



# From sex toy --- To sense toy

Designing a product that inspires long-term couples to explore new ways of intimacy



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# Executive summary

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We have all been there: the so-called honeymoon phase of a new relationship. The butterflies twirling around in your stomach make the world seem like nothing but a happy place, with that one person being the center of it all. Hormones are rushing through our bodies, and being close together suddenly becomes our highest priority. But, no matter how crazy you are about each other, the time will come where reality starts hitting again, and the once so vibrant, predominant attraction slowly settles down. This often results in long-term partners leading an unsatisfactory sex life, while their emotional relationship is still stable and rewarding. An explanation for this phenomenon is a discrepancy in sexual desire between partners, which arises over the duration of the relationship. For example, one partner might be in the mood for sexual activity more often than the other, or both partners typically feel aroused at different times of the day. Waiting for the perfect moment in which both partners are in the mood at the same time does in this case often not lead to an active sex life, leaving partners sexually unsatisfied. Moreover, repetitive rejection upon initiation can be damaging for people's sexual confidence.

What we typically see is that one partner is in the mood for sexual activity, and therefore initiates sex to their partner. However, their partner might not feel aroused at all, or need more time to get on the same level. In this case, the couple either does not have sex, or they have sex while their arousal levels are unequal. Typically it is women who need more time to get aroused compared to men, which often makes them the ones rejecting sexual activity. However, this is a generalized point of view and does not always apply.

A literature study on the reasons why long-term couples tend to experience discrepancy in sexual desire and arousal, qualitative interviews with the those couples and a quantitative survey showed that 65% of the people in long-term relationships felt like the frequency of them having sex was too low, which is the fundamental problem statement of this study. Biological differences between the sexes can be of great influence on the likelihood of partners rejecting each other upon initiation, because the way arousal works for women and men is very different. Generally however, tiredness, stress and feeling the pressure of other duties like taking the children to bed are the main reasons for people to not want sex, according to the interview and survey outcomes. These insights lead to the following design goal:

***“To come up with a viable concept that is meant to allow long-term couples get intimate in a way that does not cause the feeling of pressure that any kind of sexual activity should be a follow up step. The concept focuses on helping couples to relax together mentally as well as physically, to inspire them to explore a new way of intimacy. This should be done by means of a physical product which fits the brand portfolio.”***

A context mapping study was then conducted with six heterosexual couples in long-term relationships to explore the solution space by answering the question: “What product or activity or a combination thereof can help couples get in the mood for intimate activity, when they are typically not aroused?” The results of the study showed that body massage, in combination with creating an ambience were for a multitude of reasons the most effective elements to achieve this goal. Fundamental to this conclusion is that couples are encouraged to put effort in making and taking time for each other, resulting in mutual appreciation, a new sense of connectedness and simply time for their bodies to synchronize in terms of intimate arousal. Therefore making and taking time, creating an ambience and physical touch through massage are the fundamentals for the concept: the Ignite.

The Ignite is a metal couples massager which is able to warm up and vibrate, in combination with a mood light which is integrated in the charging station. Because it is a mood light, the Ignite is continuously visible in the bedroom, in either its discrete (when the massager is hidden inside) or its non-discrete (where the massager is displayed) state. It is meant to inspire couples to take time for explorative physical intimacy, without the pressure of having to have genital focused sex. It allows them to enjoy an intimate, erotic time together, and build a deep connection with each other. Moreover, it encourages long-term partners to step away from their routine, and take time to rediscover each other's bodies.

The Ignite is an expansion of the current brand portfolio of the client company, which contains pleasure products for couples meant to enhance the act of partnered sex. Where their current products function within the actual act of genital focused sex, the Ignite focuses on another level of physical

intimacy, in which arousal may or may not develop, but where genital focused sex is never the end goal. The Ignite is therefore categorized as a “sense toy” instead of a sex toy. This opens up new market opportunities, where multiple sense toys can be designed and developed.

Upon launching the Ignite, it is recommended to first produce a version of the massager made out of a different material than metal, so that it is closer to other products people are familiar with. A second version also contains the light, to enhance intimacy. The third version will be the light combined with the metal massager, which feels like a luxurious and upgraded version of the product the user by now already knows.

The Ignite has been evaluated in multiple ways in terms of desirability with the target audience, viability through interviews with relationship therapist and researcher Marieke Dewitte and sexologist and sex therapist Anne Siemons. The feasibility evaluation has been based on the current resources the client company has.

Interaction with the mood light was evaluated by three individuals. This resulted in the conclusion that interacting with the mood light is easy and fun, but not intuitive because it is not like any other lamp. Therefore clear instructions are essential. Secondly, the massager was evaluated by three test couples. All six people were positive towards using the massager, and thought that warming and vibration would make it even better. Striking results were the fact that people were very creative in how they used the massager, and that their curiosity was highly triggered by its multifunctionality and ambiguous shape. Moreover, they would have liked accompanying instructions so that they could get the most out of the product. All six participants thought the Ignite, so the entity of mood light and massager, could enhance their current relationship.

Desirability evaluation was done through a survey among 107 people in relationships and by having the test couples who previously performed the context mapping study evaluate the concept. The survey showed that the first reaction to the Ignite was either somewhat positive or very positive for 86.2% of women (42% somewhat positive and 44% very positive) and for 73.3% of men (57% somewhat positive and 17% very positive). 60% of men says they either probably need or definitely need the Ignite (51% probably need and 9% definitely need) and 65% of women (53% probably need and 12% definitely need). The target audience was highly interested in the warming function of the massager

(86%), as well as in its vibration (82%). 73% of the respondents said being interested in the mood light as well, although some people did not completely understand its functionality.

In terms of viability, both experts were highly enthusiastic about the fact that the Ignite helps couples create a full experience, and that it has the option for couples to plan intimate activity using Ignite. They also both said that the Ignite could be of high value for couples who are given therapeutic Sensate Focus exercises, which focus on breaking the sexual routine by simply taking time to explore each other's bodies by means of touch. They would recommend the Ignite to their clients for this reason. In terms of feasibility it was concluded that the client company has the resources to research and develop the first plastic version of the Ignite. However, since the product differs from the current portfolio mainly in terms of material, it is necessary for them to expand their expertise in terms of material processing.

In the conclusion section the design goal has been evaluated. Each different element of which the design goal has been constructed has been highlighted and evaluated. Concluded is that the design goal has been achieved, for as far as the research done within the time frame of this project can tell. Further long-term research should be conducted in order to optimize the concept technically. Mainly the context mapping study with long-term couples, in combination with their evaluation of the Ignite afterwards showed how promising the concept is. Five out of five were positive towards the concept, and all also believed that the Ignite would cause them to integrate massage more in their intimate life because of its constant presence in the bedroom. They thought it would therefore remind them of using it. Therefore the overall conclusion is that the Ignite as a whole has a positive influence on the intimate life of people in long-term relationships.

The report concludes with a set of recommendations on interaction, technical design and marketing and communication.



# Acknowledgements

I want to show gratitude to the first company to hire me as a sex toy designer in 2016, giving me the opportunity to bring my goals to practice. Secondly I am thankful for the group of friends I have around me, who have always supported me in this mission and never judged me for being me. I feel honoured by all the people who have, over the past thirteen years, opened up to me about their intimate lives, be it for professional purposes or just a chat over a cold Sauvignon Blanc. I want to thank my parents and again say sorry that I will never end up at Douwe Egberts, as they would have liked. Lastly, I want to show my appreciation to my supervising team.

To Derek Lomas I want to say thank you for all your openness, fruitful conversations and positive yet critical feedback. The time you have invested in my project is beyond appreciated. You really have been able to give me the courage to keep going, and to make me believe in myself and my abilities.

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Marieke Sonneveld, I want to thank you for being able to take over Jeske's role as my mentor, even though it was right towards the end of the project. Your critical view have helped me keep looking for ways to improve my process.

Of all my friends and family I want to give extra credits to some of them. In the first place my best friends Liz, Mariska and Dorrit, for always being supportive and helping me out wherever they can. Then I want to thank Martin and the supervisors in the faculty workplace for helping me create the physical prototype. Special thanks go to Myron for his excellent videography skills, and my boyfriend Julien for his role in the presentation video. Lastly, I want to thank all the people who have supported me during the snowboard trip on which this thesis has been finalized, and who were willing to perform user tests for me.

Lastly, I want to thank my client mentors, for their investment with the project, positivity and helping hands. My whole team has encouraged me to get the most out of my abilities, and do so in my own, personal way.

# Preface

*It is lunch break, when two little girls hide in the forbidden alley next to their primary school. It is always a challenge to get to the alley, without the evil, supervising teacher catching you. But today, the two girls made it, so they could chat without anyone disturbing them. They are both nine years old, and the sweet little girl with the round glasses tells her friend about her parents constantly fighting, and how desperate she feels. They talk about it like nine year old's do about their life struggles, and the girl with the glasses concludes: "Lisa, you should really become a therapist when you grow up!"*

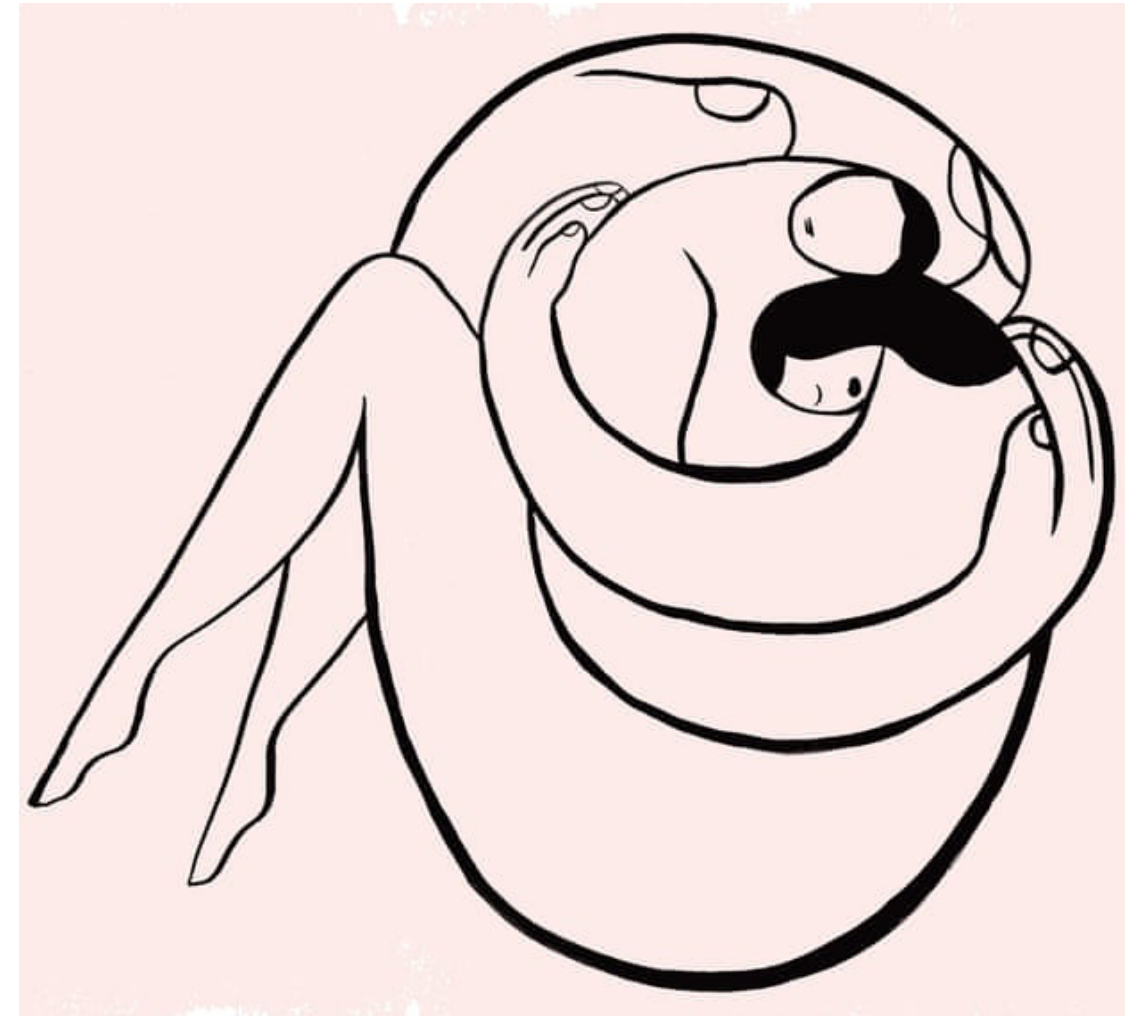
In high school at age fourteen my interest in sexuality awakened. I experimented, and was always keen to provide my friends with advice. I became known for my experience and knowledge on the topic.

In my early twenties, I got to experience the downside of a long-term relationship for the first time. What started as a passionate, exciting new romance, became a passionless agreement. Since I was young, and primed into thinking this was "the one" and we would stay together forever, I did not know what to do. I felt lost and helpless. This resulted in chronic back pain, overall depression and the strong belief that something was physically and mentally wrong with me. However, all symptoms dissolved as snow in the sun when I decided to end the relationship after 2,5 years. This is when I first experienced and therefore realised the influence our relationships have on our wellbeing. From then on, I knew that my life goal is to help people improve their sexual wellbeing through design and communication, in its broadest sense.

I have had the honour to explore my way through the world of sexuality, intimacy and relationships in a professional way for over five years now. I was given the opportunity to meet a lot of people in the field, visit events, interview people and share my thoughts and knowledge along the way. I look forward to a future where my expertise can significantly change people's lives, and where being a so-called sexpert is taken seriously by the majority of people. I hope that at some day free and safe expression of their sexuality for women becomes the norm instead of an exception, just as it is for men already.

***“The quality of our relationships  
determines the quality of our lives”***

*- Esther Perel*



# Glossary

Cis gender	Cisgender (sometimes cissexual or shortened to cis) describes a person whose gender identity and sex assigned at birth are the same. The word cisgender is the antonym of transgender.
Cunnilingus	Oral stimulation of the vulva or clitoris.
Fellatio	Oral stimulation of the penis.
Foreplay	Foreplay is a set of emotionally and physically intimate acts between two or more people meant to create sexual arousal and desire for sexual activity.
Genital focused sex	The act of sexual activities which are focused on stimulation of the genitals. These can be things like cunnilingus or fellatio, but also penetrative sex.
Heterosexual	Being sexually attracted to people of the opposite sex.
Homosexual	Being sexually attracted to people of the same sex.

Intimate activity	Physical activities partners do together which do not involve genital focused sex.
Honeymoon phase	The honeymoon phase is an early part of a couple’s relationship where everything seems carefree and happy. It usually lasts from six months to two years and can be marked with lots of laughs, intimacy, and fun dates.
Long-term relationship	Throughout this report, long-term relationship is defined as a relationship within which partners have been cohabiting or married or both for at least two years.
Monogamy	The practice or state of having a sexual relationship with only one partner.
Patriarchy	A system of society or government in which men hold the power and women are largely excluded from it.
Sensate focus	Sensate focus is a sex therapy technique introduced by the Masters and Johnson team. It works by refocusing the participants on their own sensory perceptions and sensuality, instead of goal-oriented behaviour focused on the genitals and penetrative sex.
Sexual desire	An emotion and motivational state characterized by an interest in sexual objects or activities, or by a drive to seek out sexual objects or to engage in sexual activities. It is an aspect of sexuality, which varies significantly from one person to another and also fluctuates depending on circumstances.

# Disclaimer

Since people are becoming more aware of the wide range of possible gender identifications, sexual preferences or other aspects which contribute to one's identity, I would like to start this report with a disclaimer. It is important for every individual to feel heard and represented, so we can together work towards an inclusive society. Correct, unambiguous terminology is therefore important. Following are several explanations of terms used throughout this report, accompanied by a clarification on the decision to use these terms.

***“It is important for every individual to feel heard and represented, so we can together work towards an inclusive society. Correct, unambiguous terminology is therefore important.”***

First of all, this report focuses on heterosexual people who are in so-called “long-term relationships”. This is defined as couples who have been either cohabiting or married for at least two years. As will become clear later on in the report, couples in long-term relationships are most likely to experience challenges regarding sexual desire and arousal. Therefore this group was chosen as an interesting group for research and solution finding purposes.

The fact that the main focus is on heterosexual couples, instead of also including queer couples, is because of the biological differences between cis gendered women and cis gendered men related to sexual arousal. Scientific research shows

that biological differences might be a reason for heterosexual couples to encounter issues regarding sexual desire and arousal, which might therefore not be present in homosexual couples. This however has not been researched in this study and is therefore not proven to be true.

In this report, biological men will simply be called “men”, also known as “cis gendered men”. This means people who were born with male reproductive organs (penis) and identify as men. The same goes for biological women, born with female reproductive organs (vulva and vagina), who will be called “women”, also known as “cis gendered women”. When referring to a person who can either be female or male, but knowing the biological gender does not contribute to understanding the context, they will be referred to as “they” or “them”. These pronouns are considered genderless, and therefore inclusive.

Although for inclusiveness purposes one should try to avoid generalization, this is inevitable when it comes to design. As a designer you cannot take every individual into consideration. Therefore generalization is necessary, especially in the early stages of the design process. Without generalization, there is no fundament to take decisions upon. However, moving forward in the design process, there will be more room to detail concepts in such a way that they become more inclusive. This will also be visible throughout the storyline in this report.

In general, there is a lot of confusion around the word “sex”. Everyone has their own interpretation, which is fine. However, for clear, unambiguous communication, this report distinguishes between two different kinds of sex: intimate activity and genital focused sex.

Intimate activity involves sensual, physical play between partners, which is not focused on sexual stimulation of genitals or explicit erogenous zones, although they might be included. Intimate activities could be things like tantric exercises like mating hugs, relaxation activities or massage.

Genital focused sex, as the term implies, is what people commonly define as sex: manual and oral stimulation of genitals and explicit erogenous zones like nipples, and, in case a penis or strap-on dildo is involved, penetrative sex.

Lastly, you might notice that throughout this report the order of the words “female” and “male” or “men” and “women” consistently changes. This is done to emphasize the importance of gender equality. This goes for all genders, not just the commonly known biological sexes we talk about in this report.

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# 01

## Introduction

*The first chapter is an introduction to the design process. It explains the topic of the study and the problem definition more in depth in section 1.1, followed by an anonymized introduction to the client company in section 1.2. Section 1.3 gives a visual overview of the entire design process, and the chapter concludes with section 1.4 on the first presentation of the final concept: the Ignite.*



## 1.1 Topic introduction

Once upon a time, a man called Charles Perrault started writing down fairy tales. Now, hundreds of years later, fairy tales about princesses and their heroes are still favourite fantasy food for young children. The mostly positive stories with happy endings speak to their imagination, giving children the opportunity to explore their own mind. However, these stories might also be the first of many encounters young children will have with the idea that a harmonious, monogamous and long lasting romantic relationship is the number one accomplishment in life.

In reality these kind of relationships are rather exception than norm. Even though the hormones which belong to the honeymoon phase of a relationship may make it hard to believe, the passion in every relationship at some point decreases. This either means the end of the relationship, or the passion makes place for a deeper kind of stable love. As one of the world's most famous relationship therapists Esther Perel explains: new love comes with uncertainties. Both people are getting to know each other, and wonder things like “do they like me the same way?” or “will we stay together?” A natural response people have to uncertainties is find ways to eliminate them. This results in people demarcating their relationship, by agreeing on the fact that intimacy with other people is now off limits. At some point they might move in together or procreate, leaving couples with feelings of safety and security, but with a desire for the once so vibrant passion.

Since safety and security seem to be the opposite of desire and passion, Perel says that every healthy, passionate relationship should be built on the paradox of safety versus uncertainty. This is because love requires security, but passion is fueled by uncertainty. This longing for closeness is why passion in relationships extinguishes over time, like a fire does without air.

The problem is therefore defined as follows:

*“People in long-term relationships who are leading unsatisfactory sex lives, and would like to experience more (sexual) intimacy with their current partner. According to the survey (section 2.2.2) 65% of the people in long-term couples would like to have more sex. Decreased desire, misalignment of arousal moments and levels, and factors like stress, tiredness and pressure of other duties are the most common reasons for people to not engage in sexual activity with their partner anymore.”*

This report aims to dive deeper into the “how” and “why” of the decrease in sexual intimacy between long-term partners, and come up with a concept which helps people rediscover intimacy and sexuality with their long-term partner. The overall goal is to shift the focus from a statistical view on sexuality (aiming for certain frequencies of genital focused sex) to a satisfaction ratio view (aiming for spending time on mutually satisfying intimate activities).

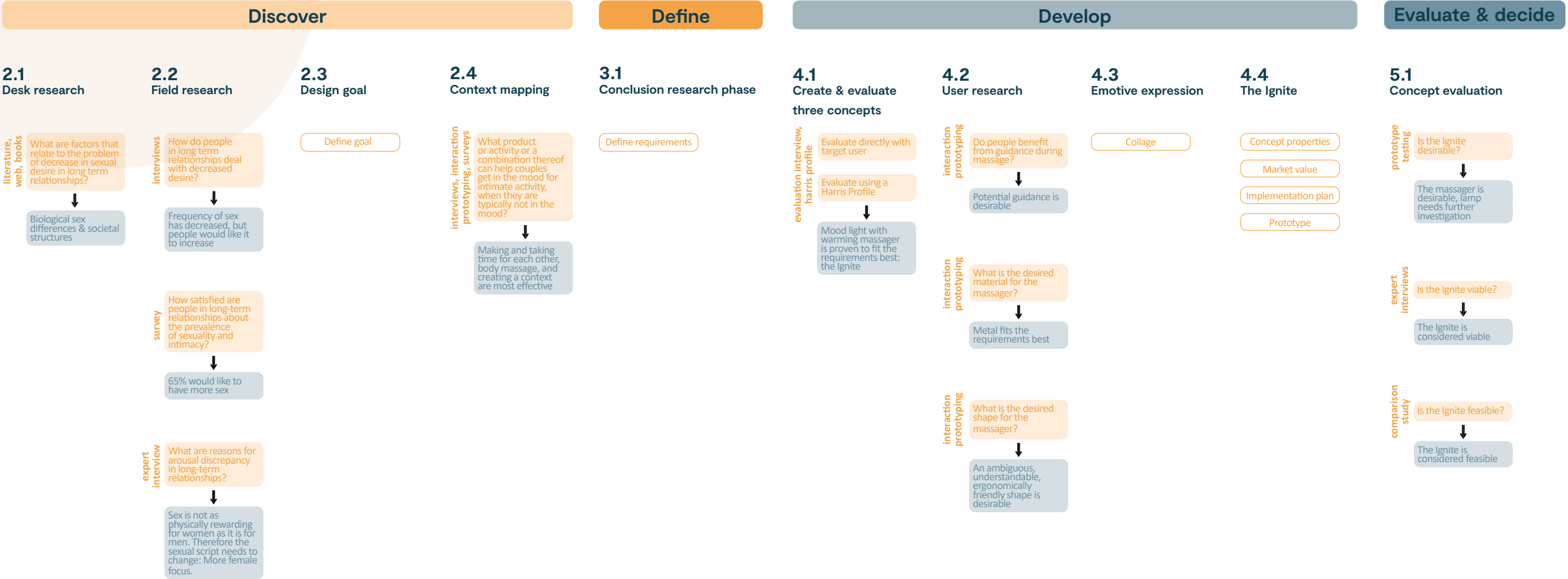
## 1.2 The client

This project is executed on behalf of a sex tech company, which will for anonymity purposes not be named. The assignment given by the company was stated as follows: “Designing a couples toy, in order to enhance both partner’s sexual experience”. The envisioned product was meant to be an addition to their current portfolio, which consists of sex toys designed for couples.

# 1.3 The process

The design process follows the “double diamond” method, which focuses on diverging and converging multiple times (figure 1). Figure 2 shows the overview of the entire process, including key research questions and insights upon which decisions are made, as well as the applied methodology.

Figure 2 - Visual overview of the research and design process







ignite

Don't wait for the perfect moment.  
Create it.

## 1.4 The Ignite

The final concept which was designed is called the Ignite: A warming, vibrating couples massager combined with a mood light which is meant to enhance the act of intimate massage between long-term romantic partners (chapter 4). The report concludes with an evaluation of the concept on desirability, viability and feasibility, and recommendations for further research and development (chapter 5).





