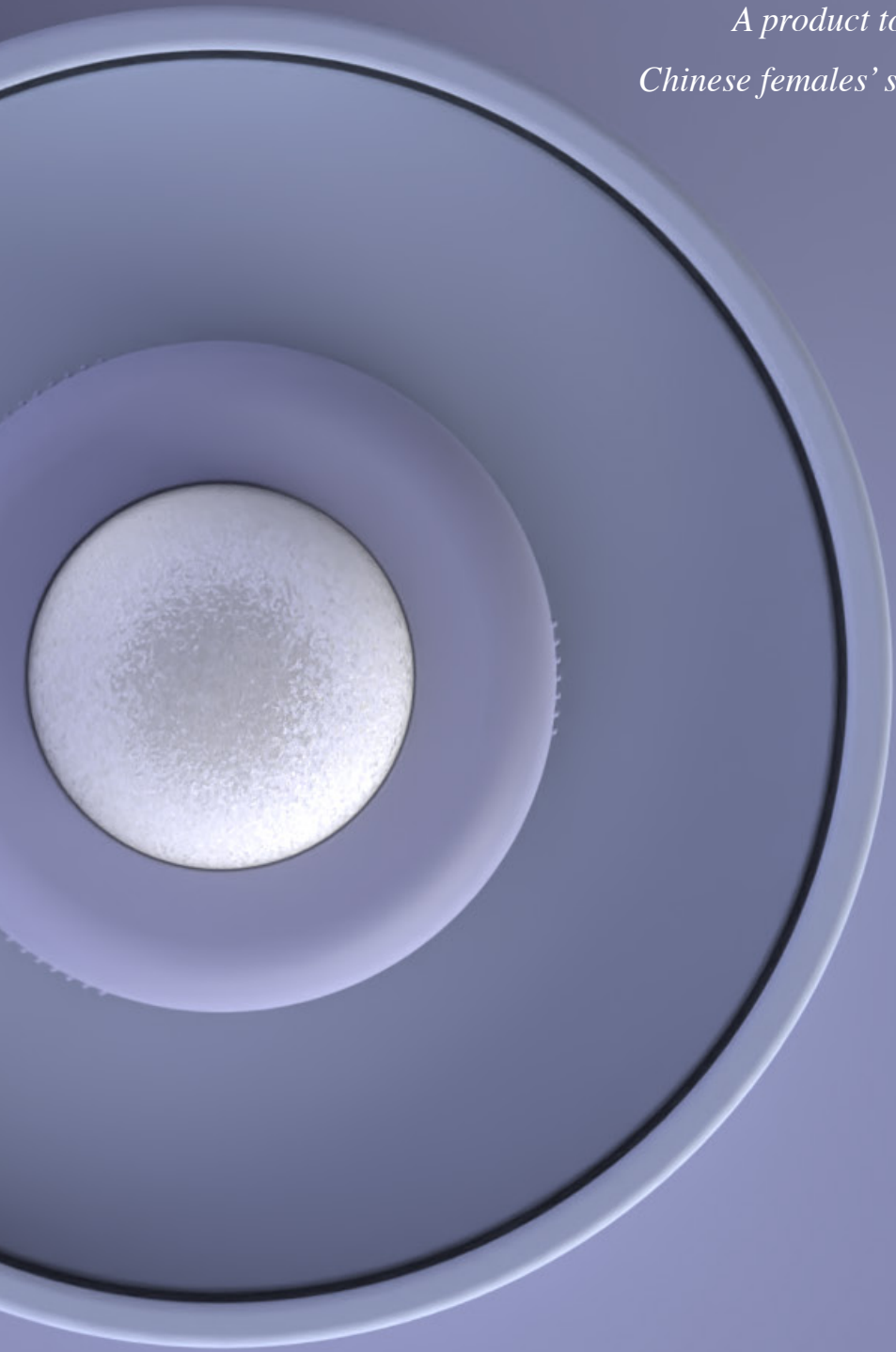


Eboon

Emo, Blood, Moon

*A product to mentally and physically relieve
Chinese females' serious dysmenorrhea symptoms.*



2022 Spring

Jialing Li | Industrial design

DIPLOMA SPRING 2022

Title

EBOON - A product to mentally and physically relieve Chinese females' serious dysmenorrhea symptoms.

Diploma candidate

Jialing Li

Institute

Design

Field

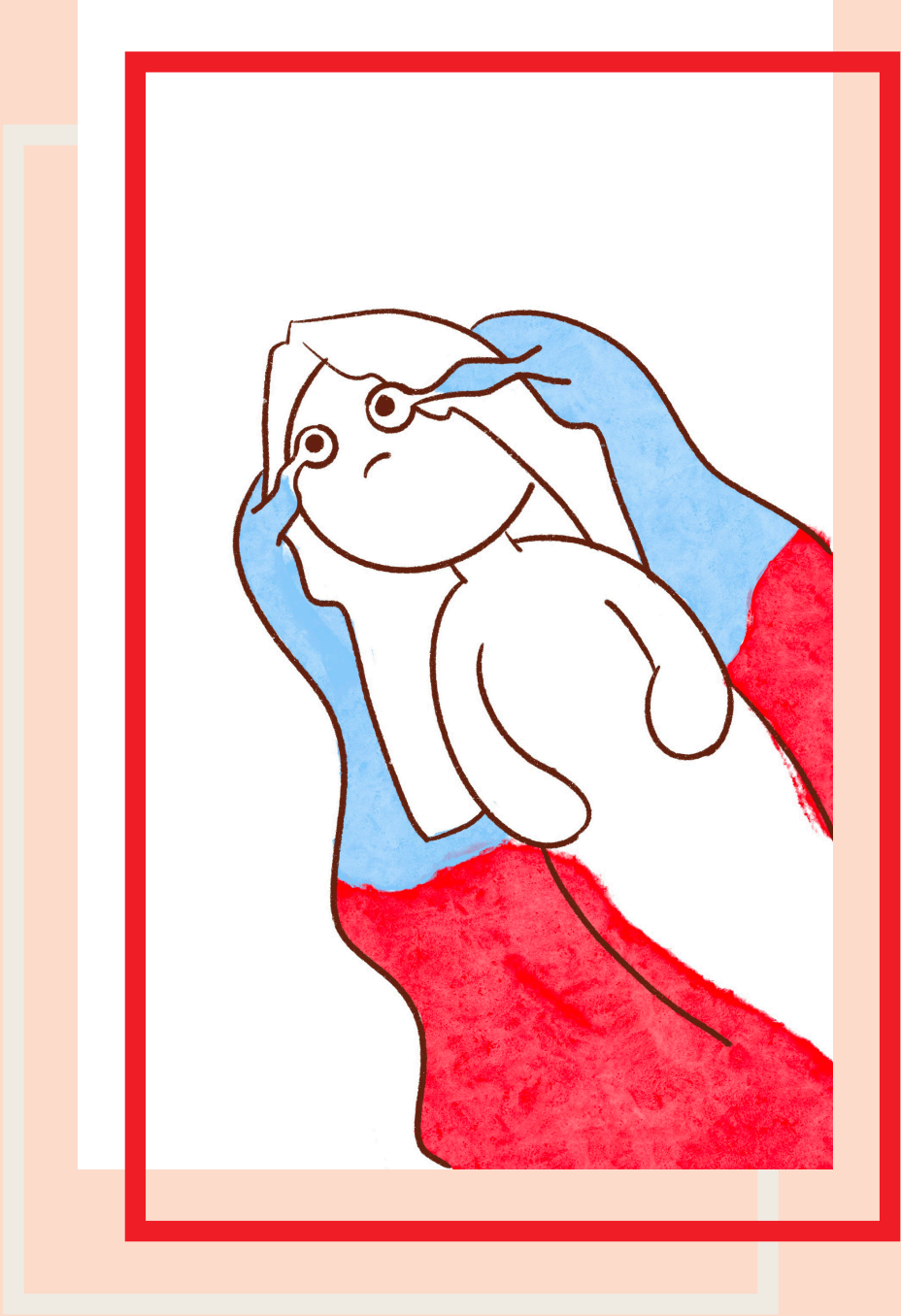
Industrial design

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Abstract

With the improvement of the social status of women around the world, being an "independent woman" has become the goal of many women. To become an independent woman, apart from breaking society's stereotypes of women, they must now spend more time in education, have economic responsibilities (like buying a house), and endure high-intensity work even when they are in menstruation⁽¹⁾. Society is still unable to provide a completely equal playing field for women, so they will face more challenges.

Dysmenorrhoea is a complication that accompanies women around the time of menstruation and it causes great distress both psychologically and physically, such as emotional breakdowns and physical pain. It can be severe enough to send a woman into an emotional spiral of self-doubt or so painful that bed rest hinders her daily life. This project was designed to provide mental and physical relief to Chinese women suffering from menstrual pain through product design. In this report, I have analyzed the problem and found the answers through multiple means, including my motivation, the state of Chinese women's existence, surveys and interviews, and co-creation workshops.

Eboon is a product to relieve women's dysmenorrhea symptoms. Its body is a hand-held, self-heating product. When some women have dysmenorrhea, their hand temperature decreases to cold, making it difficult for them to focus on work and study. To solve this problem, Eboon houses disposable, replaceable, heat activated charcoal packs that relieve women of the cold in their hands caused by dysmenorrhea. That's not the only thing Eboon does. Another feature is that it can help relieve the negative emotions that women experience during their periods due to rising hormones. Eboon is designed to provide an outlet for women's emotions by smelling, pressing on soft surfaces and rubbing the hard particles against the touch. It also has a built-in sensor that records the user's mood with each press, providing a quantified digital report digital report of the user's emotions, turning unquantifiable mood swings into a visible emotional journey.

In addition, due to the private nature of the topic, dysmenorrhea is rarely discussed openly, not only in China but also in the world. As a result, there is a lot of opposition to women being unable to participate in social activities, such as work, meetings, and studies due to dysmenorrhea, and they cannot even use it as an excuse to take time off work. Because of this lack of understanding, women remain silent even when they are in pain, and are reluctant to share or ask for help. I want to break this silence and make dysmenorrhea more accessible and understandable to the public. For this, Eboon's secondary portion is a pedestal that carries the smaller part. It is designed to be prepared so that people can hang it on the walls of their homes. The aim is that when women use the Eboon body to relieve dysmenorrhea symptoms, their parents, partner, or roommates can tell whether she is experiencing dysmenorrhea or not by looking to see if the pedestal is empty. It creates a communication bridge between women and their closed ones, allowing them to proactively provide emotional support to women.

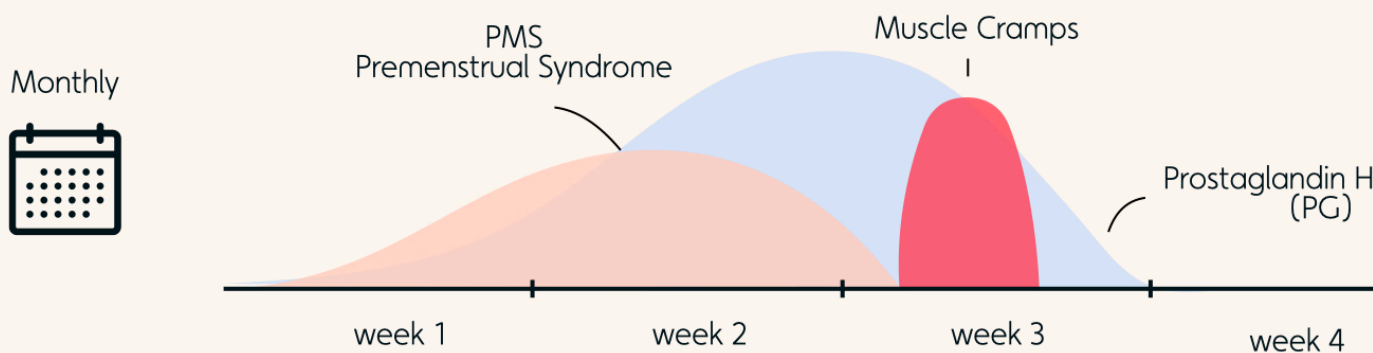
01.

Background

WHAT IS 'DYSMENORRHEA'?

Dysmenorrhea is one of the most common gynecological problems globally and has over 200 symptoms⁽²⁾. Its impact on women can be divided into two specific parts: physical and psychological.

The physical issue refers to the slight or severe muscle cramp pains that a woman suffers during **one or several days** of her menstrual cycle - also known as menstrual cramps. This pain usually appears in the abdomen, back, or lower back. It is accompanied by other symptoms such as bloating, fatigue, or lack of focus, causing women to be unable to work and study, thereby interfering with women's daily routines.



Timeline of dysmenorrhea

The psychological issue refers to Premenstrual Syndrome (PMS)⁽²⁾. These are emotional symptoms that regularly occur **one to two weeks before** the start of each menstrual period. During this time, women's emotions could suddenly go up and down between anxiety and self loathing, they can be more sensitive and vulnerable than usual, and can be prone to unreasonable anger or crying. **Irritability, nervousness, and restlessness are the most significant symptoms. Moreover, severe symptoms can be anxiety and depression.** PMS can also have physical symptoms such as headaches, bloating, and abdominal pain. However, unlike muscle cramp pains, PMS pain is usually mild and occurs before menstruation, whereas muscle cramp pains occur at the beginning of menstruation. The two are very well differentiated in terms of timing, the key point is the day of bleeding.

Causes

The causes of dysmenorrhea are very complex. Prostaglandins (PG)⁽³⁾ are a group of hormones that affect female uterine muscle contraction during menstruation⁽⁴⁾. The more prostaglandin you have, the worse your dysmenorrhea can be. Furthermore, high amounts of pressure in work and study, irregular diet, staying up late, and lack of exercise, among other factors, can all intensify PMS and muscle cramps.

ormone

—

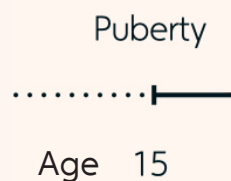
02.

Targets

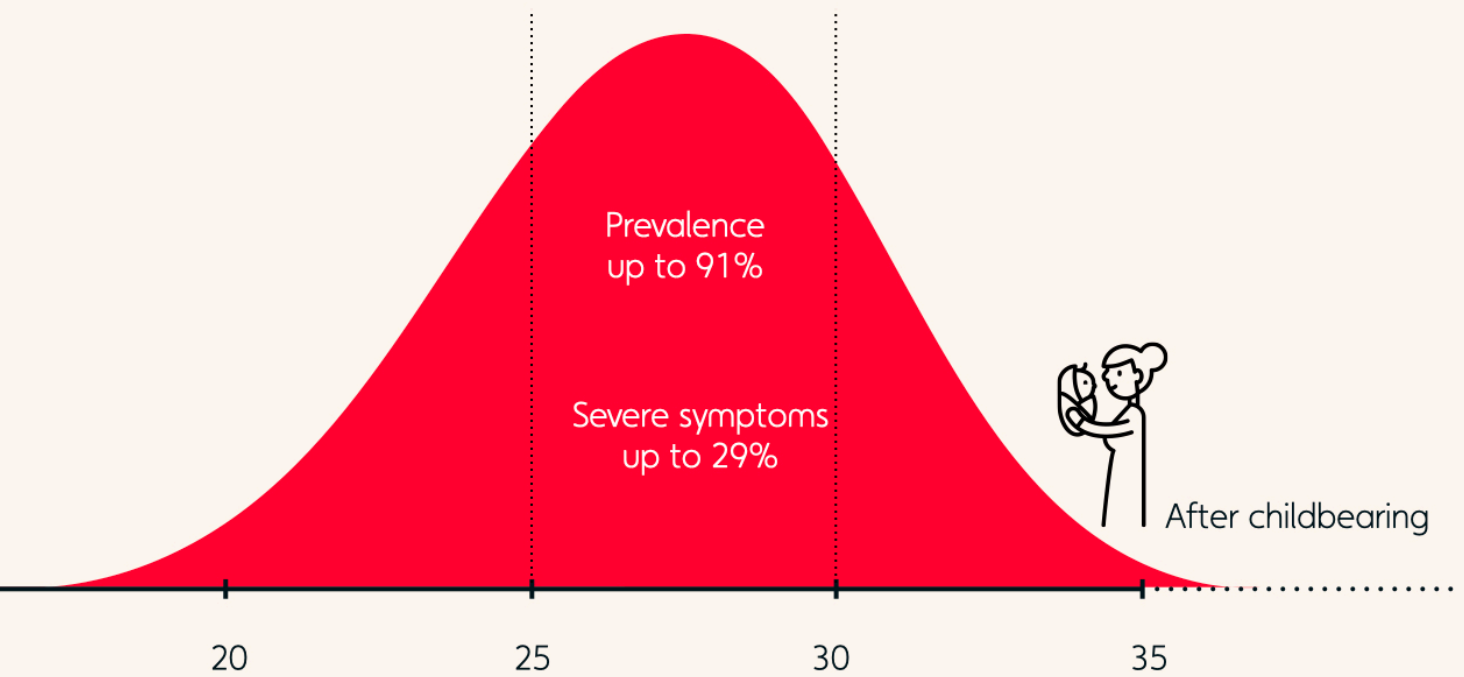
Dysmenorrhea is more severe in adolescents and young women. Approximately 71% of women under the age of 25 in the world suffer from dysmenorrhea. This means that nearly 3/4 of them have suffered from the symptoms since puberty⁽⁵⁾, and 1/5 of the students have been absent due to dysmenorrhea. As the girl grows, the hormones are secreted more, so the symptoms of muscle cramps and PMS become more severe until they reach their peak in childbearing age, between about 20 and 35 years⁽⁶⁾. Around the world, the prevalence of dysmenorrhea in women of childbearing age ranged from 16% to 91%, and severe pain occurred between 2% to 29% of these women⁽⁷⁾. **As women age and hormone production declines, it is possible for muscle cramp pains to be relieved. However, emotional symptoms do not show significant relief. It will follow women in unexpected and almost untraceable ways. This is because it is not only influenced by hormones, but it is also influenced by the realities of modern society, where stress is the biggest factor.**

Ideally, I wish that this project's outcome could target all women with dysmenorrhea around the world. But as a start point for the project, I have chosen to begin with Chinese women as the initial target group. This is because the data that was collected in 2018 shows that 60.7% of Chinese women are currently suffering from dysmenorrhea, which means that the number is 402 million women⁽⁸⁾. This is an extremely huge population from a global perspective. Another reason for this is that I fall within this target group, and I want to use my design abilities to help girls and women who suffer from dysmenorrhea like me.

In conclusion, for this project, I mainly focus on the group of females between 20-35 that have not given birth, because this group is most affected by hormones.



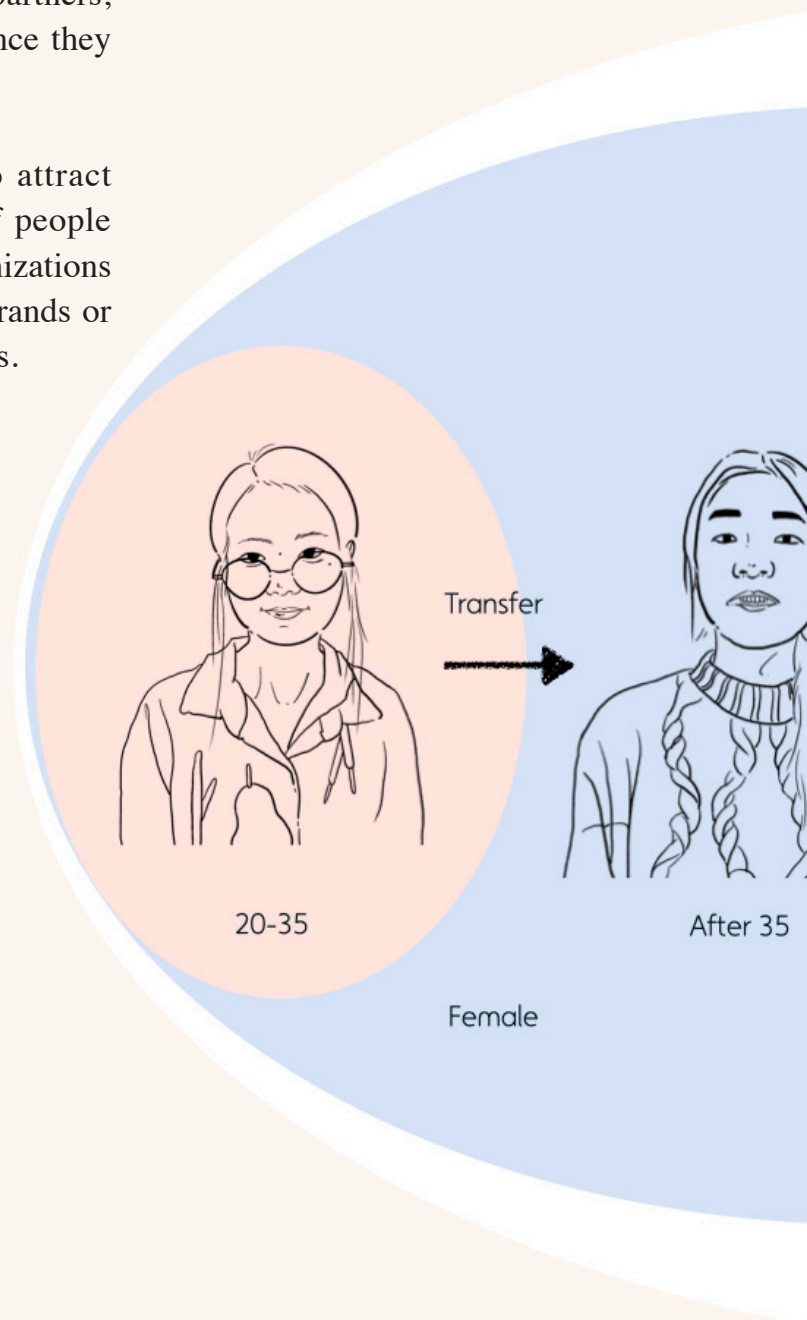
Peak of Prostaglandin Hormone (PG)



STAKEHOLDERS

I was looking into who the relevant stakeholders are for this project. Because of the different contexts that can influence the end-users, I consider people like parents, partners, and roommates as secondary users, since they can give support to the primary users..

Other than that, this project aims to attract discussion among different groups of people in society. These can be doctors, organizations that want to help women, or product brands or factories that produce feminine products.





Support



Family



Gynecologist

Knowledge & Awareness



03.

Motivation

First, the topic is silent in society. It is a systemic problem including policy, health and medical science, gender issues, and culture. It is ubiquitous in life, but unfortunately, it is rarely discussed openly.

At the moment, It doesn't even have a very effective solution. I have suffered from dysmenorrhea for many years. When I was young and wanted to seek help from my elders for menstrual pain, I was told by my mother and teachers to "just bear the pain and it will pass, that's what we do". I didn't know who else to talk to about it except my nearest and dearest, and it became a social default to "hide it".

"Bear the pain" has become a beautiful character that women must have. I want to challenge myself as an industrial designer and respond to this problem through product design skills.

04.

Research



I.

CHINESE WOMEN'S DAILY CONTEXT

I used a set of photos to illustrate the daily life of Chinese women, which will make it easier for me to communicate with users when conducting interviews, and thus catch the problems and pain points more quickly.

Commute status

In the medium to large cities in China, such as Beijing and Shanghai, the daily commute time is between half an hour to one hour. Subway, buses, and taxis are the common means of commuting for Chinese women. They each have their own strengths and limitations. Because of the morning and evening rush hour⁽⁹⁾, if you choose to take the subway to work, you will be crammed into the subway car like a sardine in a can. There will be no gaps between you and the people around you, and you won't even be able to make big movements, such as holding up your phone to read the news. If you choose to take a bus or taxi, you will use double or triple the time in a traffic jam than on the subway.



Morning rush hour in Beijing

Office

If you are working in an office, your workplace is usually filled with a few dozen people in a large open room. Such a work environment is poorly ventilated and is swelteringly hot in summer and cold in winter, which causes your hands and feet to be **constantly feeling cold**. In the bathroom there is a squat toilet, which is very inconvenient during bleeding and can easily cause staining of your clothes and pants. The entire bathroom is very dirty and unsanitary, and **there is no hot water to warm your hands**.

Work overtime

Over **70% of young** people often work overtime⁽¹⁰⁾. **Since China currently does not have relatively complete laws and regulations on "working from home", many people work overtime into the middle of the night, and they can't stop working until they finish their task.** This is undoubtedly a huge pressure.

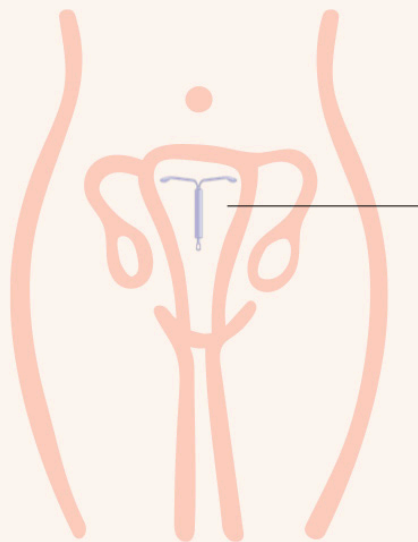


Policy: Global 'menstrual leave' vs Chinese 'menstrual leave'

Many countries around the world have introduced policies that facilitate menstruating women in their work and/or studies. For example, in Western regions, like Norway, women can choose to work at home during their periods. Spain is planning to offer up to 3 days per month of 'menstrual leave' for employees who experience severe period pain⁽¹¹⁾. In China, menstruating women can take proper rest at work or take a menstrual day off⁽¹²⁾. In general, these policies are encouraging women to make "the choice that is more beneficial to them during the weakest time."

Hormone spiral

Hormone spiral is a product that is used in the uterus and pumps hormones regularly to relieve dysmenorrhea. In Europe, it is one of the ways people choose to relieve dysmenorrhea. In the Chinese context, people tend to relate hormones to obesity and disease due to the lack of knowledge about them. Only the group of people who are working in the medical industry know that hormone spirals can relieve dysmenorrhea. But this cognition has not yet been carried out to the public.



Hormonspiral

Pumps hormones regularly for relieving dysmenorrhea.

"Hormone spirals are beneficial for women in that they can regulate irregular periods and relieve menstrual pain. However, studies have shown that women who have used hormone pumps have children who are more likely to develop cardiovascular disease as adults."

Interviewed by a gynecologist, Liu

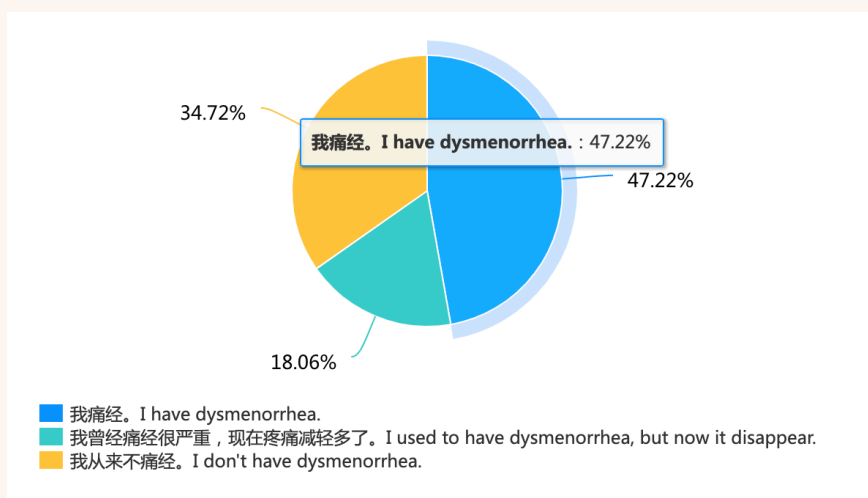
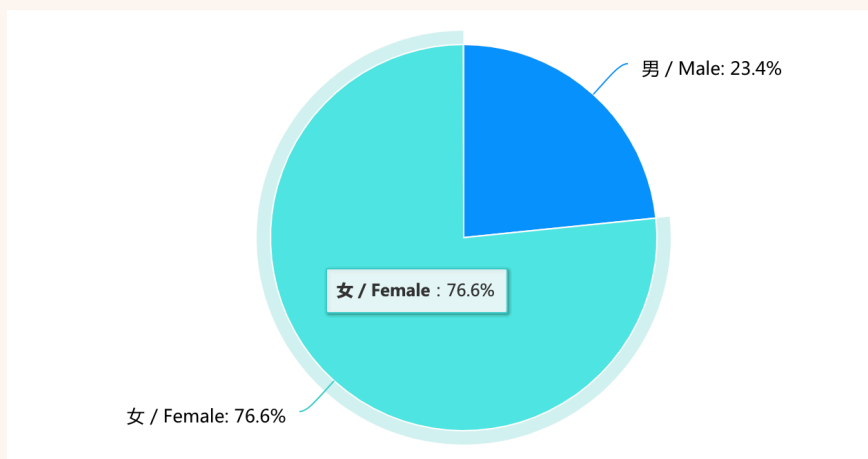
"Another reason is that sexual liberation in China is still a problem. People still mind putting an object in a virgin's body, even though it is used to cure a disease."



