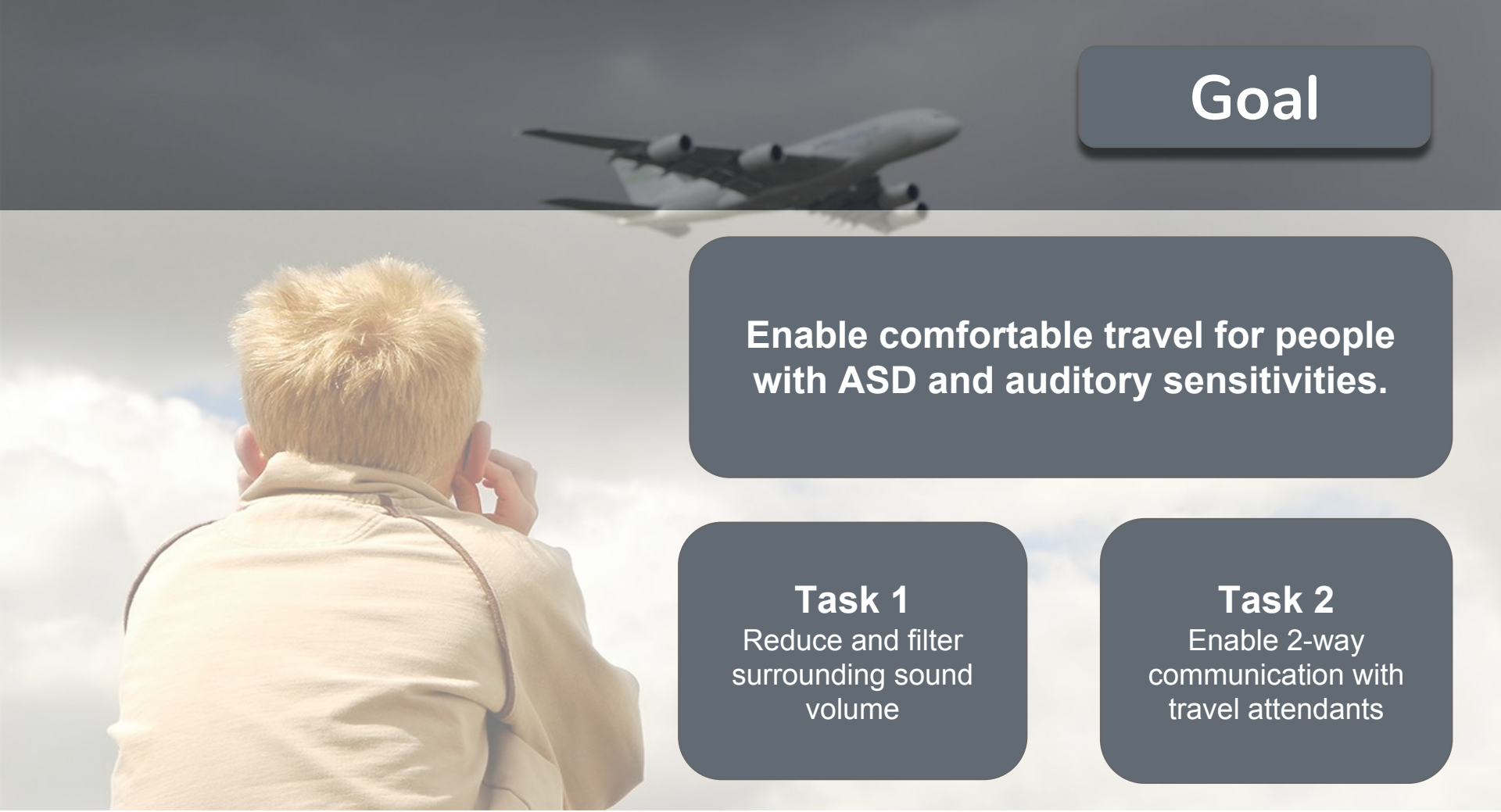
LoudProof

Monique Mahony - User research and testing
Tariq Amireh - Documentation and planning
Sungmin Rhee - Paper and digital prototypes
Steven Miller - Revisions and formatting

Problem

Most adults with ASD have difficulty with traveling due to auditory hypersensitivity.

Goal

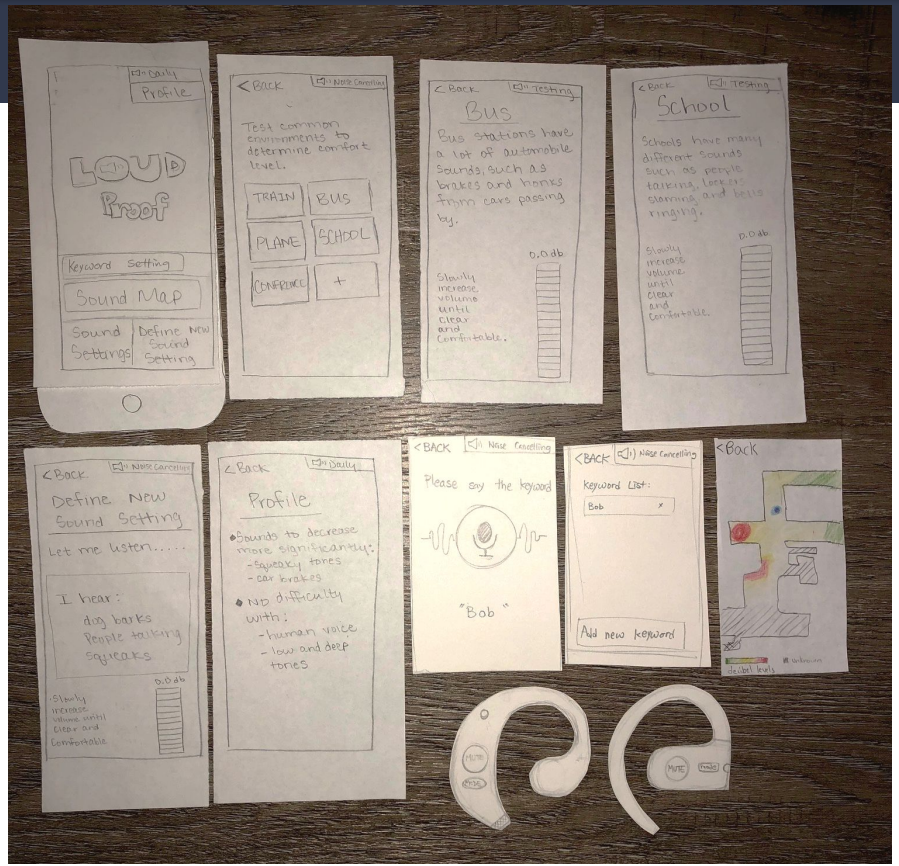


Enable comfortable travel for people with ASD and auditory sensitivities.