# 02

## Discover

*This chapter highlights the preliminary research activities: Section 2.1 contains the outcomes of desk research (scientific literature, books, web pages), section 2.2 is about field research (interviews, survey). Section 2.3 presents the final design goal, followed by 2.4 about the context mapping study combined with interaction prototyping.*



## 2.1 Desk research

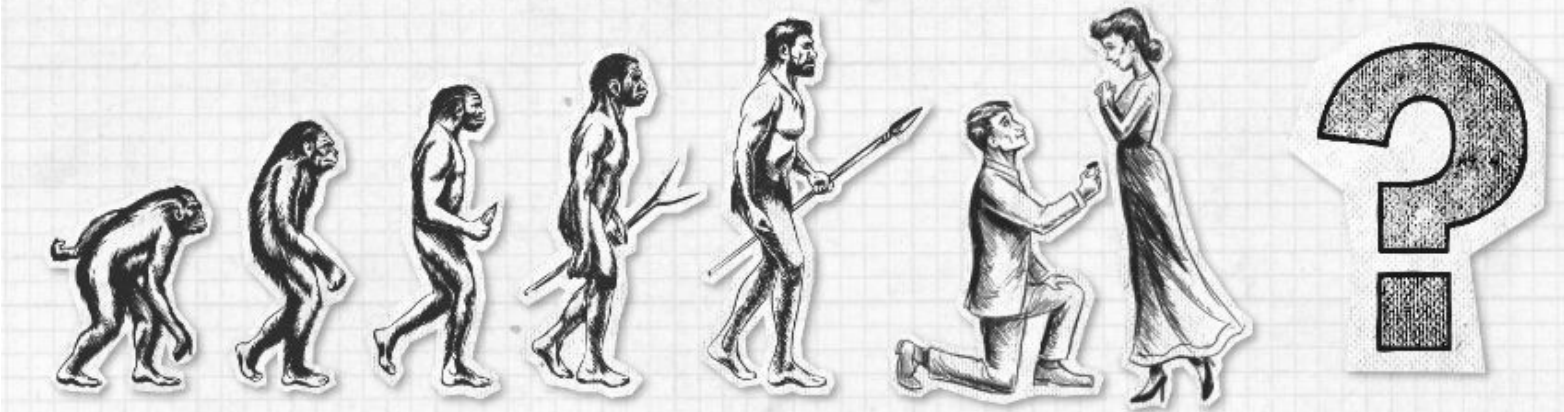
*To familiarize with the topic and explore the problem space, desk research was conducted. The main goal was to explore different hypothetical explanations for the known issue of decreased sexual desire between long-term romantic partners. This was done by browsing through relevant web pages, analyzing scientific literature and reading books. The fundamental research questions were as follows:*

- » *What is the influence of history on the way people maintain relationships nowadays?*
- » *What is the influence of the society we live in on long-term sexual relationships?*
- » *What is the influence of biology/anatomy on long-term heterosexual relationships?*
- » *What could be an explanation of the discrepancy in sexual desire in long-term relationships from a sexologist perspective?*

### 2.1.1 History of human sexuality

On average, men have higher sex drive than women. An explanation given for this dates back to ancient history. People as we know them know have been around for at least three hundred thousand years, of which for at least 90% of that time they used to live as hunter-gatherers. The assumption goes that people then used to live in tribes, where there was collective care taking of children and monogamy did not exist. In order for their genes to survive, men had to spread their sperm as much as possible, impregnating as many women as possible. However, women can only get pregnant approximately once a year, making it way less necessary for them to engage in lots of sex. Nowadays, this could still contribute to the discrepancy in sexual desire in heterosexual couples.

Secondly, monogamy is up for discussion. As mentioned in the previous section, monogamy has not always been the norm for relationships. When comparing it to the animal world, us humans are nearly the only species that has monogamous relationships as the norm (figure 3). Assumed is that monogamy was constructed about twelve thousand years ago, when people traded hunting-gathering for farming. Marriage was a way to strengthen social relationships, and benefit from in-laws to get more power. It is only a couple hundred years since people started getting married solely based on love towards one another, in the late 18th and early 19th century to be precise (Vox, 2018).



**Figure 3** - Evolution of human - From Netflix series 'Explained'

The invention of the birth control pill in the 1950's and the public availability of them in the 1960's took away the potential risk of unwanted reproduction as a result of pleasurable sex. In this period of time, which is referred to as a sexual revolution, sex entered the public domain. It became visible through media like films, magazines and books. The right of executing abortion also gave women the control over their own bodies. This gave people the freedom of having sex solely for pleasure.

However, with the increasing representation of sexuality through media, we can assume that also the definition of what sex is or should be became more one sided, instead of leaving it up to people's own imagination and interpretation.

2.1.2 A linear approach of sex

Nowadays sex how it is presented by media like movies or pornography is highly focused on male pleasure, starting with some foreplay, and with penis in vagina penetration and male orgasm as the end goal: a linear approach. This is a heteronormative, patriarchal approach of sexuality. This is prominent in for example wage differences, unequal opportunities, the frequency of experiencing sexual harassment, but also in sexual relationships.

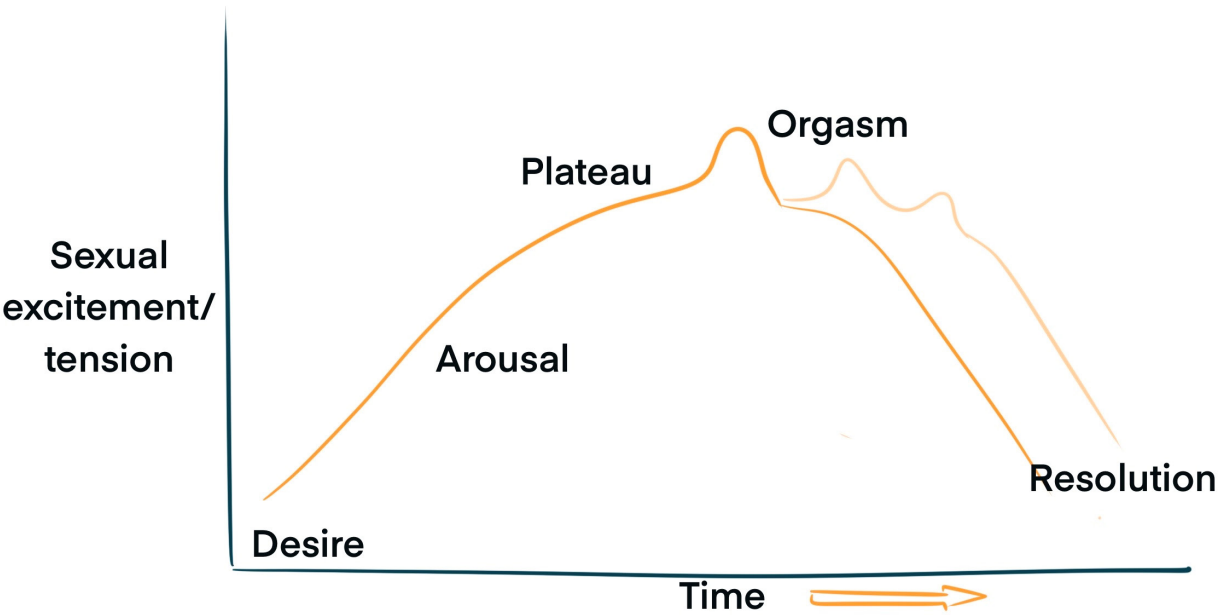
From a young age girls learn they should preserve their bodies, wait to start with sex, do not dress too revealing and to “not ask for it”. Boys, in contrast, learn that they should be tough, and that penetrating a woman is an ultimate act of masculinity. Mainstream pornography teaches them to use women for their own pleasure, which has nothing to do with creating a mutual connection or pleasuring her.

This linear approach of sex with penetration and the male orgasm as the end goal is represented in multiple ways, like in Hollywood movies and pornography, but also in sex education where the focus is on not getting pregnant rather than how to have mutually satisfying sex.

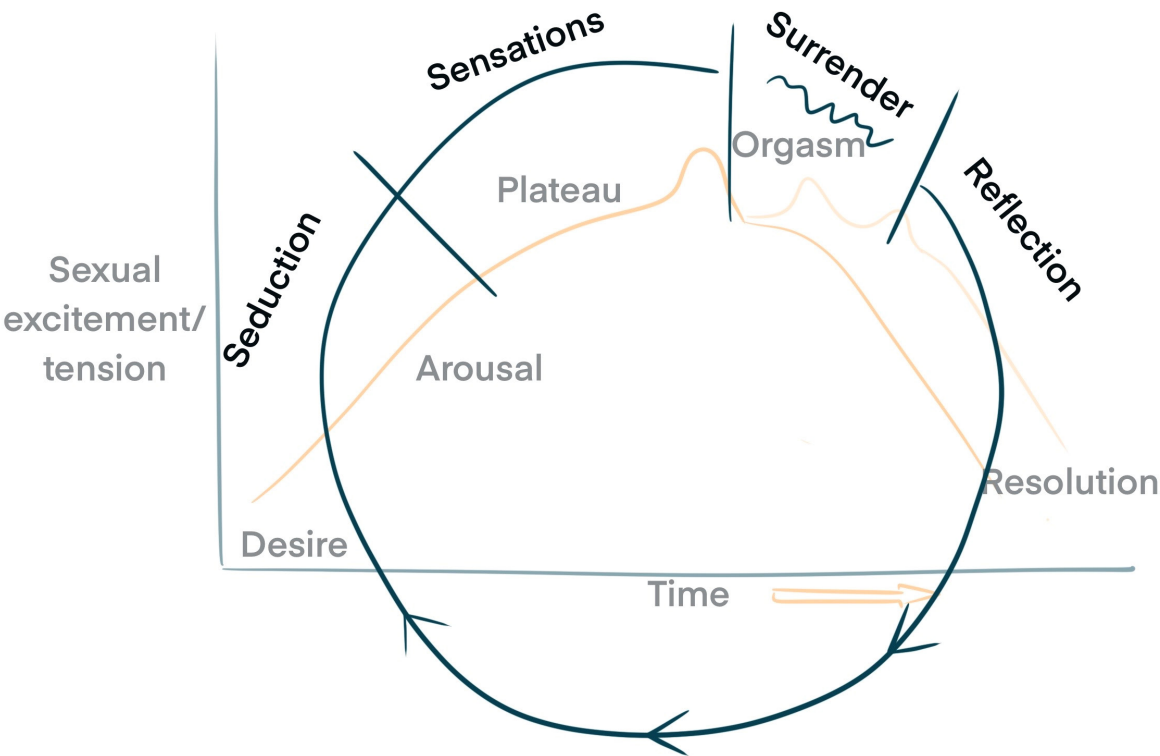
Masters and Johnson created a sexual response model in 1957 (figure 4, top image). This model represented sex as a linear subsequence of four phases: excitement, plateau, orgasm and resolution. Later on, this model was criticized by several researchers because of its linearity and therefore the idea that one step cannot be taken without having gone through the previous phase. Beverly Whipple and Karen Brash-McGreer in 1997 developed a circular model of female sexual responses (figure 4, bottom image). In their model all stages can happen independently and in randomized order. This model is therefore closer to reality than the linear approach by Masters and Johnson.

2.1.3 Female sexual pleasure

The first actual anatomical study of the clitoris was only conducted about 20 years ago in 1998, causing an increase in focus on female sexual pleasure (Wahlquist, 2020). Professor Ellen Laan did groundbreaking research in female sexuality, highlighting the sole function of the clitoris of providing sexual pleasure (Laan et al., 1995). The complete ignorance of the importance of the clitoris for female sexual pleasure over the majority of the previous century also contributed to the belief that partnered sex evolves around male pleasure and orgasm. The upcoming industry of female focused pleasure toys can be seen as a counter movement to this male oriented sex image.



The linear sexual response cycle by Masters and Johnson

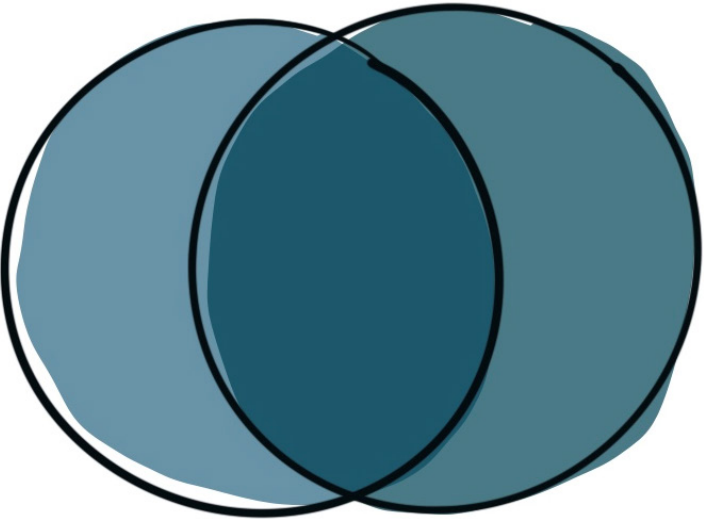


The randomized sexual response cycle by Whipple and Brash-McGreer

Figure 4 - Linear model versus random model

Men's arousal concordance

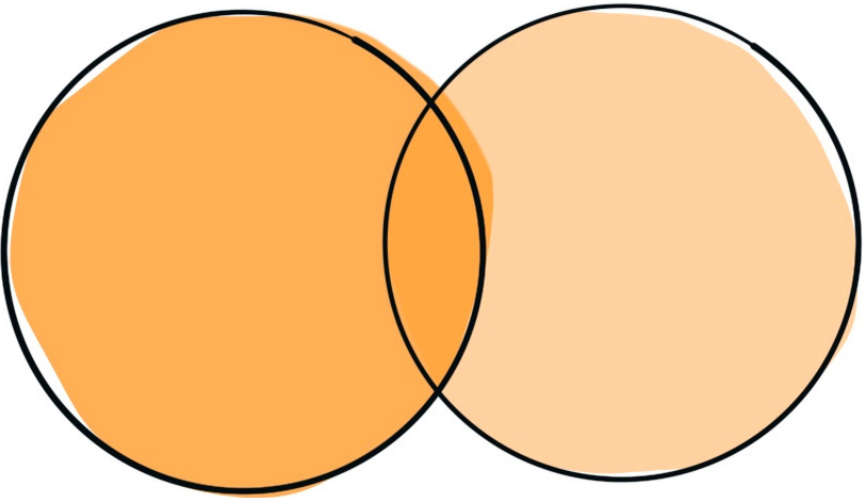
Genital response



Subjective arousal

Women's arousal concordance

Genital response



Subjective arousal

Figure 5 - Male and female arousal concordances visualized (Bilić, 2020)

2.1.4 Anatomy

Another factor that contributes to the fact that a male oriented linear approach of sexuality is not desirable for mutually satisfactory partnered sex is the biological differences between women and men. Obvious differences are the genitals, or vagina and penis. However, there are also essential differences between the sexes when it comes to sexual arousal. Arousal is built on two factors: Cognitive arousal or subjective arousal, and physical arousal or genital response. Cognitive arousal means when the mind is in an aroused state (when someone is “in the mood”), whereas physical arousal expresses through a sexual response of the genitals: an erect penis, a lubricated vagina and vulva or hard nipples.

Cognitive arousal and physical arousal are not naturally related. This means that for example a person can experience genital arousal, without cognitively feeling aroused, and vice versa. This is called non-concordance (Suschinsky et al, 2009). However, men's arousal concordance is higher than women's, meaning that men's genital arousal is more closely related with their cognitive arousal that it is for women. This is illustrated in figure 5. When a man notices his penis getting erect, his mind will automatically follow. For women however, cognitive and physical arousal are likely to be disconnected. Women might not even notice their genitals being aroused, since it is simply less notable. Also, for women to appraise stimuli as sexual, the context factors need to be right. What we also often see in women is that they experience so called reverse desire. This is when desire towards a partner only starts after having engaged in sexual activity like touching or kissing. Is it therefore in this case important for women to be open to sexual activity without being aroused to begin with. This brings us back to the general, male focused linear approach of sex. Professor Marieke Dewitte (M. Dewitte, personal communication, 5 October 2021) claims

that if sex would be more rewarding for female bodied persons, they would be more likely to engage in it the next time. Since penis in vagina penetration is generally the least physically rewarding sensation for women but since it has the highest priority, it makes sense that women are less likely to want to contribute the next time.

2.1.4 Sexology

According to the survey conducted for this project (section 2.2.2) 65% of people in long-term relationships claims to want more sexual activity. However, according to sexologists Esther Perel and Marieke Dewitte (M. Dewitte, personal communication, 5 October 2021; Perel, 2007), it is important to rather focus on increasing the level of pleasure and satisfaction people get from sexual or intimate activity, than trying to increase frequencies. Perel states that sex has been degraded to statistics due to media, which negatively influences the freedom of interpretation of what satisfactory sex is.

2.1.6 Conclusion

The way we shape relationships nowadays is highly influenced by ancient and recent history, and by societal standards. Patriarchy has written a sexual script that is biologically and sociologically beneficial for the sexual pleasure of men. However, the arousal gap created by biological differences between women and men needs to be overcome. Therefore there should be more focus on a mutually satisfactory way of approaching sex, rather than a penetration focused linear model which is now widely represented through all sorts of media. Finding a way to make sex more rewarding for women might help people in long-term relationships to be more satisfied in their sexuality.



## 2.2 Field research

### 2.2.1 Interviews target audience

#### Introduction

Based on the findings of the desk research, field research was conducted. This consisted of interviewing people who directly belong to the target audience, conducting a survey among a voluntary tester community, and an interview with Marieke Dewitte, who is a relationship therapist and researcher. The fundamental research questions were as follows:

- » *How satisfied are people in long-term relationships (2 years+) with their sex lives? Why?*
- » *What do couples who experience decreased sexual desire currently do to overcome their issues?*
- » *What are reasons for not wanting sex in long-term relationships?*
- » *What are generally triggers for both women and men for getting into the mood?*

#### Method

An interview script was created, addressing each of the research questions. The interview script can be found in appendix A. This script was meant to structure the interview, but was not leading.

The interviews took place through Microsoft teams. Each person was interviewed individually, also when both partners of one couple participated. This was done to ensure that people would feel free to speak about their sexual problems, without feeling the pressure of their partner listening along.

The interviews were conducted by two researchers, one of whom lead the conversation and the other one took notes on a Mural board during the interview (figure 6). The camera of the note taker was shut off to create the illusion for the participant that they were not being observed. Prior to every interview the participants were informed about the fact that there would be two researchers present, and that the interviews would be recorded for analysis purposes.

#### Participants

The interviews were individually conducted with three women who were in a long-term relationship, one man who was in a long-term relationship and one married couple. Their ages varied from 23 to 59.



Figure 6 - Some quotes of the interviewees



Results

Every interviewee was satisfied, and happy with “what it still is”. They are actively trying to have a satisfactory sex life. Almost all say their sex drive was higher in the beginning of their relationship. Physical and mental stress are an important factor for everyone to not want to engage in sexual activity, and a relaxing activity can be a solution. Perceived pressure of having to have sex is also a boundary for people. When one partner is in the mood, initiating foreplay is usually the way to get the other partner in the mood as well. Kissing is the most effective way. However, a no is always a no, which sometimes disappoints them. For everyone foreplay is very important, maybe even more so than penetrative sex.

Quality time makes it easier to get aroused – Man, married

My drive and my libido is more than my wife’s, and that has been for many years - Man, married

When I am stressed he tries to relax me and that is most of the time that we have sex- Woman

Seeing my partner being attentive makes me not just excited, also appreciating more. This arouses me” – Woman

“Dimmed light makes me feel sexy” - Woman

*“It is rare that sex just happens, I need something before”*

- Woman, married

Conclusion

It is hard to draw significant conclusions from this research, because of the low sample size of six. However, all participants unanimously agreed that the frequency of sexual activity had become less, compared to the beginning of the relationship. Also, half of them said to be actively trying to improve their sex life, or at least seek for ways to keep it interesting.

Contradictory to the expectations, all participants said to be satisfied with their relationship as it is. They were accepting of the fact that sometimes there is a discrepancy in sexual desire within their relationship, even though some would like to have more sex. Some activity that helps the body relax can help when people feel too stressed to have sex. Also, paying more attention to foreplay helps getting in the mood.

Overall, the interviews showed that the two main hurdles for sexuality in long-term relationships were related to 1) the fact that sex had become a routine, and that there was a lack of newness and 2) being stressed or distracted, which could easily get in the way of getting aroused.

2.2.2 Survey target audience

Introduction

Since the previously described qualitative research only had a sample size of six, a large scale survey was conducted parallel to this in order to gather quantitative data on the same topic. The survey should give insight in what arouses people, what triggers them to get sexual with their partner. Also, it should give an indication of the prevalence of sexual issues related to desire and arousal in long-term heterosexual relationships.

Method

Prior to setting up the survey, the following research questions were formulated:

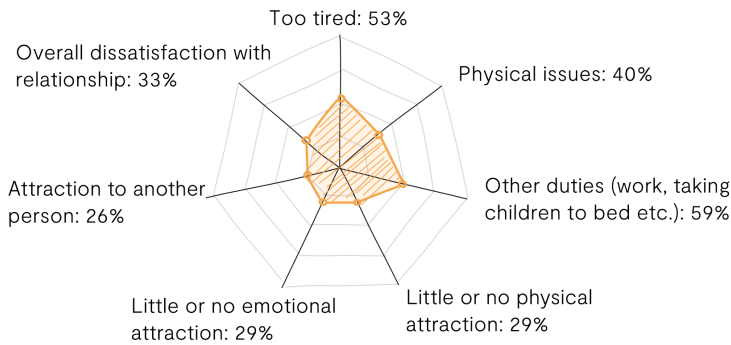
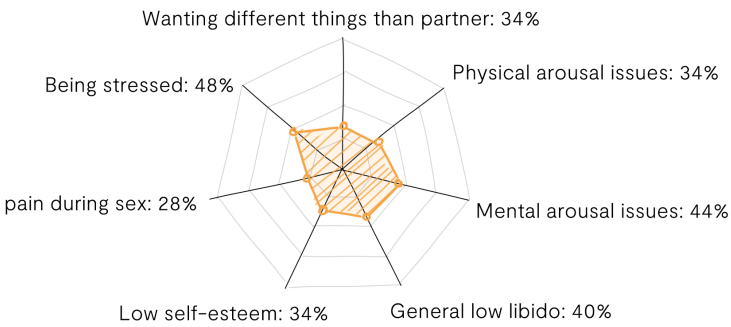
- » *How do people in long term relationships feel about the frequency of intimate and sexual interaction within their relationship?*
- » *What does it take to arouse people in long term relationships? What is the role of the partner here?*
- » *How prevalent is a discrepancy in desire? How often do people experience rejection by their partner?*
- » *How many long term couples experience issues regarding cognitive or physical arousal?*
- » *What makes people in long term relationships not want sex or intimacy?*

Following, a set up was created and actual questions were formulated. These questions were added to the survey software.

Results

N = 1.378  
N Completed = 920  
Germany 42%  
United States 23%  
Other countries 35%

1. Reasons for rejecting sex

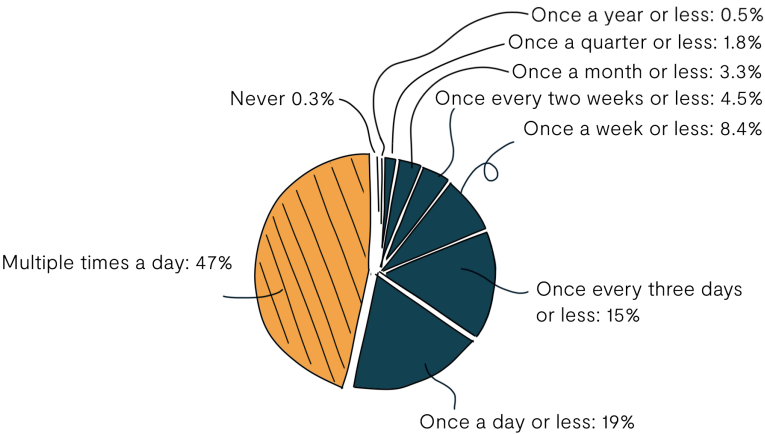


- » *The most common reasons for rejecting sex are the perceived pressure of other duties, being too tired and being too stressed*

Figure 7 - Graphs with survey results

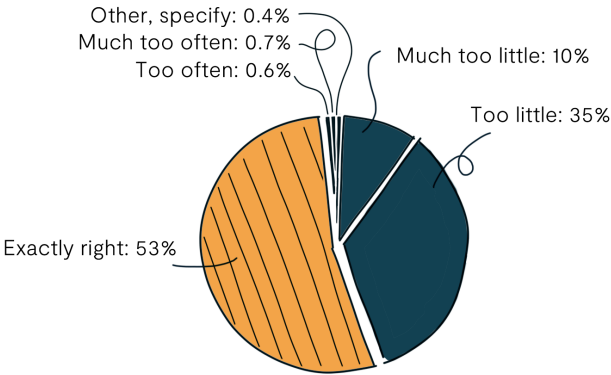
Figure 8 - Graphs with survey results

2. Frequency of getting intimate

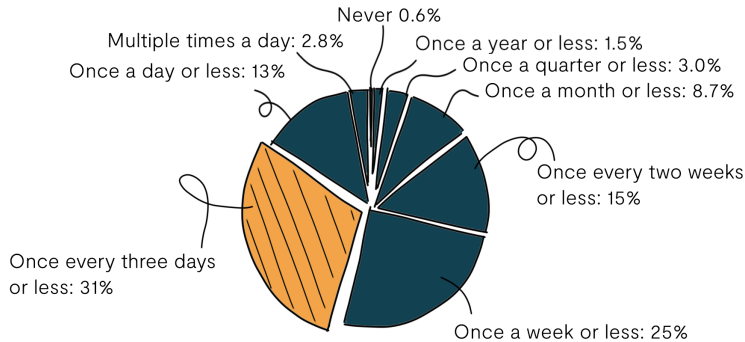


» People in relationships are likely to report their frequency of intimate interaction as “exactly right” (53%). 35% thinks it is too little.

3. Satisfaction rate

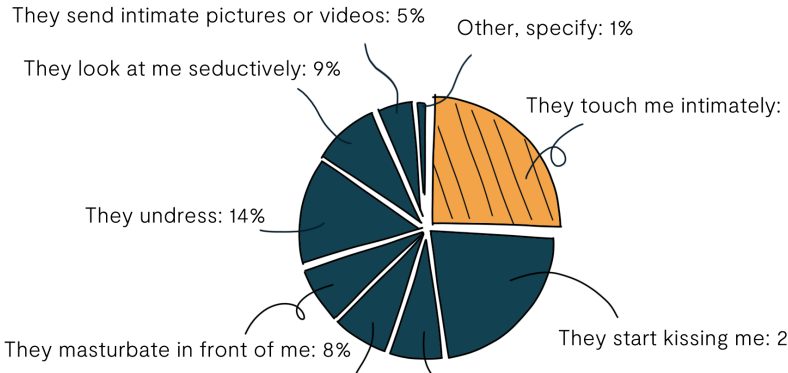


4. Frequency of having sex



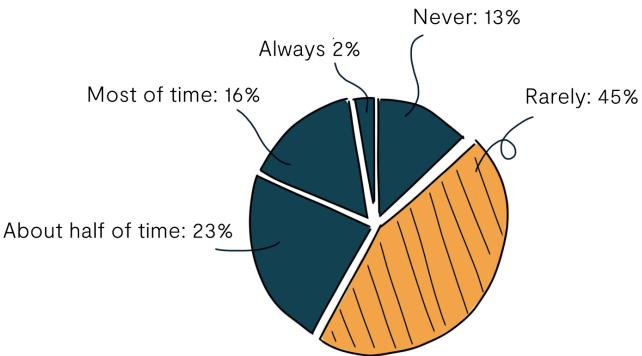
» Both women and men are likely to report their frequency of having sex as either “too little” or “much too little” (64% in total). This number is slightly higher for men (70% of men think it is “too little”) than for women (56% of women think it is “too little”).

