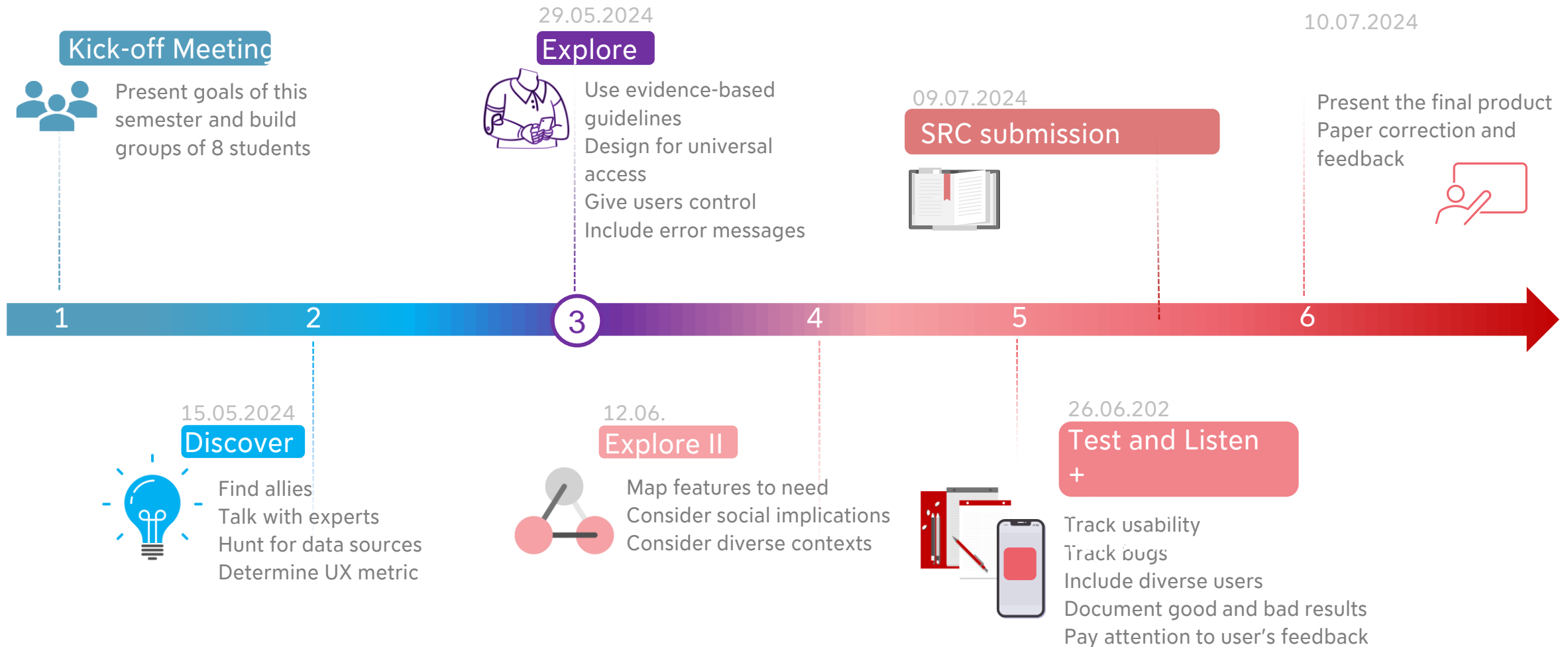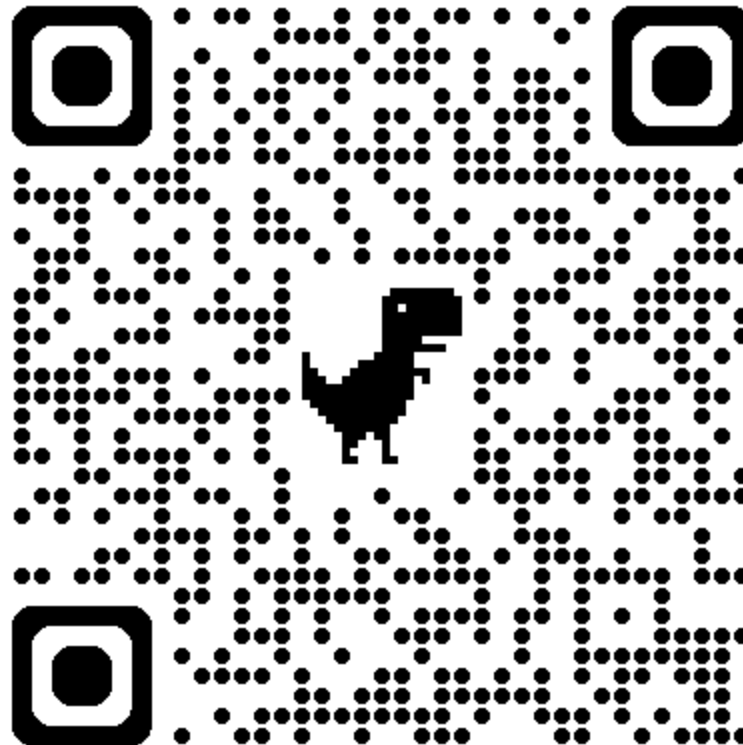# Human Computer Interaction

Exercise: Explore (I)

Prof. Dr. Björn Eskofier
Machine Learning and Data Analytics (MaD) Lab
Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)
Summer Term 2024

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

Kick-off Meeting

Present goals of this semester and build groups of 8 students

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15.05.2024

Discover

Find allies
Talk with experts
Hunt for data sources
Determine UX metric

29.05.2024

Explore

Use evidence-based guidelines
Design for universal access
Give users control
Include error messages

12.06.

