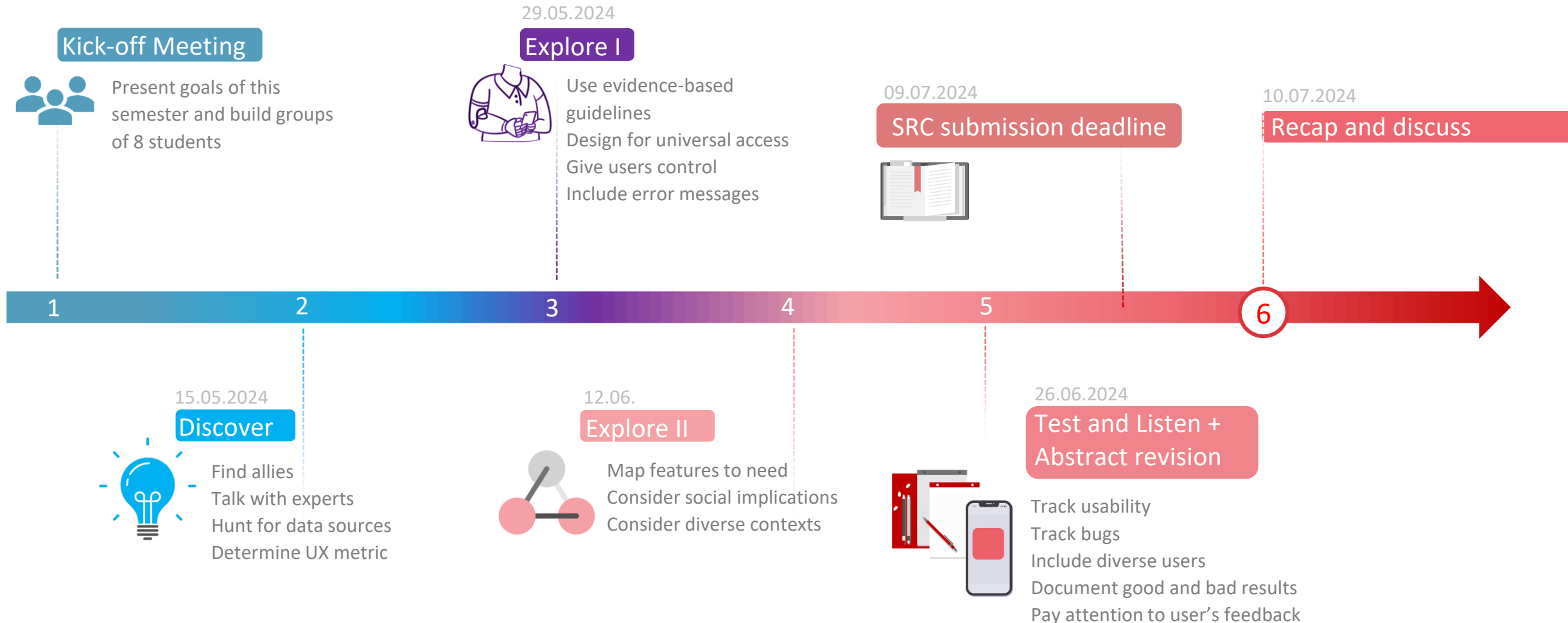




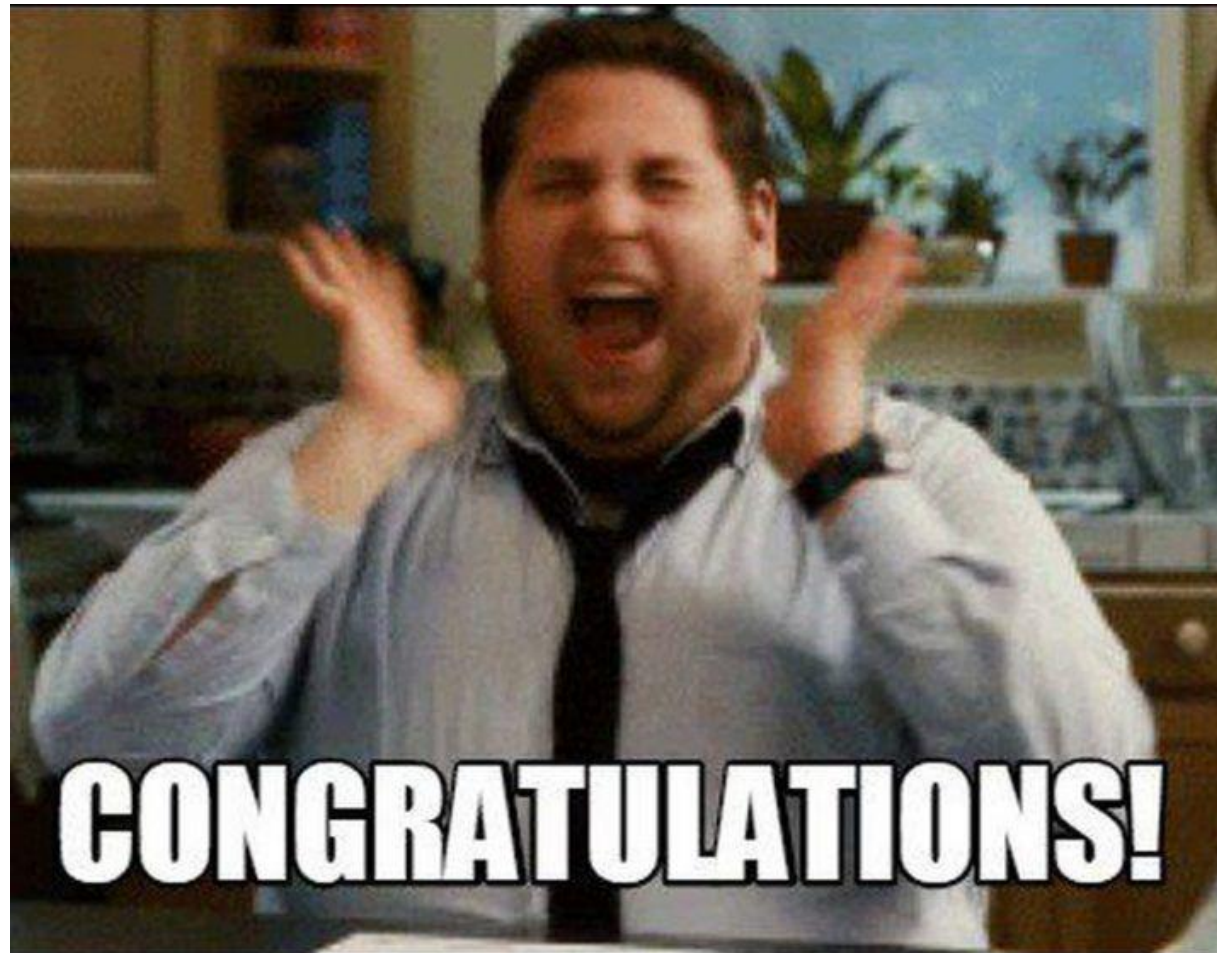
HCI Exercise

Summer Term 2024

You will work on one project idea over the course of the semester



Submissions done!