6. Ways to arouse partner



» (Intimate) touching is considered the most important aspect when it comes to getting aroused by your partner. Kissing is second.

7. Frequency of rejection



» 42% of all respondents gets rejected “often” when they initiate sex with their partner. Often is defined here as “more than half of the time”. A lot of people then masturbate instead.

Conclusion

According to the survey, men are most likely to be the initiating partner in heterosexual relationships. Their sex drive is higher on average, causing them to get rejected more often than women when they initiate sexual activity. However, more than half of the women as well as the men report feeling that they have sex either “too little” or “much too little”. This shows that both sexes would benefit by finding a solution to the discrepancy in sexual desire. For both men and women the most common reasons

for not wanting sex are “being too tired”, “feeling the pressure of other duties like work or taking the children to bed” and “being stressed”. “Intimate touching” and “kissing” are considered the most important aspects when it comes to getting aroused with a partner. Therefore the key take away is that the concept should enable couples to get more sexual, overcome stress, and do so by involving intimate touch.



## 2.2.3 Expert interview

### Introduction

“Marieke Dewitte (figure 9) works as an assistant professor at the Department of Clinical Psychological Science of the University of Maastricht, The Netherlands. She teaches several courses and workshops on sexual responding and conducts psychophysiological research on basic mechanisms of sexual functioning, with a main focus on interpersonal dynamics, dyadic interactions between partners, and attachment.

Her clinical (research) focus is on the interpersonal dynamics of female genital pain and coregulation between partners facing sexual problems. She studied clinical psychology at Ghent University, Belgium, where she also completed her PhD. She did a clinical training in sexology in Amsterdam and worked as a sex therapist at Ghent University Hospital and Maastricht University Hospital.” (Dewitte, n.d.)

An interview about sexuality in long-term relationships was conducted with Dewitte. The results section summarizes the conversation.

### Method

The conversation was held over a Zoom call, which was recorded and transcribed afterwards. The results section will give a summary of relevant learnings. The complete transcript can be found in appendix B. The main topics which were addressed were the following:

1. Reasons for arousal issues
2. Differences between the sexes



Figure 9 - Marieke Dewitte

### Results

Generally, female bodies react to sexual stimuli automatically, causing physical arousal. However, for female bodied persons, more so than for male bodied persons, it is important to also appraise stimuli as sexual, in order to trigger their cognitive arousal.

***“Sometimes you like dessert, and sometimes the main course was enough.”***

The commonly known sexual script is highly based on penetration. Generally, this is the least rewarding aspect of sex for female bodied persons, because it most likely does not lead to physical pleasure or orgasm. This can result in women being more indifferent towards sex, because they are presented insufficient sexual stimuli, or stimuli which are not strong enough to trigger their cognitive arousal. According to Dewitte (M. Dewitte, personal communication, 5 October 2021), female bodied persons are just as much into sexual activity as male bodied persons, as long as they are approached in what is considered the right way for them. This contradicts the commonly known assumption that male bodied persons generally want to have sex more than female bodied persons, and supports the idea that the commonly know sexual script has evolved around the male pleasure mainly.

Whereas penetration of a vagina by a penis is the ultimate way of stimulating the glans of the penis, this is not the same for the female version of the glans: the clitoris. However, the clitoris as well as the overall vulva need some time to physically get aroused in order for stimulation to feel pleasurable. It is really about taking time, but this often comes with a feeling of pressure because of the previously described sexual script, which focuses on penetration as the main act. According to Dewitte (M. Dewitte, personal communication, 5 October 2021) we should see “foreplay” as the main course, and “main play” as the dessert. Sometimes you like dessert, and sometimes the main course was enough. Female bodied persons need contextual factors to be right, like touching their body and triggering their fantasies, whereas for male bodied persons highly explicit visual triggers like seeing a nude nipple are enough.

### Conclusion

Marieke Dewitte highlighted the biological differences between female bodied persons and male bodied persons as being the main reason for women in long-term relationships being less interested in engaging in sexual activity. She implies that the sexual script as it is, is the main reason for this discrepancy in sexual desire, because it is less rewarding for women. Based on this, the solution therefore should be found in designing a product that focuses on rewriting the sexual script towards a more equally rewarding one.

## 2.3 Design goal

As can be concluded from the literature study, desk research and interviews, the main challenge long-term couples stumble upon is the misalignment of their arousal patterns resulting in rejection. The typical linear sexual script with penetrative sex and male orgasm as the “end goals” influences this in such a way that people might experience pressure of having to have sex, when their partner initiates. Since traditional penetrative sex is generally more physically rewarding for men than it is for women,

the design goal focuses on finding a more mutually rewarding way of approaching intimacy, rather than just genital focused sex, in its broadest sense. The hypothesis is that when the pressure of having to have sex is taken away and people feel more relaxed to engage in intimate activity, the likeliness of the body getting aroused increases, after all resulting in more sexual activity and a higher mutual satisfaction rate. The design goal is therefore formulated as follows:

***“To come up with a viable concept that is meant to allow long-term couples get intimate in a way that does not cause the feeling of pressure that any kind of sexual activity should be a follow up step. The concept focuses on helping couples to relax together mentally as well as physically, to inspire them to explore a new way of intimacy. This should be done by means of a physical product which fits the brand portfolio.”***

## 2.4 Context mapping

Having the design goal defined, a context mapping study was conducted in order to explore the solution space. Context mapping is a procedure for conducting contextual research with users, where tacit knowledge is gained about the context of use of products. Knowledge gained from the preliminary research, as well as interaction prototyping was used to embody the research. To overcome the boundary of privacy in researching sexuality, focus groups were created. These focus groups were all long-term heterosexual couples, who had been together for at least two years, and were cohabiting. Having the focus groups interact with prototypes in the privacy of their own home (interaction prototyping), instructed by a provided booklet, and reporting their behavior by means of online questionnaires, allowed to get insights in their intimate and sexual behavior in an organized setting. The research consisted of recruiting participants, creating the instruction booklet including online questionnaires, collecting prototypes, having the research participants perform the tasks (gathering data), analyze the results of the online questionnaires, interview each participant afterwards.

» What product or activity or a combination thereof can help couples get in the mood for intimate activity, when they are typically not aroused?

### 2.4.1 Method

#### Collect research participants

The aim was to find six long-term couples, who at least had been together for two years, and were also cohabiting. In order to do so, I reached out to people within my personal network whom I knew fit my target audience. Also, a message on Instagram was sent out, asking for people who would be interested in participating this one week research. People were asked if they were willing to participate in a research about intimacy, which would contain of five different tasks, which should be completed within seven days. The time indication was 30 minutes to one hour a day.

The different channels in the end lead to 13 couples who were interested in participating. Since the aim was to work with six, due to the workload of analyzing the qualitative outcomes, couples were selected based on how well they fit the target audience, and how close by they were living in order to deliver their research materials on time. The other interested participants were sent an e-mail explaining why they were eliminated for this research, and asking if they were open attend potential upcoming research.

#### Translate ideas in actionable tasks

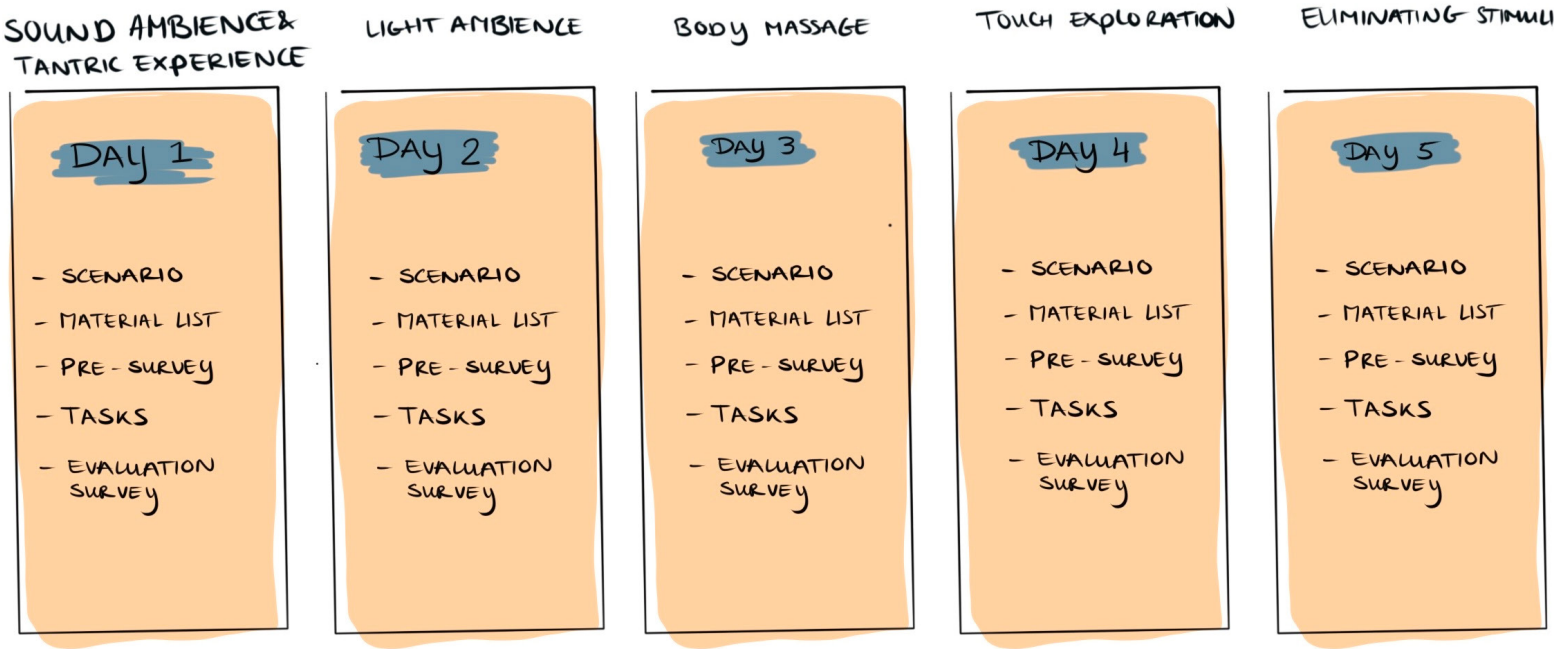
During a preliminary ideation session different idea elements were generated. The ideas evolved around relaxation with a partner, and were partly based on existing products. In order to test these, the idea elements were translated into actionable tasks. Ideas were divided into different elements, so all could be tested separately. A list was made of necessary materials which the participants needed in order to complete the tasks.

#### Design booklet

All tasks were categorized in five days, each day with a different theme. The setup of the booklets can be found in figure 10. The days were designed in such a way that each day the participants would spend approximately one hour on completing the tasks. Both partners received their own unique booklet,

which they were not allowed to share with each other. This allowed to create a natural context, since in real life you also do not know what your partner is going to do or say. There was always one initiator and one receiver. The role of initiator differed per day, giving both partners the opportunity to experience the receiving role and the initiating role. Together with receiving their own booklet, both partners also received their own bag of materials, which they were also not allowed to show each other up until use. Each day had a ‘sandwich structure’: Starting with a general survey about the current mood of the participant, then the task, and ending with another survey on how the person experienced performing the task.

Figure 10 - Booklet structure





Create surveys

The surveys provided were made using Google Forms. One survey was completed prior to starting the experiment. This survey was meant to get an insight in the current sexual lives of the participants. The questions were based on the previous survey (section 2.2.2). In the surveys most questions were qualitative, because the goal was to gather insights in people’s thought and feelings. Therefore it was important to not limit the participants in any kind of way.

Buy materials

When the booklets were made, all materials were collected for each participant. They were then divided over 12 bags, which were closed off using tape. This way the participants were not immediately able to see the contents of the bags upon delivery. The participants were instructed not to have a look at their materials until they would start performing their first tasks. All couples were divided into partner one and partner two. Both partners each received their own unique bag, corresponding to their number.

Having participants sign consent form

Each individual participant was asked to sign a consent form. This consent form was sent to them personally, through e-mail. The consent form can be found in appendix C.

Hand out materials

When all materials were collected, they were all personally delivered to the participant’s homes. From the moment of delivery onwards, the participants were allowed to schedule their own time for when to perform the tasks.

Give instructions

Instructions were given on the beforehand through e-mail. The participants were not able to see the other recipients. Further instructions were given in real life, when I delivered them their materials. That was also the time for participants to ask their remaining questions.

2.4.2 Materials

All the interaction prototyping materials (figure 11) were put inside paper bags, and closed off with plastic tape. The materials the participants received were the following:

- » Audio fragment on YouTube
- » 18 Fragrance candles
- » App connected light bulb for different colors
- » Manual massage tool
- » Vibrating massage tool
- » Head massage tool
- » Empty wine bottle
- » Sponge
- » Elastic bands
- » Video on YouTube with massage instructions
- » Feathers
- » Ice cube bags
- » Blindfold
- » Breathing exercise video on YouTube
- » Ear plugs
- » Fidget tool
- » Batteries

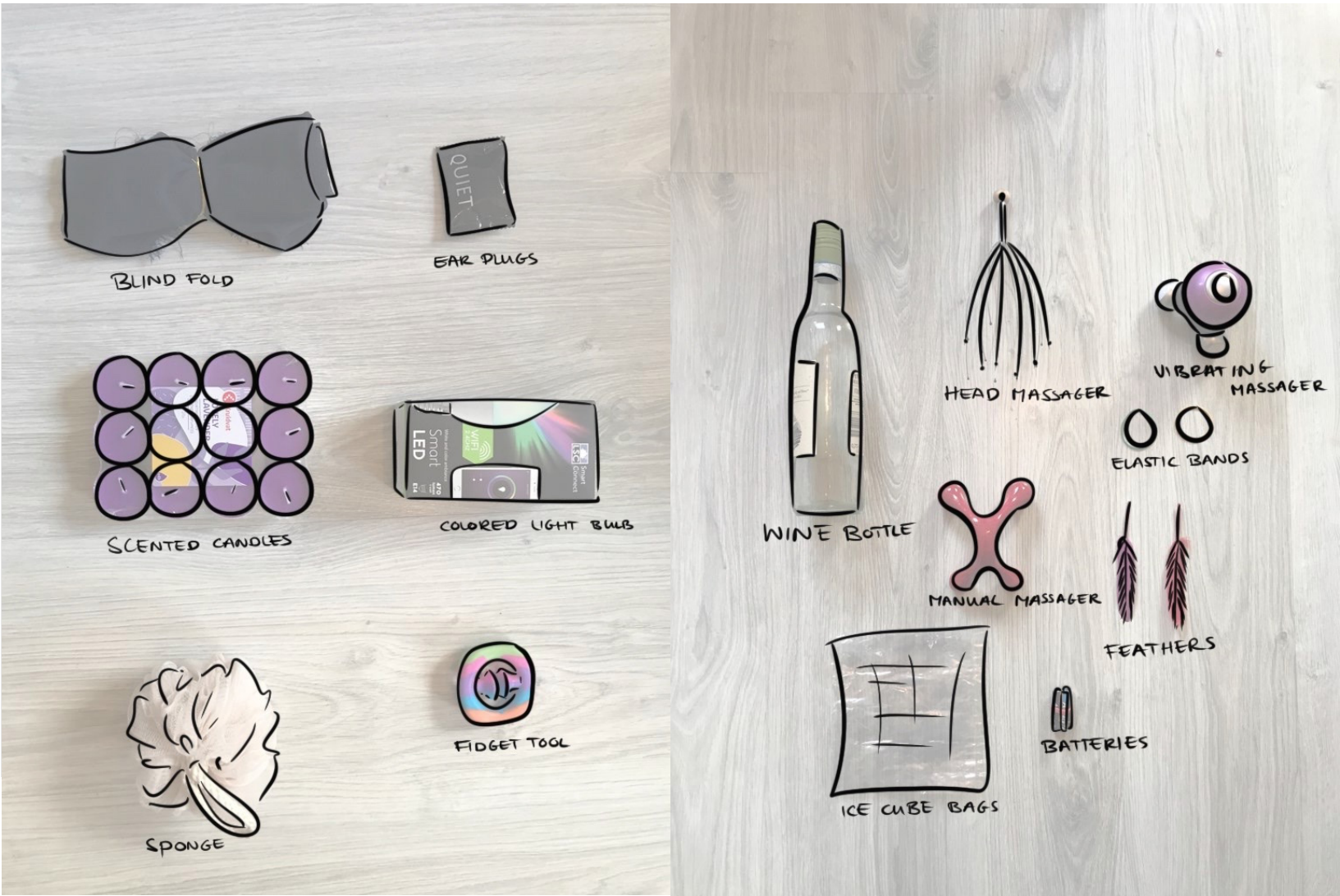


Figure 11 - Interaction prototyping materials for partner 1 (left) and partner 2 (right)

2.4.3 Analysis

For analysis purposes, a template in Miro was used on which all relevant questionnaire outcomes were mapped out (figure 12). This allowed to visualize the qualitative answers given in the questionnaires, and was helpful to indicate which days or exercises were most promising for design purposes. First of all, for each individual partner was determined whether they experienced a certain exercise as either arousing (green), neutral (orange) or negatively influencing their arousal level (red). Secondly, for each couple an emoji was added, to indicate on which day they had become intimate (heart emoji) or actually had sex (drops emoji). Then, relevant quotes were added in the quotes section respective to the exercises of that day. Lastly, emojis were added to indicate for each individual partner what their favorite moment was (100-emoji) and what their most arousing moment was (1-medal emoji)(figure 12).

After having analyzed the qualitative questionnaires, each individual participant was interviewed through a videocall in Microsoft Teams. All interviews took approximately 30 minutes, and were focused on elaborating on the answers participants gave through the questionnaires. Each interview had the following structure:

- » General questions
- » Questions about the kick-off questionnaire
- » Questions about each specific exercise
- » Evaluating the four concepts and ranking them from one to four

The questions within each category were based on their individual answers, and therefore were not the same for each participant.




All interviews were audio and video recorded, for transcription purposes later on. This allowed the researcher to conduct the interviews alone,

without having a third person taking notes or having to do that herself. Full attention for the research participant was therefore guaranteed.

After having conducted all interviews, all audio recordings were analyzed one by one. Relevant and remarkable quotes were collected on digital sticky notes, each color representing an individual participant. All digital sticky notes with quotes were then clustered, in order to visually communicate which quotes were reoccurring, and to what extent.

*“It felt a bit forced at first because I was feeling anxious and stressed about something else, but once we were into it, it felt good that I got him from stressed to relaxed”*

*Female test participant - About massaging while feeling stressed*

-  It has positive influence on my arousal
-  It feels neutral
-  It has negative influence on my arousal

-  Favorite moment
-  Most arousing moment
-  Intimate activity
-  Sexual activity

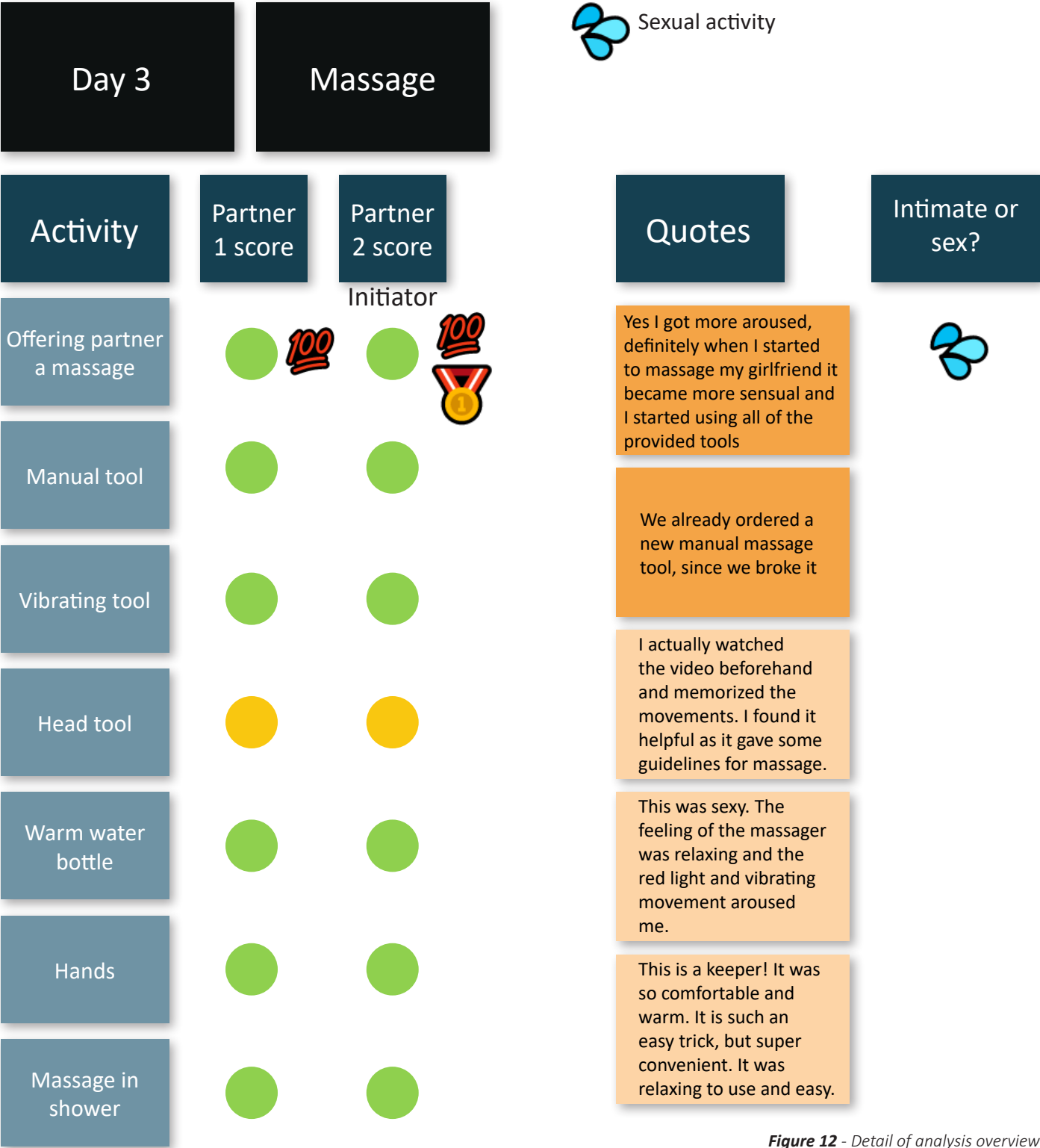


Figure 12 - Detail of analysis overview

#### 2.4.4 Results

The most remarkable result was the effect of taking time, or even making time for each other. Almost all participants came to the realization that they would often wait for sex to happen, or “wait for the right moment”. This would usually be when one partner is already aroused, and tries to initiate to their partner, after which they either get rejected or rush to get the their partner aroused as well. This often results in frustration because of repetitive rejection, or unsatisfactory sex because both arousal levels are not equal. Taking time to equalize these arousal levels significantly helped partners to get into the mood together.

The most effective way of spending this time for relaxation seems to be through massage. This has to do with the physical contact between partners, the relaxing sensation of warmth and vibration, and the fact that one partner is putting in effort to help the other partner relax.

#### 2.4.5 Conclusion

Taking time for massage and creating an ambience are, according to this research, the most effective ways of having people get into the mood together. This shows that people in long term relationships, who experience difficulty regarding sexual desire and arousal, might be helped by using a product that enhances the act of massage and makes it easier for them in case they are unexperienced with it. Therefore taking time for massage in combination with creating an ambience are the fundamentals of the concept.

***“This is a keeper! It was so comfortable and warm. It is such an easy trick, but super convenient. It was relaxing to use and easy.”***

*Female test participant - About massaging with a hot water bottle*

#### 2.4.6 Scientific support

According to Morhenn et al. (2012) massage increases oxytocin release. Oxytocin is the hormone known for its ability to give someone a happy feeling. Besides that, it can increase the feeling of trust towards another person (Gutknecht, 2020). This explains why romantic couples enjoy massaging each other. Naruse and Moss (2019) propose that “Positive Massage can be an effective positive intervention impacting on couples’ wellbeing and enhancing their relationships”.

Both these findings support the outcomes of the context mapping research, and therefore confirm that intimate massage is the right way to approach the defined problem.





