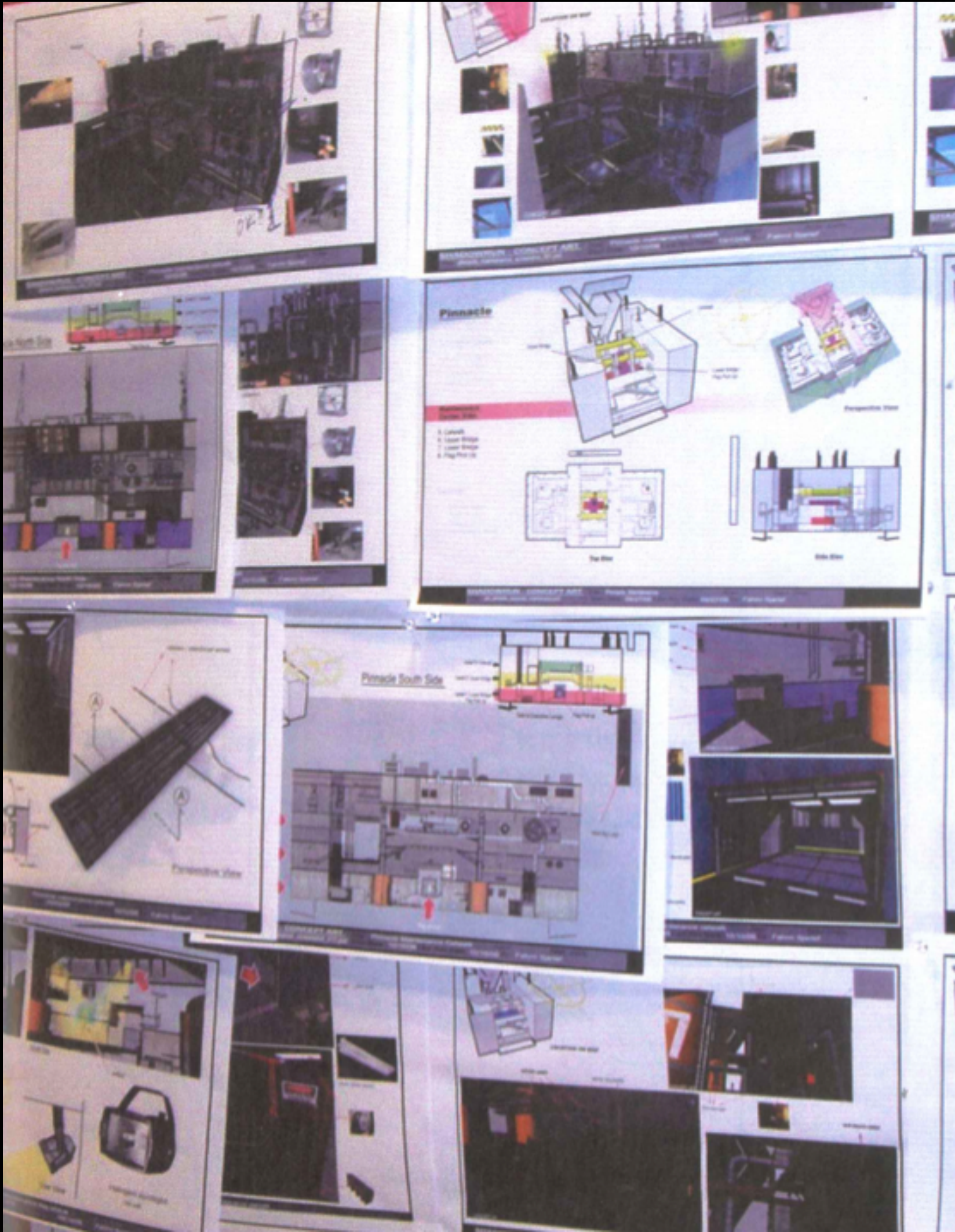
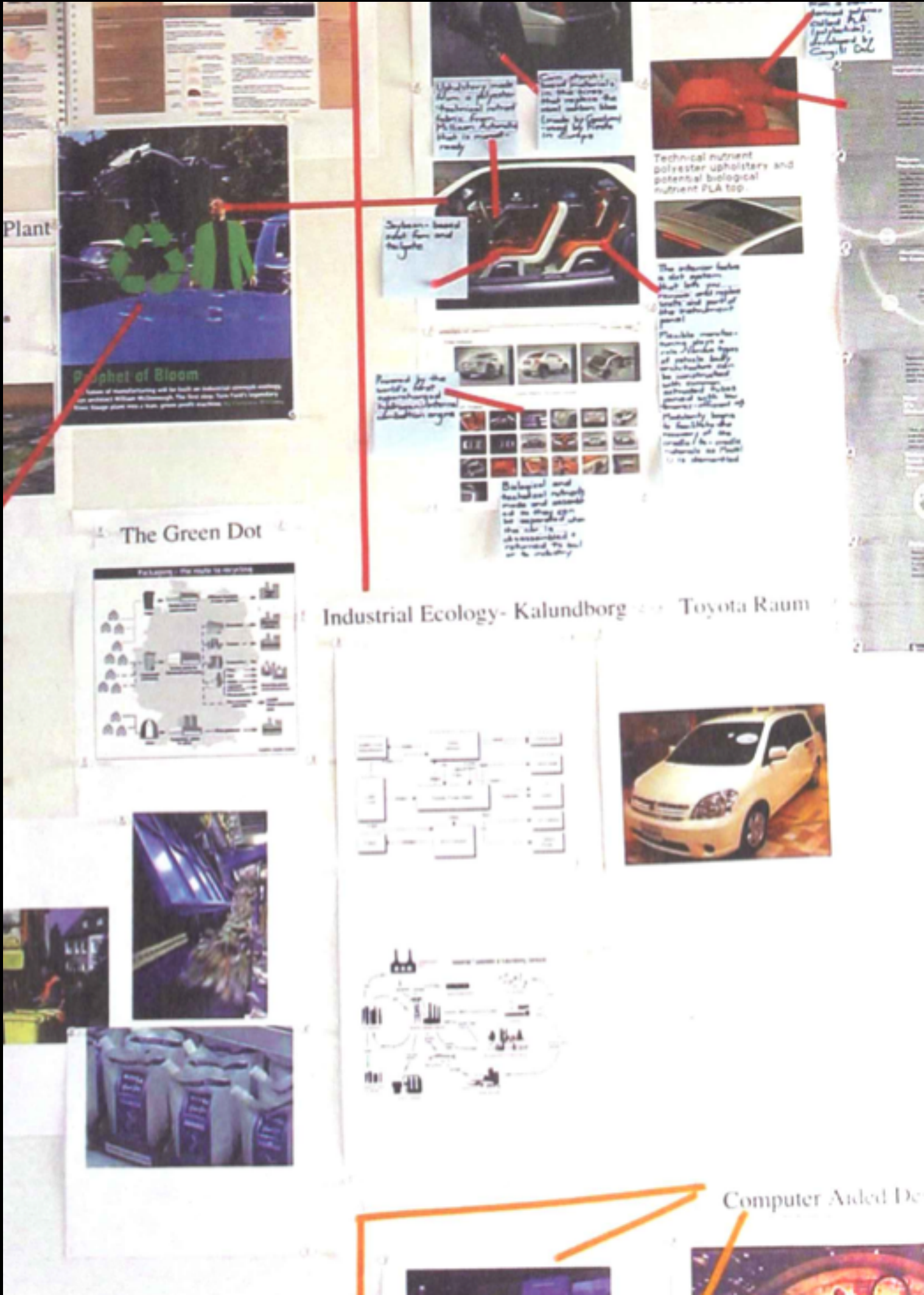
Granularity: **General**
overall concepts

