

Beyond Sight

Written by
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Beyond sight

Beyond sight means that we open ourselves up to the possibility of seeing the world through each other's eyes. It means that we each develop a willingness to dare letting go of some of our routine privileges and get rid of our social blind spots, and we may learn to empathize, feel, and see more things with new and fresh eyes. By closing our eyes we learn to see the world together and gain a vision beyond our sight.

Rosh Hashanah, (2011)

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Submitted to:

Master Institute of Visual Cultures, St. Joost School of Art & Design, Avans University of Applied Sciences, s' Hertogenbosch, Netherlands.

In partial fulfillment of the requirements for the degree of Master of Art in Fine Art & Design, s' Hertogenbosch, The Netherlands

June 2022

Word count: 6400

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1. Abstract

In my project, I researched the topic of vision disability. My approach was to engage with people who are blind and partially sighted to get an in-depth understanding about them. The goal was to learn about existing and complex social issues disabled communities face by collecting data from primary sources. I did that through conversations, observations, workshops and attending social activities.

The goal of this research was to engage with design to discover ways to share narrative stories to positively address the challenges people with vision disability face in society. My main collaboration was with Øyvind Lode and Nasra Fransen. In each collaboration the aim was to raise awareness about the topic vision disability and connect people with and without disability using mediums such as, an interactive awareness board game and a mini documentary as a method to represent their stories and provide sighted people with information about the capabilities and opportunities of these people. Also, to people without a vision disability more aware of how to include, communicate and behave appropriately towards them. This way, to reduce the inaccurate misconceptions and false assumptions about people with vision disabilities. The main development of my thesis was done in the Netherlands where I currently live and study, but some parts of the thesis was developed in my native country, Norway.

I hope that my thesis will encourage you to become more aware of the addressed topic, make you reflect on this complex issue and adjust your behavior and thoughts towards people with a vision disability.

2. Acknowledge

I would like to thank Øyvind Lode and Nasra Fransen, Melvin Jerremiah Gepte, Karin van Rooijen, Remi Jhinkoe, Heba Daghistani and Siebe Pieters, Joachim Steinbru for a valuable collaboration. Together we made a great team, and this work couldn't have been possible without the collaborations. I also want to thank my parents for all the support I got and for being there when I needed it, and a thanks to other participants for helping me through my process and for your positive engagement.

3. What sparked my interest?

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In 2019, I got an illness called Benign Paroxysmal Positional Vertigo, known as Vertigo. It lasted for two months. I completely lost my balance due to an intense dizziness. It also affected my vision. This temporary disability experience was an eye opener. I haven't really dwelled on the thought before, how fragile and easy it is to lose our sight, and that we all can experience either permanent or temporary disability due to an accident, aging or illness. It made me realize that disability is a natural part of being human. But I feel like there is a big gap between people with and without disability due to lack of knowledge.

My intention in this thesis was to find out what I, as a designer, can do to make a difference. To design something meaningful, adding value to society. This topic triggered my curiosity and motivation. My aim for the thesis was to expand my understanding and gain insights of challenges and life experiences of blindness. The method was to engage with people with vision disability through collaborations, where we sought ways to share and represent their stories and to let people become aware of their situations. Through these collaborations we defined what medium to use to share information and engage with the audience.

During my years of studying, there hasn't been much information regarding vision disability or inclusion and accessibility by educational institutions. People with vision disabilities seem forgotten in our society. Through literature studies, interviews and arranging workshops the focus has been to gather insights from people with a vision disability. Is it an issue for them that sighted people lack knowledge about them? In the next chapter about *Attitudinal and Social Barriers*, I will share what I learnt.