# 03

## Define

*Chapter 3 summarizes the findings of the research phase, and translates them into requirements upon which the concept is based.*



# 3.1 Conclusion of research results

## Key insights per section

2.1	
Literature study	<ul style="list-style-type: none"><li>• <b>Biological differences</b> between men and women can cause <b>women to be less likely to want to engage in sexual activity</b> upon initiation by their male partner, resulting in rejection</li></ul>
2.2.1	
Interviews target audience	<ul style="list-style-type: none"><li>• Sex in long-term relationships has become <b>routine</b>, where people desire <b>newness and surprise</b></li><li>• <b>Stress or other distractions</b> are barriers for arousal to develop</li></ul>
2.2.2	
Survey target audience	<ul style="list-style-type: none"><li>• <b>65%</b> of the people in long-term relationships wants to be <b>more sexual with their current partner</b></li><li>• <b>Intimate touch</b> is the most important way of arousing a partner</li></ul>
2.2.3	
Expert interview	<ul style="list-style-type: none"><li>• The <b>heteronormative, male focused linear sexual script</b> is not beneficial for mutually satisfying heterosexual pleasure. Focusing on female sexual pleasure, and thus make intimate activity more rewarding for women, can cause women to be <b>more interested in sexual activity</b>.</li></ul>
2.2.4	
Context mapping	<ul style="list-style-type: none"><li>• <b>Taking time</b> for intimate activity rather than genital focused sex can help couples get aroused, because they <b>take time to let go of stress, and build an intimate connection together</b>.</li><li>• <b>Making time</b>, or scheduling time, for intimate activity can help couples increase the frequency, since they <b>do not have to wait for “the perfect moment”</b>, where both couples are in the mood at the same time.</li><li>• <b>Additional warmth</b> in massage has positive influence on the perceived sensations and helps the body to relax</li><li>• <b>Additional vibration</b> in massage has positive influence on muscle relaxation, and can also cause arousal to develop.</li><li>• <b>Creating an ambience helps people get in the mood</b>, because they create <b>context in which relaxation and arousal can develop</b>. Creating an ambience is also a sign of effort from one partner to the other, which people appreciate.</li></ul>

## Translation to requirements

- The product should be **gender neutral**, to eliminate biologically determined differences between people
- The product should support people in **letting go of routine**, and **explore new ways of intimacy**
- The product should support people in **letting go of stress and other distractions**
- The product should be a means for people to **increase their sexual satisfaction**
- The product should communicate that it does not belong to the heteronormative, male focused, linear sexual script, but that it is a **stand alone product**
- The product should **inspire** couples to **make and take time** for each other to become intimate
- The product should be a **massage product**, that involves **intimate touch** and **skin to skin** contact
- The product should involve additional **warmth and vibration**
- The product should inspire people to put effort in **creating a sensual context**

## Summary

Concluding the research phase, it becomes obvious that many different factors contribute to the arousal discrepancy in long-term heterosexual relationships. These differences are at the core of the main problem: The misalignment in sexual arousal for heterosexual people in long-term relationships as a result of decreased desire. As the survey showed, 42% of the people in long-term relationships are “often” rejected when they initiate sexual activity, which shows the prevalence of this problem. According to the survey as well as the interviews conducted, the most common reasons for not wanting sex with their partner are stress, tiredness or the perceived pressure of having other duties like taking the children to bed. Whereas in the beginning of the relationship these factors were commonly not in the way of desire and arousal, the decrease of desire intensity causes them become more powerful after the honeymoon phase.

The context mapping research, which explored the solution space, showed that creating an ambience in combination with body massage was the most effective way of addressing the discrepancy in sexual desire and arousal between partners. People responded surprisingly well to being touched with a warm water bottle, and also vibrating massagers had a positive effect on their mood. For the providing partner, it was helpful to use a tool so that they were able to massage longer without getting soar hands. Lastly, all participants unanimously said that making (or scheduling) time and taking time for each other worked surprisingly well. It allowed them to get their bodies from a non aroused state to an intimate, sometimes even aroused state simultaneously. For some couples this even resulted in “passionate sex”.





# 04

## Develop

*Chapter 4 elaborates on the development of the final concept: the Ignite. It kicks off with section 4.1 with an overview of the design methodology, followed by three design directions translated into concepts. Evaluation of these concepts lead to the design of the Ignite. Section 4.2 presents another round of interaction prototyping and user testing. This was done to define the shape, materials and user journey of the product. Section 4.3 shows the emotive collage, which was used as an inspiration during development of the concept. In section 4.4 all aspects of the Ignite are explained in detail, with explanation for each design decision. Section 4.5 and 4.6 are about the envisioned market value and the implementation roadmap.*



# 4.1 Three concepts

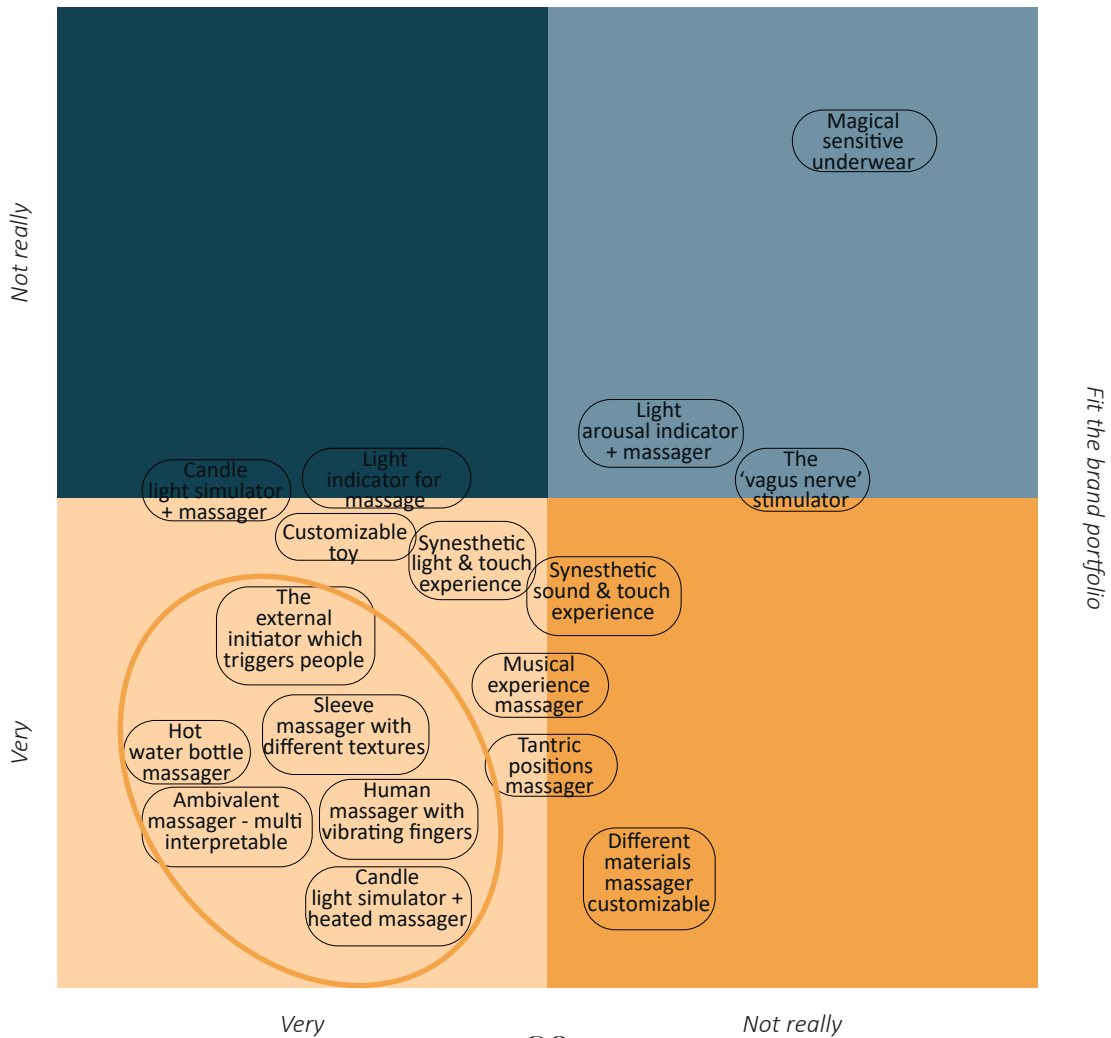
Out of 17 idea sketches based on all previous findings, three concepts were created. These concepts were evaluated by the target audience on desirability, and by means of a Harris Profile, to find out which concept fit the requirements best.

## 4.1.1 Method

Ideas regarding the set requirements were generated through brainstorming and analogies. Then the ideas were evaluated using the C-Box method (figure 13), with on the x-axis “fit the brand portfolio” and on the y-axis “inspires to get intimate”. These two requirements were considered most important. Out of the lower left quadrant, where the ideas that fit both requirements were, three ideas were chosen and processed further.

Figure 13 - C-Box cluster first ideas

Inspires to get intimate



# 1. Ignite

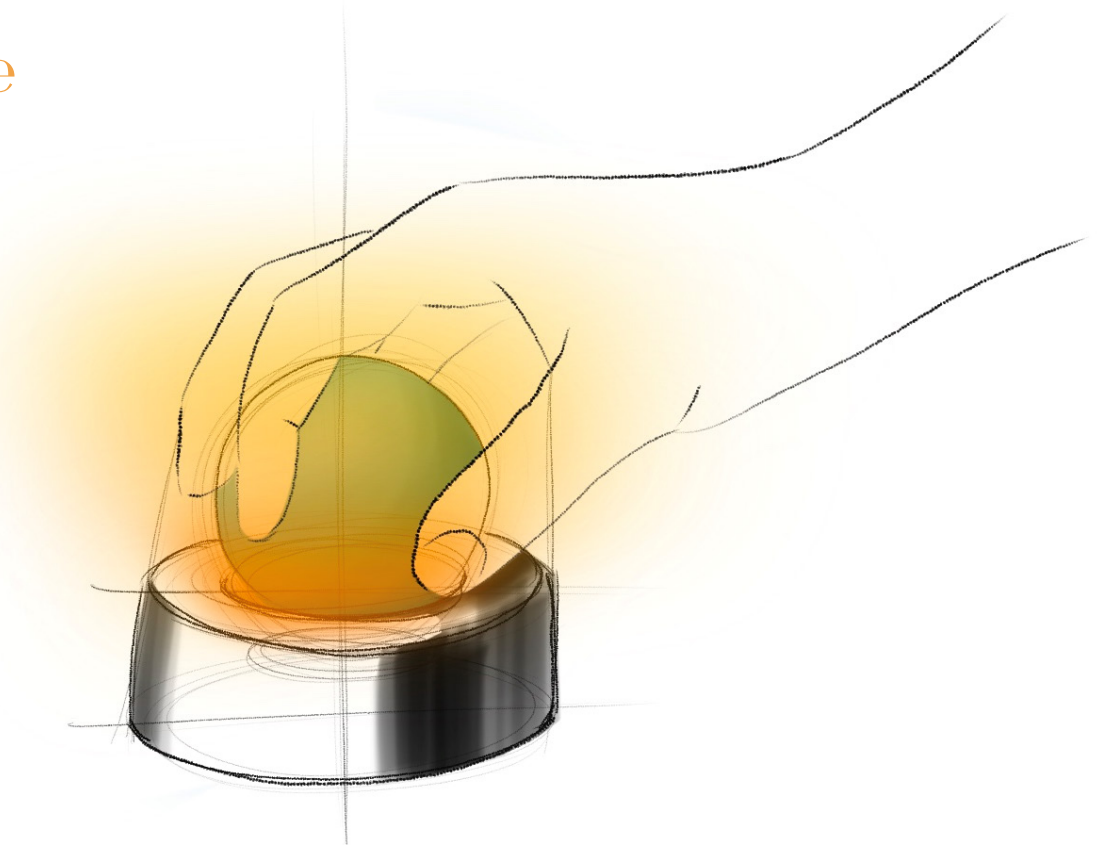


Figure 14 - Concept 1 - The Ignite

## 4.1.2 Ignite

The Ignite concept consists of a charging station with an implemented mood light, combined with a massage object that can warm up and vibrate. Its design is based on the findings that people consider taking time for intimacy an effective way of kickstarting arousal, that they enjoy creating an ambience using light, and the positive responses to being massaged by means of a warm object (the warm water bottle) and by a vibrating object (the vibrating massager). The Ignite encourages people to take time, because the light, which mimics a small fire, needs time to warm up the massager. It symbolizes warming up the body, and reigniting the flame between partners. At this point, the shape has not yet been defined, except for it to consist of the two different elements (lamp and massager). When the massager has gotten to the right temperature, it can be taken off its stand and used for body massage (figure 14).

Massage  
Warmth  
Vibration  
Creating context  
Taking time

## 2. Flow

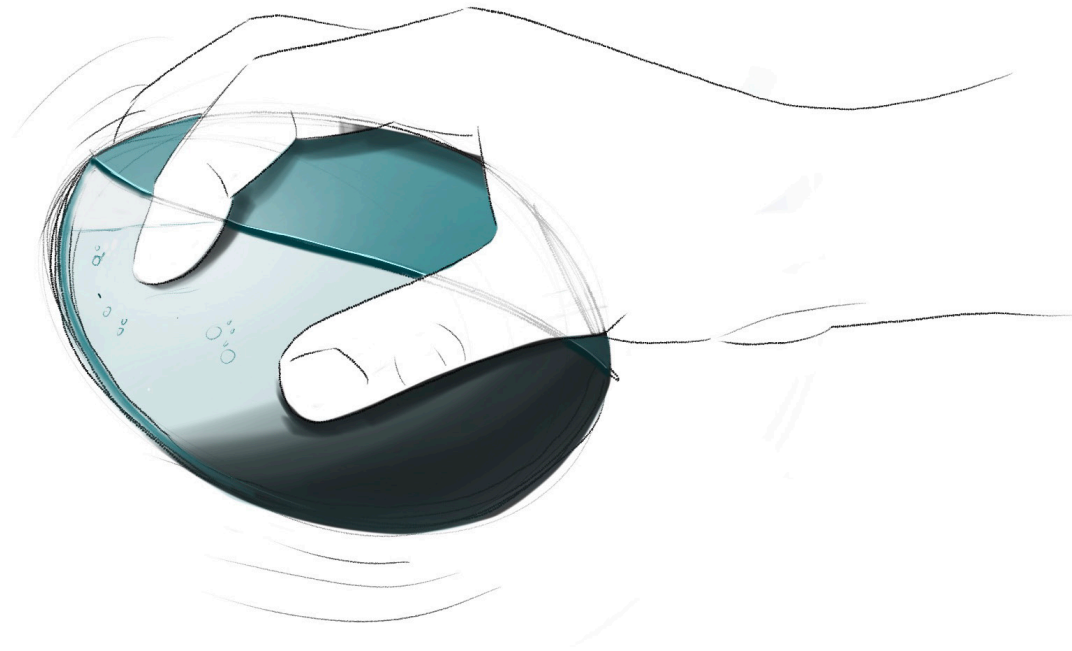


Figure 15 - Concept 2 - The Flow

### 4.1.3 Flow

The Flow is merely based on the finding that preparing a hot water bottle to massage with is highly appreciated by the receiving partner, and also the providing partner enjoys the warmth on their hands. The Flow consists of two halves, which merge to one object. One half needs to be filled with warm water, and the other half contains the necessary electronics to have the massager vibrate. The core of this concept is that one partner has to put effort into preparing something nice for their partner. The context mapping research repeatedly showed that partners really appreciate each other putting effort in preparing something nice. Flow is therefore the embodiment of the hot water bottle in a style that fits the brand portfolio (figure 15).

**Massage**  
**Warmth**  
**Vibration**  
**Putting effort in preparation**

## 3. Sense

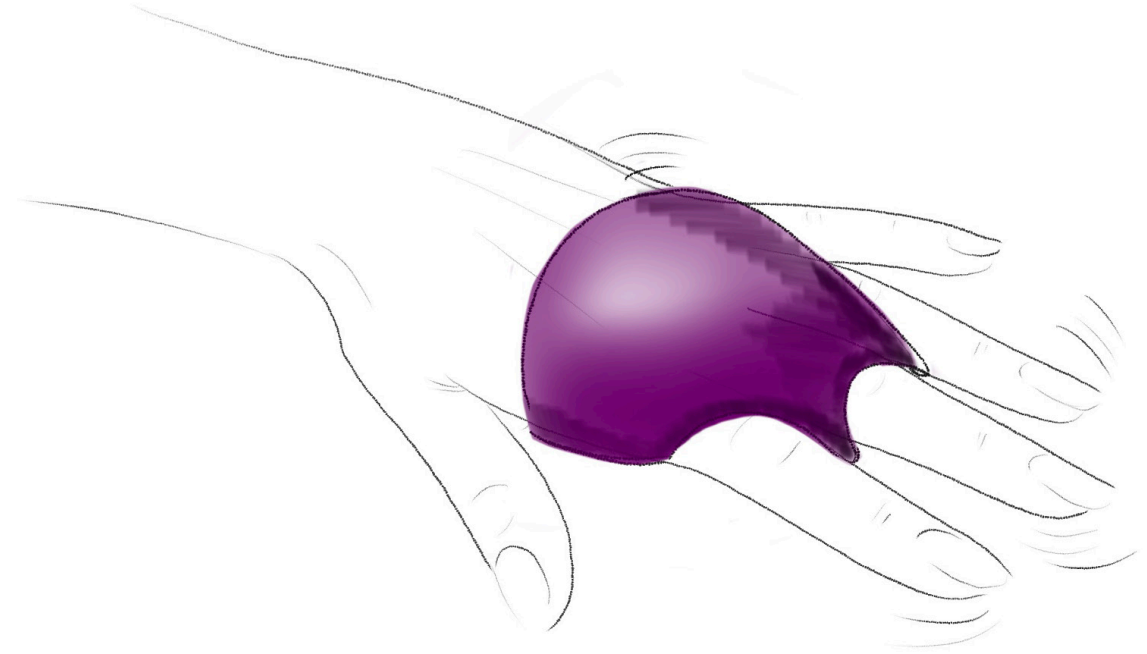


Figure 16 - Concept 3 - The Sense

### 4.1.4 Sense

The third concept is named the Sense. This concept is based on the fact that people said they miss skin to skin contact when they are using massage products. It makes it harder for them to really feel connected to their partner, without this contact. The Sense therefore strives to enhance human touch, by adding vibrations to the fingers. The Sense transfers vibrations through the hand, which adds to the sensation of stroking, touching and massaging a partner. The Sense can be seen in figure 16.

**Skin on skin contact**  
**Touch**  
**Vibration**

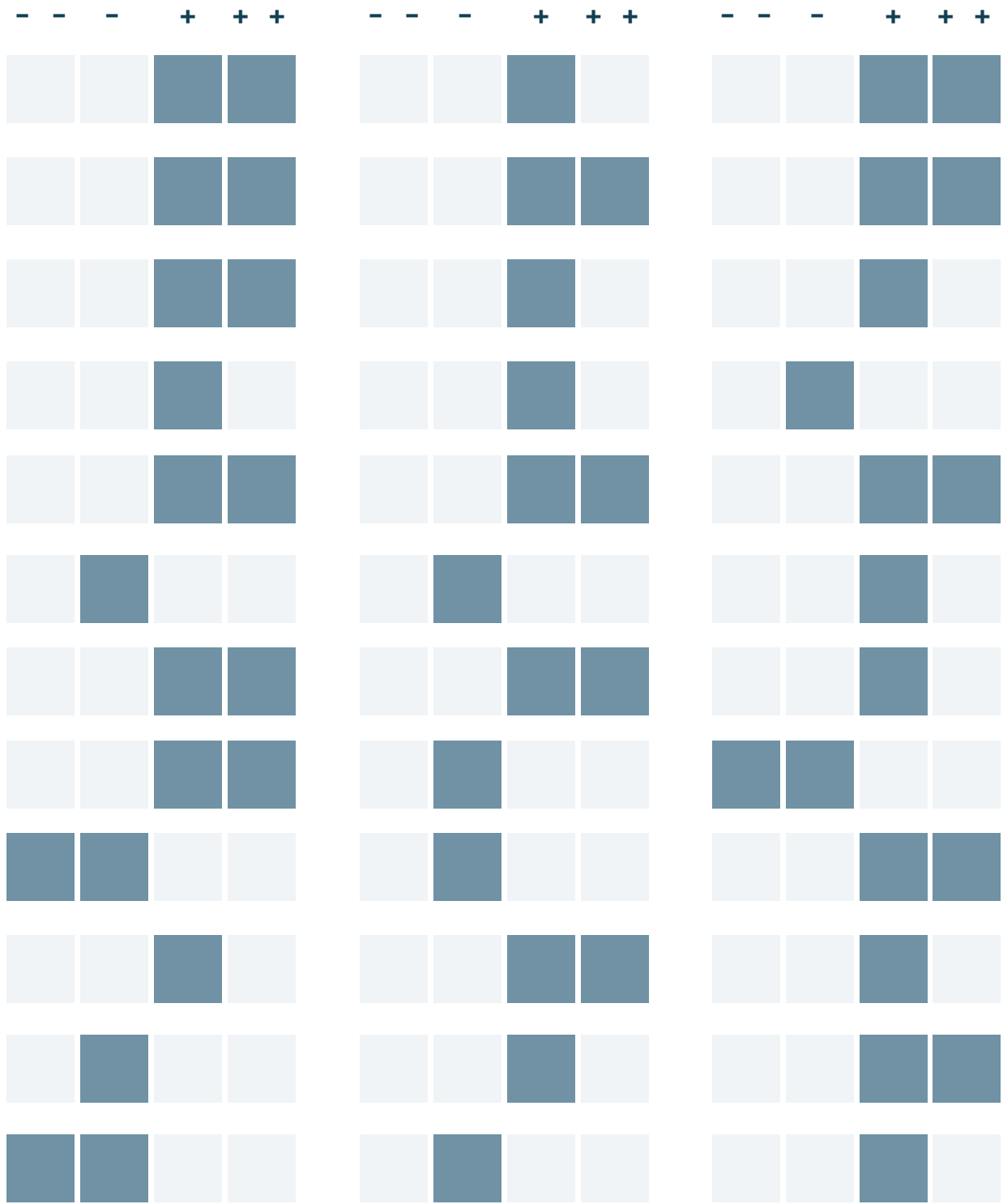
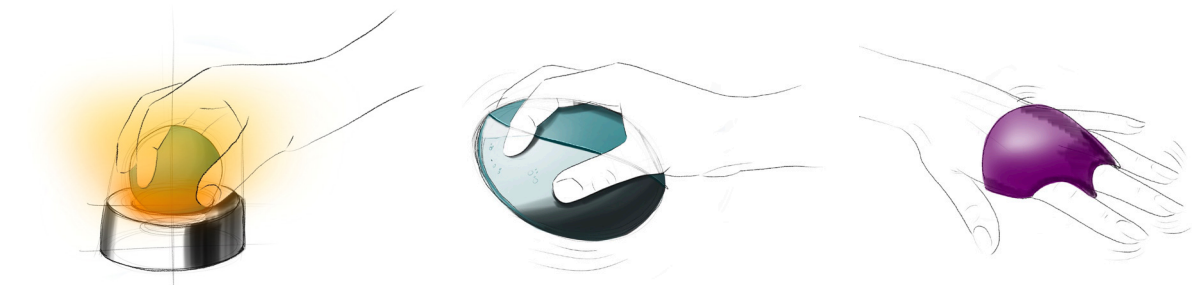


Figure 17 - Harris Profile evaluation

4.1.5 Evaluation of concepts

First, all three concepts were evaluated by the participants of the context mapping study. Each participant individually was asked to give feedback to all three concepts, and moreover rank them from one to three. They were asked questions like: “Do you think this concept could inspire you to spend more intimate time with your partner?” and “are you interested in buying such a product?”

The second evaluation method was through a Harris Profile. According to the Delft Design Guide (Delft University of Technology, n.d.) a Harris Profile is “a graphic representation of the strengths and weaknesses of design concepts with respect to predefined design requirements. It is used to evaluate design concepts and facilitate decisions on which concepts to continue with in a design process.” The created profiles can be seen in figure 17.

“Because it expresses warmth and intimacy which I really like”

Male test participant - About the Ignite

“Nice, we have a massage candle. It gives you time to move in that direction. All things that I like!”

Female test participant - About the Ignite

4.1.6 Results

Evaluation of the concepts by the research participants clearly showed that the Ignite was the preferred concept. It scored an average of 1,5 out of 3, compared to a 2,1 for the Sense and a 2,2 for the Flow, the lowest grade being the best ranked.

As can be seen in the Harris Profile, the Ignite was again ranked the most promising concept. However, it also showed room for improvement in the fact that people like to touch skin to skin. This was taken into account when designing the final concept.

4.1.7 Conclusion

The Ignite was proven to be the most promising direction, and therefore the decision was made to continue developing this concept.

“The ambience light is nice, but having the warm ball and when it vibrates, like the warm water bottle, is really nice. It was nice and warm, felt really nice. It relieved some tension. Genius and multifunctional”

Male test participant - About the Ignite



## 4.2 User research

*User research was executed prior to continuing the design process. This user research was meant to dive deeper into several aspects of the Ignite massager: The usability, the shape of the massager and the material. Also, the research was meant to support the main findings that warmth and vibration are two necessary aspects of the Ignite. Each of the user research studies will be explained in more detail in this section.*

### 4.2.1 Guidance

This user test evolved around the research question “Is it beneficial for people to be guided by a light indicator when giving a massage?” This research question was based on the assumption that not everyone is as comfortable providing someone with a massage, making it even harder when there is no skin on skin contact. The providing partner might feel confused, or be uncertain about whether or not they are doing a good job. This task has been performed by three duos, in an observed setting. The duos were not couples, since they were recruited within the faculty of Industrial Design Engineering, Technical University Delft. This was not an issue however, assuming that relationship status does not have influence on the ability to provide a massage.

#### Materials

- » A simulation of a massage table
- » A laser pointer
- » A manual massager

#### Method

Person one lays down, and person two will start giving the massage using the manual massager (figure 18). After one minute, the researcher starts directing the laser pointer onto the body of the receiving person, and instructs the providing person to follow the light indicator. Afterwards, both people are interviewed on how they experienced this.

#### Results

Couple 1: The massage tool felt nice for the receiving person. Providing person was not sure what to do. Giving the massage was ‘fine’. Following the guiding dot did not make a real difference for her. Receiving partner liked it, faster was better than slow.

Couple 2: Providing partner doesn’t know what to do. Is not sure whether it is nice. It did feel nicer to be guided than to just do something. The guidance gave some unexpectedness. Variation. Both people liked that.

Couple 3: You don’t know whether the other person likes it. You feel disconnected because of the device. They would like it if being guided were optional, to learn and to experiment. The receiving partner felt like everything went a little more smooth when there was guidance.