Mobile App:
MammoMate

An App for breast cancer
self-examination



Mobile App:
**Gamified Physical
therapy**

An app to support for
gamified physical therapy
for children



Mobile App:
PlanEase

An app: a comprehensive AI-
powered application for
personal task plannig



RECAP



DISCOVER



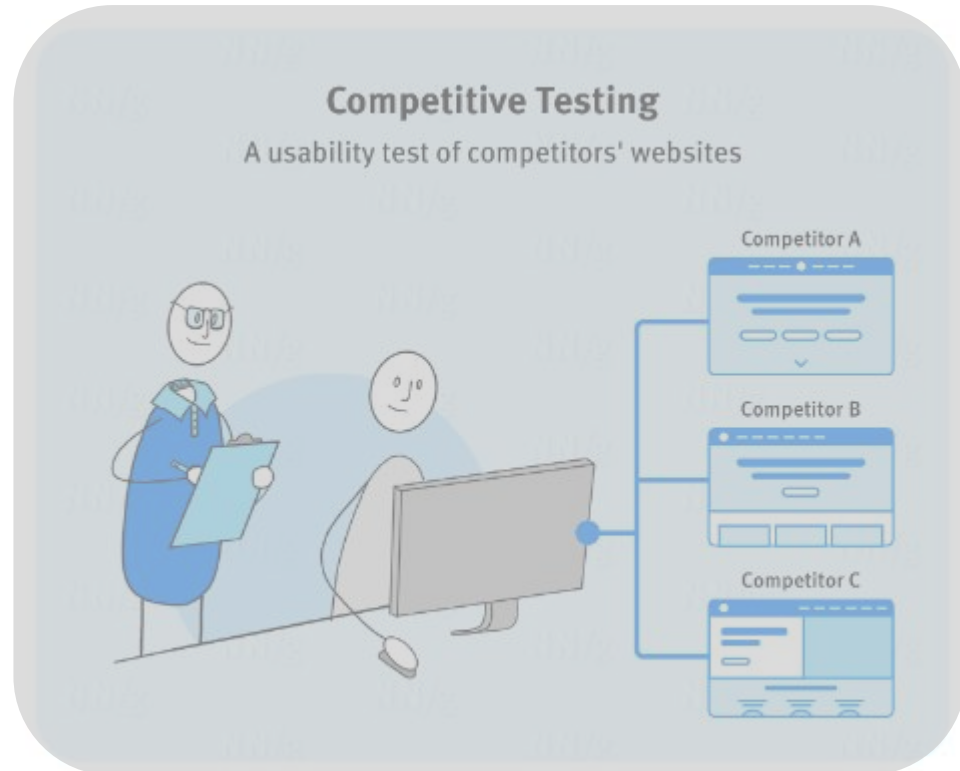
Define Competition





NN/gROUP.COM **NN/g**

<https://www.nngroup.com/articles/competitive-usability-evaluations/>



nngroup.com NN/g

<https://www.nngroup.com/articles/competitive-usability-evaluations/>

Competitive Reviews

An expert review of competitors' websites



Competitive Testing

A usability test of competitors' websites



NN/g

<https://www.nngroup.com/articles/competitive-usability-evaluations/>

Design Personas

Who are you designing for?



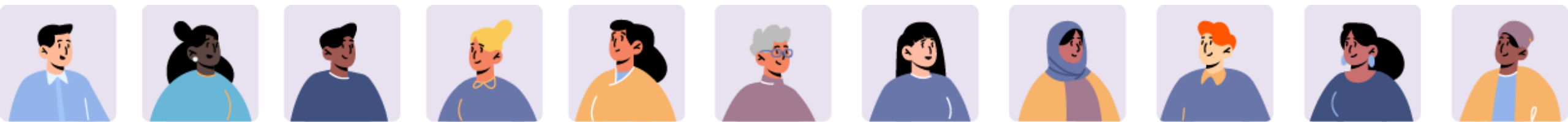
Machine Learning
Data Analytics



There is no „average“ user

The goal of personas is to characterize vital end-user groups

User personas help a product team find the answer to one of their most important questions: **“Who are we designing for?”**