Gynecologist, Liu

II. SURVEY & INTERVIEWS

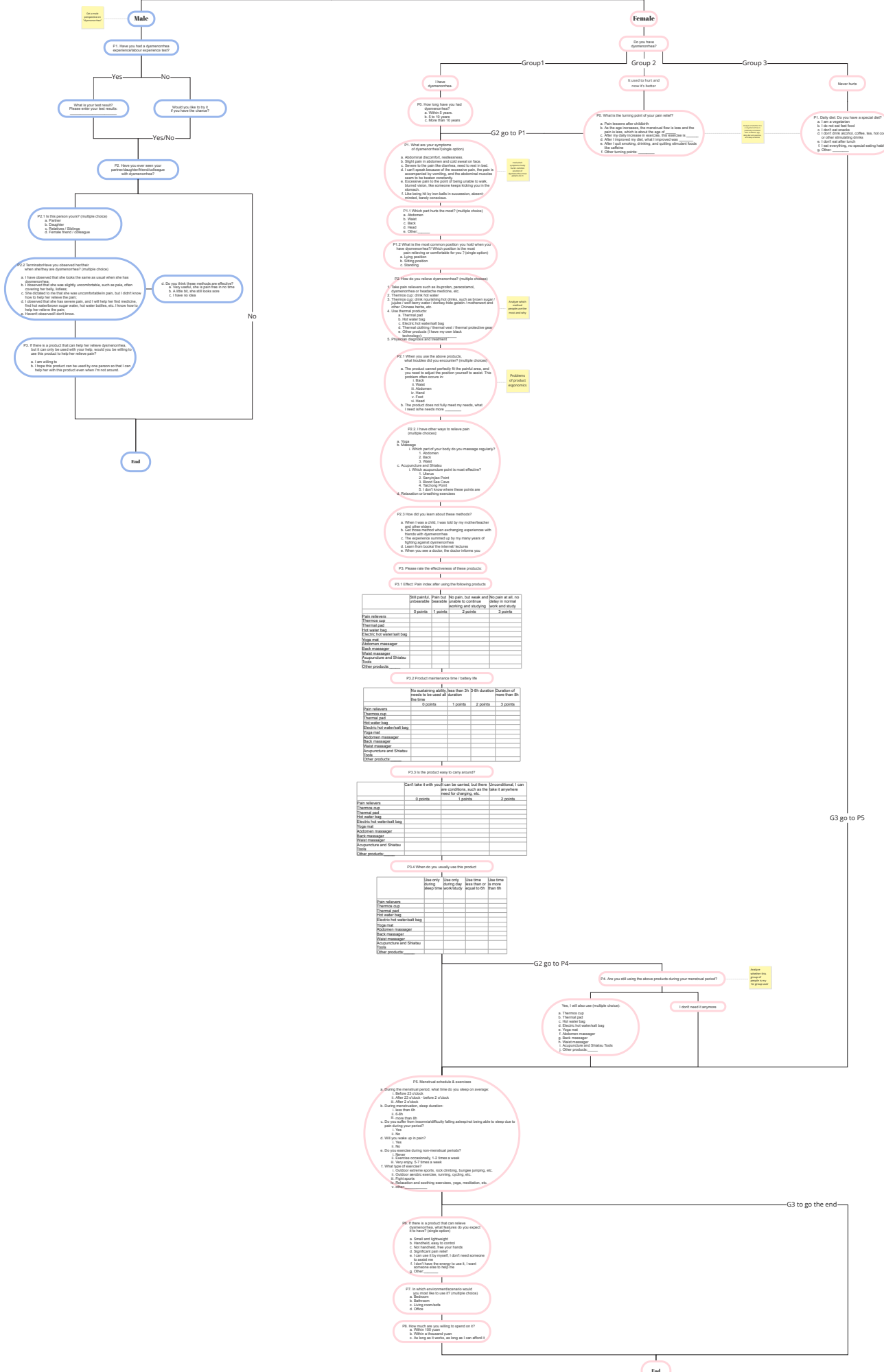
I designed an online survey for both males and females to get multiple perspectives and a holistic understanding of physical problems caused by dysmenorrhea. The survey includes pain levels, pain duration, common methods, the trouble with these methods, and if dysmenorrhea is related to exercise, diet or fertility or not. I got 93 responses.



Survey Questionnaire

Your Age
1. 18-24 years old
2. 25-34 years old
3. 35-44 years old
4. 45-54 years old
5. 55 years old and over

Your Gender
1. Male
2. Female



G3 go to P5

G3 to go the end

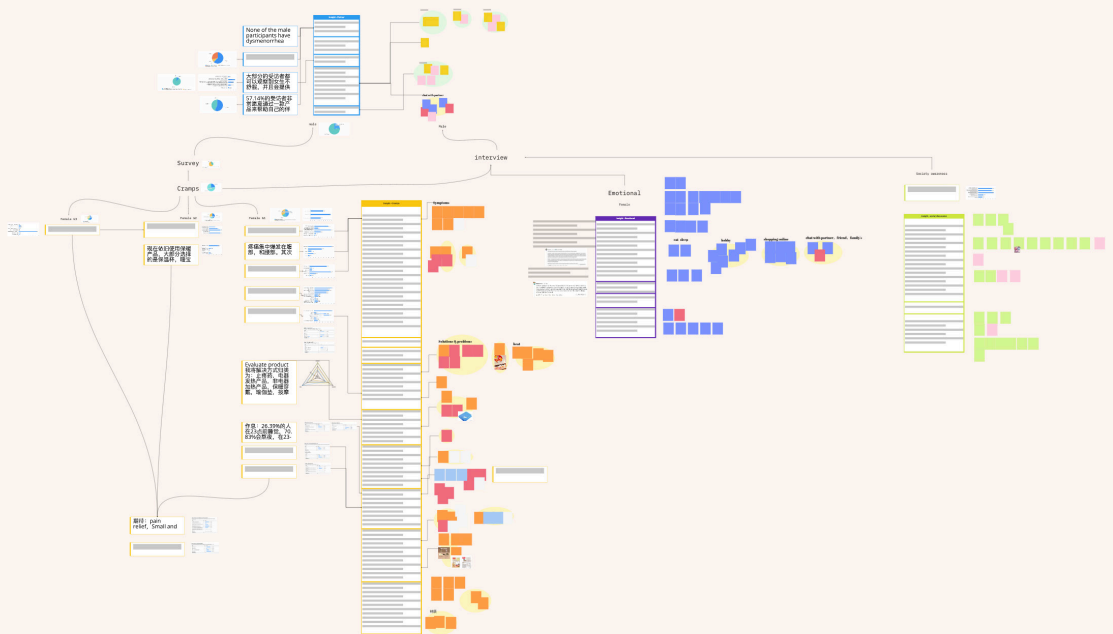
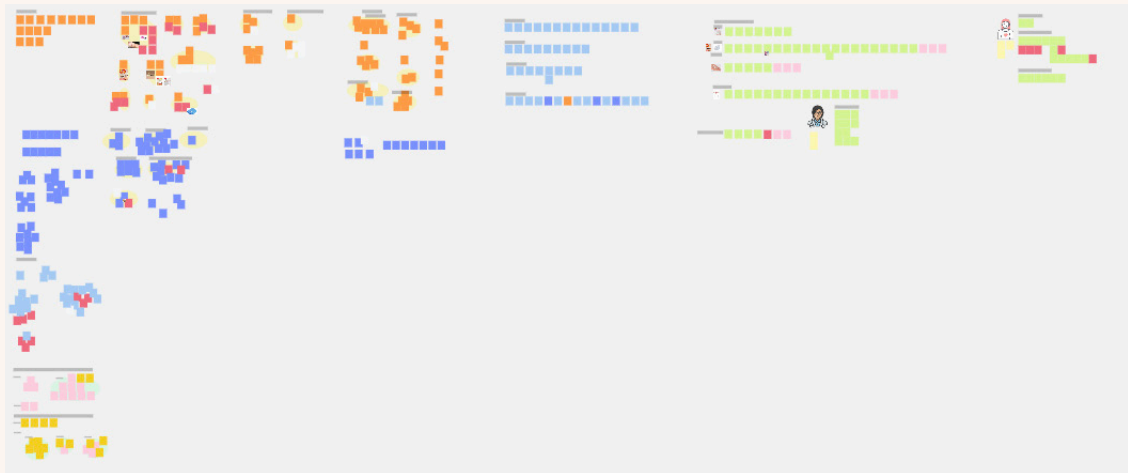
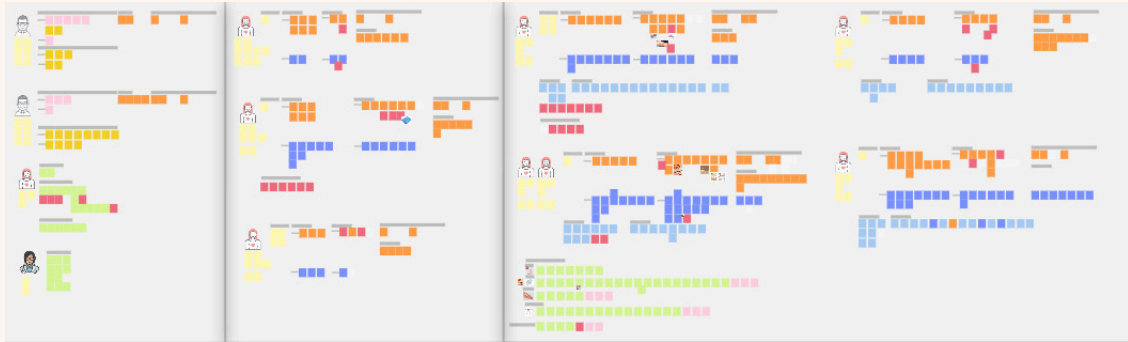
After that, I realized that compared to physical problems, psychological and social problems are hard to quantify in a graded assessment. So then I interviewed 11 target users to have refined findings.

Then I spent a week organizing and analyzing all the information. In this text, I highlight the key findings. The complete questionnaire data can be found in the appendix.

Interviewee

11



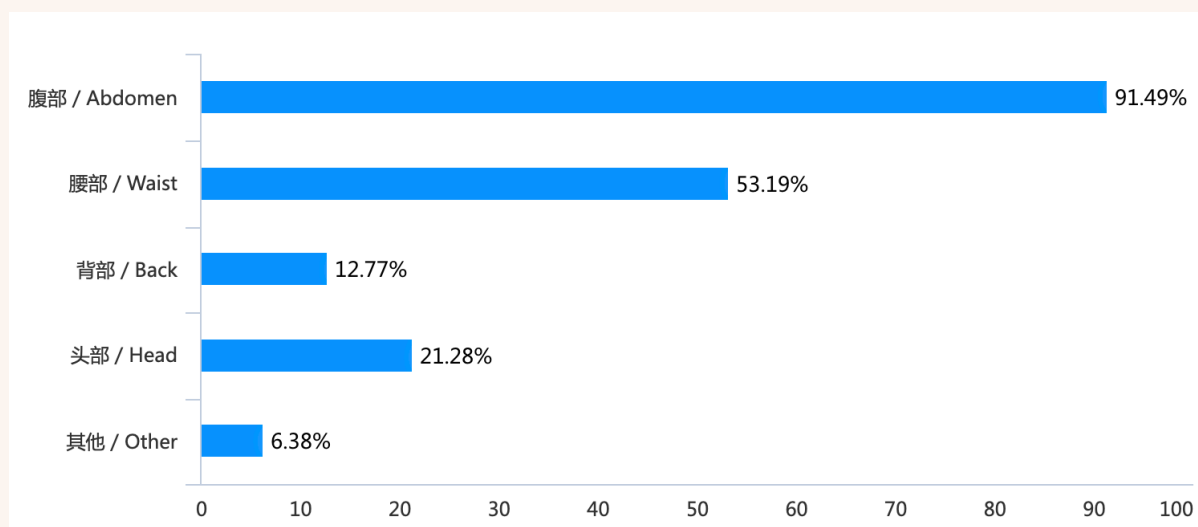
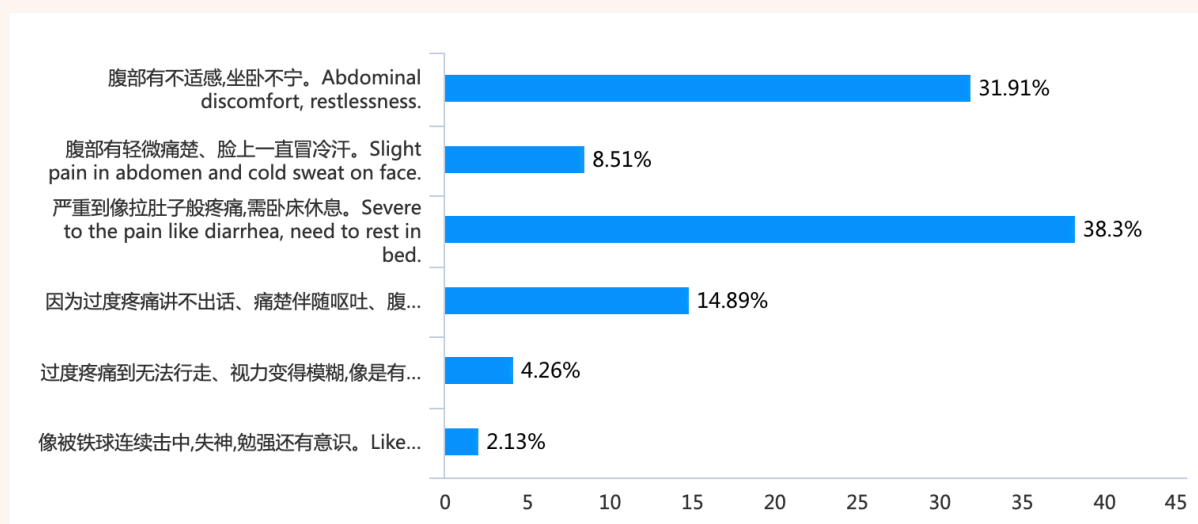


Analysis survey and interviews

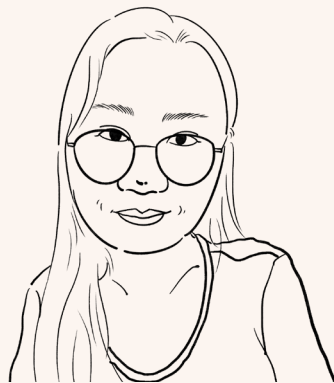
Muscle cramps

Problems

Pain is graded in order from mild to severe 1-6 (see chart). The pain is usually crossed in several locations, with 78.72% feeling mild or moderate pain in the abdomen or lower back, and 14.89% experiencing severe pain that is severe enough to require bed rest. **All degrees of pain are accompanied by symptoms of coldness, such as cold sweats, shivering or cold hands and feet.** At this moment, **you have to stop what you are doing** and let yourself lie down or curl up to feel more comfortable. This is certainly a huge distraction.



"It is unpredictable, some months it hurts extra bad, probably because the temperature is so cold. I always have frozen hands and feet."



"It hurts especially when I have a particularly low menstrual flow."

"When it hurts the most, I can't stand up at all and have to curl up or squat, going back and forth between the toilet and the bedroom."



There are two main solutions to relieve dysmenorrhea.

Provide heat

One is using products that can provide heat, like hot water bags, thermal pads, and electronic heat products, to maintain the abdomen and lower back in a comfortable state. These products can promote blood circulation to relieve pain through an external heat supply. However, the problems with these products is that it is not easy to control their temperature and can cause **low-temperature burns** (40-60 degrees) for the users. **Especially when they fall asleep.**

In addition to this, there are **ergonomic issues** with the products. Products like hot water bags are too heavy, which means they can **fall off** with the user's posture change. The user needs to spend a lot of physical effort and energy to adjust the position of the product to their comfortable posture.

● **Keep w**



Low temp



Electronic de

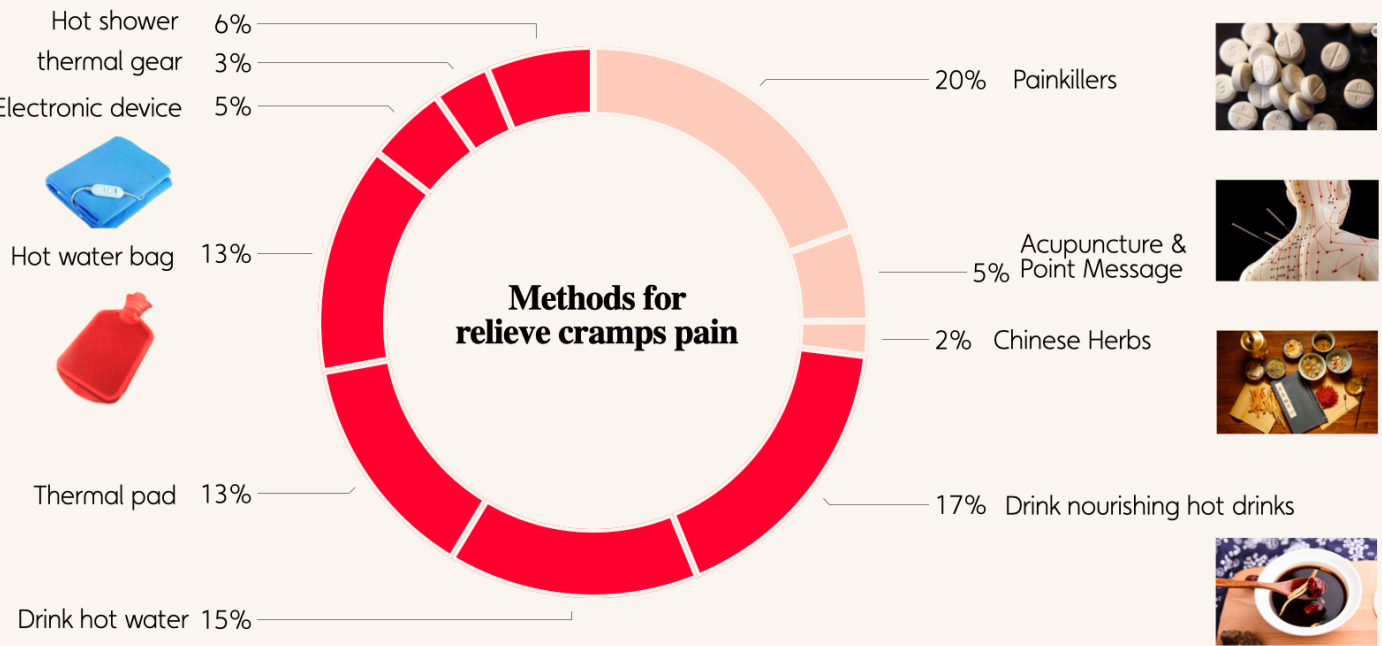


Thermal pa



arm

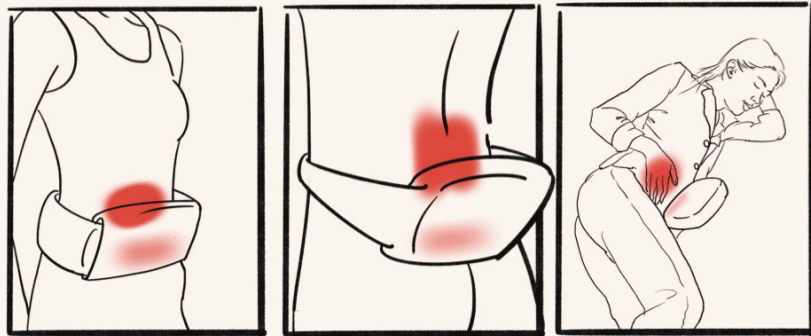
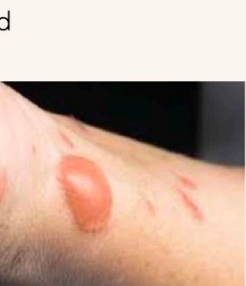
● Seek medical treatment



temperature burns



Fallen - Ergonomics problems



Medical treatment

Another one is seeking medical treatment, such as painkillers, acupuncture, or drinking Chinese medicine herbs.

Painkillers are the most effective solutions but people will take them only when feeling severe pain. It can relieve **60%-100%** of pain, but it only works for pain relief. Other symptoms, like cold hands, fingers and feet are still a problem.

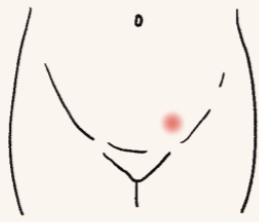
Chinese medicine

Chinese medicine's philosophy believes that there are many points in acupuncture⁽¹³⁾ the human body. 4 of them can relieve dysmenorrhea efficiently. Because I am looking into Chinese females and Chinese medicine philosophy appears thousands of times in their life growing up, they are more likely to relate, understand and accept the concept of acupuncture.

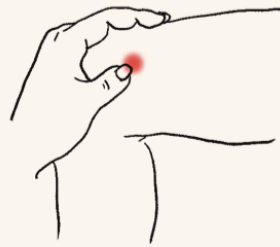
Acupuncture is effective but it requires a professional doctor to do it. If people do it by themselves and in the wrong way, it can have huge side effects and even death. Someone once designed a pair of socks with Chinese medicine points. It would be great if the user could find the right point in a similar way.

Alternately, drinking the Chinese medicinal herbs is slow to take effect, and it would normally work after drinking for 4-6 months. It is not a good choice if people want to relieve pain immediately.

Acupuncture points



Uterus Point



Xuehai Point



Sanyinjiao Point



Taichong Point



I don't know how to find the correct point.

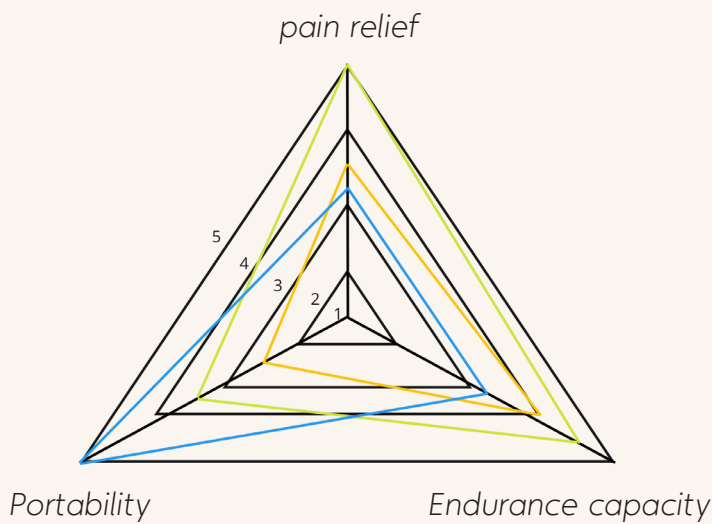


Point Socks

Conclusion

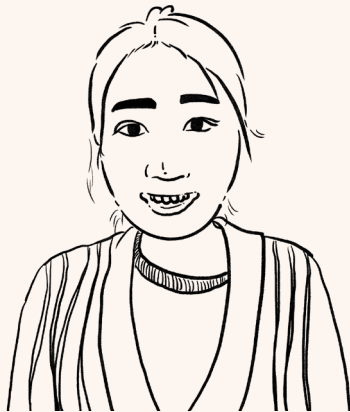
I have categorized the existing solutions into painkillers, electrical heating products, non-electrical heating products, thermal wear, yoga mats, massage devices, acupuncture, or acupressure tools.

Users were asked to compare them in terms of pain relief, endurance capacity, portability, and day and night use mode. Among them, painkillers, electrical heating products, and non-electrical heating products are the methods that most users would choose for pain relief. I have summarized it in a radar chart. **It is noticeable that the painkiller has the best pain relief effect, and the non-electrical heating products are the most portable.**



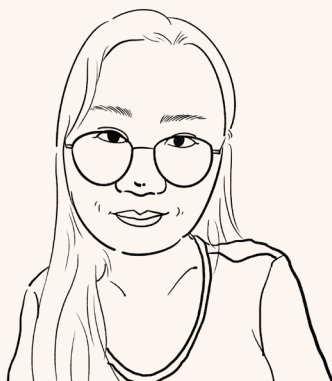
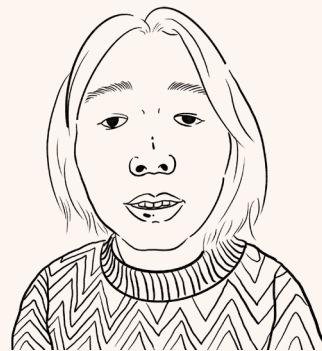
Green - Painkillers
Yellow - Electrical heating products
Blue - Non-electrical heating products,

"I hope this product can provide me with heat, but won't burn me."



"I hope the product is not too big, it should be a tiny thing."

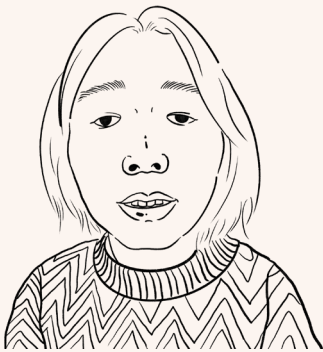
"I want it soft but solid."



"I need it (to be) portable."

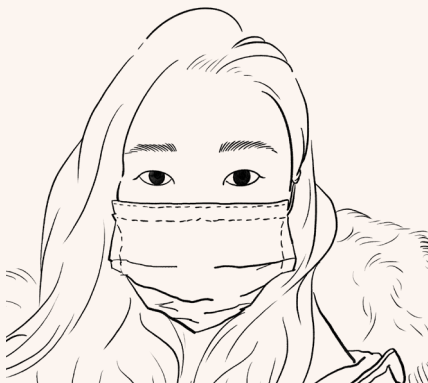
Premenstrual Syndrome (PMS)

Symptoms of PMS are numerous and complex, and in most cases are co-occurring. Common ones include fatigue, irritability, depression, crying, persistent low mood, poor concentration, social and challenge withdrawal, becoming very sensitive to light and sound, and a tendency to see the negative side of things. The symptoms and timing of onset vary for each person, and even the same person has different symptoms of PMS from month to month.



"We have no control over this. That's the part that kills me, we have zero control."

Worse still, almost no one knows about the concept of PMS. Some women know they are in a bad mood because they are about to have their period.



"I guess it's pre-menstrual anxiety, a term I've never heard before. But I can imagine it. It's not hard to imagine."

"I feel like the moment I get my period, the emotions just let out."

However, there are those who believe that bad moods are a result of their brain not being in control. This is because they don't know about PMS; they don't realize that hormones can also control moods.



"I don't associate bad moods with the period. I thought emotions were psychological and the period was physical, I didn't think they were related."

"I also have bad moods when I don't have my period, so I subconsciously think it's my problem first."

In fact, PMS is easily distinguishable from other emotions. If your moods suddenly go up and down for no reason, if small things you didn't care about before suddenly become important, and if your emotions are incredibly explosive, it is highly likely that you are experiencing PMS.



"I just wish someone had warned me that the worst, most painful mental and physical PMS pain can start in your 20s. Why aren't we sharing what to expect? What's normal?"

There are many ways to release emotions, such as eating sweets, doing something you love or sleeping. **Apart from these, the most effective way to vent is to talk to your partner, family and friends.** However, PMS can happen very suddenly and if a girl needs support from her loved ones and they don't respond in time, the situation can only get worse.

For this reason, I interviewed men to find out what they thought. **Over 99% of male partners are willing to support their partner.**



"After my partner has already sought medical help to relieve the pain, there is nothing more I can do to help. I am much more effective at emotional support."

But, they lack knowledge about the PMS and they have difficulty distinguishing when a girl is in an emotional situation. **"WHEN should I support her?"** becomes a huge difficulty. When they find the right moment, they provide good emotional support for their partner, like hugs, caresses, and communication to channel their partner's emotions.

In reality, however, it is usually the girl who is actively signaling their partner that she needs support, which is already a 'delayed signal' after the girl is feeling mentally uncomfortable.

"How can my partner know without saying anything?"

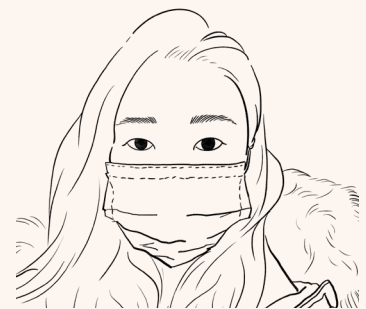
"How can this product let my partner understand I need support? "

"How can this product let my partner understand I cannot control my hormones?"



"I think the best pain reliever is painkillers. But I can't find any product that relieves emotions. How can this product only be designed to relieve PMS?"

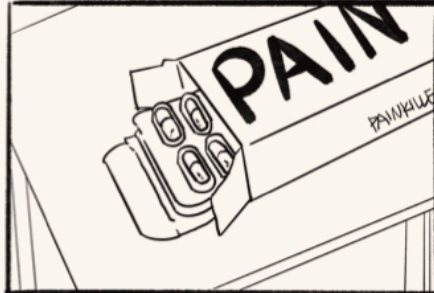
"I need a specific product with a strong identity to be actively cared for by those around me."



