

stimulimus

making sense(s) of the everyday

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abstract

« On July 29th 2016, on my way to a restaurant to celebrate my birthday, I got hit by a car. I could have died in that accident, but the only thing I lost - maybe temporarily - is my sense of smell. The first few months were very difficult for me. Exactly five weeks after my accident, my baby was born. There was so much going on at once, it was just overwhelming. »

Dieuwke, 38, Netherlands

This experimental project dives into the daily lives of individuals suffering from anosmia - the lack or loss of the sense of smell-. It explores how to bring back the sense of smell at the heart of the discussion.

Anosmia is often a minimized or disregarded condition. This general indifference towards smell-related issues -from the olfies* as well as the medical community- results in the silent suffering of people affected by it. With this project, my intention as a designer is to spread knowledge and awareness about the condition through design.

Smell is evanescent, elusive, immaterial. *Eureganon* is a one-off conceptual installation which provides a visual and olfactive experience of this intangible. It is designed to stand out, question and trigger the public curiosity. Through an aromatic display and a play on coloured reflections in the surrounding space, it aims to bring the transient and subtle nature of a perfume into light. And as the day goes, the display evolves.

*people with a functioning sense of smell, as they are called from anosmics point of view

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executive summary

the project

Senses provide data from which we shape our perceptions of the world, other people and ourselves. Thanks to them we build an understanding of our surroundings. We feel, hear, see, taste or smell the same things in ways that are alike. By providing us with very similar data about our environment, senses are invisible links between humans.

When you are missing one, like the sense of smell, it is a very different story. Not being able to experience the world the way everybody does is isolating. It leads to a lot of frustration and difficulties in the everyday. In the case of anosmia, this distress is usually as undetectable as the condition itself.

The inability to detect a fire, a gas leak or dangerous chemicals makes anosmics* vulnerable. Anosmia also affects their sexual and social lives, and frequently causes eating disorders. The condition often results in a decreased quality of life, given its huge impact on general well-being, physical and mental health of affected people.

Yet, one of the main issues anosmics face is the lack of sympathy and empathy from olfactory people, whether they are doctors, friends or family. As it is invisible, the lack of a sense of smell often appears to be the « easiest » sensory disorder to live with. This clearly shows how underrated this particular sense is.

I chose to work on this topic since I believe it is more than ever topical and relevant. Anosmia is thought to be a rare condition, but it is probably more common than you think. Potentially around 5% of the world population has anosmia or severe hyposmia*¹.

Moreover, this percentage is likely to increase in the coming years and decades; this is due to various reasons among which environmental pollution, which is slowly damaging our olfactory systems.

What I can do as a designer through this diploma is spread knowledge about the prime importance of our sense of smell. I worked towards this objective all along this project's designerly process. This latter, together with the visual and olfactory experiments are therefore my design proposals. I believe that this project can encourage olfactory people to consider their sense of smell from a new perspective, to care and treasure it. Of course, it aims to highlight and spread awareness about the little-known smell-related conditions like anosmia. The more it is known, the more it will be understood and considered with empathy, better researched and therefore better treated.

*people suffering from anosmia

*decreased ability to smell

¹ according to FifthSense -a charity about smell disorders-

the context

investigating anosmia today

The general indifference towards anosmia makes it very difficult for researchers and scientists to obtain funding to research the sense of smell in general, and the condition of anosmia in particular. Without research, no cure can be developed and the problem stagnates. But this attitude is slowly changing thanks to some major progresses. The Monell Center, for instance, is the world's leading scientific institute dedicated to research on the senses of taste and smell. Along with other institutions and associations all around the world, it paves the way to a brighter future for anosmics, and gives hope to this dynamic community. *Stimulimus* falls within this movement, by working on increasing attention to the problem of anosmia through design.

a one-off installation

This project's design proposal will be exhibited at the AHO Diploma Exhibition. As its ultimate goals are to inform and to invoke both delight and curiosity, it aims to reach as many people as possible. So, the exhibition itself is an integral part of the project. This is why I made the choice of designing a one-off in situ installation in a public space. I intend to be around as much as possible to collect people's reaction and feedback towards the visual and olfactive installation, and to initiate the dialogue. Smell is a great and low-threshold discussion starter: everyone who can smell has an opinion. As the vocabulary used to describe an odour is particularly relevant and interesting for this project, I will keep a journal of the « visceral thoughts » expressed by the visitors.

my motivations

Curiosity is the first thing that drove me to explore the condition of anosmia. I became anosmic myself after a series of viruses when I was about 11. Since then, I took a deep interest into everything touching to senses. How do they work? How are they inter-connected? Why and how do they connect us to the world and to each other? Those are questions that captivate me. This project is a mean to share this curiosity for senses: it aims to demonstrate, with the example of the sense of smell, that they are much more than simple tools.

During this project, my core motivation has evolved. Making a commercial product to support anosmics in their everyday lives was my initial impulse. But I realized, notably after the two presentations we had in front of the diploma class and supervisors, that the main problem was somewhere else. In fact, it is much harder than I anticipated for olfactive people to fully understand and absorb the main problems that come along with lacking the sense of smell. Therefore, initiating a discussion and spreading knowledge about it, is something I believe necessary. I truly think education is key, and one of my missions as a designer.

the approach

I am an explorer and I love to discover. This is one of the reasons why I framed this project as experimental design. It has allowed me to focus on trying out, failing and testing new things, rather than refining and polishing an end-product ready to be sold.

Working with many different materials, testing out light effects and changing reflections over time, looking at how materials layer and interfere with each other, how their effect is enhanced or reduced depending on the weather... all of those touchpoints were inherently things to investigate in this experimental design project.

In this diploma where smell is at the center of the discussion, it was equally important to explore and design scents. It might seem quite odd and unwise since I can't trust my nose for that matter. However, it was an important challenge for me to overcome. To fit this uncommon situation, I experimented and co-designed fragrances together with olfie people. As for the physical materials, I believe that working directly with the medium (here, smell) gave me a deeper and better understanding of its possibilities and limitations.

Of course, anosmics are the first inspiration of this diploma. So, reaching out and involving them all along these four months was crucial. I got to connect with numerous anosmics online, and on a more personal level with five of them. They trusted me in sharing their personal stories and opinions, which contributed a lot to nourishing the project.

my contribution

My contribution with this design project is a research, reflection, visual and olfactive experimentation on our sense of smell that we largely take for granted. This diploma as a whole aims to tackle and challenge this vision, by proposing an awakening to our ubiquitous sense of smell. Doing so, it hopes to inspire us to look at it from a new perspective.

The relevance of this topic spans over several outcomes: the immediate aesthetical experience of the installation, the experience of the fragrance I designed in its complementary atmosphere of light and colour, and the reflection proposed about the sense of smell. Therefore I believe that my written reflection and outcome are relevant beyond the anosmic community.

Eureganon is a conceptual installation which encourages people to reconnect with their long forgotten sense of smell. It is an illustrative proposal on how to look, think and express smell in a different way. It is not meant to be an industrial designed product and should therefore not be judged as such.

background

starting on senses

what is anosmia?

problem definition

the secrets of our sense of smell

anosmia: opportunities and limitations

experimental/sensory/emotional design

state of the art

Senses refer to innate psychophysiological functions by which an organism receives information about the surrounding environment. Sensing is actually giving meaning to signals, thanks to our brain which interprets stimuli and transforms them into understandable information. The nose, taste buds or eyes are devices allowing these actions to happen.

It is generally acknowledged since Aristotle that humans have five senses: sight, hearing, touch, taste and smell. But we have much more than that! Apart from the five well-known ones, humans' senses are: thermoception -by which we perceive temperatures-, nociception -allowing us to feel pain-, proprioception -the sense of the relative position of parts of the body-, the sense of balance, and echolocation -the ability of humans to detect objects in their environment by sensing echoes from those objects, by actively creating sounds.- This last competence is used by some blind people for navigating within their environment using auditory rather than visual clues.

Despite this, we tend to have very little consideration for all those incredible abilities. We use and abuse of them without even thinking about it.

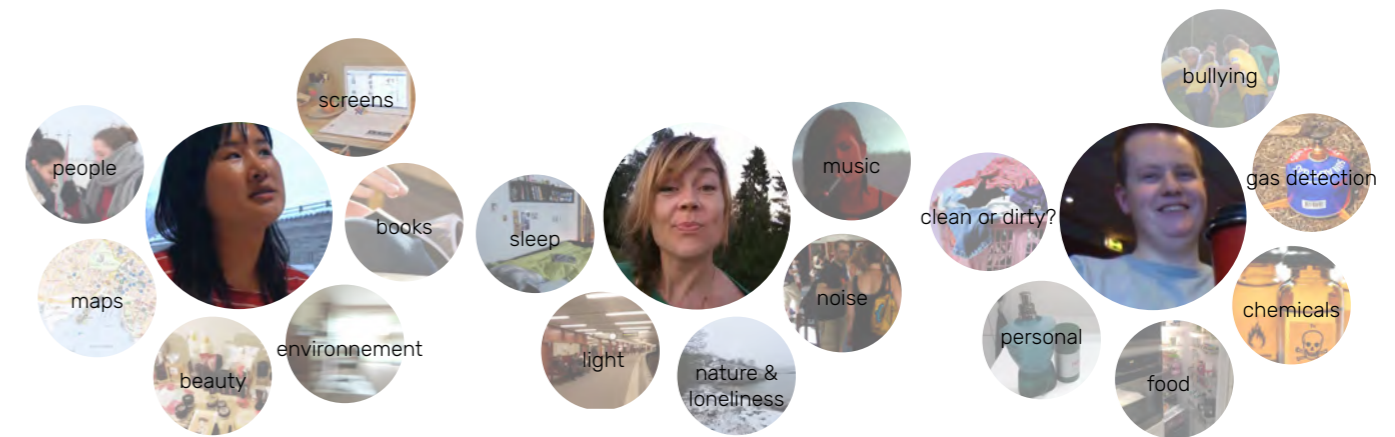
starting on senses

I started this project in January knowing that I wanted to design about/with/for senses. So, I researched about the senses topic and I interviewed three people with different sensory issues or abilities.

Sungeun got partially blind from one eye after the herpes zoster virus which attacked her cornea and left her with a permanent scar. In her daily life, basic things like studying, travelling or shopping for groceries are challenging, because of her partial inability to read.

Agno has the distinctive feature of being highly sensitive to sounds, lights, smells, crowds and people's moods. Those greatly impact her everyday life. As she pointed out: "Our society is not built up in a way where it is easy to get to use the good qualities in this [high sensitivity]. Our society is very loud, stressful and challenging."

Marius is a congenital anosmic, which means that he was born without the ability to smell. Due to anosmia, his life is slightly different than everyone else's. He for instance pays an extra-attention to his personal hygiene, and he has to be very attentive to the freshness of the food he eats.



At one point, I sat down and looked at all the insights and inputs gathered from those discussions and my personal research. Few elements overlapped between the stories, but most of them were pushing the project into many different directions.

After I realized it was getting too big to realistically handle in a 4-months semester, I chose to focus on anosmia. As it is a topic we don't hear about often, I already knew that it was worth researching, exploring and raising awareness about. I was also interested in the challenge of making it engaging and intriguing for olfie people. Plus, I found out that the community around anosmia is very dynamic, enthusiastic and accessible, especially online. I saw this as an opportunity to discuss with a large public of anosmics, and a possibility to get rapid and diverse feedback or answers.

what is anosmia?

Anosmia is a smell-related condition defined by a total inability to smell. It can be either « congenital » (for people who are born without the ability to smell) or « acquired » (after an accident, a virus, because of the aging process or for many other reasons). Anosmia can be temporarily or permanent, depending on the cause and circumstances.

Unlike the blind or the deaf, anosmics, are not (yet!) recognized as disabled by the law; this only contributes to the condition's depreciation. As scientists still don't fully understand how our sense of smell works, there is currently no miracle cure yet existing for anosmia.

Lacking or loosing the sense of smell often brings its share of consequences: it greatly impacts self-esteem and self-image, as well as social and sexual lives. It affects anosmics' appetites, and it is not rare that anosmia causes depression. Lacking the sense of smell can also represent a real danger in everyday situations.

There is not one universal cause, type or cure for anosmia. It is a much more complex problem than that. Each and every anosmic experiences and copes differently with the impairment. Along the same lines, it is important to acknowledge that one testimony is not valid for everyone. Olfie people are diverse, so are anosmics!



Drawing a parallel between human needs and anosmia consequences, inspired the article *Assessing the Impact of Anosmia: Review of a Questionnaire's Findings* written by Steve Van Toller.

problem definition

One major issue anosmics face with the condition is the lack of understanding from the olfie community. Smell is one sense that appears to be fully appreciated only after its loss. Many people don't feel concerned by this very discussion if they don't actually suffer from it. This is one attitude that I want to challenge.

In fact, anosmia is a topic that concerns olfies as well. Anosmia can happen to everyone. A bad cold, a car accident, as an early symptom of a degenerative disease like Parkinson or Alzheimer, and the list goes on... There are multiple causes for anosmia.

Aging, for instance, is one of them. As all the other senses, our sense of smell erodes over time; and you may, one day, wake up without your sense of smell. It is not as uncommon as it sounds: from the age of 80, around half of the population is likely to suffer from substantial smell loss².

Throughout this project, I realized how hard it is for olfies to deeply and accurately apprehend the problem. Indeed, it requires a lot of imagination to picture oneself deprived from something as obvious and omnipresent as the sense of smell. As Marius, who is a congenital anosmic, once said to me about anosmia: « people tend to only see the bright side of it ». Surely, there is one. Yet, it is also crucial to acknowledge its negative effects: lacking the sense of smell can drastically and negatively influence many everyday experiences. On one side, anosmics don't smell garbage scents when they walk by the bin storage area. But they also miss the delicious aroma of fresh bread and coffee when they pass by the bakery every morning. They don't know what the sea, or fresh cut grass smells like, and flowers are odourless. And they have no idea how comforting the scent of their loved ones is. Basically, anosmics are missing all the « small pleasures of life » triggered by smell.

Challenges of this diploma are then to encourage people to care, train and treasure their own sense of smell as well as to raise awareness about anosmia among the olfie community.

the secrets of our sense of smell

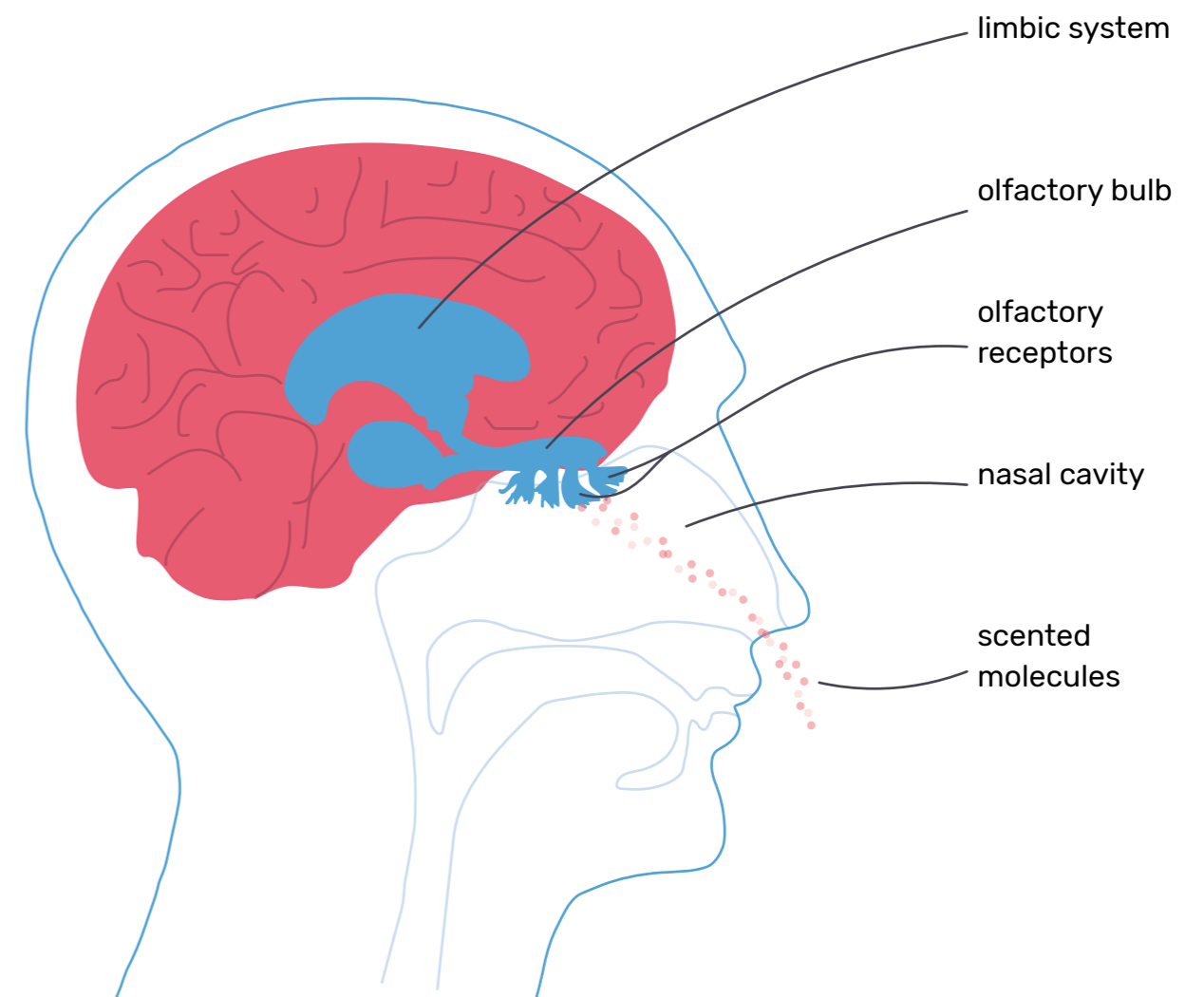
As we, humans, evolved over time, so did our bodies. Developing our senses and abilities has for instance provided us with the excellent trichromatic sight we have today. On the other hand, our sense of smell which used to be a matter of life and death, has now been pushed into the background. At least, we tend to think so. Today, the importance of smell is, in comparison with other senses like sight or hearing, clearly under-estimated. Smell is a powerful tool that scans and alerts us in real time about what is happening in our surroundings. But this is only the tip of the iceberg.

smell and emotions

Smell has this unique power: it triggers visceral reactions. I have witnessed it many times myself during this semester. By getting people to smell something, they instantly open up. Spontaneously, they start talking about what they like or dislike in the particular scent, recall and share memories that the odour brought back to their mind. Smell is direct, it is one sense we can't really turn off. For this reason, we automatically assess everything we perceive as good or bad.

smell and memories

Smell is inherently linked to memory. In fact, it is even situated in the same part of the brain which deals with memories: the limbic system. This leads to powerful experiences that most of us can relate to: a memory associated with a particular scent can instantly and vividly emerge once the aforesaid odour is perceived. Smell is a powerful trigger for memories, as well as a way to recall and remember more easily.



taste and smell

The confusion taste/smell is universal. Most people think that because anosmics still have a sense of taste, their food appreciation is intact. But here is the paradox: up to 80% of what we eat is perceived thanks to the olfactive system. Our taste buds « only » detect sweet, salty, bitter, sour and unami, leaving the rest to the nose. Anosmics greatly suffer from this impairment, and this often causes eating disorders among the affected people.