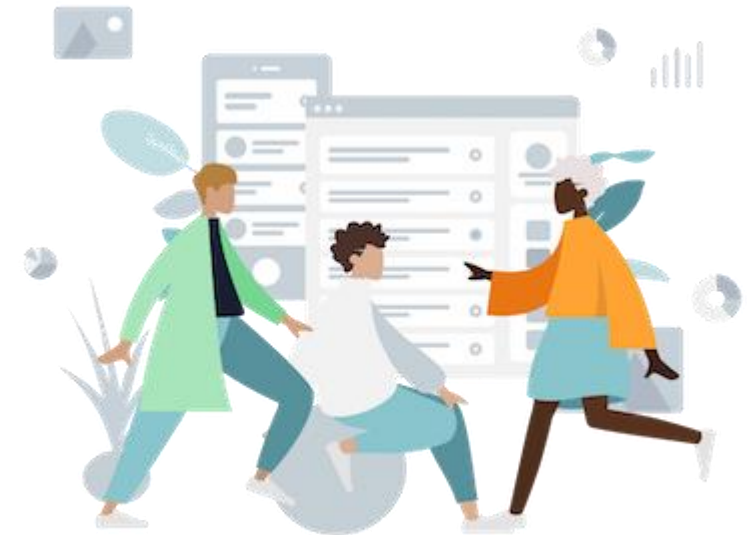




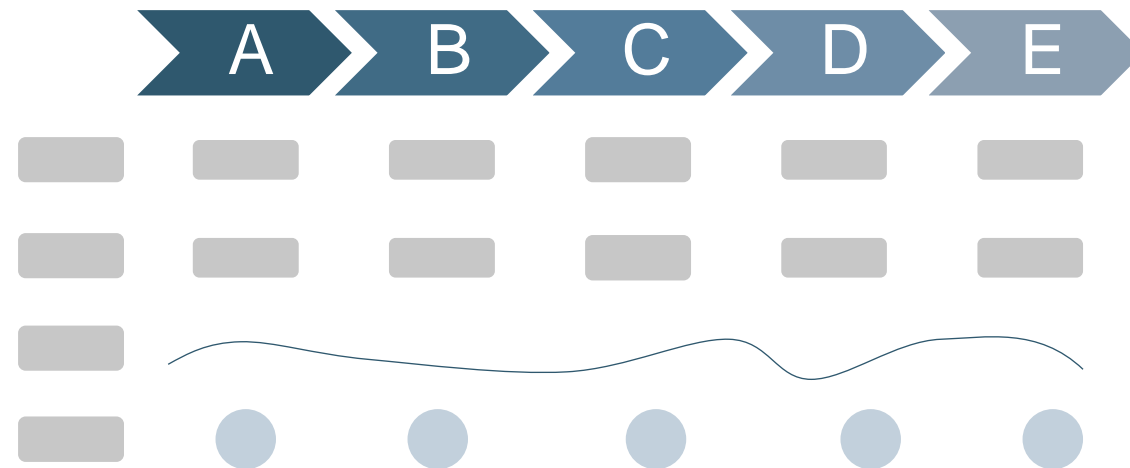
EXPLORE

Understanding the problem space &
addressing user needs appropriately

→ Further exploration of user needs



- Understand and visualize the user's experience throughout their interaction
- Journey mapping captures user's actions, thoughts, emotions and pain points