Struggle at the office: A day of dysmenorrhea



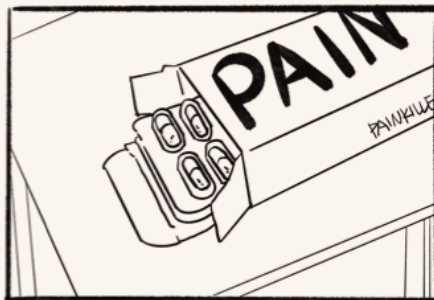
Wakeup with pain



Take painkiller



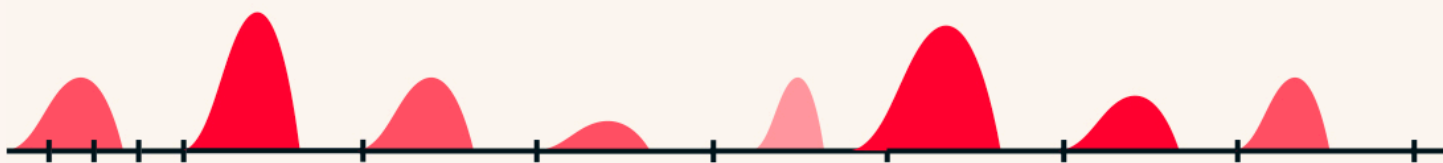
30min crowded subway



Take 2nd painkiller



Angry and powerless



Month

Year



Angry and powerless



Work overtime



I will show one example and talk about one interview's story to bring you into the context. Her name is Nan, 27, she has been married for 2 years but hasn't given birth and she works in the city center of Beijing.

Nan is weak at 7.30, she doesn't feel good and takes a painkiller with her breakfast. After that, she squeezes into the subway for 30 minutes to arrive at the office. She has been angry and powerless for the whole morning. Then she takes a 2nd painkiller after lunch, and she is angry and powerless in the afternoon as well. At 5.30 pm, her manager demands that everyone in the office works overtime. Nan never refuses the request because she doesn't want to be noticed that she has dysmenorrhea. At the end of the day, she goes back home at 11.30 pm and sleeps.

This horrible day does not only happen just once, it happens every month almost throughout her whole life. On top of that, this period sometimes is unpredictable which makes the experience even worse.

Social problems

There are three main ways in which women learn about dysmenorrhea: as a child, they are taught by their teachers and mothers, they share their experiences with their peers, and they learn about it on their own. What these three ways have in common is that they have been 'silent' in public. It is not an experience or a method that has been 'silent', but a whole complex topic that has been 'silenced' from the top down.



"I hope that this product will increase trust in the topic of dysmenorrhea."

"I asked my boss for time off, but I didn't want to say that I was on my period. It's embarrassing for me, can this product have a social function? To make the world more understanding and accepting of 'dysmenorrhea' through this product. Let the world know that 'it's not my fault'. 'It's not your fault'."



Take sanitary napkins and tampons as an example:

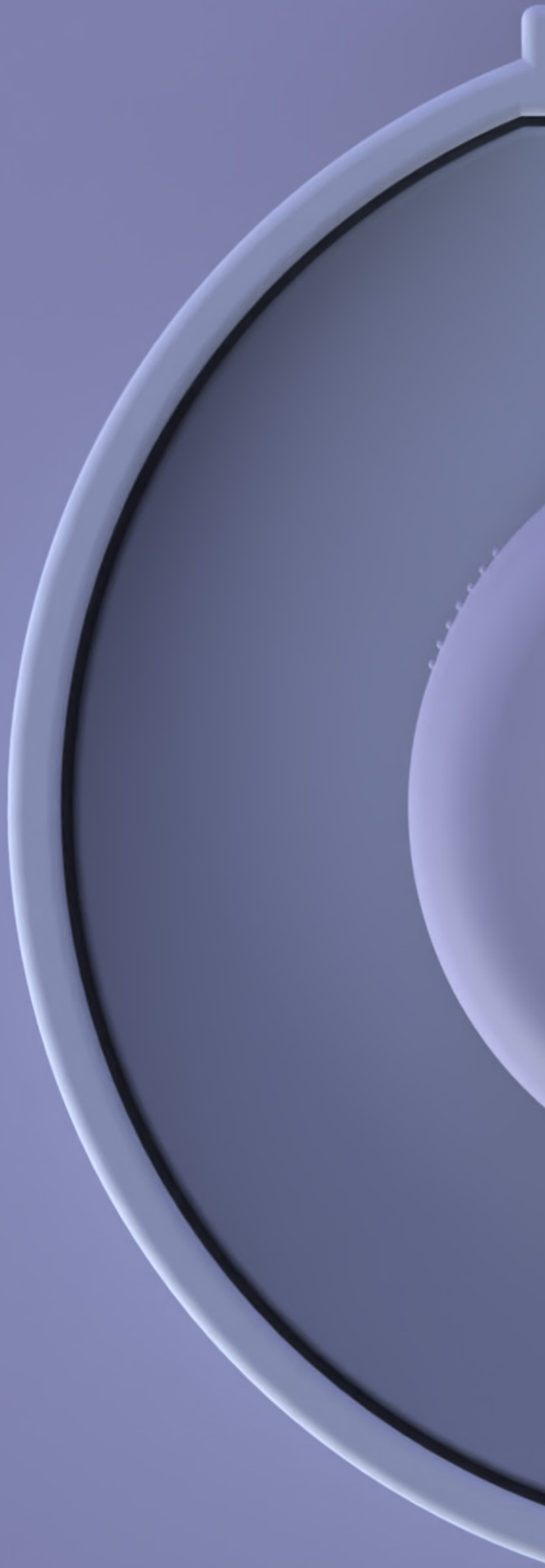
“Embarrassment”, “privacy” and “hiding” were the most mentioned words when I interviewed end-users about sanitary napkins and tampon products. In both Eastern and Western contexts, the ‘sanitary napkin’ is a product that by default disappears from the social conversation. A girl who wants to ask another girl for a sanitary napkin will do so in a very low voice, for fear of being noticed or heard. **People are still ashamed to say and hear the word sanitary napkin**, using ‘that thing’ instead of ‘napkin’. One male interviewee said, **“When my girlfriend goes to change her tampon she always says “I need to go to the toilet” instead of “I need to change my tampon.”**”

As a child, if you were told by your elders that tampons were very private and not to be seen, then you naturally felt that this was embarrassing if you were found out one day. If your male classmates saw you using a sanitary napkin and teased you, it would directly add to your subjective thoughts of wanting to hide it. **Over time, you think or you don't think the tampon needs to be hidden, but in reality, you're already hiding it in action.**

A positive note is that in Norway there is a mix of male and female toilets in public spaces, whereas, in other countries, such as China, there are separate male and female toilets. In Norway, although they are mixed, there is still a space for sanitary napkins and tampons. Norwegian men don't find this strange. **“I grew up like this, so it doesn't seem strange”**, said by a Norwegian men. **So the real world that people see when they are children can be a key point at which we can pry society into making changes.**

05.

Insights



How might this product can be multiple used in both abdomen and low back?

How might this product can help girls sitting or standing more comfortable?

How might this product can control the

I wrote all the insights in the form of how might we...?

quickly?

How might this product is light, small, like feel nothing?

How might this product can massage abdomen?

It can provide me with heat. Warm, not cold to the touch, "I hope it is definitely not a cold thing. I definitely don't want to touch a cold thing when I have dysmenorrhea"

How might this product fits abdomen or low back even changing postures?

How might this product still fit me when I fall asleep?

I hope he's not too big or too heavy, if tied around the waist.

How might this product can have those three features at the same time? portable, pain relieves

How might this product can change user biological cycle regular?

How might this product can support user during sleep time?

How might this product can help user going back to sleep after waking up?

How might this product can encourage people do some sport, like running?

How might this product can alarm user avoid having spicy/ice food before her period?

How might this product can use when taking shower to help users keep standing?

How might the users can foot bath at the office? or bedroom/ living room?

How might this product can be a heating socks?

How might we be able to change the original prejudice by spreading Western cognition?

Painkillers are difficult to predict whether the unpredictable need to take painkillers today. It takes a while for the efficacy of the drugs to develop, and it will be too late to take them when the pain starts. How might this product can predictable when I need painkillers?

How might this product can guide user quickly and precisely find zigong point and sanyinjiao point?

How can I use this product by myself skip to go to the hospital?

Identity

I think the best pain reliever is painkillers. But I can't find any product that relieves emotions. How can this product only designed for relieve PMS?

Emotionally, when you suddenly feel that you have a problem, I hope he can help me find the problem, I hope he reminds me "you are just here for auntie", "you are not alone"

I asked my boss for leave, but I don't want to say that it's because of my period. This makes me very embarrassed whether this product can have a social function. Let the world have a higher acceptance through this product. Let the world know that "it's not me being hypocritical". "It's not your fault". I hope this product gives people "credibility, credibility" on the topic of dysmenorrhea

This product is not only useful for girls, can it be used by boys too, so that boys can understand this matter better?

There is something you can brush your hair with. Single girls don't have a boyfriend to brush their hair, what should I do?

How might this product can alarm the girls in get into PMS stage? color change?

How might this product can let user know "hormone decide" rather than "brain decide"? It it just because your period on the way now.

How can partner know without saying?

How can this product let partner understand I need support?

How can this product let partner understand I cannot control hromone?

How might this product can help people working remote and efficiently?

How might this product can use in office?

How might this product can use in public transports? bus? Subway?

How might this product can give user the same result as the hot shower in office?

How might this product can give user the same result as the hot shower in office?

How might this product can be a part of outfit?

How might this product can be seen generously? Beautiful, generous, and elegant.

How might this product can tell them "Girls have entered the PMS stage and will be affected by hormones and have mood swings"? In what way will this product signal to male partners to receive this information?

How might we: But if the boys themselves can give support in a timely and active manner, it will be more effective in relieving the symptoms of PMS in girls.

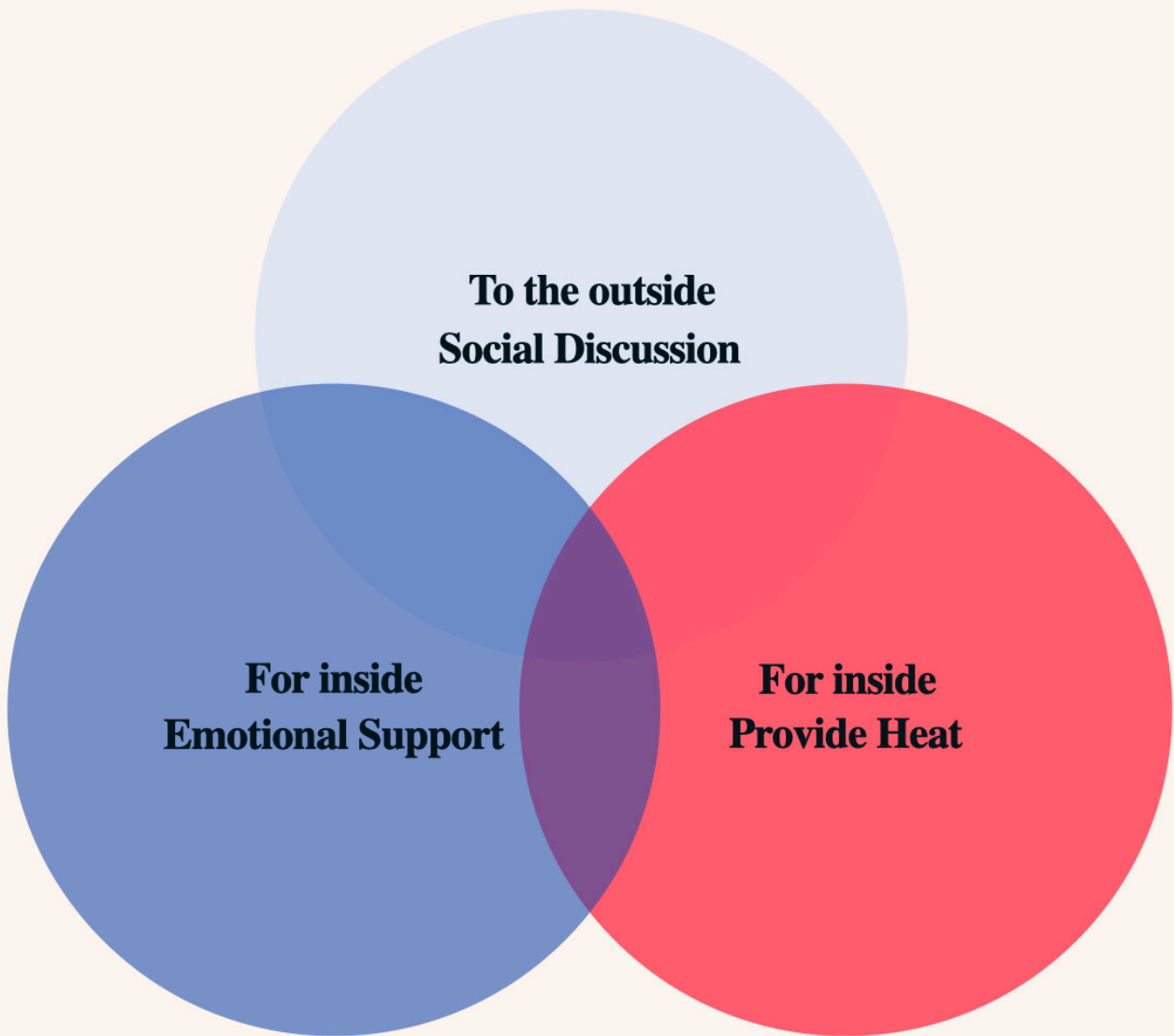
How might this product can as a guideline to teach boyfriend do step by step?

Conclusion

The insights can be divided into two categories:

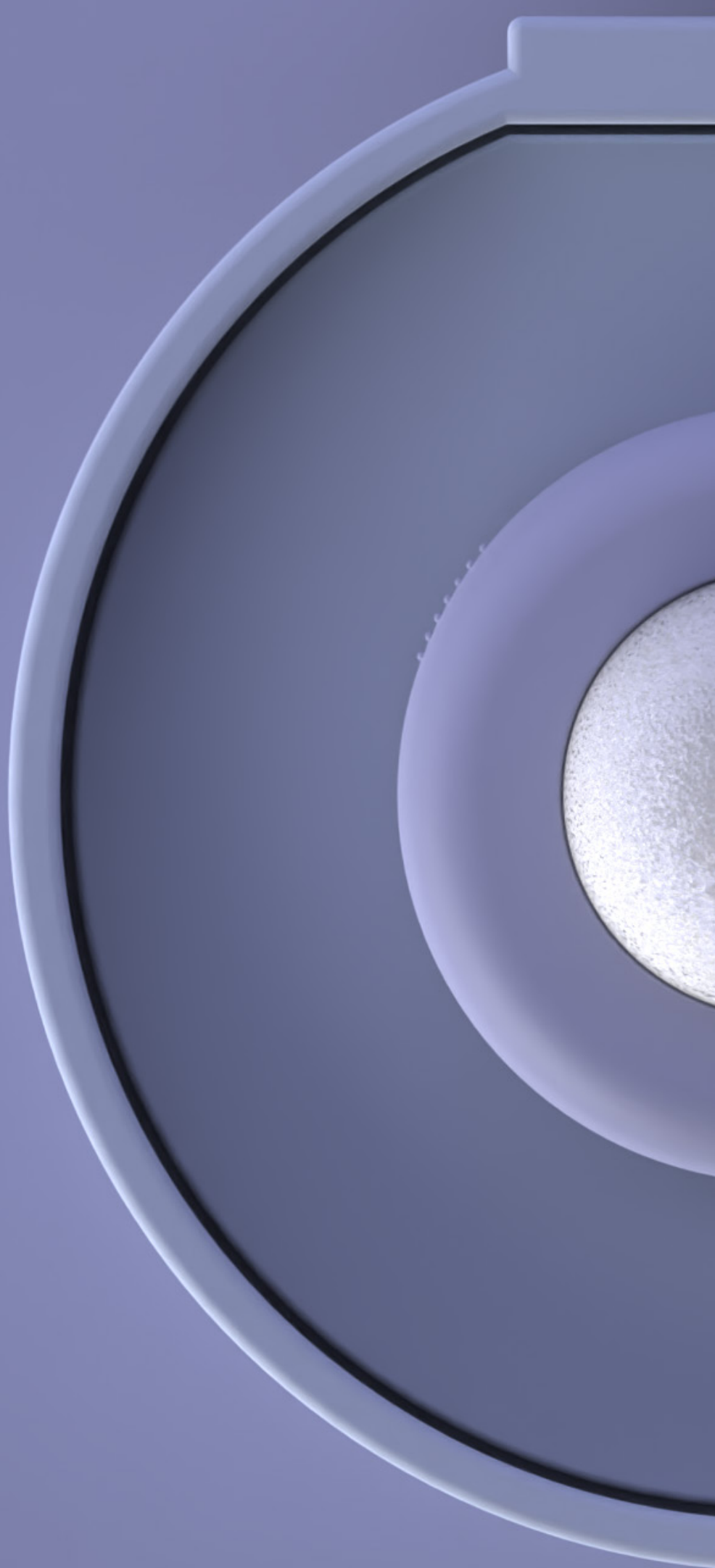
For women who suffer from dysmenorrhea symptoms, this product could relieve emotions or cramp pain, it could be handheld, portable, and provide heat but won't burn the users.

For the others, I want to design a product that brings people who are surrounding women to take the initiative to care for them. By using this product, women can speak out silently. At the same time, this product is also private. It can create meaningful moments for the partner, friends, and families, but not for everyone. I see these groups of people as small units. I believe if each "unit" of people is lit up through this product, the topic is not silent anymore.



06.

Ideation



I.

MOOD BOARD

According to the research and insights, I made a mood board to get some inspiration from where the product is used, such as hands, feet, low back, and abdomen. And what kind of materials and textiles, like leather, fabric, silicone, and plastic, can be used for the design.



Low back & Abdomen



Hand



Feet



Materials



Textiles



Empath



Hand kits



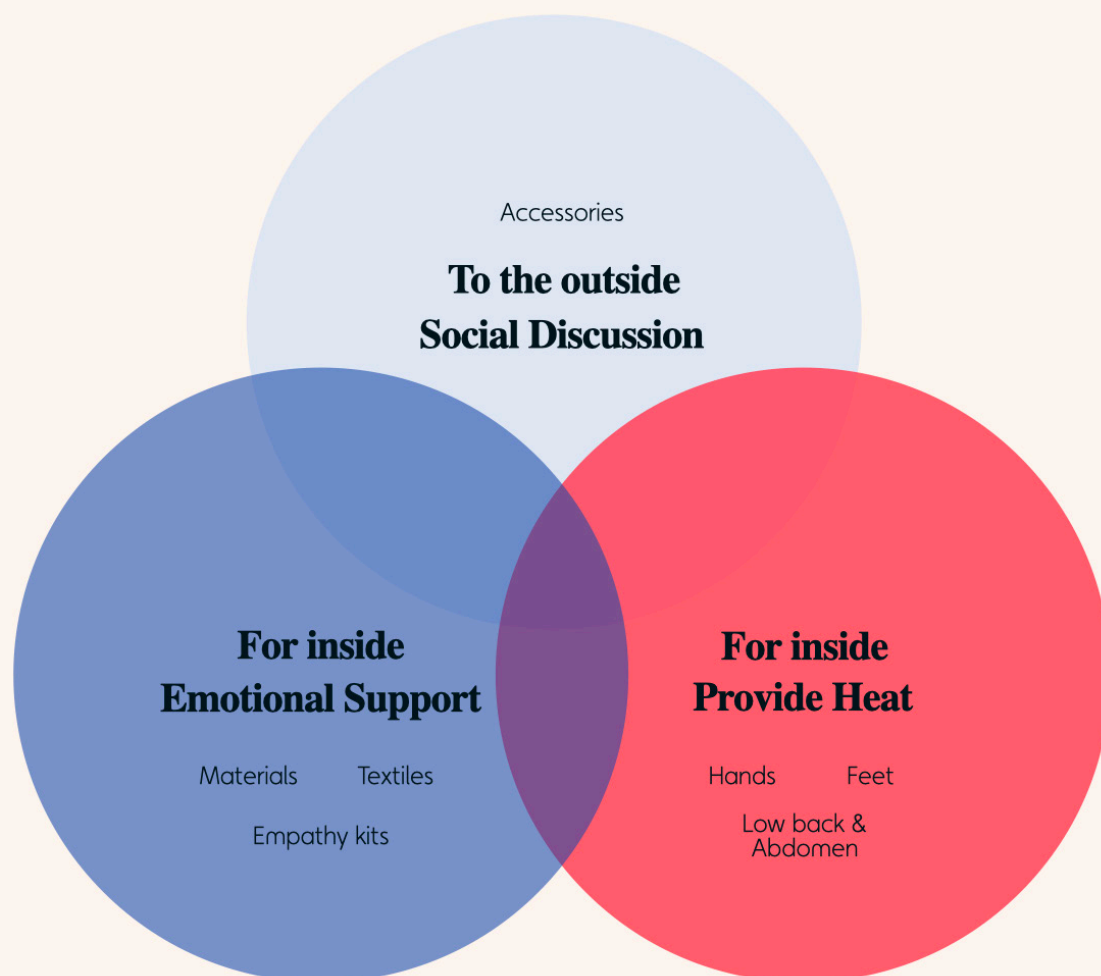
Accessories

II.

IDEATION

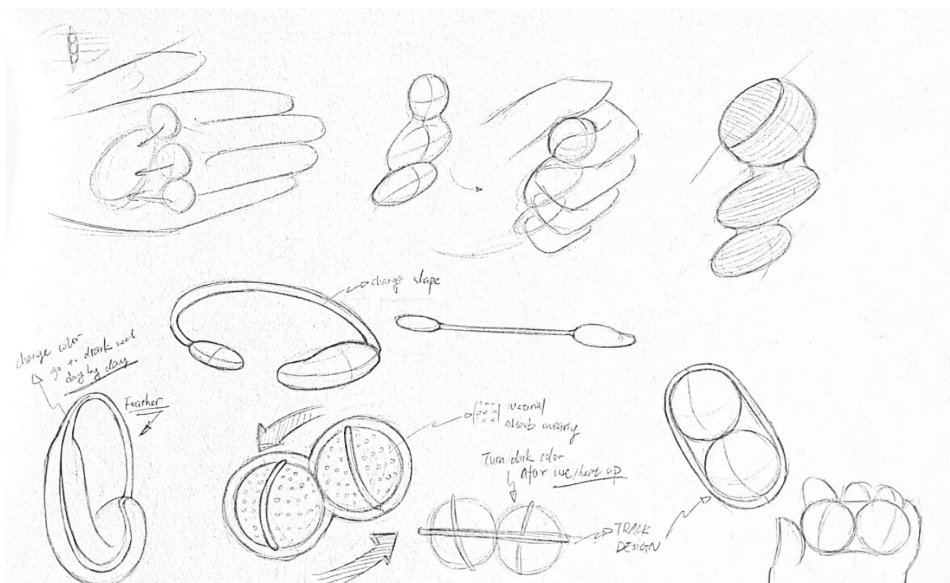
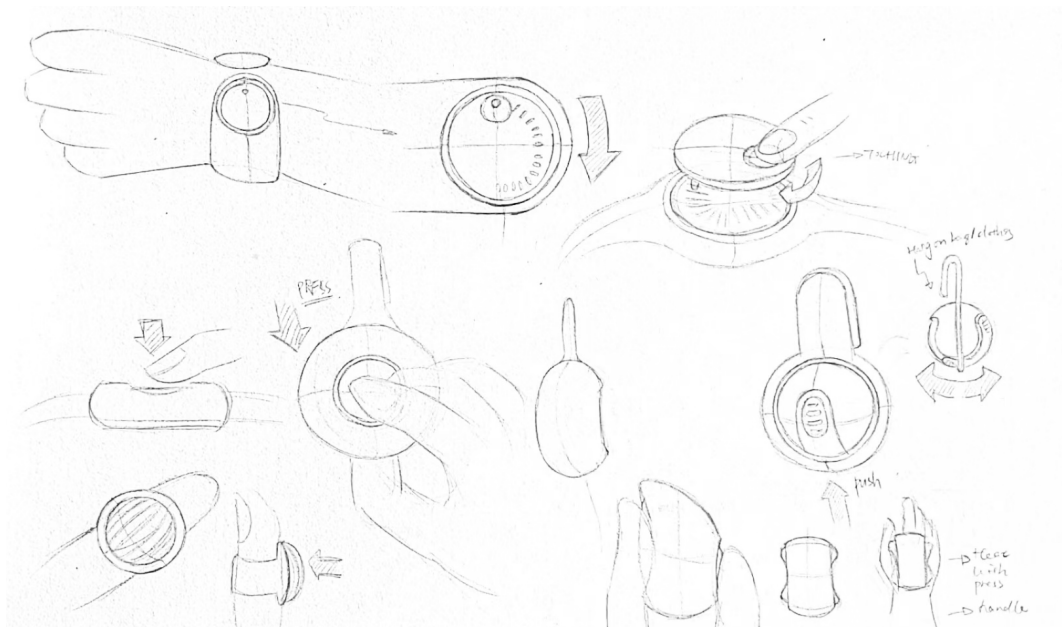
I summarized that this product can not only provide heat on the hands, feet, lower back, and abdomen to relieve the cramps, but it can also help release emotions through materials and textiles. At the same time, it can also be used as a portable product, such as wearables or accessories.

Then I did the first round of sketches to show my ideas. I divided them into three types, which are the hands, feet and knee, abdomen, and lower back according to the way of use.

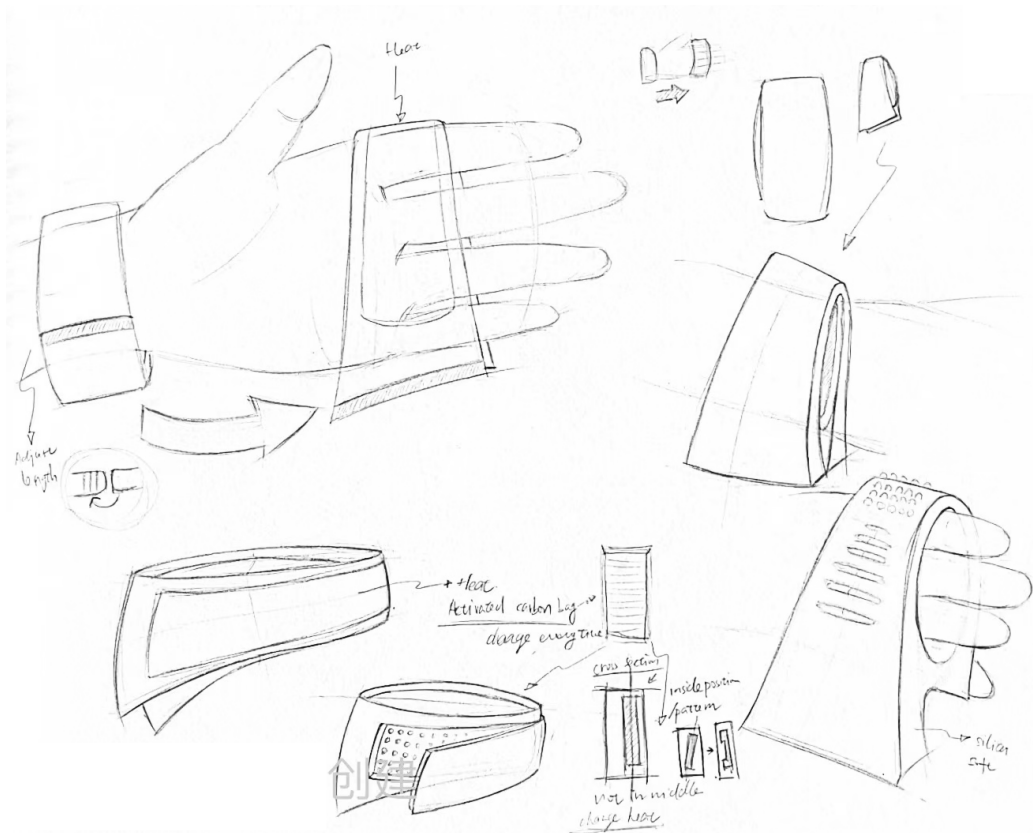


Ideas for hand type product:

First, the product needs to be flexible, it should not be fixed in one position and interfere with people's work and life. When the user wants to use it, she can hold it at her fingertips. And when she is not using, she can move it to the wrist. At the same time, the user can rotate, click or press it and it comes with a touchable texture on the surface that provides a psychological appeal through tactile sensation.