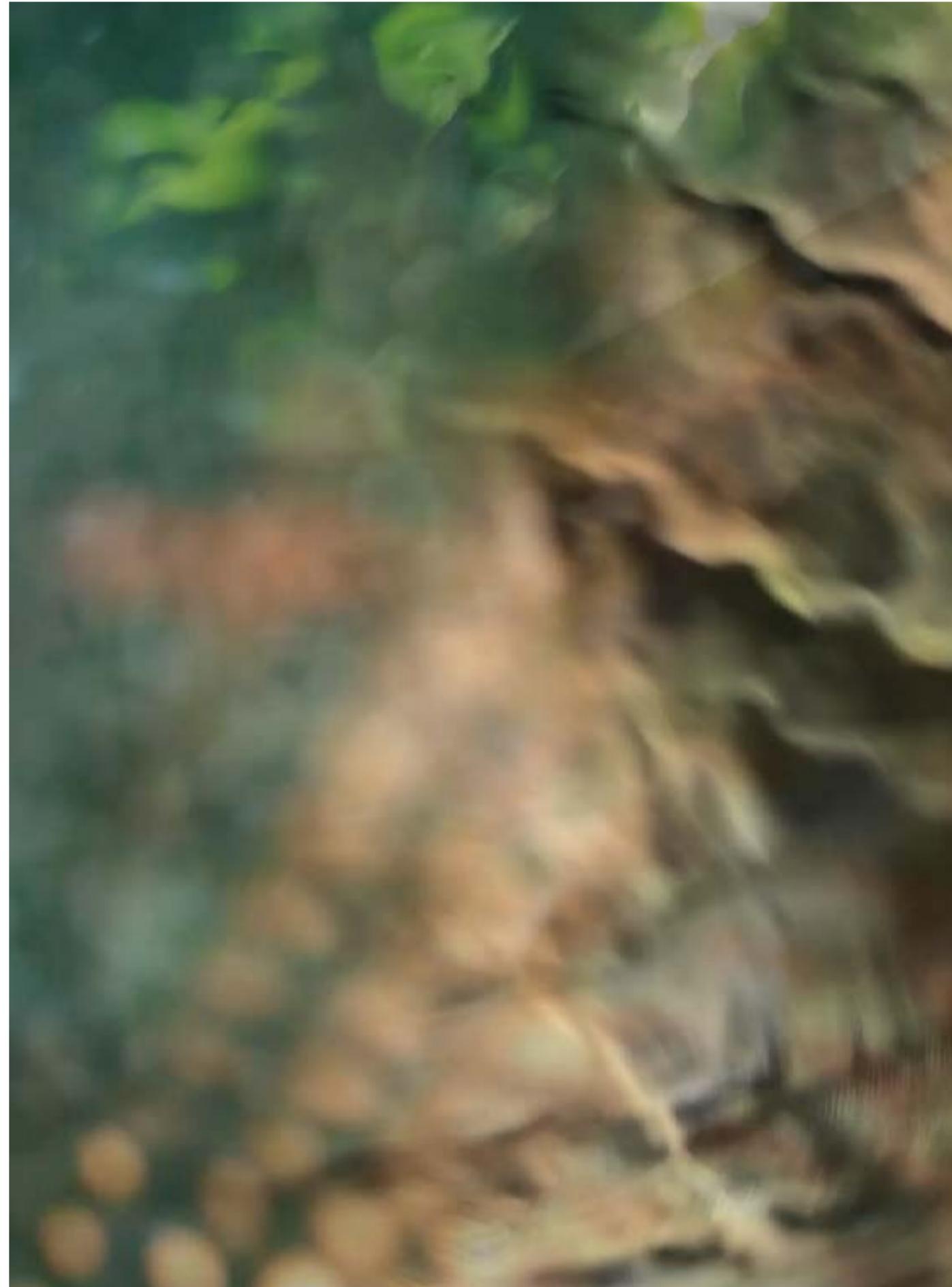


Fig. 1: Author (2020)
An abstract image of an illustration I made simulate my spinning feeling and blurry vision of my surroundings.

4. Seeking Answers

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4.1 Definition of vision disability

In this chapter I looked to explore the definition of vision disability. What are the challenges, the barriers, their needs and what sighted people knows about vision disability. Information was collected with second source materials of already existing studies and literatures. First-hand data was gathered by arranging semi-structured interviews and experimental projects as a research method.

During my research I found that the word "disability" is centered and often defined through medical information and images. For example, the article *Low Vision Research* written by Brown et al., states: "Loss of vision affects patients' ability to work or care for themselves, and activities such as reading, socializing, and pursuing hobbies. Vision disability makes it difficult to perform the basic self-care activities of daily living and function in modern society" (2014). Another article *Facts About Vision Loss* by Centers for Disease Control and Prevention, states: "a visually impaired person's eyesight cannot be corrected to a "normal level"(2021).

This labels them as different from mainstream, which implies failure to reach perfection to have a normal sight. Negative terms tend to describe people with vision disability as weak, dependent, and incapable of doing things that promotes a negative picture of disabled people, often portrayed as a burden to society (Rene Momene, 2015).

Reading medical information about the common degrees of blindness: Cataracts, Glaucoma, Diabetic Retinopathy, Macular degeneration and Retinitis pigmentosa¹. It didn't give me an understanding about how life is for people with a vision disability, their experience of their conditions and how it affects their life. I felt a distance from this topic (the medical information about the common vision conditions, how it affects the sight, the possibilities to prevent and get a treatment are available in the **appendix 1**)

I decided to engage with the information by represent the medical description of each different degree of blindness using visualization. It was a methodology used during my research to engage with the information I learned. It became a valuable approach to easily share information. It also helped to break down the information into an understandable context, and at the same time learn about the different vision conditions. There is existing software on computers and phones with vision disability simulators, an example is Cambridge University's impairment simulator software. This software has been used by researchers and designers to evaluate the development of their designs, to get empathy and understanding on the user experience for users with vision disability (University of Cambridge, 2017).

¹ Other people that same points:

Amy Kavanagh aka. 'BlondeHistorian' posted on March 3, 2019 on her blog, *How does disability define me?* she experienced being exposed to negative medical representations of disability such as weak, unable, and unproductive. Retrieved 24.03.2021 from: <https://caneadventuresblog.wordpress.com/2019/03/03/how-does-disability-define-me/>

And another article *History of the blind* written by Miller, B. R. (2015), Retrieved 11.03.2021 can be found on Encyclopedia Britannica: <https://www.britannica.com/topic/history-of-the-blind-1996241>.