It is interesting to note that not every anosmic is equal on this matter. In fact, congenital anosmics are less likely to suffer from nutrition disorders than acquired anosmics, since they don't have the point of reference of « how it used to taste ». Therefore, they don't know what they miss.

anosmia: opportunities and limitations

smell and pollution

The topic of anosmia is more than ever topical and relevant.

In fact, the rate of people suffering from smell-related conditions is likely to increase in the coming years.

Environmental pollution might be one of the causes.

Indeed, the sense of smell is especially vulnerable to environmental pollution, as it is specifically designed to monitor our external environment. Since the air becomes more and more saturated with agents and chemicals that can damage our olfactory systems, risks rise up. So, if we need one more reason to start taking smell disorders seriously, here it is!

the importance of aesthetics

Going through a situation such as a loss of smell is traumatic. Lacking the olfactory sense from birth can be easier to deal with, since there is no previous point of comparison. Unlike congenital, acquired anosmics can qualify and quantify the lack greater, since they know "what it is supposed to feel like." Still, growing up with a difference which alters and affects every single experience of your life is far from easy. This project moves towards expressing those difficulties to raise olfie public awereness. As I was designing an installation triggering our sense of smell and revealing its mechanics, it was critical to pay a lot of attention to its aesthetic value.



smell training

Smell training is an emerging therapy designed to help people who have lost their sense of smell from nerve damage (acquired anosmics) to regain partially or entirely their ability to smell. It works on amplifying and enhancing the nerves regeneration, and therefore the recovery. Four different essential oils are the only needed ingredients to start smell training. It is advised to smell each of them for some minutes two times a day, everyday. And of course, this method requires time and patience.

mysterious trigeminal sensations

The trigeminal nerve is the fifth and largest cranial nerve we have. It provides tactile, proprioceptive, and nociceptive sensations to the face, and it is responsible for some motor functions such as biting and chewing. For instance, the trigeminal nerve makes us tear when peeling an onion, or feel a fresh sensation in the nose when smelling menthol.

What is interesting here is that anosmics can perceive trigeminal sensations, as it doesn't depend on the olfactory system. However, there is one drawback: studies have shown that anosmics have increased thresholds to those sensations. As Thomas Hummel explained it to me, the difference is real and significant. This demystifies why anosmics tend to like very spicy dishes, or use more salt in their food.



pungent: acetone



warm: spicy food



fresh: menthol

experimental/ sensory/ emotional design

Those could actually be three very suitable hashtags defining my project. Basically, this project was born from a desire to work with physical forms and materials, as well as intangible ones such as emotions and senses.

In our consumption society, we are surrounded by products, objects we use so often that they now blend into the background. But they don't often trigger mindful and significant multi-sensory experiences, and very rarely olfactive ones. There is room for design and great potential there.

The core motivations for this project are to explore, to experiment, to discover. Thus, its purposes are to invoke curiosity and share those explorations and discoveries with the public. One of my tasks during this semester has been to seek for the right balance between the functional and the emotional aspects.

state of the art

While working on this diploma, I discovered numerous interesting projects which are discussing, using, mapping (the sense of) smell. Here are few examples.



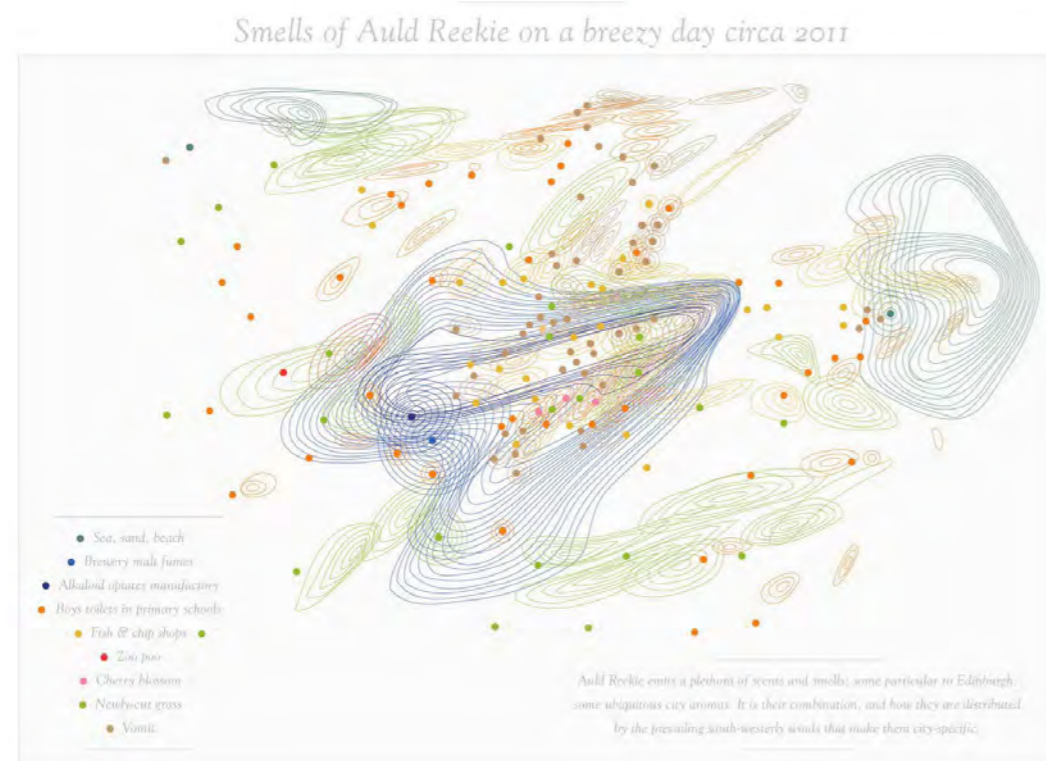
Japanese researchers teamed up with a Tokyo-based company Seems Inc. to develop a fire alarm that can wake people up when they sleep, and be lifesaving for elderly or deaf people. It works by diffusing a scented compound found in wasabi and triggering a trigeminal sensation.



The Smell Memory Kit has been invented and developed by the smell scientist Sissel Tolaas in close cooperation with SUPERSENSE. This innovative tool is made to capture and preserve important memories through smell.



This grenade-shaped scent diffuser has been designed by Leanne Wijnsma and Froukje Tan to alert internet users of data leaks from their smartphones, tablets and computers.



Kate McLean is an artist and designer who created smellmaps of cities around the world by focusing on human perception of the urban smellscape.



Georgia-based artist Judith Prays started the Pheromones parties in 2010. They are matchmaking parties based on the science of smell: participants bring a t-shirt they have slept in, and find out who they have got chemistry with.

process

key players: anosmics

the complexity around anosmia

early directions

targeted ideation: 5 ideas for 5 individuals

This diploma's process has been complex and sinuous. Understanding the complexity around anosmia by talking with anosmics and olfies has been decisive in my choice of moving towards an experimental design path rather than a commercial one.

As I was developing the project, I got to the root of the problem when I realized that one central issue with anosmia is that it is unknown. Most people are not aware that « this is actually a thing », and therefore they miss out anosmics struggles. This unexpected twist has helped me a lot unrevealing what I wanted to achieve at the end with this project.

A man in a dark sweater is sitting at a table, pointing at a laptop screen. He is looking towards the camera. The background is a meeting room with a red lamp and a window. The text "key players: anosmics" is overlaid on the image.

key players: anosmics

In this project, I have been really lucky to be able to regularly talk with Marius, a 23 years old congenital anosmic who lives nearby Oslo. About every two weeks during this semester, we met to discuss about the anosmia and smell topics. Marius was also giving me constant feedback on my project all along,

I also virtually gathered together five anosmics: Marius, Dieuwke, Will, Nathalie and Stephen. They are from all over the world, and were all enthusiast to participate in the project and share their stories with me. To start a discussion, I asked them to tell me about their home and objects.

what's in your home?



one of your favorite items



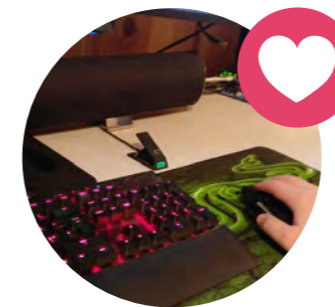
an item you dislike



an object/situation where your anosmia is an advantage



an object or situation where it is an issue



Marius, 23, Norway
congenital anosmic



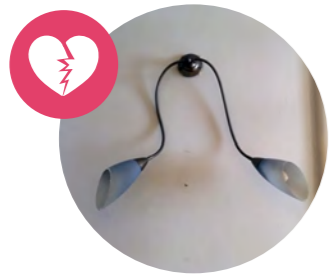
« My cologne and deodorant is something I know I need, and feel exposed without.

It baffles me that this small bottle of clear fluid and a stick of wax can make the difference on how people treat me, if I get the job I am applying for, if friends want to hang out or avoid me... »

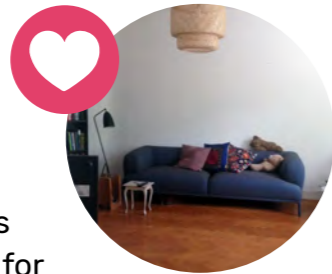


Dieuwke, 38, Netherlands
acquired anosmic

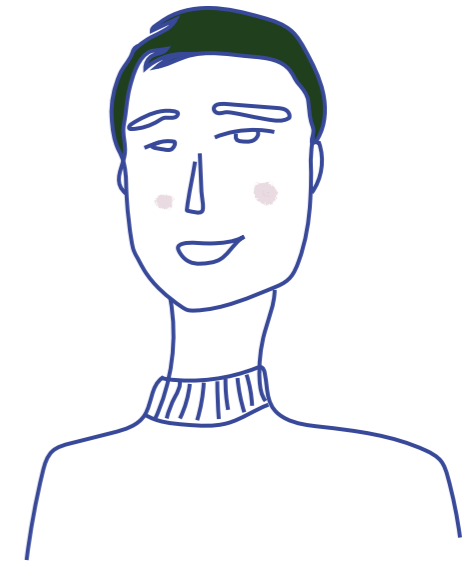
« It is my favorite thing in my apartment, the VIEW! I find it incredibly relaxing, so much that I'm paying an extra \$200 per month. The apartment itself is old and worn down. But being able to escape the city to this view is worth it. »



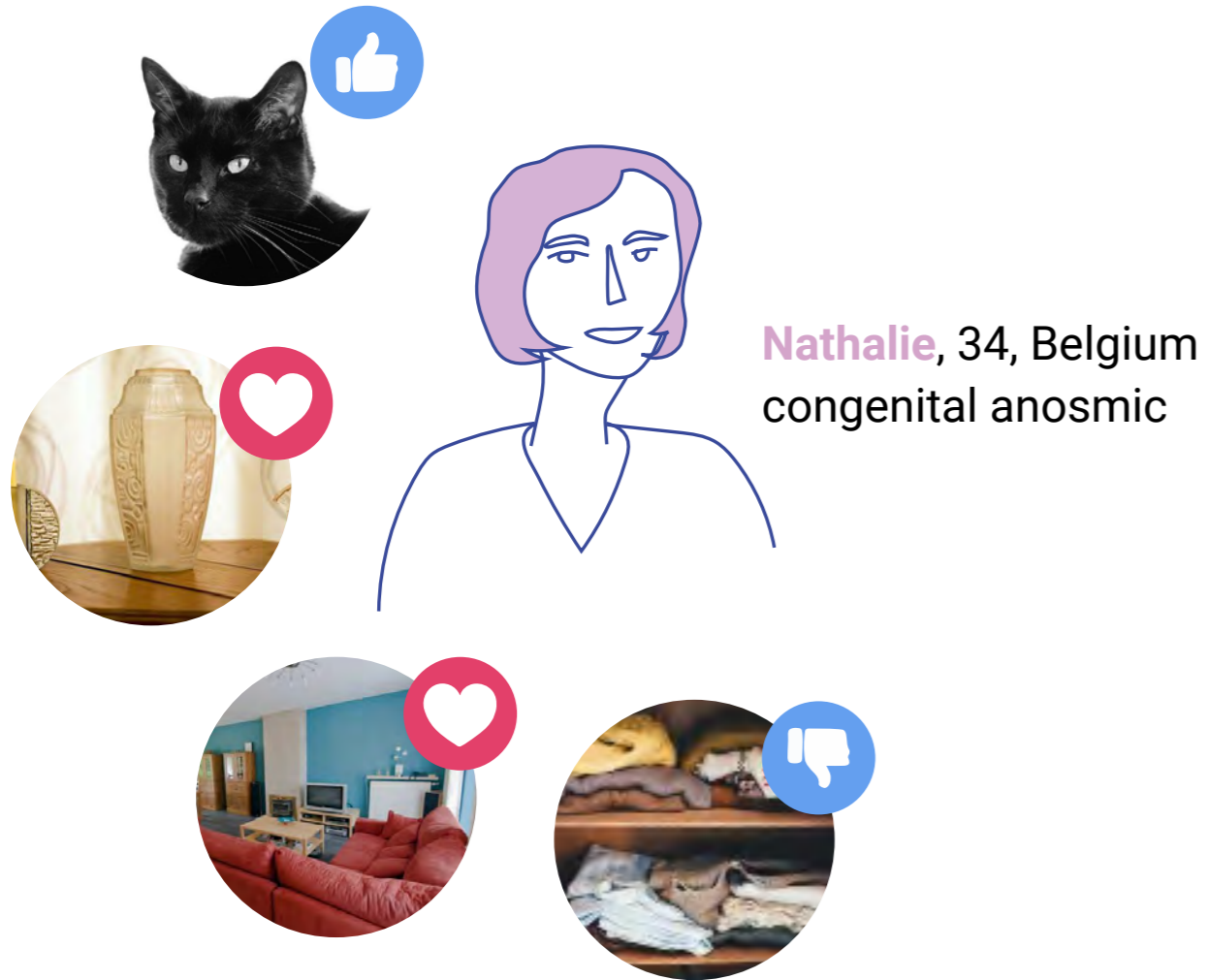
« Since having anosmia, lamps have become really important for me to give an extra dimension to a room (before a perfumed candle could do the trick as well). This lamp is so ugly as well as the light it gives. »



« We bought this painting on our babymoon in South Africa. Being anosmic helps me understand abstract art. You know something has a smell, but you can't experience it. In a way the world becomes more abstract. »

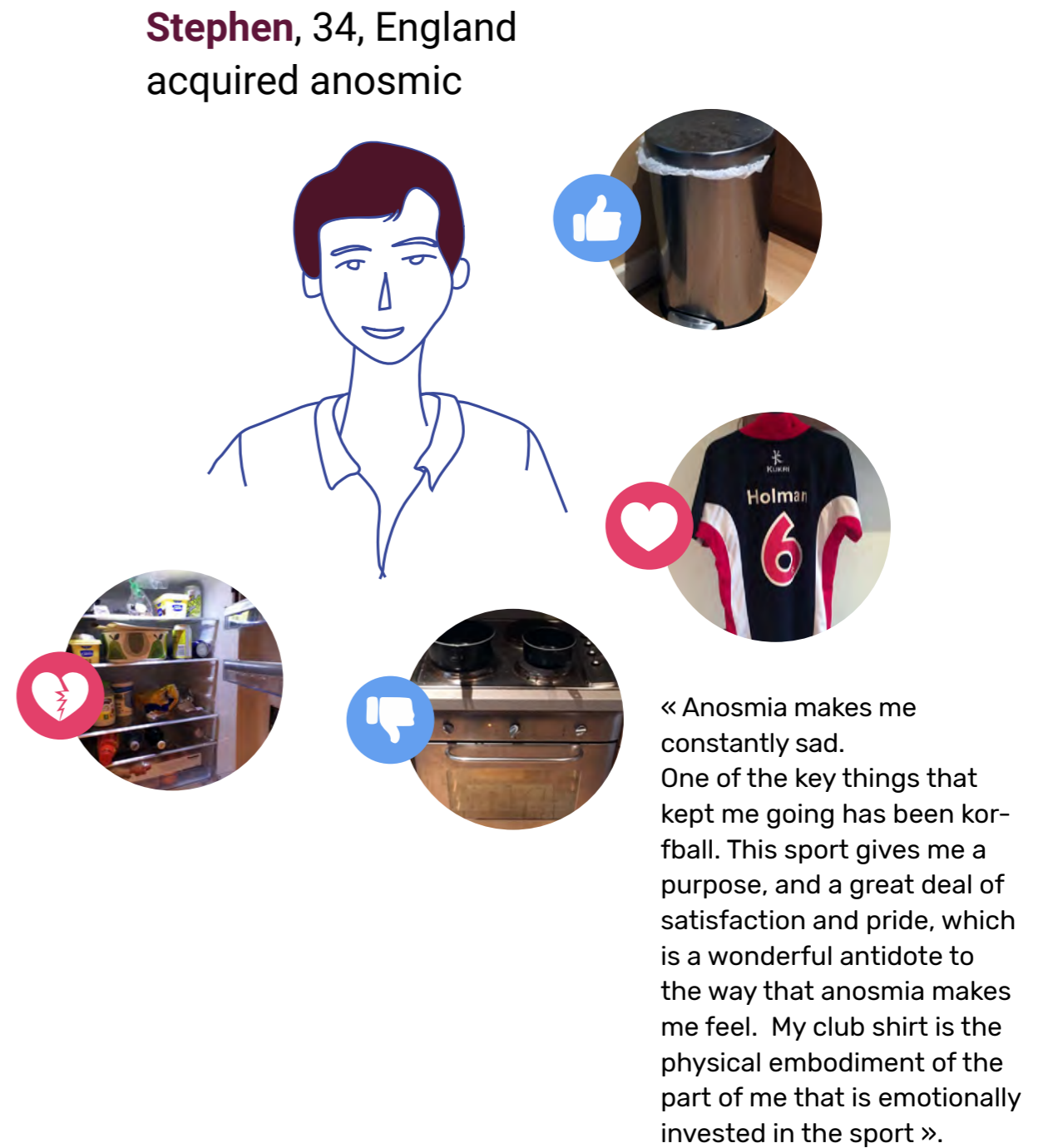


Will, 28, Canada
congenital anosmic



Nathalie, 34, Belgium
congenital anosmic

« I spend a lot of my time on the sofa. It's a love/hate relationship: it's a comfortable spot but sometimes I get 'glued' to it, which stops me getting more useful things done. »



Stephen, 34, England
acquired anosmic

« Anosmia makes me constantly sad. One of the key things that kept me going has been korfbal. This sport gives me a purpose, and a great deal of satisfaction and pride, which is a wonderful antidote to the way that anosmia makes me feel. My club shirt is the physical embodiment of the part of me that is emotionally invested in the sport ».

the complexity around anosmia

From discussing with both congenital and acquired anosmics, I mapped and organized several key themes which summarize difficulties anosmics might have to overcome or live with in the everyday.






I found out that the main themes were: nutrition, sexuality, hygiene, self-health, social and safety.