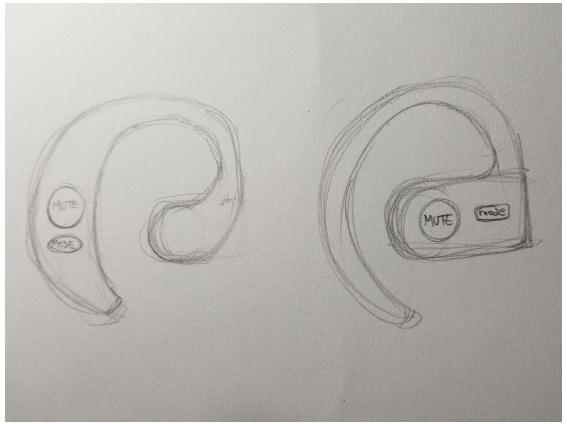
Task 1
Reduce and filter surrounding sound volume

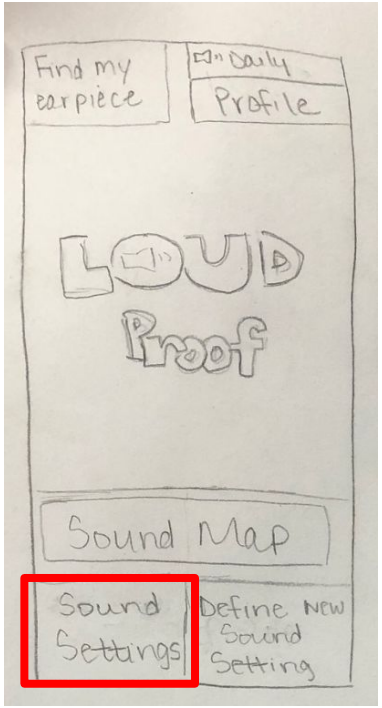
Task 2
Enable 2-way communication with travel attendants

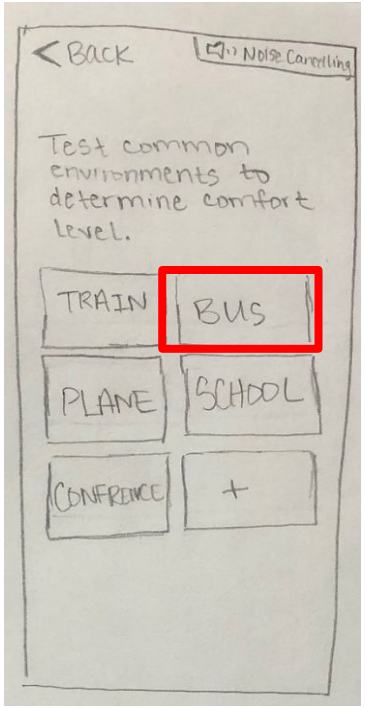
Initial Paper Prototype

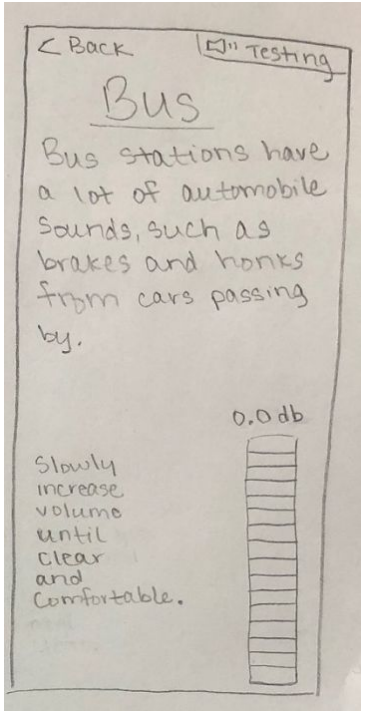


Task 1: Reduce and Filter Surrounding Volume



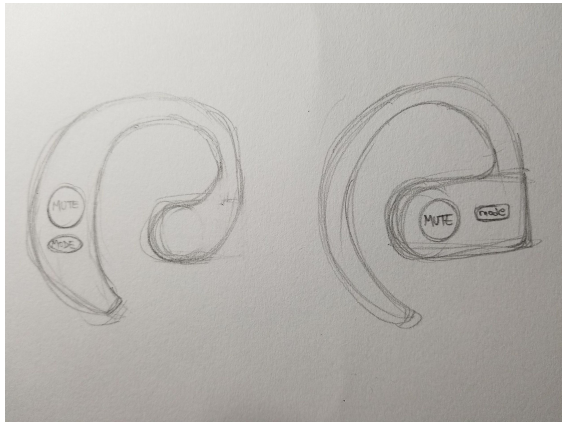


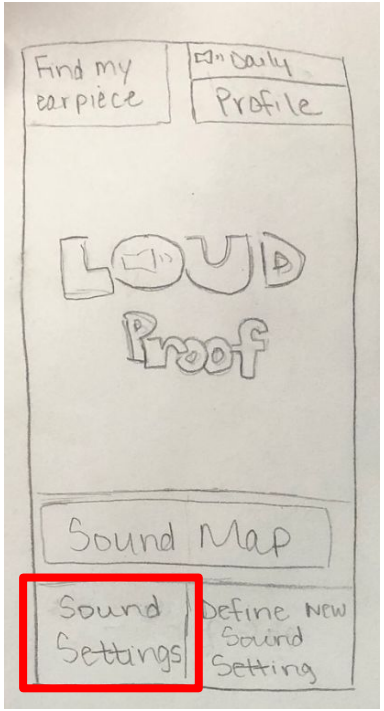


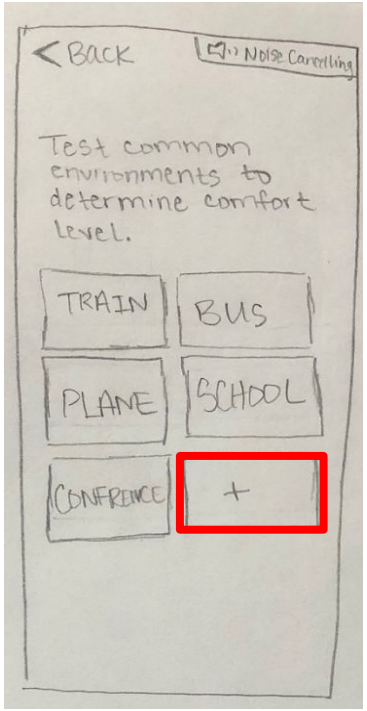


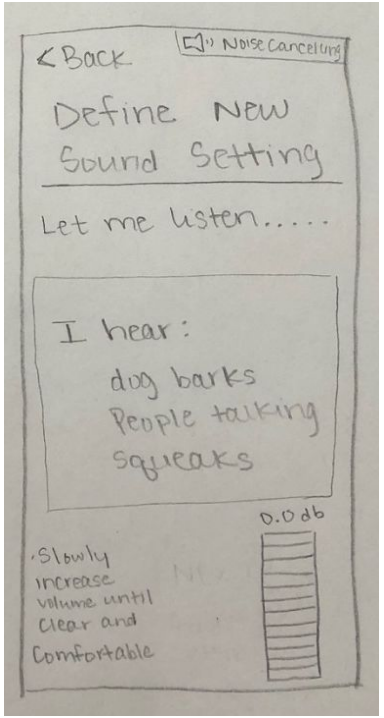
1a: Creating “Sound Modes”

Task 1: Reduce and Filter Surrounding Volume









1a: Creating “Sound Modes”