How do I get the product to provide heat? I chose activated charcoal packed inside the product. Compared to other heat generating methods such as hot water bags, and electronic products, it is more stable in providing heat and less likely to burn the user. At the same time, it is a single-use product, light and easy to carry. Simply tear open the packaging and let the activated charcoal come into contact with oxygen to generate heat, avoiding the problem of forgetting to charge the product and not being able to use it in time



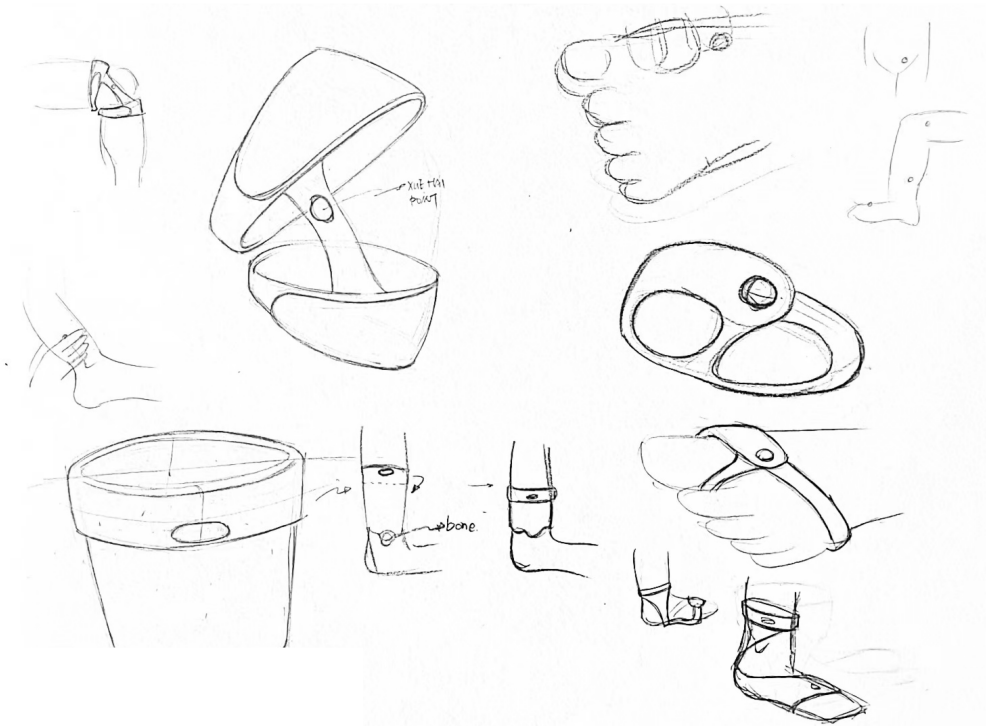
activated charcoal



In response to the need for portability, I envisaged that this product would need to have a travel mode. For example, on a crowded subway, it could be worn on the finger to make it easier for people to grab the sling handrail inside the carriage.

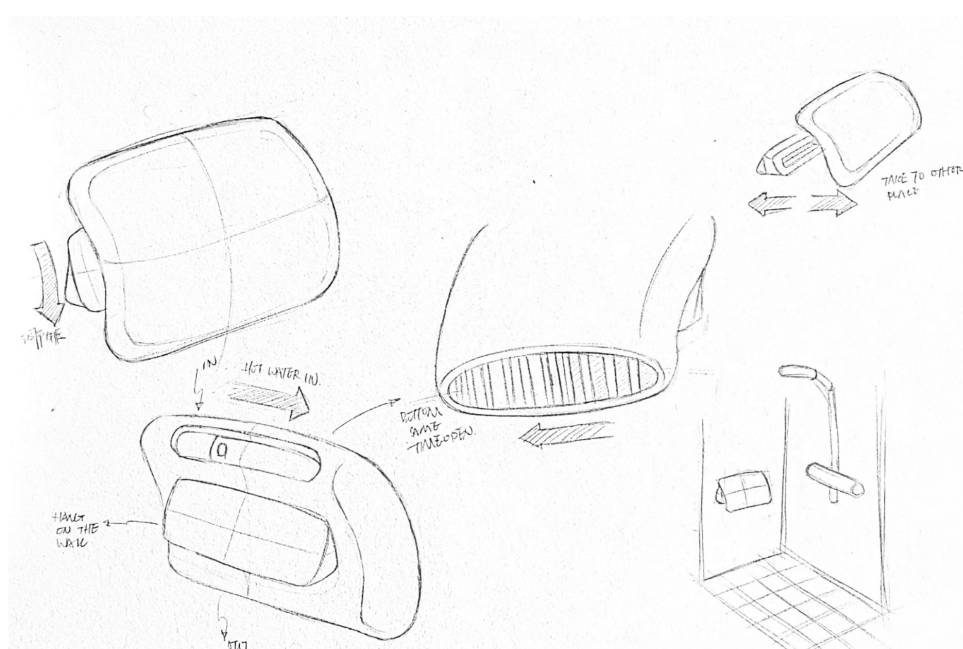
Ideas for feet and knee type product:

There are three acupuncture points in the knees and feet, so I wanted to design a product that would clearly guide the user to the correct points, allowing them to find the correct points themselves and relieve the pain through massaging the points.

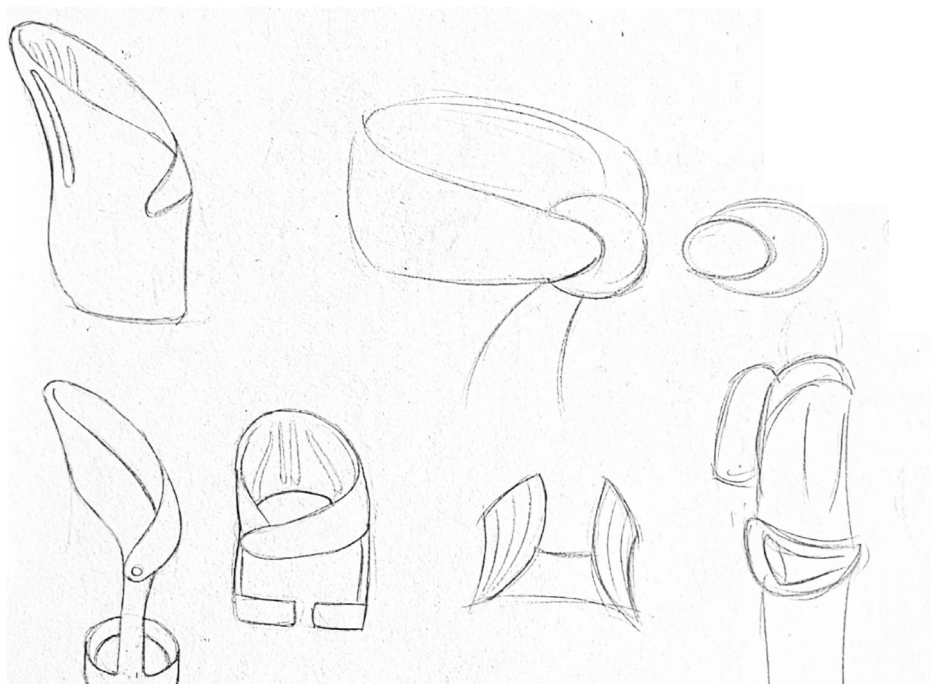


Ideas for abdomen and low back type product:

When muscle cramp is present, a hot shower is an effective way to relieve it. A large amount of hot water soaking the body for a long time can provide quick relief from the pain. However, taking a hot shower standing up and the constant steaming of water in the bathroom can accelerate physical exertion. So my idea was to design a product that could be fixed to the bathroom wall and lean against it to provide support for the user while taking a hot shower. It was designed to be hollow, with different sized slits at the inlet and outlet to block the flow of water. The purpose of this was to allow the hot water to be trapped and to concentrate the heat in the lower back for more effective pain relief.



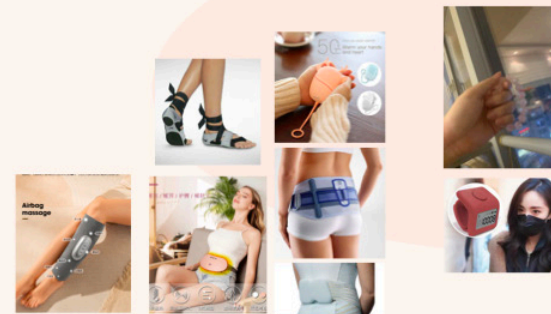
Another idea is a wearable device worn inside a jacket, again to give support to the lower back and allow the user to relieve physical exertion when traveling.



III. CO-IDEATION WORKSHOP

As an industrial designer, I believe the product should be a functional solution for relieving dysmenorrhea at the beginning of the project. After research, I found that this topic also has a high degree of commonality among various groups of people. People are very willing to participate and speak out their opinions. I realized on the way to developing the product that this project should be a conversational and open project. So I decided to do a co-creation workshop with the stakeholders.

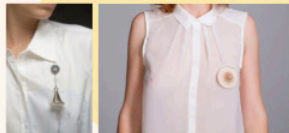
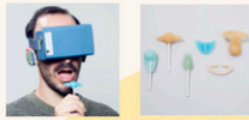
I invited three Chinese women who have strong PMS and cramps symptoms and one Chinese man whose partner suffers from dysmenorrhea to the workshop. I shared my research and ideas with them, then we discussed and framed the ideas together with dimensions ranging from function to fashion, from fun to emotional.



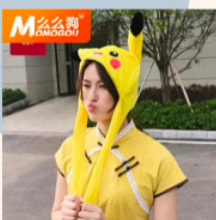
Function ←



Emotional

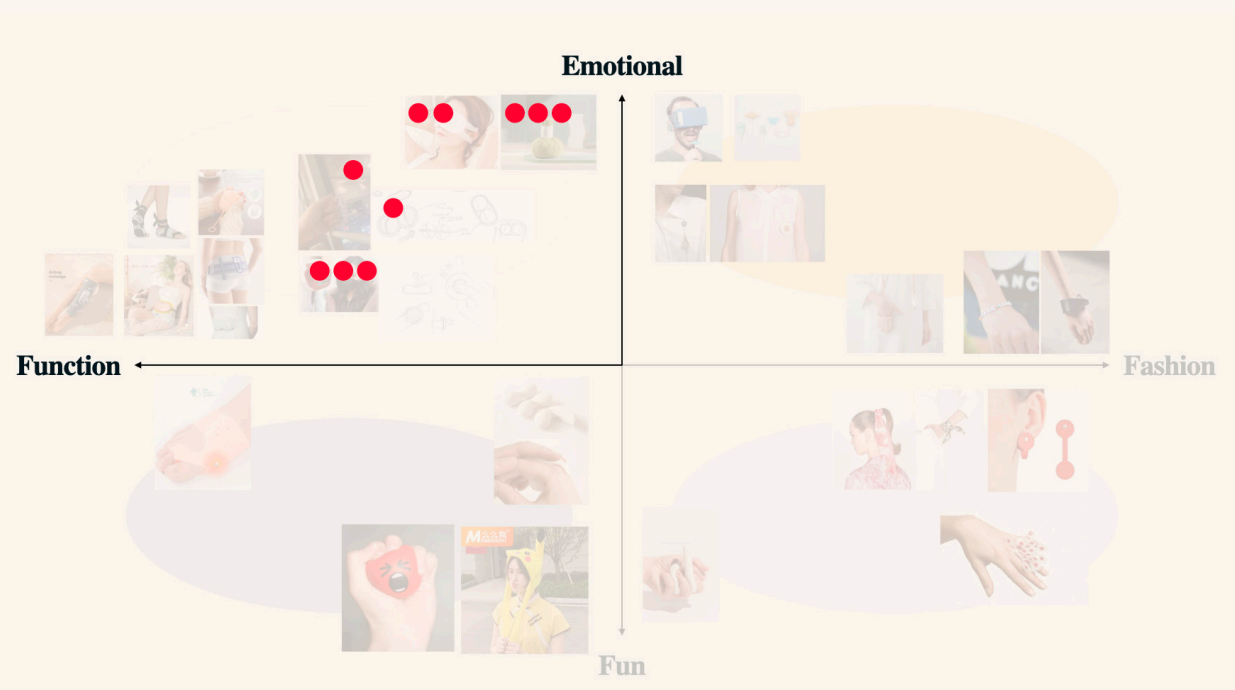
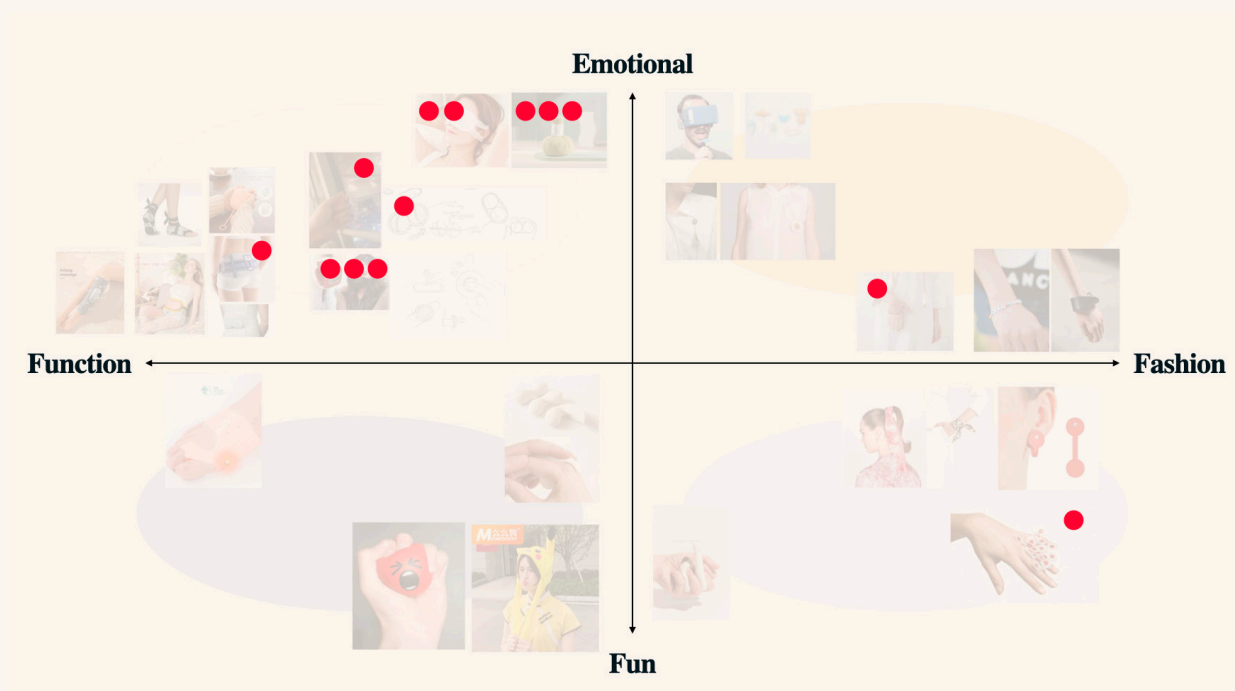


Fashion



Fun

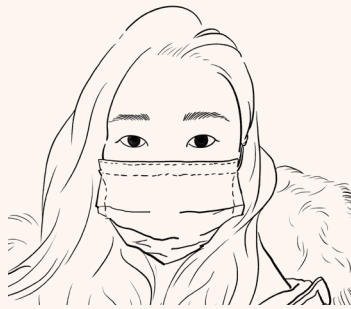
Then we voted on ideas that we preferred. **From this session, these users would want a product that is both functional and emotional.** Because dysmenorrhea is a serious topic, products that are too fun will lose credibility.



Here are two ideas that I would like to work on.

First is the heat and natural scent. For example, the steam eye mask is a popular product in China that can generate heat while exuding herbal or floral scents. The natural scent can replace the blood scent in a way that can make users relax and not be irritable and anxious.

"For me, herbal packs have a natural affinity."



"In the future when I think of menstruation, what I think of is not the smell of blood, but a relaxing smell would be good."

Massage mask contained by activated charcoal and rose scent



Furniture made with Chinese herbs



The second idea is to adjust the users' moods by repeating a simple movement that can be counted such as pressing, rolling, or clicking. The frequency of this action can be recorded by the product and sent to the user in the form of a monthly emotional journey report. The product would help users remember the emotions that they don't perceive. This way, they would get a better understanding of their emotions by reviewing digital reports.

"When you are doing something in order, like pressing, rolling, or clicking, you adjust your cluttered moods."



"If I press it once if I'm in pain, and it ends up counting how many times I've been in pain, I'm able to read my own emotions. It helps me remember the emotions I've forgotten about."

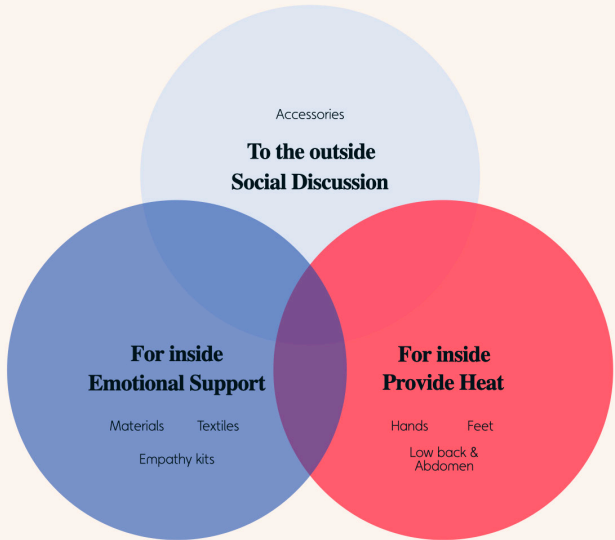
Counting beads makes people calm down



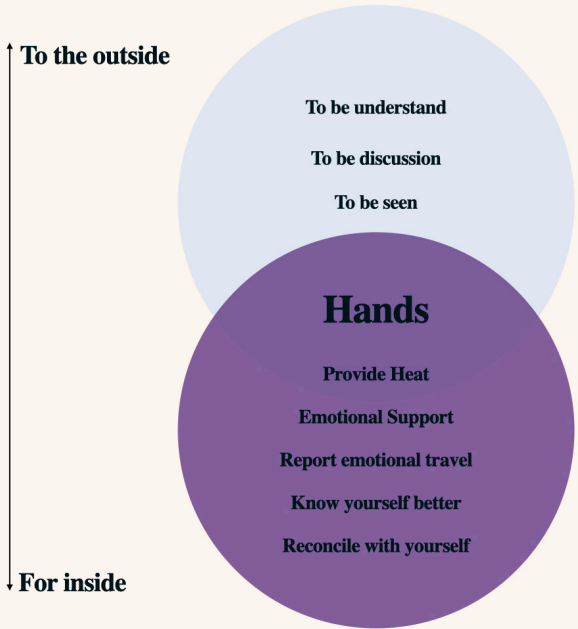
Counter



After the workshop, I scoped down to design a product that is used in the hands.



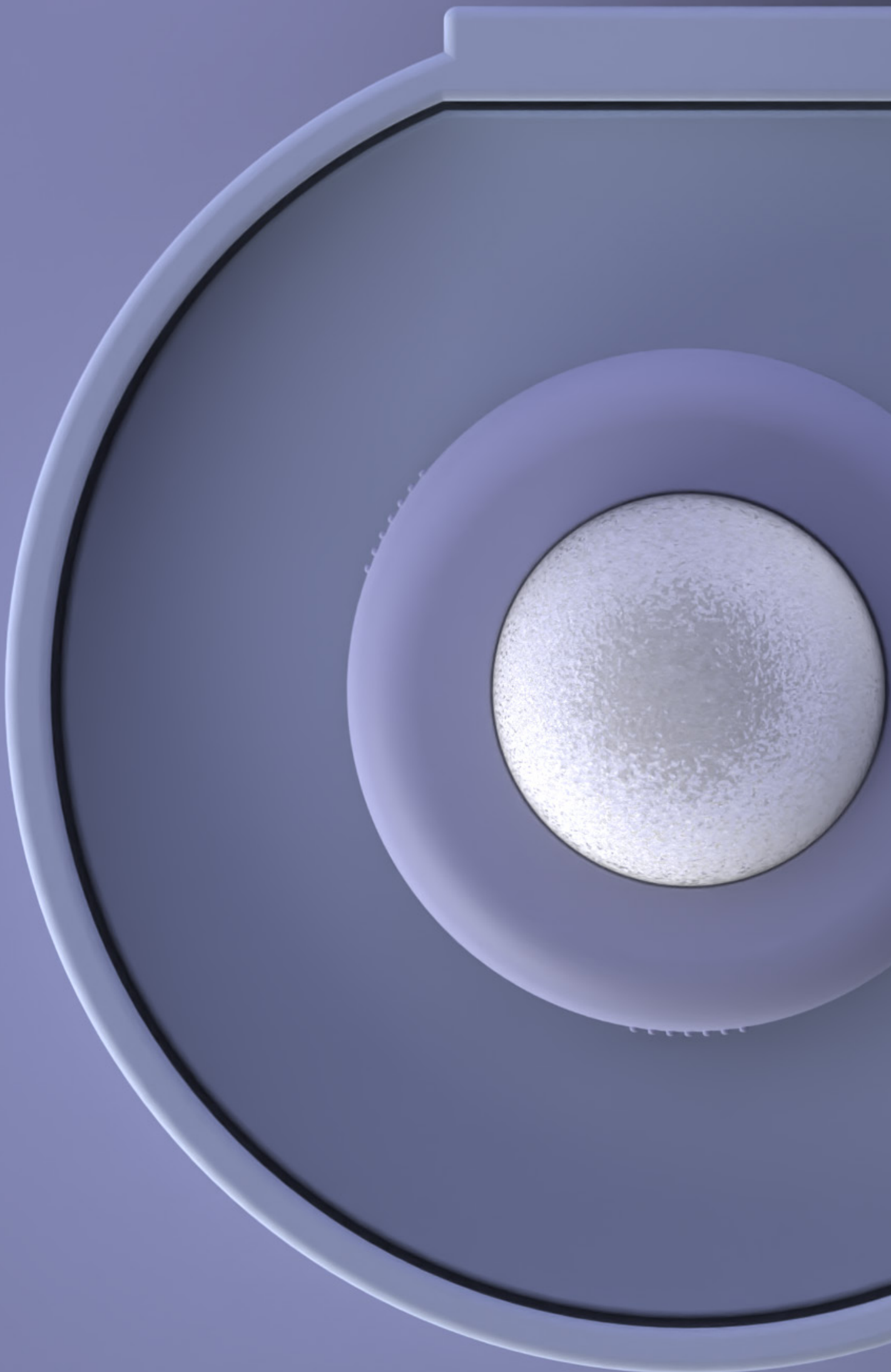
For the users, it can provide heat to relieve the problem of cold fingers and palms, and help release emotions through materials and textiles. Second, it can record the user's emotional journey by counting their movements and reporting the data to the user. This can help the user understand herself better through the digital report by seeing the changes in her own emotions. And accepts it to love herself.



To the outside, the product should not be hidden under the clothes, it should speak for the user and be seen by the partner or other people who can support the user, then it can cause a discussion on the topic of dysmenorrhea in the society. In the end, this could help make the problem of dysmenorrhea more widely accepted in society.

07.

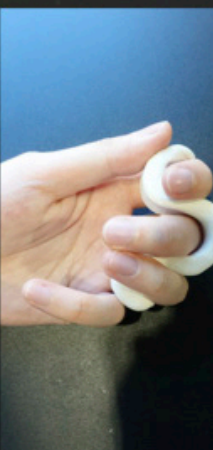
Concepts



SKETCHES PROTOTYPES

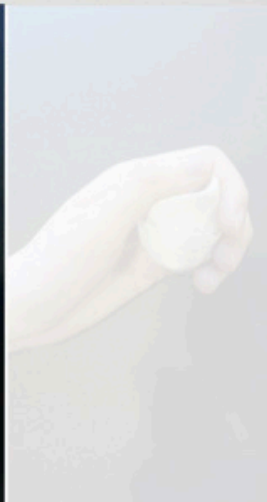
I did 10 Sketch Prototype explorations for different uses (from palms to fingertips), shapes, and materials (from soft to sharp) on hand, then I picked 3 to explore more in-depth.

Soft ←

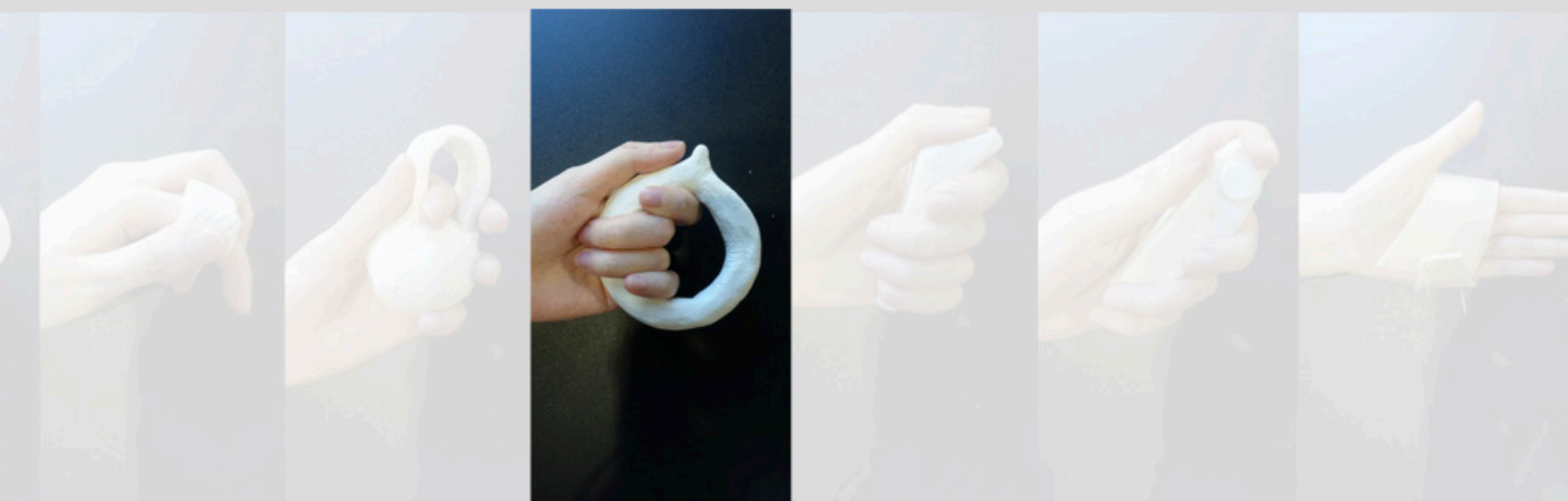




Soft ←



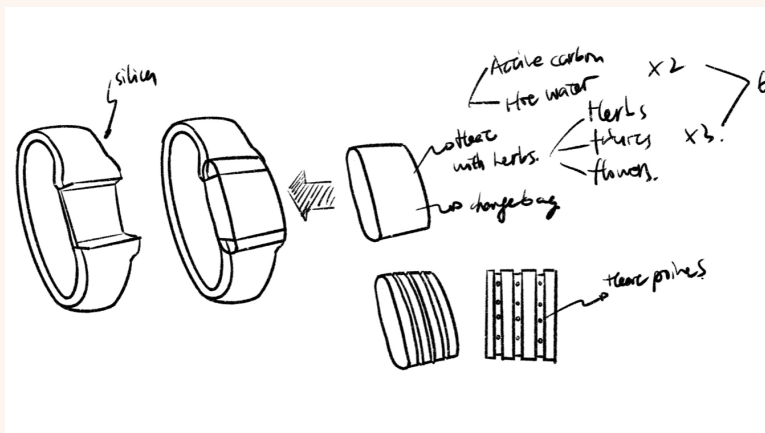
→ Sharp



CONCEPT 1

HEAT & NATURAL SCENT

The first concept explored relief with heat and natural scent. I mixed the three scents of **rose, tree, and Chinese herbs** into the activated carbon. Made two material explorations of **silicone, rubber, and plastic** in the same ring shape.



I have separated the silicone/rubber section from the activated carbon section to make it easier to replace the activated carbon pack. The aim was to give the user more flexibility to choose her own scents and surface texture. I made air holes on the back of the section where the activated charcoal is stored to facilitate more effective heat and scent on the hands. On the front, they have a pack of raised or recessed patterns to test if they are effective in relieving the emotions of the user. I then made tests of smell and material with users.

Rose & Tree

Chinese Herbs

Activated Carbon



Conclusion

It turns out that floral and tree scents are the most popular. And they like the idea of being able to choose between different scents. The silicone is softer to the touch and the rubber is of better quality. The dots on the front of the section where the activated charcoal is stored have a psychological effect on the user.

However, because the space for activated carbon is too limited, this model can't provide much heat to relieve the problem of cold fingers and palms.