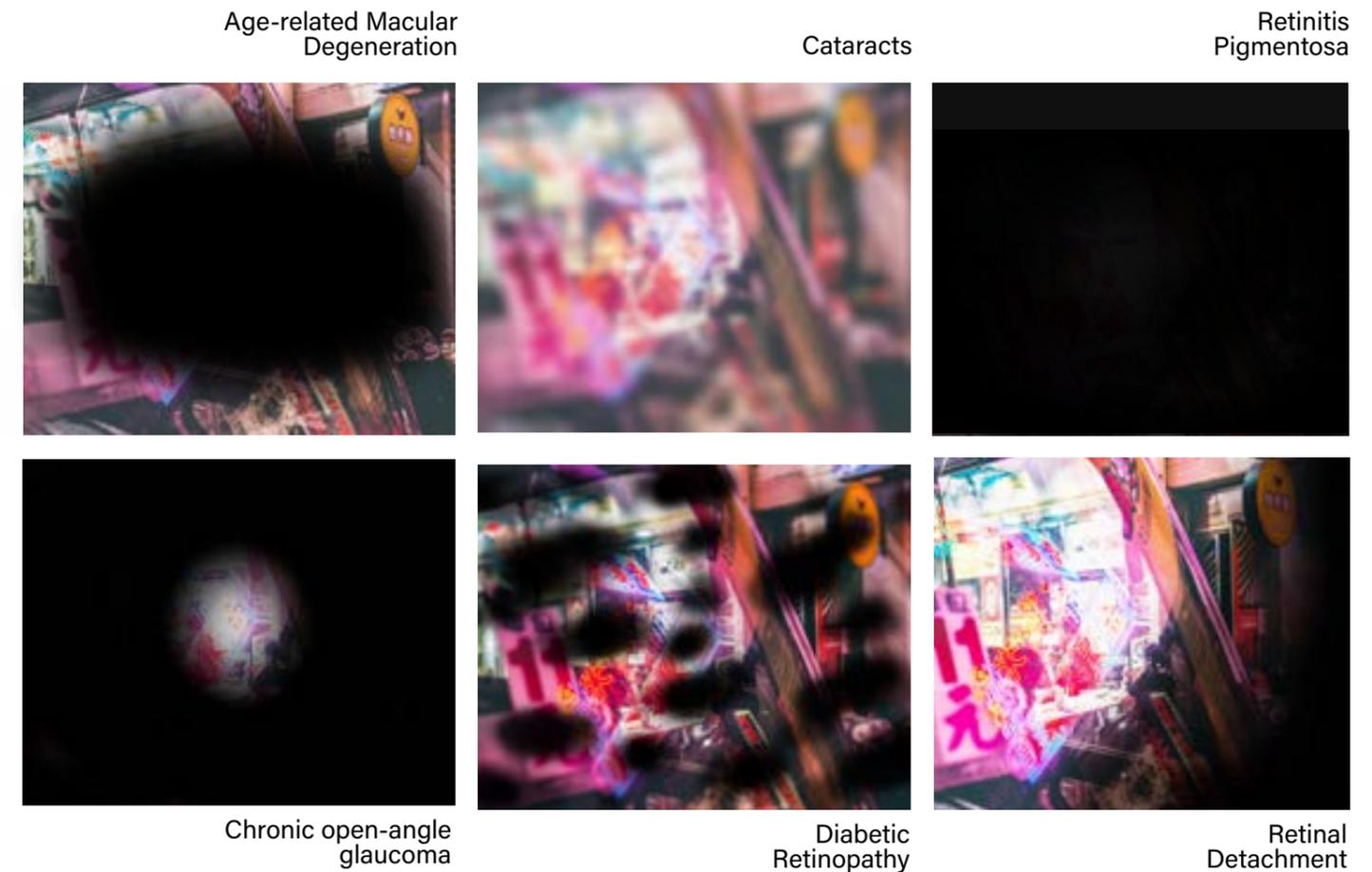


Fig.2: Donati, N(n.d). Six images showing the common degrees of blindness. I designed a filter over the image to simulate the different eye condition

4.2 Sighted people's perception of blindness

In learning about vision disability, I became interested in knowing more regarding different types of blindness. I gathered information through informal conversations and sent questionnaires by talking to people from my social network and reaching out to people on Facebook. The aim was to understand to what extent sighted people have knowledge about the topic of vision disability, and what kind of stereotypical thinking or misconception they have. This helps to indicate if it's needed to bring awareness about blindness. Six questionnaires were filled out and I carried out six informal interviews with male and female participants (aged 23 to 32). I asked what information they already have about people who are blind and partially sighted, where they received information, their thoughts of the capabilities of people who are blind and partially sighted and their perception of blindness. Respondents from the interviews agreed to use their first name for this study, but for the questionnaires many wanted to be anonymous.

Many answers from the conversations and questionnaires showed basic or limited knowledge. Their information was provided through watching documentaries, movies, internet, interacting with people who is blind or through their career as a nurse. Some didn't remember where they found their information. Seven out of twelve participants had a lack of knowledge and a stereotypical image, for example one interviewees told me, "I don't have enough information to talk confidently about this subject, but I guess living with a vision disability is difficult. Everything we sighted think is easy to do, is challenging for them" (Jørn, personal communication, 04.04.2021) and " 'partially sighted' is a group of people I haven't heard about. I have always thought that everyone who is blind can't see at all, and it's the same for everyone" (Laurens, personal communication, 07.03.2021). See (**appendix 2**).

It was revealed in the interviews that three of them aren't aware of what a tactile pavement is, and some of the respondents in the questionnaire thought it's impossible for people with a vision disability to use a phone, computer or do sports activities. Based on the answers I concluded that many have stereotypical images of people with vision disabilities. There is a lack of knowledge regarding vision disability. Better information is highly needed.

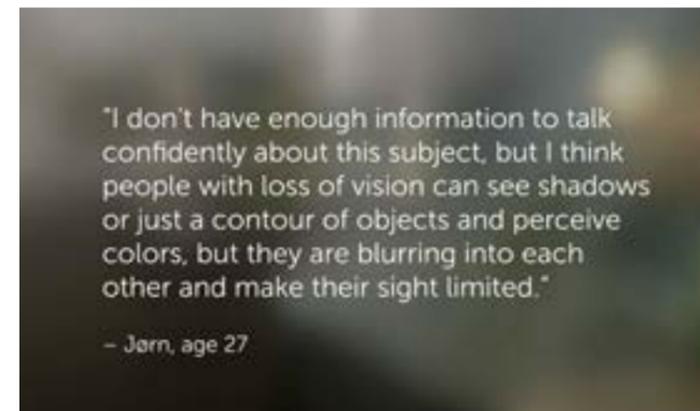
Click on the link below to access the video:

<https://youtu.be/UaLFt93LeCA>



"my interpretation about vision to blind people is like you are under the water and see the light shining through the water surface. Everything is unclear and blurry. The colors are soft and merge into each other. They can see if the daily light shines on them or not, which tells them if it is day or night"

– Ailin, age 24



"I don't have enough information to talk confidently about this subject, but I think people with loss of vision can see shadows or just a contour of objects and perceive colors, but they are blurring into each other and make their sight limited."

– Jørn, age 27



"I think most of the time their vision is black, but it can also change depending on the brightness of the light in the room. If there is bright light they can see flash of shapes, some colors which is around them"

– Anne, age 21

Fig. 3: Author (2020). Seven screenshots from the video illustrating the different perception of blindness. It's abstract, blurry and dark colored images.

4.3 Identify challenges and barriers

In the second phase, I conducted interviews of people both blind and partially sighted, to inform my understanding of vision disability. This became my main methodology. I struggled in the beginning to get in contact with people, especially Dutch people, due to the language barrier. Therefore, I reached out to The Norwegian Association of the Blind and Partially Sighted (NABP). Here I had face-to-face phone interviews in Norway with Øyvind Lindland, the leader for the South-Rogaland local team and two members of NABP, Øyvind Lode and Einar Fagerheim. While I was in Norway, I also arranged a workshop with NABP.

Facebook was used as a platform to reach out to people, by posting on several groups, such as Blind and visually impaired friends and Blind/Partially sighted people association. I informally interviewed Pratham Parishrut and Astir Wilson via phone calls and had one face-to-face meeting with Nasra Fransen in the Netherlands thanks to Facebook. To get in touch with Dutch people I attended a social meeting arranged by the blind organization in the Netherlands, called Oogvereniging (Eye Association), where I had an informal conversation with Kees Reijman, a member of Oogvereniging. I also talked to professionals within the field of vision disability, where I had informal interviews with Claar van Aalten from Bartimeus, the largest organization in the Netherlands for services to the disabled community (Bianca Huurnemancc, n.d.) and Jullie J. Tiemersma from Aangepast Lezen, another Dutch organization in the Netherlands for blind and partially sighted people. I talked with Dirk Sorge, a designer and activist from Berlinklusie, a group of artists with and without disability who works for social change.