5 Key Components:

Actor



The persona who experiences the journey

Scenario & Expectations



The situation you address with actor's goals

Journey Phases



The High-level stages in the journey

Actions, Mindsets, Emotions

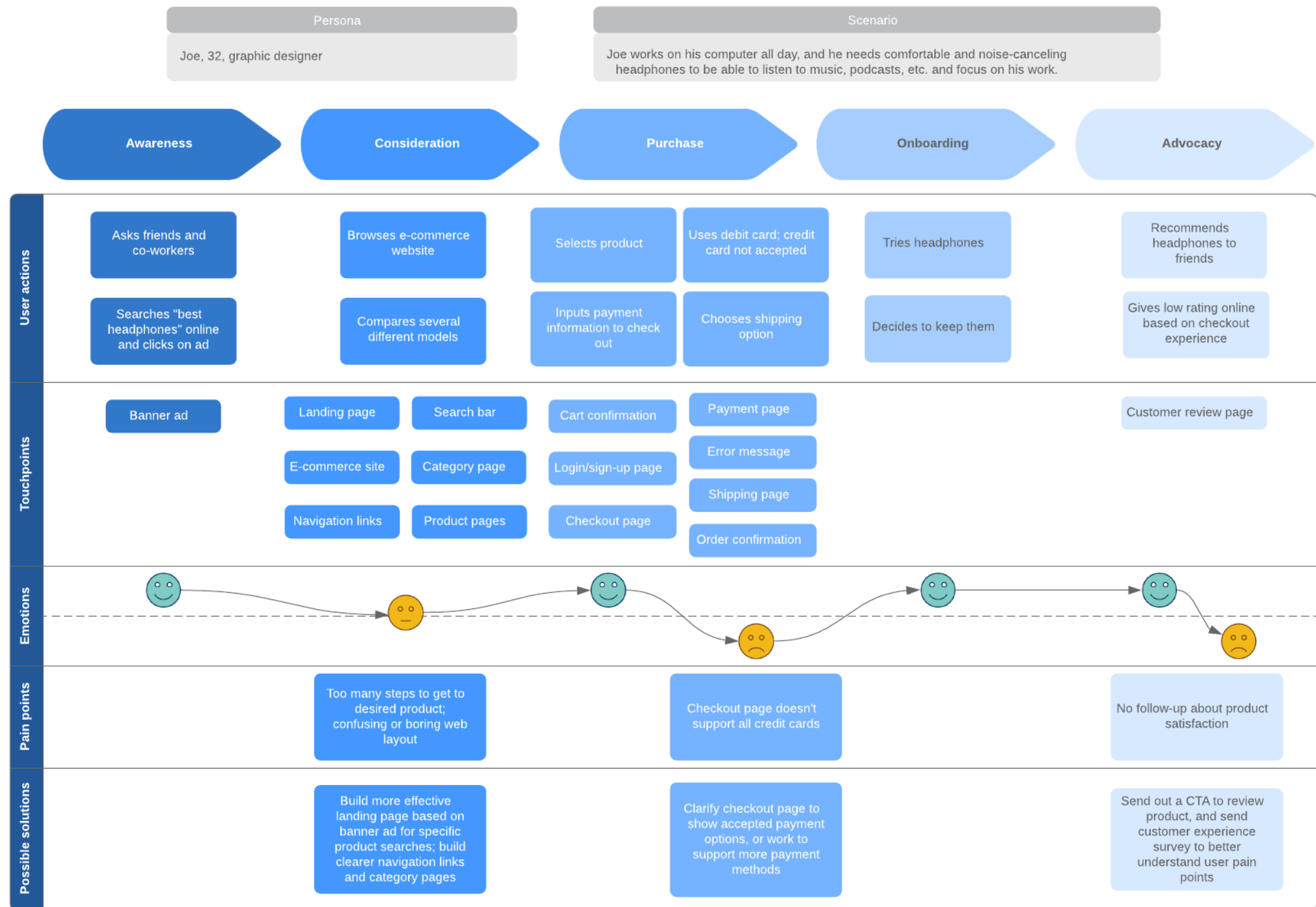


Steps taken by users, with thoughts and emotions

Opportunities



Draw knowledge from your map



Before you start journey mapping ask yourself:



