



Compulsory presentation 1: Project ideas

AHAA[®]

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Target group

Musicians

Research methods



First interview with Anz...

When did you start to play a guitar?
I started to play a guitar at home, and my mom often played on it. And one day I found some chords for a song of Victor Tsol. From that time everything is different. I was an amateur for 3 years. After I went to the music school.

Was it any difficulties with learning solfeggio?
Yes, it was very difficult to understand this, and to understand how it all cost. How to combine what you see with what you hear. In general, not so easy.

How did you handle the rhythm?
My sense of rhythm is somehow not bad by nature. I felt the rhythm. I heard that a count shares. As they try to calculate mathematically, I almost never did it. I listened a lot of music and it came to me like that through music.

What kind of music do you prefer to play?
Since I have a guitar, I mostly play an acoustic blouse, an acoustic pop. Little of folk in general, guitar music.



Two semi structure interview with the musicians.



Observation

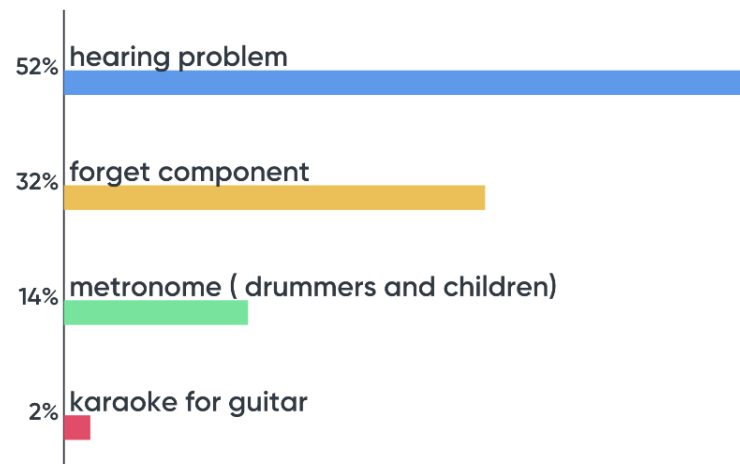


Qualitative analysis

Research topic

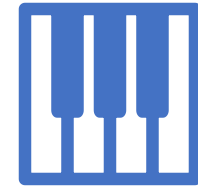
Loud music and hearing loss

Prioritize these issues



Mentimeter

5





How can we use arduino to help the musicians to prevent ear damages which can occur from loud noise.

Issue

85 dB	8 hrs
88 dB	4 hrs
91 dB	2 hrs
94 dB	1 hr
97 dB	30 min
100 dB	15 min
103 dB	8 min



What Are the Safe Levels for Louder Sounds?

by Neil Bauman, Ph.D.

A young man asked:

What is the safe range of sounds for human ears? How long can a person be in a dangerous range range before damage occurs? Are we talking about hours, minutes or just seconds?

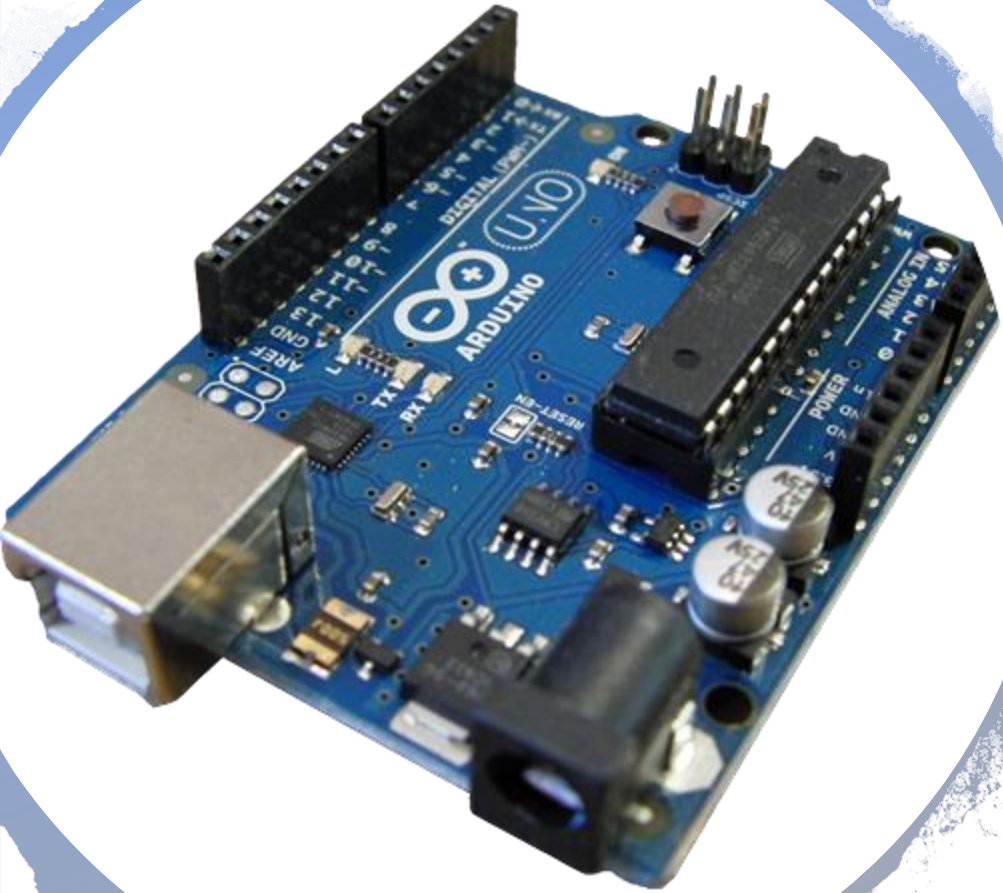
The current wisdom is that sounds that **always** remain below **80 dB** are safe for our ears and will not cause any damage no matter how long we listen to them.