My main aim is to identify and get in depth information and understanding of the many challenges that occur daily for people with vision disability. Also find out how it impacts their daily lives. The experiences of having loss of vision or low vision, and what they t

think, is essential to know what to focus on in my project, and it also helped me to get collaborations. During the conversations, I discovered common challenges. I divided the challenges in three categories: attitudinal barriers, structural barriers, and environmental barriers (Sara Goering, 2015), which I will explore further in this chapter.

3.4.1 Attitudinal and social barrier

According to the interviewees they experience social attitudes exclusion during interacting with sighted people. Often because a lot of communication is non-verbal messages, like body language and face expressions. Clearly blind people or partially sighted can't interpret. To fully participate in a conversation is challenging. Another example that came up during the workshop was that sighted people often talk to the accompanied person in a childish way (Group 1 workshop with NABP, personal conversation, 28.08.2021). This makes them feel excluded, not taken seriously or incapable of participating in a conversation (Goering, S, 2015).

Many people get surprised if disabled people manage to do something without any help (S. Alfonso Gonzalez, 2022). Example, a comment Einar get often is that people say to him that it's amazing what he can do despite of his disability (E. Fagerheim, personal communication, 18.02.2021). This might be said with well-intention, but it made him feel inferior knowing that people think that he doesn't have the same capabilities as sighted people. There has been a qualitative study about *stereotyping as a barrier to the social participation of people with low vision*, and the study can verify that it is a general issue they face every day.

It is a societal stigma and a frustration for many that they meet people with a pitiful attitude and to be treated differently (MBJ Open, 2019). We shouldn't forget that Vincent van Gogh, a painter with Asperger's & ADHD, Johnny Depp, an actor with vision disability and Stephen Hawking, a scientist and astrophysicist with ALS nerve disease (Heather B. Wyatt, 2022) and many others

show that disability doesn't mean inability to contribute, achieve things and be successful on the same level as people without disability.

3.4.2 Structural barriers

According to Claar van Aalten from Bartimeus, it's challenging for people with vision disabilities to get jobs in the Netherlands. Just 25% have a job because few people with vision disability have the same work opportunities as the mainstream. The reason is unawareness by employers about the assistive aids that exist and the actual capabilities of people with a vision disability (C. Aalten, 08.11.2021, conversation from interview). Lack of knowledge makes them be labeled as reduced efficiency, unqualified to perform required tasks for the job based on stereotypes and biases. They feel underestimated and undervalued (Envision, 2019). 'Bartimeus' is one of the organizations that helps blind and partially sighted people in the Netherlands to get a job by educating employers how to make their workspace more accessible and how to include people with disabilities (C. Aalten, personal communication, 08.11.2021).

3.4.3 Physical & environmental barriers

According to the interviewees, not everything is inclusive or accessible for them in public spaces. Example, universal design isn't in the correct manner. Lot of stairs and glass doors don't have contrast lines, or they are conveyed wrongly, which creates dangerous situations for people with vision disability who can't distinguish stairs with the ground or the glass door and the glass wall. Navigating in public spaces and outdoors is challenging because of lack of tactile pavements. They are not well enough conveyed, or some obstacles are placed over it by people, such as signs, flowerpots or cars.



Fig. 4



Fig. 5

Fig. 4: Chrysostomou, A. (2018) A image showing an example of a blocking pavement that prevents people blind for walking.

Fig. 5: Author (2021) Image of an outdoor stair showing that the universal design is not conveyed correctly. It looks like it's three steps due to wrong marking, but it's just two.

It's important to share and enlighten our society about the many challenges faced by people with vision disability. By sharing stories, it might improve our ability to be empathetic and get a better understanding and knowledge may start awareness of how our actions affect people with vision disability. I tried to put myself in their shoes by visualizing each interviewer's description of how they experience their loss of sight or low vision. *Notes on blindness: into darkness* by Peter Middleton and James Spinney, is a VR project based on an audio diary written by John Hull, a writer who talks about his emotional journey of becoming blind to help him to understand this process he was going through (Archer Mark, 2018). This project inspired me to test out VR as a medium to retell the stories I got from two of my interviews. Using VR is an effective and expressive way to retell personal stories. VR encourages the audience to get an insight into experiences in a realistic, engaging way. I got permission to tell the story of Øyvind Lode, who is blind light perception and Øyvind Lindland, who is partially sighted with tunnel vision about what kind of challenges occur with outdoor navigation and public transportation told during our interview. Their story was audio recorded. I simulated the surroundings based on their description vision. This project and another *Experimental Simulation Projects* can be seen in **Appendix 3**.

First, I thought that the description I got from different conditions during the interviews would be the same for those with the same eye condition, but I learned that everyone

experiences their sight differently. There are many degrees of the eye condition. Some might see more than others, and therefore have different experiences and challenges. Using simulator experiences will not have an accurate representation of blindness due to that, which limit the knowledge they get from it. It's a challenging medium to use to express different types of information about this topic, and the reason I chose to not go further with this project.

I have learned from interviewing people with vision disability that blindness itself isn't the reason that makes people disabled. They have accepted and managed to adapt themselves to this lifestyle. It's dealing with inaccessible physical and social environments that limit them for a full and equal participation in society, which makes them disabled. We live in a world which is inherently *ableist*. Ableism is the discrimination or prejudice against people with disabilities. It hinges on the idea that people with disabilities are less valuable than nondisabled people (Andrew Pulrang, 2019).

There are many disability rights activists³ across the world working on creating a change and promoting disability rights. One example is *Illias Fotopoulos*, a designer who brings up the feeling of exclusion with the non-touch policy in museums and art galleries - and the disability rights to make art accessible for everyone. He exhibited stories written by artists with vision disability in Braille to exclude sighted people and let them remain observers. (Ilias Fotopoulos, n.d).

³ Other examples of disability right activists:

Liz Jackson, an advocate who sheds light of bringing disabled designers into companies to include people with disability more in design processes.