Coarse
significant alternatives

Medium
intermediate development

Fine
detailed refinement

Portfolio Wall



Competitive Analysis....

Competitive Analysis / Current Interface

Four different adjustments
just to make AC right the way you like it.

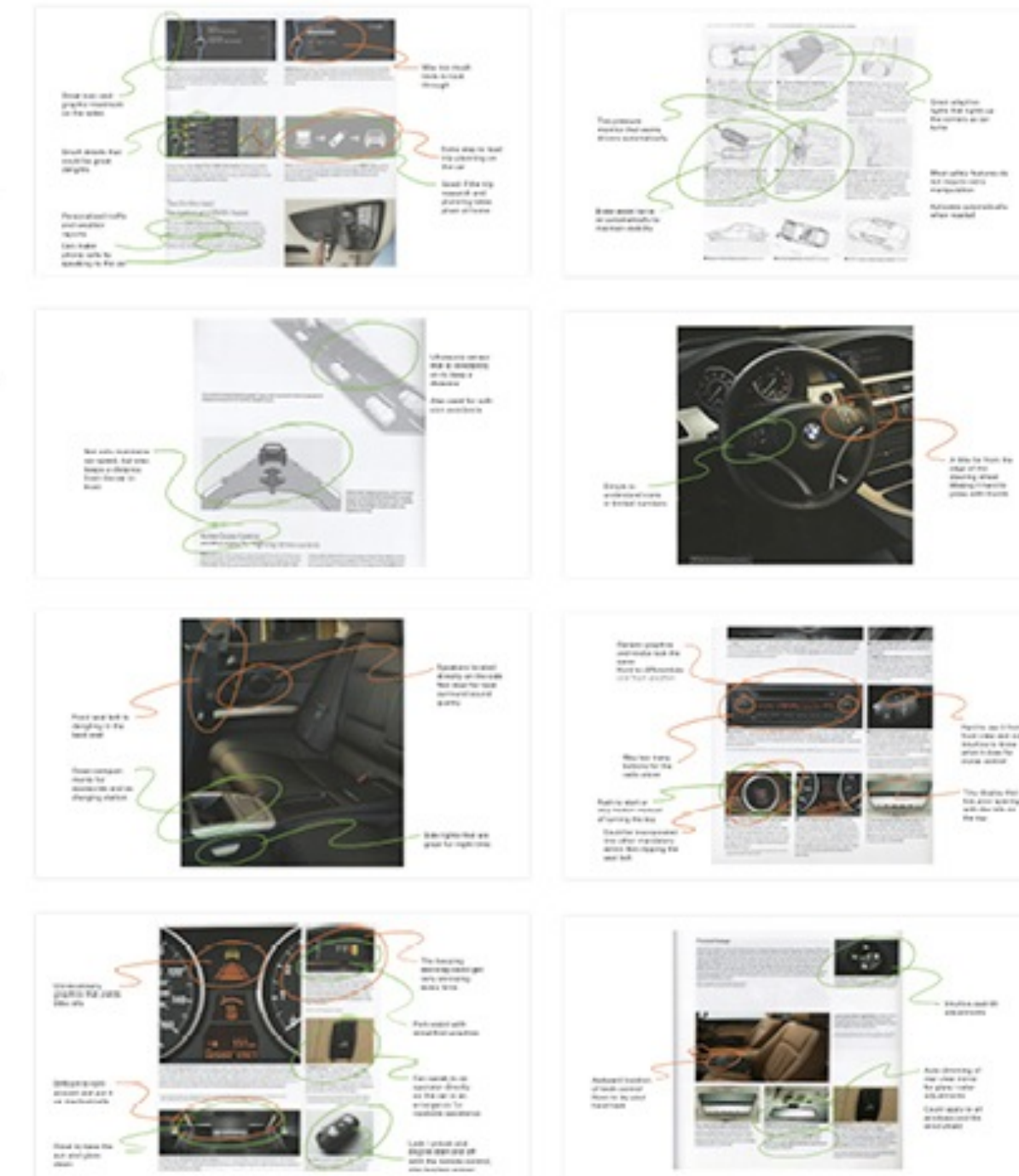
Too many buttons
Buttons could be simplified and grouped further.

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.
- Buttons on steering wheels.
- Use of color, materials, textures, and lights can improve information hierarchy.

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....