Silicone



Rubber

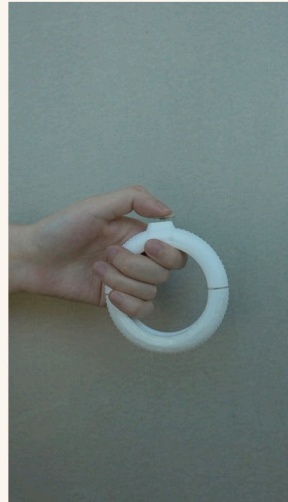
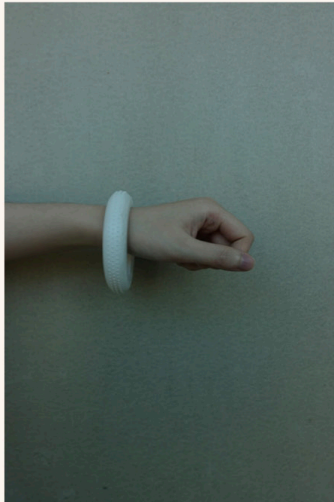
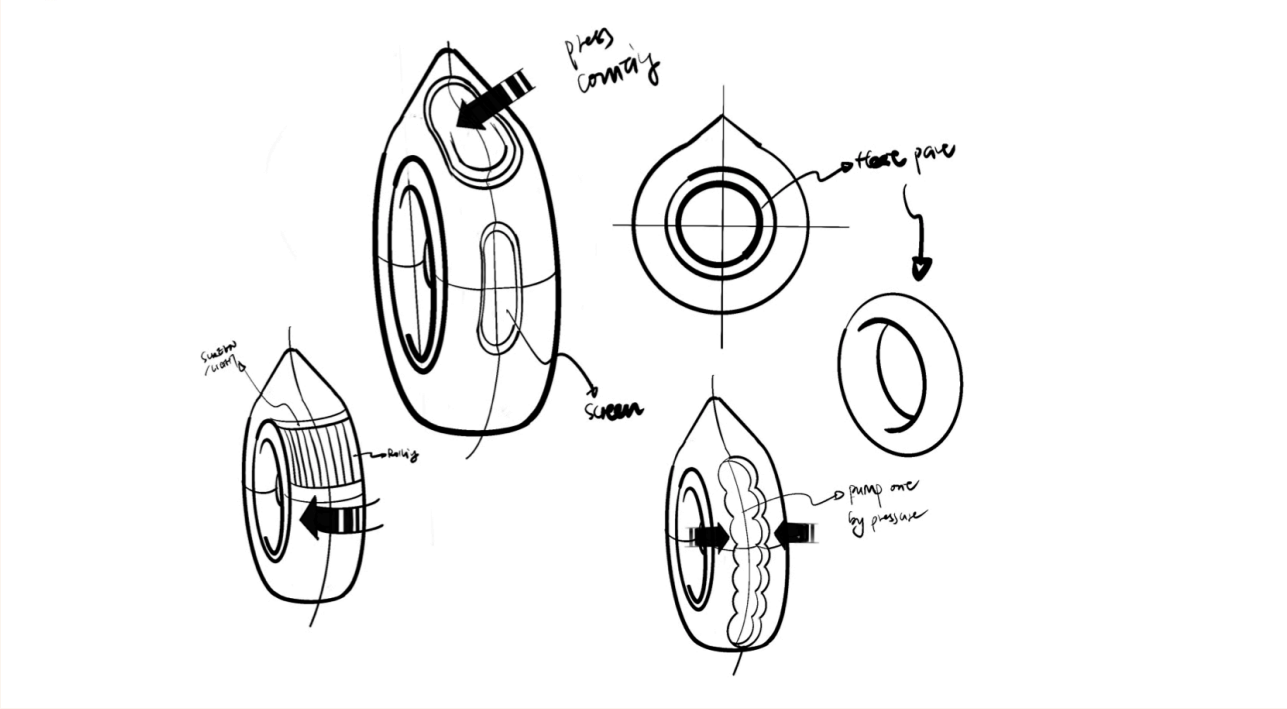
CONCEPT 2

HEAT & CLICK

The second concept explored what kind of trigger could have the effect of relieving emotional anger and anxiety. I chose clicking to relieve anxiety and made a bumped texture on the surface of the prototype. Inside the ring, I enlarged the space inside the prototype to accommodate more activated carbon, hoping to get better temperature support.

Conclusion

The shape of the bracelet is designed so that the prototype does not touch the skin and so the users don't feel the heat at all. Clicking was not seen as significant to reduce anxious or angry emotions by the users.



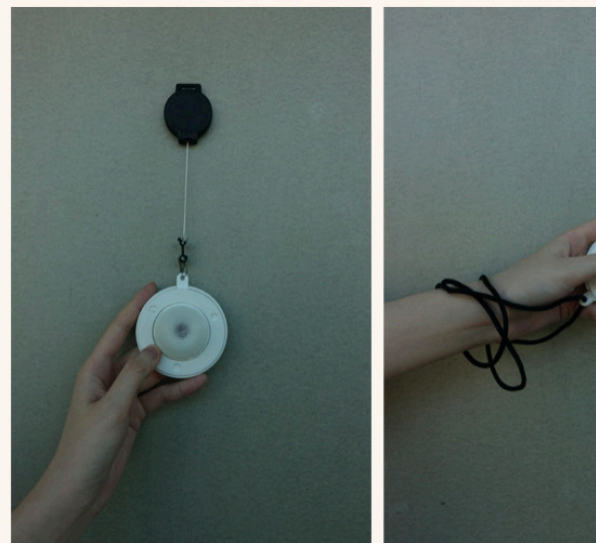
CONCEPT 3

PRESSING AND REBOUNDED

With the last concept, I wanted to relieve the mood through pressing and rebounding. By adjusting the depth and width of the silicone pressing, different degrees of tactile feedback is given. After testing, it seemed that the deeper the pressing, the more satisfying it was for the user; the width of about one thumb works best.

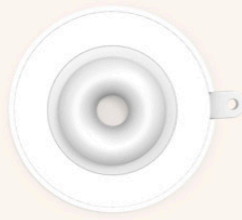
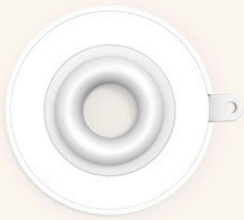
On the surface of the prototype, I also designed a circle that could be rotated, as I wanted to test whether that action would help release the user's emotions. The conclusion I got for this rotating feature was the same as concept 2, the users did not find any meaningful emotional relief.

In summary, I decided to take the concept of scents, bumps, and pressed silicone as a solution for emotional relief and brought it to the product development stage.





Rolling



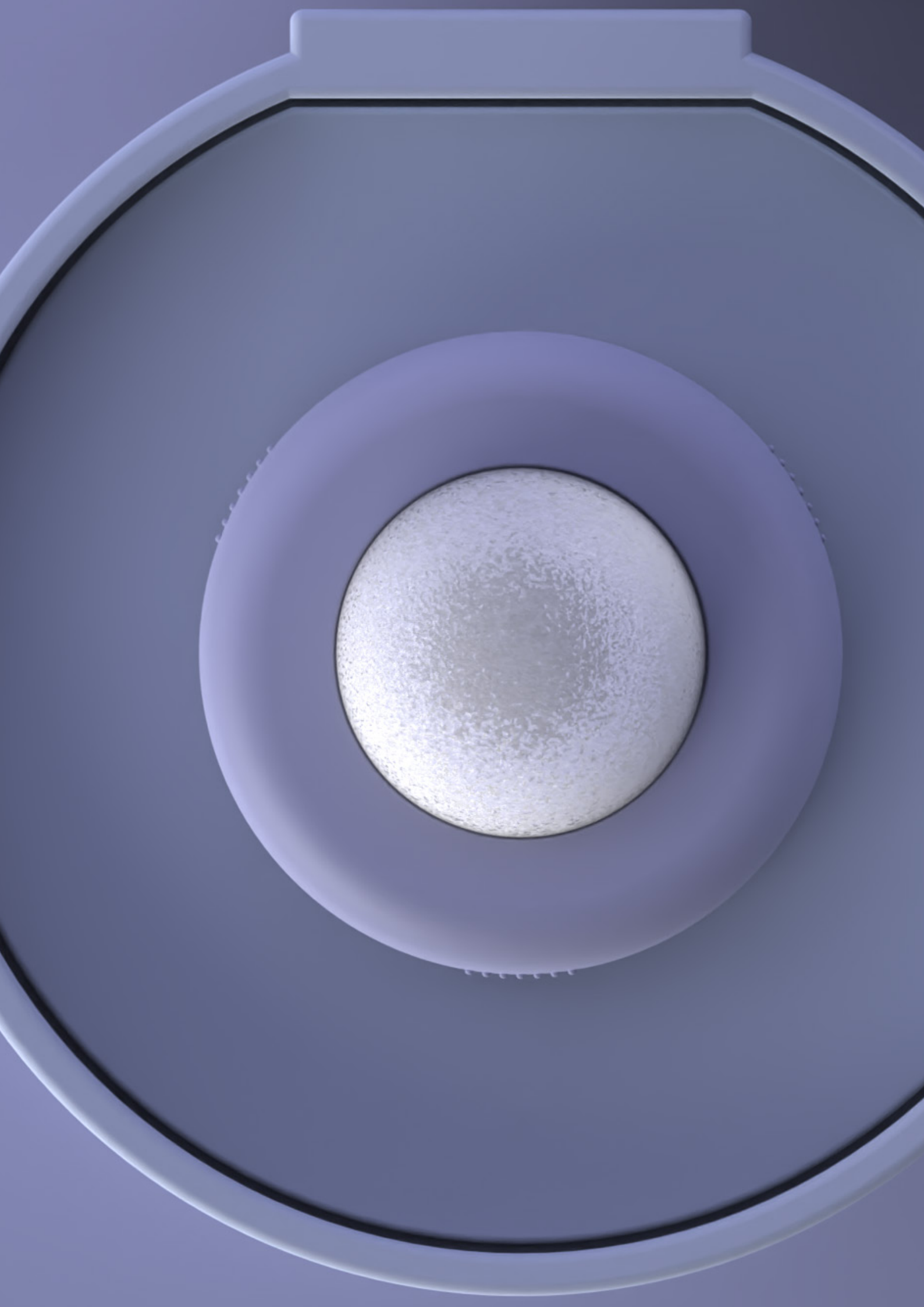
Pressing

08.

Product

Development

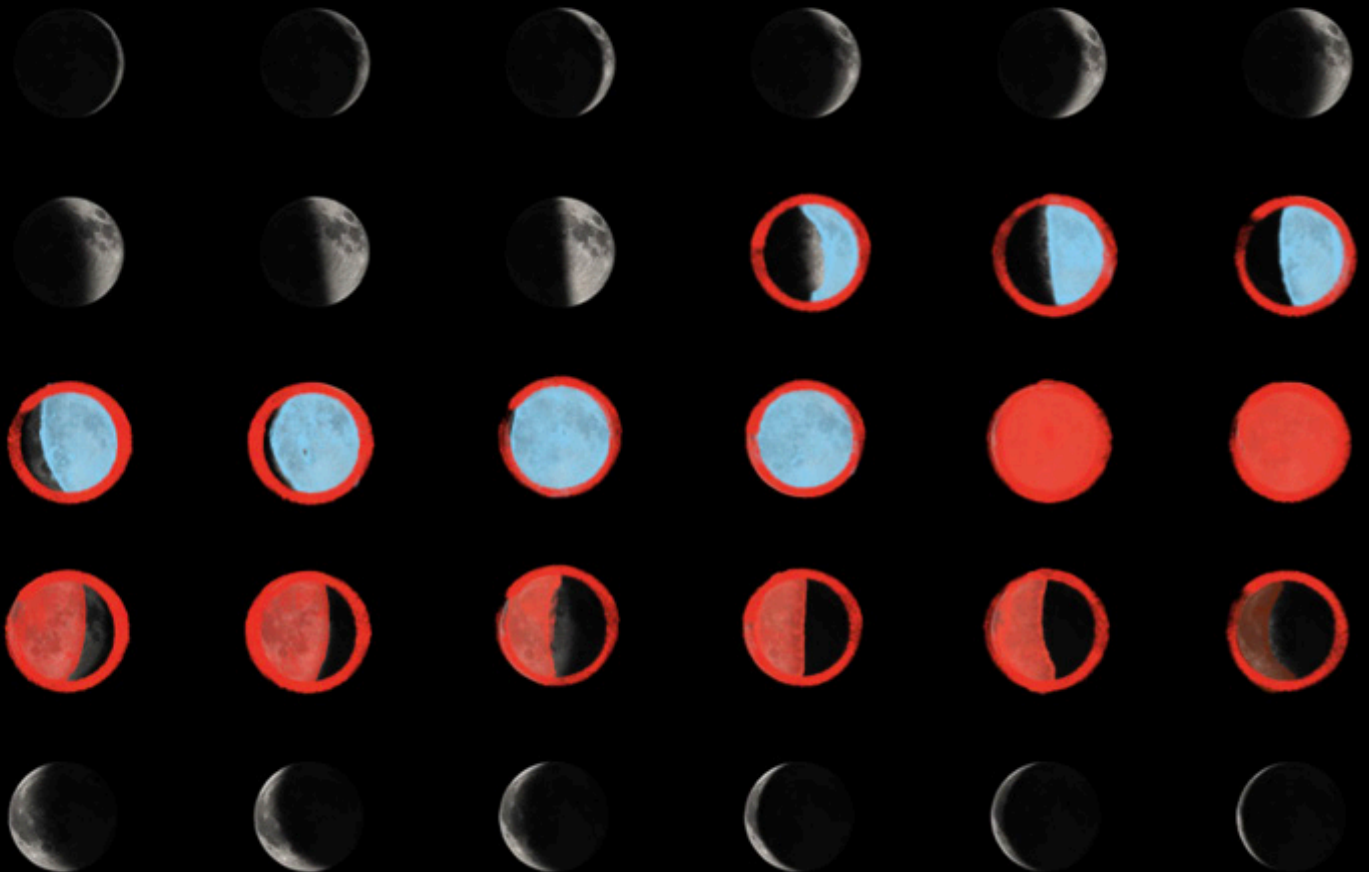




I. *MOON PHASE* *METAPHOR*

The feature of menstruation is monthly, but PMS and bleeding days only take up about half of one month. Therefore, this product has a characteristic in terms of frequency of use - it will be idle for half of the month. This characteristic is important for the identity of this product.

Moon phase cycle & menstrual cycle



After some sketching ideas, I decided to use the metaphor of the moon phases as the identity of the shape of the product. The moon phase⁽¹⁴⁾ refers to the shape of the Moon's directly sunlit portion, which generally has a cycle of 29.53 days. Meanwhile, the menstrual cycle is 28 to 32 days which means it is very similar to the moon phases.

The word ‘月 (moon)’ in ancient Chinese evolved from the shape of the moon. Nowadays, the word 'moon' can form parts of the words 'moon', 'month', and 'menstruation' in Chinese characters, respectively. Thus, in the context of the Chinese user group, the metaphor of the moon phases can be easily captured.

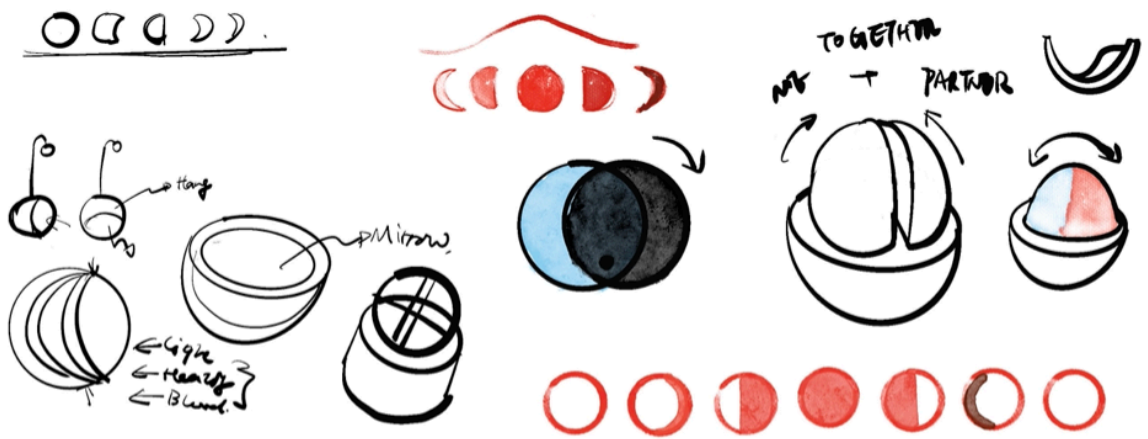


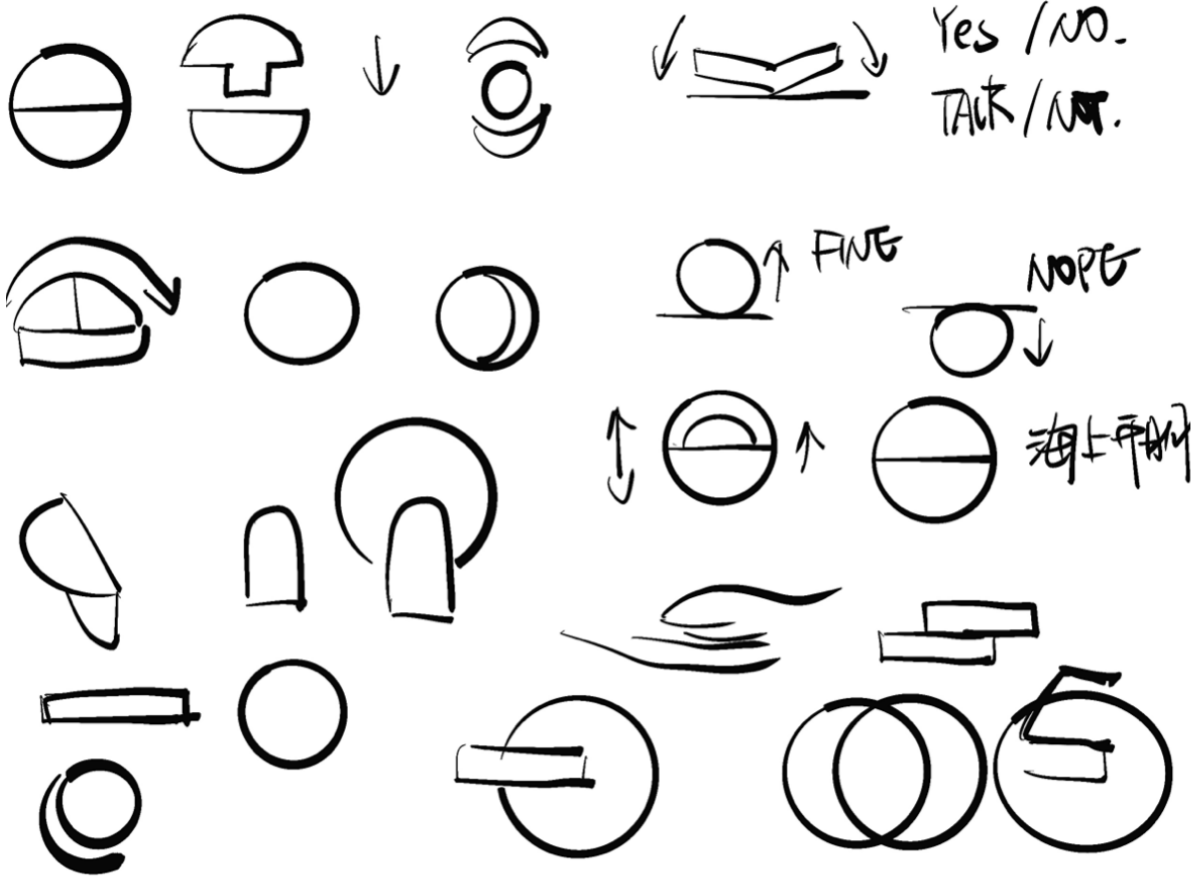
Moon

Month

Menstruation

'月 (moon)' evolving





II.

PRODUCT JOURNEY

According to the idle features, I decided to design the product in two portions. The small part is a handheld product that should contain scents, temperature adjustment, and the texture to help release emotions. It can be easy to carry to any scenario, such as the office and transportation.

The big part should contain a moon phase metaphor and it should be set in the home where it can be seen by the user's partner, roommates, and/or parents. When the user takes out the main part, her close ones can get a signal indicating that "she is not good", so that they can actively provide some meaningful moments for the user. It should be hung on the wall to be seen by others and draw stakeholders' attention to the topic



carry



Set in



y out



n home



III. *PRODUCT* *DEVELOPMENT*

I divided the changes in the moon phases metaphor into two ideas. One is based on every month, the moon will change from the new moon to the full moon and then to the waning moon. The other is that the moon will rise and fall on a daily basis.



New moon - Full moon - Waning moon metaphor:

I designed the model as a lid that can be opened and closed, and when the lid is closed, people see a full moon, but when the lid is slowly opened, people can feel the moon phases. Once the lid is fully opened, people can use the main portion of the product. In addition, I want the user's partner, parents, and roommates to understand the user's "I'm good" or "I'm not good" by switching the lid open and close.

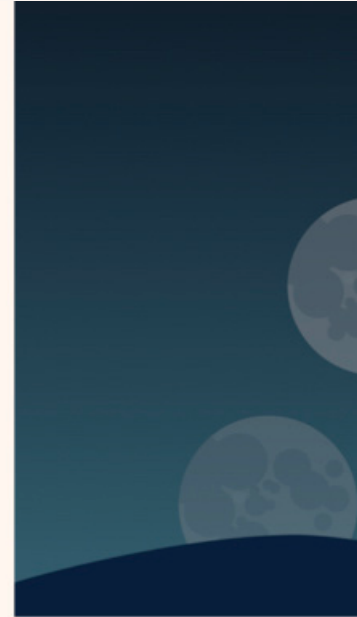
Model testing concluded that "it takes too long a time to teach users how to use it". When should the lid open? When should the lid close? What if the lid was accidentally switched on/off? Such interactions are overly complex and confusing and the users take a long time to learn and practice how to interpret precise information from the products.

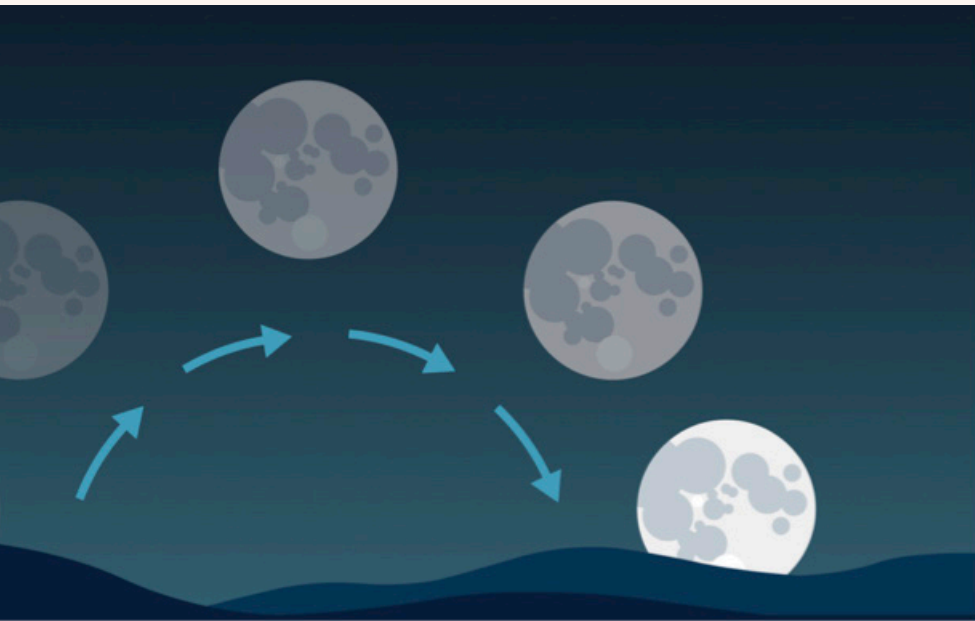


Moon rise and fall metaphor:

In this model I designed “I am good” and “I am not good” states by picking up and putting parts of the model down. I used magnets to connect the portions. When the small part is used, it can be clearly seen that it has been taken away, conveying a signal of "I'm not good". The big part looks like the sea, the small part looks like the moon. When the small part has been taken away, the moon falls under the sea. And when it was put back, it was like a bright moon rising from the sea horizon.

The second idea helped express the message more precisely and completely while being user-friendly. I decided this would be my final solution for this project.