Adobe. (2019, December 6). *Forging A New Path For Disabled Design* | Adobe XD. Ideas. Retrieved March 27, 2022, from <https://xd.adobe.com/ideas/perspectives/interviews/liz-jackson-accessibility-inclusive-design/>

Rachel Crawford from the company Hyperakt emphasize how important it's to consider accessibility from the beginning to make the design more inclusive.

Crawford, R. (2021, September 24). *Building Accessibility Deep Into Brands*. Hyperakt. Retrieved April 28, 2022, from <https://www.hyperakt.com/insights/building-accessibility-deep-into-brands>

I organized a workshop with the members from NABP to learn about how people with vision disability think about the general lack of knowledge regarding their situation. There were fourteen participants (age 47-84), all partially sighted and blind. I divided them into three groups to discuss questions about their needs, wishes and challenges they found important. This information is important to share and provide sighted people broad information about their potentials and abilities, to get rid of inaccurate biases and stigma.

The desire of people with vision disability is to be able to participate equally and to be included and accepted for who they are. My suggestion was to focus on raising awareness at educational institutions on all levels by integrating disability studies as a general course in the curriculum. (the transcripts are presented in **Appendix 4**).

University College London has started to integrate disability in their studies. They have developed a project called *Architecture Beyond Sight*, which goes against mainstream education and practice. By enabling people who are blind and partially sighted to study architecture. Their aim is to incorporate other ways of experiencing space for the benefit of everyone (UCL, 2021). I think it's a good way to embrace the diversity in society by including them in the mainstream. It gives them equal opportunities to contribute in society.

To include them in the design-making process might be a good start of creating an inclusive society. Suggestions received from the workshop with NABP, this project inspired me to go further in the direction of raising awareness at educational institutions. I will explain more in chapter 4: *We are just like you*.



Fig. 6: Lindland, Ø. (2018). Image of me talking to the participants in the workshop with NABP

5. Collaboration



5. Collaboration

I am not in the position of raising awareness alone, or by speaking on behalf of people with a vision disability. I set out to collaborate with people who are blind or partially sighted, to connect and get insights of their life. I learned from collaborations how to make my project accessible for everyone. Through the collaborative work I can be a visual voice by using design approaches to share their narrative story.

I developed four collaborative works: *Awareness Campaign*, *See the world like me and We are just like you* and *Loss of Equilibrium*. I chose to engage with two of my collaboratives works with Øyvind Lode and Nasra Fransen because it helped to get an in-depth understanding about different experiences. Together we developed an awareness game and a short documentary, to educate and help people to understand vision disability. A detailed account of the collaborative and experimental projects is found in **appendix 5**.

4.1 We are just like you

4.1.1 Start of a collaboration

On 27th of February 2021, I met Nasra through Facebook. She is a 58 year old woman from Nijmegen, who moved to Vught together with her husband, Bart Fransen. She was born blind with light perception but became totally blind at the age of 45. Few years later, she had problems with her feet and now she's in a wheelchair. We had a face-to-face interview. She mentioned her time at *Dagbesteding Coppes Couleur*⁴, where she and three others participated in a 8-weeks project. They arranged simulation activities,

teaching students at Koning Willem I College about different disabilities. Simulation activities seemed to be a good way to let people experience and discover different disabilities. She noticed that the students realized that people with disabilities aren't as different after all. She saw the necessity and importance of raising awareness about disability, and to make students familiar with the diversity in society (N. Fransen, personal communication, 27.02.2021).

During the project we had frequent face-to-face meetings. She got involved through the whole process. Her role was to be my mentor and teacher, because she taught me about interacting, behaving, how to speak to a person with vision disability, use of assisting aids and how to make things accessible. My position was a social and graphic designer and curator. I supported her by expressing her story through our project to foster understanding, respect, and tolerance, which also positioned me as an advocate. Since teaching was something she wanted to continue with, we decided to have a collaboration where they focus on promoting awareness about blindness through an immersive simulation game using audio, video and tangible experience. I will talk more about it in this chapter.

To understand how professionals with different involvements in the field of vision disability raise awareness and include the disabled community in society, I conducted an interview via Teams with Claar van Aalten. She works for a Dutch organization called Bartimeus which focus on educating companies and museums how to make accessible websites and facilities for people with disabilities. They arrange simulation activities where they let employers test their website and workspace for the level of accessibility, while being blindfolded. They

let them experience dark rooms, guided by someone who is blind and talk about their experience among accessibility.

I had a Team meeting with Dirk Sorge, a German artist who is part of the network called *Berlinklusion*⁵. They are a group of artists who collaborate with other artists with disability to create inclusiveness and accessibility. He gave an example of *'Through the Looking Glass Dimly'*, a collaborative project with an artist who is blind and the audience. The audience helped her to paint a representation of a picture just using verbal descriptions to guide her. According to Dirk the aim was to teach the audience how to have inclusive communication to a person who is blind by giving precise description rather than visual cues and descriptions (D. Sorge, personal communication, 26.11.2021).

After talking with Nasra and Claar about their own simulation experience, I got engaged with a simulation experience at the museum in Nijmegen, *MuZIEum*⁶. Here I had to guide myself through a dark room with a cane and interact with games and activities, while being blindfolded. It inspired me to use this as a method to create awareness. This was an impactful way of providing information and understand blindness by experiencing their reality. The method would be valuable to incorporate into our collaborative project.

During our talk trying to understand our target group, and to whom we want to provide the information, Nasra thinks that learning about disabilities should be a topic people learn in the childhood years to normalize the topic (N. Fransen, personal communication, 19.03.2021). Research of children's learning and behavior development shows that the susceptibility to influence a person's attitude and behavior is

at the highest in the age of 8-10 years (Lucy Foulkes, et all, 2018). At this age they are particularly susceptible to being influenced by others' perception. We concluded to focus on 10-year-old. The environment, which is ideal for arranging interactive learning activities is in a primary school, because in school they learn and get an understanding of aspects of life and is a safe space for the children (Narmeen Shigri, 2018). That's why we chose it as a location to execute the game.

I called BSO Hartendief in Utrecht and Bossche Community School (BCS) to ask if they have learning disabilities studies in their curriculum, and if they are interested in a collaboration. They informed me that they don't have any mandatory lectures about the topic of disabilities in their curriculum. (A. Tan from BSO Hartendief, 02.11.2021, personal communication and F. Jorthals from Bossche Community, personal communication, 04.11.2021). Both schools were very interested in a collaboration and invited Nasra and me to give a workshop.

