




Royal College of Art

PROJECT BOOKLET

AcrossRCA x Being Digital

Team 6BT2

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01 —

**PROJECT
BACKGROUND
+ FOCUS AREA**

03-05

02

**RESEARCH
METHODS +
RATIONALE**

06-07

03 —

**RESEARCH
ETHICS +
APPROVAL**

08

04

**DESK RESEARCH
TAKEAWAYS +
ASSUMPTIONS**

09-10

05 —

**RESEARCH
TOOLS +
PROTOCOL**

11-12

06

**FINAL
CONCLUSIONS
+ OUTCOME**

13-21

CONTENTS



PROJECT BACKGROUND

Initial Direction

This project aims to address and mitigate the key blockers in tech-enabled communication.

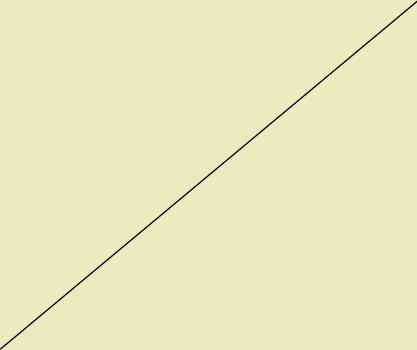
We aim to investigate how the enhancement of non-verbal cues & emotional expression in technology can lead to divergent outcomes, shaping both positive (inclusive) & negative (invasive) models of digital communication.

Our goal is to expose the dual potential of technology, revealing how it can both enrich and complicate interactions, there by prompting a deeper consideration of ethical, accessible and intentional decision-making in the evolution of digital communication technologies.

Non-Verbal Cues

Accessibility + Inclusivity

FOCUS AREA



HOW MIGHT WE

**envision accessible & inclusive
futures of communication for
DHH (deaf and hard of hearing)
communities?**

Project Objective

Deep diving into blockers of digital communication, specifically non-verbal cues that might be lost on virtual and digital platforms.

#non-verbal cues #misinterpretation
#accessibility and accessibility

Target Audience

Focusing on DDH (Deaf and Hard of Hearing communities), predominantly looking at Young Adults between the ages of 20- 30 years who frequently use digital channels to communicate.

RESEARCH METHODS

Desk Research + Market Analysis + Surveys + Interviews + Co-Design Workshops

The rationale for conducting researching with individuals who have hearing impairments, is so that collectively, we are developing and co-creating with the relevant target audience. To be able to have a consistent feedback loop with the target audience allows there to be an honest and authentic stream of collaboration. Through this we would be able to identify specific needs for improvement and accommodate in real time with the collaboration with those of hearing impairments.

Direct engagement through interviews is essential to gather firsthand experiences and unique insights that will enrich our research and contribute to the success of our project.



RESEARCH RATIONALE

01 **GATHERING AUTHENTIC RESPONSES AND CO-DESIGNING:**

To help arrive at authentic insights and co-design with participants, creating a feedback loop and ensuring our outcome is relevant and inclusive

02 **BUILDING AN EMOTIONAL CONNECTION & INFORMED UNDERSTANDING:**

As individuals not affected by hearing impairment, it's crucial for us to foster personal connections and understand their pains and aspirations for developing an empathetic and informed response

03 **INSUFFICIENCY OF DESK RESEARCH**

Desk research alone is insufficient for our project as it cannot capture the nuanced non-verbal cues and potential blockers faced by these individuals in digital communication.



ETHICS APPROVAL

TAUGHT STUDENT ETHICS COMMITTEE (TSEC)

Stage 1: REACH OUT

An initial email will be sent with feedback from of our tutor Anna Font, introducing the project, establishing first contact, and asking for individuals who may be interested to take part.

Stage 2: SURVEY

A survey will be sent to the individuals who agree to take part in the initial text-based interview, they will have the option to remain anonymous if they don't wish to disclose personal details.

Stage 3: POTENTIAL DIALOGUE

Another reach-out to the participants who submitted survey answers will be sent asking if they would be interested in giving an interview/ or having a further discussion to expand on the topics and build a feedback loop with us.

Stage 4: POTENTIAL WORKSHOP

Participants who were interested in having a one-to-one dialogue with us would then be asked if they have interest in taking part in a codesign workshop that would inform the final direction of our output.

[POTENTIAL] Workshop Activities

Participants compile a physical/digital collage representing various aspects of their experience in digital spaces. Or 2 groups of hearing and non-hearing individuals both create a collage of their assumptions vs real experience. This can serve as a starting point for discussions on communication barriers between two groups, potential solutions, create understanding; serve as concept/visual inspiration for our outcome. Participation is voluntary, and throughout each stage, consent will be asked before and after, with clear communication of participants being able to withdraw at any time, as well as emotional check ins in all stages and interactions with the participants.