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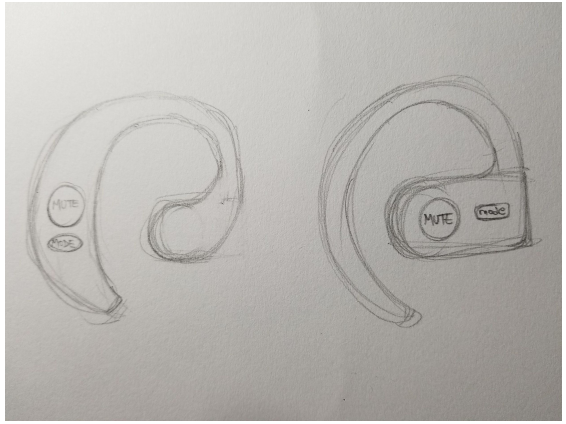
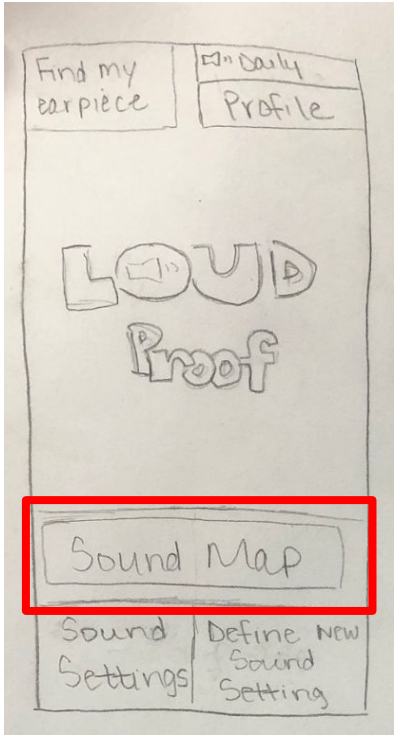
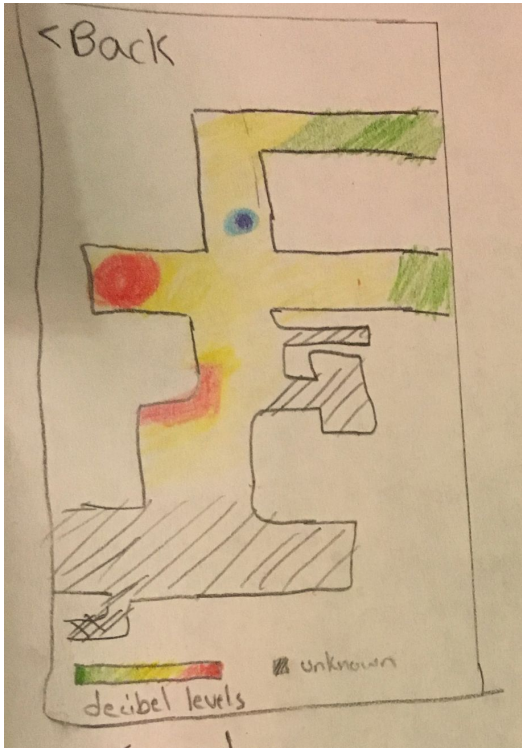
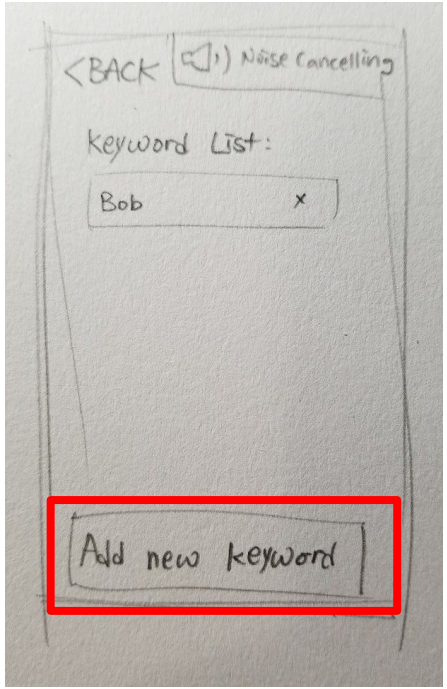


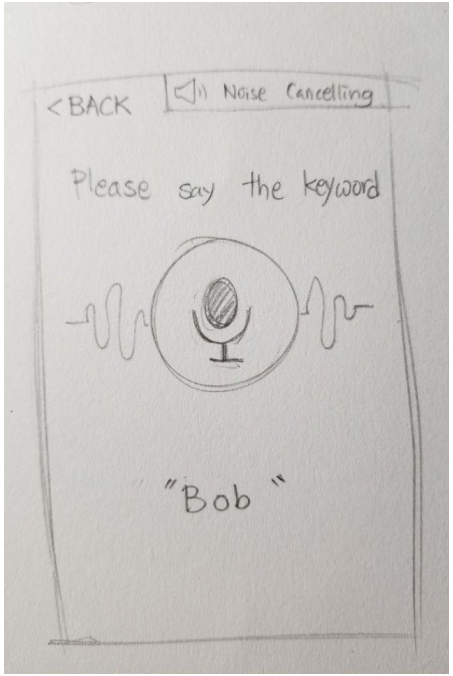


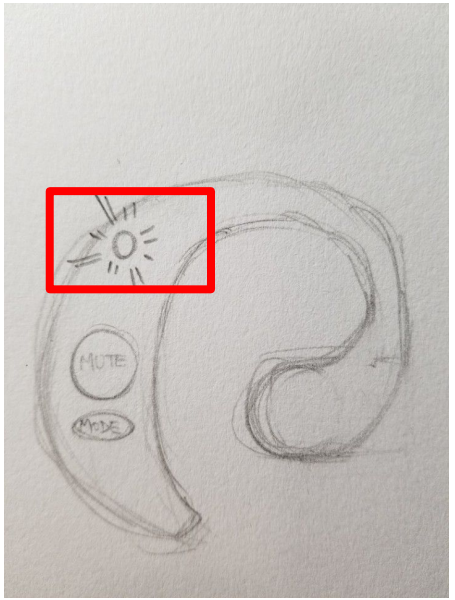


1b: Viewing “Sound Map”