Explore II

Map features to need
Consider social implications
Consider diverse contexts

09.07.2024

SRC submission

26.06.202

Test and Listen +

Track usability
Track bugs
Include diverse users
Document good and bad results
Pay attention to user's feedback

10.07.2024

Present the final product
Paper correction and feedback

Timeline: 1 — 2 — 3 — 4 — 5 — 6

SRC Abstract
Template

"AI tools could play a crucial role in helping researchers and developers maintain a balanced approach to empathy in their work"

Synthetic UX Research

Gen AI in UX

GenAI can

- Provide templates (interview guides, observation grids ..).
- Offer general contextual and culture insights about the user group.
- Analyze existing research to identify knowledge gaps.

GenAI can not

- Collaborate with stakeholders to validate the research plan and materials.
- Fully replace the need for in-depth fieldwork.
- Understand the subtle cultural and social dynamics without human interpretation.

Synthetic UX Research
Gen AI in UX

DISCOVER — EXPLORE
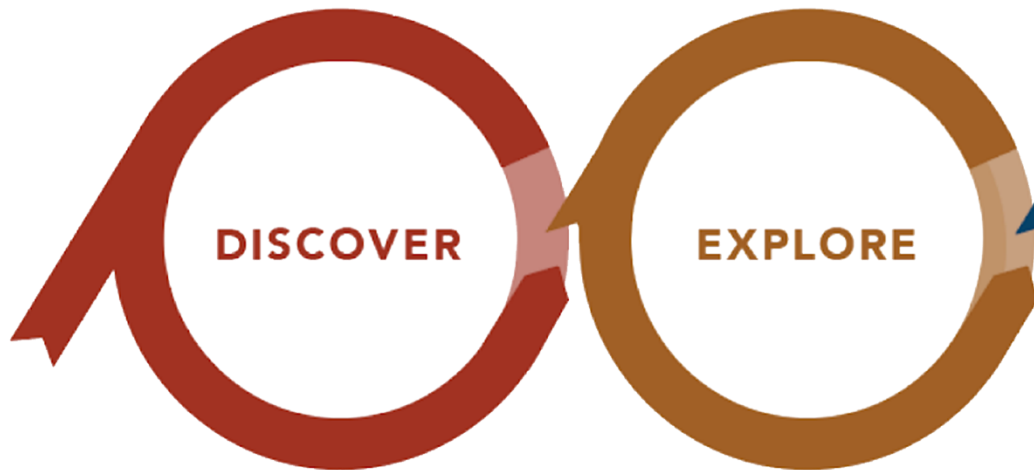
GenAI can

- Transcribe the audio data, diarize speaker, and perform basic thematic coding.
- Assist in identifying user patterns that might inform persona development.
- Suggest additional variables or factors to consider during data collection.

GenAI can not

- Capture the full emotional journey of a user with human empathy and understanding.
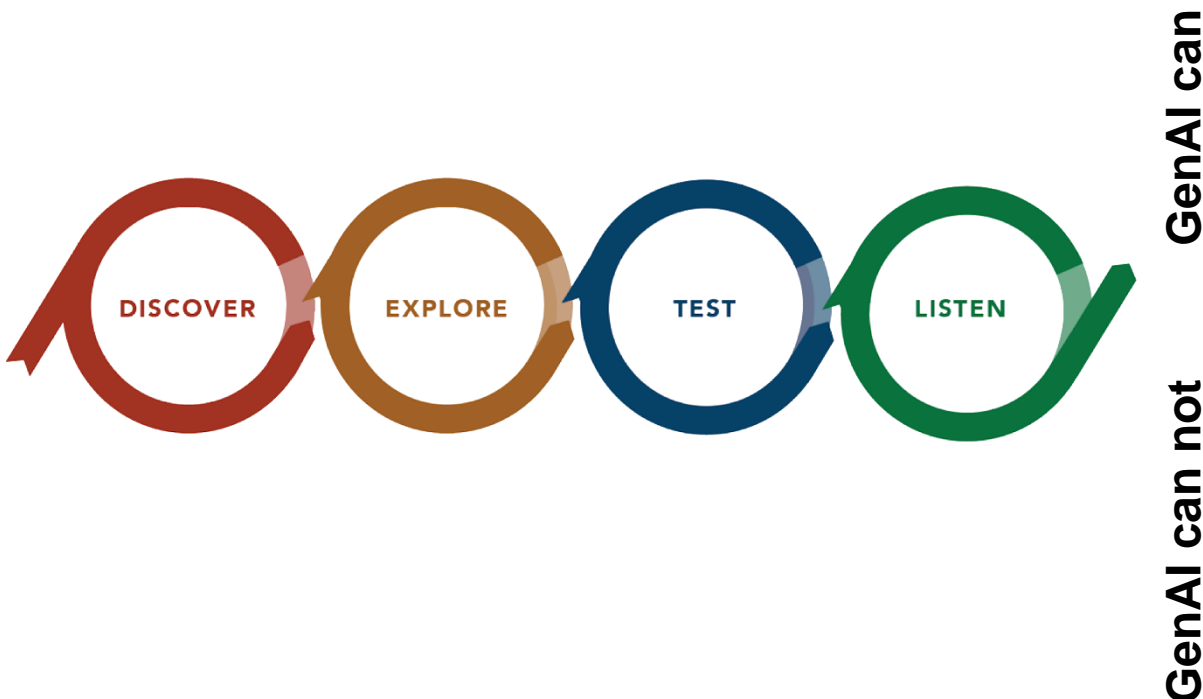- Provide the contextually rich, qualitative insights that ome from direct user interactions.