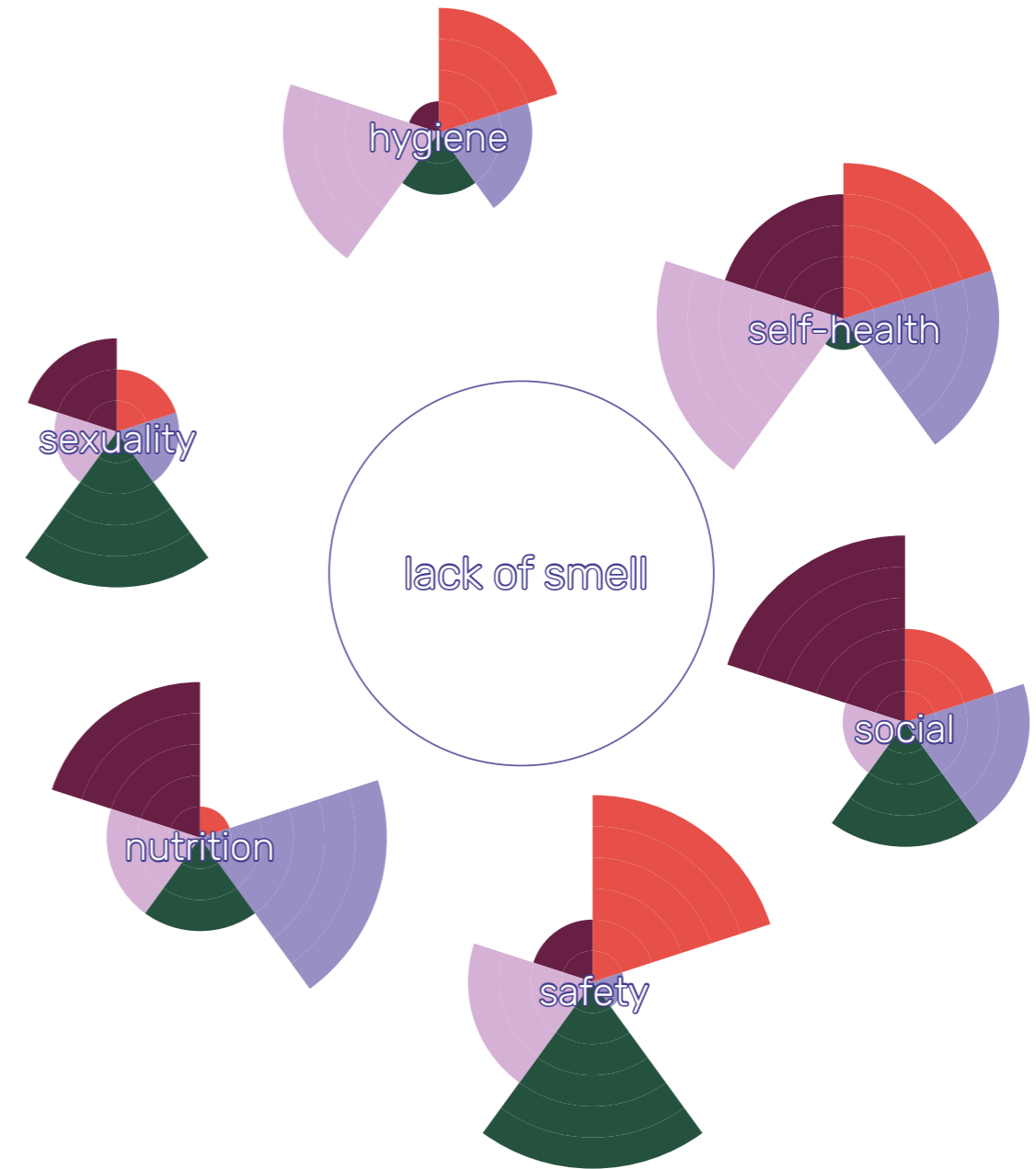


To investigate the prevalence or importance of each of these issues, I asked the group to rate them from the most to the least problematic.

The results were diverse and revealing of each personality. Will is for instance mainly concerned about the safety side of anosmia; in fact, he is working as a mine-engineer and this particular aspect of the condition is of prime importance in his job.

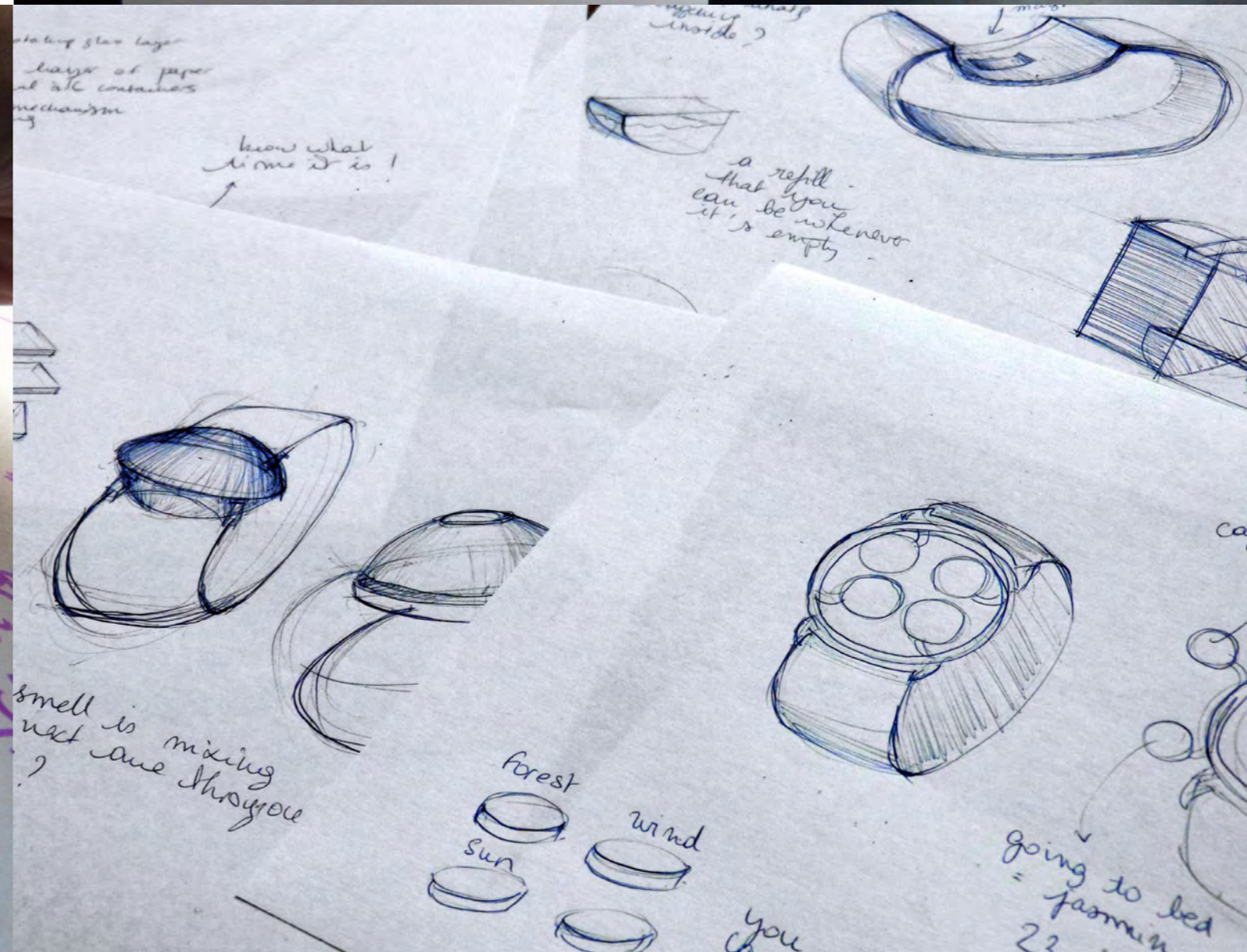
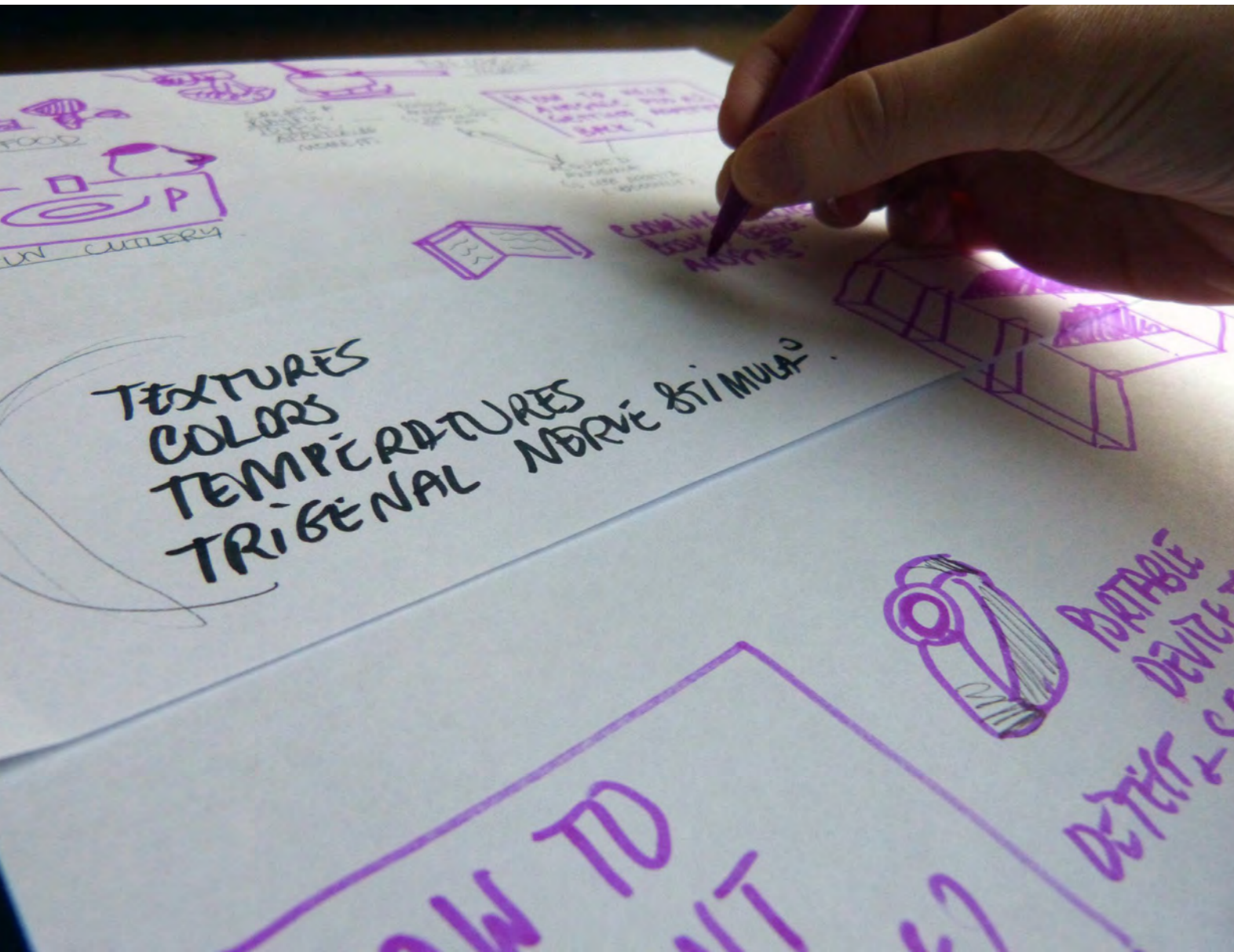
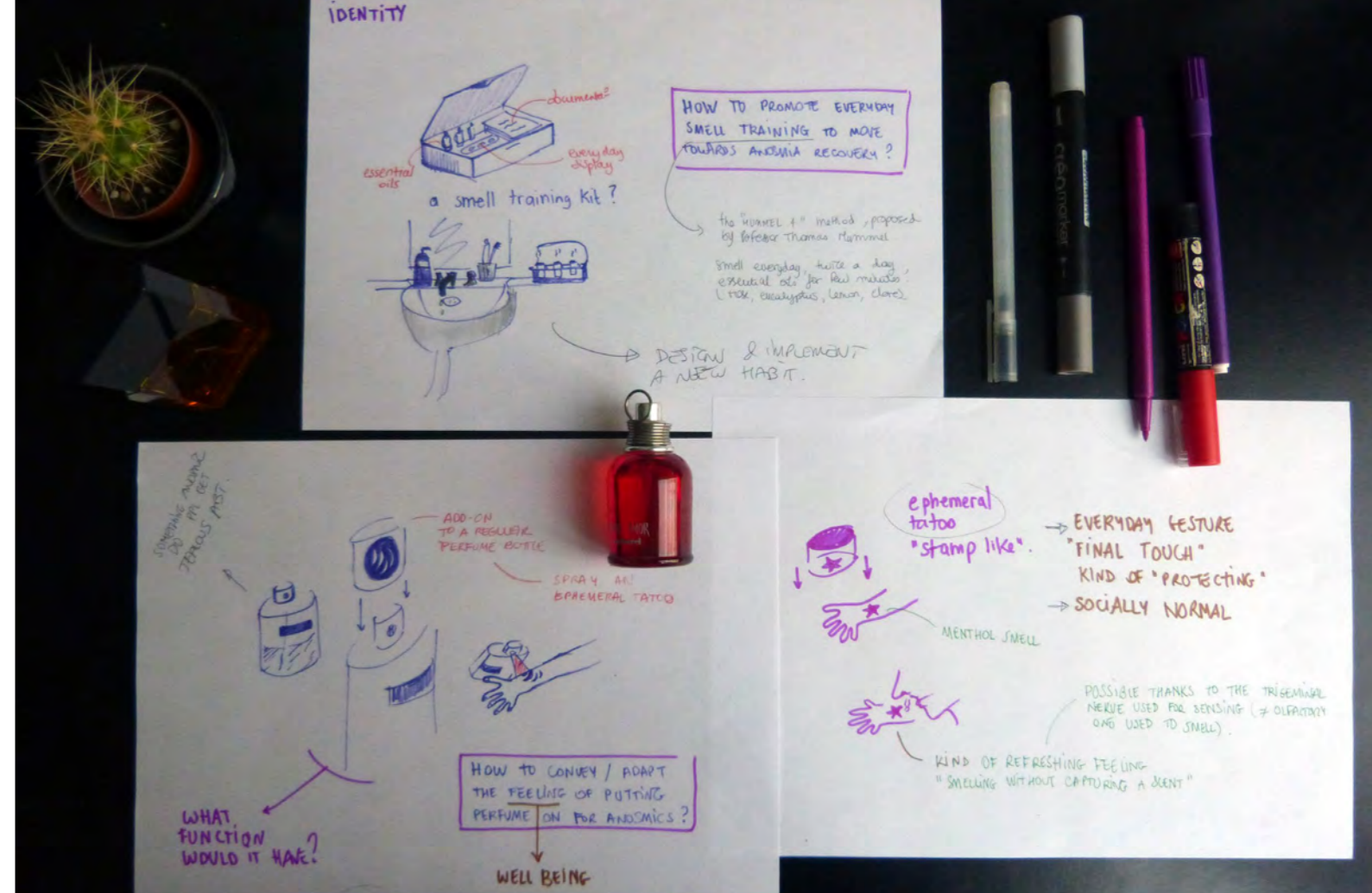
While Dieuwke, who lost her sense of smell after a car accident less than a year ago, had a lot of trouble with eating. As she describes herself as a « foodie », she told me how hard it was for her to let go the thought of never tasting the flavour of food again.

-  Marius
-  Dieuwke
-  Will
-  Nathalie
-  Stephen



early directions

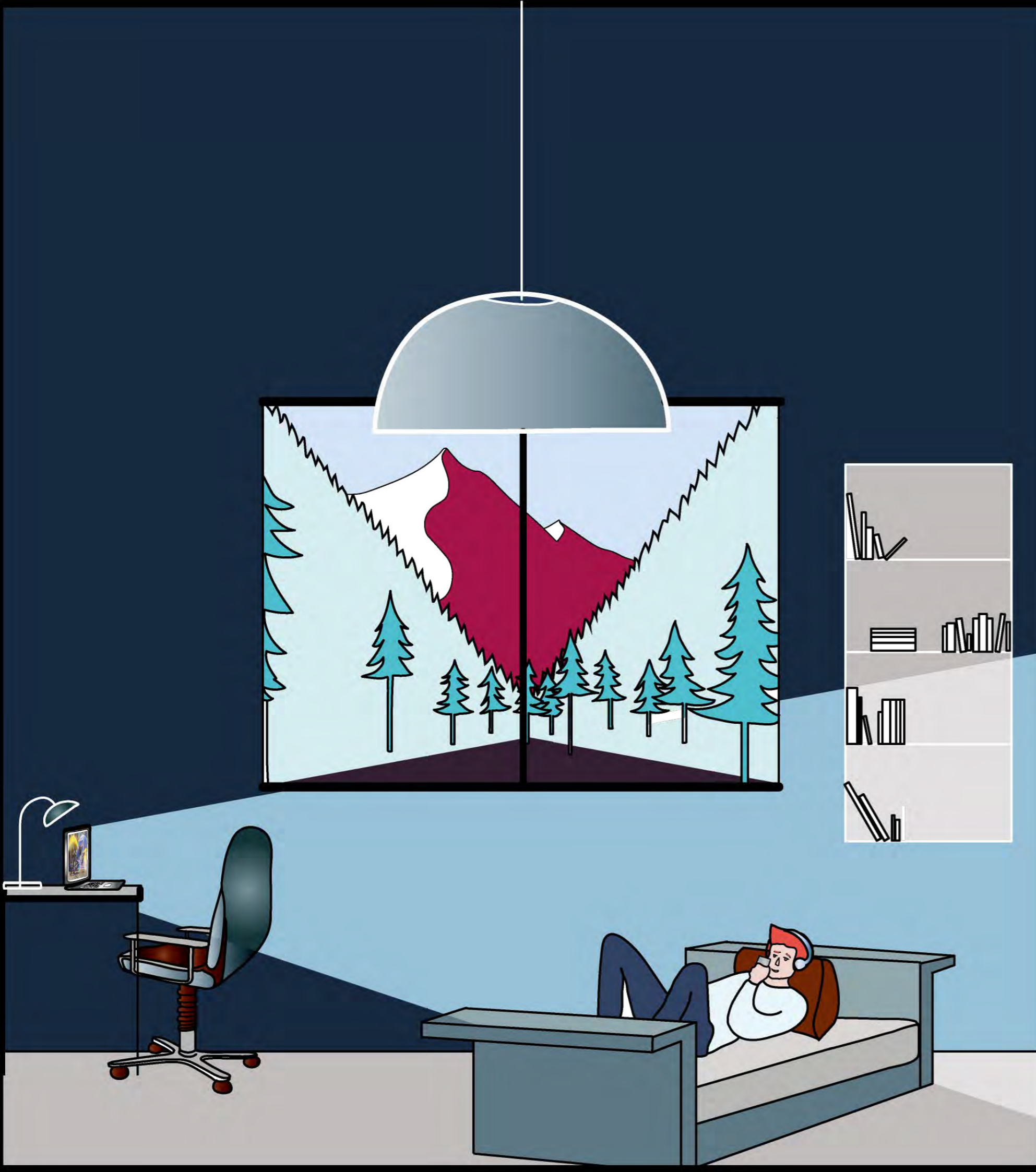
Among my early directions, one possibility was to investigate smell training. The task could have been to imagine an everyday object allowing this « twice a day routine » to happen more smoothly and naturally for anosmics.



targeted ideation: 5 ideas for 5 individuals

Marius, Dieuwke, Will, Stephen and Nathalie are not only anosmics, they are individuals. They have different lives and personalities, hobbies and dreams. They should not be defined by their condition only, and all put in the same box.

