Overall Problem

A lack of awareness of the health implications of noise exposure
Initial Paper Prototype
Task 1

Perform Soundscape analysis on the current environment
105 dB
HIGH
40 Mins
SAFE EXPOSURE REMAINING

150 dB
WARNING
20 Mins
OVER EXPOSURE LIMIT

You have exceeded the safe exposure limit!
- 8 mins ago
GOT IT

At high exposure you can sustain permanent hearing loss!

130 dB < 1 min
115 dB 15 min
105 dB 1 hour
95 dB 4 hours
85 dB 8 hours
70 dB 40 hours
ZEN
Task 2

View past noise exposure & analysis
GREAT JOB!

You are exceeding the recommended amount per day. Looking forward to increasing memory and attention.

34 min/day

28 min/day

Careful! Minutes of high exposure seem low but noise levels are high. Short exposures can still be harmful. Intensity not high.
Testing Process
Usability Tests

- **UW Student**
  - Frequent loud environments

- **Middle-aged User**
  - Lacks technological expertise

- **Doctor (Radiologist)**
  - Provides a medical background
Results
Syntax
Recognition Rather than Recall
Visibility of System Status

- 52 dB (ZEN)
  - Time in ZEN: 36 mins
- 85 dB (MEDIUM)
  - Safe Exposure Remaining: 4 hrs, 20 mins
- 105 dB (HIGH)
  - Safe Exposure Remaining: 40 mins

- 30 dB (SAFE)
- 50 dB (CAUTION)
- 90 dB (RISK)
Affordances
Flexibility and Efficiency of Use
User Control and Freedom

GREAT JOB! You are exceeding the recommended amount of Zen time per day. Look forward to increases in memory and attention!

CAREFUL! 28 minutes of high exposure seems low but your noise levels are high. Short exposures can still be harmful at high intensity.
Features
TUTORIAL

60

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Aesthetic and Minimalist Design
Visibility of System Status

- Soundscapes:
  - 52 dB
  - ZEN
  - 36 mins
  - Time in ZEN

- History:
  - dBs
  - SAFE
  - R

Red circles highlight the current status.
Final Paper Prototype
Great job! You are exceeding the recommended amount of Zen time per day. Look forward to increases in memory and attention!

Careful! 28 minutes of high exposure seems low but your noise levels are high. Short exposures can still be harmful at high intensity.
GREAT JOB! You are exceeding the recommended amount of Zen per day. Look forward to increased memory and attention!

CAREFUL! Exposure to high levels of noise seems low but levels are still high. Short exposures can still be harmful at high intensity.
Digital Mockups
Tutorial

Soundscape helps you monitor the noise around you and minimize the health risks related to noise exposure.

Your goal is to maximize the "Zen" (quiet) bar and minimize the time spent in "Risk" (loud) environments everyday!

**Zen 30 dBs**

By increasing your "Zen time" (<35 dBs), will help decrease your stress level while improving working memory and cognitive function!

**Danger: 1 min safe exposure 10 dBs**

When the noise around you exceeds 85 dBs, a time reading appears to let you know how long it is safe to stay without risking long-term damage.

In the history tab, tapping on a set of bars will allow you to see a more detailed breakdown of your noise exposure!
Soundscape helps you monitor the noise around you and minimize the health risks related to noise exposure.
Your goal is to maximize the "Zen" (quiet) bar and minimize the time spent in "Risk" (loud) environments everyday!
By increasing your "Zen time" (<35 dBs), will help decrease your stress level while improving working memory and cognitive function!
DANGER:

1 min safe exposure

110 dBs

When the noise around you exceeds 85 dBs, a time reading appears to let you know how long it is safe to stay without risking long-term damage.
In the history tab, tapping on a set of bars will allow you to see a more detailed breakdown of your noise exposure!
Task 1: Soundscape Analysis
Task 2: History & Analysis

Great job incorporating more Zen time into your schedule (avg. 0:48 in the past month)! Try to reach **one hour** of Zen time daily and you will start to notice improvements in your working memory, attention, and mood! Recently, you have met this goal, keep it up!

1:20 avg/day

Careful, while an hour and 20 minutes of risky exposure might not seem significant, it looks like your noise exposure is fairly intense. A loud concert every once in a while is OK, but try to limit your time in loud environments to under an **hour per day**.
Summary
Questions?