Synthetic UX Research
Gen AI in UX
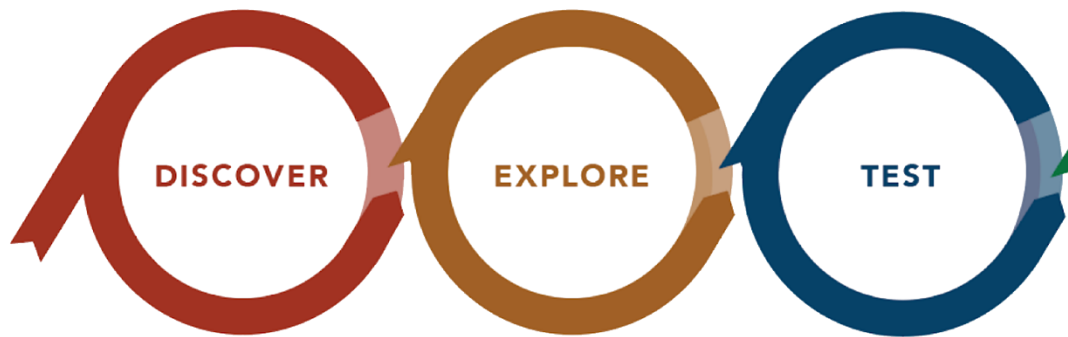
GenAI can

- Perform standard usability/ accessibility assessments with standard metrics
- Automate video captioning of user actions in usability test for quicker identification of general usability issues
- Cross-reference findings with existing databases to suggest best practices.

GenAI can not

- Provide nuances critiques, as experienced human testers do, especially for innovative technologies.
- Detect the subtle emotional reactions of users toward the product that are not explicitly stated or measurable through metrics

Interactions Magazine, MAY-JUNE 2024 Volume XXXI.3

Synthetic UX Research
Gen AI in UX

DISCOVER — **EXPLORE** — **TEST** — **LISTEN**

GenAI can

- Offer templates and suggest survey items
- Simulate survey answers for pilot testing
- Identify recurring patterns in usability issues
- Automate the categorization of feedback for easier management and response

GenAI can not

- Replicate the human experience of using a product and may miss issues that are apparent only through actual use.
- Replace the strategic decision making that comes from deep, human-led analysis of user comments and suggestions.

Interactions Magazine, MAY-JUNE 2024 Volume XXXI.3

Pick one persona and discuss the key characteristics.
What is your feedback for the group?

Understanding the problem space &
            addressing user needs appropriately

→ Further exploration of user needs

Journey mapping

- Understand and visualize the user's experience throughout their interaction

- Journey mapping captures user's actions, thoughts, emotions and pain points

Journey mapping
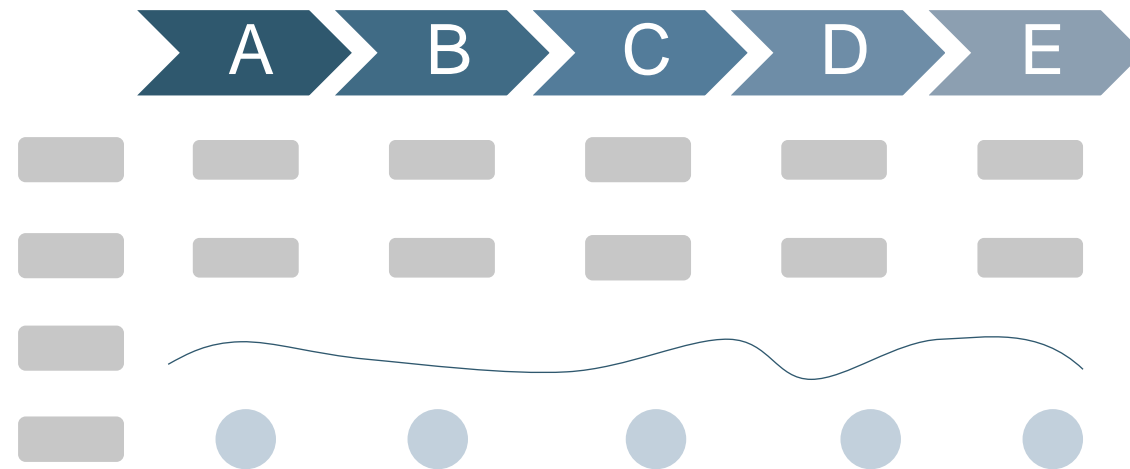
5 Key Components:

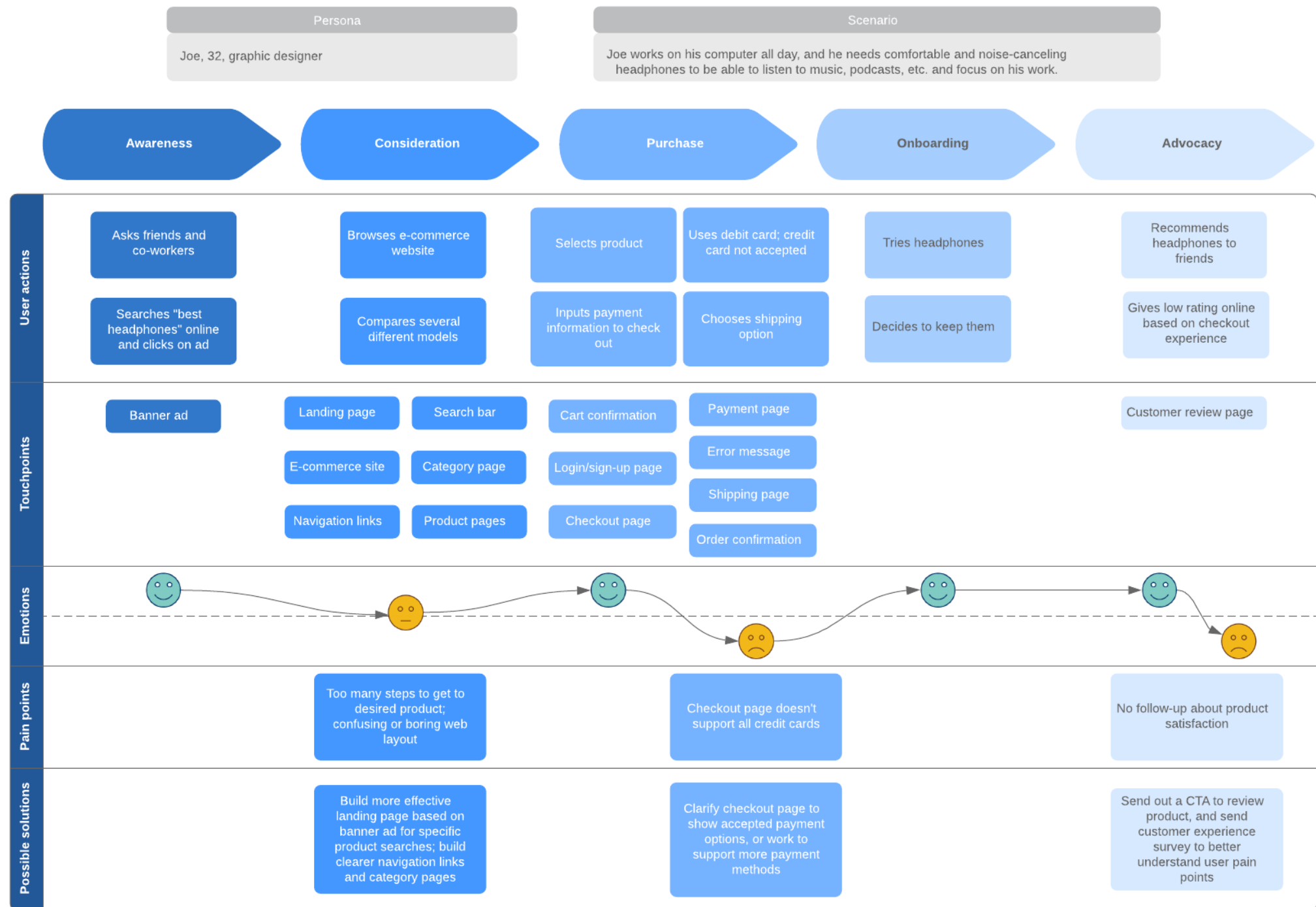|		
Actor	→	The persona who experiences the journey
Scenario & Expectations	→	The situation you address with actor's goals
Journey Phases	→	The High-level stages in the journey
Actions, Mindsets, Emotions emotions	→	Steps taken by users, with thoughts and emotions
Opportunities	→	Draw knowledge from your map