Task 2: Enable 2-way Communication with Travel Attendants







2: Keyword detection

Testing Process

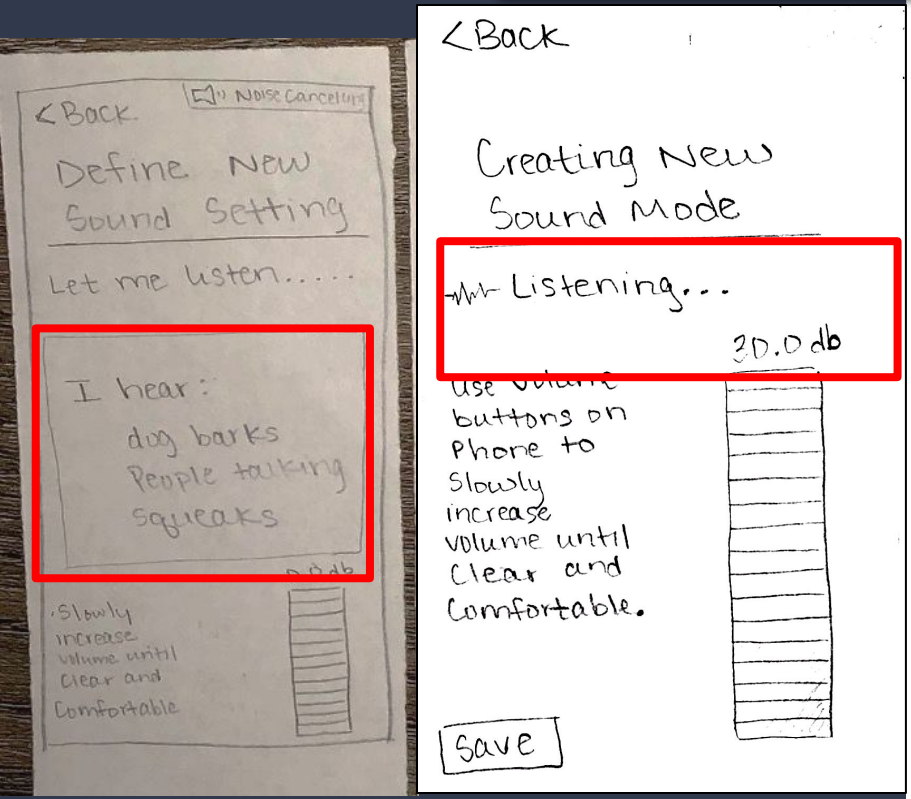
3 Participants

- 2 of 3 experienced some annoyance or sensitivity to audio

Subtasks

- Add keywords
- Create and edit sound modes
- Cycle through sound modes

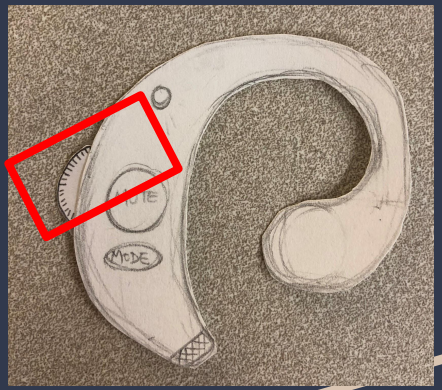
Revision 1



User believed that they could set caps on individual noises (false affordance)