#### Conclusion

The sample size was small, and answers were not in line with each other. Therefore the decision is made that guidance should be included in the final design for people who would like it, but it should be an optional aspect.



Figure 18 - User testing guidance with a manual massager and a laser pointer



### 4.2.2 Shape & materials

In order to investigate what shape and material would be most suitable for the massager, a user test was set up where duos would try out different existing massage products. A total of three duos completed the tests, in an observed setting. However, in contrast to the previously described guidance test, these experiments took place in the own bedrooms of the participants. This was done to take away some discomfort the participants might have experienced otherwise. The research questions this study was based on were as follows:

- » *What material is preferred for giving or receiving massage for the majority of people?*
- » *What shape is preferred for giving or receiving massage for the majority of people?*
- » *Does warmth significantly add to the experience of massage?*
- » *How does pressure point warmth compare to large surface warmth?*
- » *How does rolling massage compare to stroking massage?*
- » *How does vibrating massage compare to pressure massage?*
- » *How does pressure point massage compare to large surface massage?*
- » *What material looks most appealing to the majority of people?*
- » *What kind of massager gives the providing partner most confidence in giving massage? Why?*

#### Method

Three duos participated the test (figure 20). Two of them were romantic couples (couple 1 18 & 19 years old, couple 3 27 and 26 years old), one of them were housemates (couple 2 20 & 22 years old). The following tasks were given to the providing person, in a random order:

1. Use the massage ball intuitively to massage your partner
2. Use the steel vibrator for massage when it's heated and vibrating
3. Use the Njoy wand for massage when it's heated
4. Use the plastic vibrating massager
5. Use the Jimmy Jane ceramics massager when it's heated

#### Materials

Five massage products (figure 19)  
Massage oil  
Dry towel  
Tissues  
Box with hot water  
Towel to lay on  
Speaker for relaxing music  
Laptop for notes & recording audio



Figure 19 - Materials used for user test



Figure 20 - Participants performing user test

#### Results

For all people the warmth significantly added to the experience. However, the materials cooled down quickly, which was disappointing to them. The warmth of the 'Njoy wand was nicest, because of the steel, but the Jimmy Jane massager felt more like a hand because of the warmth in combination with the small pressure points. Often participants were not sure how to massage with the products, because the shapes were not intuitive. This was something most of them missed, however, ambiguity of the shape also provides room for creative exploration. The heaviness of the steel 'Njoy wand was considered positive, because it felt luxurious and high quality, but gave the impression that massaging with a heavier product feels better for the receiving partner. Lastly, it is remarkable that there is no clear pattern in what shapes people prefer. This is very dependent on personal preferences.

#### Conclusion

The results show that although there are patterns in certain answers, such as the fact that everyone likes warmth, there are also differences. This makes sense, since every body is unique and therefore every person likes different things. Where one likes to be massaged with precise point pressure, somebody else prefers larger surface pressure. Therefore the main conclusion is that the Ignite massager should be ambiguous, so that it has multiple ways of using it. This gives room for intimate exploration in the first place, and secondly it covers a wider range of preferences.

For a complete overview of the research results, see appendix E



4.2.3 Clay shape modeling

After having conducted the research on existing products (section 4.2.2), clay was used to create different shapes. This user test was meant to find the best shape in terms of looks, ergonomics and understandability. Also, participants were asked how they would like to be presented the instructions on how to use the product.

Method

Six clay models were created, by means of letting the hands create shapes which seemed ergonomic. The models were then evaluated by eight different people. Four of them were male, four of them were female. The six different models can be found in figure 21. Each participant was asked to rate the models in terms of looks, ergonomics and understandability. The exact questions asked can be found in appendix F.

Results

As can be seen in figure 22, shape five and six scored highest on all aspects, before participants had touched the shapes. There was no clear difference between women and men. Shape five and six were considered very similar, and therefore participants voted for the two of them, rather than for the individual shapes. Important aesthetics factors were symmetry, familiarity, organic shapes (“Organic shape feels more natural” ) and perceived ergonomics (“It looks like it fits my hand nicely” and “I think the four pressure points of shape two would work well for massage. When massaging it is nice to find pressure points, to be able to apply more power”).

In the second part of the task, participants were asked to pick up all the shapes one by one, and

Figure 21 - Six clay models (from top left (1) to bottom right (6))



For a complete overview of the research results, see appendix F

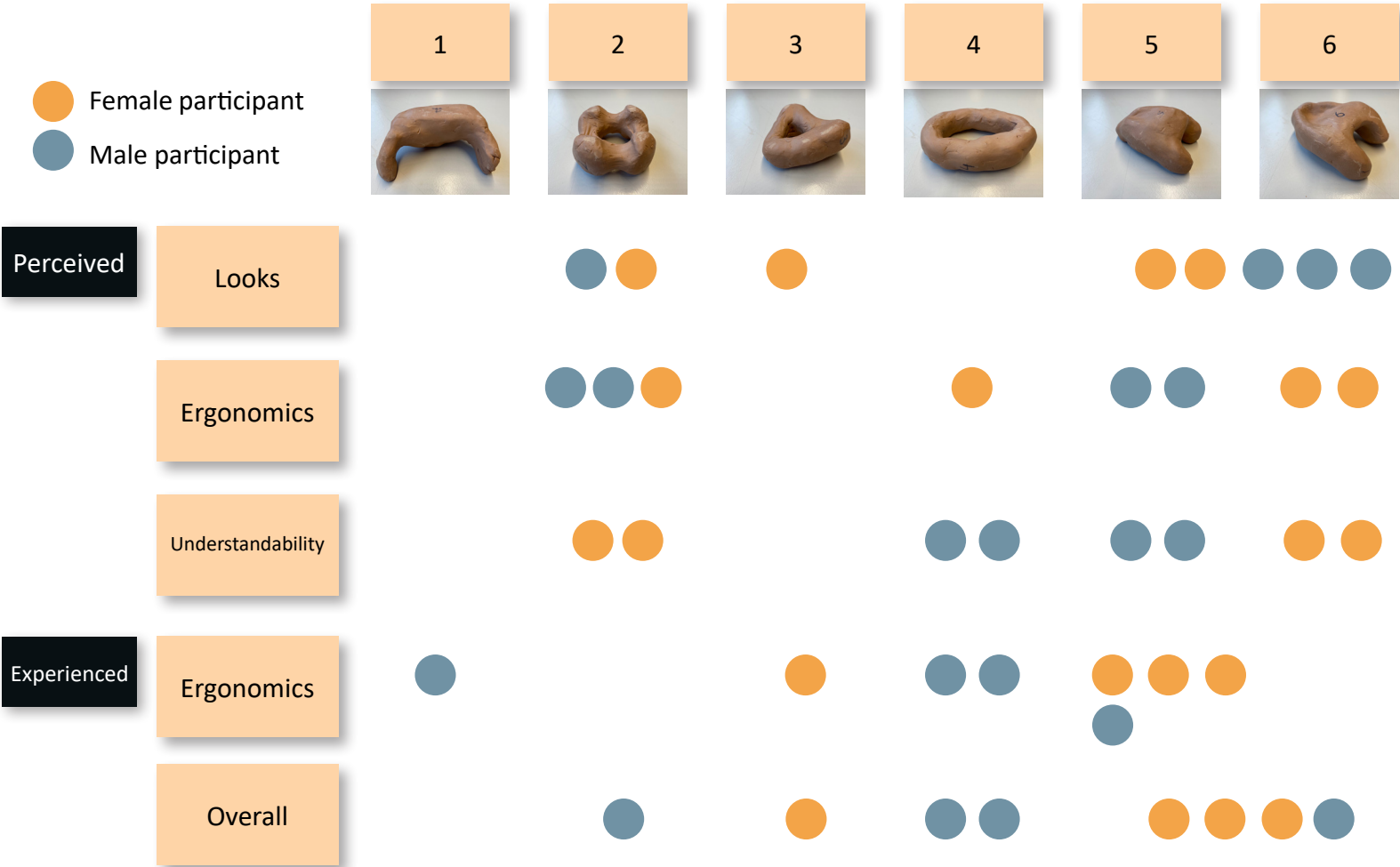


Figure 22 - Results clay shape evaluation

again rate the ergonomics, but from a haptics point of view. It can be assumed that men tend to prefer bigger, more solid shapes as they thought they would be able to apply more pressure with those, whereas women seemed to prefer more organic, fine shapes. The fact that men on average have bigger, more powerful hands might explain this difference.

Lastly, the participants had to pick their preferred shape in terms of looks, ergonomics and understandability. The majority of women preferred shape five and six (“If it feels nice to hold I would automatically want to massage with it for a longer period of time”), but only one man did. Two other men preferred shape four, mainly for its simplicity and the fact that it allows to apply a lot of pressure. Additionally, the participants were asked to vote for how they would like to be presented the instructions on how to use the product. Six out of eight participants would like to have images in or on

the packaging, showing how to use the massager. Four of them would also like accompanying videos, which show more in depth the different ways to use the product. These videos could be available through YouTube or the website where the product is purchased. This way it works encouraging for people to buy it, and it gives them the opportunity to get the most out of the product.

Besides the instructions, the participants were asked if they would want the massager to be displayed on their night stand, or if they would like it discrete, so only the lamp would be visible. The women were leaning more towards having the Ignite exposed, since they saw it as an expression of their sexual freedom which they were proud of. The men were leaning more towards having it hidden, because they thought it might cause awkward situations when random people would enter their bedroom and see the Ignite on their night stand.



Conclusion

In terms of shape the following can be concluded:

- » *The shape should have symmetry, since people aesthetically like this*
- » *The shape should show how it is supposed to be used. This can be done by means of use cues (like the dent in shape five and six) but also by using familiarity: People associate clear pressure points with massage objects.*
- » *The shape should be big enough to comfortably hold by women as well as men.*
- » *The shape should be organic*

Shape five and six are closest to meet these requirements, and therefore it is concluded to continue with these and iterate more on them (figure 23 and 24). Regarding the instructions on how to use the product, the decision is made to include visuals on the packaging of the product, and have short instruction videos available on the retail website for more in depth explanation. Lastly, the conclusion is drawn that the product should have a display option as well as a discrete option. This gives couples the opportunity to together decide whether they want to display or hide it, and change that whenever they like.

Figure 23 - Clay shape 5 & 6



4.2.4 Key insights

The massager should have an ambiguous, organic but symmetric, ergonomically friendly shape. Clear pressure points communicate the fact that it is a massage tool, and are therefore essential. It should be made out of a material that transfers heat nicely, and is able to vibrate. The product needs instruction images and videos in order to enhance the experience, and it should optionally have a displayed state as well as a discrete one.

Figure 24 - Clay shape 5 & 6 translated into final shape





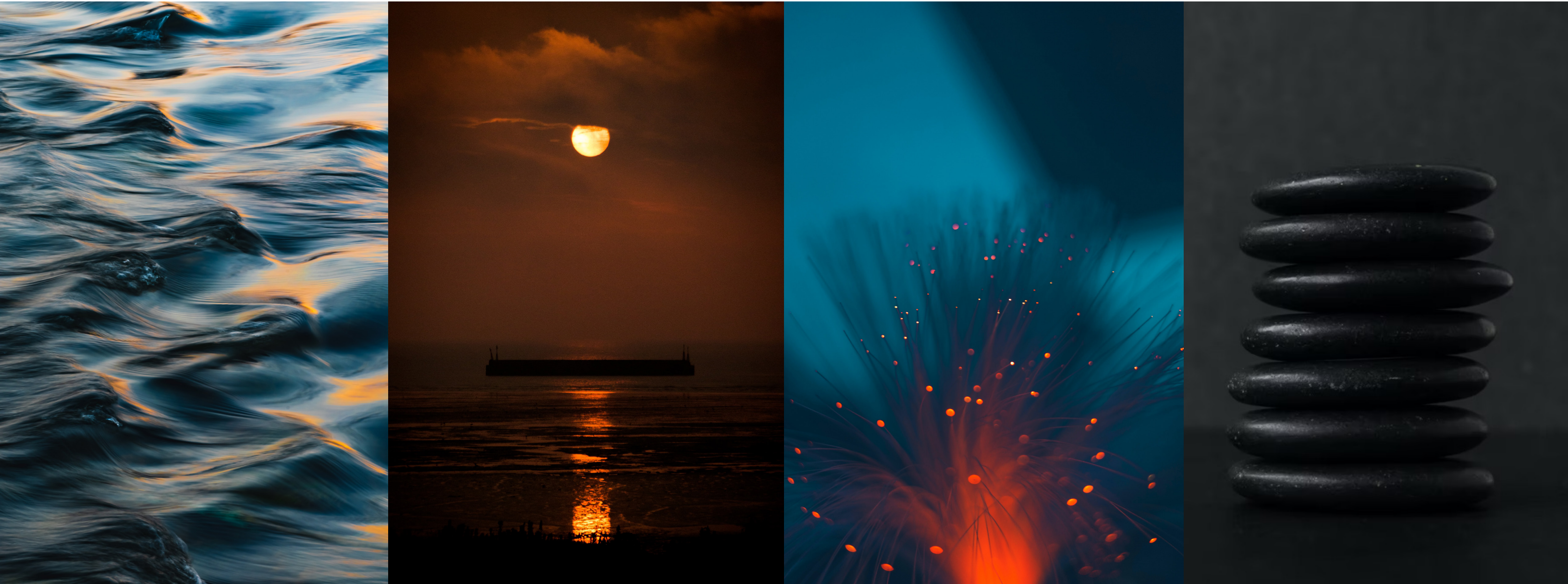
# 4.3 Emotive expression

In order to communicate the envisioned emotive expression the Ignite should have, a visual representation of these emotions was created (figure 25). Six core qualities were determined, derived from the collage: Calmness, warmth, trustworthiness, fluidity, inviting and balance. These qualities should be expressed through the aesthetic

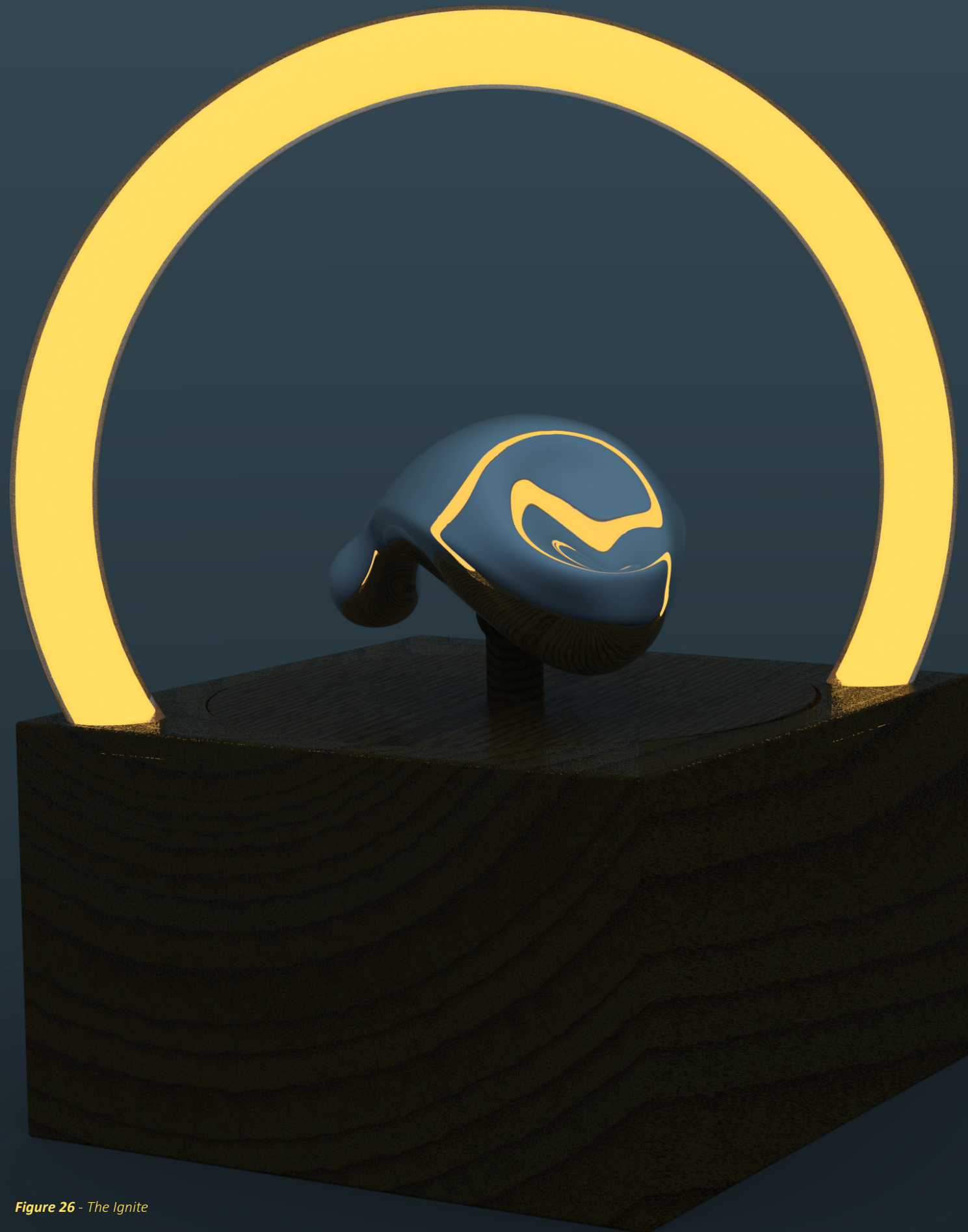
appearance of the product, as well as through the way people interact with it and each other. The translation from the collage to the physical product will be explained in more detail in section 4.4.5. These emotions were assigned to the product by the designer, and are therefore a personal choice rather than based on research.

*Calmness, warmth, trustworthiness, fluidity, inviting, balance*

Figure 25 - Emotive expression of the envisioned product







*“A sense toy is, compared to a sex toy, a product that focuses on enhancing intimate activity rather than genital focused sexual activity”*

## 4.4 The Ignite

*This section explains the concept in detail. It will highlight the functionality, the final shape, the material, the use scenario, the guidance and the physical prototype. Section 4.5 and 4.6 are about the market value as well as the implementation strategy.*

### 4.4.1 The Ignite

The Ignite (figure 26) is a **sense toy** which aims to inspire partners to spend more time on intimate activity together. It focuses on enhancing emotional and physical connection, by means of taking time for sensual massage. The product consists of a mood light, combined with a warming and vibrating massager. The massager is attached to the mood light by means of magnetics, which makes the lamp also function as the charging station of the massager.

The name Ignite is derived from the Latin word “ignis”, which means fire. The mood light mimics the flickering of candle light, which the name refers to. Besides this literal meaning, its underlying message is the fire between partners. The Ignite is meant to reignite the figurative flame in long-term couples, after this has extinguished. It is meant to make the body feel warm and cozy, but it can also get hot, like actual fire. The accompanying slogan goes “Don’t wait for the perfect moment. Create it”. This refers to couples making time and taking time for each other, instead of waiting for a moment where both partners feel in the mood. Esther Perel as well as Marieke Dewitte stress that a satisfactory intimate life requires effort, preparation and the right context (M. Dewitte, personal communication, 5 October 2021; Perel, 2007). Ignite encourages and supports people to do this.

Figure 26 - The Ignite



4.4.2 The design frame

The Ignite (figure 27) consists of several elements: The charging station and mood light, the massager itself which warms up and vibrates and an app through which the different moods can be created by adjusting the light settings and through which date nights can be scheduled by picking time and date together with your partner. At the scheduled time the app will notify both partners when the Ignite starts preparing by heating up the massager and turning on the light. However, within the limited time for this project, not all features were thoroughly researched and designed. This page gives an overview of the elements which are within, and which are outside the design frame.

Validated design decisions

Warming

The warming feature of the Ignite was obviously very appealing to users, and therefore this is considered the most important feature that needs to be included.

Vibration

Vibration was appealing to most of the people who have evaluated the concept. People also associated this with sensuality, and therefore this distinguishes the Ignite from other massagers, giving it its sensual character. Therefore vibration also needs to be included in the design.

Mood light

The mood light is an important aspect of the story of the Ignite. Evaluation showed that the constant presence of the mood light in the bedroom is assumed to be the most important trigger for people to use it (section 5.1.2). Also, creating an ambience for sensual play is considered very important by expert Marieke Dewitte (section 5.1.3).

Future opportunities

The light colors and patterns

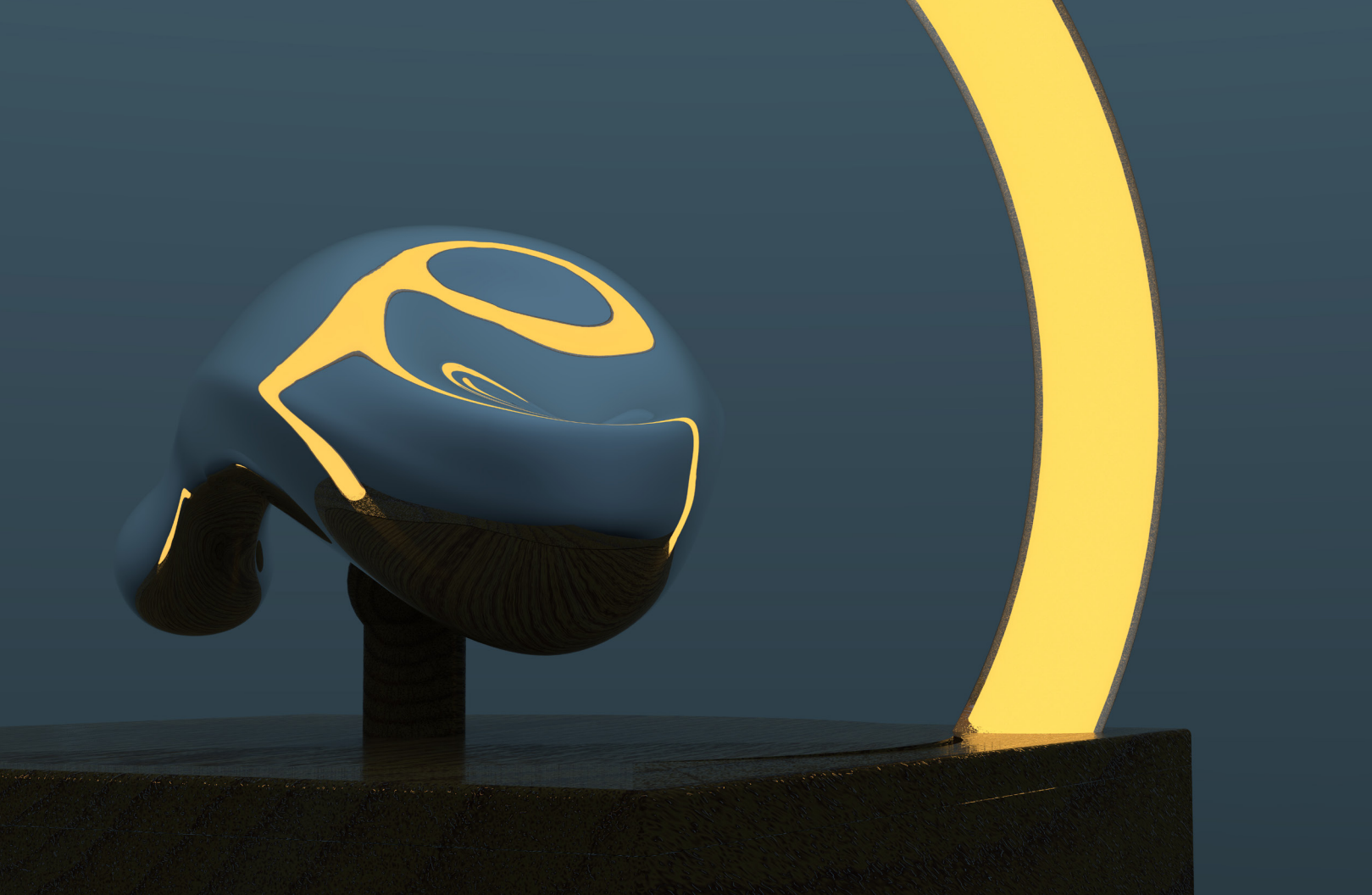
Being able to adjust the light colors and movement patterns is a desirable feature of the Ignite. However, due to time limitation no research has been done into the influence of certain colors and patterns on the actual mood of people. Therefore this is excluded in the following section.

The Ignite app

Ideally, the Ignite would be connected to an app, to enhance the overall experience. The app would be used to set up the Ignite in terms of light color, temperature of the massager and related features, and also to schedule date nights. This means that it has a calendar function in which partners together can pick a time and date to use the Ignite. They can already plan what kind of mood they would like, and when the time is there they will receive a notification that the Ignite is getting ready for them. However, the app has not been designed due to time limitations, and will therefore not be presented in detail.



Figure 27 - The Ignite



#### 4.4.3 Shape massager

Based on the findings of the user tests (section 4.2), the following requirements regarding the massager shape were defined:

- » *The shape should be organic, because this feels sensual and seems like it fits the hand best*
- » *The user should be able to hold the massager with one hand, so the other one is free for balance and touching their partner*
- » *The shape should have enough contact surface with the receiving partner, so the heat can be transferred to the skin*
- » *The user should be able to hold the massager, even with slippery hands*
- » *The shape should give the user indications on how to use it*
- » *The shape should have clear pressure points, so that the user associates it with massage (familiarity)*

The Ignite has an organic, ambiguous shape, with two legs on the one side, and one bigger pressure surface on the other. On top there is a dent, in which a thumb can be placed to apply firmer pressure to the receiving partner's body. This gives the opportunity to hold the massager in at least three different positions, allowing for at least three different sensations (figure 29). Along the side of the massager there is a rim, which prevents the massager from slipping away when holding it with oily or otherwise slippery hands (figure 28).

Since the shape is similar to a computer mouse, people are invited to hold it in the way it is supposed to: With one hand on top. Also the dent on the nose of the product shows the user they can place a finger on there.