Joe, 32, graphic designer

Joe works on his computer all day, and he needs comfortable and noise-canceling headphones to be able to listen to music, podcasts, etc. and focus on his work.

Awareness | **Consideration** | **Purchase** | **Onboarding** | **Advocacy**

User actions

Asks friends and co-workers	Browses e-commerce website	Selects product / Uses debit card; credit card not accepted	Tries headphones	Recommends headphones to friends
Searches "best headphones" online and clicks on ad	Compares several different models	Inputs payment information to check out / Chooses shipping option	Decides to keep them	Gives low rating online based on checkout experience

Touchpoints

Banner ad	Landing page / Search bar	Cart confirmation / Payment page		Customer review page
	E-commerce site / Category page	Login/sign-up page / Error message		
	Navigation links / Product pages	Checkout page / Shipping page		
		Order confirmation		

Emotions

Pain points

	Too many steps to get to desired product; confusing or boring web layout	Checkout page doesn't support all credit cards		No follow-up about product satisfaction

Possible solutions

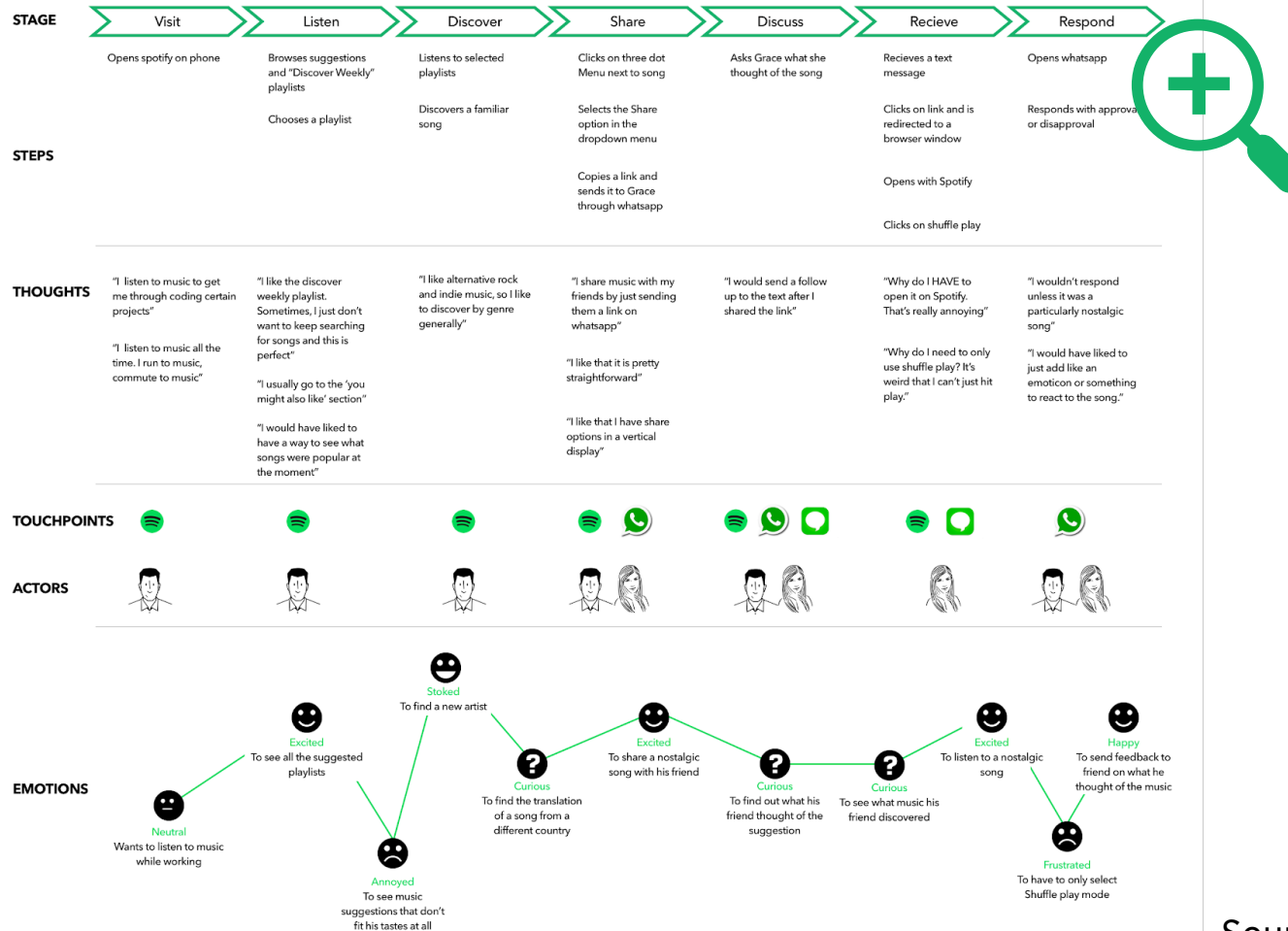|	Build more effective landing page based on banner ad for specific product searches; build clearer navigation links and category pages	Clarify checkout page to show accepted payment options, or work to support more payment methods		Send out a CTA to review product, and send customer experience survey to better understand user pain points