Excessive text and classification of noises was what indicated this

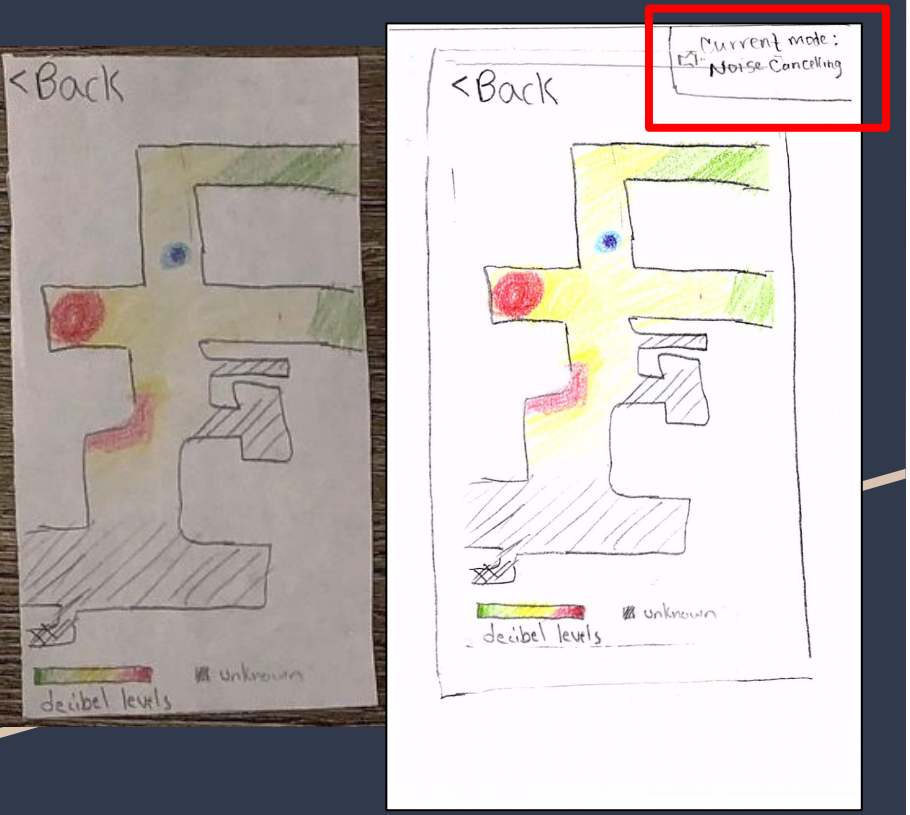
Revision 2



No volume control affordance on physical hearing aid device

After much discussion we decided to add a volume wheel to device

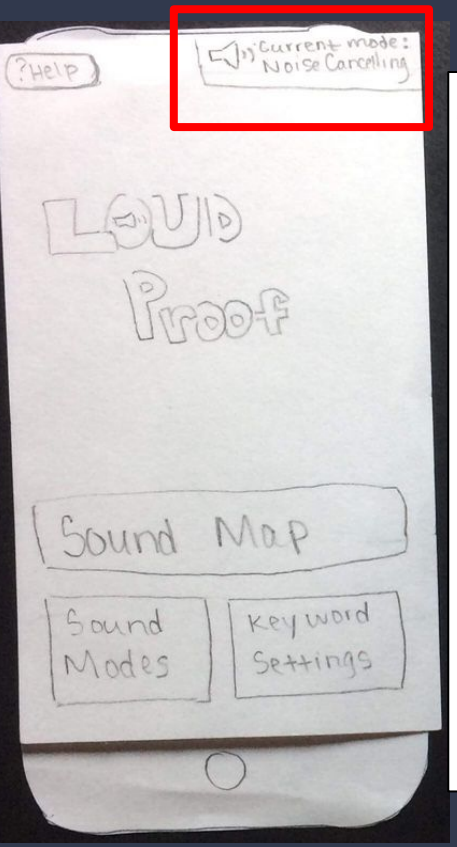
Revision 3

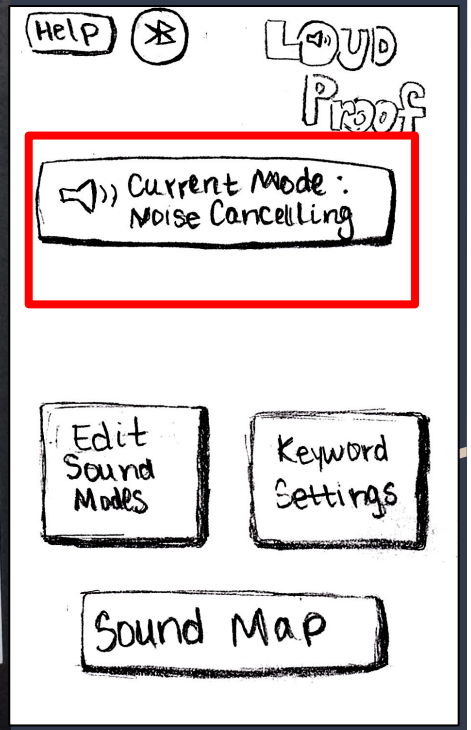


Visibility of current mode was unavailable on some screens

Use unused space in upper right corner to display current mode

Revision 4

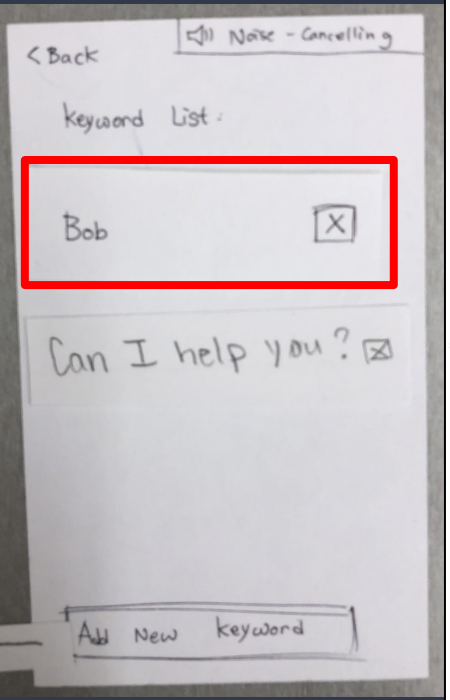


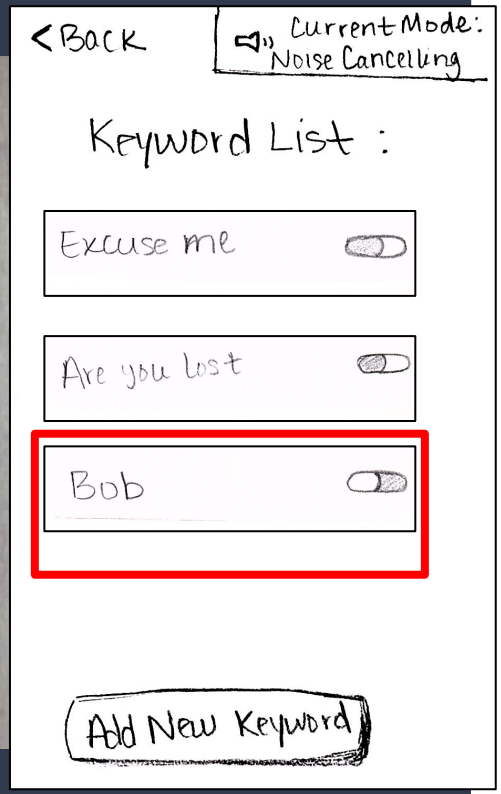


The main screen should display the current mode more obviously

Made use of unused space on the main screen to display current mode more clearly

Revision 5

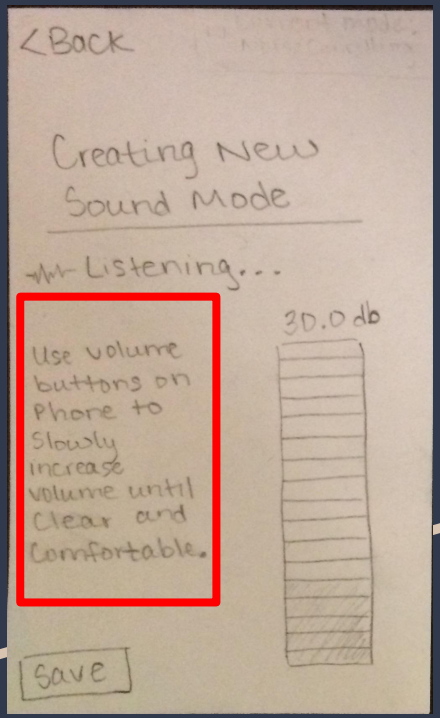


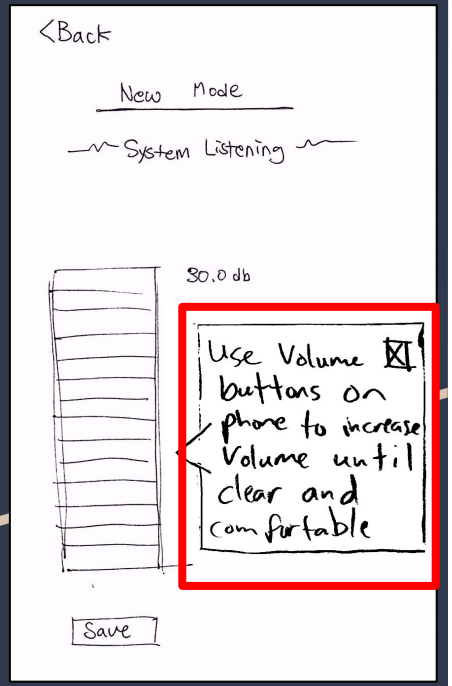


No clarity on whether keywords were universal or mode specific

Made use of an IOS standard and used enabling and disabling of keywords instead of mode-specific or always on keywords

Revision 6

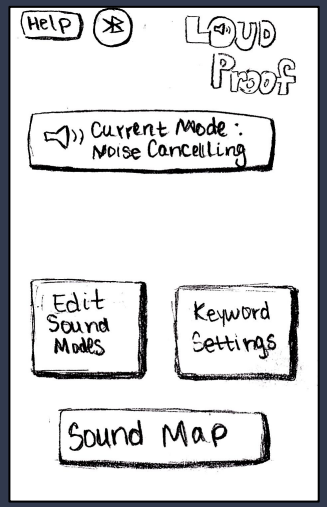


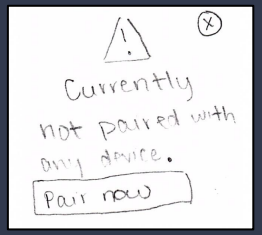


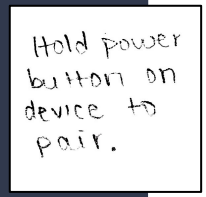
Excessive amounts of instructional text made the interface cluttered