The larger surface area underneath the nose it meant to create a contact surface with the skin of the receiving partner, so that more warmth is transferred onto the skin directly. Besides that, it can also be used for larger surface pressure, which some people prefer in certain spots of their bodies (figure 29).

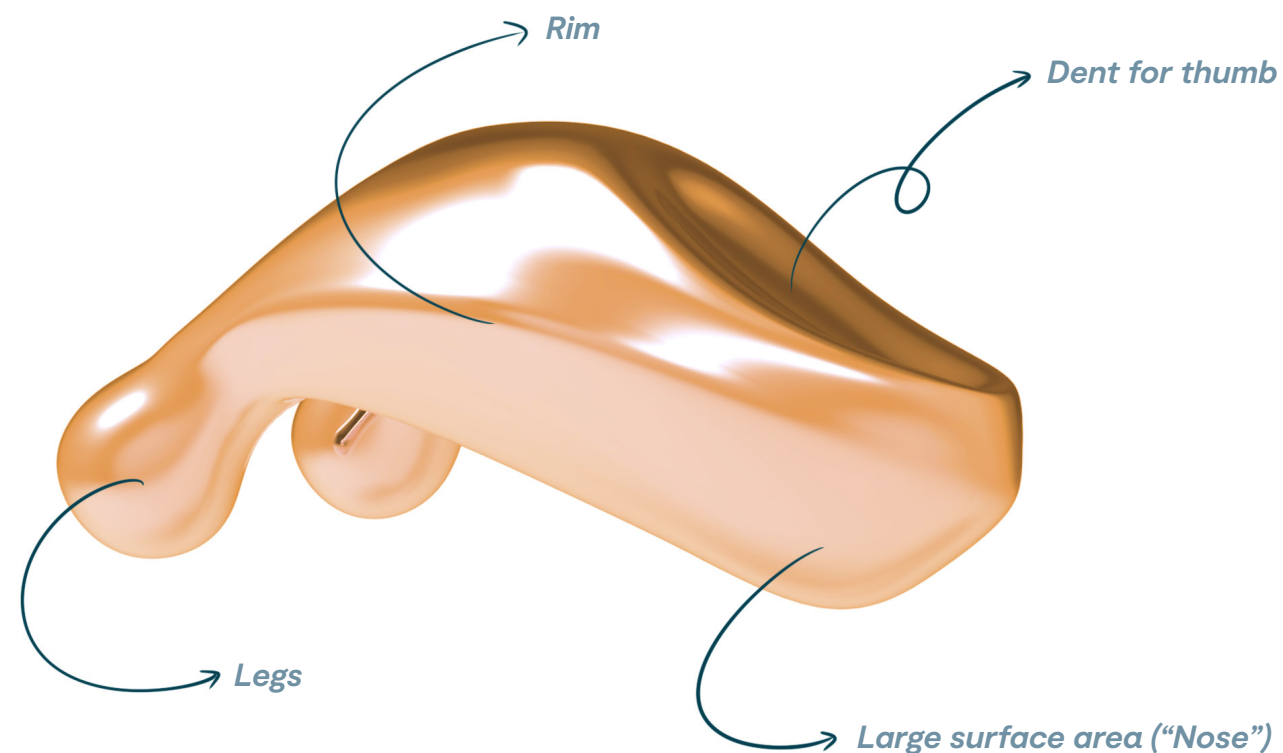


Figure 28 - Details of the Ignite massager



Figure 29 - Three ways to hold the Ignite massager



**Familiarity**

The spherical shapes at the end of the legs are similar to those of existing massage products (figure 30), and therefore help the user understand that the shape is meant for massage (familiarity).

**Button placement**

The Ignite has two buttons: one to turn on and increase the vibration speed, and one to decrease it. The buttons are placed in such a way, that for a right handed person they are not in the way when using the Ignite. Since it is important that buttons cannot accidentally be pressed while massaging, they are designed in such a way that they do not stick out. The buttons are placed lower than the surface of the massager, so the user needs to actively press them (figure 31).

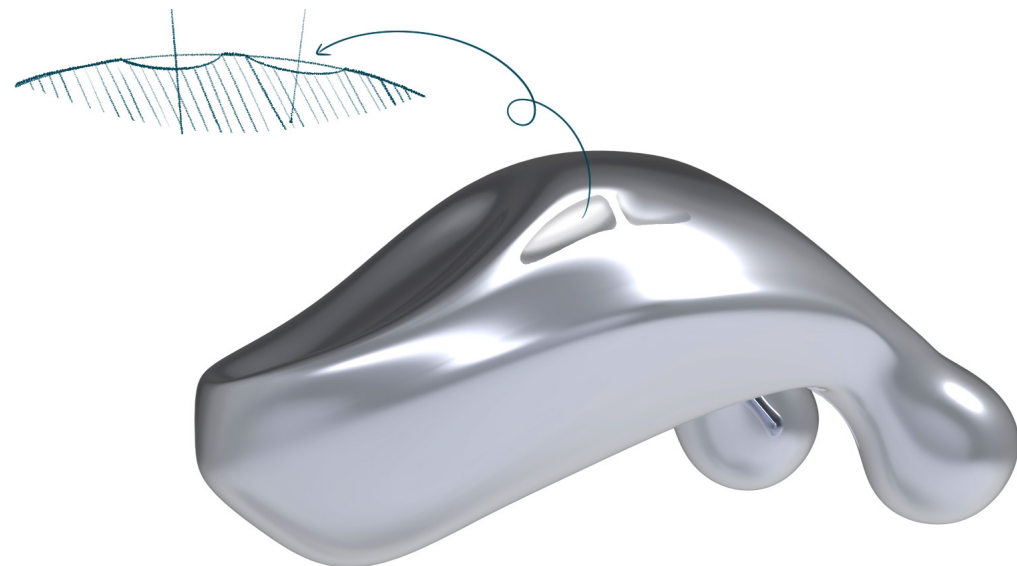


Figure 31 - Button placement on the massager



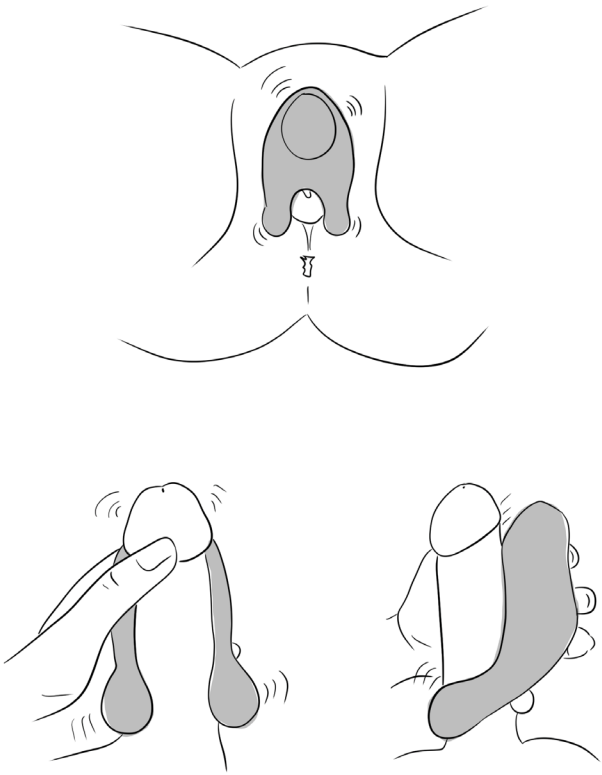
Figure 30 -Existing massage tool which people are familiar with



Figure 32 -(Top) Couple having intercourse using Ignite (bottom) Vulva and penile stimulation using Ignite

**Genital focused sex**

Lastly, whereas the massager is in the first place meant for body massage only, it also allows for intimate stimulation. Figure 32 (bottom) shows how the massager can function as a stroker for the penis, or as a clitoral stimulator. When stroking the penis with it, the larger surface area of the nose can be placed against the frenulum: a sensitive piece of skin which connects the foreskin to the glans penis. This same surface area can be used to stimulate the clitoris with. Also both legs can be used for vulva lip or clitoral stimulation. This makes the product also suitable for solo play. This however is a feature of Ignite which will not be communicated to the end user. This would make the Ignite seem like a product that is meant for sexual activity, whereas the purpose is to familiarize people with different ways of intimacy instead of genital stimulation. However, in case people do get aroused while using Ignite, they might figure out that it is also suitable for genital stimulation (figure 32, top).





4.4.4 The lamp and charging station

The specific requirements for the lamp and charging station were as follows:

- » The Ignite lamp should be able to be turned on and off with oily hands
- » The user should be able to decide to either display or hide the massager
- » The user should be able to grab the massager comfortably while sitting on the bed
- » The massager should charge when connected to the lamp
- » The lamp should indicate whether the massager is ready for use
- » The color and intensity of the light should be adjustable

These requirements were translated into product properties as follows:

The lamp is turned on and off without touching it: To turn on the light the user swipes their hand from left to right within a range of five centimeters above the lamp. A proximity sensor registers the movement, upon which the lamp will start glowing. To turn it off again, the user makes the same hand movement from right to left (figure 33). To change the intensity, the user moves their hand up and down on top of the lamp (figure 34). Moving away from the lamp increases the intensity, moving towards it decreases

it. In order to also activate the warming of the massager, the same swipe movement should be made on the inside of the lamp. This way the user can choose to either only use the lamp, use the lamp in combination with the warmed massager, or only use the massager. Swiping inside the lamp activates the heating, with the light indicating the heating process. Taking off the massager deactivates it again, as the heat is stored in a battery inside the massager (figure 35). The color of the light as well as the movement pattern can be adjusted using the app which is connected to the lamp (figure 36).

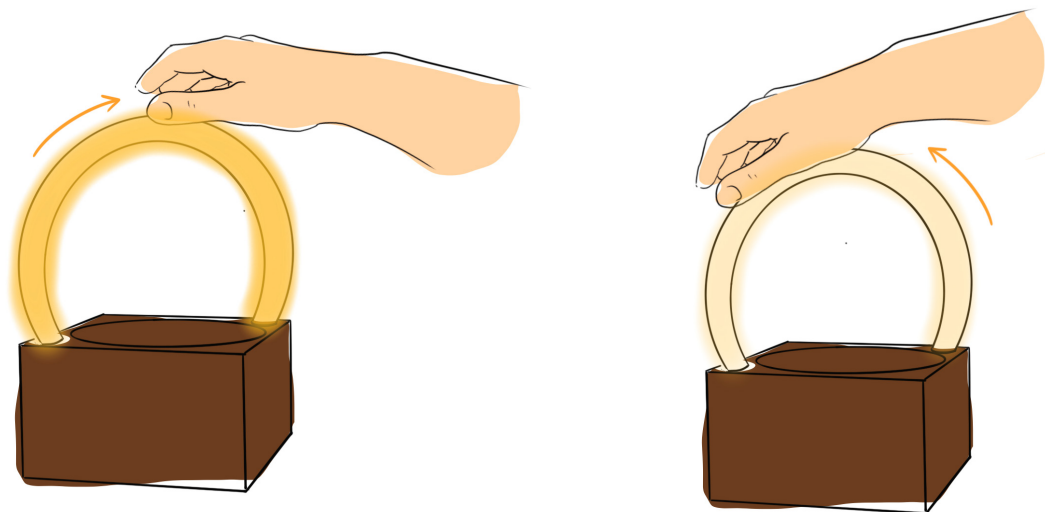


Figure 33 - Swiping from left to right to turn on, from right to left to turn off

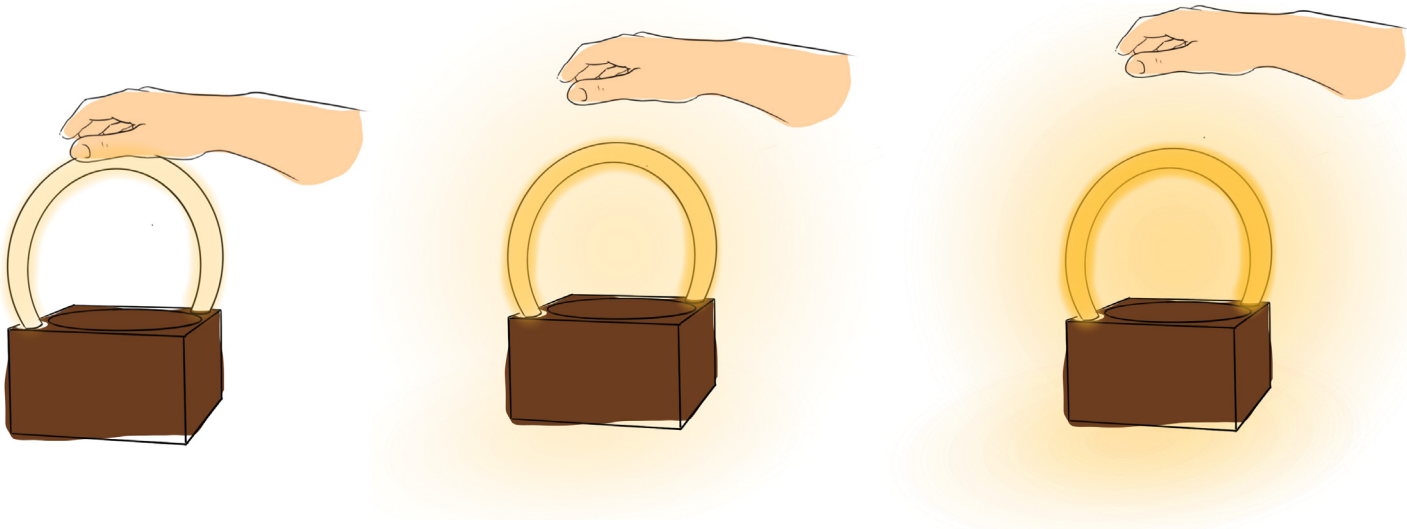


Figure 34 - Moving the hand away from the lamp increases the intensity, moving towards it decreases it



Figure 35 - Swiping inside the lamp activates the heating of the massager. Taking the massager off deactivates it.

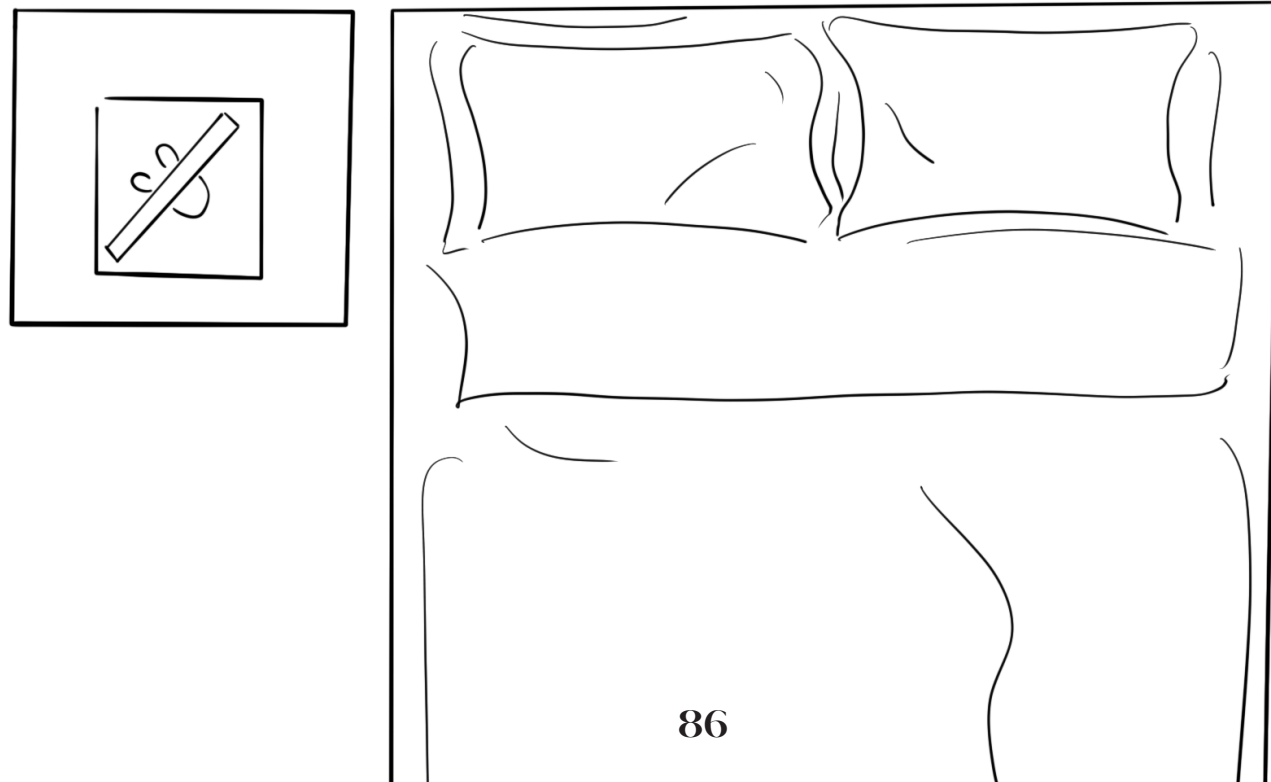


Figure 36 - The light colors and movement patterns can be adjusted using the app

### Configuration of the lamp

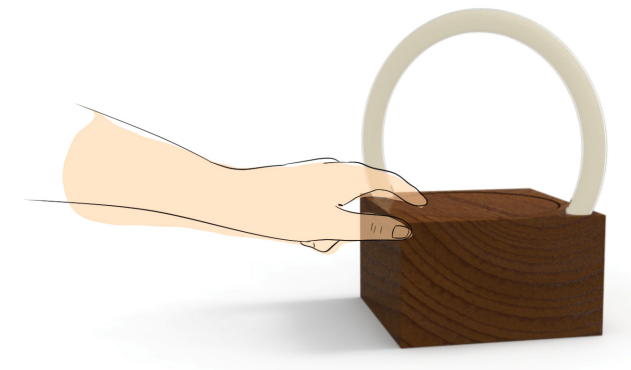
The configuration of the lamp makes it easier for the user to grab the massager. The light tube is placed diagonally onto the square charging station, so that it is easier for the person who is sitting on the bed to grab the massager without touching the lamp. An argument might be that the device might also be placed on the night stand in a 45 degree angle, but people naturally tend to want to align objects nicely and therefore the decision was made to design it like this (figure 37).

Figure 37 - Ignite placement next to the bed



### Displayed versus discrete

Since the Ignite lamp is constantly visible on the night stand, the user should be able to hide the massager whenever they like. This might be because of small children walking into the bedroom, or other undesired events. Therefore the massager is placed on a moving lid, which can flip 360 degrees. The lid can be flipped by pushing on it, upon which the lid gently turns around. This can be compared to the mechanics of a trash bin lid, which opens upon pushing. This interaction adds to the feeling of the massager being presented to you, as if it were a gift (figure 38). The massager cannot heat up whenever it is stored inside the box, for safety reasons.



### Temperature

Whenever the lid is open and the massager displayed, and the light and heat function are both switched on by the user, the light indicates when the massager is ready for use. In the app, the temperature has been preset, and can be changed by the user, just like the colors of the light. An assumption is that the users find their preferred temperature first, and then maintain those settings for the most part, unless they would like to explore temperature play. The lamp indicates the heating of the massager by filling the tube with light (figure 38). Whenever the circle of light is full, the massager has reached the desired temperature and can be taken off. The light will remain glowing until it is switched off.



Figure 38 - Opening and turning on Ignite





**Figure 39** - Light reflection on chrome massager



**Figure 40** - Details of the different materials

#### 4.4.5 Material massager & lamp

The main requirements for the massager material were as follows:

- » *The material should be able to capture and transfer warmth*
- » *The material should be able to transfer deep vibration*
- » *The material should be water, oil and lube resistant*
- » *The material should look appealing*
- » *The material should feel smooth on the skin*
- » *The material should feel heavy*

These requirements and the outcomes of the shape and material user test (section 4.2.2) lead to the decision of using metal with a chromium look for the massager. Metal is known for its warmth transfer capacity: It can be very cold, but it can also heat up easily. This allows the user to experiment with different temperatures. Besides that, the material is chosen because of its reflectivity. This adds another dimension to the aesthetic appearance, when the massager is displayed and the light is turned on. This creates coherence between the lamp and the massager (figure 39).

As the test participants indicated, metal looks and feels luxurious, which they found important when buying a product. Also, the heaviness contributed to their belief of the product being able to provide satisfactory massages, like hot stones.

Lastly, making the massager out of metal also allows for use on top of clothing, since the material is so smooth that it would not cause friction when moved over textile.

For the vibration of the massager it is important to implement a vibration motor that provides deep, rumbling vibrations. An important aspect of this is the sound, since a gently buzzing sound can contribute to the relaxing value of the massager.

For the design of the lamp, art by Sara Ricciardi was used as inspiration. Figure 41 shows an example of their work, which is designed to be purely aesthetic. The artist succeeds to bring balance and coherence in seemingly incoherent objects. Geometric shapes are combined with organic shapes and natural materials, which is therefore the core of the Ignite. The dark wood of the charging station is chosen because of its calm appearance, and the ability to blend in in the environment of a bedroom. Moreover, the wood has a luxurious expression, which fits the overall appearance and look & feel of the product (figure 40). Lastly, the geometric simplicity of the lamp is desirable to make the product look discrete when not in use.



**Figure 41** - Inspirational art by Sara Ricciardi



4.4.6 Ingite emotive expression

When looking at the emotive expression collage (figure 42), there are six core qualities the Ignite should express: Calmness, warmth, trustworthiness, inviting, fluidity and balance. These qualities are reflected through the visual appearance of the concept as well as through the interaction with it. This will be explained in more detail per quality in the following section:

**Calmness** is expressed by the use of natural colors in the material. The dark wood for the charging station and the reflective colorless material for the massager blend into the environment when the light is switched off. Also, the simplistic shape of the charging station gives the unity a calm expression. Needless to say that the whole act of massage is a calming experience.

**Warmth** is expressed through the vibrant colors of the mood light, as well as the fact that the massager warms up. Thirdly, warmth is reflected in the body warmth of two people being intimate with each other.

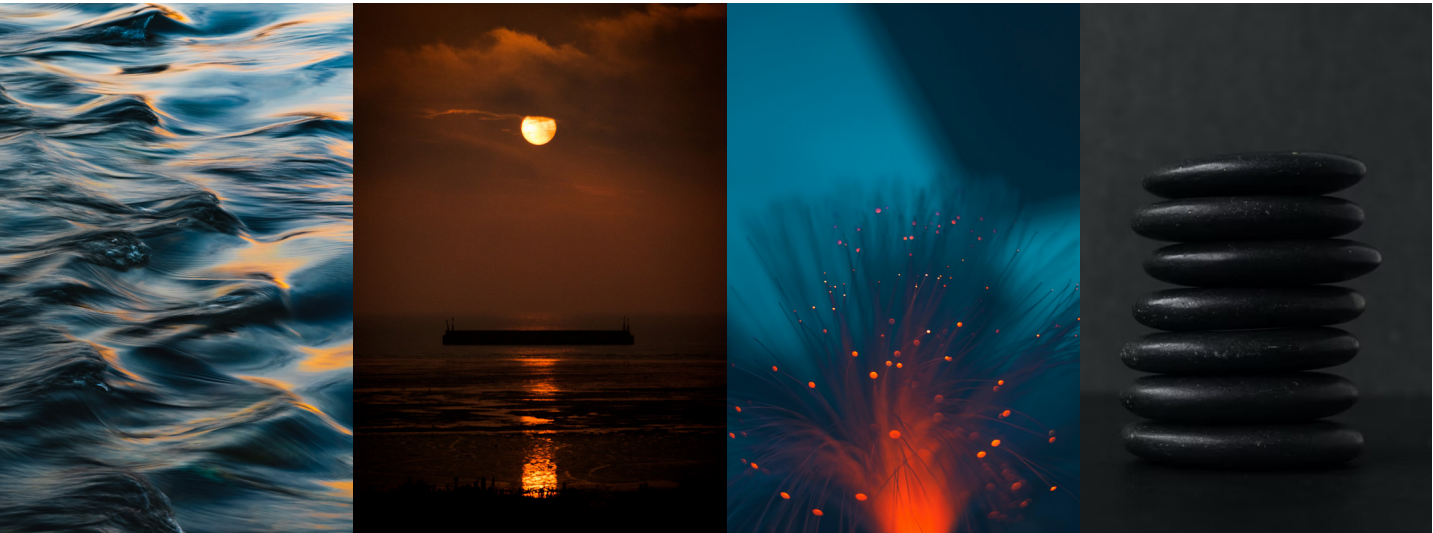
**Trustworthiness** is mainly expressed through the metal material. Its heavy weight gives the user a sense of quality, making it more likely for them to feel trust towards to product. Also, the way the massager is displayed as if it were sitting on a serving platter might give the user a feeling of the Ignite being their servant. This also creates a feeling of trust towards the product. Secondly, trustworthiness is reflected through how partners interact with each other using the Ignite. Receiving massage from someone can make people feel vulnerable, since they are most probably naked while receiving the massage. Accepting another person to be in full control of what happens to you when you are in such a vulnerable position takes trust, which can strengthen the feeling of connection between partners while using the Ignite.

The Ignite is *inviting* because it is sitting on the night stand permanently. This way partners are constantly reminded of it, making it more likely for them to turn it on. Besides that, the option to plan using Ignite through the app invites people to actively think about using it. The familiarity with smooth and warm sensations the Ignite gives to the body also work inviting, because people often desire relaxation in their busy lives.

The **fluidity** is mainly expressed through the ambiguity of the shape, and its organic body. Also, the gentle glowing and flickering of the light gives a dynamic and fluid feel to the appearance. The organic and reflective surface of the massager breaks the light, which also makes the geometric shape of the lamp more fluid. The way the Ignite is switched on by swiping a hand from left to right along the lamp contributes to the fluid expression of the Ignite. Lastly, fluidity is represented through the way the Ignite massager follows the curves of a body when used for massage.