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?

Machine Learning Data Analytics | FAU

Customer Journey Map - Music Sharing Experience

Effective journey maps don't just relay the steps taken to achieve a goal; they tell a **user-centered story** about the process.

Source: http://www.meghanabowen.design/spotify.html
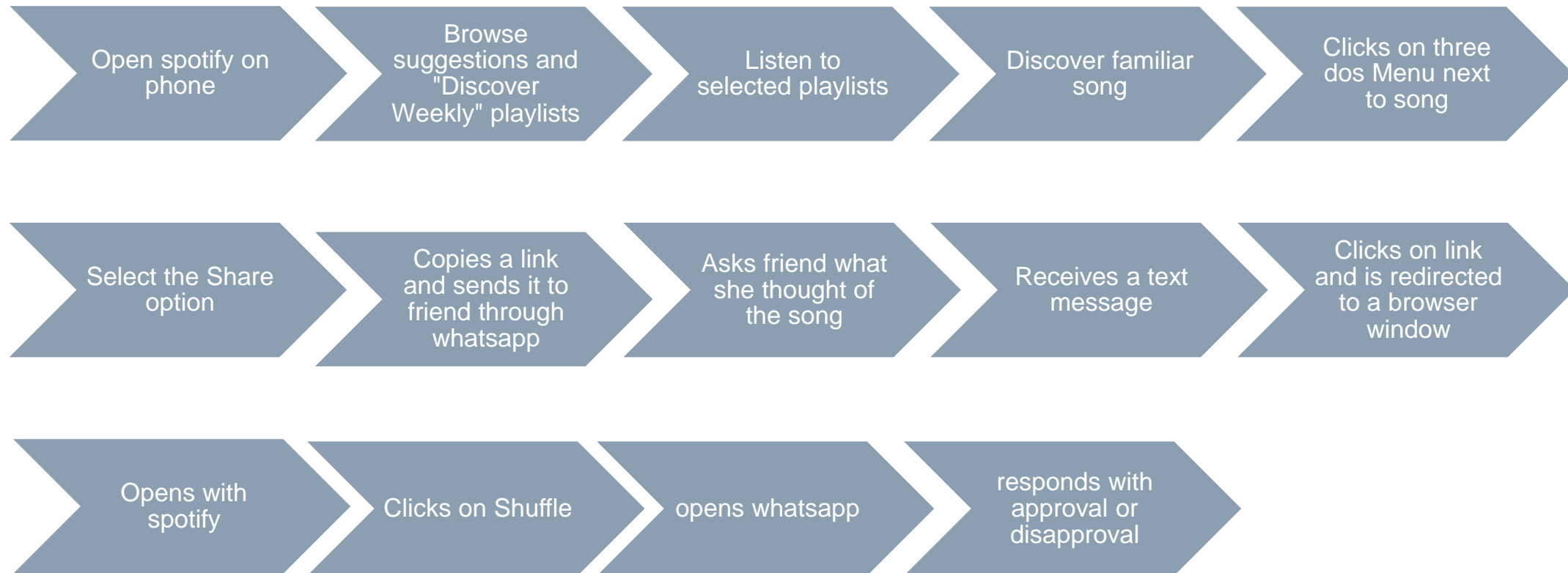
Mapping a user journey: example
Spotify feature to share music

Collect the steps that happen within this process

Open spotify on phone → Browse suggestions and "Discover Weekly" playlists → Listen to selected playlists → Discover familiar song → Clicks on three dos Menu next to song

Select the Share option → Copies a link and sends it to friend through whatsapp → Asks friend what she thought of the song → Receives a text message → Clicks on link and is redirected to a browser window

Opens with spotify → Clicks on Shuffle → opens whatsapp → responds with approval or disapproval