As an idea generation method, I imagined a design for each of them, inspired by their lives and personalities. Each works together with a moodboard, sketches and a rough product scenario.



Marius, 23, Norway
congenital anosmic

« **My parents are my home.** They have done so much for me, both as their son growing up, but also as a confused child struggling with anosmia.

Same goes for my closest friends. Around them, I can be myself and not worry about not being able to smell. »

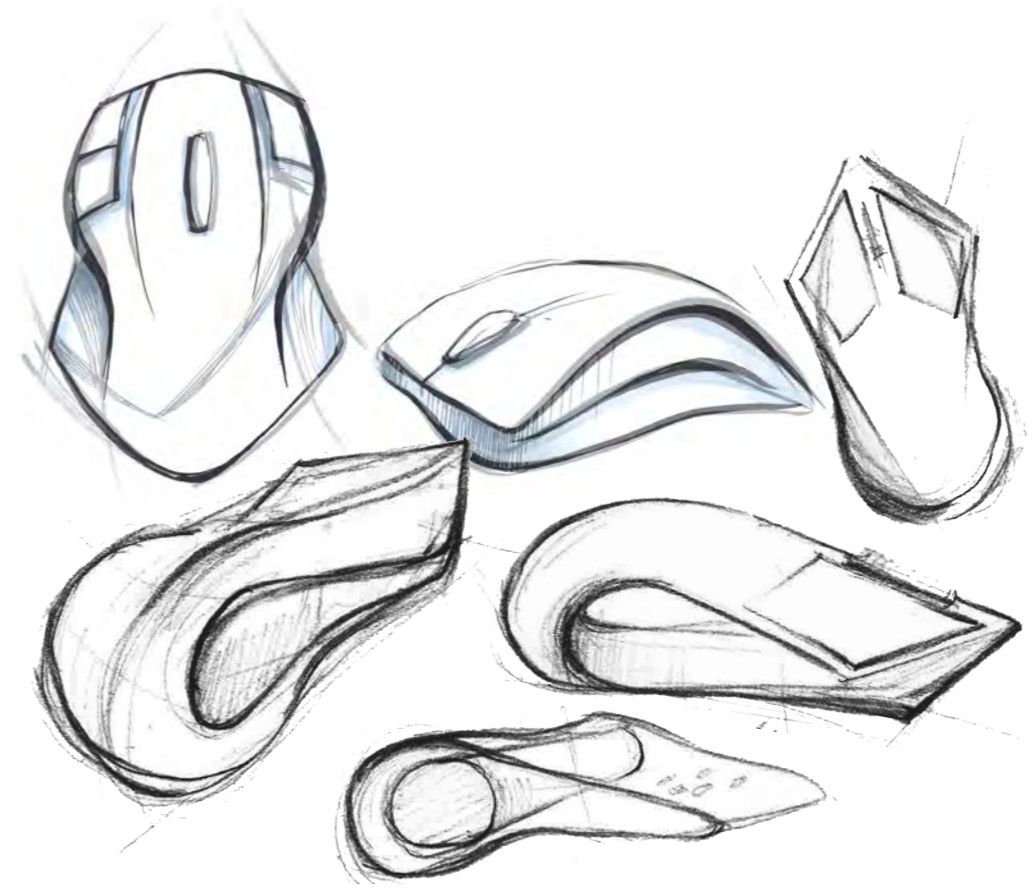
« I play a lot online together with my friends. Through gaming, I also make new friends. Since last year I've been playing with a guy from Finland. During the first months, the only thing I knew about him was his gamer tag. And now we are planning a roadtrip together with some of my other friends. »

what?

a computer mouse that notifies Marius when his friends are online/invite him to play with them.

how?

the object releases a smell that can be perceived even by anosmics thanks to the trigeminal nerve, such as menthol.





Dieuwke, 38, Netherlands
acquired anosmic

« My home is a safe place, where I come to rest. I love nice furniture, so I try to surround myself with design. I also try to buy art, but that's expensive so unfortunately I still have a few empty walls. »

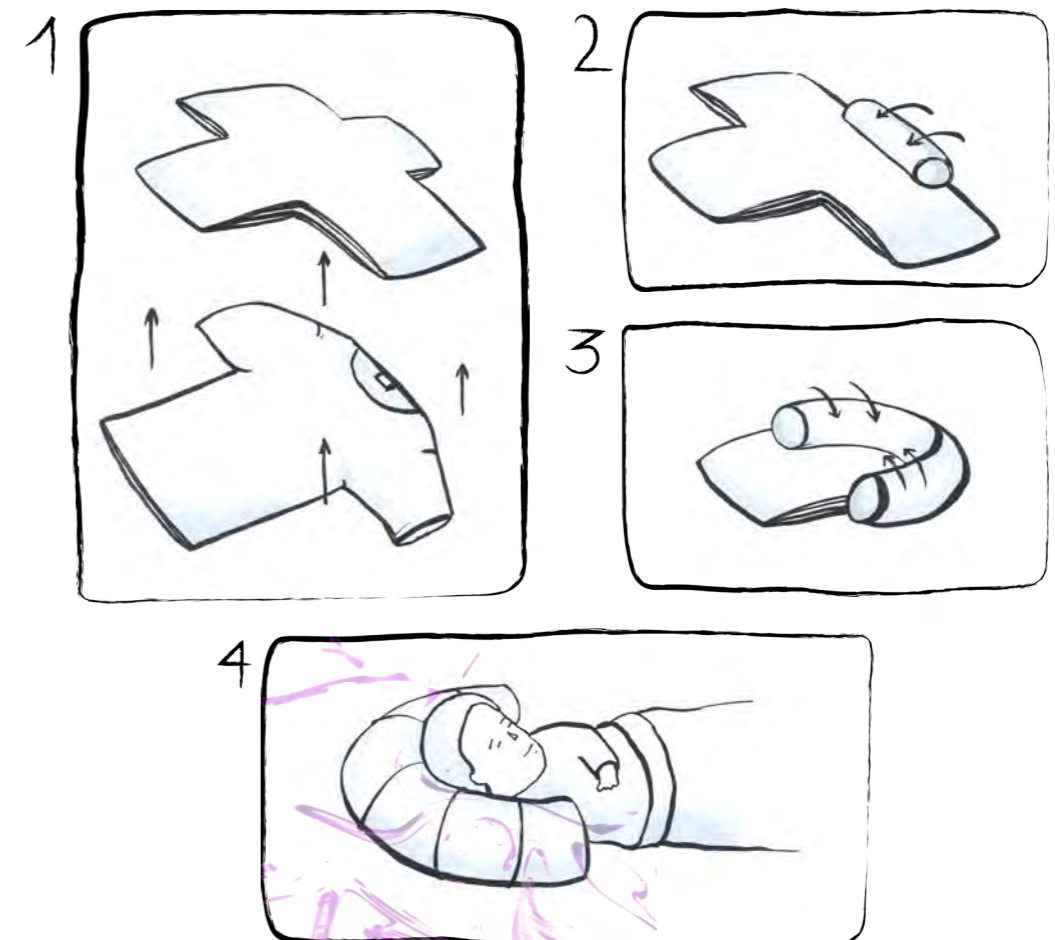
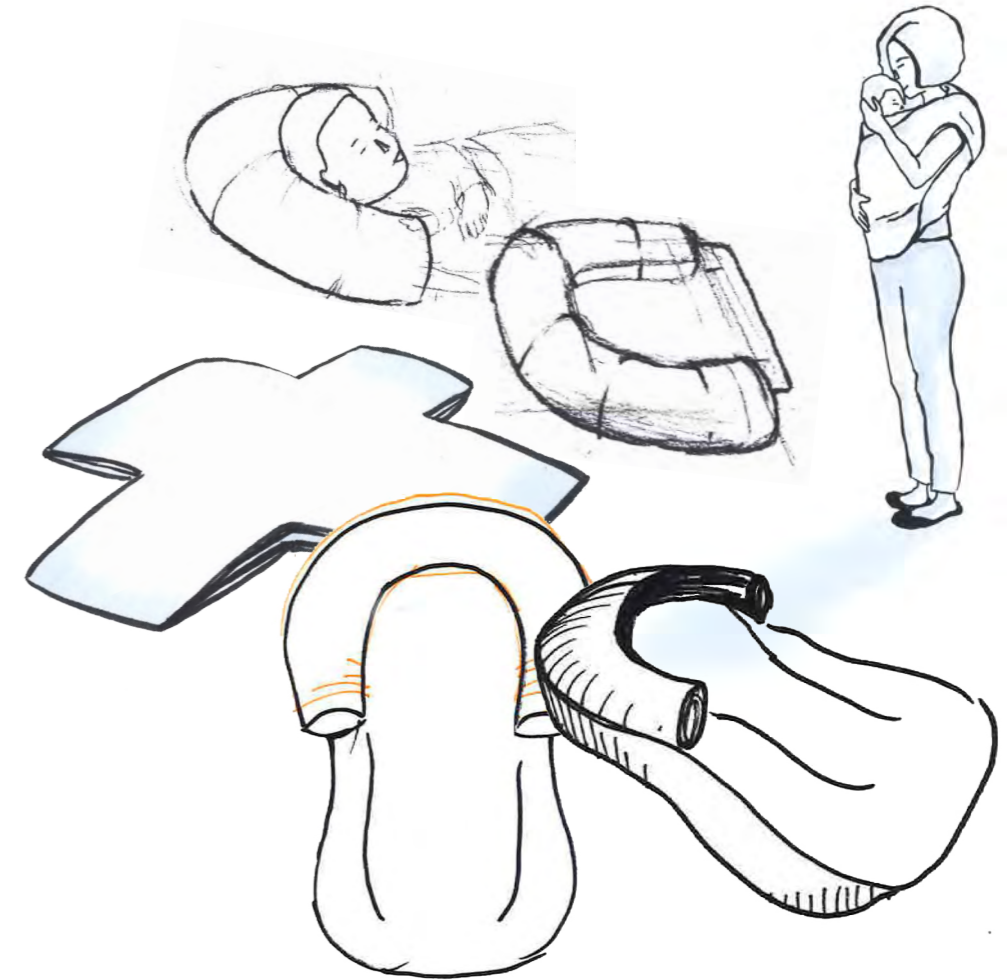
« On June 2016 I got hit by a car -while pregnant-. I ended up in hospital with bleeding to the brain and a minor skull base fracture. The only thing I lost - maybe temporarily - is my sense of smell. Exactly five weeks after my accident, my baby was born. »

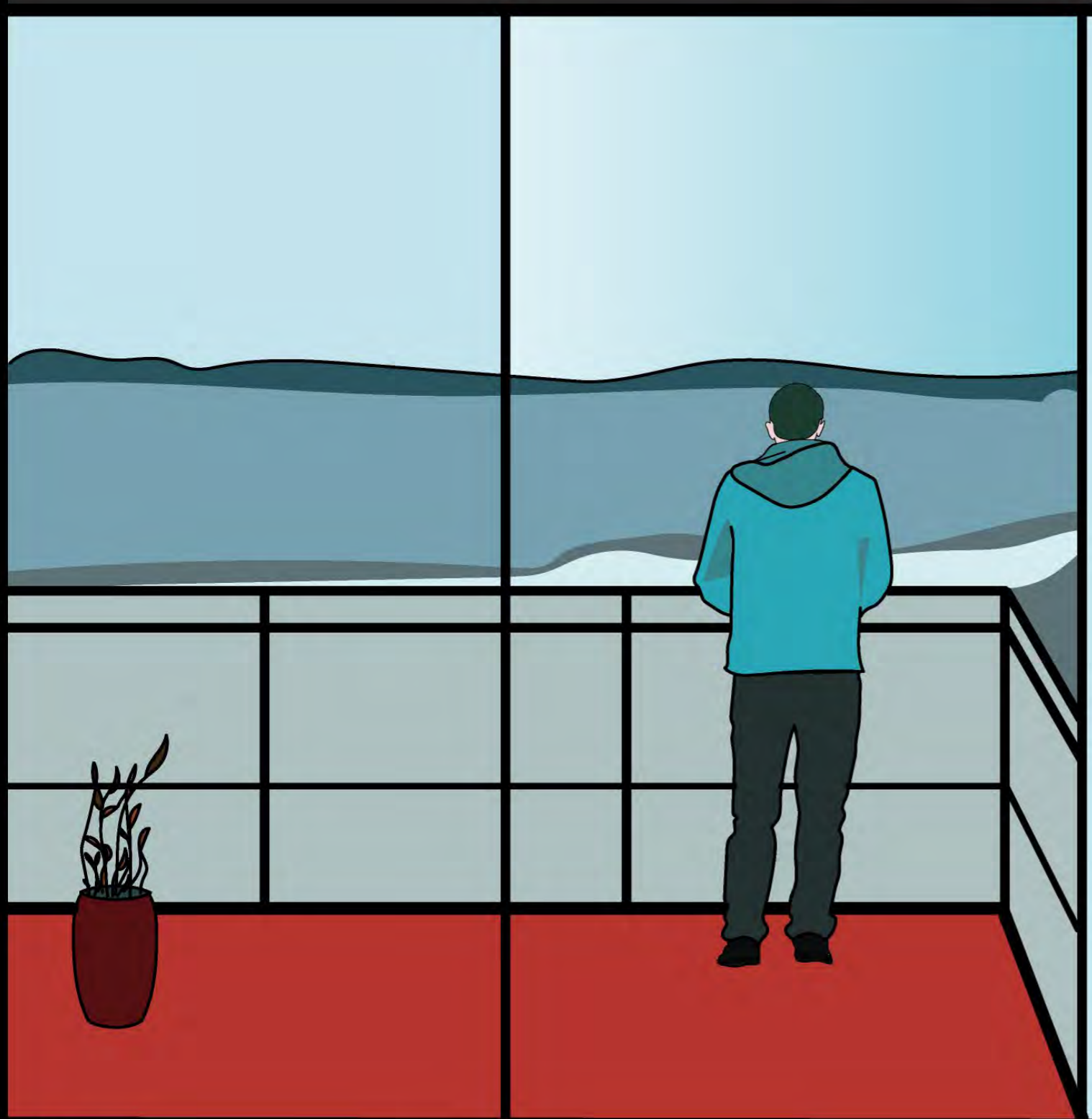
what?

a pillow that helps Dieuwke's baby girl falling asleep at night without her mom.

how?

by placing the pillow into one of her shirt, Dieuwke provides a reassuring odour and environment to her baby.





Will, 28, Canada
congenital anosmic

« I have been lucky in that my work shifts allowed me to live at home and take care of my mother before she passed. If it wasn't for the schedule, I would not have had as much time with her. »

« One big affect anosmia has had in my life is at work. Underground mines use stench gas as an alarm to alert personnel of emergencies so they can get to safe locations. I believe that I was once rejected for a position as a process engineer because they use smell to determine the desired mixture of chemicals for certain processes. »

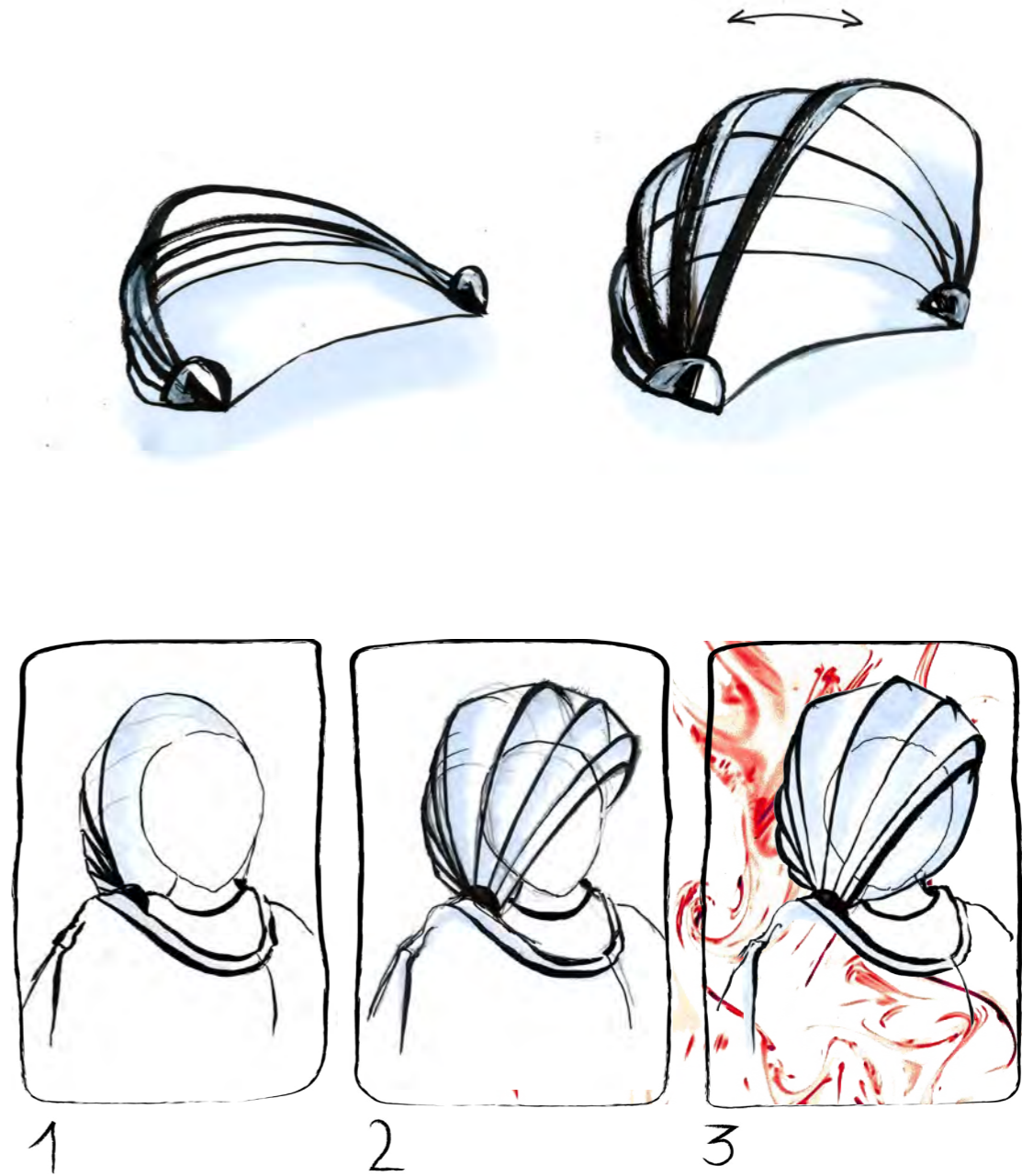


what?

an helmet that protects Will whenever he is working in a mine.

how?

it unfolds whenever an emergency situation is signaled, providing Will a safe «bubble».