4. The Robert Coppes Foundation is a day care that supports blind and partially sighted people with arranging daily activities and teaches them use of aids and how to deal with limitations. (n.d), *Blind of slechtiend?* De Robert Coppes Stichting ondersteunt, Retrieved, 17.01.21, from: <https://robertcoppes.nl/clienten/>

5 Brehme, K., & Sorge, D. (2021, November 30). *Berlinklusion* – Network for Accessibility in Arts Culture. *Berlinklusion*. Retrieved November 25, 2021, from <https://www.berlinklusion.de>
6 *MuZIEum*, (n.d), English tour: information for our international visitors, Received: 20.08.2021 from <https://www.muzeum.nl/en>

4.1.3 Game-Based learning

An interview with a vision disability taught me about the general unawareness on how to behave towards disabled people, and to better include them in society. We want to provide information to reduce misconceptions and false assumptions using a game-based learning approach that educates children about blindness through a board game because games allow children to engage with different topics from various angles in a playful, non-judgemental way (Gavin Cahill, n.d). The idea is to have different exercises with simulation activities to encourage them to interact with familiar things, by identifying objects in a new way using senses other than sight. As a result, they develop new skills and techniques that help them to solve certain activities. According to the study of Social and Emotional Development in age 8-10, having simulation games is suitable for children at age of 10. At that age they develop competitiveness, understand riddles and puns and learn cooperation in team activities (Kid central, n.d).

I engaged with second-hand sources to get information about already existing awareness⁷. One awareness game, called *Cap-able* inspired me. This is a board game that brings awareness about different barriers students with disabilities face at universities, admissions, graduation or entering the job

market. The game provides information about solutions and aids needed to cope with such barriers (Cap-able, n.d.). It's an inspiring game because it raises awareness of how they experience life, what opportunities there are, and how to overcome different challenges. Based on this, I chose to have activity cards where children are introduced to ordinary tasks, like reading, which can be quite challenging without assisting aid. Here the player needs to choose an assisting aid to be able to perform the activity. In the game Cap-able there is a section where the players need to stop and reflect during the journey. We wanted to do the same, but to have this reflection section in the finishing end, as a sum up of what they learned during the game. During the design process I got inspiration from a common game called *Trivial Pursuit*⁸. I used their rules, but instead of having six categories we chose three: Become a better ally, Kill the myth and Accessibility. The content of the game is based on the information I got from Nasra during our interviews. The advised number of players are six.

For the category: *Become a better ally* the aim is to educate the pupils how to communicate, treat and behave appropriately and how to be inclusive. This category contains cards with questions, such as: if you are talking to a person who is blind and you must leave, what do you do? There are four answers, and the player must find the correct answer.

Kill the myth is about reducing false assumptions and myths about people with disabilities by providing the right information. The cards are foldable. There is a statement on the front side which is either a misconception or it is true. To discover the right answer (with an explanation) the children must open the card after their discussion.

Accessibility contains immersive simulation exercises. Here the purpose is to make people aware of the abilities of visually disabled people and become familiar with the use of assisting aids. There are two different decks. The main deck contains activity cards with illustrations of activities in the categories: navigation, reading and writing, accomplishing tasks and senses.

The other deck has cards with an illustration of an assisting tool that matches with one of the activity cards. Each assisting tool card has an exercise written on it, that is connected to one of the activity cards. Examples: learning how to write and read Braille, how to navigate using a cane while being blindfolded, how to distinguish different colors on fabric or recognize different currencies by using an app, how to know when it's safe to cross a road by listening to sounds and some exercises encourages use of other senses than sight. More info about the game is in **appendix 6**.

4.1.4 Design of the game

The game is meant for sighted people. Though, I find it important that it's accessible for people both with and without disabilities. To know how to make my design inclusive for people who are partially sighted and blind, I consulted sources from having conversations with people who are partially sighted, blind, or colorblind and the *Killer visual strategy*⁹ website, I learned

that the font of choice should be Sans Serif Fonts with a minimum font size 12pt. Also, to include brief descriptions on images and videos to make visual content accessible.

When it comes to selecting the colors, I talked to my friend Ole Landeland, who is colorblind. According to him the most common color combinations people with color blindness cannot distinguish when put together: red, green, brown, gray, and purple. The information shouldn't be conveyed just with colors alone, but also have icons or text, to include people who are colorblind (O. Landeland 10.03.2022, personal communication).

I chose red, orange and blue. These are bright primary and secondary colors appealing to children (Rachel Pancare, 2018). The color combination got tested by Ole Landeland to verify if he managed to identify each color. He did. I also consulted with the *Vennage*¹⁰ website to be informed about color friendly palettes for people who are colorblind. I found out that information should be available on multiple entry points to get access, for example a print version and digital version such as PDF-file or Word doc. Both formats are suitable for screen readers to perceive the information and to have it written braille and images in tactile version.

To make images and text on the cards accessible, I added braille and tactile graphics, using Nasra's Braille machine, which led me to choose a big card size (blue cards 9cmx17cm, red cards 9cmx13cm and orange cards 18cmx20cm). Different sizes and braille to make it easy to know what cards belong to which category, since blind can't distinguish colors. I got feedback from Nasra that there should be a tactile grid on the board game to distinguish each square on the board (N. Fransen, 20.02.2022, personal communication). To distinguish what color is on each square on

7. Other games that are inspiring and focus on raising awareness about disability: Disability Awareness Game Kit by Sahni, Nath, A. (2021, July 11). Towards Inclusion: card games helping to raise awareness about people of determination. The National. Retrieved December 29, 2021, from <https://www.thenationalnews.com/lifestyle/wellbeing/2021/07/11/card-games-to-raise-awareness-about-people-of-determination/>

Escape Game, raise awareness of the recruitment and integration of people with disabilities through digital games, Blog, R. (2021, July 19). *A digital Escape Game to raise awareness of recruitment and integration of people with disabilities*. Coopacademy. Retrieved February 29, 2021, from <https://www.coopacademy.com/en/blog/interview-en/a-digital-escape-game-to-raise-awareness-of-recruitment-and-integration-of-people-with-disabilities/>

8. It's a game that has six question categories of different topics. The players need to answer correctly, collect all six wedges and move to the center space to answer the final question to win. Hasbro (n.d.). *Trivial Pursuit Master Edition*. Hasbro Games. Retrieved March 23, 2022, from <https://products.hasbro.com/en-gb/product/trivial-pursuit-master-edition:A5BFDB10-19B9-F369-100A-E3571E716E8F>

9 McCoy, E. (2020, January 6). *Accessible Design 101: How to Create Visual Content for Every Audience*. *Killer Visual Strategies*. Retrieved March 14, 2021, from <https://killervisualstrategies.com/blog/accessible-design.html>

the board game, her suggestion was to have braille on it using the first letter of each color: b, r and o (see fig. 8).