Mapping a user journey: example

Spotify feature to share music

Collect the steps that happen within this process

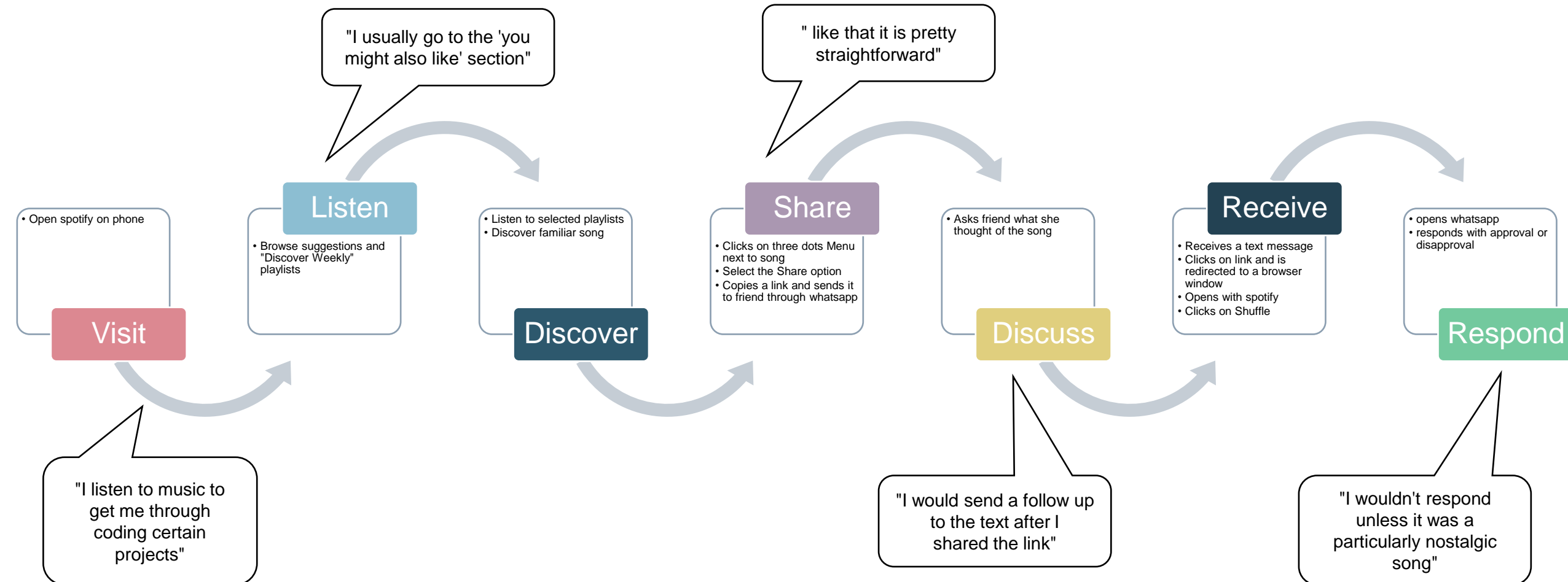| Open spotify on phone | → | Browse suggestions and "Discover Weekly" playlists | → | Listen to selected playlists | → | Discover familiar song | → | Clicks on three dos Menu next to song |

| Select the Share option | → | Copies a link and sends it to friend through whatsapp | → | Asks friend what she thought of the song | → | Receives a text message | → | Clicks on link and is redirected to a browser window |

| Opens with spotify | → | Clicks on Shuffle | → | opens whatsapp | → | responds with approval or disapproval |

Mapping a user journey: example
Spotify feature to share music

- Open spotify on phone

Visit

"I listen to music to get me through coding certain projects"

"I usually go to the 'you might also like' section"

Listen

- Browse suggestions and "Discover Weekly" playlists

- Listen to selected playlists
- Discover familiar song

Discover

" like that it is pretty straightforward"

Share

- Clicks on three dots Menu next to song
- Select the Share option
- Copies a link and sends it to friend through whatsapp

- Asks friend what she thought of the song

Discuss

"I would send a follow up to the text after I shared the link"

Receive

- Receives a text message
- Clicks on link and is redirected to a browser window
- Opens with spotify
- Clicks on Shuffle

- opens whatsapp
- responds with approval or disapproval

Respond

"I wouldn't respond unless it was a particularly nostalgic song"