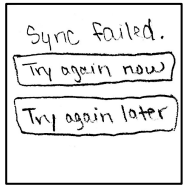
Used tooltips as a fluid solution

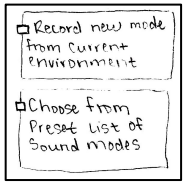
Final Paper Prototype

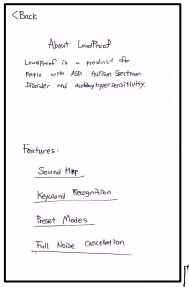


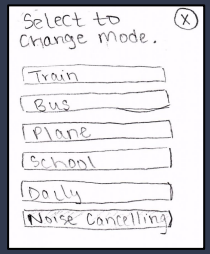


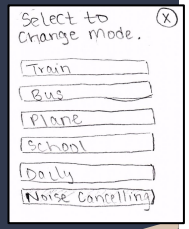


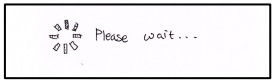


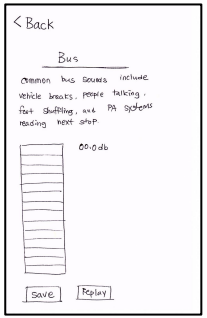


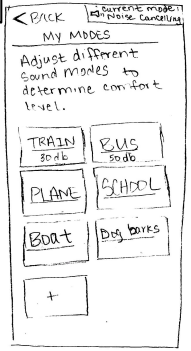


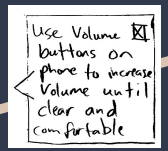


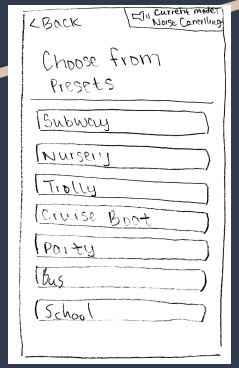


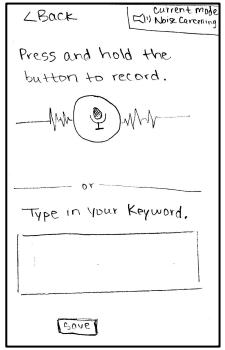






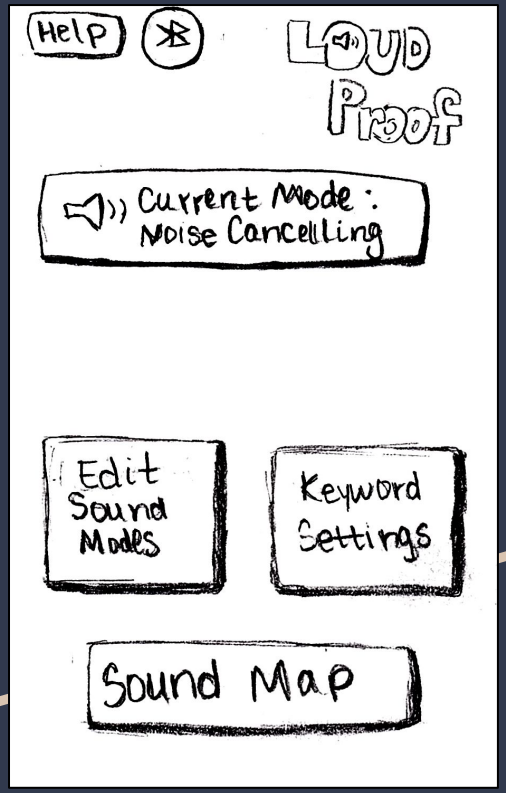


