

## Group 3-Design Research

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### Part 1: 1:1 interview Summary

The type of research we conducted is 1:1 interview. Three of us in our team all did this research.

Linyi interviewed two students from CU Boulder. One student is major in computer science, and this student is living in an apartment. Another student who is major in civil engineering also living in an apartment. Linyi interviewed them at Norlin library.

Joseph interviewed two of his friends, one of them living in a private house and another one living in an apartment. Joseph interviewed them through a phone call.

Nhan interviewed two of his brothers. One of them is from USC major in business and lived in a condo, and another one lived in a private house.

After the 1:1 interview, our group organized the following data.

1. Noises can be found everywhere, noises can from their neighbors or their roommates. When they're trying to find a place to live, they will consider the materials of the wall, if the wall is soundproof, also they will consider if their roommates are quite or not.
2. 50% of our interviewees said they will just tell people they are being too loud, they think to tell them in person is very effective. Another 50% of our interviewees said it's hard to tell people in person to ask them to keep their voice down.
3. Most of our interviewees have been told they are too loud. One of the answers from our interviewee said she be told as "I can hear your laugh from far away!"

We found all of our interviewees don't like noises, and noises are everywhere. People will be plagued by the relationship of noises problem and the relationship with their

neighbors or roommates. People are not sensitive with the behavior which is the noise they made by themselves.

We learned the noise source is wide and the range of influence is large, which is controllable to some extent. For our design, if we want to solve the noises problem, first we have to find where the noises are come from, and we have to define if the noises are from human behavior or something else, if it's from human behavior, we can give them remind.

	Age	Gender	Is noise ever a problem for them?	Have they ever tell people they are being too loud?	Have they ever been told by people you are being too loud?	would they like to be reminded, if they were too loud?
Interviewee 1	20	Female	Yes	No	Yes	Yes
Interviewee 2	21	Female	Yes	Yes	Yes	Yes
Interviewee 3	23	Male	Yes	No	No	Yes
Interviewee 4	22	Male	Yes	Yes	Not sure	Yes
Interviewee 5	21	Male	Yes	No	Yes	Yes
Interviewee 6	30	Male	Yes	Yes	No	Yes

## **Part 1: contextual inquiry Summary**

Our second research method was a contextual inquiry. We hoped to gather what user's expectations for our product were, and what form they envisioned the product takes. This perspective would tie in well to our 1:1 interview to provide a solid foundation from which we can make further design decisions. The interviews provide insight to signal effectiveness and the state of the environment our product would act in, and the contextual inquiry tells us what expectations we need to meet. Together they form a more focused framework for design.

Joe conducted this research. He interviewed both people in their mid-late twenties living in downtown apartments, and students living in cheaper student apartments. The inquiry was conducted by describing the function of the device, but not the form or method. The participant was then asked to describe how they saw the device being implemented and where it would be used.

Through these inquiries, we found support for two specific types of signal, a light-based implementation I will refer to as visual, and a vibration-based the method I will refer to as tactile. We also had one participant describe the device adjusting music level automatically in addition to describing one of the above signals. I will refer to this as audio. The former two types of the signal were described by two participants each.

The descriptions of a visual signal were in the form of a lamp or other light array that increased its light intensity along with noise level. The other description was a red lamp that came on or flashed when above some threshold.

The descriptions of the tactile signal were both in the form of a cell phone, where the phone would buzz as you crossed some threshold, and if you remained above the threshold the buzzing would become more frequent and increase in intensity with time. This is how both participants envisioned such a system.

The description of an audio signal would entail having your audio system include some control device. This device could alter the output level to try and keep you below some threshold. The participant felt this could be of some help, but remarked that it would not address the issue of human noise such as talking or jumping. These can make up a significant portion, if not the majority, of overall noise at a large gathering.

These responses have helped us to focus our design to the former signal types. Now we must look at how they fit with our 1:1 interview responses, and how we can design them to be effective signals in their respective mediums.

Signal	Count
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Visual	2
Audio	1
Tactile	2

## Part 2: Group Reflection

On October 25th Friday, Linyi, Joseph, Nhan met at Norlin library violet study room, from 5 pm to 6 Pm.

During the meeting, we all agree with our findings. Like we know that all people don't like noises, they either want a text message to remind them they are too loud or a visual reminds.

From 1:1 interview and contextual inquiry these two methods, they give us different suggestions on what kind of product we should design. According to their answers, we think the decisions we can make base on those data are:

1. Our product can't be the source of noises, so we cannot use the sound notices to remind our user they are too loud.
2. We can let our product send the text message when they are too loud or give them visual reminds when they are too loud.
3. When our product is working, it shouldn't use lots of batteries, because the noise is everywhere and happens at any time.

We all think the 1:1 interview and contextual inquiry these two methods both very useful. Because they are both critical, 1:1 interview is asking about personal, contextual inquiry is asking about the device. Both data are important for us.

We think if we have more data would be more helpful, we can do a prototype to look at how our actual physical product will like. We can do some test to design a better product.

### **Part 3: Appendices**

Questionnaires for our 1:1 interview:

- 1) Is noise level ever a problem or consideration where you live?
- 2) Do you ever tell people they are being too loud? If so, how? Was it effective?
- 3) Are you ever told you are being too loud? If so how? how did it make you feel?
- 4) How would you like to be told if you were too loud? Why would this method be effective?

Contextual inquiry

This will consist of asking people to describe being told they are too loud by a technology product. How are they told? Is it effective? Was it how they wanted to be told? This should help us to understand whether people want to

receive a text message, a phone call, have a thermostat style display change it's reading, have an application notification sent, have Their music automatically turned down, or something else entirely.