



# Noise Control Project Plan

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## Introduction

In 2023, a new law states that primary school students need at least 2 hours of physical education each week. In 2023 physical exercise teachers will have to be in the gym hall for a lot more. Physical exercise teachers already have a lot of

problems related to tinnitus, hearing loss and other problems from being in a gym hall for too long.

## About Sorama

Sorama intends to improve the quality of life for all people, wherever they are. They contribute to a better-sounding insight. The visualization of sound enables efficient and effective reduction of unwanted noise. Better-sounding products and environmental silence improve the quality of life.

## The Assignment

### Design Challenge

From our stakeholders:

How can physical exercise teachers in primary school get more insight into the sound levels and stress during the class?

**What problem are we solving?**

*(User)* needs to *(user's need)* because *(insight)*.

*Physical exercise/Gym teachers* need to *be aware of the negative effect of loud sounds* because *they can affect their hearing and stress levels*.

### Target Users

**Who are we designing for?**

Gym teachers are the primary target audience

Children as the secondary target audience



**Results:** The target audience is:

- Physical exercise / Gym teachers

### Scope

### Deliverables

1. Hi-fi prototype of a tool or app which visually displays the sound levels in an intuitive and appealing way
2. A hardware product that showcases the concept

## MoSCoW

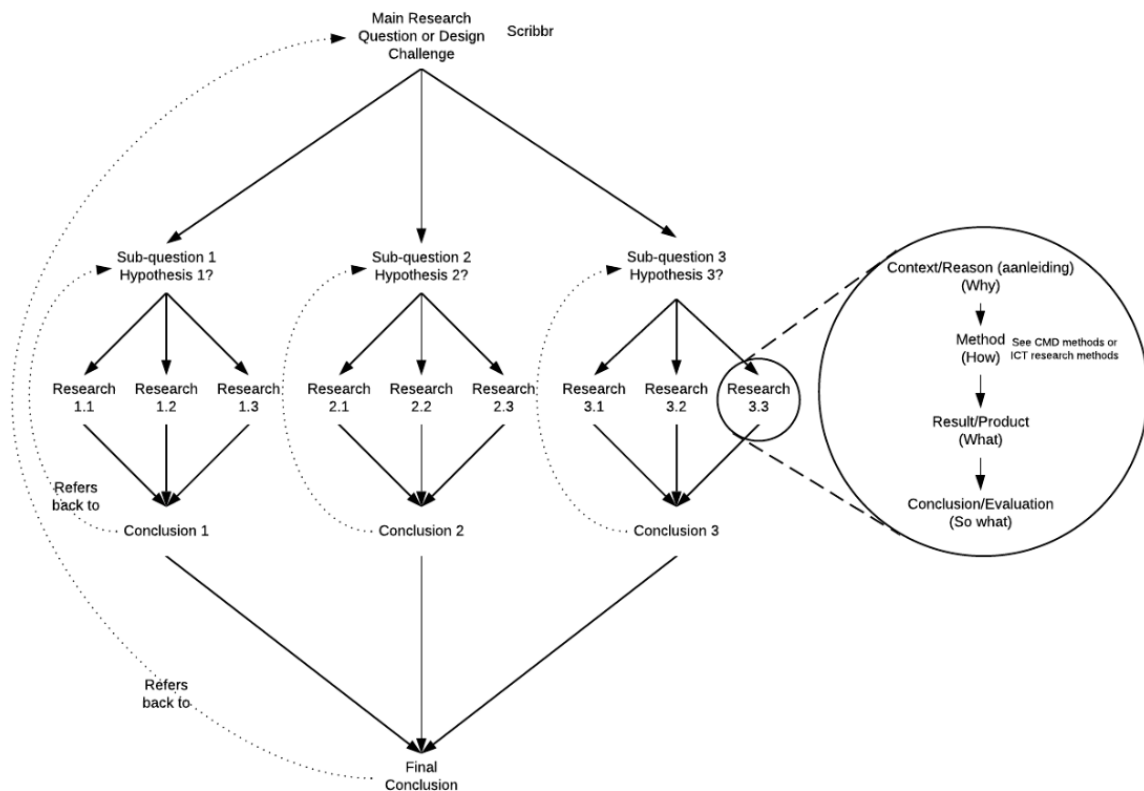
**Must have:** Proof of concept

**Should have:** Awareness component

**Could have:** Physical prototype

**Won't have:** End-to-end scalable functionality.

## Research Questions



Here the research questions will be documented. The research questions might change based on the progress of the project. However, by looking at the pre-defined research question, we have come up with three sub-questions and their research methods.