Stephen, 34, England
acquired anosmic

« Home is definitely a place where I can be myself, and a place where I sort of feel I can reset myself - it's my reference point to everything else in the world. »

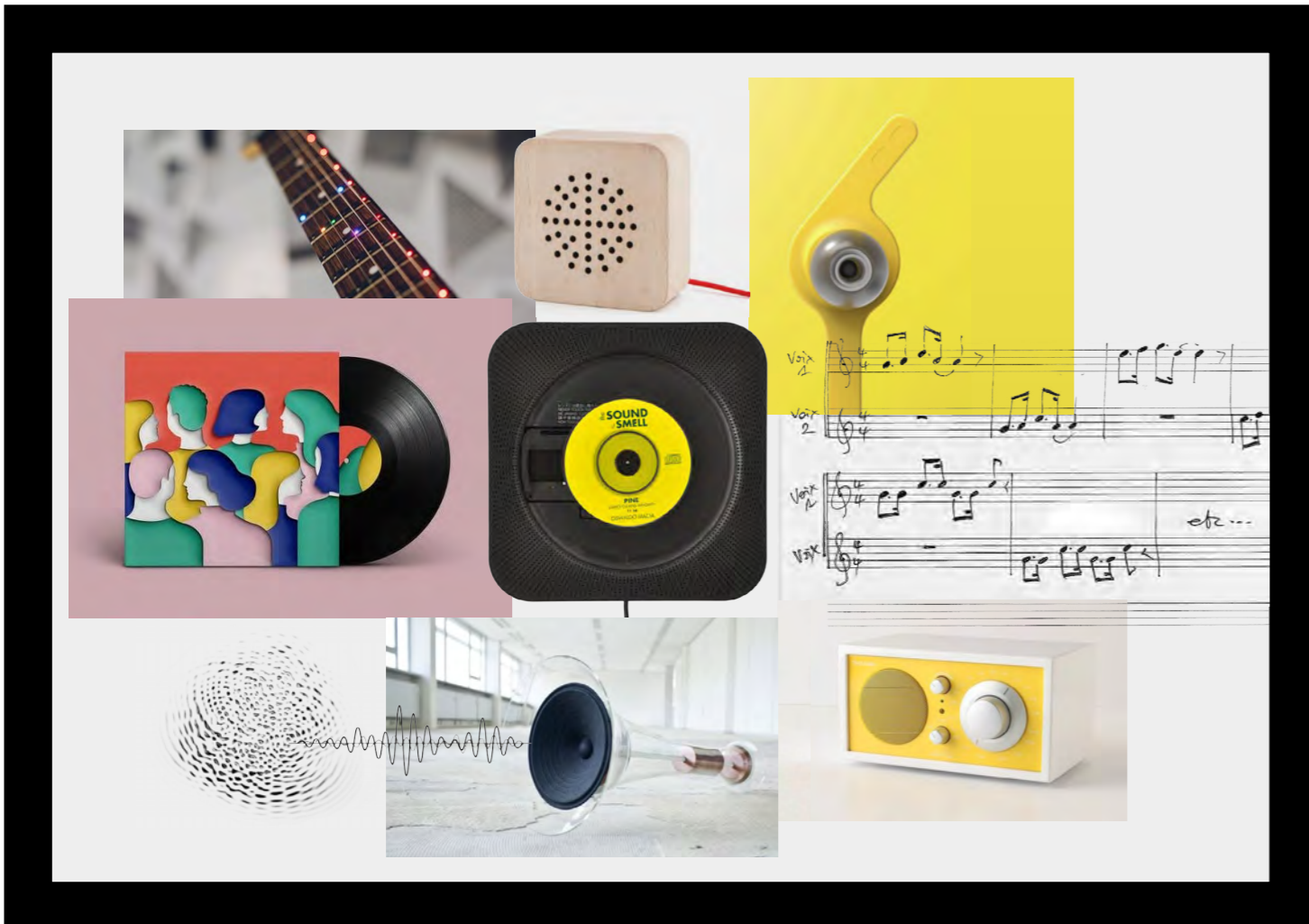
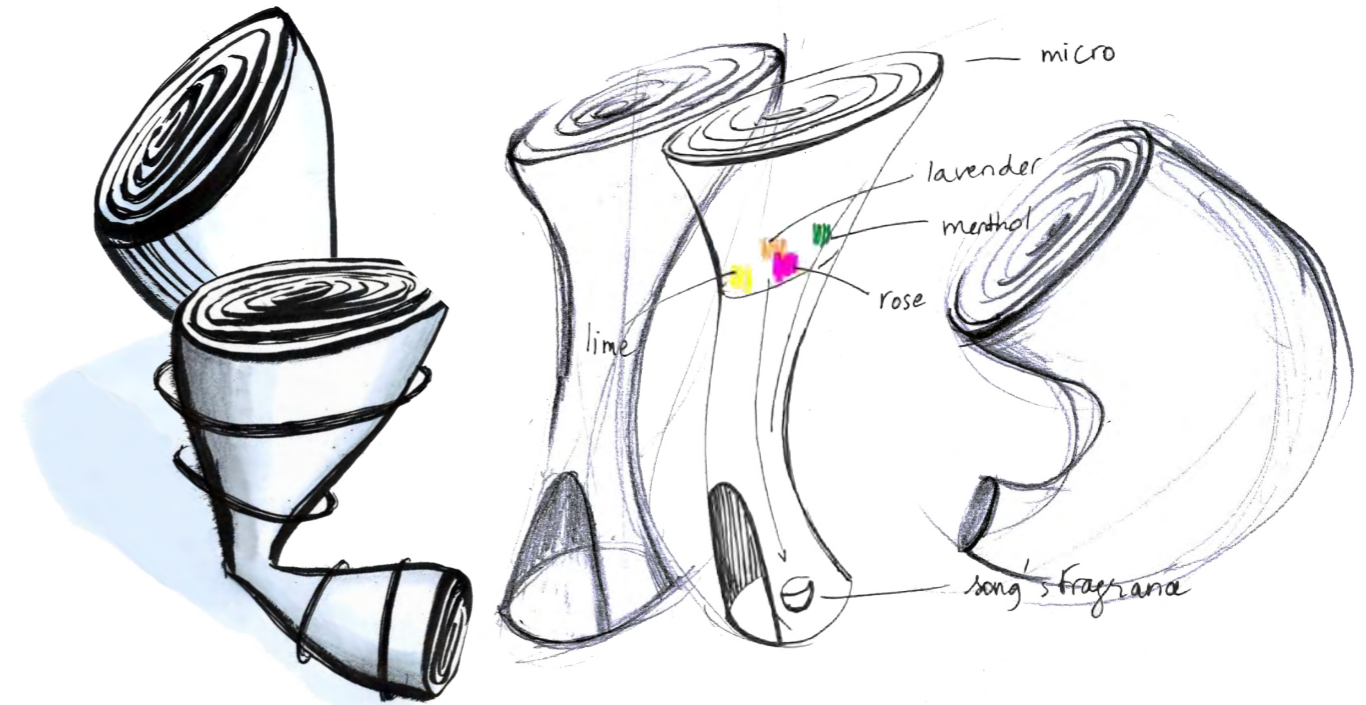
« I would say that I am a music enthusiast (borderline obsessive!), I go to see a lot of bands play, and play guitar (very badly!) myself. »

what?

an item turning music into fragrance, and encouraging Stephen to practise guitar more often, as well as smell training.

how?

by differentiating major chords, high and low pitched notes, the object creates a unique fragrance from a mix of several essential oils.

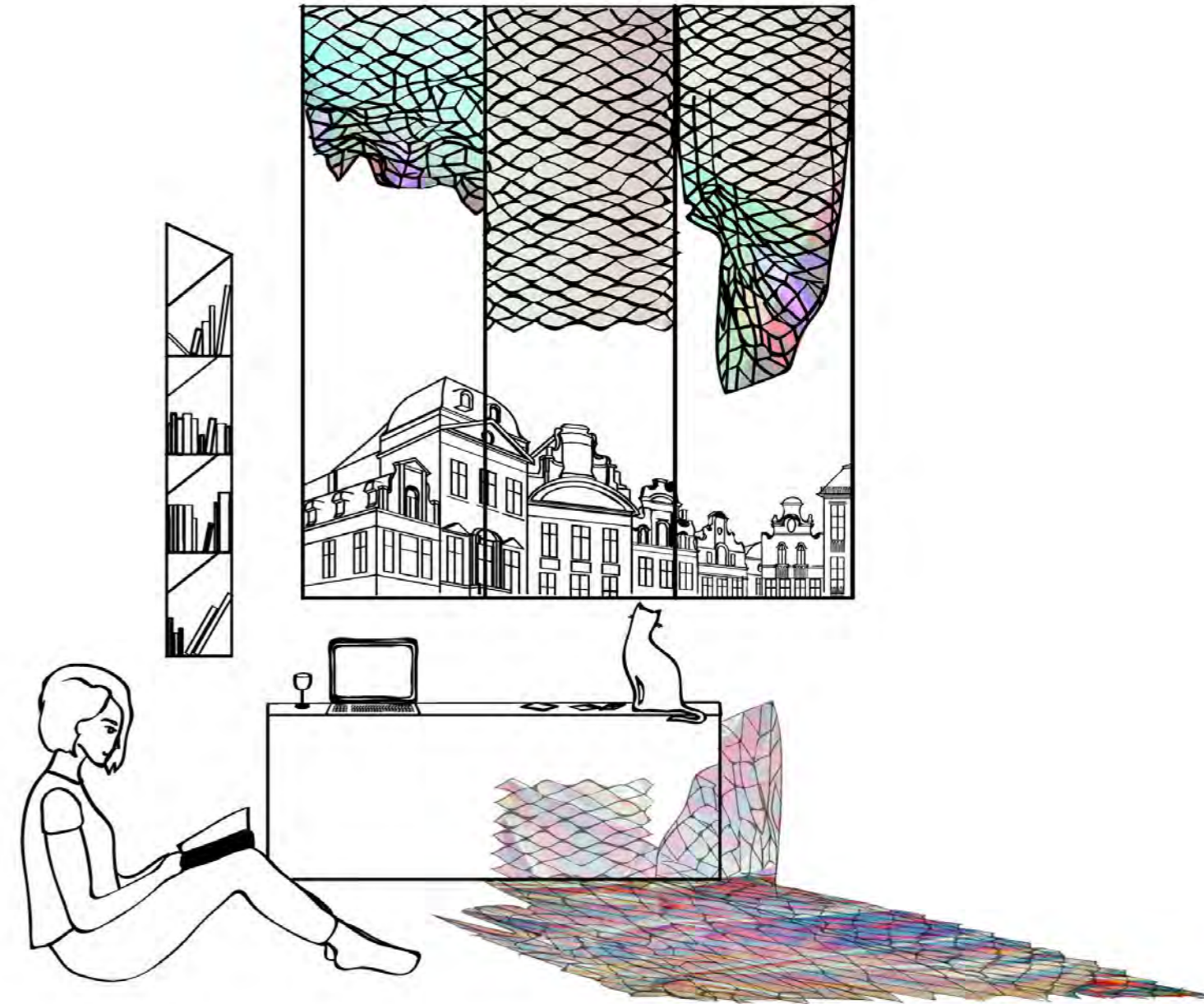




Nathalie, 34, Belgium
congenital anosmic

« As I am a very private person, home is a place where I can be myself and not worry about what other people think. My home needs to be a comfortable place, but also filled with things that are nice to look at. Lighting is very important too, no bright or cold lights but warm and cosy ones instead. »

« I love languages and literature and I have a creative side (I like to write and take photographs). I love antiques (especially art nouveau and art deco), 20th century glass and contemporary 'design' furniture. »

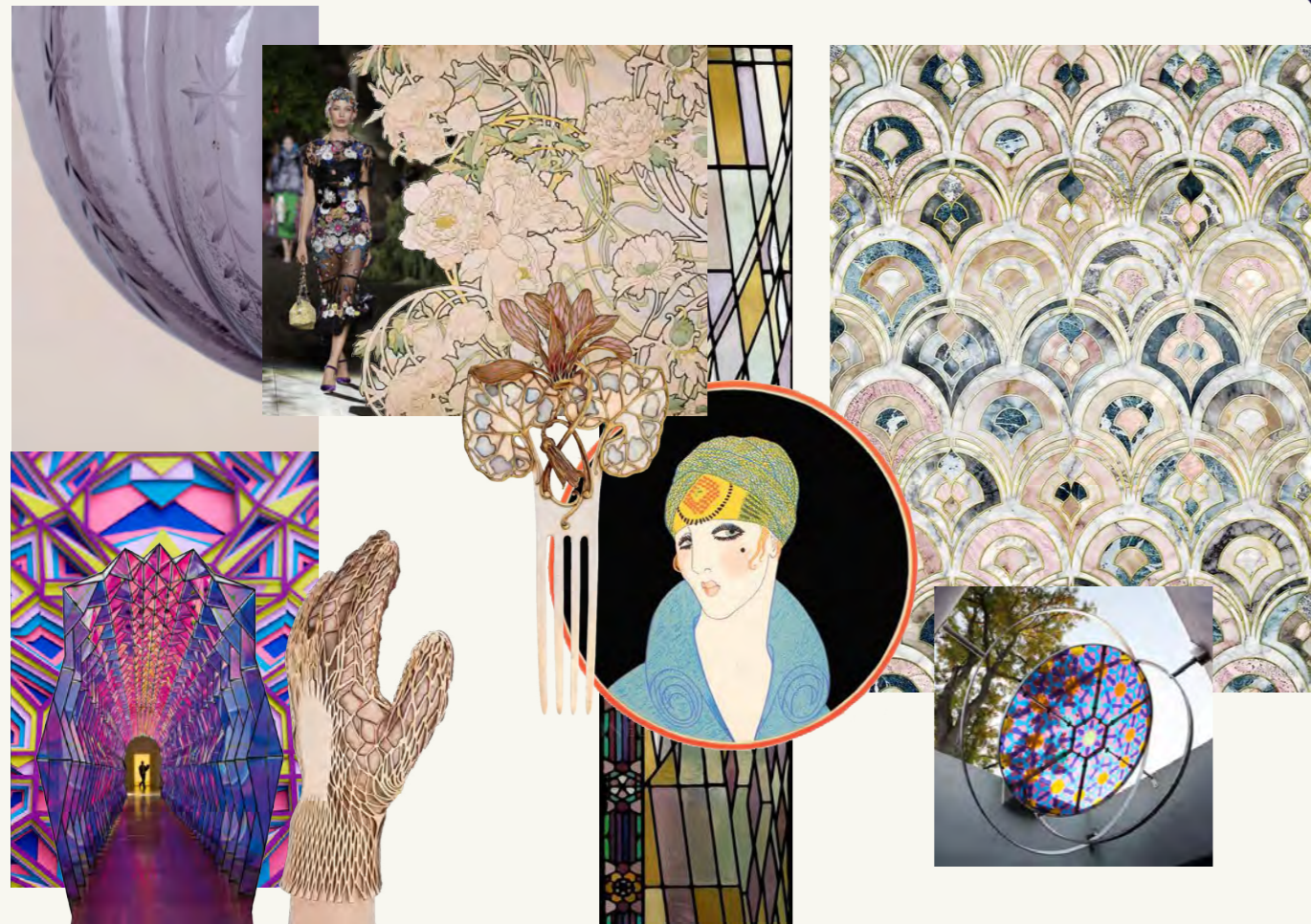


what?

a window installation that creates a colorful and odorous atmosphere in Nathalie's place.

how?

it is pliable in several ways to give a unique kaleidocope-like ambiance.
it also releases various scents throughout the day according to the amount of light perceived by an embedded light sensor.



concept development

designing odours

material study and testing

designing a light and color experience

scenari sketches

aroma diffusing experiments

Findings from meeting and discussing with Marius every two weeks and designing with stories and personalities in mind, have led me to the outcome that I will now develop.

This project's design proposal is inspired from the idea I had for Nathalie. I chose to work further on it for several reasons: first, it was allowing me to work on the experimental side of design. Working with colored reflections, the visual and the smellable, the transient and elusive natures of light and smell seemed like a promising and intriguing path, detached from the constraints of a commercial product. I also like that such a concept can speak to several different publics: both congenital and acquired anosmics, as well as olfactory people.

designing odours

the art of perfume

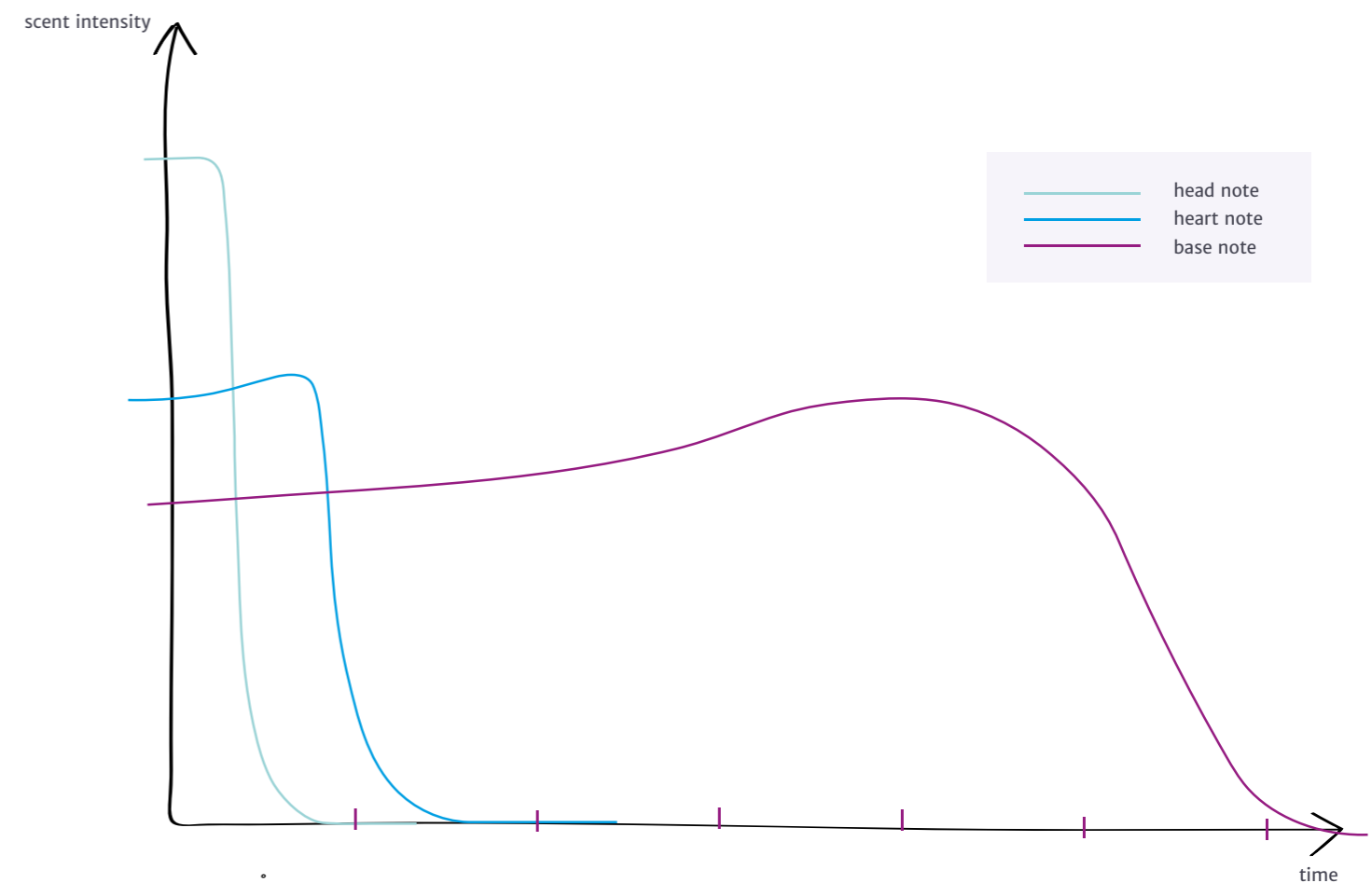
In perfumery, each scent which composes a fragrance is called a note. The notes all work together to make up a chord which consists of a base note, a heart note, and a head note. One or more chords make up the formula of a perfume.