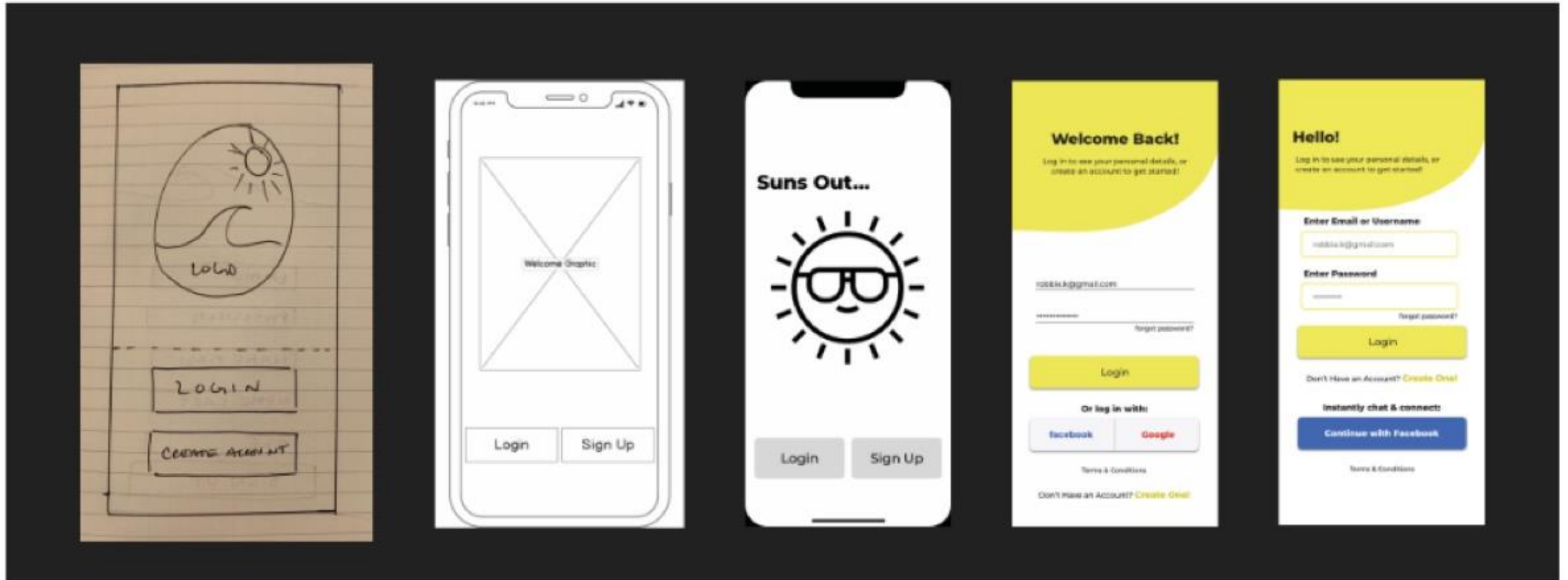
- i. For which persona will the map be created? (Do we need to refine it first?)
- ii. What type of user journey is being mapped (which aspect of my application)?
- iii. What insights should emerge from it? What goals are to be achieved with the journey map?