Competitive Analysis / Car Trends

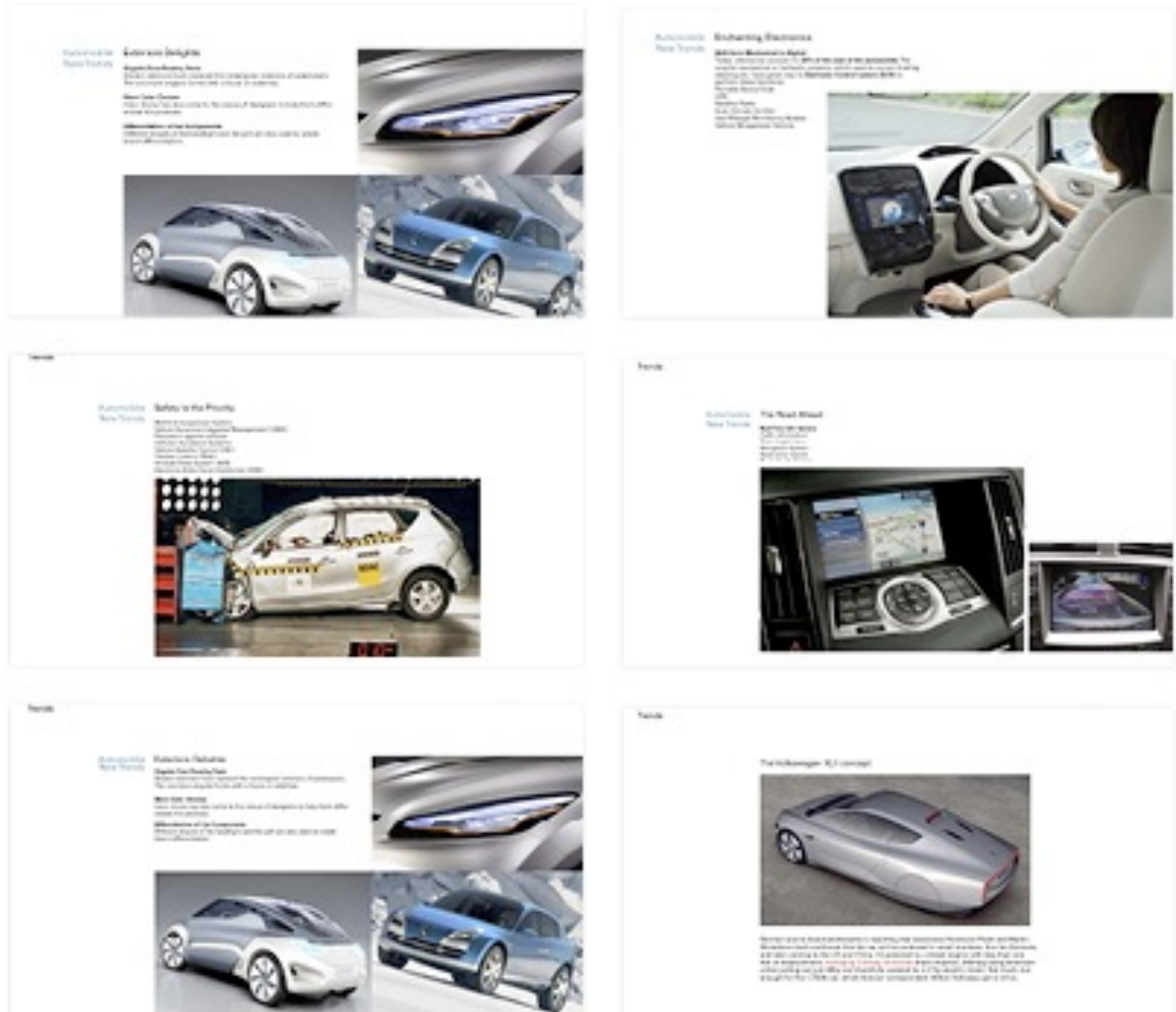
Trends Insight

- 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.



The grid contains six small images with text overlays, likely representing different car trends or features. The images include: 1. Exterior design of a car. 2. A car's interior dashboard and steering wheel. 3. A car's interior dashboard and steering wheel. 4. A car's interior dashboard and steering wheel. 5. A car's interior dashboard and steering wheel. 6. A car's interior dashboard and steering wheel.

Where to start ?

Scientific Community Portals:

Google / Google Scholar

<http://scholar.google.de>

ACM Digital Library

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

IEEE Xplore

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

Where to start ?

Scientific Community Portals:

Zugriff auf diverse Literaturdatenbanken (ACM, IEEE) über LRZ-VPN und –Proxy:
<https://www.lrz.de/services/netzdienste/proxy/zeitschriftenzugang/>

Zugriff auf Zeitschriften:

<https://www.lrz.de/services/netzdienste/proxy/documentweb/>



LUDWIG-
MAXIMILIANS-
UNIVERSITÄT
MÜNCHEN



Media
Informatics
Group



Introduction

Design Workshop 2 – Physical Prototyping

Prof. Dr. Alexander Wiethoff, Prof. Dr. Marin Zec, Dr. Beat Rossmly
Johanna Schlechter

Austausch und Kommunikationsplattformen

- Vorlesungswebsite
 - Präsentationen & Literatur
 - <https://www.medien.ifi.lmu.de/lehre/ss24/dw2/>
- LRZ Sync + Share
 - Abgaben
 - Korrekturen
- Mailing Liste
 - Ankündigungen
 - Anmeldung: <https://lists.lrz.de/mailman/listinfo/dw2-ss24>
 - Unter “Abonnieren von dw2-ss24” E-Mail Adresse, Name und Passwort setzen
 - Anmeldung durch Link in Bestätigungsmail verifizieren

Leistungen

- Low-fidelity Prototyp
- Physischer Prototyp
- Video Prototyp (.mp4, etwa 5 Minuten)
- Gruppen-Bericht (.pdf)
- Finale Präsentation (.pdf)

Teams

Kennenlernen

- Wie heißt ihr?
- Studiengang?
- Was erwartet ihr von dem Kurs?
- Stellt eure Superkraft vor



Teambuilding

Teamgröße: 4-5 Personen

Bildet Gruppen, die jeweils aus HCI, KuMM sowie Studierenden der HM bestehen. Der Kurs lebt von der interdisziplinären Zusammenarbeit.