A perfume constantly evolves over time, as some notes evaporate and some other become more detectable. Those changes are very subtle, and only trained noses can actually pick them up.

The base note is the one that lasts the longest. It can still be noticeable after 10 hours or even a whole day after the perfume was sprayed on. Base note oils are less volatile and composed of heavier and larger molecules that are more slowly absorbed by the body.

The heart note is the middle one. It lasts from 1 to 2 hours. This particular note composes the bouquet of a perfume.

The head note, as its name indicates, is a heady, explosive kind of smell that hits you right out of the bottle. It gives the first impression of a perfume and it evaporates quickly in about 10 to 20 minutes. Head note oils are more volatile (therefore more aromatic), made of lighter and smaller molecules that the body absorbs faster.





aromatherapy

Aromatherapy is the practice of using the natural oils extracted from flowers, bark, stems, leaves, roots or other parts of a plant to enhance psychological and physical well-being. The inhaled aroma is widely believed to stimulate brain function.

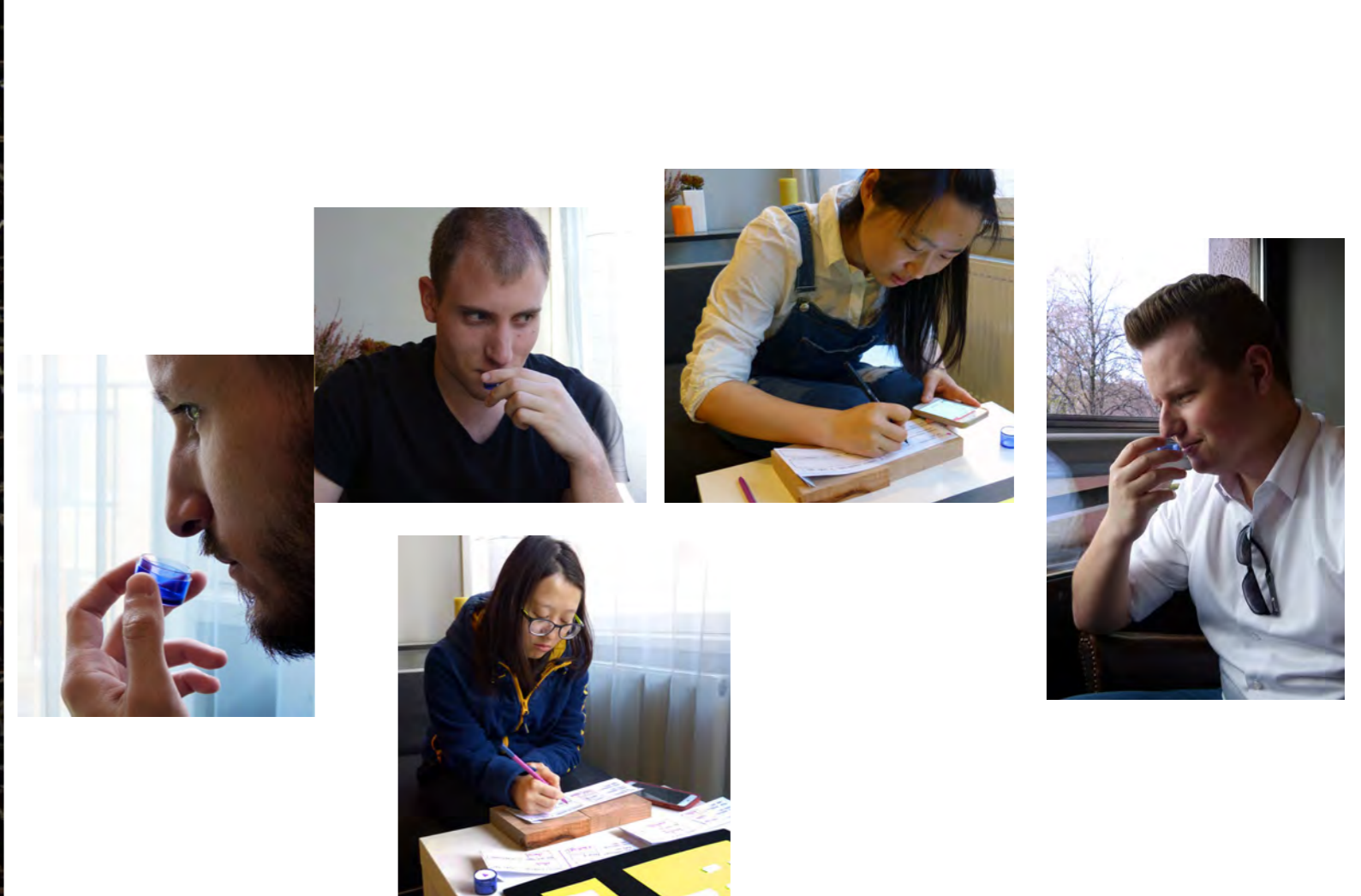
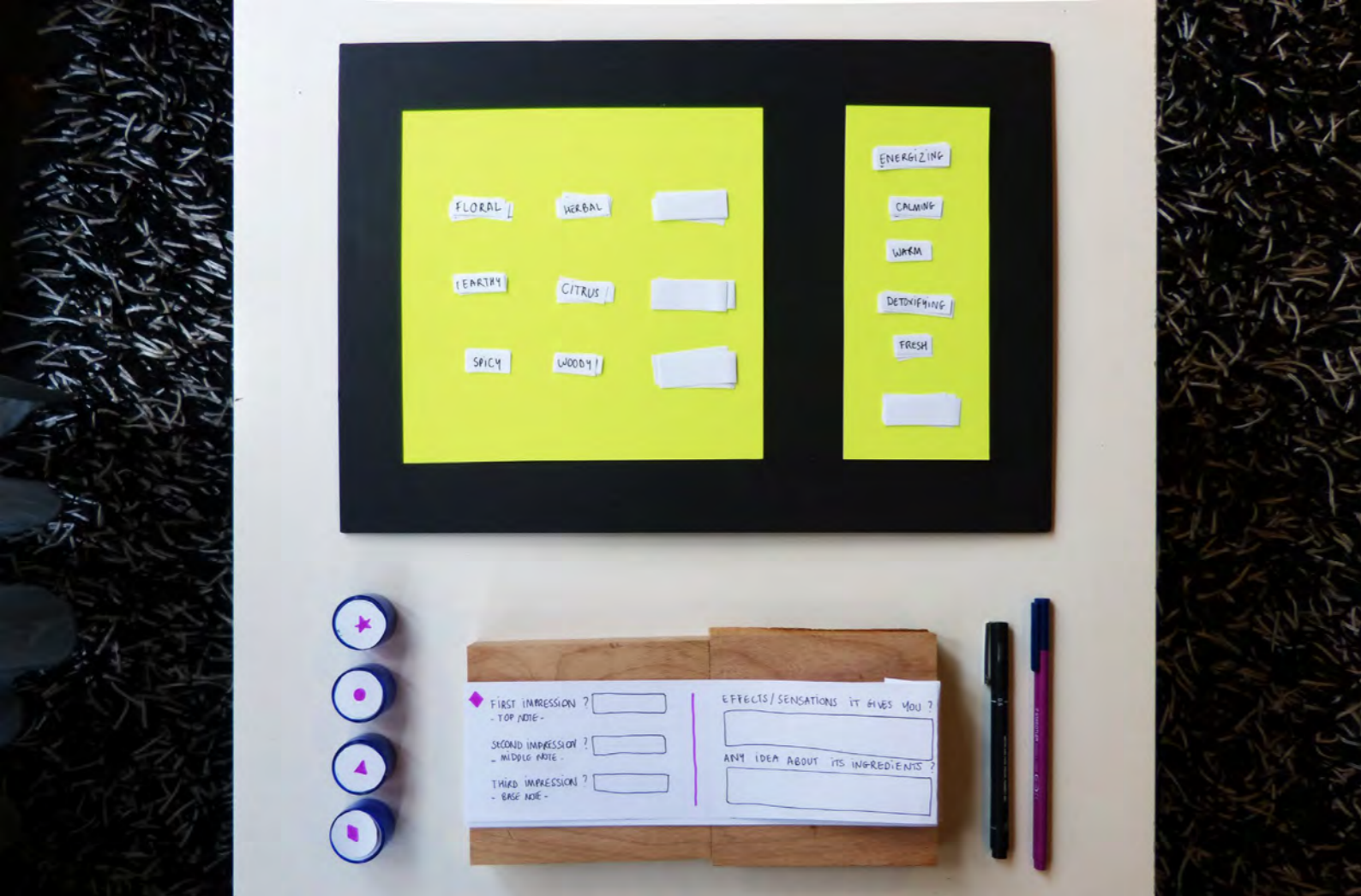
If done right, blending several essential oils together can enhance their properties and make them even more effective.

As this project is primarily dealing with smell, designing a scent was a milestone.

After I investigated online how perfumes are made, I gathered 8 different essential oils: 3 of them can be used as head notes (eucalyptus, lemon and peppermint), 3 other are advised as heart notes (oregano, rosemary, neroli) and 3 are base ones (cinnamon, neroli and rose).

I first tried out mixing 3 of them together according to a basic ratio many blogs dealing with aromatherapy advise to follow : 30% of head note + 50% of heart note + 20% of base note.

Following this recipe, I created 4 different blends: one for congenital anosmic which uses scents triggering trigeminal sensations (eucalyptus + oregano + cinnamon), one for acquired anosmic suitable for smell training (lemon + rosemary + cinnamon) and two different for olfies (1° lemon + neroli + cinnamon / 2° peppermint + rosemary + rose).



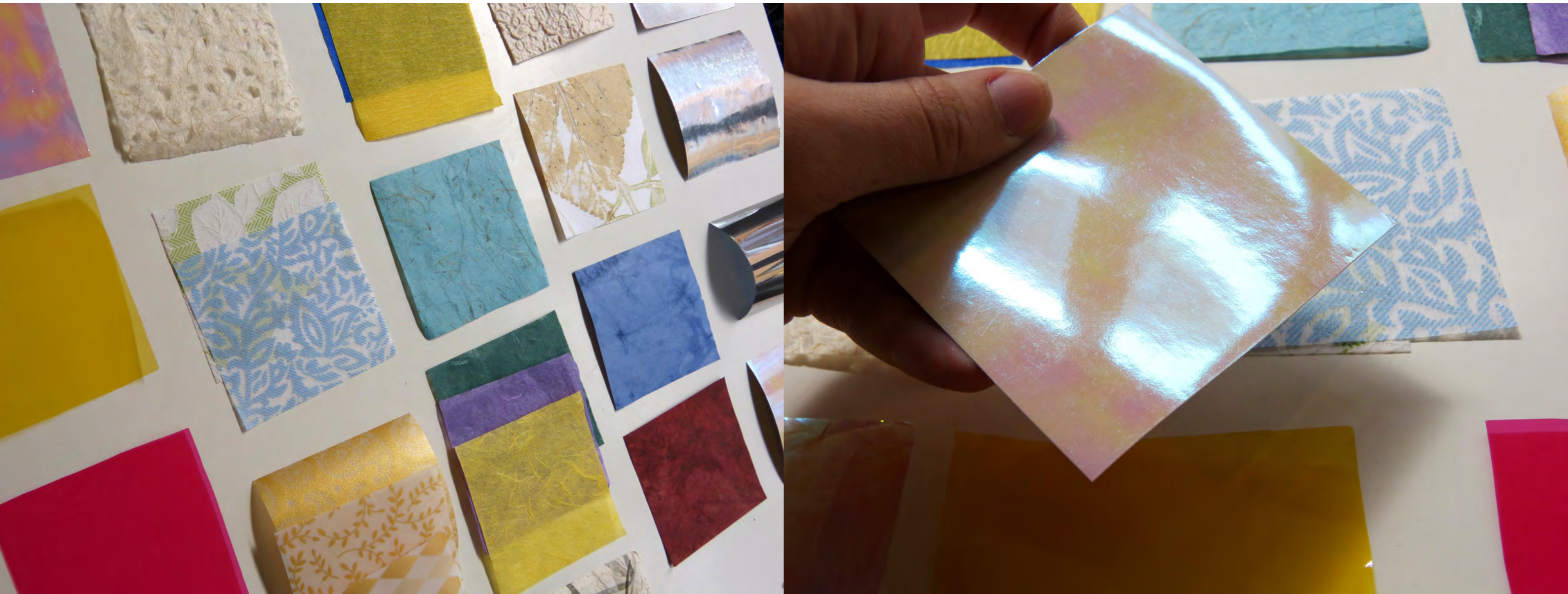
Creating a fragrance when you can't trust your nose can obviously be quite tricky. So, in order to know if my blends' proportions were correct and allowed you to pickup and differentiate the three different ingredients, I asked my olfies flatmates.

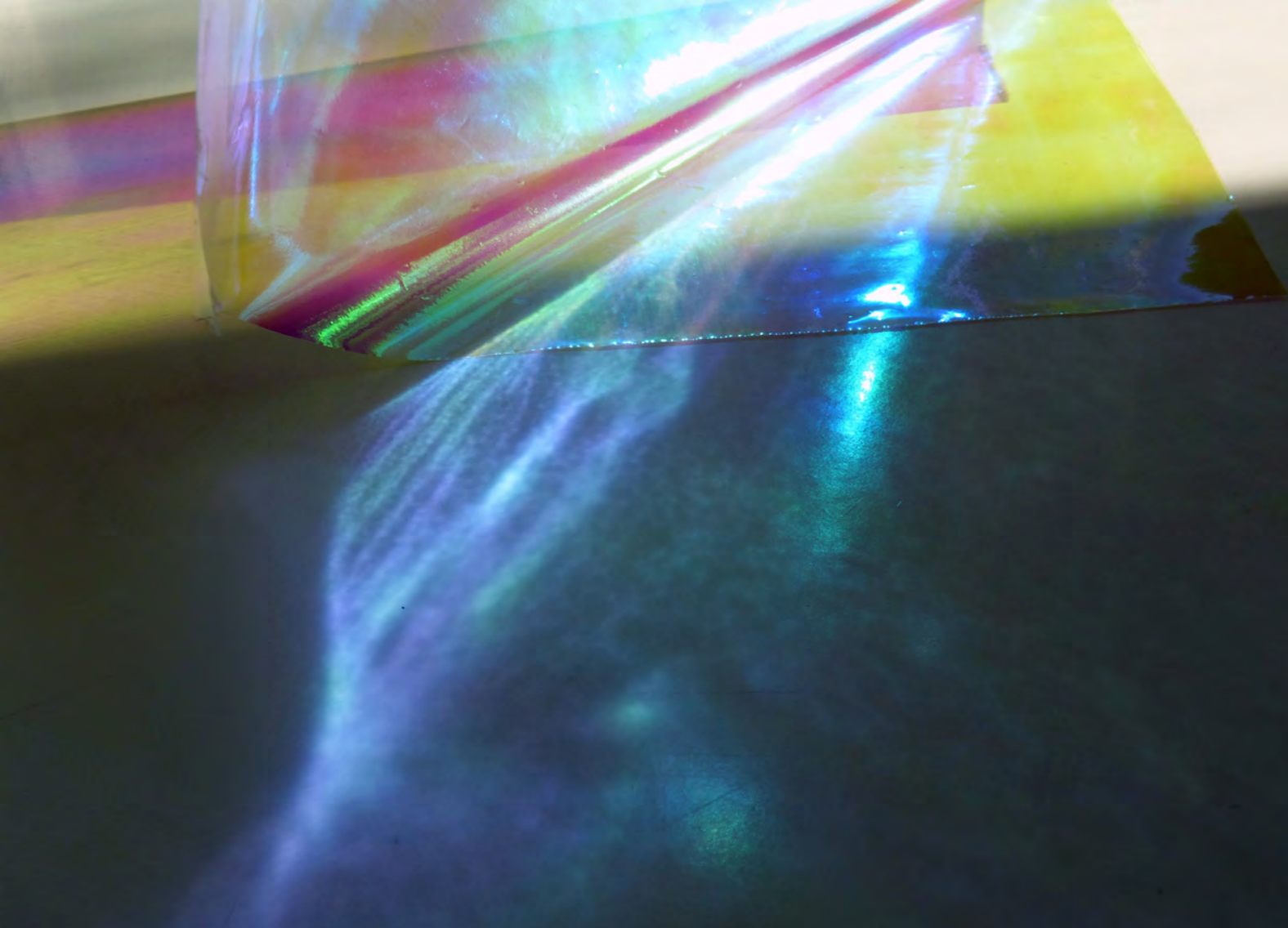
I designed a short experiment where they were asked to name and explain what they were smelling in each mix. The results were quite unexpected, for them as for me, I did a second round of this experiment after I adjusted the oils ratio regarding feedbacks that I previously got until I got the blends « right ».