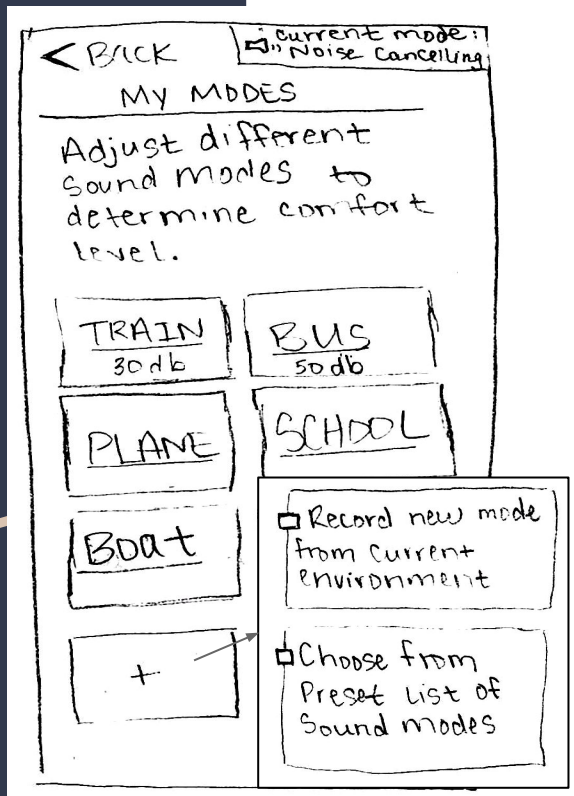


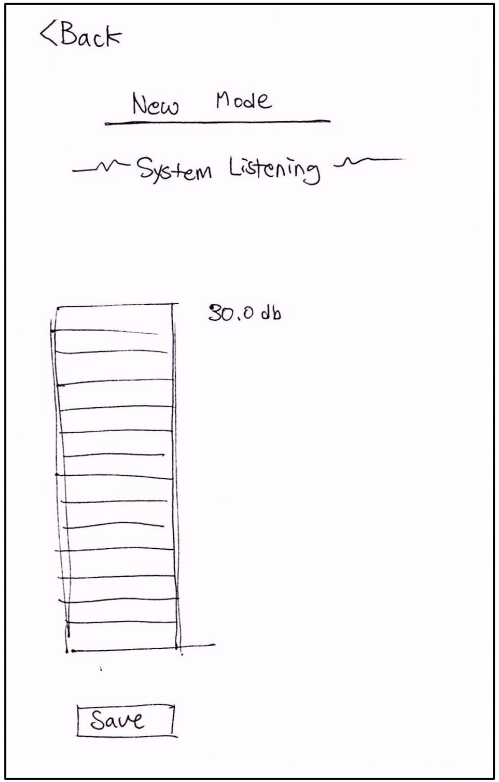


Final Paper Prototype

Task 1: Reduce Sound

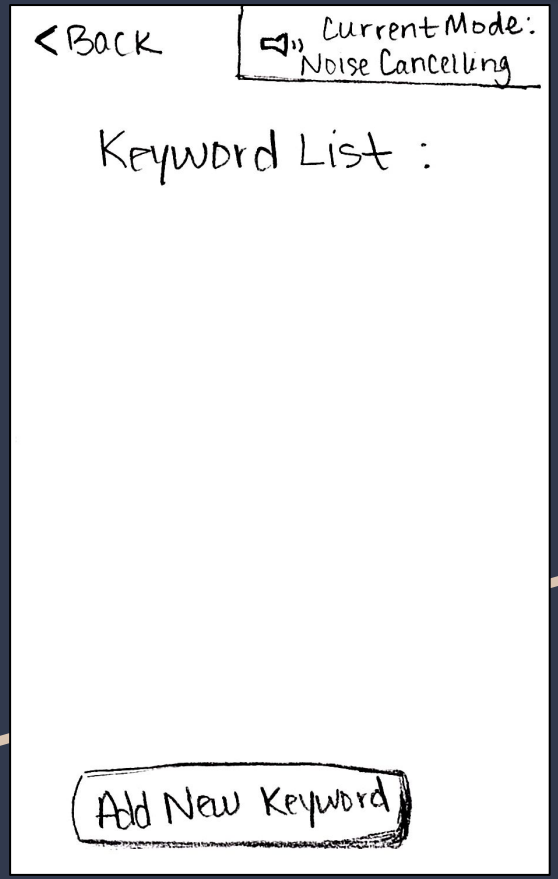


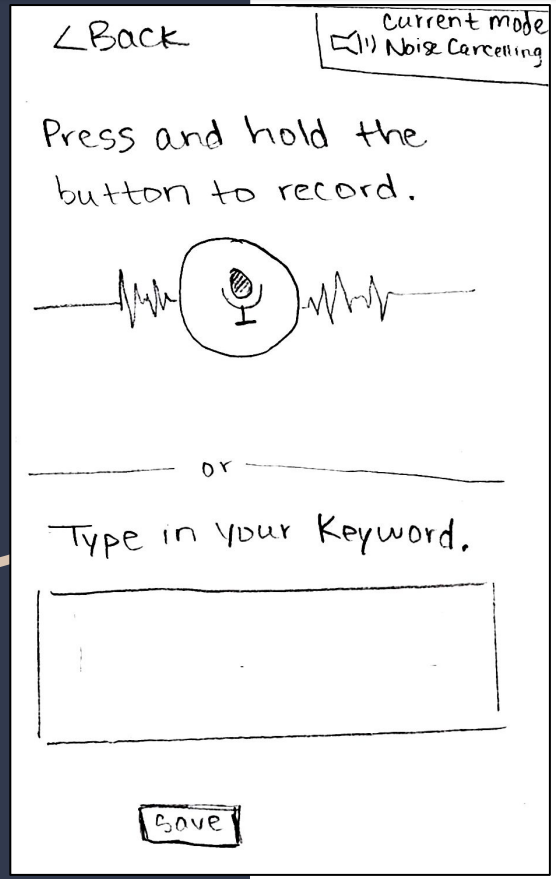


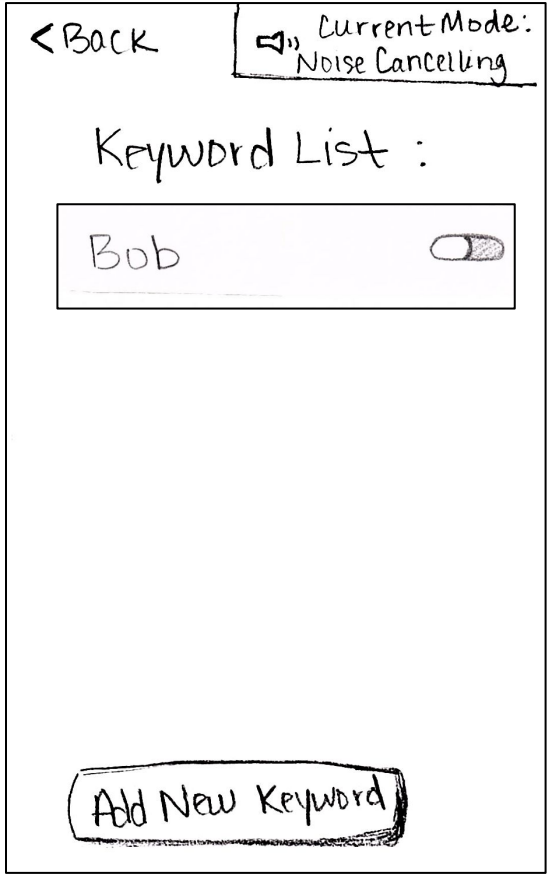


Final Paper Prototype

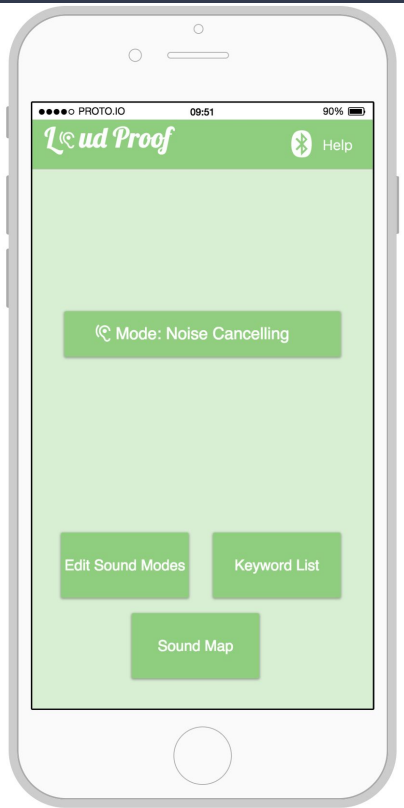
Task 2: Enable Communication

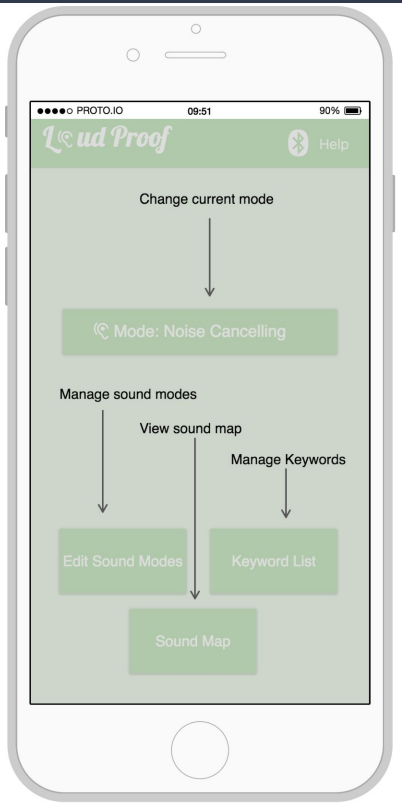


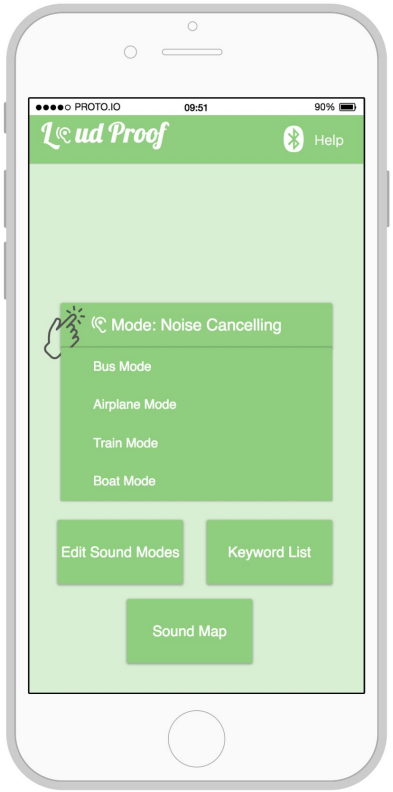




Digital Mockup
Task 1: Reduce Sound







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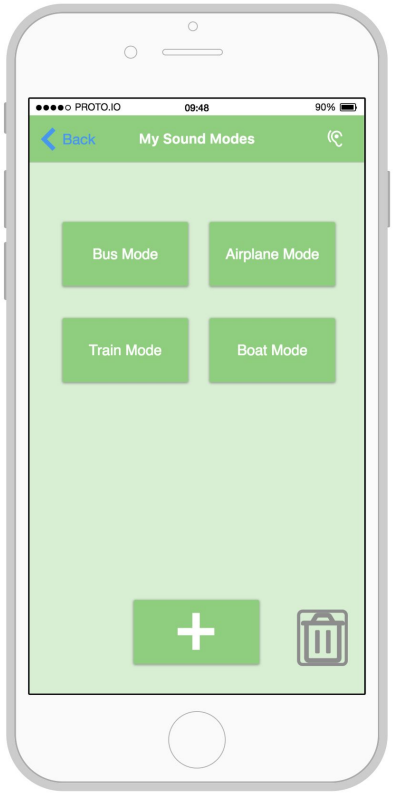