### **Main Research Question from Stakeholder:**

**How can physical exercise teachers in primary school get more insight into the sound levels and stress during the class?**



### **Our Main Research Question/Problem Statement:**

**What are the factors affecting noise levels in primary school gyms, and what are their impacts on teachers and students?**

## **Sub-questions based on the main research question:**

### **1. Discover -**

- a. What insights are valuable to P.E. teachers?
- b. How do P.E. classes' sound levels differ according to the daily schedule?

### **2. Define -**

- a. How are gyms in primary schools designed in terms of size, equipment, and location?
- b. Are there any existing measures for noise control in primary schools?
- c. How do P.E. classes' sound levels differ according to the daily schedule?
- d. What are the impacts of high sound levels on hearing and stress?

### **3. Ideate -**

- a. What medium is best to present the visual solutions for the end users?

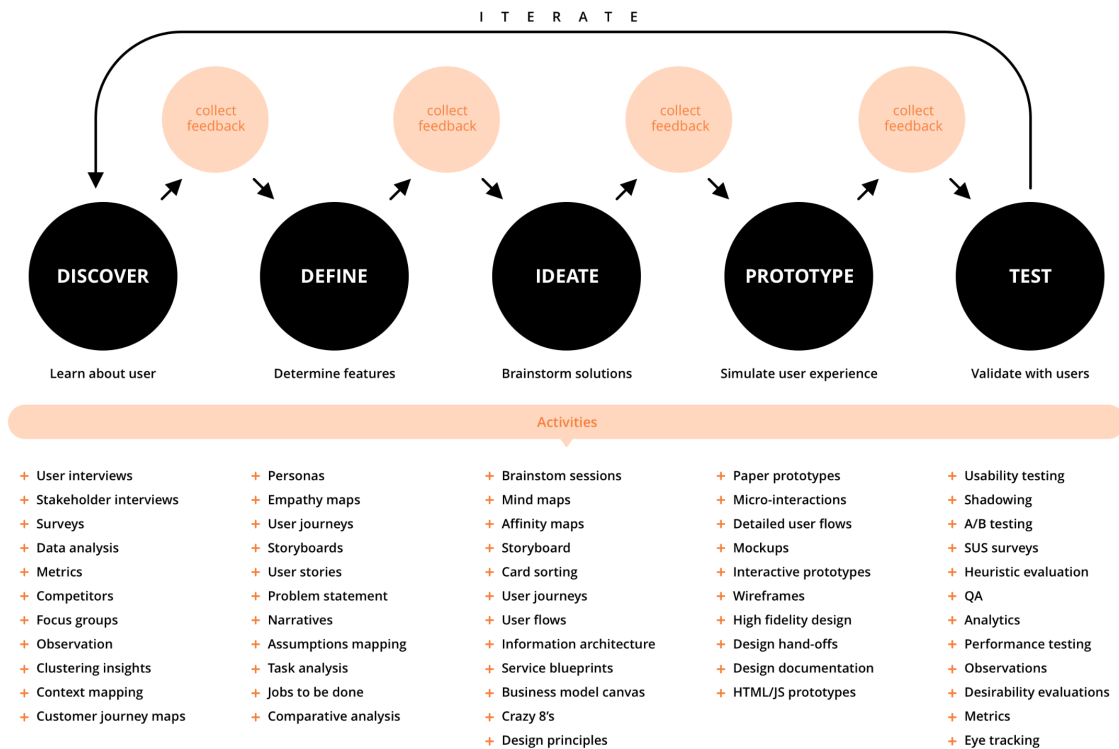
### **4. Prototype - N/A**

### **5. Test -**

- a. How can valuable insights be presented to the end users in an understandable and digestible way?

## **Strategy**

# Design Thinking Process



## Discovery & research

In the discovery phase, we will conduct desk research and literature research. We will interview real users and understand their pain points. Research plays a critical role in discovering user needs and preferences, as well as identifying potential design solutions that will improve the user experience.

## Define

In the Define phase, we will analyse the data collected through research and define the problem statement. We will identify the key challenges faced by physical exercise teachers in primary schools and how our solution can address them.

## Ideate

The ideation phase will help us brainstorm ideas and conduct rapid prototyping. Based on all the research gathered, we will define the UI elements of the product. With open minds, we will generate a lot of ideas and cherry-pick the ones that fit our research question. The ideation phase will help us visualise how our final product.