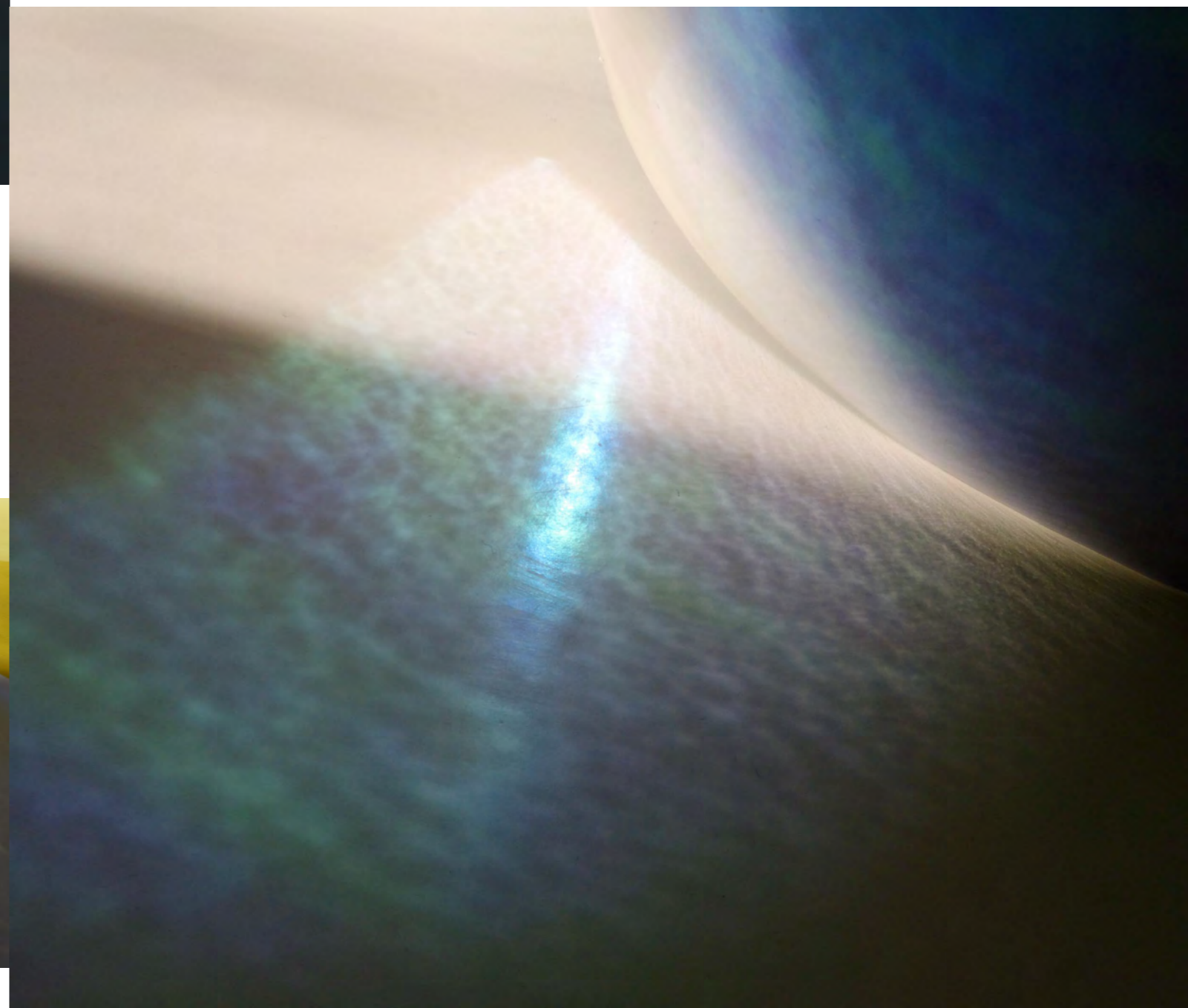
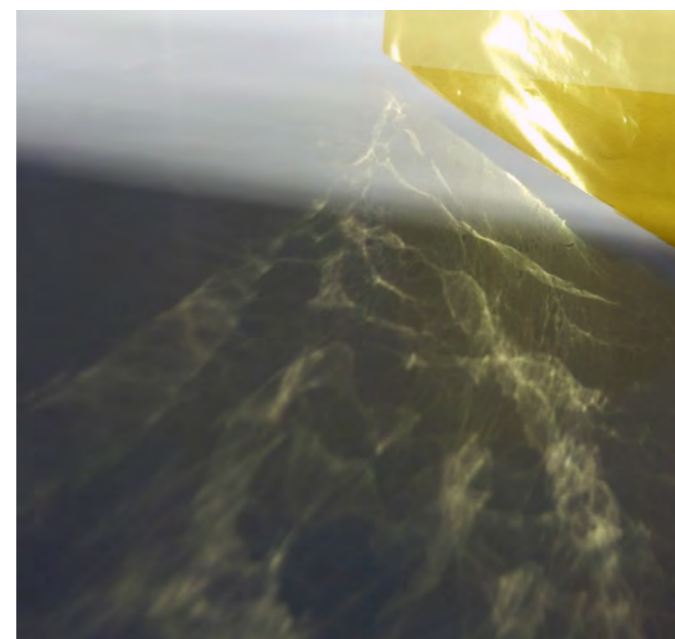
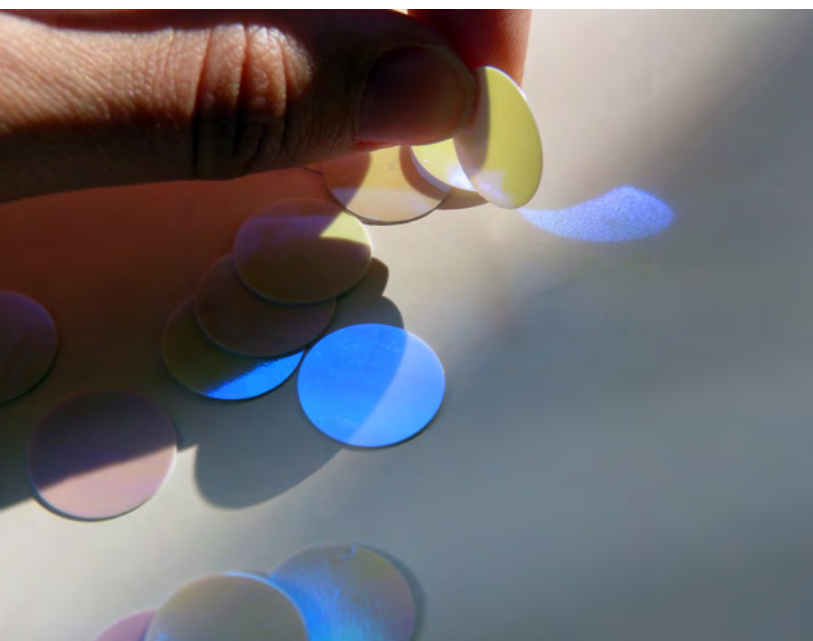
material study and testing

Testing out materials was an important part of the project's process, as it was crucial for the design proposal as well. I experimented with a lot of different kinds of materials: from paper to film, to textile-like mediums.



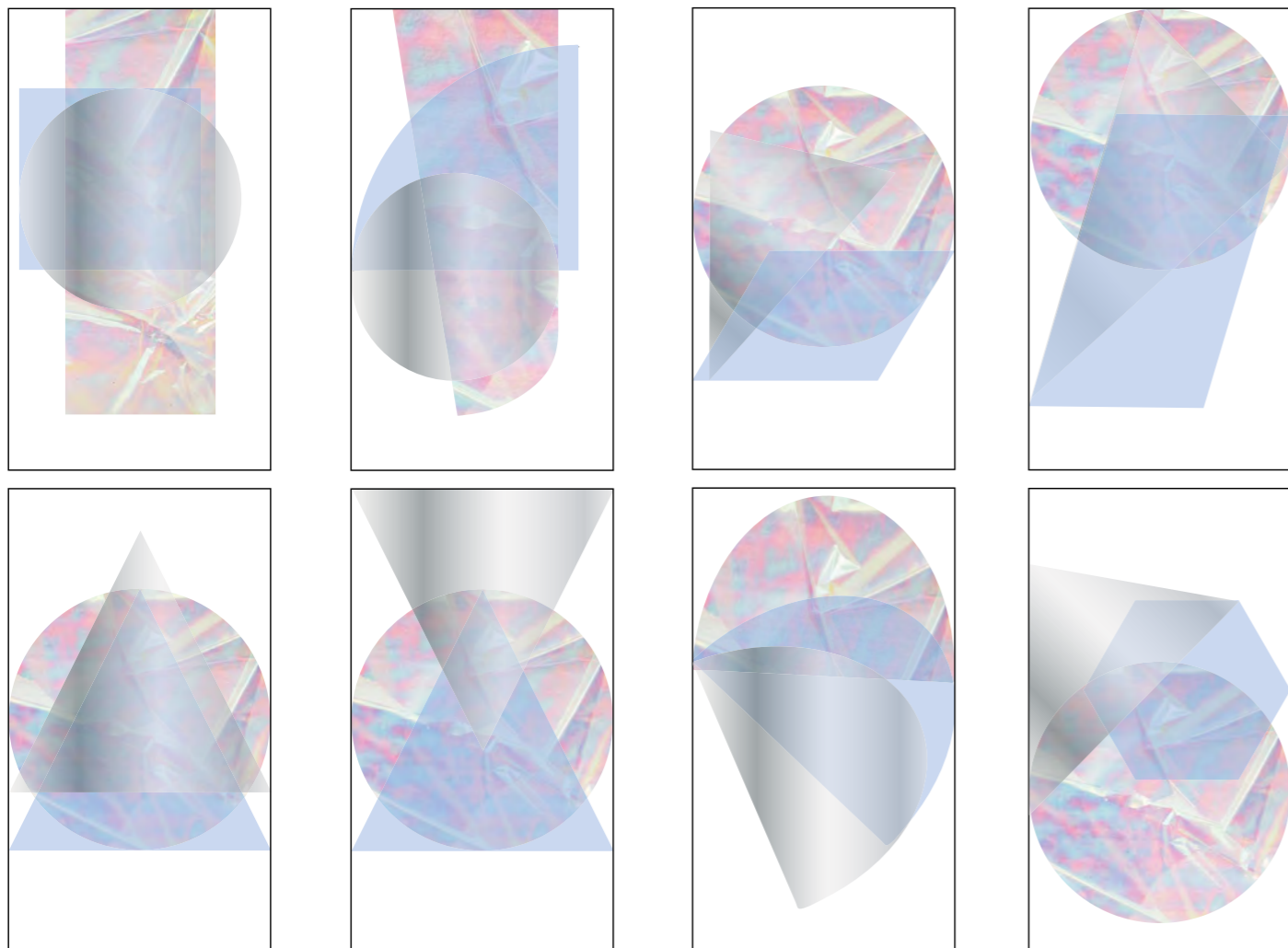


I also spent time experimenting with colored light reflections to figure out the possibilities and limitations of each materials. For instance, while an opaque paper coated with an iridescent plastic film gives those « faded pastel-like » reflections, cellulose films are more efficient with heady and vivid colored light effects.



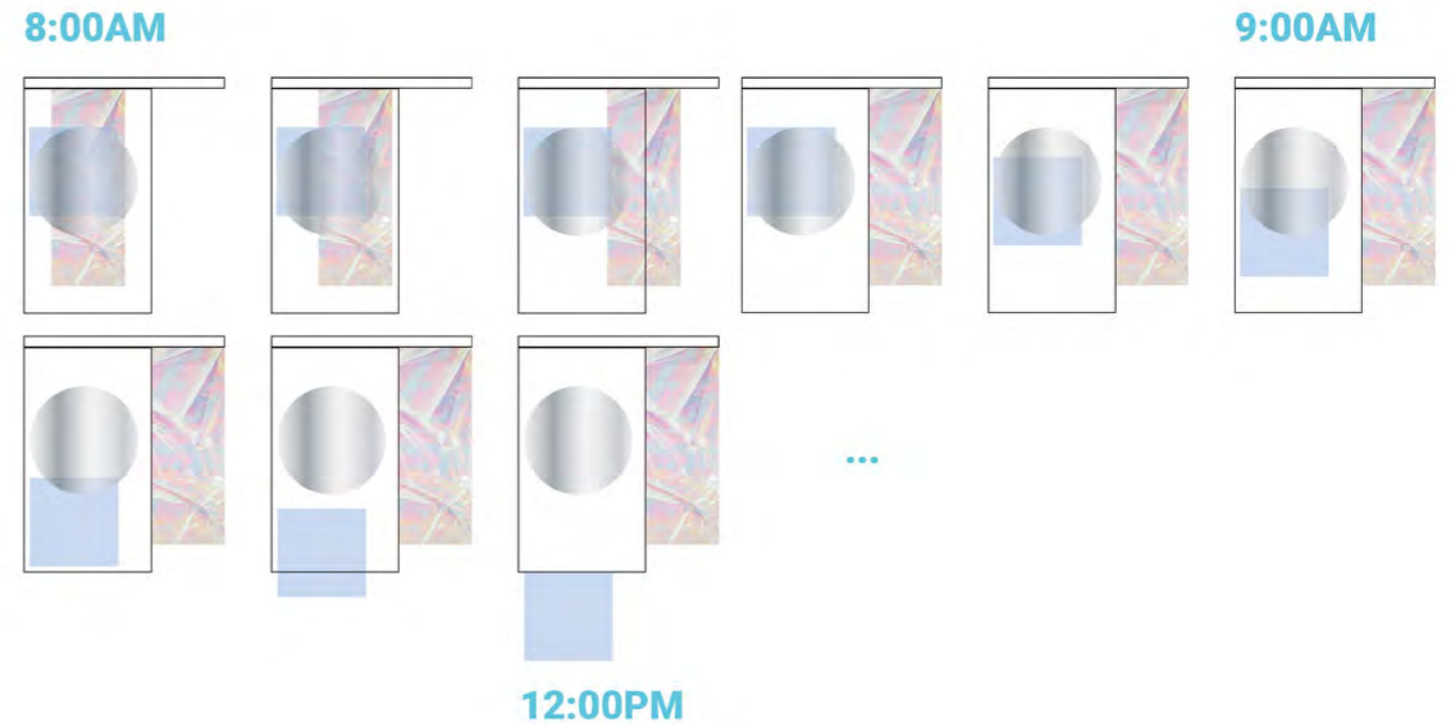


a visual experience



Iterations on shapes, spatial occupation and positions of the panels within a window frame

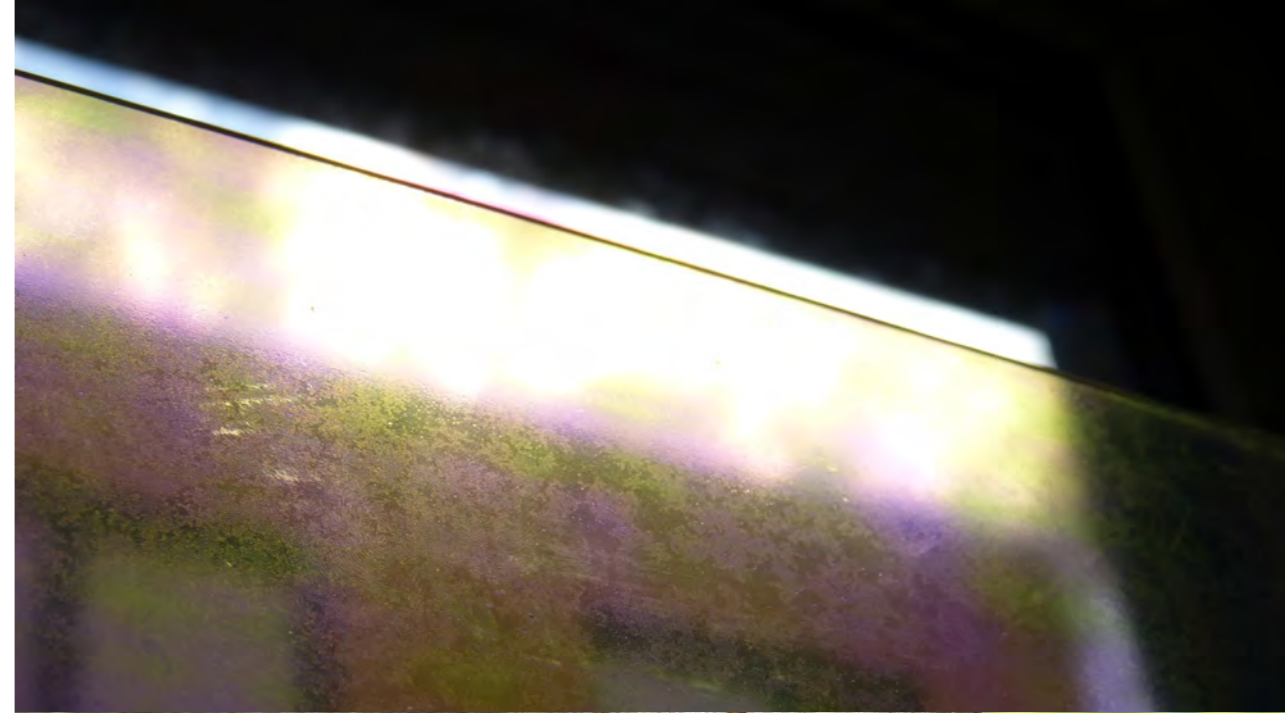
Sketch of a scenario idea for the panels to move around the window frame.



After 1 hour, the head note panel slides out of the frame to let the scene to the heart one, which fades away after 2 hours by disappearing at the bottom, leaving alone the base note.

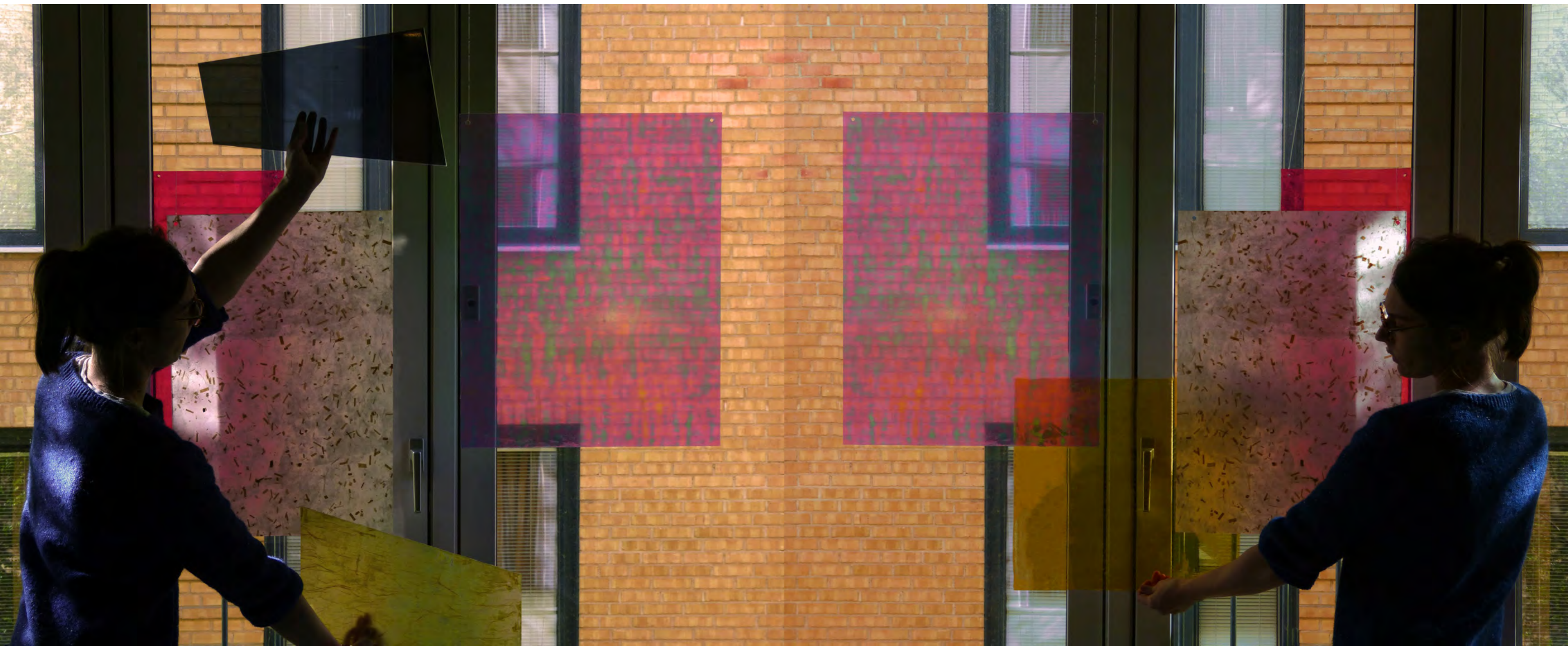


Experimenting with layering films in front of each other to see how much amount of light is passing through.



How does the form relate to the material? Are they working together with the scent they symbolize?