**Balance** is represented by the product in multiple ways. First, there is balance in contrast between the organic massager and its geometric charging station and lamp. The two contradict each other, and therefore balance each other out like the work of Sara Ricciardi (figure 41). Secondly, there is balance in the massager itself, because it does not have a clear front and back side. Thirdly, the Ignite as a whole is solely meant to create balance between partners, and provide a space for them to synchronize with each other.

Figure 42 - Emotive expression collage translated to the product





4.4.7 Use scenario

The main requirements regarding the use scenario of the Ignite were as follows:

The Ignite should...

- » *Feel easy to set up/prepare*
- » *Give different settings for different occasions*
- » *Feel comfortable to interact with*

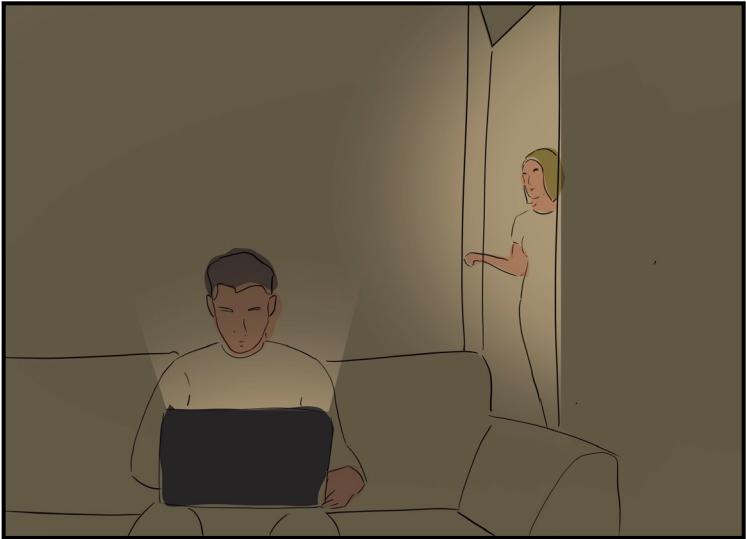
Two potential use scenarios were created: The first one where using the Ignite happens spontaneously, and in the second one couples plan using the Ignite in the app on their phones. Both scenarios will be explained in more detail in this section.

Spontaneous use

In the spontaneous scenario, the idea is that one partner prepares a massage using Ignite as if it were a gift. The providing partner would feel like doing something nice for their partner, because for example they know they feel stressed, or they just want to spend some intimate time together instead of watching television after the kids have been taken to bed. In this case the providing partner lights the Ignite, prepares the bedroom with necessary materials like massage oil and maybe some nice music. Then they go to their partner asking them if they are open to some relaxation together, upon which they go to the bedroom and spend some intimate time together. This scenario is explained in more detail in figure 43.



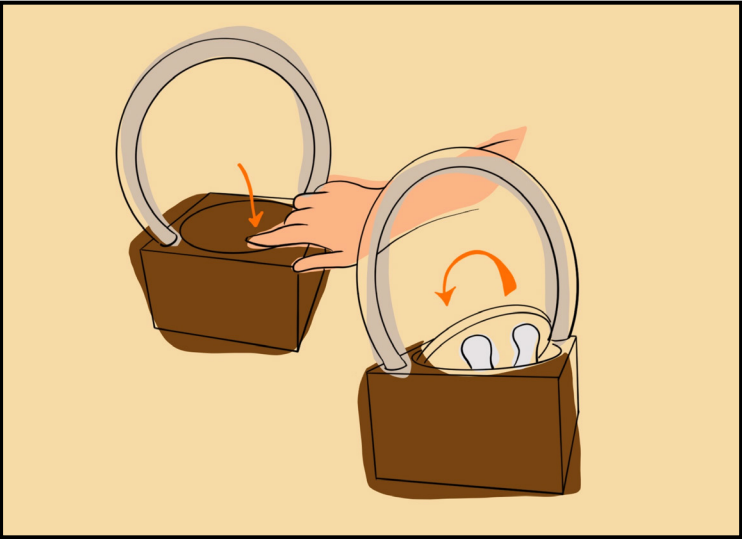
1. Jason is working at home late, feeling stressed for an important meeting tomorrow.



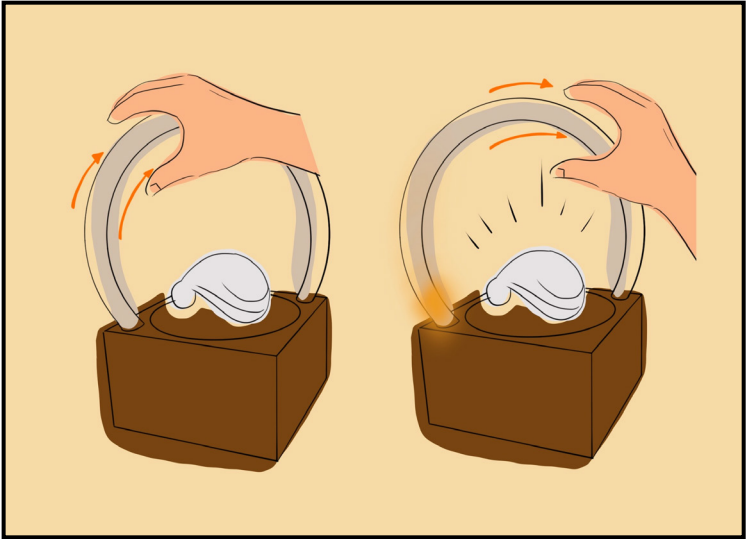
2. His partner Sophie sees him being occupied with work, and decides to treat with a massage to make him feel better and wind down from the day.



3. Sophie goes to the bedroom, and prepares by making the bed and getting some massage oil out of the drawer.



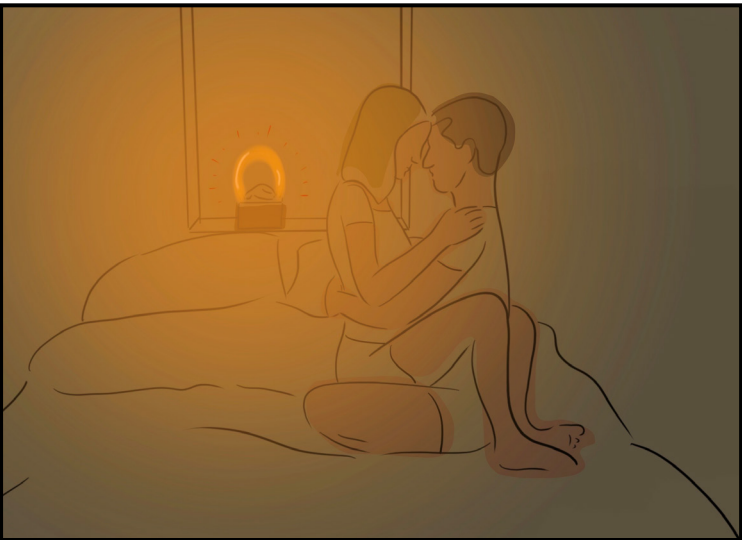
4. She presses the lid of the Ignite, upon which the massager appears.



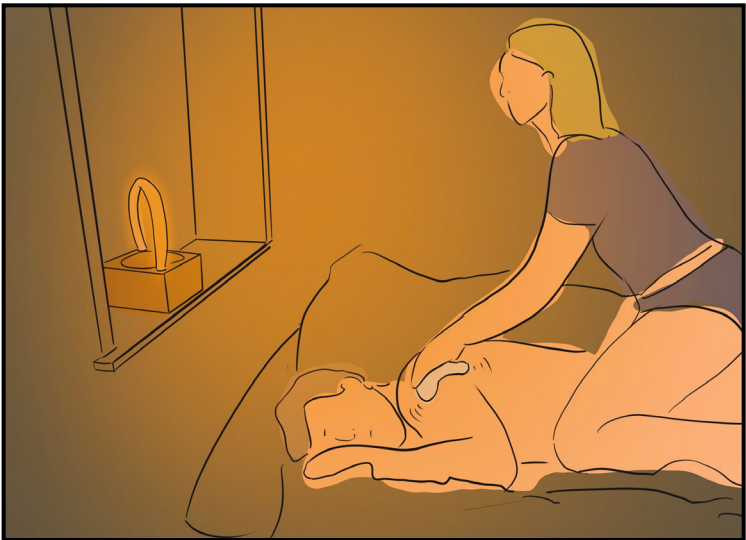
5. Swiping along the lamp on the upper side and the lower side at the same time makes the lamp start glowing, indicating that the massager is heating up.



6. As everything is prepared Sophie goes downstairs and surprises Jason by telling him she wants to treat him with a massage. He has a hard time letting go of work, but agrees and goes with her.



7. While the massager is heating up, which is indicated by the light ring filling up, Sophie and Jason engage in an intimate hug.



8. Sophie helps Jason taking off his shirt, and asks him to lay down. Sophie gets on top, grabs the warm massager and oil and starts massaging Jason.



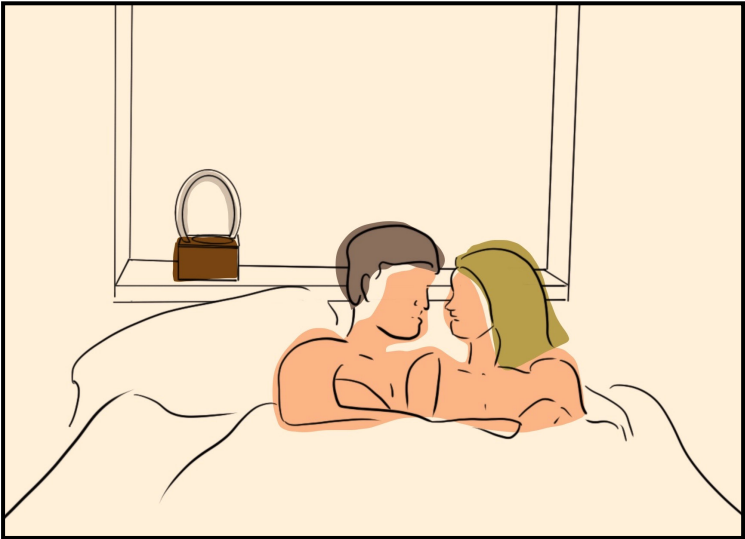
9. When Sophie has massaged Jason's entire body, he feels extremely relaxed and appreciated. He tells her that next time he will massage her, and that he is already looking forward.

Figure 43 - Scenario spontaneous use

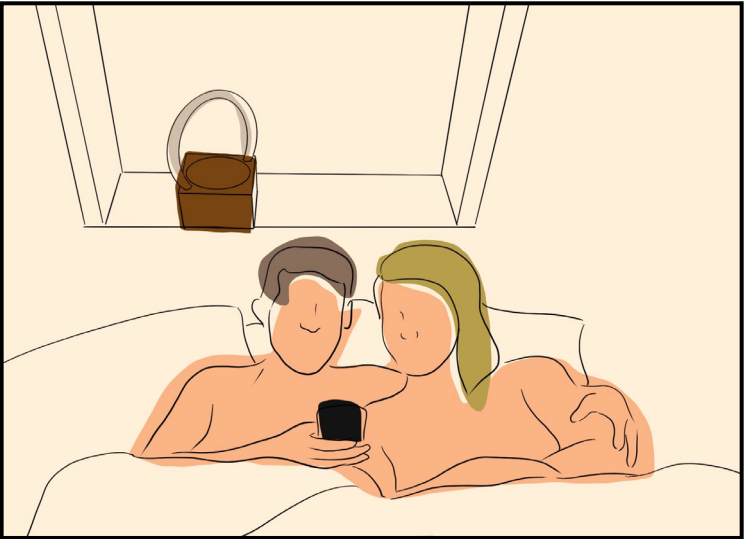


*Scheduled use*

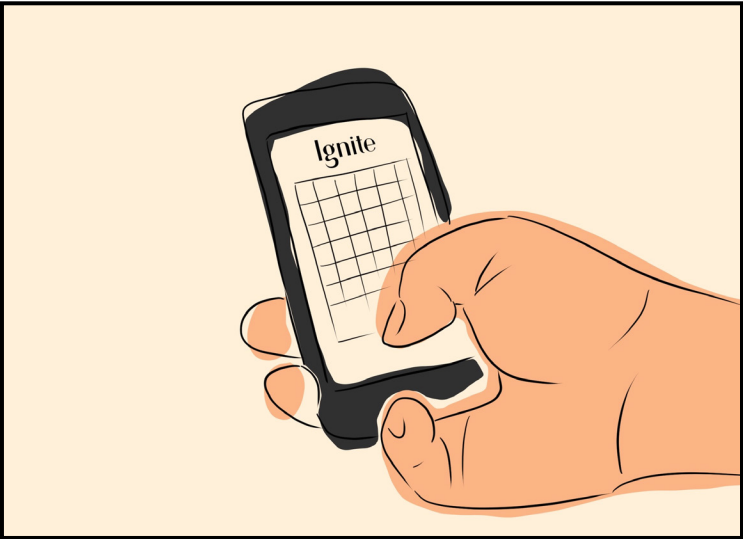
The second scenario focuses on planning time with Ignite. This is based on the finding during the context mapping research (section 2.4) that people actually enjoyed planning intimate activities. It made them look forward to it, and they felt encouraged to proceed if they were not in the mood at the planned moment. This lead to very satisfactory intimate times, which they would not have imagined before starting the tasks. In this scenario the couple opens the Ignite app, where they find a calendar on which they can pick a time and date. They can also set a timer for how long it takes for Ignite to be ready, the preferred temperature, whether they want to receive a notification and what kind of ambience they want the Ignite to create in terms of color and light pattern. This scenario is explained in more detail in figure 44.



1. Jason and Sophie wake up early on a Tuesday. They both have to go to work.



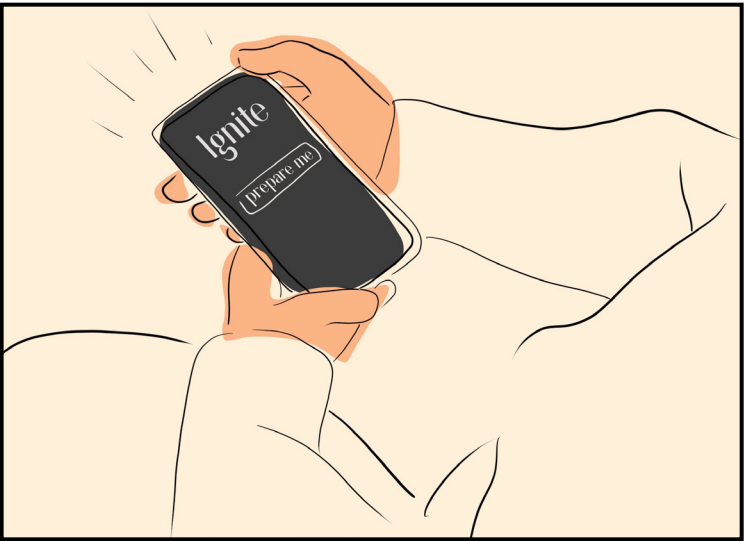
2. Jason suggests planning a date night, using the Ignite-app. Sophie is happy to hear that so they open the app.



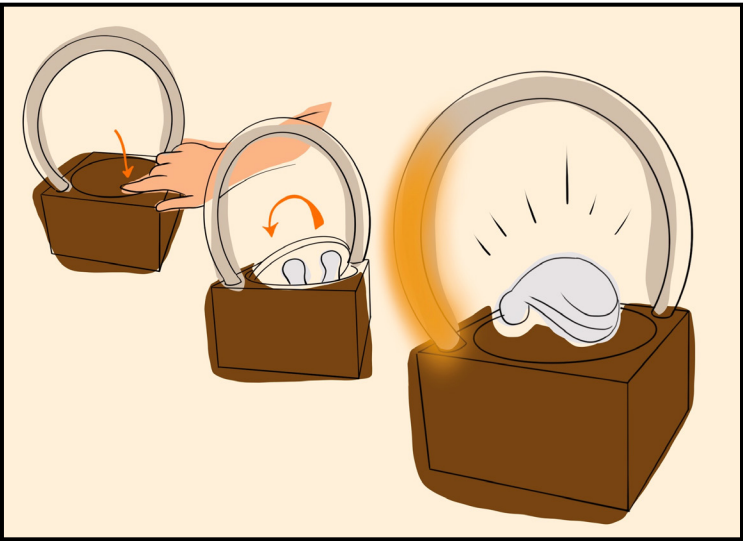
3. They pick Friday night, 20:00. They choose to go with the preset mode 'sexy'. Upon confirming, Sophie gets a notification in her Ignite app as well.



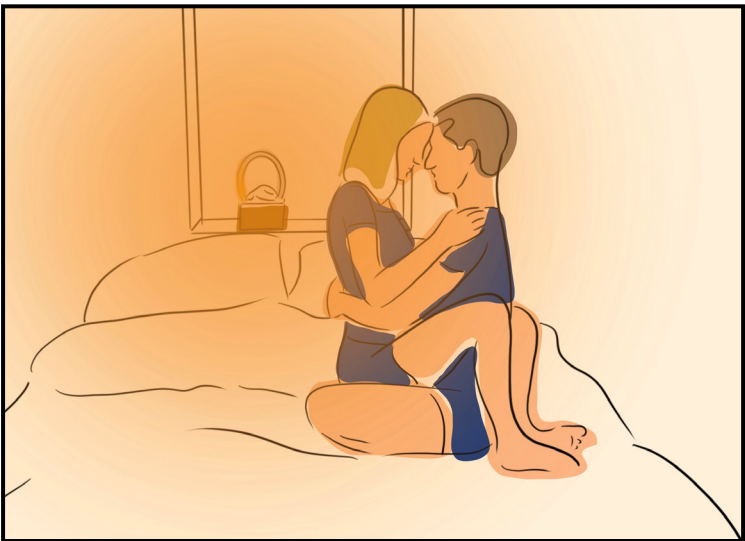
4. Both Jason and Sophie have been looking forward to Friday night, and they decide to kick off with a cozy dinner and some wine.



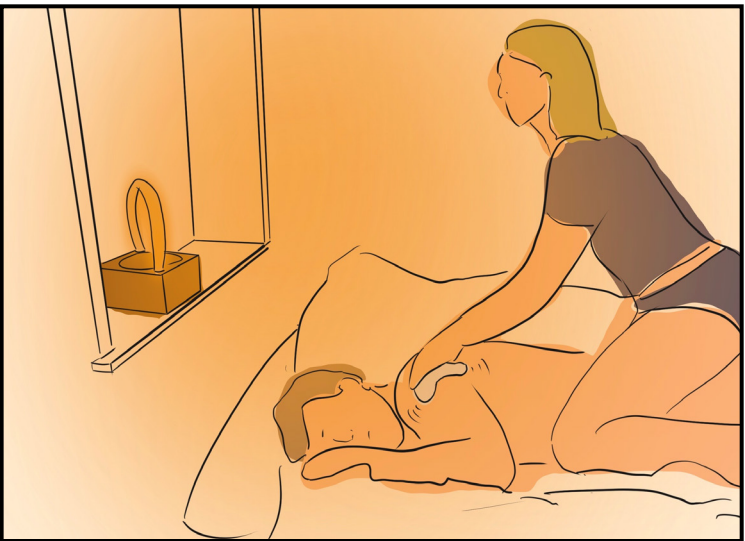
5. At 20:00 they both get a notification on their phone, asking if they are ready for Ignite to start preparing the room for them. They take their wine to the bedroom, and continue their datenight there.



6. Upon pressing the lid, the massager appears and the lamp automatically starts glowing, indicating that the massager is warming up.



7. While the massager is heating up, Sophie and Jason engage in an intimate hug since the notification on their app suggested to do so.



8. Sophie helps Jason taking off his shirt, and asks him to lay down. Sophie gets on top, grabs the warm massager and oil and starts massaging Jason. She uses the vibration mode because they feel like spending some sexy time.



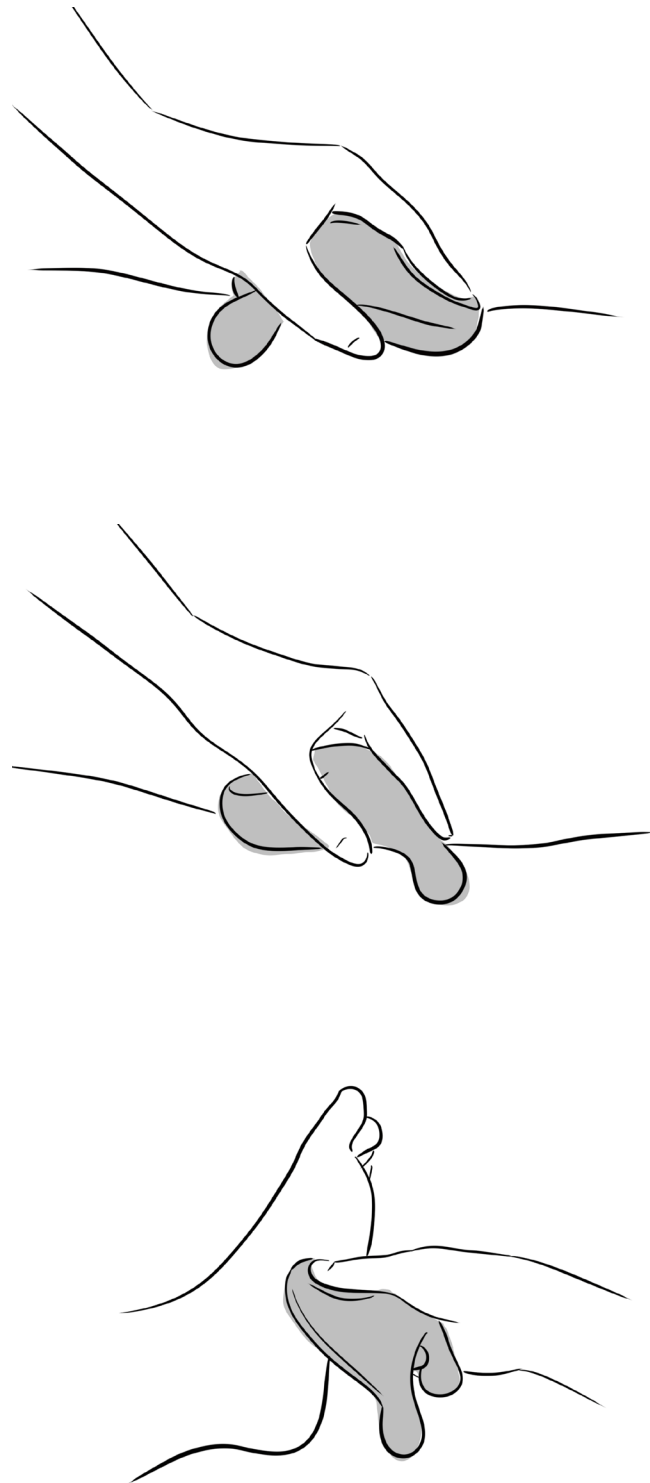
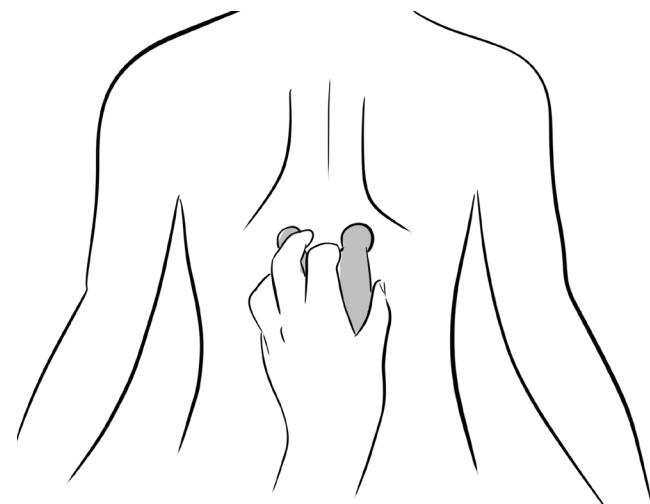
9. The vibration of the massager and the intimate touch made both Sophie and Jason feel aroused, after which they had passionate intercourse. Afterwards, they talk and cuddle in bed for a while before falling asleep.

Figure 44 - Scenario planned use



#### 4.4.8 Guidance

As user research showed, people would like to have guidance as an option, but with enough room for creative freedom. Therefore the decision was made to add basic visual instructions to the packaging, so the user can see what the main positions are to hold the massager. For those who would like to get more out of their massage experience, there are short instruction videos available which elaborate on how to use the Ignite on different body parts. These videos can be found on the retail website and on YouTube. They explain different types of massage, and give tips on how to preset the Ignite. These videos are meant to be watched before using the product, instead of during use. Figure 45 shows what the images on the packaging would look like.



**Figure 45** - Example visuals packaging

#### 4.4.9 The prototype

A low fidelity prototype of the Ignite was created, in order to evaluate its look & feel (figure 46). The model consists of the wooden charging station, the flipping lid, the light ring and the massager itself. The massager was 3D printed, and therefore not able to warm up or vibrate. However, the outcomes of the user research on existing massage products was considered sufficient to conclude that those features are desirable.



**Figure 46** - Physical prototype Ignite





Figure 47 - Prototype lighting up



The light ring functions in such a way that upon connecting it to a power source, it slowly starts filling with a pink light, until the ring is completely full. Then the light stays on, and gently flickers (figure 47). This prototype was created using Arduino. In order to make the lid flip as envisioned (smooth and gentle) the contra weight was added as well as magnets in the rims of the lid. These help the lid get back into a neutral position, after pressing on it. The magnets used are neodymium magnets, which are known for their strong magnetic power and small size (figure 48). The 3D printed massager was processed using sand paper, a primer filler and a chromium look top coat as a finish. Unfortunately the chromium spray paint did not look like actual chrome, decreasing the power of the reflective effect of the massager. However, the envisioned product can be seen in the renders (figure 40).