Above that, OSHA has set the following rules for workplace exposure. You should take these guidelines for all noise exposure—whether it is recreational noise, traffic noise, workplace noise, or the noise you pump into your ears listening to iPods, MP3 players and related devices.

Here's how it works. For each 3 dB (decibels) you increase the sound, you need to cut the time your ears are exposed to loud sounds in half. Here is



We got inspiration by searching about Hearing-health data

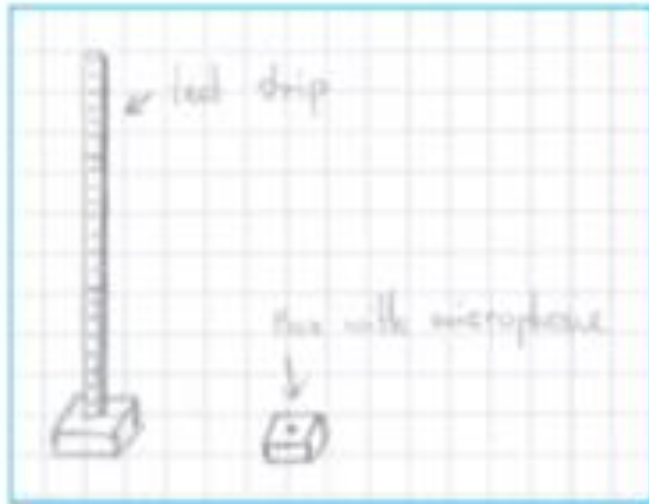


Arduino solutions

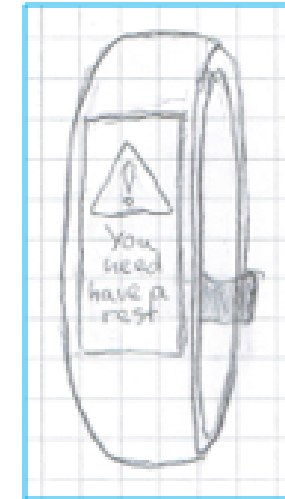
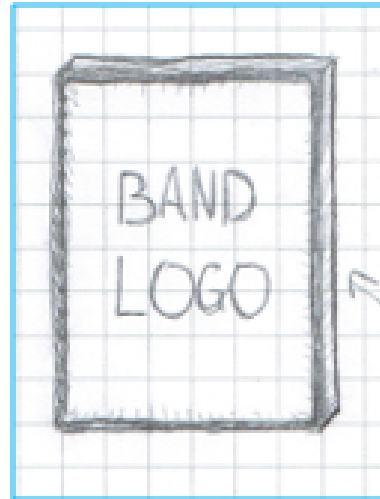
- Addressable LED strip
- LED shield
- Sound detection sensor



Arduino solutions



Addressable led strip



Wearable device

Further steps

- Conduct more interviews focusing on the problem.
- Observation
- Analyze the outcome.
- Brainstorming for the possible solutions.

**Thank You for Your
Attention!**