To have a great visual impact, I aimed bigger than the samples I built at home.



aroma diffusing experiments

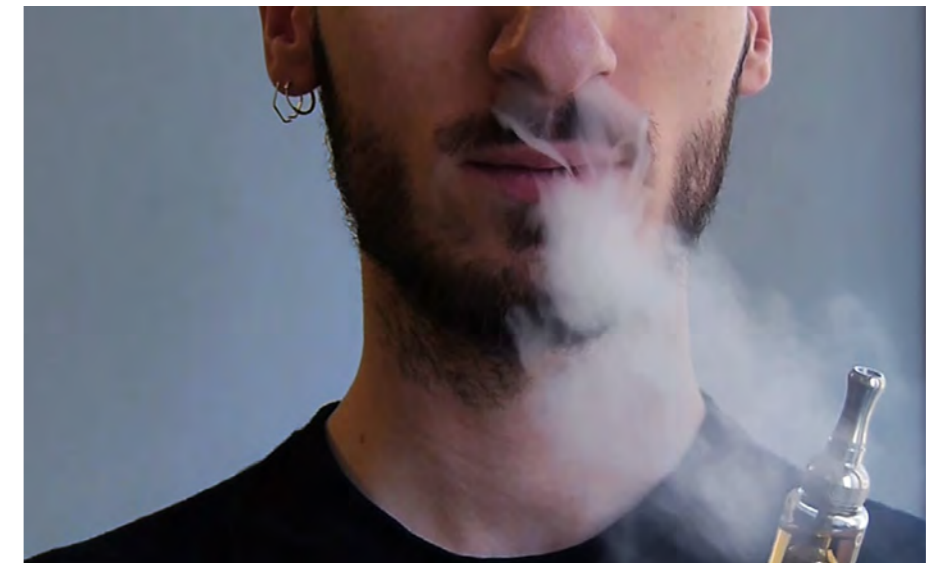
In order to find the most appropriate scent diffusing technique, I have tried several of them.

I have tried out this ultrasound mist diffuser with both lemon and eucalyptus essential oils. It is fun and easy to use, and it saturates the air with smell quite quickly according to my flatmates. Although it is a very convenient and effective way to diffuse a scent, the fact that it is an already designed object bothered me.



From this mist diffusing technique, I tested another one with the e-cigarette. First, it presents some technical problems in order to adapt it into diffusing a scent. As the salesman I met at the shop pointed out, it is not that easy to disassemble and it can be dangerous if done wrong. But above all, you can push the vape button as much as you want, an e-cigarette is not going to send you any vapor if not in your mouth. To make it work, I would have had to simulate an inhalation, and again this moves apart the project's goal.

I am more interested in the experience of smelling rather than in making a new aroma diffusing object. Therefore, technical challenges is not what is going to help me celebrating the scent.



Then, I came across terracota/clay jewelery, on which you drop some essential oil to make it scented. As it is in contact with the skin, it warms up the oil and the porous material diffuses well the fragrance. I was really enthusiastic about this more «DIY way» of diffusing an aroma so I decided to adapt it and put directly the oil while shaping the clay. After several more or less successful tries in order to adjust the right amount of oil needed, I encountered a big difficulty: the more oil you put in it, the more problematic it is going to be to dry. So even if I liked the idea, I was not entirely convinced by those crumbling spheres.



I had the idea of using plaster instead of clay, as it is still a quite porous material. Again, several tries were necessary but this time it didn't went wrong. I kept on experimenting with plaster and I took advantage of some sunny days to test its reaction with sunlight. I have been told it is slightly diffusing, although the scent is not described as «strong», but as a light subtle perfume. I chose to work with this technique for my final proposal, as I really like its «experimentatal side». It delivers smell in an alsmost poetic way, which I think fits quite well with what I wanted to achieve.



To make the plaster spheres easier to replicate, I made silicone moulds.



Eureganon:
an experimental
design proposal

the story
how does it works?
colors, moving shapes and textures
the scent part of it

This design outcome is a reflection about smell and its physical and visible alternative reality. It aims to get the public delighted, interested, or a least intrigued to know more about the project. I believe that this design diploma contributes to shed light on anosmia and put forward the smell topic for discussion.



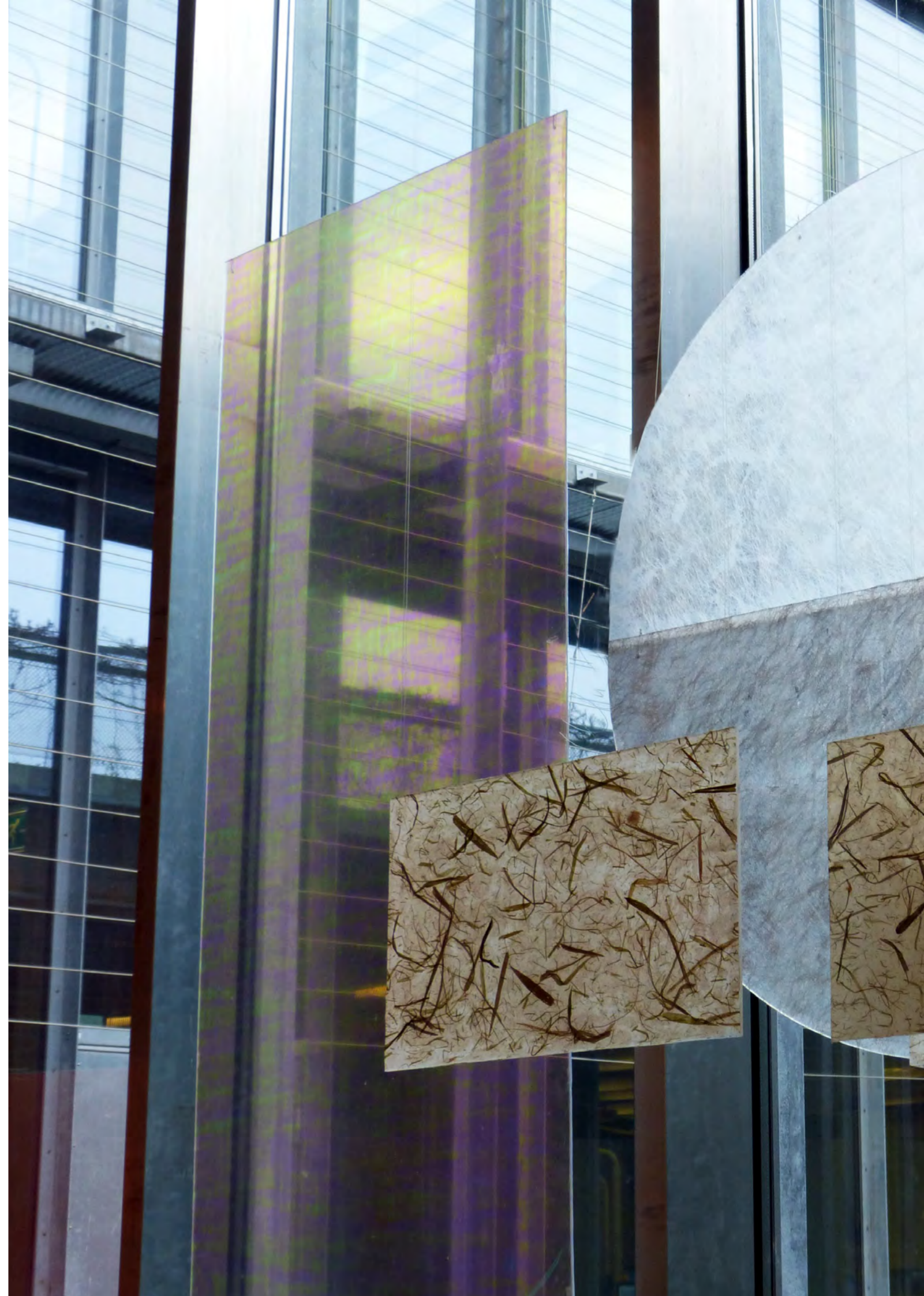
the story

Smell is evanescent, elusive, immaterial.

Eureganon is a one-off installation providing a visual and olfactive experience of this intangible. Through an aromatic and moving display and a play on coloured reflections, it proposes a tangible visualization of how a perfume evolves over a day.

It sheds light on the invisible journey of scented molecules in the surrounding space by adapting it visually. Doing so, I hope to highlight the transient and subtle nature of a perfume.

This proposal is also a medium aiming to allow and encourage people to talk and think differently about smell(s). In fact, the vocabulary used when talking about scents is relatively poor and non-specific. We for instance often draw parallels with food to describe aromas. What if we use light, colors, shape, textures or space to do so?



how does it works?

This conceptual installation is composed of three plexiglas panels which are symbolizing and diffusing a perfume note. Each of them is designed to reflect the particular scent «personality»: in the material used to «cover» it, its shape and the way it moves.

The scent is diffused thanks to small plaster spheres that are exposed to the sun light. This latter warms up the oil that is inside the plaster, and as it becomes more volatile it is diffused in the surrounding space.

The panels move as well thanks to some wood mechanism I have built in-situ: as the head note slides to the left, the circle symbolizing the heart one goes up and finally, the base disappears by sliding to the right.



colors, moving shapes and textures

By working with shapes, textures and colors, I have found on ways to express the distinctive featured of each of the three different scents displayed: eucalyptus, oleanon and cinnamon.



To symbolize the striking and rapidly changing nature of the head note -being eucalyptus-, I have chosen a thin cellulose film with a dichroic finish. Its vivid tints evoke something really fresh to me, almost acidic, and they evolve according to the amount of light passing through the film, and its position.



The heart note -being oreganon- takes some time to reveal itself. So, I have designed it as a huge circle which splits in two after some time before fading away. For this very aroma, I have picked two different colors of a fiber textile to show its changing nature. This mesh of the thin threads mixed up together reflects quite well what spicyness feels to me.

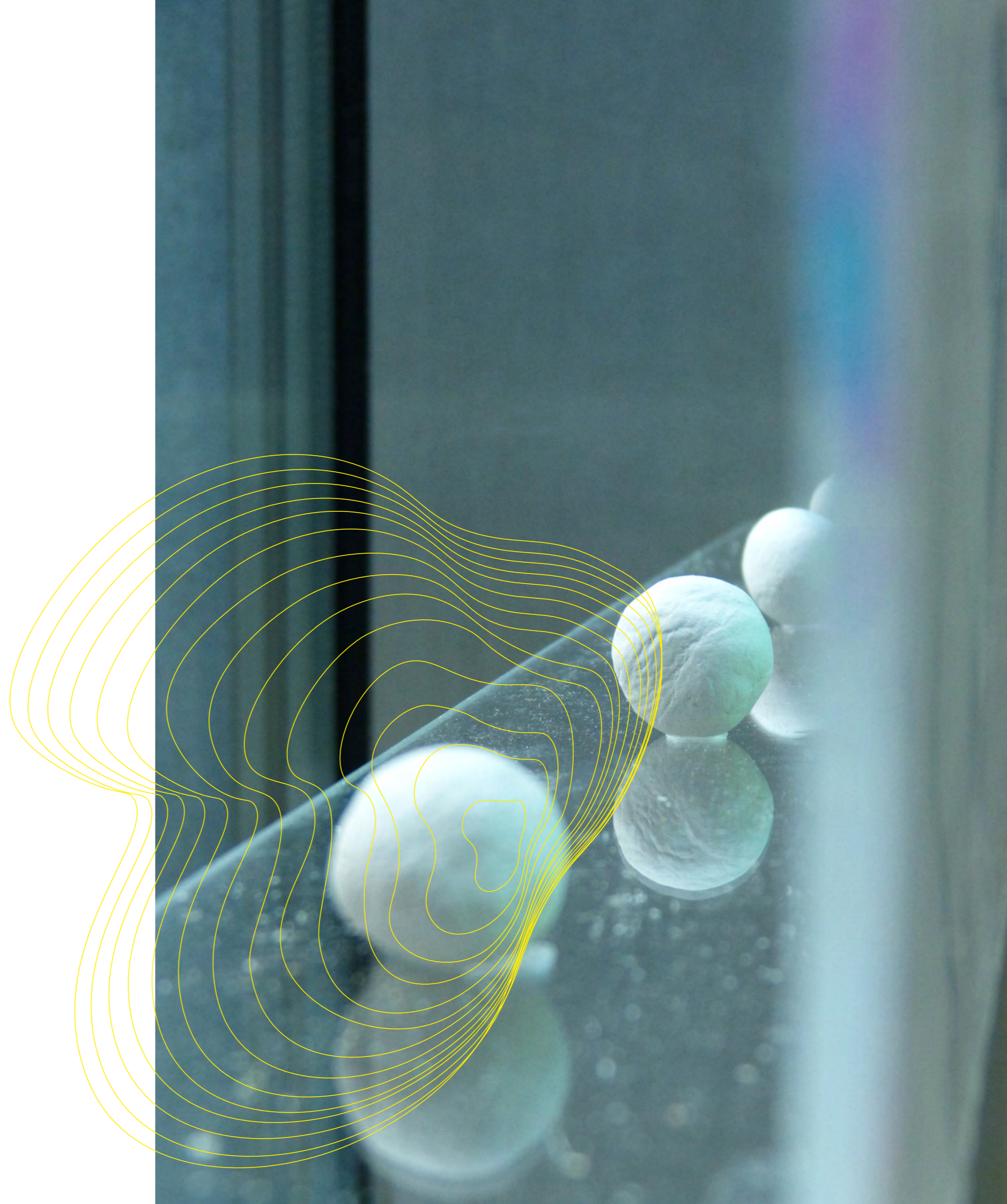


The last and base note -being cinnamon- is more of a stable smell, but again, it takes some time for it to be diffused and noticeable, as its molecules are heavier. I rendered this particular effect by layering three pieces of plexi covered with an inclusion paper, which slide away until they form a long one at the end.

the scent part of it

The delicate art of perfume is here brought back to its purest form, using only three essential oils for each of the main notes composing the fragrance. The title of this installation -*Eureganon*- is inspired by the perfume it features and especially the notes that compose it: it starts with eucalyptus as the striking first-impression head note, following with oreganon standing as the heart one, and cinnamon being the base.

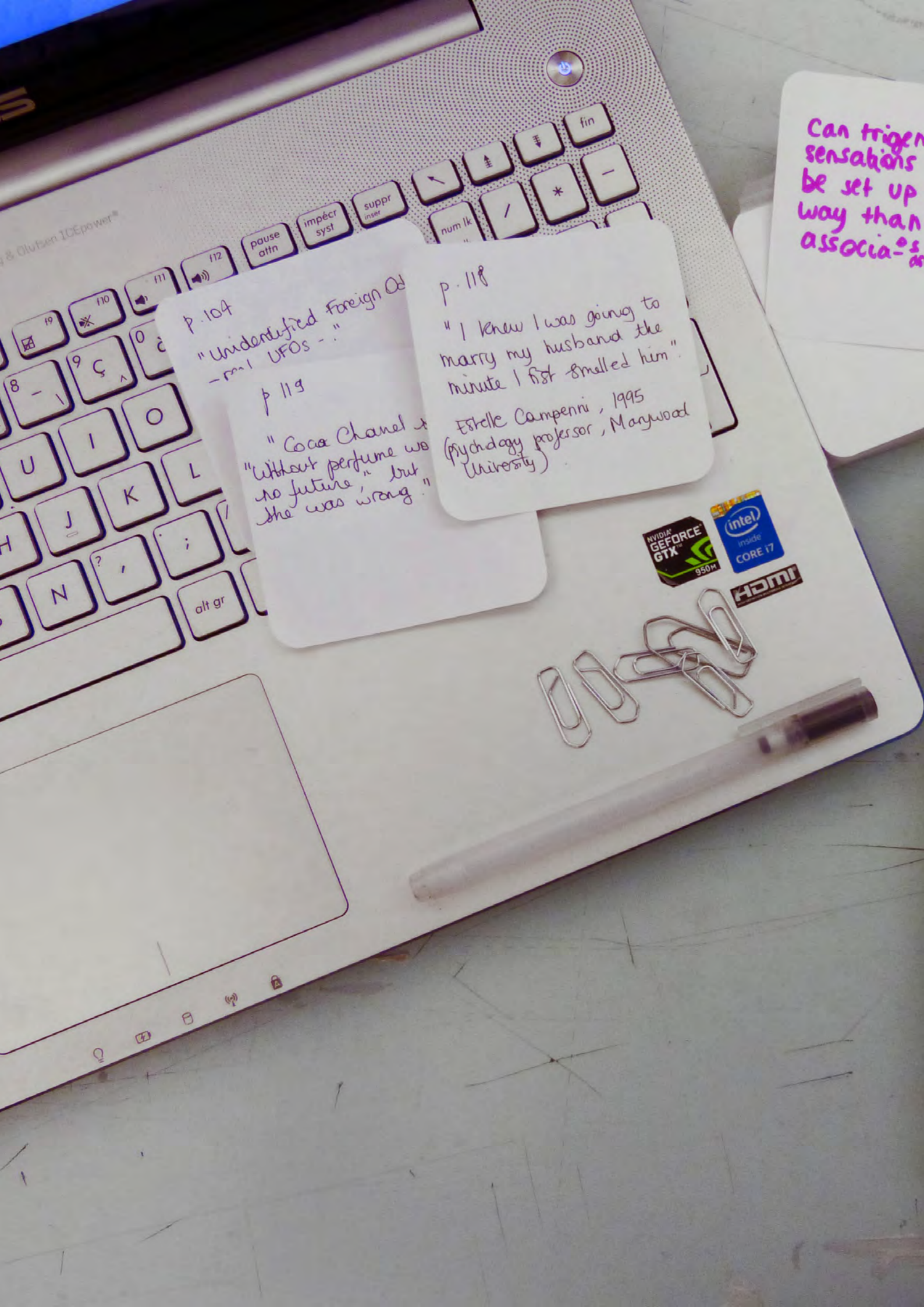
It was crucial that this installation which talks about people who can't smell, could actually be experienced by them. This is why I have chosen three essential oils that trigger different trigeminal sensations: as the eucalyptus feels fresh in the nose, the oregano scent brings more of a spicy feeling, and finally the warmth of cinnamon.





Another reason for the choice of those specific smell comes from the workshops on « creating a fragrance » I runned with olfie people earlier in the process. In fact, I introduced this particular mix -originally designed for anosmics- of eucalyptus, oreganon and cinnamon to olfies, and I got the most interesting feedback. To my surprise, it distincly divided opinions and triggered the most visceral and spontaneous reactions: as 50% instantly loved it, 50% hated it and found it repellent.

It was described as strong but heady by the first half, and overwhelming and repellent by the other half. Asking and discussing opinions about a particular odour is a good conversation and low-threshold starter, so I decided to use it in my design.



reflections & learning outcomes

Although it wasn't easy, I am truly happy with this project and final proposal. The primary motivation for this project was curiosity. And there is no doubt that I discovered and learned a lot throughout this semester. On senses -smell in particular-, on anosmia and anosmics, and on myself. One other thing that I like about this project, is that it represents well the future designer I want to be. I am also grateful I got to connect with so many different people on a level that I would never have imagined. I managed to build trust and create links with people in this short timeframe. Marius, Stephen, Dieuwke, Nathalie and Will shared their stories and struggles with me in very personal tones, which I believe added depth and value to the project.

thanks

A huge merci goes to everyone who participated directly or more indirectly in this project. I have learned a lot thanks to all of you.

Nina, Nick and Birgitta, my always supportive supervisors. Marius, whom I am so grateful I had the chance to meet; Stephen, Dieuwke, Nathalie and Will, for putting your trust in me and my project.

Agno and Sungeun, who were willing to share their inspiring stories with me. Samuel, Maxime and Yu Yen, The workshop team, who helped me solving numerous technical challenges to build the model
Yokinobu Tajima, Dr. Susan S. Schiffman and Dr. T. Hummel, for answering my questions and contributing to my research.

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Sensuous Geographies: Body, Sense and Place - by Paul Rodaway

The Scent of Desire, by Rachel Herz

TEDTalks

Wonder what it's like to have no sense of smell? It stinks!
- article by Kate Battersby

Assessing the Impact of Anosmia: Review of a Questionnaire's Findings - Steve Van Toller
Remembering Smell, by Bonnie Blodgett