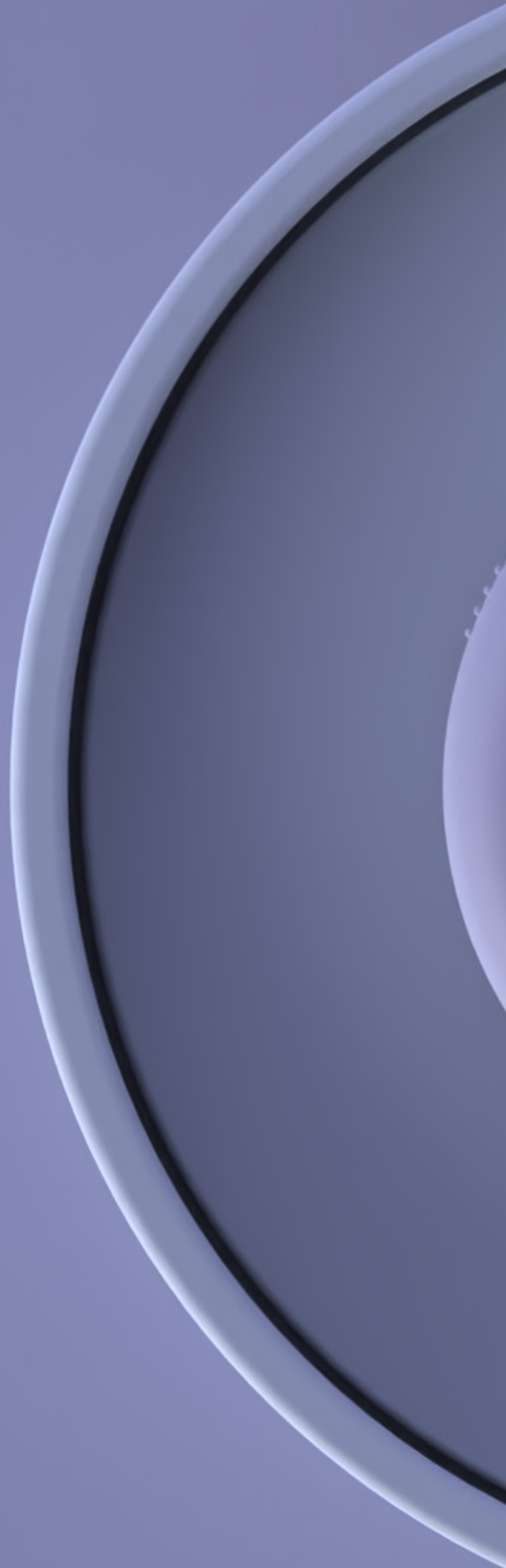


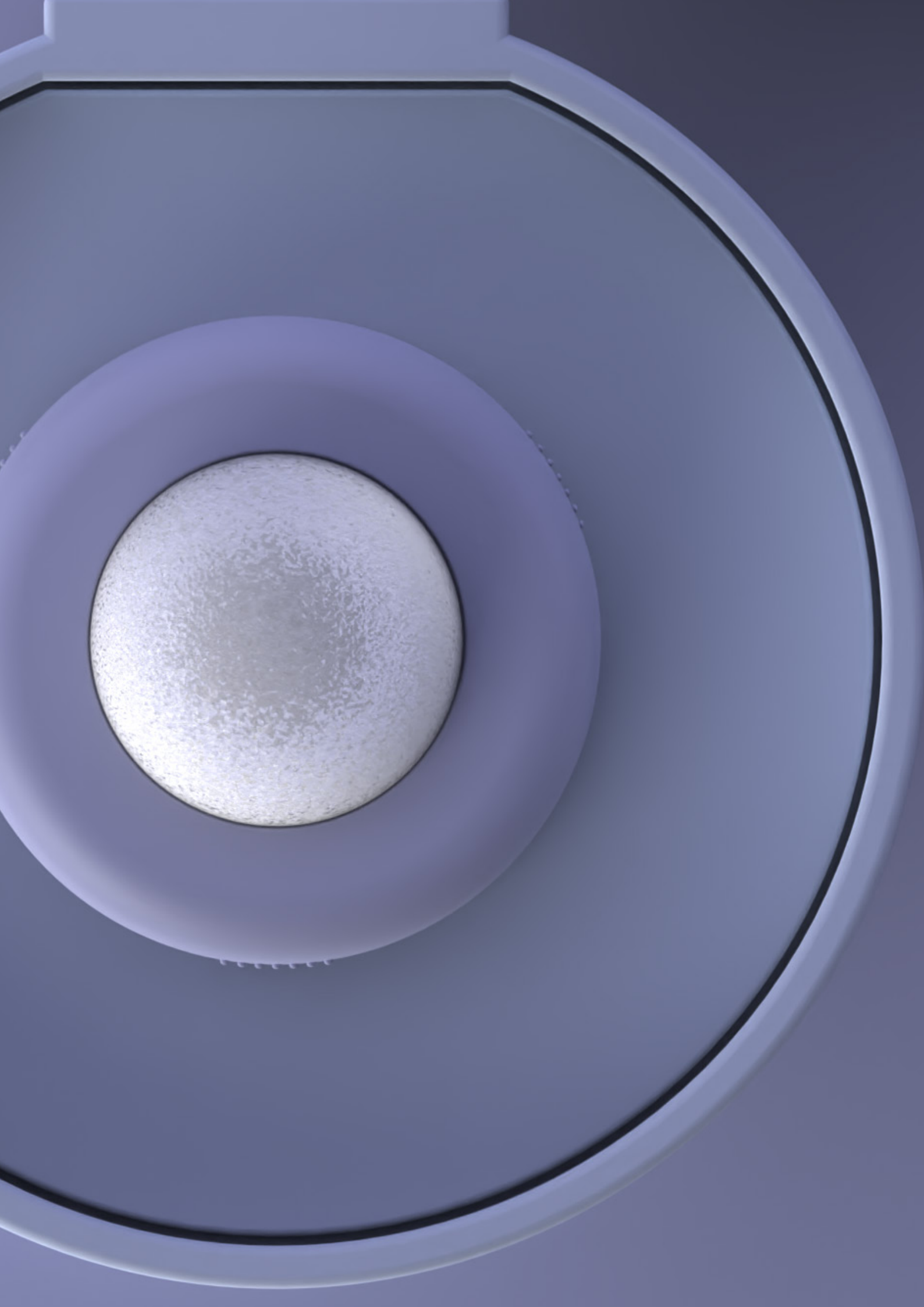


"I am not good" states

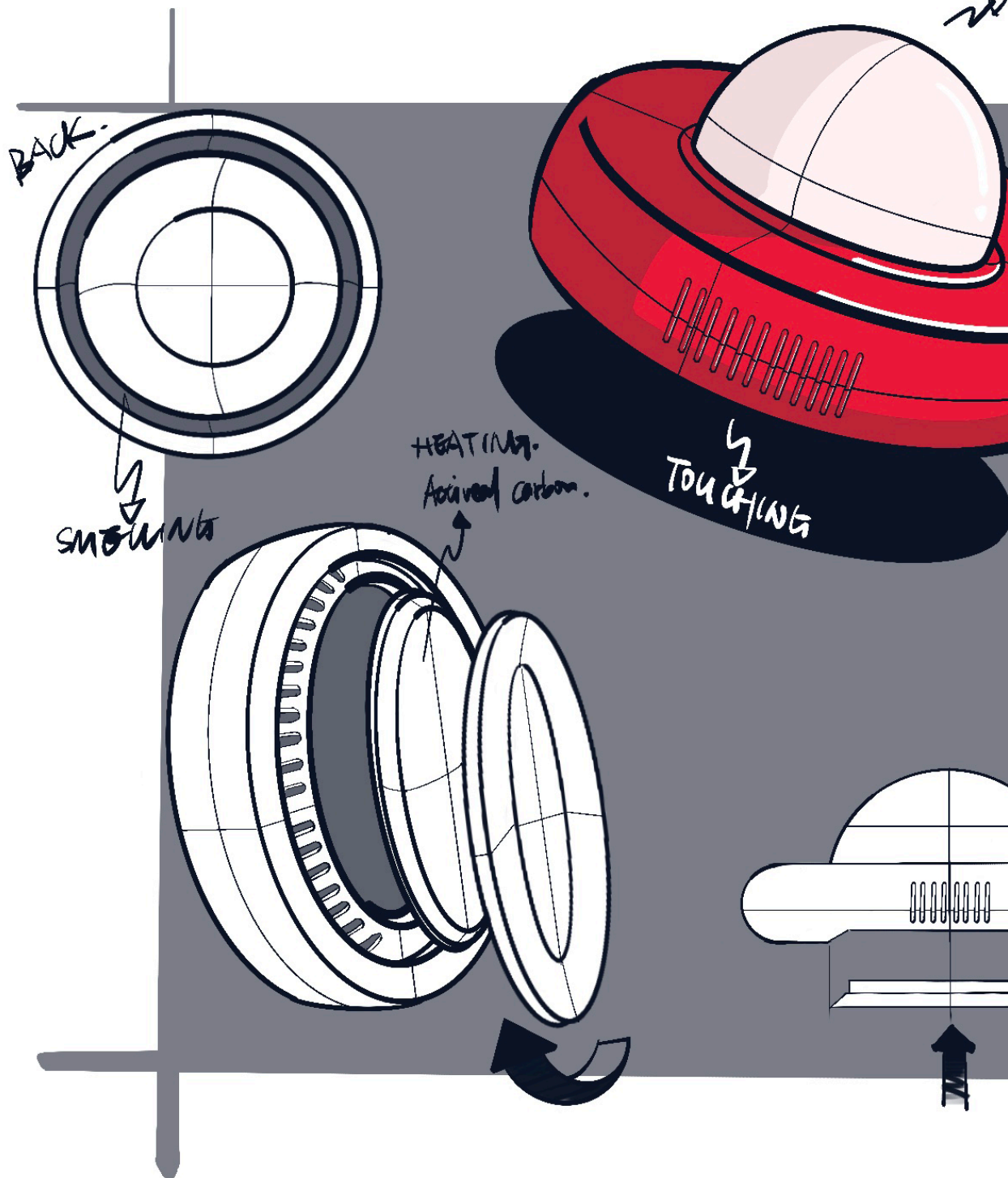
"I am good" states

09.
Design
Proposal





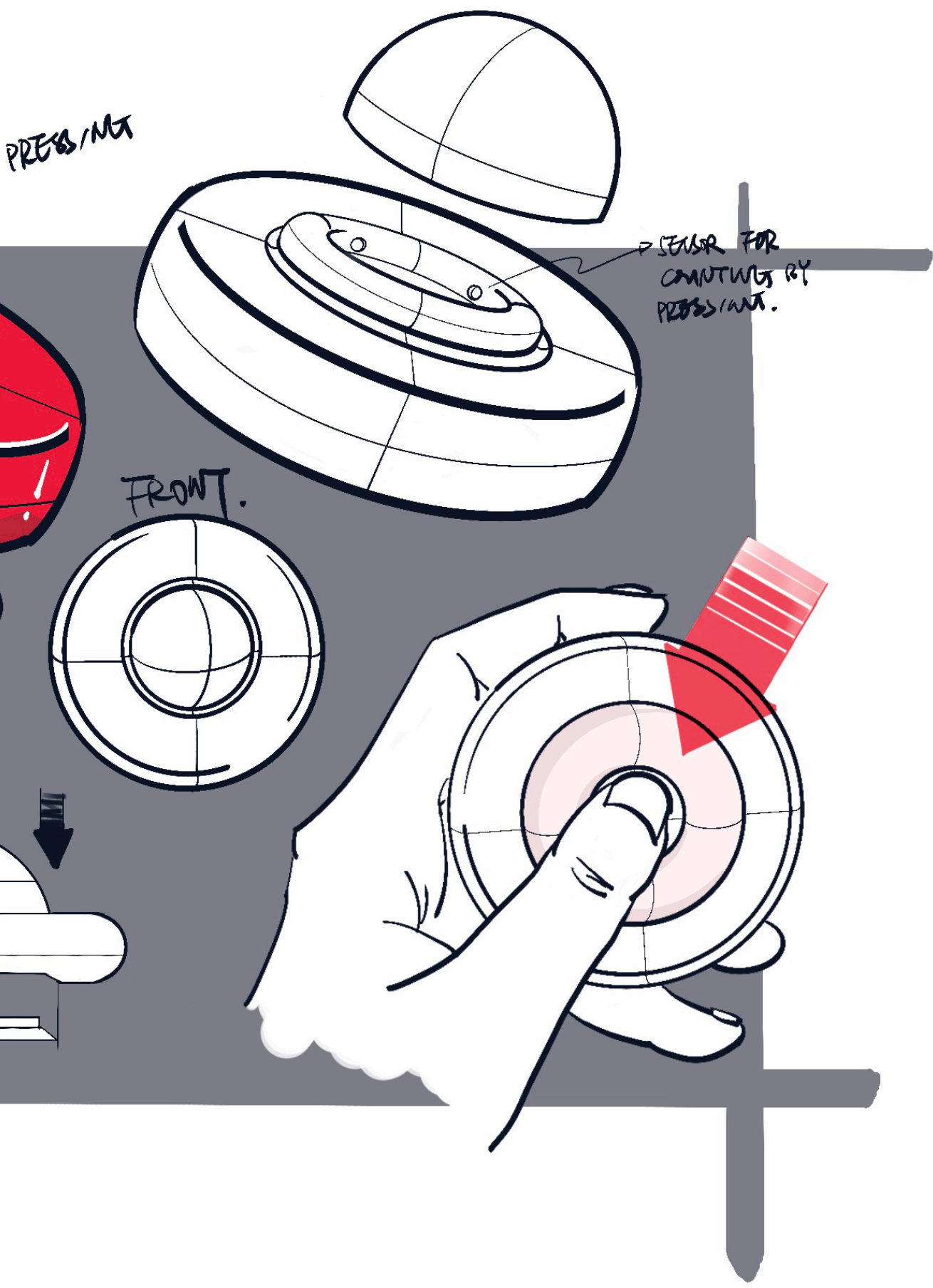
After the product development stage,
I refine design details by drawing.

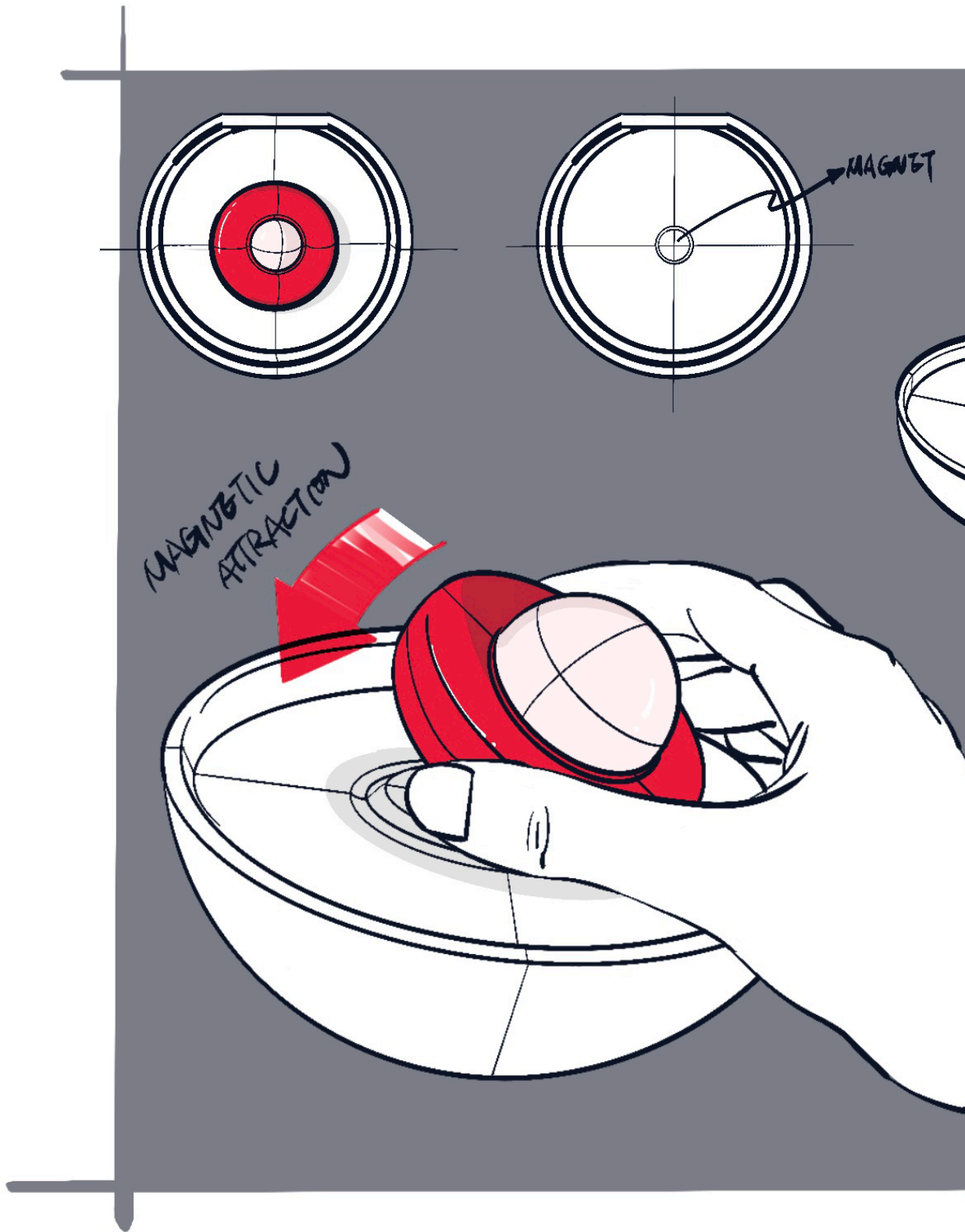


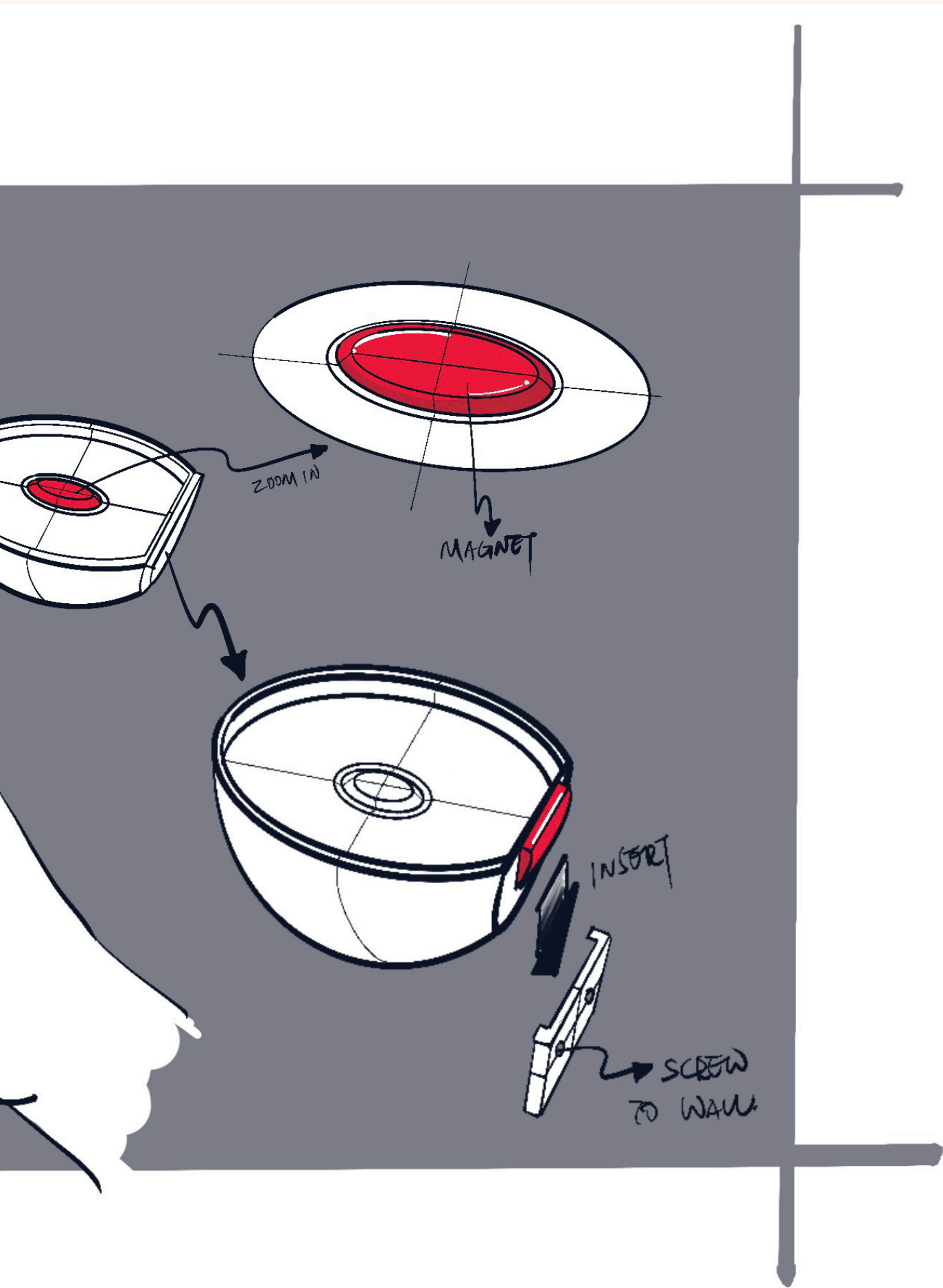
PRESSING

SENSOR FOR
COUNTING BY
PRESSING.

FRONT.



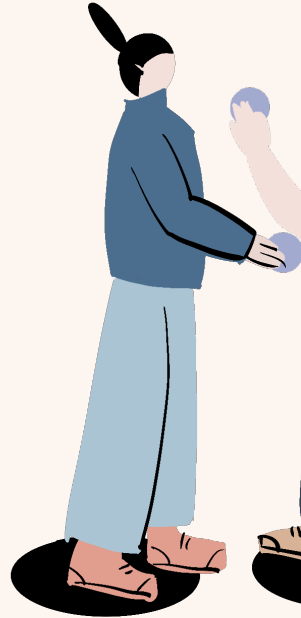
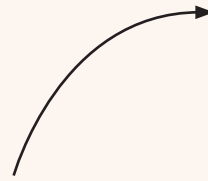
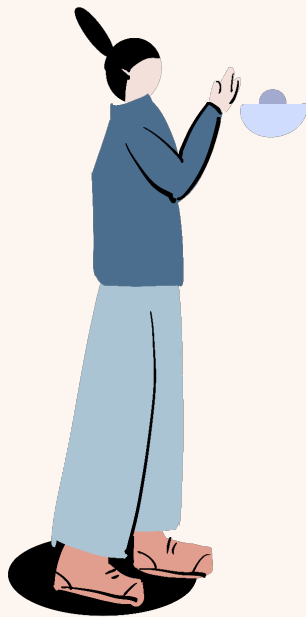




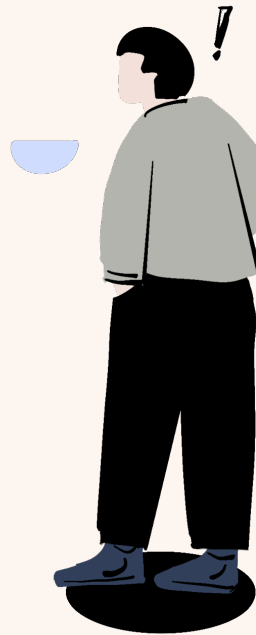
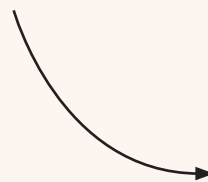
USER JOURNEY



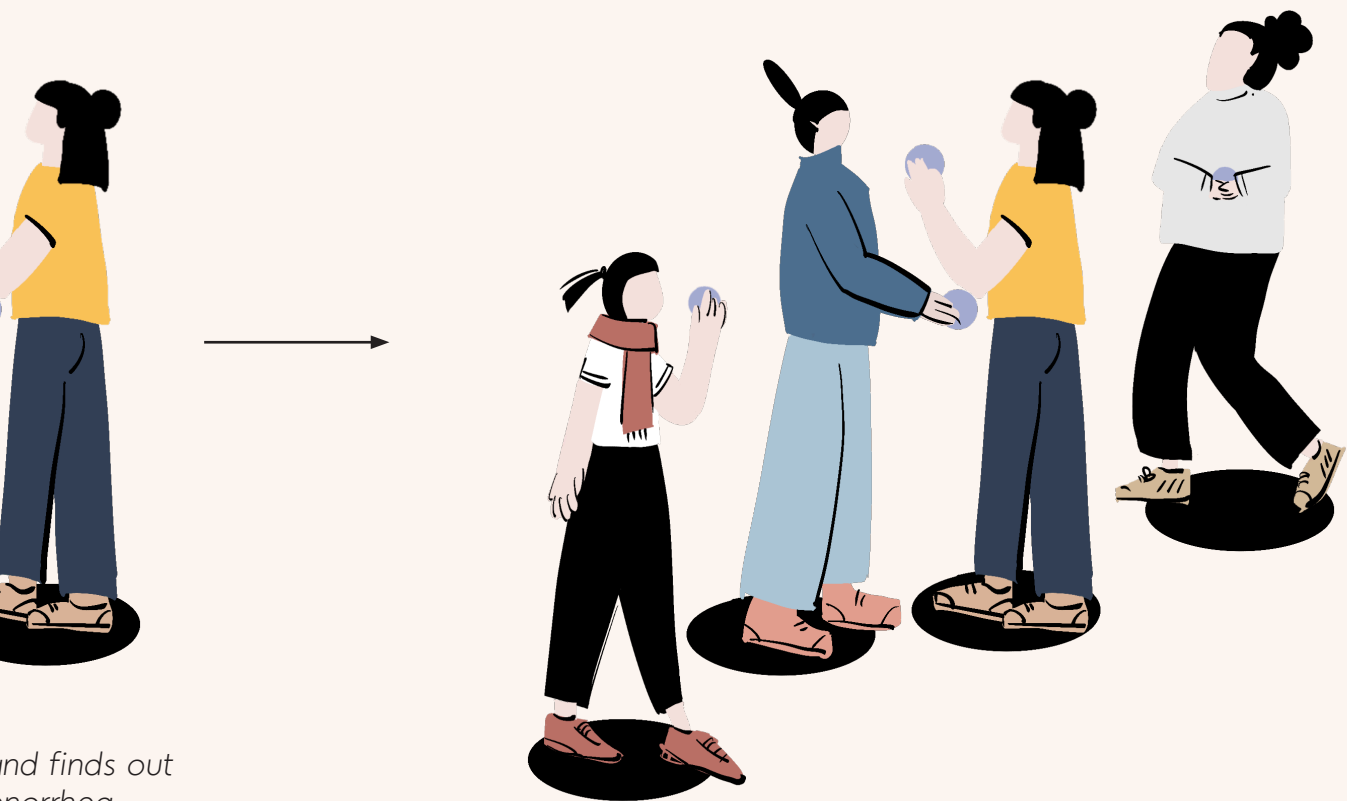
The user feels not good and takes the small part of the product.



She meets her friend and they are both in dysmenorrhea.



Her partner finds the product good because she took the product.



and finds out
dysmenorrhea.

More users join the group and they discuss
dysmenorrhea in public since.



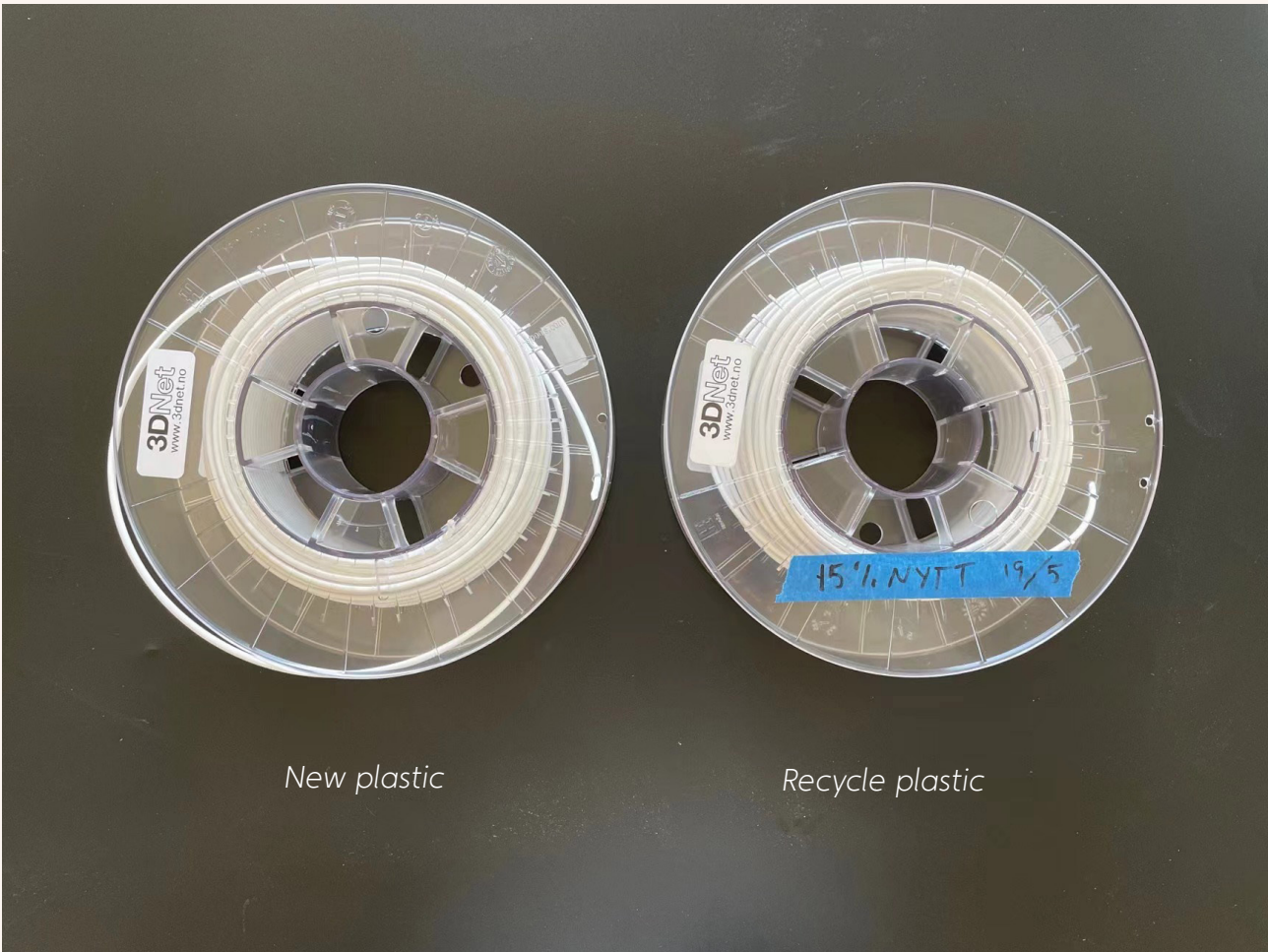
but she is not
pick out the small

He gives her support proactively and they create a
meaningful moment together.

CMF DESIGN

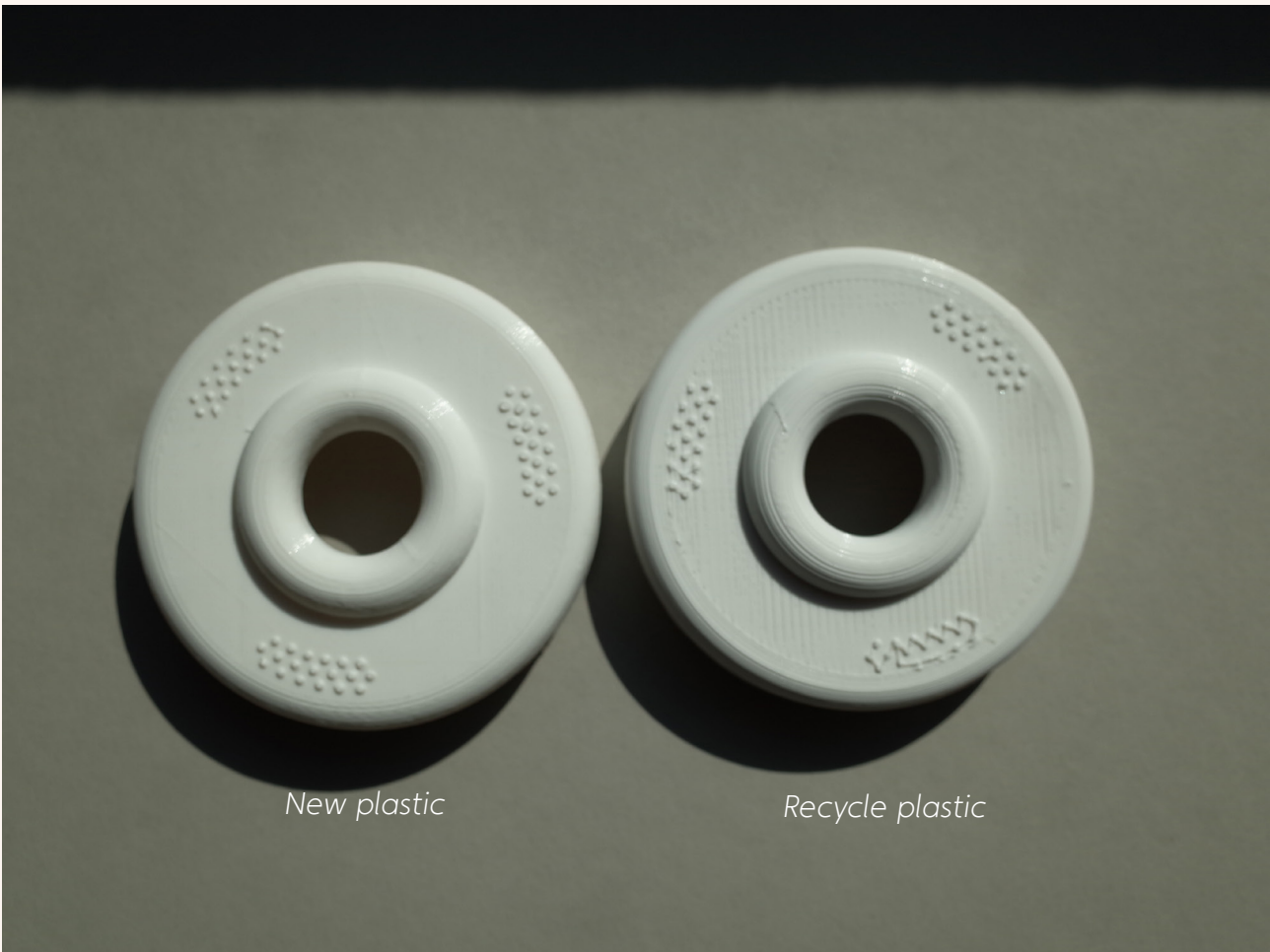
Materials

China is a big market, and if only 1% people buys one Eboon, it is still over millions of people. That means there can be huge industrial pollution from its manufacture and production. I think product designers must think about how to recycle and reuse materials to reduce industrial pollution while solving the existing problems. Plastic is the material that has been used the most in Eboon. I went looking for some recycled plastic and test how good it was for making the final model. I found some in AHO and made a model. The conclusion is that it can achieve the same quality and functions as the new plastic.