## Prototype








The Prototype phase will involve creating a working model of the app or tool that visually displays sound levels in an intuitive and appealing way. This will be an important stage for testing the technology and assessing whether it meets the needs and preferences of the target users. Additionally, the Prototype phase will provide valuable insights into areas for improvement and refinement before the final product is launched.


## Test

The testing phase will involve user testing, which will be critical in evaluating the effectiveness of the app or tool in addressing the needs and preferences of the target users. Additionally, the testing phase will provide valuable insights into areas for improvement and refinement before the final product is launched.

# Stakeholders & Communication

## Noise Control Team

Aa Name	≡ Role	≡ Availability Preferences
 <u>@Majid Kareem</u>	Scrum Master UX Designer	Unavailable on Mondays & Fridays
 <u>@Oliver Paszkiewicz</u>	Programmer Scrum Master UX Designer	Unavailable on Fridays
 <u>@Tanmay Kulkarni</u>	Project Admin UX Designer	Unavailable on Fridays
 <u>@Wolfgang Voigt</u>	Project Coordinator UX Designer	Unavailable on Wednesday mornings and Fridays.
 <u>@Yusmen</u>	POC Programmer UX Designer	Not available on Monday & Thursday
 <u>@Prakasa Siva</u>	Programmer UX Designer	Unavailable on Fridays, Available Tuesday & Wednesdays from 13:00
 <u>Dennis Kirsch</u>	Stakeholder	Tuesday

Aa Name	☰ Role	☰ Availability Preferences
 <u>Paul</u>	Semester Guide	Tuesday and Wednesday

## Agreements



### Scrum framework

This project will be carried out by using the Scrum framework. The sprints will take two weeks each, which means there will be six sprints in total. During these, the scrum masters will be Majid and Oliver. They will alter between sprints.



### Working hours

During the week, the team will work together from Monday until Thursday. These moments could be online as well as on-site, depending on the specific day.



### Meetings

The team will meet the product owners once a week. This will be on Wednesdays at 14:00 at TQ.4



### Demonstrations

During the sprint demonstrations, each of the stakeholders will have to be present. These will be planned in advance with every stakeholder. The team will organize these meetings.



## Approach & Planning

### Timeline Planning

We will use the SCRUM methodology. Each sprint will be with a duration of 2 weeks. We will have a total of 6 SPRINTS. At the end of each sprint, we will have

retrospectives & new sprint planning sessions.

## Sprints

Aa Sprint name	Σ Is Current Sprint	📅 Dates	➤ Tasks
 <u>Sprint 0</u>	<input type="checkbox"/>	@March 8, 2023 → March 22, 2023	<u>Project Plan</u> , <u>Brainstorm Research Questions</u> , <u>Finalize Research Questions</u>
 <u>Sprint 1</u>	<input type="checkbox"/>	@March 22, 2023 → April 5, 2023	<u>Code of Conduct ScrumMasters</u> , <u>What insights are valuable to teachers?</u> , <u>How are gyms in primary schools designed in terms of size, equipment, and location?</u> , <u>What medium is best to present the visual solutions for the end users?</u> a. <u>How can the principles of human factors and ergonomics be integrated to create products and services that are usable, safe, and comfortable for a diverse range of users?</u> , <u>Are there any existing measures for noise control in primary schools?</u> , <u>What are the short-term impacts of high sound levels on hearing and stress?</u> , <u>What medium is best to present the visual solutions for the end users?</u> a. <u>How can the principles of human factors and ergonomics be integrated to create products and services that are usable, safe, and comfortable for a diverse range of users?</u> ,  <u>Setup Discovery Page</u>



Aa Sprint name	Σ Is Current Sprint	📅 Dates	➦ Tasks
🚶 <u>Sprint 2</u>	<input type="checkbox"/>	@April 5, 2023 → April 19, 2023	🕒 <u>Competitor Analysis (Deadline Extended)</u> , <u>Come up with app names for competitor analysis</u> , <u>Conduct Interview with Ellen</u> , <u>Finalize Scope/Concept</u> , <u>Summarise Document Insights</u> , 🕒 <u>Analyze Smartwatch Apps</u>
🚶 <u>Sprint 3</u>	<input type="checkbox"/>	@April 19, 2023 → May 17, 2023	🕒 <u>Analyze Smartwatch Apps</u> , 👤 <u>Personas</u> , 📋 <u>User Stories</u> , 🗺️ <u>Empathy Map</u> , 📝 <u>Survey Creation</u> , 🎨 <u>UI Moodboards</u> , 🕒 <u>Smartwatch Lo-Fi/Wireframes</u>
🚶 <u>Sprint 4</u>	<input type="checkbox"/>	@May 17, 2023 → May 31, 2023	<u>Finalize smartwatch faces</u>
🚶 <u>Sprint 5</u>	<input type="checkbox"/>	@May 31, 2023 → June 14, 2023	