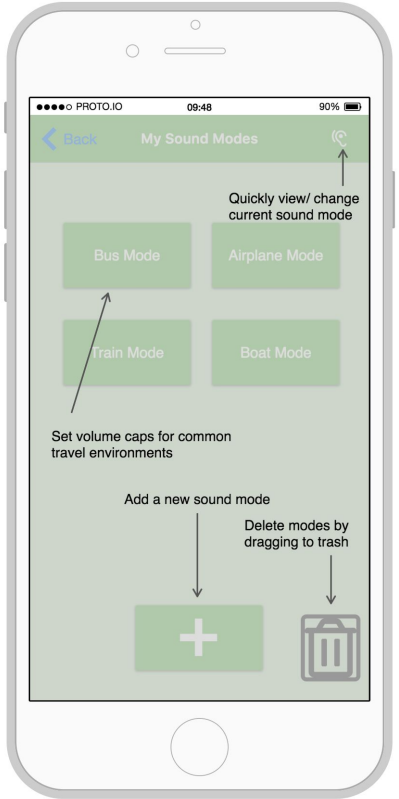

Digital Mockup

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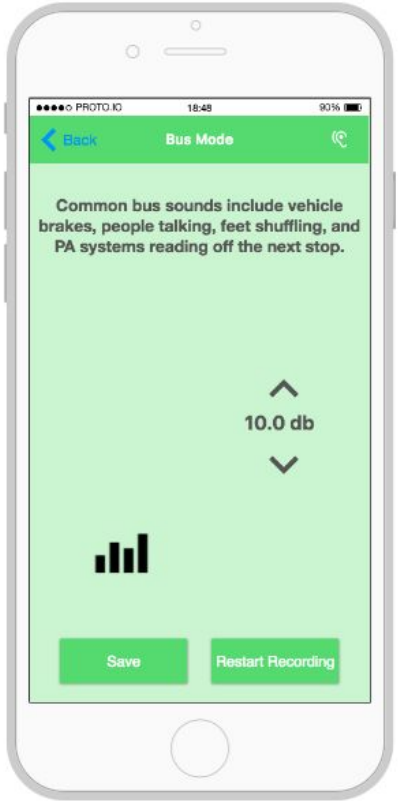
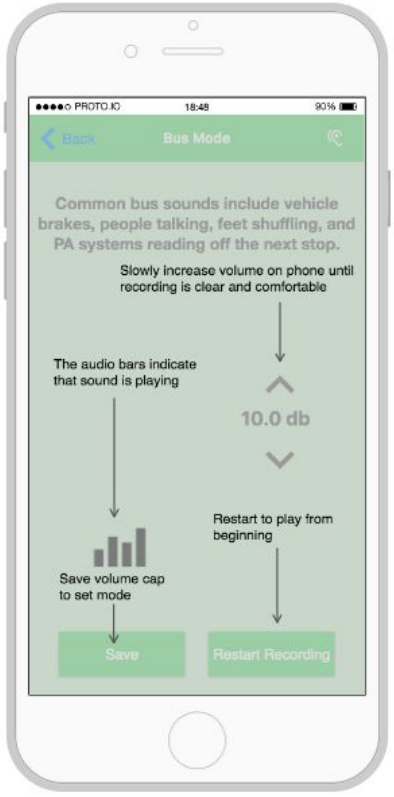
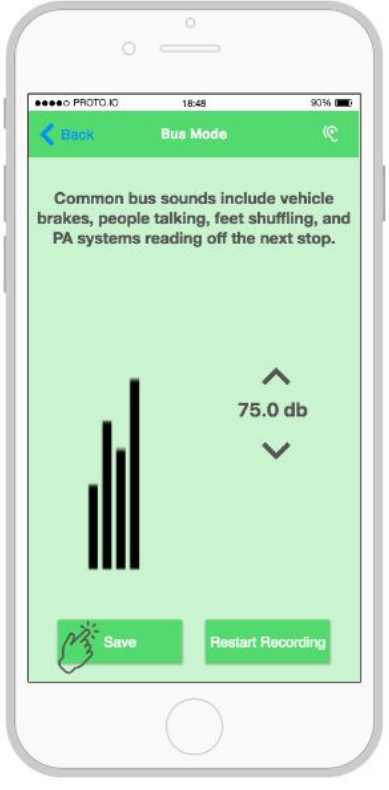
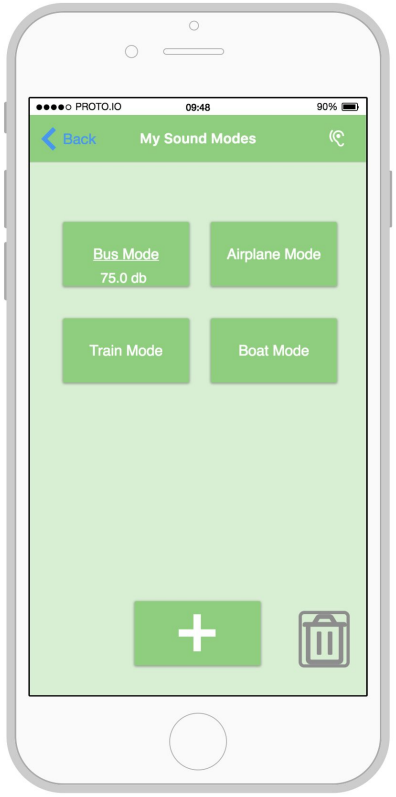
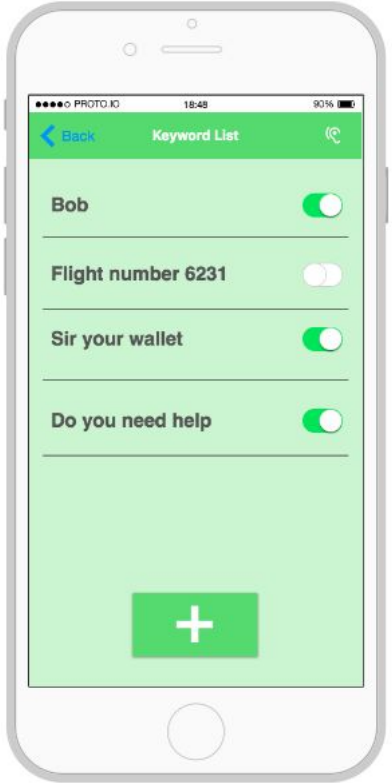


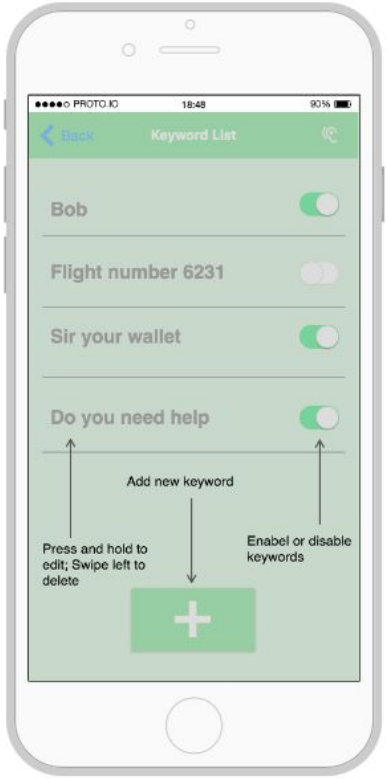






Digital Mockup
Task 2: Enable Communication





Physical Prototype

Summary and Takeaways

- Balancing learning curve and feature richness
- Usability testing should be semi-scripted
- Tasks are always shifting
- Everything is contextualized

Questions?