Prototyping

Simulating different versions of your application



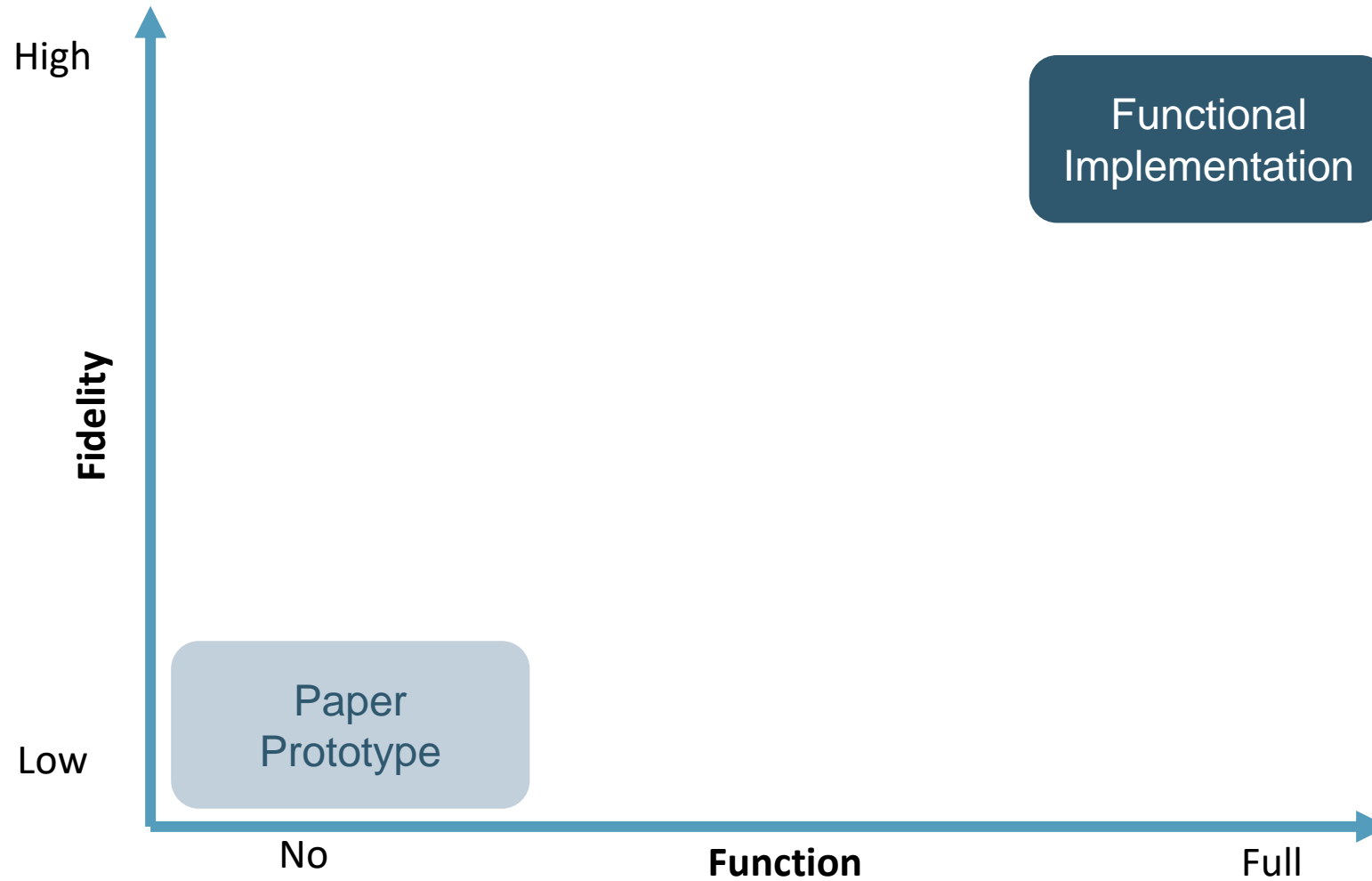
Machine Learning
Data Analytics



Source: <https://careerfoundry.com/en/blog/ux-design/design-thinking-stage-four-prototyping/> credit: Anami Chan