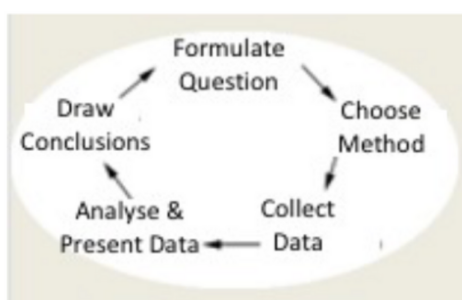
## Sprints

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🚶 <u>Sprint 0</u>	<input type="checkbox"/>	@March 8, 2023 → March 22, 2023
🚶 <u>Sprint 1</u>	<input type="checkbox"/>	@March 22, 2023 → April 5, 2023
🚶 <u>Sprint 2</u>	<input type="checkbox"/>	@April 5, 2023 → April 19, 2023
🚶 <u>Sprint 3</u>	<input type="checkbox"/>	@April 19, 2023 → May 17, 2023
🚶 <u>Sprint 5</u>	<input type="checkbox"/>	@May 31, 2023 → June 14, 2023
🚶 <u>Sprint 4</u>	<input type="checkbox"/>	@May 17, 2023 → May 31, 2023

## Research Methods

For the research, we will be using the CMD research methods and the design thinking process. The table below shows which research method will be used to achieve an answer to each research sub-question.

# RESEARCH CYCLE



1. Formulate a research question
  2. Choose research method / methods
  3. Execute the research (collect data)
  4. Analyse data & present results
  5. Draw conclusions & recommendations
- Decide: Improve concept in next phase or repeat current/earlier phase

**Note:** Your advancing level of knowledge could be used as a basis for reflection

How could I.....

- have asked a better research question?
- have selected a more appropriate research method? (e.g. avoid remote evaluation of paper prototype)
- improve the execution of my research? (e.g. perform a pilot test first)
- improve my data analysis & presentation?
- ensure I draw conclusions related to my research question?

Sub - Questions	ICT Research Methods
What insights are valuable to teachers?	(Field) User interviews, (Library) Community Research, (Field) Surveys, (Field) Data analysis, (Library) Literature Study (Prakasa & Wolf)
How do P.E. classes' sound levels differ according to the daily schedule?	(Field) Data analysis, User interviews
How are gyms in primary schools designed in terms of size, equipment, and location?	(Library) Literature Study (Wolf), (Field) User interviews
Are there any existing measures for noise control in primary schools?	(Library) Expert interview, (Field) Observation, (Library) Literature study (Oliver)
What are the short-term impacts of high sound levels on hearing and stress?	(Library) Literature study (Tanmay), (Library) Expert interview
What medium is best to present the visual solutions for the end users? a. How can the principles of human factors and ergonomics be integrated to create products and services that are usable, safe, and comfortable for a diverse range of users?	(Library) Literature study, (Library) Community Research, (Library) SWOT Analysis (Majid), (Lab) A/B Testing, (Lab) Usability Testing
How can valuable gained insights be presented to the end users?	(Library) Competitor analysis, Best & Good practices, (Lab) A/B Testing,

# Finance & Risks

## Budget

The budget and the financial Information is still unknown. This space will be updated as soon as the budget information is known.

## Risks & Prevention

Risk	Prevention activities
1. Time management	<i>Twelve weeks of working and doing research. The time we have for the project is not much, so we have to arrange everything properly so we can fit into the time limit we have for the project and to make sure that everything planned will be done in the end</i>
2. Communication	<i>Making sure everyone is doing fine and letting everyone know every time there is a problem. Keeping an open conversation, talking about problems, and trying to solve them as a team - communication can help with problem-solving. Making a plan, keeping everything and every one up to date, communicating with the stakeholders – reaching for help if needed</i>
3. Misunderstandings	<i>Making sure that everything is clear for everyone. Asking things (which are unclear) more times and asking for feedback often to make sure everything is going by the plan, and everything is going by the plan</i>
4. Travelling	<i>Some of us are travelling to uni every time, which means that anything can happen on the roads. Traffic jams, trains/buses not functioning, etc.</i>