New plastic

Recycle plastic



New plastic

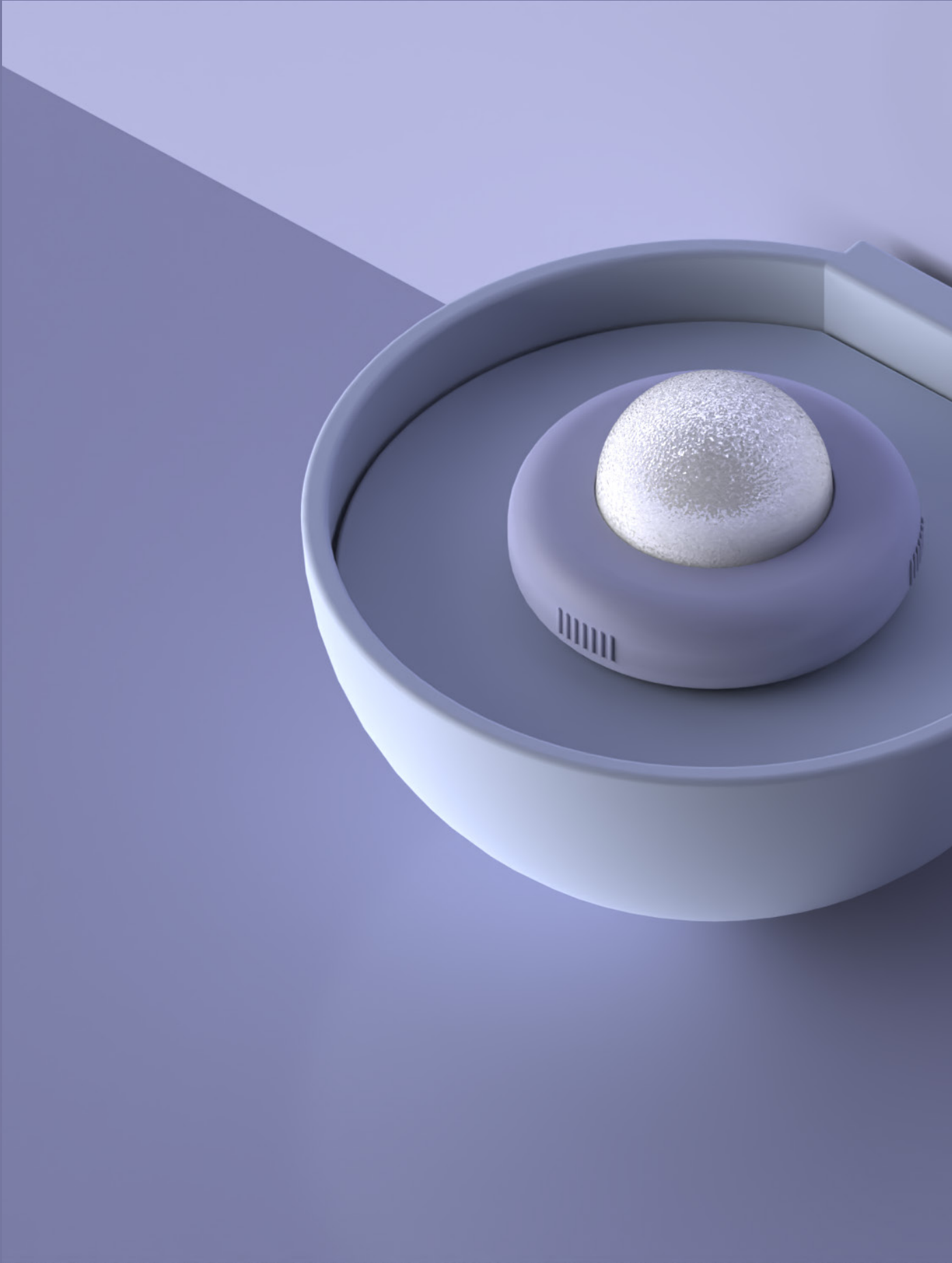
Recycle plastic

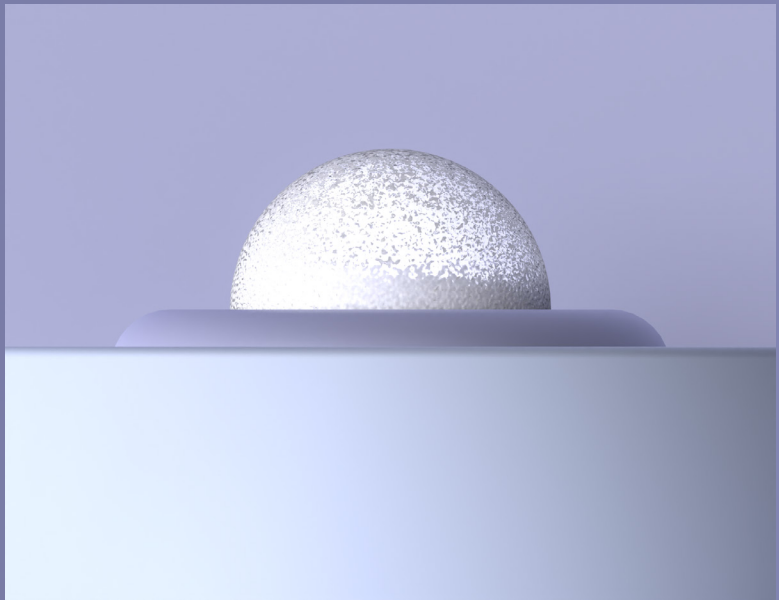
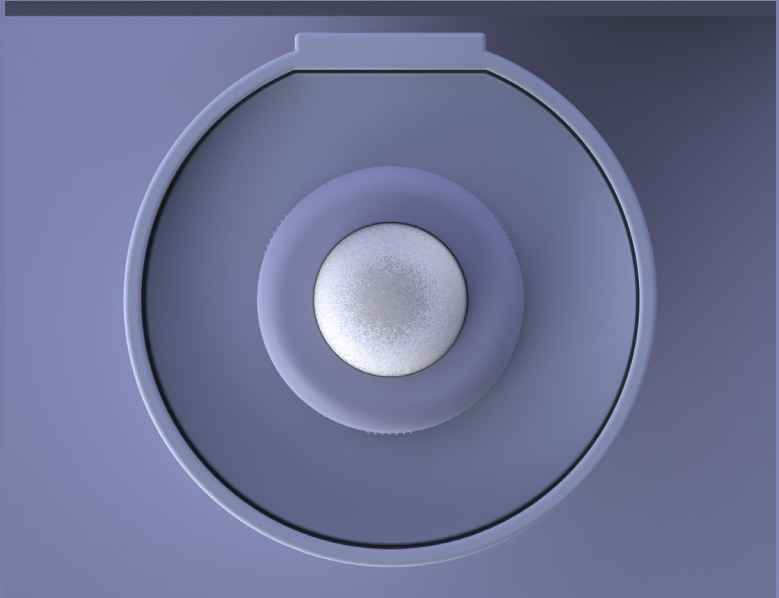
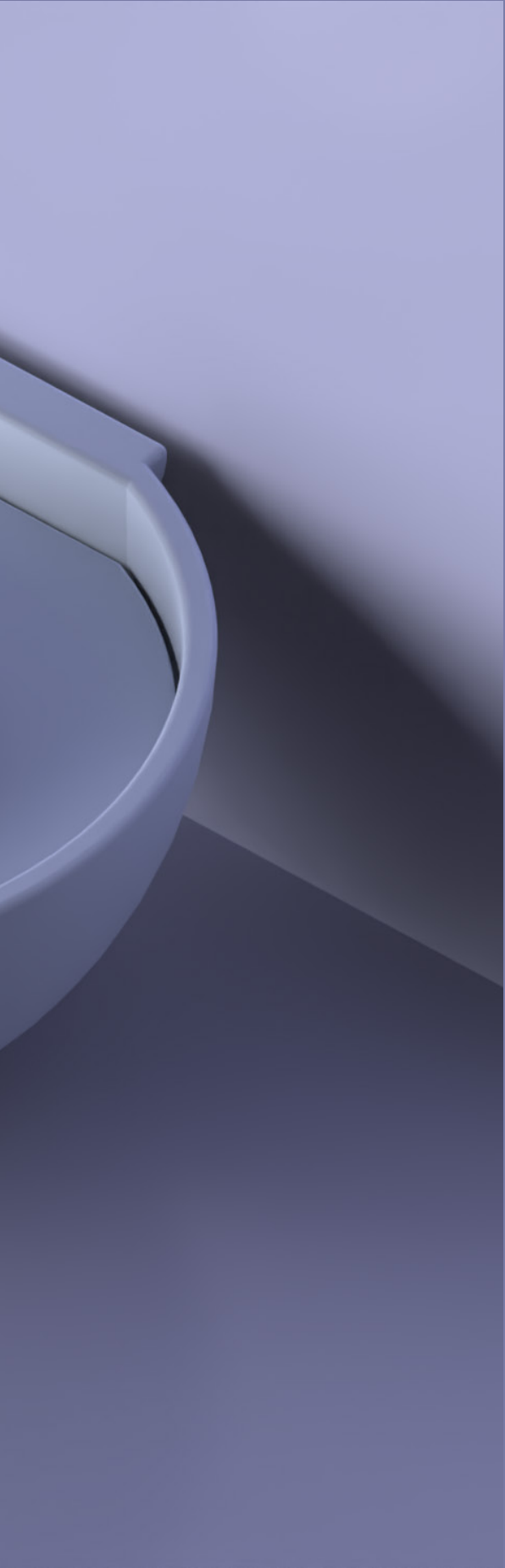
Color

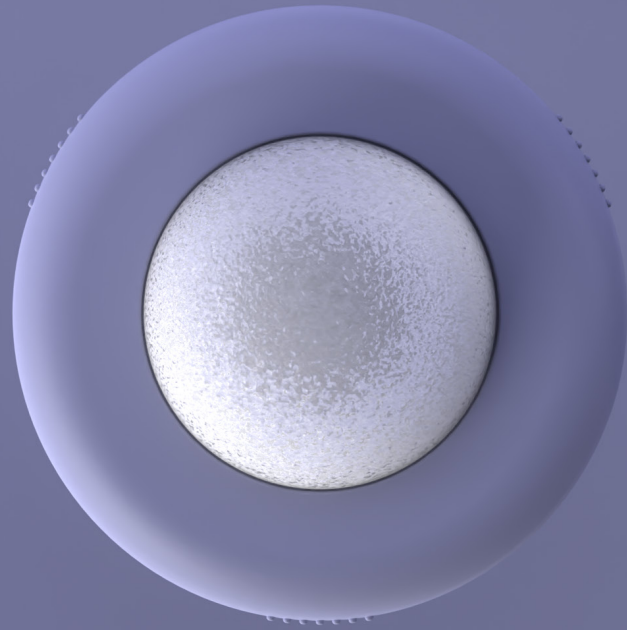
I tried multiple colors in 3D software. Since this product is meant to be hung on the wall, the color should not be too dark or heavy. At the same time, I wanted to accurately express the metaphor of the "moon". The moon does not emit light and belongs to the night, so I used blue and purple as the colors of the product. I also designed a warm pink color inside the product. I hope that when users open the product to use and replace the activated charcoal pack, the pink color inside, and the floral scents can let them have a pleasant experience.

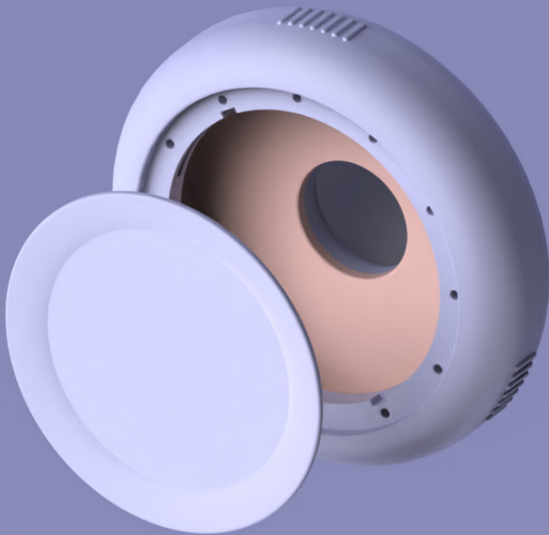




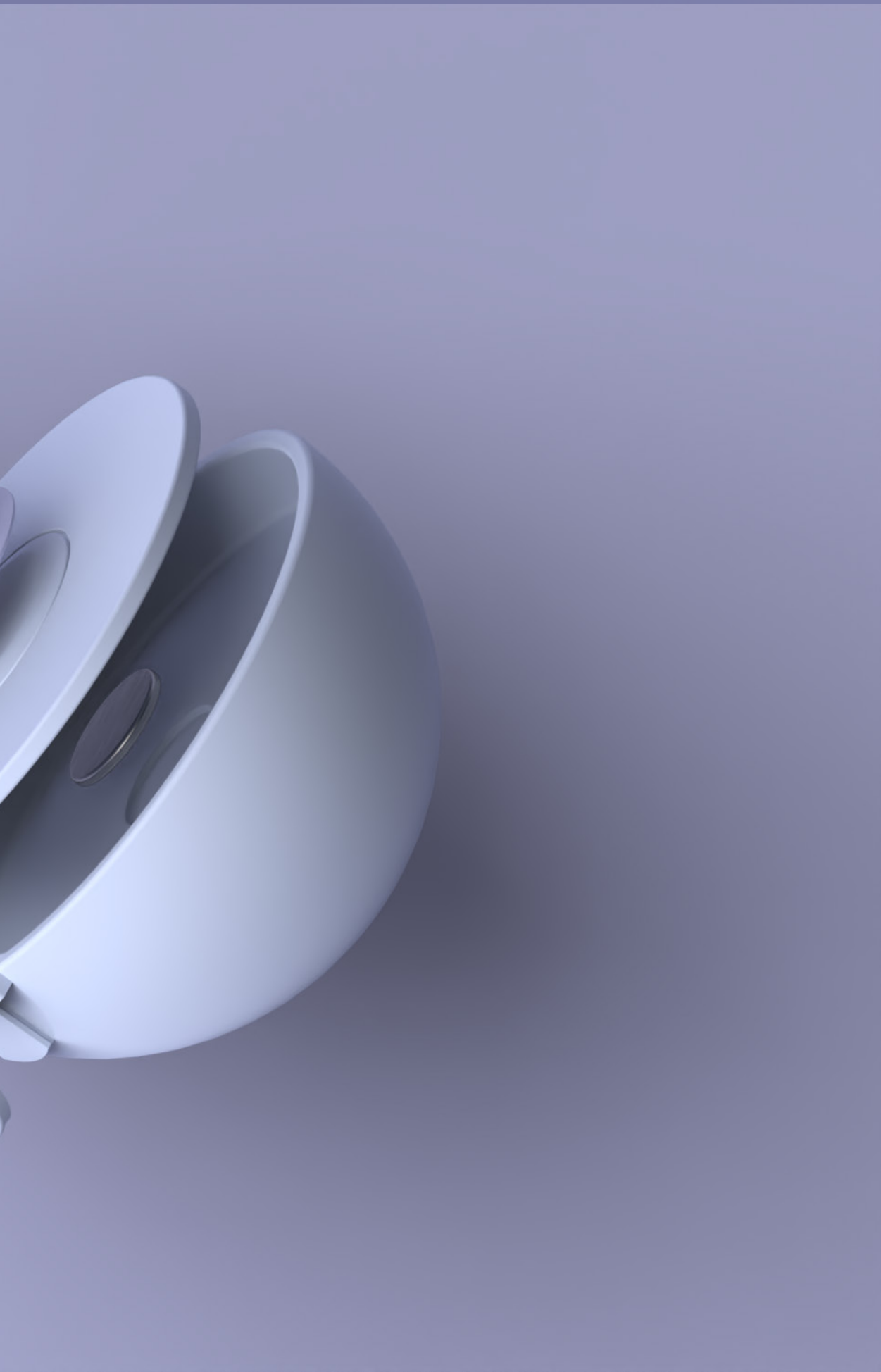


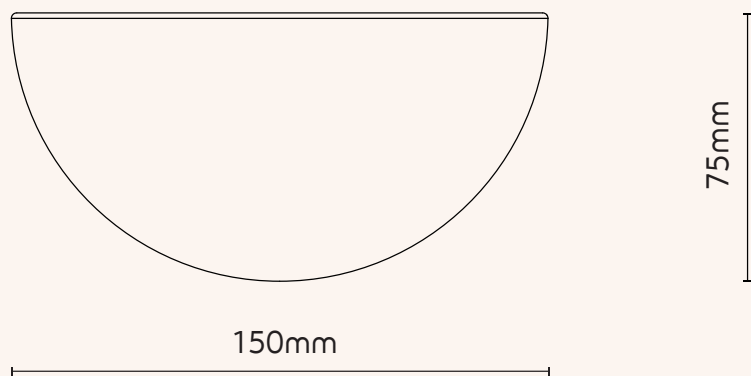
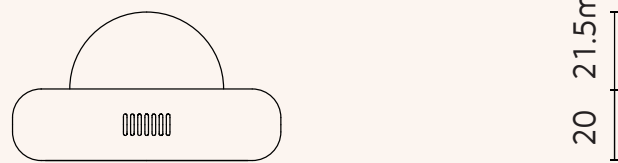
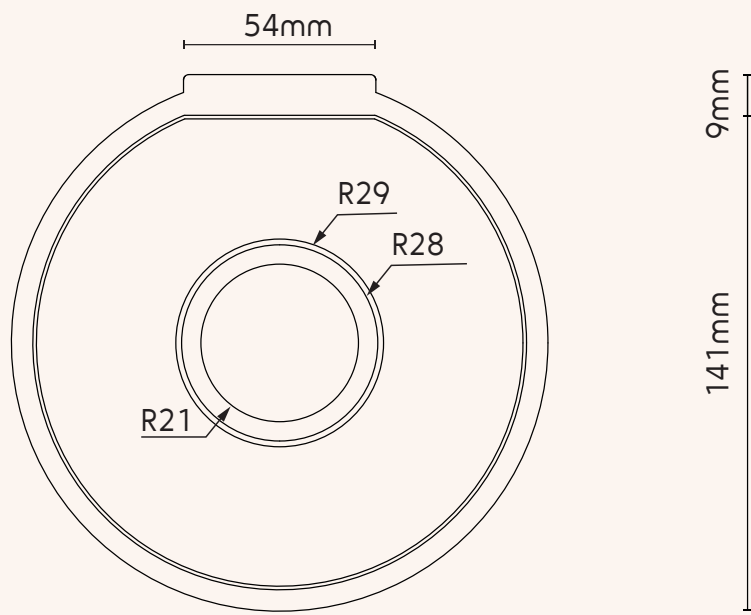
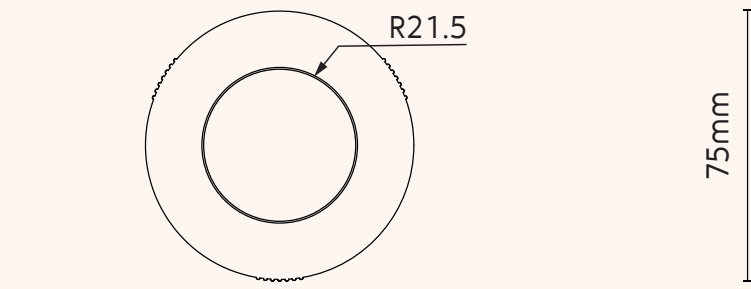


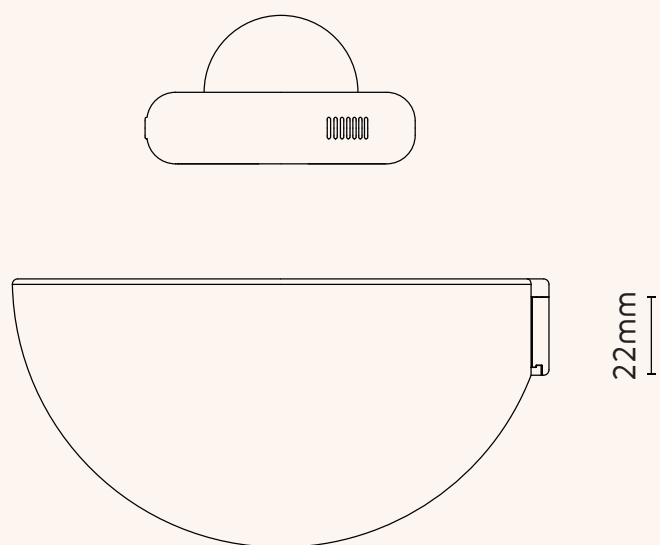








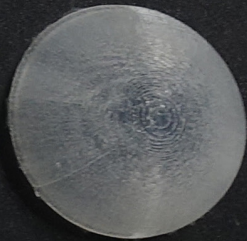
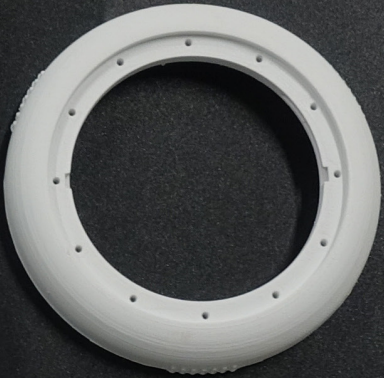


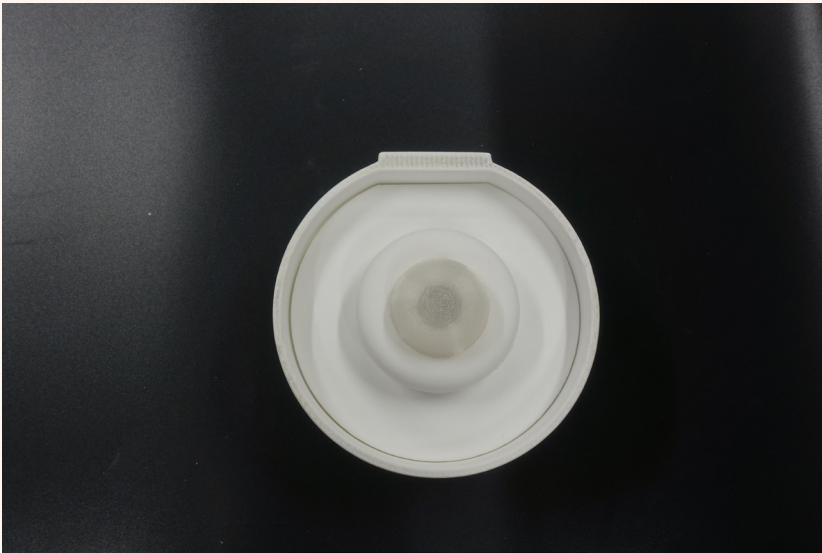
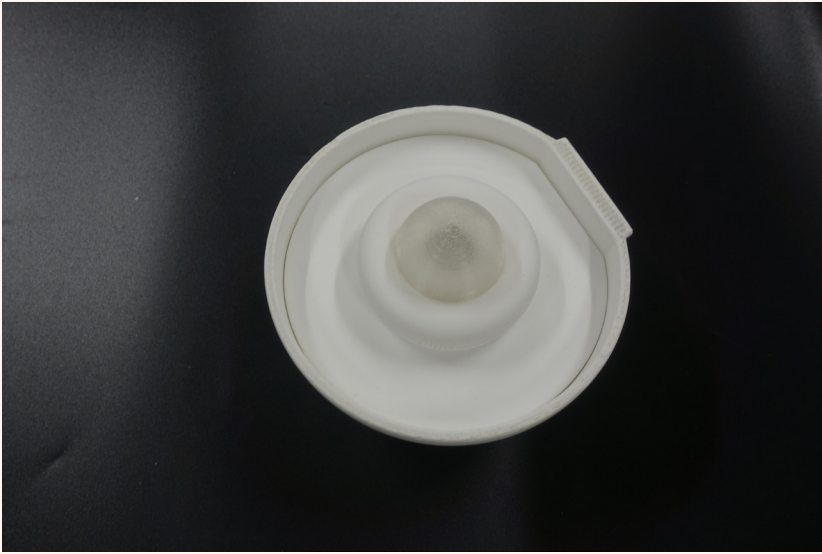


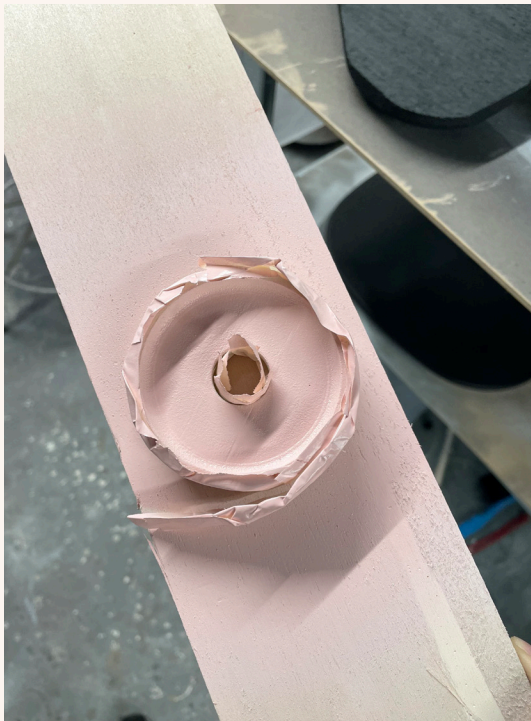


PROTOTYPE















計



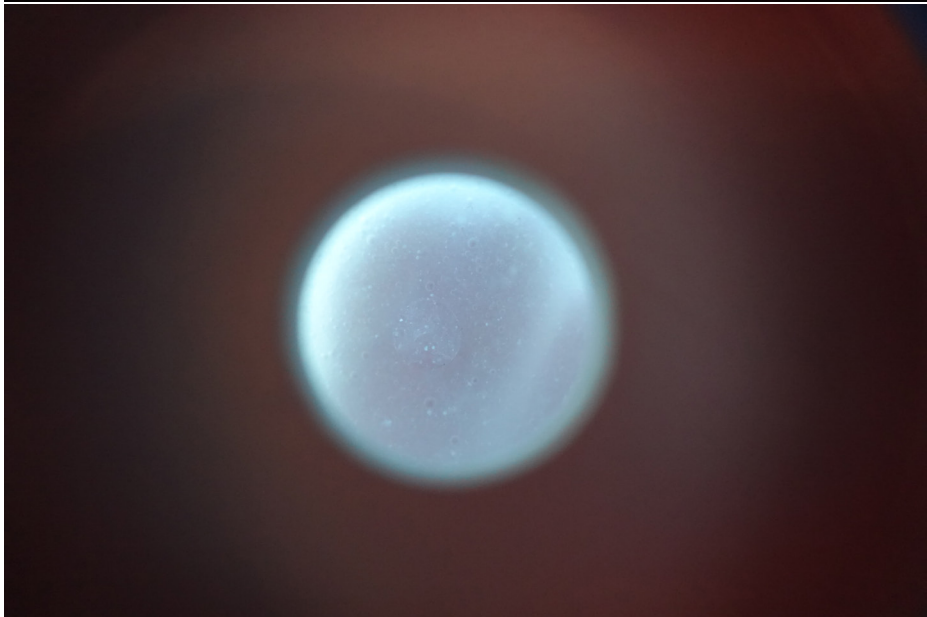
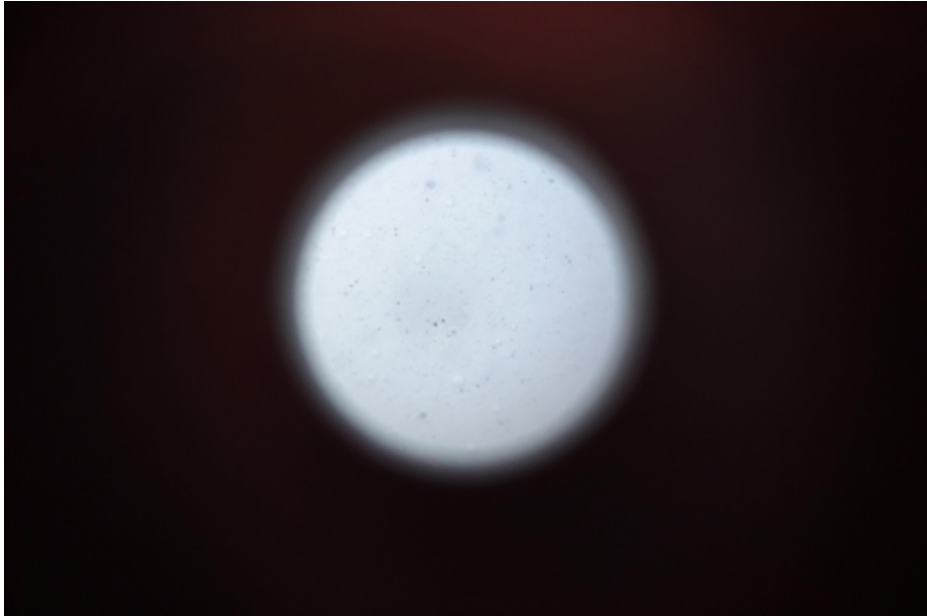


















10.

Contributions

Reflections

Feedbacks

I.