Prototyping

Low- and High-Fidelity Prototyping





TEST AND LISTEN

Core Elements of Usability Testing



Facilitator

Guides the participant through the test process



Tasks

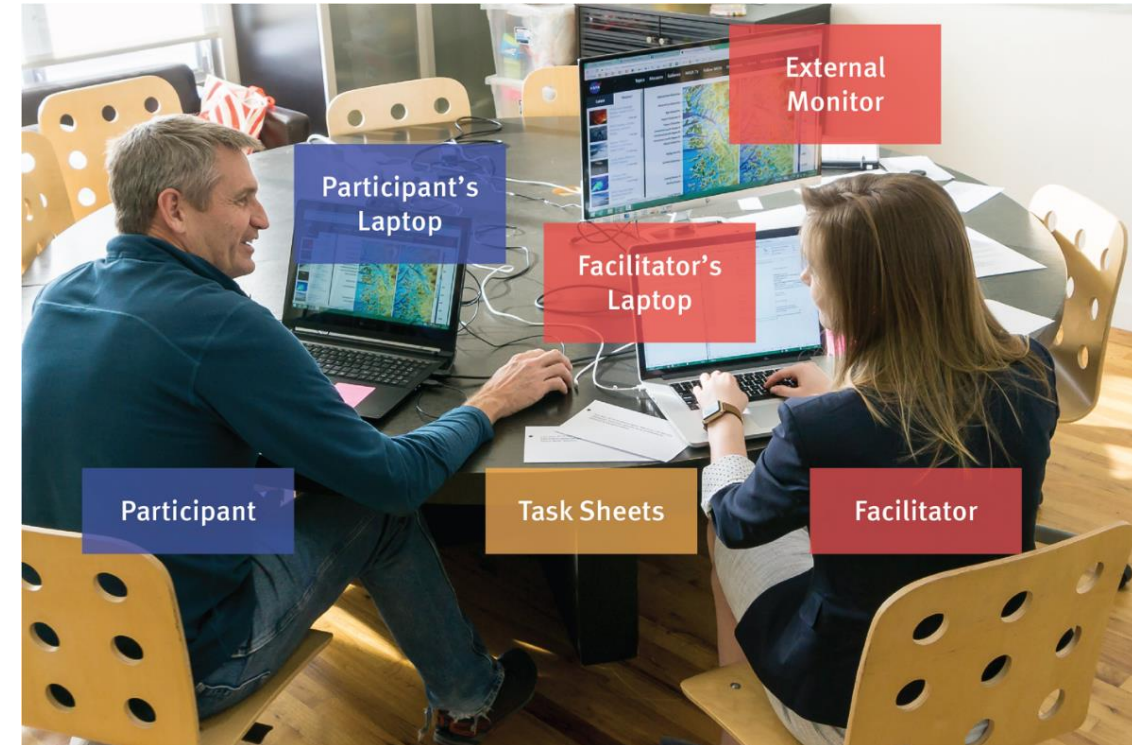
Realistic activities that the participant might actually perform in real life



Participant

Realistic user of the product or service being studied

NNGROUP.COM NN/g



<https://www.nngroup.com/articles/usability-testing-101/>

Evaluating your prototype

Usability



Qualitative usability testing

- Thinking Aloud
- Interview questions
- Observation



<https://www.nngroup.com/articles/qual-usability-testing-study-guide/>

Quantitative usability testing

- Number of completed tasks
- Number of errors
- Task completion time
- SUS / AttrakDiff

<https://www.nngroup.com/articles/usability-testing-101/>

Recap: Two simple tools for usability testing:

System Usability Scale

- Developed in 1986 by John Brooke
- Still often used in different settings
- 10-item questionnaire:

Strongly Disagree Strongly Agree

I think that I would like to use this product frequently.

1 2 3 4 5

I found the product unnecessarily complex.

1 2 3 4 5

I thought this product was easy to use.

1 2 3 4 5

I think that I would need the support of a technical person to be able to use this product.

1 2 3 4 5

AttrackDiff

- Developed by Marc Hassenzahl
- Evaluation of usability and attractiveness
- Questions as pair-wise set of words:

Please click one item in every line.

human*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	technical
isolating*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	connective
pleasant*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unpleasant
inventive*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	conventional
simple*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	complicated
professional*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	unprofessional
ugly*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	attractive
practical*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	impractical
likeable*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	disagreeable
cumbersome*	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	straightforward



➤ [JMIR Pediatr Parent. 2023 Dec 15;6:e50765. doi: 10.2196/50765.](#)

Usability and Perception of a Wearable-Integrated Digital Maternity Record App in Germany: User Study

Michael Nissen¹, Carlos A Perez¹, Katharina M Jaeger¹, Hannah Bleher², Madeleine Flaucher¹,
Hanna Huebner³, Nina Danzberger³, Adriana Titzmann³, Constanza A Pontones³,
Peter A Fasching³, Matthias W Beckmann³, Bjoern M Eskofier¹, Heike Leutheuser¹

Affiliations + expand

PMID: 38109377 PMCID: [PMC10750977](#) DOI: [10.2196/50765](#)



Markus Wirth
Co-founder of Cryptolight
“User Experience in Web3”
17.06.2024

In person



Dr. Isabel Schwaninger
Postdoctoral Researcher at
University of Luxembourg
“HCI and Healthcare”
08.07.2024

In person or on Zoom (tba)



Pauline Nöldemann &
Yannick Wiesner
“Presenting BesserEsser”
15.07.2024

In person