I contacted a professional within the game design field, to see what improvements I could do of the design and how to make it more appealing for children. I had a face-to-face conversation with *Gayatri Kodikal*¹¹. She is an Indian artist, writer, educator, and game maker with a master's degree in game design in the Netherlands. I was advised to have less text and use appealing images (G. Kodikal, 24.03.2022, personal communication). I started to look for a collaboration with an illustrator. Through an animation student at St. Joost Academy, I got in contact with *Casandra Cabrera*¹², a master student in Animation in Spain. She helped me to create the illustrations on the cards.

I got in contact with Rick, a Sales associate from a game store called The Dice in Den Bosch. He advised me to change the illustrations from pictograms to more illustrative style, using bright colors. I contacted *Heba Daghistani*¹³, a master student in Situated design at St. Joost. She is a graphic designer and illustrator helping me with the illustrations on the blue and red cards. We had frequent conversations via WhatsApp from the sketch-making process to the finish result.

4.1.5 Testing the game

I had a Team meeting with Famke Korthals,

10 Cravit, R. (2021, November 17). *How to Use Color Blind Friendly Palettes to Make Your Charts Accessible*. Venngage. Retrieved April 25, 2022, from <https://venngage.com/blog/color-blind-friendly-palette/#4>

11 Kodikal, G. (n.d.). *gayatrikodikal*. Gayatri Kodikal. Retrieved March 23, 2022, from <https://gayatrikodikal.com>

12 Cabrera, C. (n.d.). *Casandra Cabrera* on Behance. Retrieved April 29, 2022, from <https://www.behance.net/casandracabrera>

13 Daghistani, H. (n.d.). *Storyteller*. Heba Daghistani. Retrieved April 29, 2022, from <https://www.hebadaghistani.com>

14 Siebe Pieters [[@siebepieters](https://www.instagram.com/siebepieters/)]. (n.d.). *Siebe* [Instagram profile]. Instagram. Retrieved May 04, 2022, from <https://www.instagram.com/siebepieters/>

a teacher for children in the age of 10-14 at Bossche Community School to explain the game and our idea for the workshop. She was positive to arrange a workshop testing the game. The workshop will take place on the 11th of May with six pupils at the primary school. The idea is to divide the session into three parts. First, Nasra will have a brief presentation about her experience with blindness and having physical mobility disability, with time for a Q&A session. Second, we will play the game, and children can put theory into practice. The third part is about reflecting on the provided information and the learning aspects.

This workshop will be held in Dutch because the children can't speak English. Famke has agreed to be my translator. I'm planning to film the session as a documentary, getting help with the filming and editing part from *Siebe Pieters*¹⁴, a Dutch Bachelor student in Photography, Film and Digital at St. Joost. Famke told me on the 06th of May 2022 that I got the authorization. I'm now waiting for the Director from the school to send a written consent.



Fig. 7



Fig. 8



Fig. 9

Fig. 7: Author (2022). An image of the game. The cards, board game and a instruction manual are laying on a table

Fig. 8 Author (2022). A close up imge of the board game with Braille on it.

Fig. 9 Author (2022). A close up image of the Accessibility cards with Braille on.

4.2. See the world like me

4.2.1 Finding our medium

In my research project, I also collaborated with Øyvind Lode in a project called *See the world like me*. Øyvind is a 43-year-old man from Norway. He works at CGI Norway AS, a Norwegian IT and business consulting service working with maintenance and operation of software. In our conversation he said it's important that the disabled community have equal rights and is treated like everyone else (**appendix 7**). To realize this, he thinks people should be aware about the potential of people with a vision disability. Their participation in society has potentials at the same level as everyone else. Together we concluded that *storytelling*¹⁴ is a suitable approach to share and amplify his narrative story using mini documentaries as a medium.

A mini documentary is an easy and efficient way to communicate with the audience. It can help to educate, trigger people's curiosity, emotions, engagement and inspire for a change of behavior (Maxime Hoppenot, 2022). Sharing personal stories allows people to see experiences from another perspective. This might foster empathy and provoke us to think differently about issues (The Health Foundation, 2016) which makes it a suitable medium for our project.

4.2.2 Thoughts behind the film

Mini documentary is a way to share a message or story in a 2–25-minute time frame (Maxime Hoppenot, 2022). Our purpose is to educate and raise awareness about people with disabilities. We focus on the abilities, not the disability. This is done by disproving the inaccurate assumptions and stereotypical way

of thinking that Øyvind and others have been exposed to. For example: "I have experienced people who think we can't be independent after losing our sight, or aren't able to do sports, work, cook or use a smartphone or computers" (Ø. Lode, personal communication, 10.12.2022). In this film inaccurate assumptions about people who are blind are disproved by showing that he can live an independent life. He is filming daily routines, such as going to work, being social and doing sports activities. Information on the script of the film appears in **Appendix 7**.

While working on this project, I got inspired by *Lucy Edwards @lucyedwardsofficial*¹⁴. She is a British journalist who is totally blind. Through her small video clips, she shows what people who are blind can do vs what society expects her to do, as a blind person. She visualizes all misconceptions that exist in a funny way. She also shows videos explaining how she manages to do things using different techniques and assisting tools. It is inspiring to see that she through the videos are helping people to understand how life for them is, and how effectful it is to share the knowledge she has through videos. This encouraged me to do the same with Øyvind.

During our conversations about the film, Øyvind said: "for me, being blind is just a small part of who I am. I don't want people to have that in focus because I'm much more than a condition" (Øyvind Lode 28.12.2021, personal communication). This led to start with him, describing his childhood and showing him training Aikido without even mention that he is blind. We would make the viewer seeing him as a person like everyone else. Later in the movie we reveal that he is blind, making this a plot twist.