POSSIBLE PRODUCT CONTRIBUTIONS

Firstly, these products could provide mental and physical relief for women suffering from dysmenorrhea symptoms. It allows women to reduce their symptoms independently by using a variety of senses, such as smelling and touching. On top of this, it quantifies emotions so that women can understand themselves better through quantified data. The products also allow women to talk to themselves when they have an emotional breakdown in a more compassionate way. For example: "These negative emotions are not wrong, they are just a physical manifestation. And rather than being controlled by your brain, they are controlled by hormones. Please stop beating yourself up and love yourself."

Secondly, the products create a visible bridge between a woman and those close to her. When a woman is suffering from an emotional storm, she can use this product to speak silently. Her nearest and dearest observe her emotions through the product and are more likely to be proactive in giving her emotional support. For the male partner in particular, the product allows them to see the "when" of the symptoms, and the product helps communicate a clearer message for both parties.

Thirdly, the product creates an opportunity for social discussion on the topic of dysmenorrhea. People would refuse to discuss dysmenorrhea in public because of its private nature, which at the beginning was intended to protect women. This made it impossible for women to escape the social pressure of dysmenorrhea by, for example, not being able to take normal leave when they had the symptoms during work. The social contribution of this product is that women suffer less because of what others do not understand. This product starts with a woman and her close ones, which may seem like a small 'unit'. I believe that if the discussion is sparked in each 'people unit' through this product, the topic is not silent anymore.

II.

REFLECTIONS

I would like to share the reflections connected to the feedback and experience that I gained by the industrial designers in this program.

At the beginning of the project, I only wanted to use product design to solve a psychological or physical problem. As my research progressed, I found that the topic was extremely socially charged and that everyone involved in the project had an appetite for expression, an interest and an expectation of solutions. This led me to share my explorations and discoveries with others at each stage. In the process, I gained experience in expressing my ideas with people who are not in the industrial design field. It is very rewarding when you share an idea, an experience or a result and get a relevant response from others.

I think product designers have to constantly challenge topics with speculative thinking, methods, materials and processes. This is the most fascinating aspect of product design. In this project, in addition to the pioneering nature of the topic, I also tried to explore new materials. I had never made a model out of silicone before. In this project, I gained experience in using silicone; despite numerous failures in making the models, I fell in love with its soft and powerful touch and worked hard to practice and use it to express design ideas.

Last but not least is that I discovered my own emotions in this topic which I had previously ignored. After researching and understanding my emotional changes physiologically, I tried to relieve them in a rational way. For example, when I noticed that I was starting to experience PMS, I would try to "talk to myself". I would tell myself "the world is not coming to an end." But at this point, emotion overwhelms reason, and I struggled with the lack of a physical product that could help guide me through the process of calming myself. This also reinforced my motivation to do this project. Although the game of reason and emotion was a headache, I am proud to say that I have become stronger and more independent after this project. I am grateful for this experience.



Experience in using silicone

III.

FEEDBACKS

I am very happy to be able to participate in the design process of Jialing Li's diploma. As a woman who is deeply troubled by dysmenorrhea, I think Jialing's starting point for designing this product is very good and will be of great help to women. When participating in the ideation workshop, I also felt that the work of a product designer is not simply to turn an idea into a product, but also requires a lot of thinking and exploration. The outcome of this work exceeded my expectations, and I would be willing to buy one Eboon.

----- Cai

I remember clearly during teenage years when girls start to have menstruation, how nature it was that we all share a tacitly shame feeling – girls felt embarrassed and wanted to hide it, boys make jokes about it or keep reticent like they don't know it at all. As I grew older, this became better and I was less avoidant to talk about the topic, but I feel menstruation still stays in the shadow of stigma. In China we call it “Da Yi Ma” (big aunt) more often, and in English we use “the period” as a token.

I'm lucky that I seldom suffer the pain during menstruation, so obviously I'm not the target for Jialing's lovely product. But I'm really glad to see menstruation can be seen and merged into daily life with a present body – a beautiful object that can accompany you during or out of menstruation, and bring menstruation out from the shadows. I think if I had it hanging in my home I would maybe even look forward to menstruation, because then I can take this lovely object with me everywhere. This is like the feeling of waiting for rain to come when getting a new umbrella I like

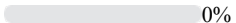
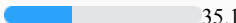

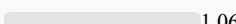
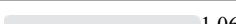
----- Xu

APPENDIX

DATA OF SURVEY

关于《女性痛经时遇到过的问题》的调研问卷

第1题 您的年龄是?
What is your age? [单选题]

选项	小计	比例
0-15岁 / 0-15 years old	0	 0%
15-25岁 / 15-25 years old	33	 35.11%
25-35岁 / 25-35 years old	59	 62.77%
35-50岁 / 35-50 years old	1	 1.06%
50岁以上 / Over 50 years old	1	 1.06%
本题有效填写人次	94	

第2题 您的性别?
What's your gender? [单选题]

选项	小计	比例
男 / Male	22	 23.4%
女 / Female	72	 76.6%
本题有效填写人次	94	

第3题 您是否做过痛经体验/分娩体验测试?
Have you done a test of dysmenorrhea experience or labour experience? [单选题]

选项	小计	比例
是 / Yes	0	 0%
否 / No	22	 100%
本题有效填写人次	22	

第4题 您的测试结果是几级? 请输入您的测试结果:

What is your test result? Please enter your test results: [填空题]

填空题数据请通过下载详细数据获取

第5题 如果有机会, 您愿意尝试吗?

Would you like to try it if you have the chance? [单选题]

选项	小计	比例
是 / Yes	14	63.64%
否 / No	8	36.36%
本题有效填写人次	22	

第6题 您是否见过身边的伴侣、女儿、朋友、同事痛经?

Have you ever seen your partner, daughter, friend, or colleague with dysmenorrhea?

[单选题]

选项	小计	比例
是 / Yes	21	95.45%
否 / No	1	4.55%
本题有效填写人次	22	

第7题 她/她们与您的关系是?

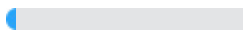
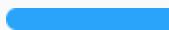
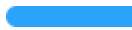


What is her/their relationship to you? (multiple choice) [多选题]

选项	小计	比例
伴侣 / Partner	15	71.43%
女儿 / Daughter	0	0%
亲人-姐姐或妹妹 / Relatives or Siblings	2	9.52%
女性朋友或同事 / Friend or Colleague	7	33.33%
本题有效填写人次	21	

第8题 您有观察过她/她们痛经时的状态吗?


Have you observed her/their when she/they are dysmenorrhea? (multiple choice)

[多选题]

选项	小计	比例
她看起来与平常无异。I have observed that she looks the same as usual when she has dysmenorrhea.	1	 4.76%
我观察到她有轻微的不舒服，例如面色苍白，经常捂肚子，无精打采。I observed that she was slightly uncomfortable, such as pale, often covering her belly, listless.	14	 66.67%
我观察到她有剧烈的疼痛，并且我会帮她找药烧热水/红糖水，热水袋等我所知道的方法来帮她缓解疼痛。I observed that she has severe pain, and I will help her find medicine, find hot water/brown sugar water, hot water bottles, etc. I know how to help her relieve the pain.	11	 52.38%
我没注意到她不舒服，但她会告诉我她很不舒服，可我不知道要怎么帮助她。I didn't notice that she was uncomfortable, but she would tell me she was uncomfortable, I didn't know how to help her.	5	 23.81%
我不知道。I don't know.	2	 9.52%
本题有效填写人次	21	

第9题 您觉得这些方法有效吗?

Do you think these methods are effective? [单选题]

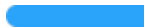


选项	小计	比例
非常有用，她很快就不疼了。Very useful, she is pain-free in no time.	1	 9.09%

有一点吧，但她看起来还是很疼。A little bit, but she still looks sore.	10	 90.91%
我不知道。I have no idea.	0	 0%
本题有效填写人次	11	

第10题 标题如果有一款产品可以帮助她缓解痛经，但需要在您的帮助下才可以使用，您会愿意使用这款产品来帮助她缓解疼痛吗？

If there is a product that can help her relieve dysmenorrhea, but it can only be used with your help, would you be willing to use this product to help her relieve pain?

[单选题]

选项	小计	比例
我很愿意。I am willing to.	12	 57.14%
我希望这款产品是一个人就可以使用的，这样即使我不在她身边也可以用这款产品帮助到她。I hope this product can be used by one person so that I can help her with this product even when I'm not around.	9	 42.86%
我不想，原因是...? I am not willing to. The reason is that...?	0	 0%
本题有效填写人次	21	

第11题 您痛经吗？

Do you have dysmenorrhea? [单选题]

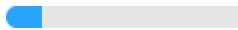
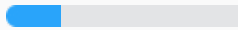
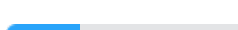
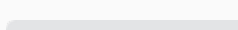
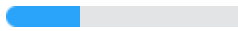
选项	小计	比例
我痛经。I have dysmenorrhea.	34	 47.22%
我曾经痛经很严重，现在疼痛减轻多了。I used to have dysmenorrhea, but now it disappear.	13	 18.06%
我从来不痛经。I don't have dysmenorrhea.	25	 34.72%

本题有效填写人次	72	
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第12题 您痛经多久了?
How long have you had dysmenorrhea?
[单选题]

选项	小计	比例
5年内。Within 5 years.	10	 29.41%
5-10年。5 to 10 years.	16	 47.06%
10年以上。More than 10 years.	8	 23.53%
本题有效填写人次	34	

第13题 请问您疼痛减轻的转折点是?
What is the turning point of your pain relief? [单选题]

选项	小计	比例
生育过后疼痛就减轻了 / Pain lessens after childbirth	2	 15.38%
在我日常增强运动量之后，这种运动是... / After my daily increase in exercise, this exercise is...	3	 23.08%
在我改善饮食结构后，我改善的是... / After I improved my diet, what I improved was...	4	 30.77%
在我戒烟戒酒戒咖啡因等刺激性食品后 / After I quit smoking, drinking, and quitting stimulant foods like caffeine	0	 0%
其他转折点 / Other turning points	4	 30.77%
本题有效填写人次	13	

第14题 您痛经的症状都有哪些?

What are your symptoms of dysmenorrhea?


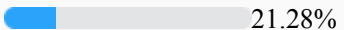
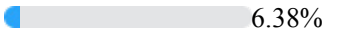
[单选题]

选项	小计	比例
腹部有不适感,坐卧不宁。 Abdominal discomfort, restlessness.	15	31.91%
腹部有轻微痛楚、脸上一直冒冷汗。 Slight pain in abdomen and cold sweat on face.	4	8.51%
严重到像拉肚子般疼痛,需卧床休息。 Severe to the pain like diarrhea, need to rest in bed.	18	38.3%
因为过度疼痛讲不出话、痛楚伴随呕吐、腹部肌肉像被不停捶打。 I can't speak because of the excessive pain, the pain is accompanied by vomiting, and the abdominal muscles seem to be beaten constantly.	7	14.89%
过度疼痛到无法行走、视力变得模糊,像是有人不停踢你的肚子。 Excessive pain to the point of being unable to walk, blurred vision, like someone keeps kicking you in the stomach.	2	4.26%
像被铁球连续击中,失神,勉强还有意识。 Like being hit by iron balls in succession, absent- minded, barely conscious.	1	2.13%
本题有效填写人次	47	

第15题 哪个部位最疼?

Which part hurts the most? (multiple choice) [多选题]


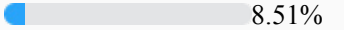

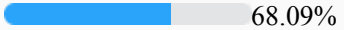
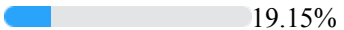
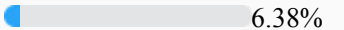
选项	小计	比例
腹部 / Abdomen	43	91.49%
腰部 / Waist	25	53.19%

背部 / Back	6	 12.77%
头部 / Head	10	 21.28%
其他 / Other	3	 6.38%
本题有效填写人次	47	

第16题 您在痛经的时候最舒适姿势是?

What is the most comfortable position for you when you have dysmenorrhea?

(multiple choice) [多选题]

选项	小计	比例
卧姿 / Lying position	26	 55.32%
坐姿 / Sitting position	4	 8.51%
站姿 / Standing	4	 8.51%
蜷缩着 / Curled up	32	 68.09%
趴着 / Lying on front	9	 19.15%
其他 / Other	3	 6.38%
本题有效填写人次	47	

第17题 您是如何缓解痛经的?

How do you relieve dysmenorrhea? (multiple choices) [多选题]

选项	小计	比例
吃止疼药，例如布洛芬，扑热息痛， 痛经药，头痛药等 / Take pain relievers such as ibuprofen, paracetamol, dysmenorrhea or headache medicine, etc.	29	 61.7%
喝热水 / Drink hot water.	22	 46.81%

喝滋补热饮，例如红糖/大枣/枸杞水/阿胶/益母草等中草药等 / Drink nourishing hot drinks, such as brown sugar / jujube / wolf-berry water / donkey-hide gelatin / motherwort and other Chinese herbs, etc.	25	53.19%
暖宝宝贴 / Thermal pad.	20	42.55%
热水袋 / Hot water bag.	20	42.55%
电热水袋、盐包等 / Electric hot water/salt bag.	7	14.89%
保暖衣、保暖背心、保暖护具等 / Thermal clothing / thermal vest / thermal protective gear.	5	10.64%
看医生 / Physician diagnosis and treatment	7	14.89%
瑜伽 / Yoga	0	0%
按摩 / Massage	3	6.38%
针灸和指压 / Acupuncture and Shiatsu	5	10.64%
放松或呼吸练习 / Relaxation or breathing exercises	6	12.77%
其他方法（我有自己的黑科技）。 Other products (I have my own black technology).	2	4.26%
本题有效填写人次	47	

第18题 当你使用上述产品时,遇到过哪些烦恼:

When you use the above products, what troubles did you encounter? (multiple choices) [多选题]

选项	小计	比例
产品无法完美贴合疼痛的部位,需要靠自己调整位置来辅助, 这种问题经常发生在: The product cannot perfectly fit the painful area, and you need to adjust the position yourself to assist. This problem often occurs in:	19	65.52%
1. 背部 / Back	2	6.9%
2. 腰部 / Waist	13	44.83%
3. 腹部 / Abdomen	16	55.17%
4. 手部 / Hands	1	3.45%
5. 足部 / Feet	2	6.9%
6. 头部 / Head	3	10.34%
产品无法完全满足我的需求, 我需要的是...? The product does not fully meet my needs, what I need is...?	4	13.79%
本题有效填写人次	29	

第19题 您经常按摩哪个部位?

Which part of your body do you massage regularly? [多选题]

选项	小计	比例
腹部 / Abdomen	2	66.67%
背部 / Back	0	0%
腰部 / Waist	2	66.67%
其他部位 / Other	1	33.33%
本题有效填写人次	3	

第20题 您觉得哪个穴位最有效?


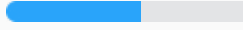



Which acupuncture point is most effective? [多选题]

选项	小计	比例
子宫穴 / Uterus	3	 60%
三阴交穴 / Sanyinjiao Point	2	 40%
血海穴 / Blood Sea Cave	0	 0%
太冲穴 / Taichong Point	0	 0%
本题有效填写人次	5	

第21题 以上这些方法您是如何得知的?

How did you learn about these methods?

[多选题]

选项	小计	比例
小时候被母亲、老师等长辈告知。 When I was a child, I was told by my mother or teacher and other elders.	27	 57.45%
与痛经的小伙伴交流经验的时候交换总结出来的。Get those methods when exchanging experiences with friends with dysmenorrhea.	26	 55.32%
自己多年与痛经做搏斗总结出来的经验。The experience summed up by my many years of fighting against dysmenorrhea.	30	 63.83%
从书本/网络/讲座处得知。Learn from books/ the internet/ lectures.	10	 21.28%
医嘱。When you see a doctor, the doctor informs you	8	 17.02%
本题有效填写人次	47	

请为这些产品的使用效果打分:
Please rate the effectiveness of these products:

第22题 效果: 使用下列产品之后的疼痛指数
Effect: Pain index after using the following products [矩阵量表题]
该矩阵题平均分: **0.92**

题目\选项	我没用过, 我不知道。/ I don't	依旧很痛,不能忍受 / Still	疼, 但可以忍受 /	不痛, 但虚弱, 无法继续工作和学习 / No pain, but	完全不痛, 不耽误正常工作和学习 / No pain at all, no	平均分
止疼药 / Pain	13(29.55%)	1(2.27%)	4(9.09%)	12(27.27%)	14(31.82%)	2.27
保温杯(喝热水) / Thermos	1(2.27%)	16(36.36%)	22(50%)	3(6.82%)	2(4.55%)	1.75
暖宝宝贴 /	6(13.64%)	8(18.18%)	20(45.45%)	8(18.18%)	2(4.55%)	1.82
热水袋 / Hot	9(20.45%)	8(18.18%)	18(40.91%)	8(18.18%)	1(2.27%)	1.64
电热水袋、盐包等 / Electric hot	23(52.27%)	2(4.55%)	12(27.27%)	7(15.91%)	0(0%)	1.07
保暖衣、保暖背心、保暖护具等 / Thermal	31(70.45%)	8(18.18%)	4(9.09%)	1(2.27%)	0(0%)	0.43
瑜伽垫 /	39(88.64%)	5(11.36%)	0(0%)	0(0%)	0(0%)	0.11
腹部按摩仪 / Abdomen	36(81.82%)	3(6.82%)	4(9.09%)	1(2.27%)	0(0%)	0.32
背部按摩仪 / Back	41(93.18%)	2(4.55%)	1(2.27%)	0(0%)	0(0%)	0.09
腰部按摩仪 / Waist	39(88.64%)	2(4.55%)	3(6.82%)	0(0%)	0(0%)	0.18
针灸和指压工具 / Acupuncture	35(79.55%)	2(4.55%)	4(9.09%)	2(4.55%)	1(2.27%)	0.45
小计	273(56.4%)	57(11.7%)	92(19.09%)	42(8.68%)	20(4.13%)	0.89

第23题 产品续航能力

Product maintenance time / battery life [矩阵量表题]

该矩阵题平均分: **0.8**

题目\选项	我没用过, 我不知道。/ I don't know.	毫无续航能力, 需要一直使用 / No sustaining	小于3h的持续时间 / less than	3-8h的持续时间 / 3-8h	超过8h的持续时间 / Duration	平均分
止疼药 / Pain	13(29.55%)	1(2.27%)	5(11.36%)	18(40.91%)	7(15.91%)	2.11
保温杯(喝热水) / Thermos	2(4.55%)	29(65.91%)	11(25%)	2(4.55%)	0(0%)	1.3
暖宝宝贴 /	8(18.18%)	10(22.73%)	16(36.36%)	10(22.73%)	0(0%)	1.64
热水袋 / Hot	10(22.73%)	12(27.27%)	16(36.36%)	6(13.64%)	0(0%)	1.41
电热水袋、盐包等 / Electric hot water or salt	24(54.55%)	4(9.09%)	11(25%)	4(9.09%)	1(2.27%)	0.95
保暖衣、保暖背心、保暖护具等 / Thermal clothing /	31(70.45%)	6(13.64%)	3(6.82%)	3(6.82%)	1(2.27%)	0.57
瑜伽垫 / Yoga	41(93.18%)	3(6.82%)	0(0%)	0(0%)	0(0%)	0.07
腹部按摩仪 / Abdomen	38(86.36%)	4(9.09%)	2(4.55%)	0(0%)	0(0%)	0.18
背部按摩仪 / Back massager	40(90.91%)	2(4.55%)	2(4.55%)	0(0%)	0(0%)	0.14
腰部按摩仪 / Waist massager	40(90.91%)	2(4.55%)	2(4.55%)	0(0%)	0(0%)	0.14
针灸和指压工具 / Acupuncture	37(84.09%)	4(9.09%)	0(0%)	1(2.27%)	2(4.55%)	0.34
小计	284(58.68%)	77(15.91%)	68(14.05%)	44(9.09%)	11(2.27%)	0.8

第24题 产品是否方便随身携带?

Is the product easy to carry around? [矩阵量表题]

该矩阵题平均分: **0.9**

题目\选项	我没用过, 我不知道。/ I don't know.	不方便随身携带 / Can't	可以携带, 但有条件限制, 例如需要充电等 / It can be carried, but there	无条件限制, 我可以带它去任何场所 / Unconditional, I	平均分
止疼药 / Pain	10(22.73%)	1(2.27%)	1(2.27%)	32(72.73%)	2.27
保温杯(喝热水) / Thermos	1(2.27%)	15(34.09%)	11(25%)	17(38.64%)	2
暖宝宝贴 /	8(18.18%)	5(11.36%)	4(9.09%)	27(61.36%)	2.14
热水袋 / Hot	8(18.18%)	28(63.64%)	5(11.36%)	3(6.82%)	1.07
电热水袋、盐包等 / Electric hot water or	21(47.73%)	14(31.82%)	8(18.18%)	1(2.27%)	0.75
保暖衣、保暖背心、保暖护具等 / Thermal clothing /	28(63.64%)	4(9.09%)	4(9.09%)	8(18.18%)	0.82
瑜伽垫 / Yoga	38(86.36%)	6(13.64%)	0(0%)	0(0%)	0.14
腹部按摩仪 / Abdomen	36(81.82%)	7(15.91%)	1(2.27%)	0(0%)	0.2
背部按摩仪 / Back massager	37(84.09%)	6(13.64%)	1(2.27%)	0(0%)	0.18
腰部按摩仪 / Waist massager	37(84.09%)	6(13.64%)	1(2.27%)	0(0%)	0.18
针灸和指压工具 / Acupuncture	36(81.82%)	7(15.91%)	0(0%)	1(2.27%)	0.23
小计	260(53.72%)	99(20.45%)	36(7.44%)	89(18.39%)	0.9

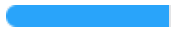
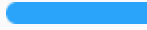










第25题 您一般在什么时间段使用这个产品?

When do you usually use this product? [矩阵单选题]

题目\选项	我没用过, 我不知道。/ I don't know.	仅在夜间使用 / For	仅在日间使用 / For	不分昼夜, 使用时间小于等于6h / Use time less than or	不分昼夜, 使用时间大于6h / Use time is more
止疼药 / Pain	12(27.27%)	1(2.27%)	6(13.64%)	8(18.18%)	17(38.64%)
保温杯(喝热水) / Thermos cup	2(4.55%)	1(2.27%)	18(40.91%)	12(27.27%)	11(25%)
暖宝宝贴 /	9(20.45%)	3(6.82%)	11(25%)	10(22.73%)	11(25%)
热水袋 / Hot	9(20.45%)	11(25%)	5(11.36%)	13(29.55%)	6(13.64%)
电热水袋、盐包等 / Electric hot water or salt	26(59.09%)	5(11.36%)	3(6.82%)	7(15.91%)	3(6.82%)
保暖衣、保暖背心、保暖护具等 / Thermal clothing /	30(68.18%)	0(0%)	1(2.27%)	4(9.09%)	9(20.45%)
瑜伽垫 / Yoga	40(90.91%)	0(0%)	3(6.82%)	1(2.27%)	0(0%)
腹部按摩仪 / Abdomen	40(90.91%)	0(0%)	4(9.09%)	0(0%)	0(0%)
背部按摩仪 / Back massager	40(90.91%)	1(2.27%)	3(6.82%)	0(0%)	0(0%)
腰部按摩仪 / Waist massager	40(90.91%)	1(2.27%)	3(6.82%)	0(0%)	0(0%)
针灸和指压工具 / Acupuncture	39(88.64%)	0(0%)	4(9.09%)	0(0%)	1(2.27%)

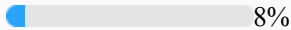
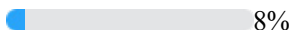
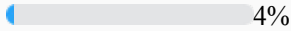

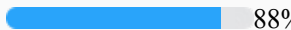
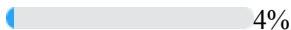
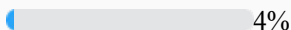
第26题 现在您是否还会在经期用到上述产品?

Are you still using the above products during your menstrual period? [多选题]

选项	小计	比例
我还会用到保温杯 / I will also use thermos cup.	8	 66.67%
我还会用到暖宝宝贴 / I will also use thermal pad.	7	 58.33%
我还会用到热水袋 / I will also use hot water bag.	7	 58.33%
我还会用到电热水袋、盐包等 / I will also use electric hot water or salt bag.	3	 25%
我还会用到保暖衣、保暖背心、保暖护具等 / I will also use thermal clothing, thermal vest, or thermal protective gear.	2	 16.67%
我还会用到瑜伽垫 / I will also use yoga mat.	0	 0%
我还会用到腹部按摩仪 / I will also use abdomen massager	0	 0%
我还会用到背部按摩仪 / I will also use back massager	0	 0%
我还会用到腰部按摩仪 / I will also use waist massager	0	 0%
我还会用到针灸和指压穴位 / I will also use acupuncture and Shiatsu Tools	1	 8.33%
其他产品 / I will also use other products.	1	 8.33%
我已经不需要了 / I don't need it anymore.	2	 16.67%
本题有效填写人次	12	

第27题 日常饮食：请问您有偏好的饮食类型或习惯吗？

Daily diet: Do you have a preference diet types or habits? [多选题]

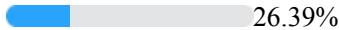
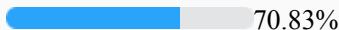
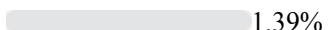
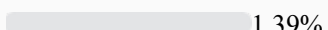
选项	小计	比例
我是素食主义者 / I am a vegetarian or vegan.	0	 0%
我不吃快餐 / I do not eat fast food.	2	 8%
我不吃零食 / I don't eat snacks.	2	 8%
我不喝酒，不喝咖啡，茶，热可可等刺激性饮料 / I don't drink alcohol, coffee, tea, hot cocoa or other stimulating drinks.	1	 4%
过午不食 / I don't eat after lunch.	0	 0%
我没有特殊的饮食习惯 / No special eating habits.	22	 88%
其他饮食习惯 / Other diet	1	 4%
我对某种食物过敏，它是	1	 4%
本题有效填写人次	25	

经期作息和运动

Menstrual schedule & exercises

第28题 在经期，您平均几点休息：

During the menstrual period, what time do you sleep on average: [单选题]

选项	小计	比例
23点前 / Before 23 p.m.	19	 26.39%
23点后-2点前 / After 23 p.m. - before 2 a.m.	51	 70.83%
2点后 / After 2 a.m.	1	 1.39%
其他休息时间（例如小憩） / Other rest period (e.g. nap)	1	 1.39%

本题有效填写人次	72	
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第29题 在经期，您的睡眠时长是：

During menstruation, sleep duration: [单选题]

选项	小计	比例
少于6h / less than 6h	5	 6.94%
6-8h / 6-8h	51	 70.83%
多于8h / more than 8h	16	 22.22%
本题有效填写人次	72	

第30题 在经期，是否会失眠/入睡困难/因疼痛无法入睡？

Do you suffer from insomnia/difficulty falling asleep/not being able to sleep due to pain during your period? [单选题]

选项	小计	比例
是 / Yes	29	 40.28%
否 / No	43	 59.72%
本题有效填写人次	72	

第31题 是否会疼醒？

Will you wake up in pain?

[单选题]

选项	小计	比例
是 / Yes	22	 30.56%
否 / No	50	 69.44%
本题有效填写人次	72	

第32题 非经期时间段会运动吗?

Do you exercise during non-menstrual periods? [单选题]

选项	小计	比例
从不 / Never	24	33.33%
偶尔运动, 每周1-2次 / Exercise occasionally, 1-2 times a week	43	59.72%
喜欢运动, 每周3-4次 / Like to do some sport, 3-4 times a week	5	6.94%
热爱运动, 每周5-7次 / Very enjoy, 5-7 times a week	0	0%
本题有效填写人次	72	

第33题 如果现在有一款可以缓解痛经的产品,你期待它应该有哪些特点

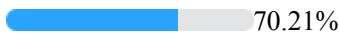
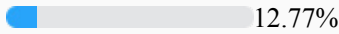
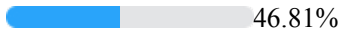
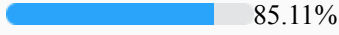
If there is a product that can relieve dysmenorrhea, what features do you expect it to have? (multiple choice) [多选题]

选项	小计	比例
小巧轻便 / Small and lightweight	35	74.47%
手持, 易掌控 / Handheld, easy to control	12	25.53%
不要手持, 解放双手 / Not handheld, free your hands	27	57.45%
缓解疼痛效果显著 / Significant pain relief	38	80.85%
我一个人就可以使用它, 不需要别人来辅助我 / I can use it by myself, I don't need someone to assist me	28	59.57%
我没有力气去使用它, 我希望别人来帮我 / I don't have the energy to use it, I want someone else to help me	0	0%
其他 / Other	1	2.13%
本题有效填写人次	47	

第34题 您在哪个环境/场景中最希望使用它?

In which environment/scenario would you most like to use it? (multiple choice)

[多选题]

选项	小计	比例
卧室 / Bedroom	33	 70.21%
浴室 / Bathroom	6	 12.77%
客厅、沙发 / Living room or sofa	22	 46.81%
办公室 / Office	40	 85.11%
本题有效填写人次	47	

第35题 您愿意为它花多少钱?

How much are you willing to spend on it? [单选题]

选项	小计	比例
百元内 / Within 100 RMB	22	 46.81%
千元内 / Within 1000 RMB	7	 14.89%
只要有效，我能承受的范围都可以 / As long as it works, as long as I can afford it	18	 38.3%
本题有效填写人次	47	

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