User interview with an Evan

Meeting Tags	User Interviews
Date	
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Participants	

Research Questions

- Is the presented prototype easy to understand of what you can do to control our device?
- Does the terminology make sense?
- Is everything that we provide sufficient enough to start building things on top of it?
- Which style should the application follow? (after presenting mood boards and colour schemes)

Interview Script

Introduction

- Doing an user interview, helps us to find out what and how we want to design things early in the creation of a new product
- We ask questions, not directly about you or to test you, but rather to gain insights for our design process
- If you don’t know how to answer a question let us know, we’re here to help you guide through the process, if you don’t want to answer a question that’s also fine, just let us know

Warm Up

- Tell us about yourself
    - What do you do as your job or hobby?

        - Go into more detail to ask about the context and connection to IDUN
    - What is the greatest pain at your current job/hobby? OR with what the person has mentioned in context and connection to IDUN?
        - Go more into detail and find out the WHY
    - What are you currently building? Can you describe the idea and especially technical challenge behind of it?
- Have you heard of brain-machine interfaces – what is a brain-machine interface?
    - Can you describe what a brain-machine interface is and how it works?
    - Have you ever worked with or thought of working with a brain-machine interface?
    - Do you have an idea to create something with a brain-machine interface based on your understanding? Is it maybe something that would integrate into something that you're working on at the moment?

Context

At IDUN, we are building a brain-machine interface that can read your brain's electrical signals in real-time. We are not the first to do this, others have been doing it for many decades. The difference between our product and others on the market is the form factor. Our brain-machine interface is the size and shape of a normal in-ear headphone such as Apple Airpods. Compared to e.g. a state of the art system in 2022 our device has similar signal qualities in a form-factor which has the potential to be mainstream and the setup speed that is not comparable to any other brain-machine interface as of today (show some charts).

Our goal is not to develop the headphones themselves (building the brand, marketing, packaging design, etc.), but to integrate our technology into existing headphones. And why? Because we want the brain to be another API for developers who create applications. For example, as of today, you can pull GPS data from a mobile phone or computer in the form of an API that users can plug into, so you can, for example, create something with the users' geographic location, for maps or games like Pokemon Go, automatic time tracking software, sharing location with emergency contacts, etc. The possibilities are endless, as history has already shown us. What we want now is another API for developers to access the brain.

- **To give you some examples of what's possible and will soon be possible in the near future:**

    - The users general focus in a range from 1–10
    - The users tiredness in a range from 1–10
    - How long, well and in which stages the user slept
    - Where the user is looking at (top right, bottom left, centre up, centre down etc.)
    - If the user is squeezing their eyes together or not or blinking and how long is blinking
    - If the user is hearing sounds in certain frequencies or what for profiles the user is able to hear
    - If the user is eating something, talking or chewing something hard of soft
    - If the user is hungry, tired, asleep, bored etc.
- More things will be possible soon. Before we continue we want to hear how you feel when you hear what's possible with our device?
- Do you already have an idea of what kind of app you could build with such an API?
- We will give you two examples of what is possible to build with our device:
    - A music app that recommends music based on your mood: if you're tired it will show you two auto-generated playlists; one that makes you more awake and one that helps you fall asleep. Same with being focus, bored etc. You can replace the music playlist with basically any recommendation engine you could think of. (show example slides)
    - Another more complex idea: A user is wearing a AR/VR device and you track where the user is looking at in the 3D world and based on the focal point of the users attention you increase the volume of the source and decrease surrounding sounds (also known as the cocktail party effect). (show example slides)
- What are your thoughts when you heard these two ideas?
    - Ask more questions so that the user elaborates
    - How would you build the first example?
        - What for technologies would you use and how would you combine them?

        - Can you describe the architecture?
    - How would you build the second example?
        - What technologies would you use and how would you combine them?
        - Can you describe the architecture?
    - How would you ensure that the users' brain data is safe and secure?
    - How would you protect the users privacy?

Example Scenario (Exercise)

We now want to go through another example scenario where you will build a simple web app game based on the output of your brain (show screenshot):

- The paddle follows where the user is looking at, it ignores if the user looks up or down
- The paddle becomes bigger when the user is focused to reward him for playing concentrated

- Can you describe how the REST API would look like of the endpoints that you'd need from our API to create such a game?
- How would you create this game? Can you describe the business logic, your code a bit and why you're doing certain things?
- In order to help developers like you use our API we create a web app with examples, demos and interactive explanations on how to use our device and what's possible with it. It's basically a GUI for everything that you can do with our API as well. It even let you decide your custom API endpoints. It can also be facilitated to record experiments and analyse the data.
    - What do you think of such an application?
    - Would you use such an application even if the API documentation is fairly easy to understand?

Prototype

We have designed a prototype of this web app to help developers like you understand how the device works, control the device, record data/experiments and

use all API endpoints for experiments via a graphical user interface. We want you to let it go through. We don't want you to break anything, and keep in mind that this is a prototype that is not 100% finished or thought through. If you have a question or something is unclear, let us know. We encourage you to think out loud about what you are thinking as you go through the prototype.

These are the exercises:

- You bought a new headphone with our technology inside of it, while doing so you received a personal access token. Now you want to create an account with this access token on our platform. This can all be done through the API, but for demonstration purposes you're doing it via the GUI on our web app's platform.
- Now that you registered the new device to a new user (which is in this case you) we now want you to get the brain data in real-time from the device. How would you do that in the GUI?
- Now that you're looking at the livestream you want to leverage some of our provided classifiers which you then need as API endpoints for your mini-game application. We want you to apply the eye movement classifier to the livestream. How would you do this?
- In order to go back to certain data sets that you created as an example you want to record a session. How would you record the eye movement classification in the GUI?
    - Please now access the eye movement data
- Now you want to apply the focus classifier on the livestream as well, preview it and then record it as well. Please do that
    - Please now access the focus classified data
        - You would now want to compare eye movement with the focus classifier to see if you can classify both at the same time and if both work at the same time. How would you do that?
- Now that you saw that everything works you want to consume the actual API, how would you proceed from the web app's GUI to the API documentation?

Style and Moodboard

Thank you so much for helping us understand how your mind works. In order to conclude the design questions we present you with a few example designs and

moodboards from other apps and/or competitors and you need to chose your favourites. Please keep in mind that we encourage you to think out aloud. There is no correct answer, we just want to see which style you prefer and why.

Competitors/Examples

- Can you describe and tell us about an API documentation that you think is brilliantly made?
    - Can you describe why this example is amazing and what they’re making differently?
- Can you describe and tell us about an API documentation that you think is really bad?
    - Can you describe why this example is bad and what they’re making badly?
- What is the most complex API that you’ve ever used?
    - Let the user elaborate
- What is the most complex API that you’ve created on your own?
    - Let the user elaborate

Conclusion

Thanks a lot for participating in our user interview session. You were very helpful and provided us with a lot of interesting insights. We will keep the provided information from you private and we will delete the recorded files in the next two weeks. You don’t need to do anything anymore. Do you have any questions?