DESK RESEARCH SUMMARY

We looked into existing research literature, products and solutions that were related to our focus area spanning across topics and examples such as:

SENSORY AUGMENTATION experiencing through haptics



SYNAESTHESIA developed when learning Sign Language



ENHANCED RECOGNITION of emotion/ expression



LIVE INTERPRETER for accessing emergency services



GLOVES TRANSLATING sign language to speech in real-time



SIGN LANGUAGE TRANSLATION real-time with Artificial Intelligence



TAKEAWAYS & ASSUMPTIONS

Expression of
Tonal Nuances

01

Importance of
Closed Captions
/ Subtitles

02

Innovative Future
Development of
Technologies

03

Negative Impact
on Everyday
Communication

04

Communication
Gap Between
DHH and Hearing
individuals

05

Development of
Unique Non-
Verbal Cues

06

RESEARCH TOOLS

Methods, Tools & Platforms

TypeForm



Survey Monkey



SurveyLab



SurveyLegend



Survey Tools Selection Criteria

TypeForm was selected for the following reason:

- Design - Ensuring easy usability, avoiding intimidation
- Format - More engagement
- Simplicity - Option to create sub-categories for questions

Challenges with other Surveys platforms:

- Limited Design options - too sterile, clinical, boring and often outdated
- Limited Access - Amount of Questions & Number of Participants
- Pricing & Cost



SCAN FOR
FINAL SURVEY

→ Section 3: Role of Technology and ...

Has technology impacted your daily digital communications positively, if so how?

Such as communication, email, social communication, interactions

type your answer here...

OK ✓

Next question

→ Section 2: Quality of Communicat...

How easy or difficult is it for you to interpret people's behaviour or intentions in conversation?

Based on communication/interaction

0 1 2 3 4

Very Neutral Difficult

OK ✓

Next question

PROTOCOL + DISCUSSION GUIDE

Our interactions and interviews with the participants aim to broadly understand their experiences in the following 3 sections:

Section 1: Everyday Communication (experiences and challenges)

Section 2: Quality of Communication (tone, sensitivity, etc.)

Section 3: Role of Technology and Digital Media

Section 1: EVERYDAY COMMUNICATION

1a. What is their preferred medium of communication, in-person or virtual, with hearing and non-hearing individuals? And why?

1b. What are some challenges or pain points that they encounter while communicating or interacting in the physical world on a daily basis?

1c. What are the biggest hurdles they face when communicating with individuals who are not deaf or hard of hearing?

1d. What are some ways to try to overcome these challenges and bridge the communication gaps?

1e. Have they experienced exclusion in public spaces like train stations, buses due to audio communication? What are some changes they would like to see?

Section 2: QUALITY OF COMMUNICATION

2a. How do deaf or hard of hearing communities communicate different tonal values (to demonstrate non-verbal expressions like sarcasm, emotion, etc.) through the digital sphere?

2b. Have they developed any special cues, heightened sensitivities or unique communication cues when interacting with other individuals that are deaf or hard of hearing?

2c. Do they face any particular challenges while communicating through video calls? If yes, what are these challenges and how do they navigate them?

2d. How easy or difficult is it for them to interpret people's behaviour or intentions (such as dishonesty/sarcasm) towards them? Why is it so?

Section 3: ROLE OF TECHNOLOGY & DIGITAL MEDIA

3a. How has technology aided/disrupted their daily conversations, online content consumption, interactions and communications?

3b. Can you share some instances where you needed to adapt to the digital/online world to make it more accessible?

CONCLUSIONS

BASED ON 3 INTERVIEWS WITH DHH PARTICIPANTS

- Technology (so far) has been aiding **personal** communications for DHH communities.
- The real obstacle is posed from hearing people not the technology itself.
- The lack of empathy and ignorance that is shown in the physical world gets translated into the digital products they build and the service provide.

Public Perception

Lack of Empathy,
Stigma, Judgement,
Exclusion

Communication

High Sensitivity,
Reliance on Visual
+ Physical

Access

Lack of Services
in Public Spaces

Reaction

Resilience, Small
Circles, Lack of Trust,
Acceptance

EXPRE -

SSION

ION

CONNECT

MUNI -

COM -

CATION

PROJECT RESPONSE

OUTCOME

CONCEPT PROPOSAL

SenseScape

SenseScape is an accessibility-focused multi-sensory event that blends traditional mediums and emerging technologies to deliver an inclusive and collaborative entertainment and leisure experience to bridge the social and communication barriers between individuals from the hearing and hard-of-hearing communities with the goal of cultivating empathy and raising awareness around the experience of sensory blocker-driven exclusion.



sensescape ::

SenseScape is a unique venue designed to foster communication and connection between Deaf and Hard of Hearing (DHH) and hearing individuals and educate them about the deaf experience. It is a testament to the power of sensory experiences, breaking down barriers and creating an inclusive environment for all.

Each room within this venue serves a distinct purpose, offering immersive experiences that cater to different senses.

This is not just a space, the **Visual, Expression, Chill Out, and Haptic Rooms** create a journey of exploration, learning, and growth. SenseScape invites you to engage with your senses, connect with others, and discover new forms of communication and expression.