Mapping a user journey: example

Spotify feature to share music

Customer Journey Map - Music Sharing Experience
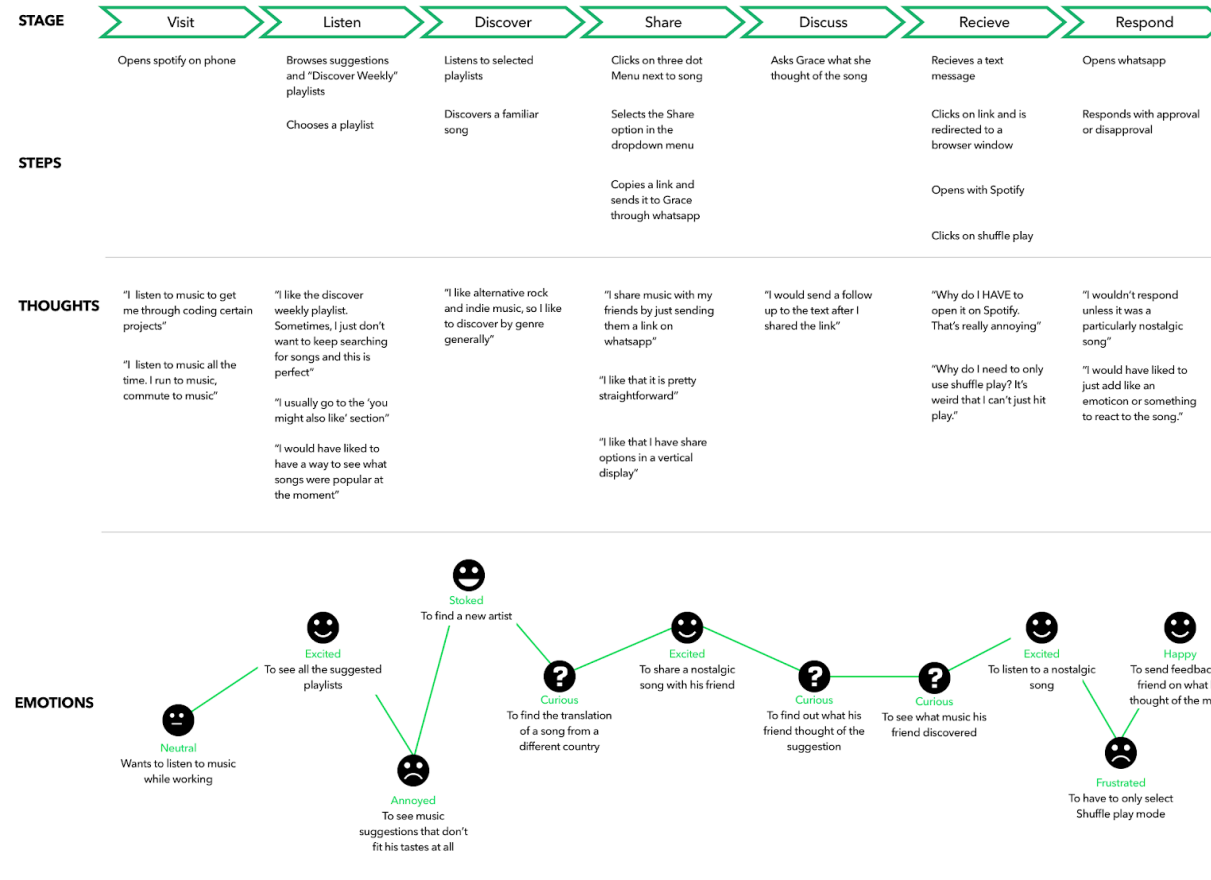
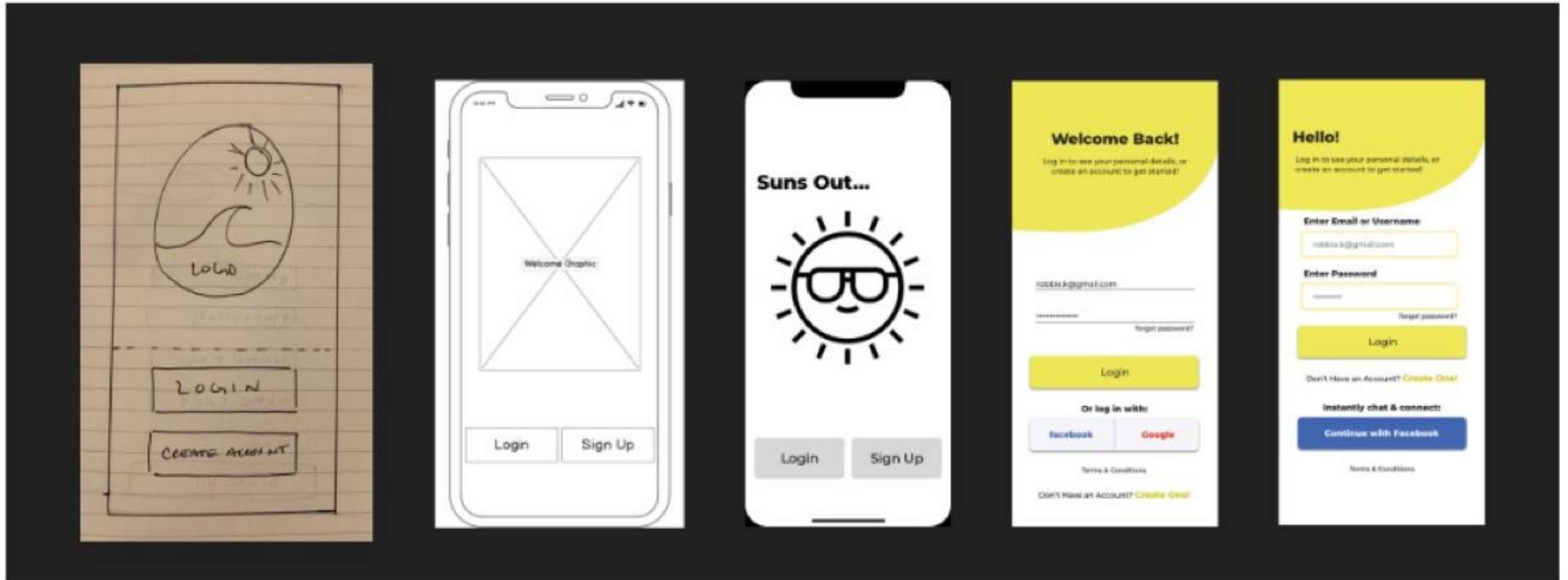# Prototyping
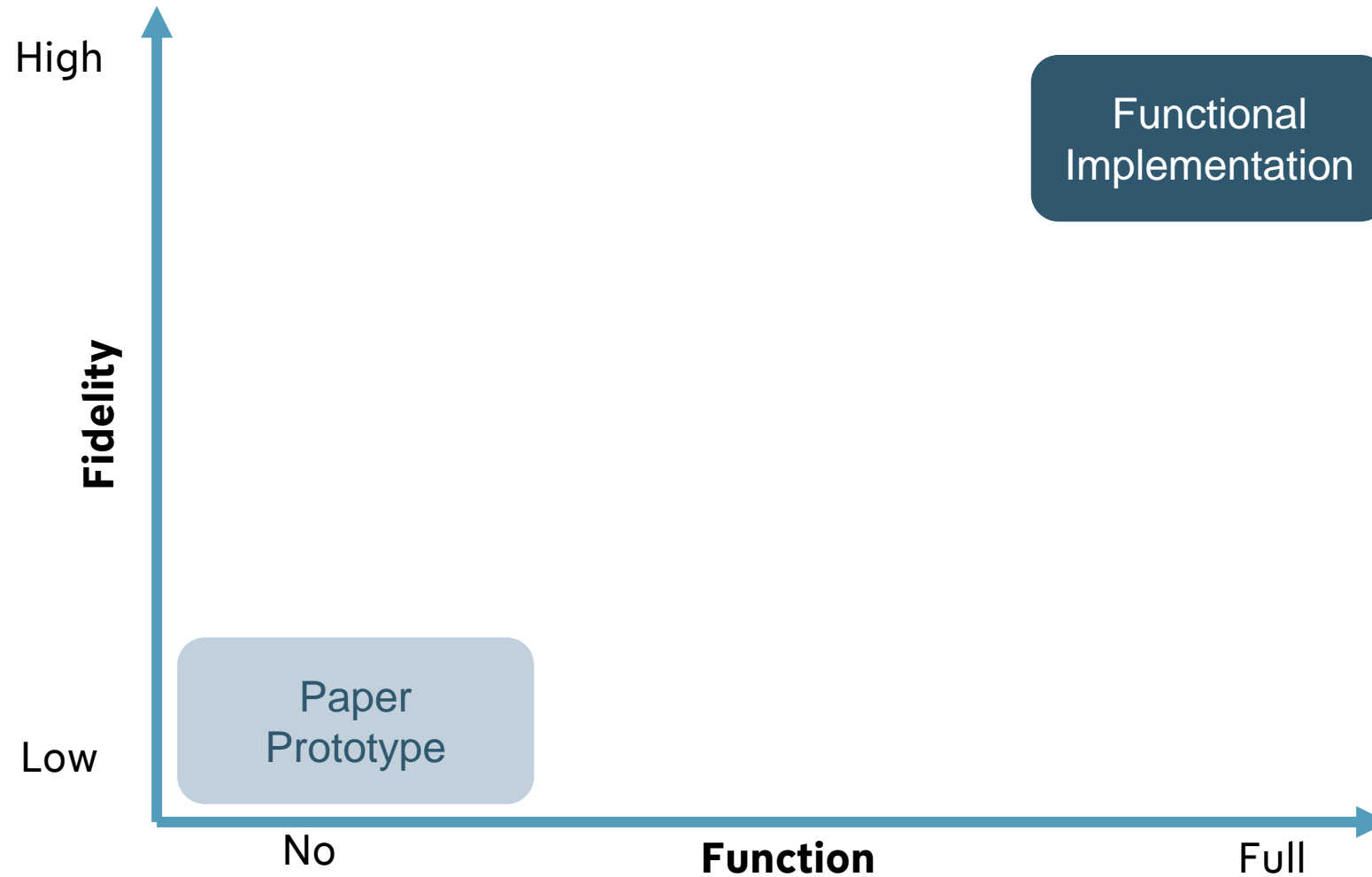Simulating different versions of your application

