SPARK LABS at ETH Zürich

// THE SONOVA CHALLENGE: HELPING THE WORLD HEAR BETTER

THE PROBLEM

12% of the population suffer from hearing loss, notably reducing their quality of life

80% still do not wear a hearing system

RESEARCH QUESTION

How, and with what, do we need to target 40 to 60 year old people with a mild to moderate hearing loss that do not wear, but could clearly benefit from a hearing aid?

1 EMPATHIZE

OBSERVATION

[Study target audience and their behavior in the context of their daily life]

A lot have trouble understanding their interlocutor, but do not admit it.

People between 40-60 do not like hearing aids. Using a hearing aid only causes stress for them and others.

EXISTING KNOWLEDGE RESEARCH

[Short Internet based research to call forth existing knowledge and bring team members on common ground]

700 MILLION People worldwide are affected by mild hearing loss

10 YEARS Average time span these people wait before acting on it

SELF-IMMERSION

[Empathize with users by doing a self-experiment of one day wearing earplugs vs. one day wearing a hearing aid]

"Now I understand why people often have trouble adjusting their hearing aids."

"When wearing a hearing aid, background noise got annoyingly amplified."

USER INTERVIEWS

[Obtain deep view into feelings, behaviors and perceptions of target audience]

"I associate hearing loss with hearing aids and being old."

"Once you get older, the problem is not what you hear and what you do not hear. The challenge lies more in the mental processing of what you have heard."

EXPERT INTERVIEWS

[Collect in-depth and technical information from experts]

"We don't sell hearing aids to customers with a mild hearing loss."

"We say you need to have at least a 20% loss in hearing capabilities, to actually notice an improvement."

2 DEFINE

SYNTHESIS

[Summarize and analyze collected information to infer meaning]

- Hearing better (which does not necessarily also mean understanding better)

BENEFITS / DOWNSIDES

- High costs
- Long calibration times
- Negative effects on appearance
- Stigma: hearing loss = disability
- Only solve auditory level

POINT OF VIEW

How might we enhance the understanding of people with mild hearing loss in noisy environments while sparing them from the negative effects of wearing a hearing aid?

3 IDEATE

BRAINSTORMING

[Generate as many ideas as possible by applying different brainstorming settings and methods]

- Fake ears
- Hearing aid toolkit
- Training aids
- Self-learning hearing aids
- Gamification tool
- Sorry what?!
- Info brochure
- Voice based hearing test
- Sonova glasses
- etc.

ITERATIONS

CLUSTERING & SELECTION

[Filter ideas, to discover the most radical, resonant & rational concepts]

GAMIFICATION / HEARING TRAINING

An app that replaces hearing aids

4 PROTOTYPE & TEST

RAPID PROTOTYPING

[Convert the intangible idea into a tangible form that can be experienced, simulating its appearance, as well as performance and functions]

Outline of the first prototype, showing the different screens, from the login screen, to the menu, to the journal and the training screen.

USER TESTING

[Test critical functions with real users to gather qualitative feedback, drive deeper user-understanding and validate or invalidate assumptions]

People love the idea of auditory training and gamification. Furthermore, they are very curios.

People from 40-60 are "app-ready" and are searching for brain training exercises.

The game and the app still needs to be improved.

PROTOTYPE REFINEMENT

[Iterative improvement of the solution based on user feedback]

Four essential functions:

- **Single mode**
  To keep the user entertained through changing challenges.
- **Challenge your friends**
  To attract new customers that want to play and train with their friends.
- **Trophy room**
  To improve engagement and motivation.
- **Journal**
  To track the user's progress.

CONCEPT VALIDATION

[Bring out and connect all essential dimensions of the solution concept]

Recent scientific research and successful brain training videos show, that people with mild hearing loss can train their brain to improve their ability to distinguish between useful information and background noise.

Amount of time people spend every day on their smartphone. This time could easily be used to improve their listening skills.

4.7 HOURS

THE CONCEPT

"Fokus" – An auditory training application to compensate for deficits in auditory temporal processing, thus increasing the cognitive skills and providing a better auditory experience.

BENEFITS FOR THE USER

Fun and challenging way to improve understanding and listening skills through playing games.

Switching the focus from dealing with a sickness towards personal training and self improvement.

Low entry barrier solution, as the downsides that come with a hearing aid do not apply.

BENEFITS FOR SONOVA

Building on its reputation as world leader of hearing solutions, while improving customer fidelity.

Use of collected data during the calibration phase of a hearing aid to reduce some of the early stage downsides.

Change in perception potentially shortening the time it takes people to act on their hearing loss.