AcrossRCA Team 5B

sensescape ::

a multi-sensory experience that transcends all blockers of communication



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VISUAL ROOM

The Visual Room sets the scene for non-verbal connections between people in an immersive and dynamic space. Drawing inspiration from rave culture, the space bares itself with sign language light shows that illuminate the environment, complimented by a vibrant array of colours and strobe lights.

Visually enchanting and informative, the Visual Room sets the tone for shared connections through rhythm, sign language, performance, and expression of movement. Visitors are invited to engage in 'sign along' performances led by Sign Language Interpreters and to immerse themselves in the Sign Language Light Shows. It is the perfect space for enjoyment, interaction and learning new forms of communication through fun shared experiences.

In this safe and experiential space, bass tracks accompany the light shows, providing a deeper, more authentic, and accessible club experience. For a more localised and immersive audio experience, visitors have the option to wear 'The Not Impossible's Vibration Vest', equipped with vibration packs for the upper body. The Visual Room encourages visitors to enjoy, interact, learn new forms of communication, and bond over shared experiences in a unique and inclusive environment.



CHILL OUT ROOM

The Chill Out Room, a tribute to the customs of early 90s rave culture, connects the Visual and Haptic Rooms. It is used by visitors to get away from the noise and enjoy a rejuvenating moment of peace before heading back to the other rooms.

It's equipped with cosy seating, a snack station, and a 360° projection capability, it creates an atmosphere that fosters meaningful conversations. Visitors can relax in a nature-inspired escape, engaging in deeper interactions due to the absence of music and the room's intimate small size.

The room's flooring, like a grassy meadow, invites visitors to sit or lie down, stimulating the sense of touch. The 360° projection presents three alternating scenes every 30 minutes - a rainy forest, summer fields, and a beach. This rotation of scenes, enhanced by subtle, interchanging scents, creates a calming, meditative atmosphere that transports visitors to different natural environments.

This combination of visual and olfactory stimuli creates an immersive experience, inviting exploration of senses, ultimately providing a unique opportunity for self-discovery and personal growth.



HAPTIC ROOM

Finally, the Haptic Room, focused on the sense of touch, invites you to a silent environment filled with vibration. This room, similar to the Chill Out Room, interconnects the other two spaces. Upon the entrance, visitors have a choice to stay in the open area or enter the Haptic Room.

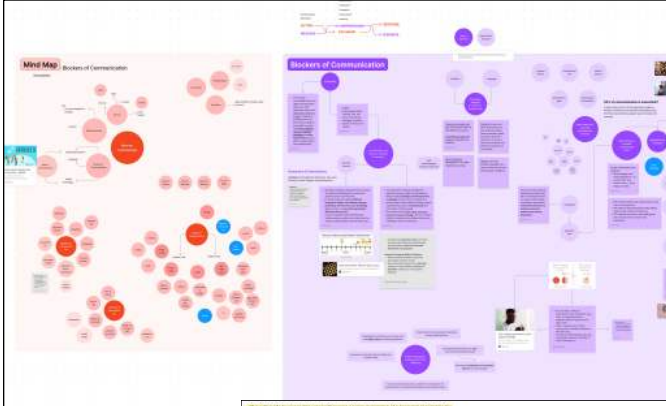
The open area houses different zones of vibration, each corresponding to a specific song and genre. This aims to educate the visitors on how the Deaf and Hard of Hearing (DHH) experience music while having fun and exploring the body's reaction. Projectors display the genre and track on the floor and adjacent wall, with each vibration zone marked with paint.

To explore further into the Haptic Room, the journey encourages visitors to interact with vibrating objects and surfaces that lead to a relaxing area where the vibrations soothe the body. This serves as a space for discussion and sharing thoughts about the experience. To reach this end, the visitor will encounter various experiences with different textures & vibrations such as leaning on oak-textured surfaces, and hugging a rotating textured globe.

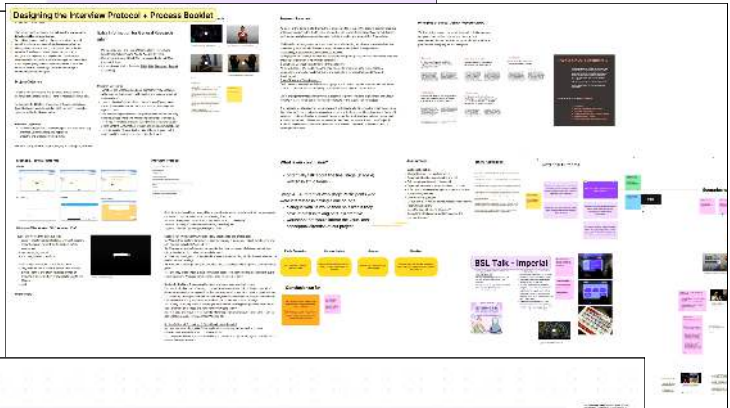


COLLABORATION PROCESS

SNIPPETS FROM TEAM FIGJAM BOARD



Mind Mapping
+ Desk Research



Interview Protocol Design
+ Process Documentation



Planning Concept Video Development



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