Source: https://careerfoundry.com/en/blog/ux-design/design-thinking-stage-four-prototyping/ credit: Anami Chan
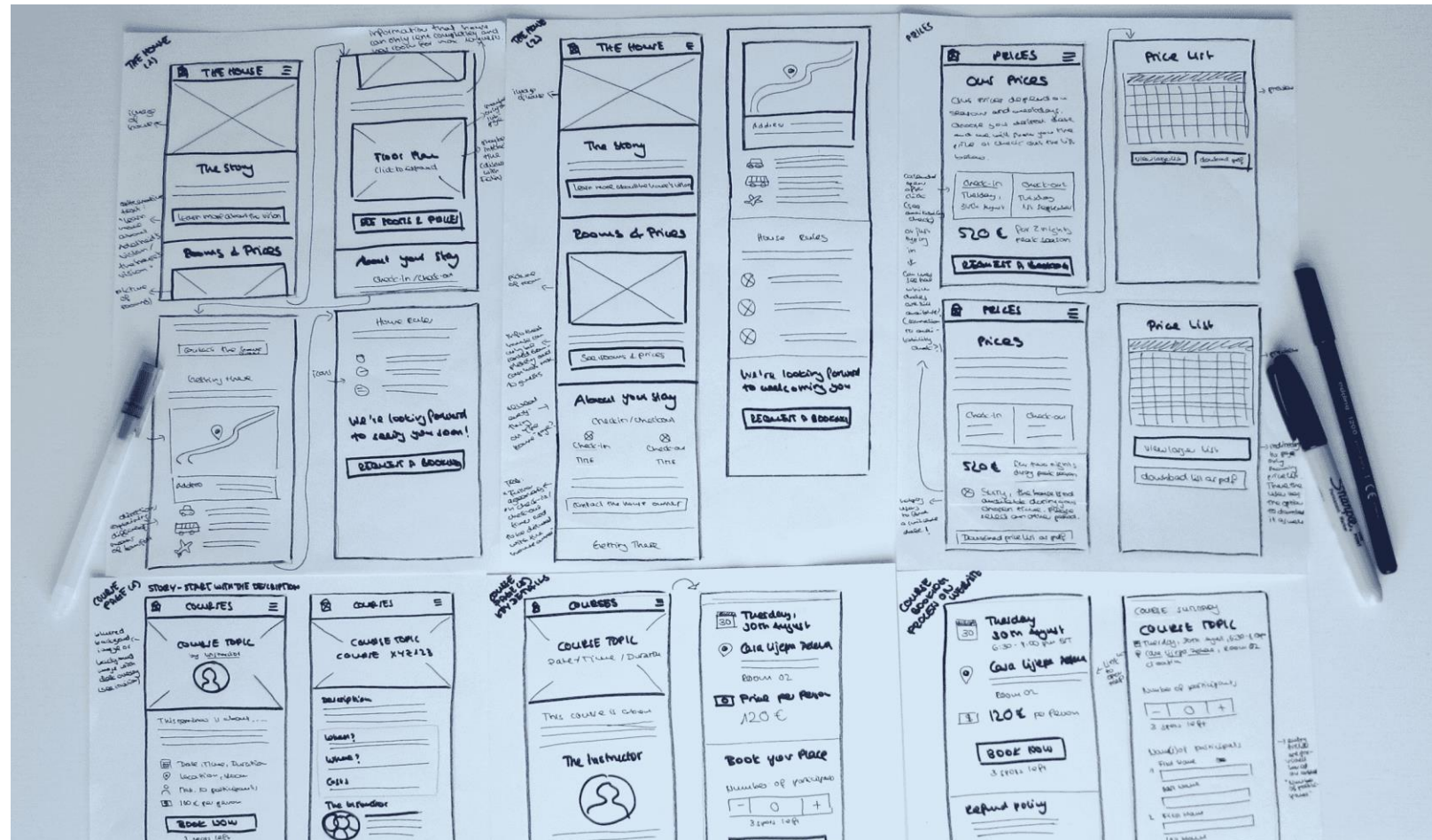
Prototyping
Low- and High-Fidelity Prototyping

Paper Prototyping
Low-Fidelity Prototyping

? Choose a specific user scenario that aligns with your persona(s) and create a journey map.

? Based on your journey map: Create a <u>low-fidelity paper prototype</u> that you can bring to the next exercise session.

Guest talks

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

In person E-exam 13.09.2024

Don't panic