The film is intended for young people in the age of 10–30 years old. According to Øyvind

in that age they are willing to expand their knowledge and, at that stage of age, it's easier to inspire for change of behavior (Øyvind Lode, 18.02.2022, personal communication). The idea is to share the film on different social media platforms to target a broad audience (Facebook, Instagram or YouTube).

The project with Øyvind took place in Norway. I contacted Joachim Steinbru; a Norwegian photographer, to see if we could get a collaboration. He wanted to participate in the filming and editing process. We had productive days filming people that worked with Øyvind, namely, Bryan Nicholas Sia (Director of Consulting Services in CGI Norge AS Company, where Øyvind works) and Jacqueline von Arb from the Stavanger JuShinKan Aikido Club (who is Øyvinds trainer), to show how they integrate and include Øyvind in the workspace. We showed how it's possible to train people who are blind and create an inclusive workspace for them using the right techniques, adjustments and support.

Joachim and I decided to divide tasks. My task was to edit and shorten the interviews and his to merge the different footages. I sent the edited interviews to him, but unfortunately, I didn't hear back from him, and due to technical problems, I also couldn't continue working on the files myself. A colleague of Øyvind at CGI, Melvin Jerremiah Gepte, with a bachelor's degree in filmmaking, wanted to support our project helping with the editing. I sent him the film script and we were frequently in contact during the process.

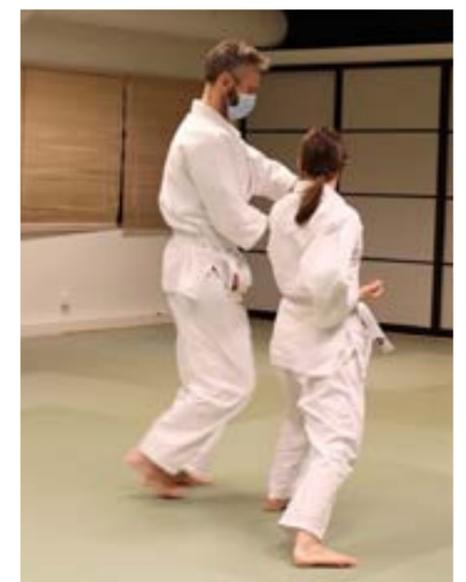
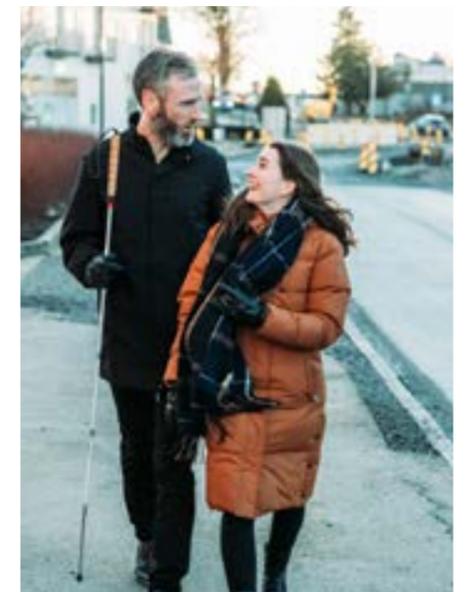
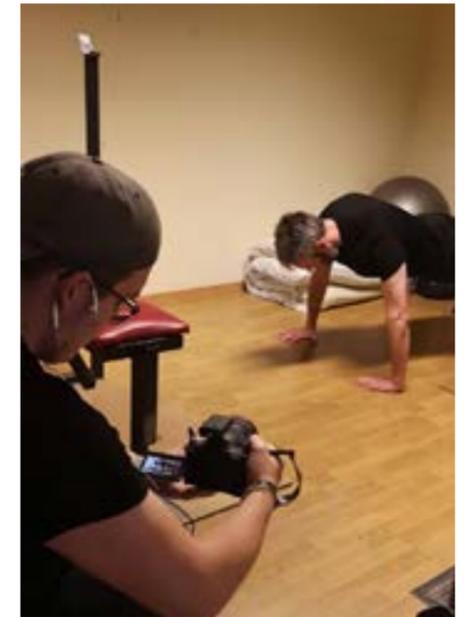
To see the video click on the link below:

<https://drive.google.com/file/d/1HE3VonMyCP0Qjn5zWbrfMVedb7svOI3g/view>

Fig. 10: Author (2022). Image of Joachim filming Øyvind doing pushups in his training studio.

Fig. 11 Steinbru, J (2022). Picture of Øyvind teaching me how to guide a person who is blind.

Fig. 12 Steinbru, J (2022). Øyvind and I are doing Aikido together in the Dojo at Aikido Club in Norway



¹⁴ Lucy Edwards @lucyedwardsofficial, "how society expects me to do my eyeliner as a blind person vs. how I actually do it": instagram video, 08.12.2021, from https://www.instagram.com/reel/CXO87FEI-8/?utm_medium=copy_link

The core of my practice has been having conversations and engaging with people, which led to collaborations. This methodology has worked well for my practice, because it helps me to get a clear understanding of vision disability. The knowledge has helped me to challenge my own biases. I'm aware of how to make my design accessible for everyone with and without a disability, which I found very valuable and something I will continue to do.

Another discovery was that a lot of the inconveniences mentioned often lead back to the lack of knowledge among sighted people about this topic. Every day they are dealing with ableism and the non-accessible socially and physically environment. These are factors that make them disabled, not their disability. The importance of raising awareness through collaboration has been our focus.

My overall question has been: "how can I collaborate with people with vision disabilities to make sighted people more aware about this topic?" By talking and listening to their needs, wishes and what is important for them I got important answers and through discussions we came up with the idea to raise awareness using game and mini documentaries as mediums to amplify their narrative story and to advocate and encourage and engage sighted people to be open minded to the topic.

During this project I have found connections and gained friendships, important stepstones making this project a success. Moreover, the collaborations have empowered us all in different ways. For example, Øyvind has mastered new skills such as being an actor in our film. He found out that he had a hidden talent and enjoyed being in front of the camera. He might want to continue with it. Nasra got the chance to use her skills again and do what she loves, which is teaching. Having a collaborative approach pushes me to step out of my comfort zone by exploring new approaches. This made me move towards positioning myself as a collaborator, social designer and advocate, all new experiences to me. Personally, this makes my project very valuable.

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