Figure 48 - Counter weight & magnets



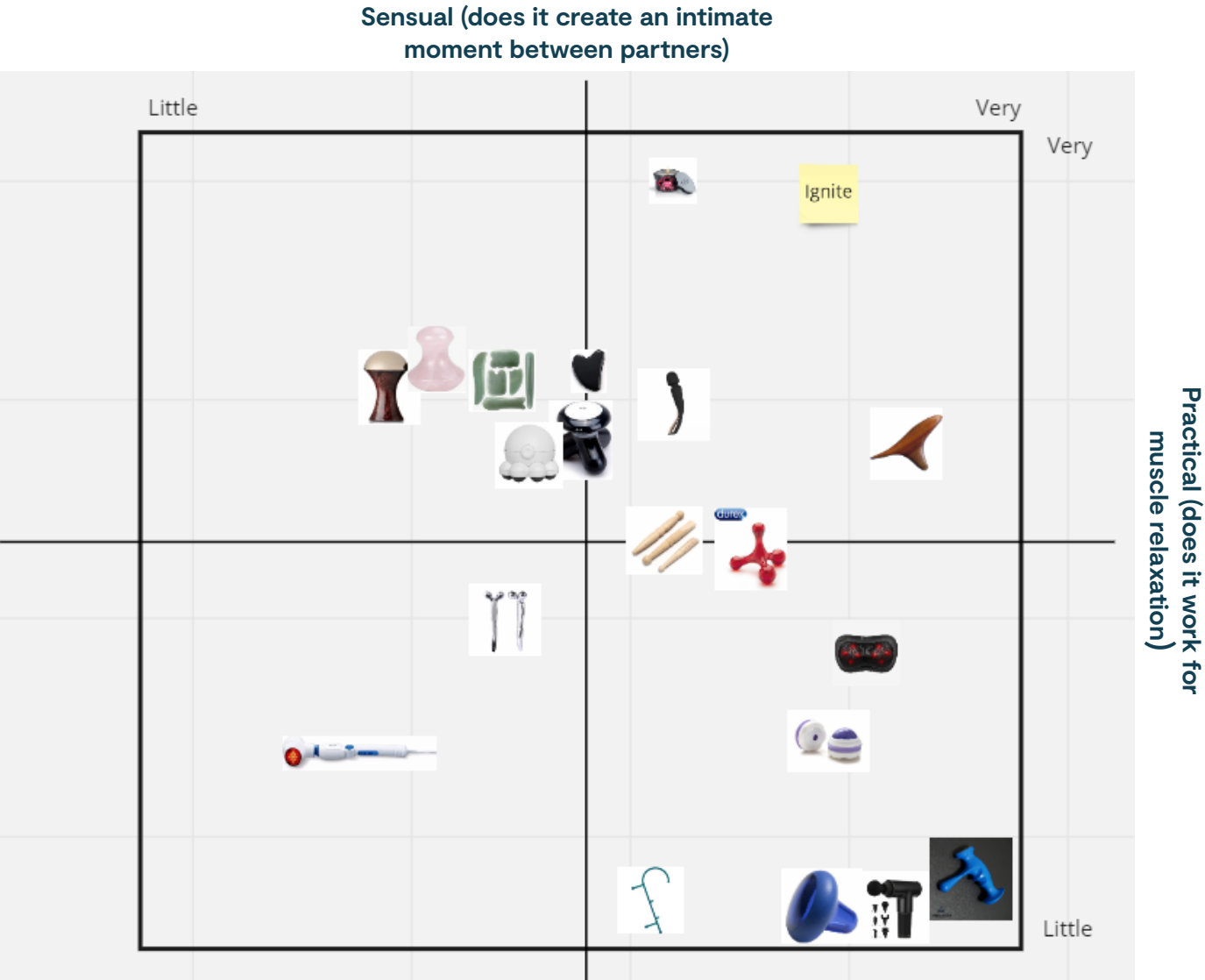
## 4.5 Market value

### 4.5.1 Why Ignite?

The Ignite opens up the conversation on what sex is about. It challenges the common belief that sex is a linear act, with penetration and male orgasm as the main goal. This product is therefore not just a product, it is a story. It communicates the importance of gender equality on a sexual level, and takes away performance pressure which is constructed by what media show us. Ignite enters a market of people who might not realize they have issues, but will be able to relate to what Ignite addresses: rediscovering and redefining sexuality in long-term relationships, in a mutually satisfying way.

Figure 49 shows a chart which compares the Ignite to existing massage products. The Ignite aims to be on the border of sensual massage versus functional massage (purely meant for muscle relaxation). As the chart shows, the Ignite is assumed to be very sensual as well as functional. However, since not all products in the chart have been researched, as well as the Ignite itself, it is based on assumption, common knowledge, and web research.

Figure 49 - Ignite compared to existing massage tools



### 4.5.2 Market expansion

The Ignite is designed for the specific target group of people who are in long-term heterosexual relationships. However, this target market can easily be expanded. The Ignite would be of great benefit for couples where physical dysfunctions play a role. For example when men suffer from erectile dysfunction, the Ignite could provide a couple another way to become intimate.

Also for people who are survivors of sexual violence the Ignite could help to familiarize with intimate human touch again, without feeling the pressure of having to have sex. The artsy appearance of the Ignite, and the given fact that it is not a sex toy, might also make it an attractive product for younger intimate explorers. They might be hesitant to buy a (first) sex toy because of its taboo character, and the Ignite might therefore be less of a hurdle.

Since the Ignite has a gender neutral appearance and is also designed as such, it is just as useful for homosexual couples as it is for heterosexual ones. Intimacy is for all, after all.

Besides the purpose of the Ignite to make couples connect on an intimate level with each other, it could also be used for regular massage when people for example feel soar. Other than that, the product can also be used for solo body exploration or masturbation, for men as well as for women.



## 4.6 Implementation

### Implementation of the Ignite

Since throughout the design process the focus of the Ignite moved somewhat away from the existing brand Portfolio, it is important to compromise on some aspects in order to implement the product within the brand. The Ignite as it is now might be too unfamiliar to the current customer base: The material is different (from silicone to chrome), the purpose is different (from sex toy to sense toy) and the experience is different (from a product used during sexual activity to a product used for intimate exploration). In order to implement the product, these three factors need to be addressed well in order for the customer to not be sceptical towards it. This implementation is visualized through three steps, which are structured as follows:

***1. Version one of the Ignite should consist of only the massager, made of a sturdy plastic material. The massager needs to have a weight inside, so that it feels heavier. Also, it needs a warming element that is able to really make the product feel warm, so it significantly adds to the experience. Lastly, it needs the vibration motor inside, which creates deep and rumbling vibrations.***

***2. The next version of the Ignite should introduce the light, when people are already used to the idea of approaching sex in a different way. The light can be implemented as an addition to creating an experience.***

***3. The third version of the Ignite can be a luxurious variant, made out of glossy chrome. The warming function would be enhanced, and it gives people the feeling of exclusive luxury.***

For implementation it is important that people understand the story behind it: The fact that we want to shift from a linear, genital focused sex experience to randomized, sensual play. Therefore the marketing and communication around the Ignite are essential. A strategy could be to start introducing these topics through socials, to nudge people before actually launching the Ignite massager as a product.



# 05

## Evaluate & decide

*This chapter presents the evaluation of the Ignite in terms of desirability, viability and feasibility (5.1), followed by the final conclusion (5.2) and a list of recommendations on further research and development of the product (5.3).*



# 5.1 Evaluation of the concept

At first the physical prototype was evaluated by several test participants. This is highlighted in section 5.1.1. Secondly, evaluation of the concept is done in terms of desirability (5.1.2), viability (5.1.3) and feasibility (5.1.4). The following questions are fundamental to the evaluation studies:

- » Does the envisioned customer really need the Ignite? = desirability
- » Is the Ignite a sustainable solution to the stated problem? = viability
- » Does the Ignite build on the strengths of the current operational abilities of the client company? = feasibility

## 5.1.1 – Evaluation physical prototype

Evaluation of the physical prototype was done in several ways. In the first place, people were asked for their opinion on the concept after having been presented the Ignite either through images or the physical prototype. Secondly, three people were asked to interact with the Ignite to evaluate the user journey of setting up. At last, three couples were asked to actually massage with the massager, after having been explained the concept. Each evaluation step will be explained in more detail in this section.

### General

This section shows a collection of quotes of different people, which were all reactions to the concept in general, apart from the prepared evaluation sessions.

**“It looks amazing! very futuristic and somehow a mix of techy-organic appeal. seems like it can do something. would also like to know more!”**

Man seeing images of the Ignite

**“Somehow it reminds me of a sophisticated sports brand. I would say it raises general interest in what I see there. It makes me to want more infos. Hard to express in emotions. I want to feel the shape in my hands.”**

Man seeing images of the Ignite

**“The smooth finish is really nice. I wasn’t sure exactly how to use it, but going along the muscles felt quite good. You feel a lot of pressure without applying a lot of force”**

Man holding the massager

**“That looks amazing! Very artsy and aesthetic.”**

Man seeing images of the Ignite

**“The light gives great atmosphere. It encourages to stand still and focus on each other. Nice, gentle interaction which feels logical and supports the build up of tension”**

Woman present during user testing

**“I find the Ignite innovative, original and effective. I don’t know any other objects of its kind that do what this does. It expands upon currently existing sex toys and their applications. That is why it is innovative. It is original in the sense that there is no other sex toy on the market, as far as I know, that take this into account. There is a different idea behind this product than there usually is behind sex toys.”**

**The shape is suitable for massage. The double end that splits in two is nice to divide pressure. I liked it on my legs. I think it is effective because it has a very organic shape that feels natural and easy to connect... it easily blends in with other body shapes. It is nicer to apply pressure with rounded things than angular things, obviously.”**

Figure 50 - Man receiving massage

Man who received a massage using the Ignite massager



Evaluation of setting up the Ignite

For evaluation of setting up the Ignite, three test participants were given several tasks to perform consecutively. They were instructed to communicate their thoughts and feelings out loud. The tasks given were as follows:

- 1. Flip open the lid to make the Ignite massager appear
- 2. Swipe along the lamp to turn it on
- 3. Swipe along the bottom side of the lamp to turn on the heat function
- 4. Pick up the massager

The results are stated in quotes and were as follows:

*“I think I need to get used to turning the lamp on and off like this. It is nice that it only requires one gesture”*

*“It feels like you need to massage someone with it”*

*“I think your hands don’t get sore as fast”*

*“How do I know whether the massager is warm?”*

*“How do you know which way to swipe to turn the lamp on and off?”*

*“Does the massager always have to be in the same position?”*

*“I would need instructions on how the control of the lamp exactly works, but when I know the interaction is easy and smooth”*

*“Flipping the lid is a fun interaction that feels easy”*

Conclusion

The interaction with the lamp is easy, but people would need an instruction because the way it works is not straight forward. Flipping the lid should also be a smooth interaction. However, the way it is designed now is appreciated by the test participants. They liked seeing it flip and having the massager appear on top. It made them want to do it multiple times, and therefore the conclusion has been drawn that this interaction fits the design well.

Evaluation of the massager

Although the prototype of the massager does not have the warming and vibration functionality, the shape was evaluated by three test couples. The steps taken for this evaluation were as follows.

At first test couples were recruited. One of them was an actual couple, the other two were friends who felt comfortable enough around each other to have physical contact. The tests took place in a small room on a bed, the couple and the researcher being the only people present (figure 51). The test participants were shown and explained the concept in detail, before starting the test. They were asked their opinion on the concept, according to images and touching and holding the massager prototype, before having tried it for massage. After this, the participants were asked to decide for themselves who would be the providing partner, and who would be the receiver. Then the receiving partner took off their shirt and took place on the bed.



Figure 52 - Position 1    Figure 53 - Position 2    Figure 54 - Position 3

The providing partner was then given the following instructions:

- 1. Put oil on the receiving partner’s back.
- 2. Massage using the prototype in a way you would intuitively do it, and communicate your thoughts and feelings out loud
- 3. Massage using position 1 (figure 52)
- 4. Massage using position 2 (figure 53)
- 5. Massage using position 3 (figure 54).

The massaging part took approximately 20 minutes. Afterwards, both participants were asked a couple questions on how they experienced using the Ignite massager.

Figure 51 - Woman receiving massage



Woman who received a massage using the Ignite massager



## Results

This section gives a summary of the research results including quotes, but a complete overview can be found in appendix F.

All the participants were positive towards the design, when they were presented some images and the context poster (figure 55). They found it good looking, and very appealing. They pointed out the fact that the design is gender neutral, and that they liked how it would be continuously present in their bedroom. Some words that the participants used to describe their first impressions were warm, friendly, sensual, cozy, sleek, clean, nice, cool and atmosphere.

***“Oh! Such a beautiful design”***

***“I really like that it can flip open, so that you do not always have to see it but the lamp can always be there”***

***“It does remind me of sex toys, because of the pointy legs. From the other side it doesn’t”***

***“The small pressure points remind me of massage”***

***“The mood light really adds another dimension. Lighting highly influences the mood. I want dimmed lights when I think of massage”***

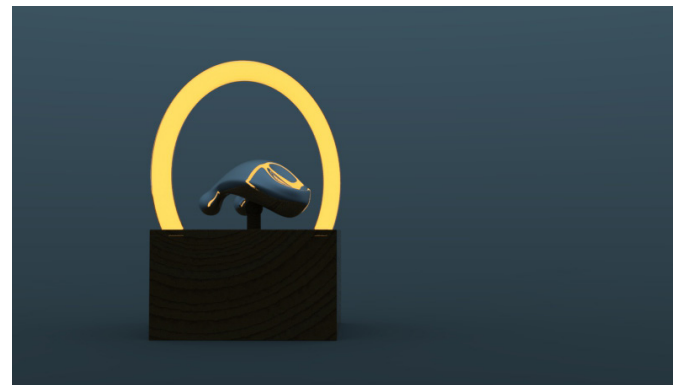


Figure 55 - The images shown to the participants prior to the massage

After this, both participants were asked to hold the massager to evaluate the shape (figure 56). People were very interested in holding it, because the shape was so new to them. It made them curious and eager to try and find positions which they preferred. Some things that first came to mind after holding the massager were as follows:

***“It is pretty light! Will the actual massager be heavier?”***



***“I would not immediately know how to hold it. I would like to have instructions with it”***

Figure 56 - Couple evaluating the massager shape

***“I associate the two legs with massaging along the spine”***

About the looks of the massager participants said the following:

***“The shape invites to pick it up. I associate it with a computer mouse. You automatically know that it is easy to hold and will feel comfortable”***

***“The shape is attractive. I constantly want to feel it and rub my fingers along the surface. I think that is because of the different dents and edges. You want to know how they feel”***

After having evaluated the massager on its ergonomics and looks, the participants were instructed to start the actual massage. It was interesting to see how creative people got while using it. There was a lot of communication between the partners, which they also pointed out themselves (“it really requires you to communicate well with your partner, which is a good thing!”). The first task was to massage using the massager in their own intuitive way. The most obvious results here were the creativity and curiosity which were visible in the participants, the insecurity about whether or not the providing partners were doing a good job and the fact that the receiving partners really loved the sensations.



Position 1



After the first task task, the providing partners were asked to try and massage holding the massager in position one, with the 'nose' pointing forwards. One provider really liked this, for the other two it felt less comfortable, because for one the massager was slightly too big in this position, and the other felt some discomfort in her wrist. However, despite that, they thought this was the most natural position to hold it.

***“Yes, this is chill. It feels very smooth and natural to hold it like this. It makes sense.”***

Providing partner

***“There is now more pressure in front, but the fact that it is followed by the two smaller points feels very nice.”***

Receiving partner

Position 2



The second position was with the 'legs' pointing forward. This position was meant to be allow for more precise point pressure, distributed over two separate points. The receiving partners really liked this sensation, mainly along the spine. Also, one of the providing partners said that this position feels the most logical.

***“I find it satisfying because I can see her skin moving and I feel like it feels nice, which I find sexy.”***

Providing partner

***“Oh yeah, this feels nice. It feels very different than the previous position. It is nice to feel multiple pressure points.”***

Receiving partner

Position 3



Holding the massager in position three caused the fingers to slip away, because of the oil and the smooth surface. However, despite that, the providing partners were able to apply more pressure, without too much effort. The receiving partners really liked that. The problem was however that the providing partners were not sure where on the body this kind of massage would be best to apply. Communicating together helped them get explorative however.

***“I would use this on the lower back and the butt. It slips away a little bit.”***

Providing partner

***“Even though it slips away, it feels really nice. The size of this surface feels very logical”***

Receiving partner

After having performed the massage, all participants were asked some questions regarding the experience, and their assumptions on how this product would be integrated in the real life of people in long-term relationships. The answers given by the participants are summarized per question.

***How did you like the experience?***

All participants indicated really enjoying the experience. They said they would like to integrate this in their life, and that it really gave them the opportunity to expand their current massage expertise.

***Do you expect having a massager like this sit on your night stand would lead to massaging your partner more often?***

All participants thought the Ignite would cause partners to massage more often. The most reoccurring reason for this was the fact that it is constantly visible, and will therefore remind people of pleasant experiences they have had with it. They also thought the lamp could function as a means of communication, for example by displaying the massager to communicate to your partner that you are open for some intimate time spending.

***Do you find it appealing to give or receive massage with this?***

All participants answered positive to this. “Yes, the fact that it warms up feels like a gift for the provider as well as the receiver”



*How would you compare this to other massagers you have used?*

The participants thought the Ignite looked way better than other massagers, because other massagers are mainly designed to be practical instead of visually appealing. Two participants also said to associate the Ignite massager with sexuality, whereas they would not use other massagers in a sexual or intimate context. Also, the multifunctionality felt inviting for them to go explore. They said the design looked more luxurious and sensual.

*What word would you use to describe the experience of massaging with this product?*

Inviting, super great, addition

*What word would you use to describe the experience of receiving a massage with this product?*

Relaxing, really good, zen (“I am way less tense than I was before”).

*Where is room for improvement?*

More grip would be beneficial, when massaging with oily hands. It would be nice to have different lamp options, since interior taste can be very different for different people. Maybe there could be three different lamp designs. Preprogrammed lamp settings would be nice, so you can pick several different moods. The grip positions can be optimized, so it is even better for more different people with different hand shapes and sizes.

*Could the Ignite enhance your current relationship?*

All participants believed the Ignite could enhance their relationship.

*Conclusion*

In conclusion, the Ignite is an appealing product to people. The massager really gives people inspiration for massage, and it sparks their curiosity. They are excited to go explore together, and helps them to communicate at the same time. The desired effect of relaxation and taking time to explore was definitely there. There is room for further design on the shape of the massager and the different functionalities of the lamp. Most importantly is to figure out how the massager does not slip away when using oil, and how it is most comfortable to hold for the providing partner.

*“I think it can enhance your relationship, if you really use it to create that moment of relaxation together, in your busy life.”*

*Man who received a massage using the Ignite massager*

*“It’s like being on a journey to rediscover massaging techniques”*

*Woman providing a massage*



5.1.2 – Desirability – target user

For evaluation of the desirability of the Ignite, a survey was created. Parallel to that, the previous test couples from the context mapping study were asked to evaluate the concept according to several images. Both of these evaluation sessions will be explained in this section.

The aim of the survey was to find out whether the targeted customer would be likely to be interested in buying the product. The research questions on which the survey was built were as follows:

- » *How positive is the target user towards the concept?*
- » *Is there a difference between women and men in their feelings towards the concept? If yes, which aspects of it?*
- » *Is there a difference between people in long-term (4 > years) vs. people in short term (< 3 years) relationships in their feelings towards the concept? If yes, which aspects of it?*

The following hypotheses were formulated:

- » *Women are more positive towards the product, since they desire intimacy more and need the context to be right*
- » *People in long-term relationships are more positive towards the concept because they are more likely to be looking for ways to create more intimacy*

Method survey

By means of the survey the people were presented two images of the concept, with a brief explanation. Following, several questions were asked about their feelings towards the concept, likeliness of buying and which aspects of the Ignite were appealing and which were not. Some general questions were asked

about relationship status and satisfaction rate on frequency of intimacy and frequency of sex. The analysis has been conducted on intuition, rather than using official analysis techniques. Conclusions are therefore drawn upon assumption and common sense, which is important to take into account when interpreting the results.

Results survey

The survey was filled out by 107 respondents, of whom 18 dropped out and did not complete the survey. Figure 57 shows a word cloud of the first words that came to the respondent’s minds. The next two pages give an overview of all the survey results including visual support.

Conclusion survey

Overall the majority of respondents was positive towards the concept. Women are slightly more likely to buy the product than men are, which was as expected. There is obvious interest in the features of vibration and warmth. People seem more sceptical towards the mood light however, although still the majority said to be interested in it. Other than the interest in the warming of the object, there was no difference found in the feeling towards the concept between people in long term relationships versus people in shorter term relationships, even though the satisfaction levels on frequency of intimate contact and sex were different for people in long term relationships versus shorter term relationships. Interpreting these results I conclude the Ignite to be a desirable product for the majority of people in relationships. The aspect of warmth and vibration are highly appreciated by the user, however the integration of the mood light needs more exploration and iteration on how it can best be applied, if necessary.



Figure 57 - Word cloud first impressions

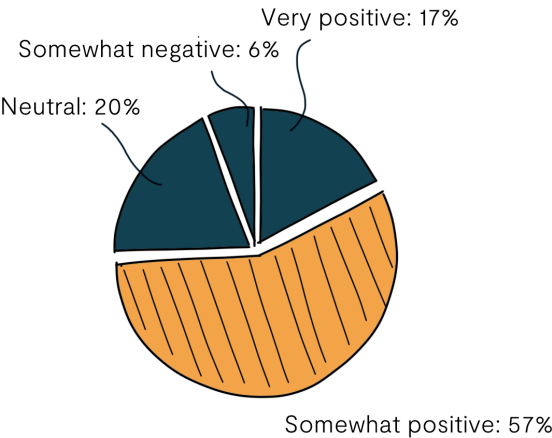


Results detail (figure 58)

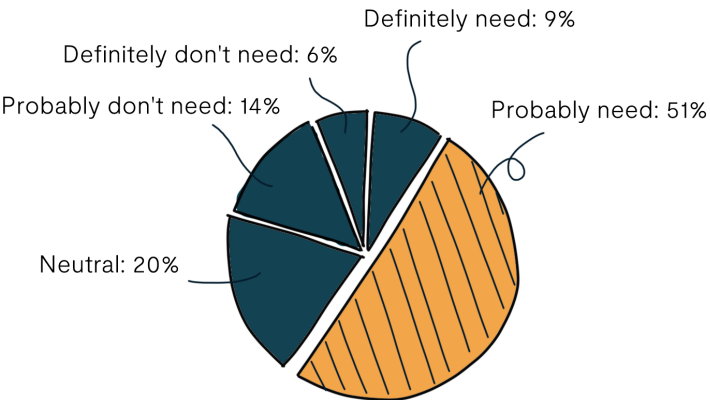
General (men versus women)

Overall people were quite positive towards the concept. Women (N=69, 58 completed) were slightly more positive (86.2%) than men(N=38, 31 completed) (73.34%), which confirms the first hypothesis. 43.1% of the women was even very positive, versus 16.67% of men. However, both sexes claimed to need this product equally (51.72% of woman versus 53.33% of men said to “probably need” this product). Women are also slightly more likely to buy the product if it were available right now (74,14% for women versus 66,67% for men, from extremely likely to somewhat likely).

1. First reaction men



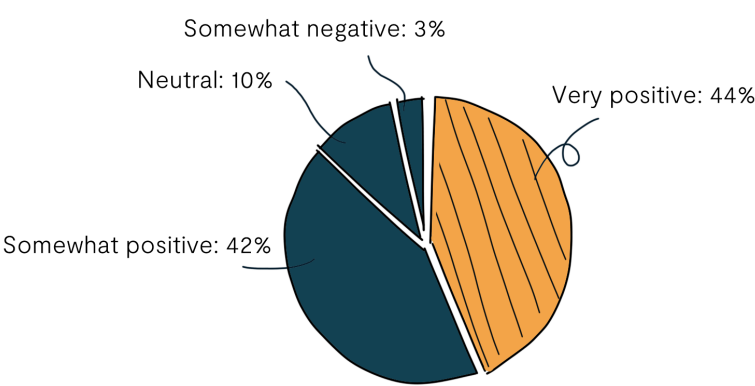
3. Do men feel like they need Ignite



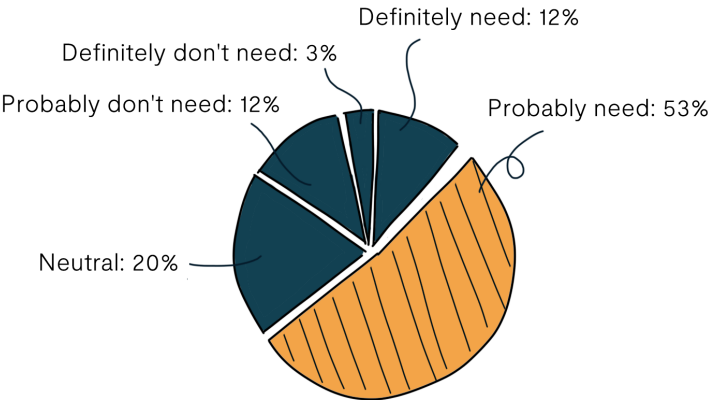
Product features

Both women and men are almost equally interested in having a mood light (63.16% of women versus 66.66% of men). 83,33% of men is interested in vibration versus 73,69% of women. Women are more likely to be “very interested” (47.37%) in vibration than men (30%). This makes sense since using vibrating objects for sexual purposes is more widely accepted for women than for men, and therefore they are assumably more likely to associate vibration with pleasure. Both men and women are “very interested” in the use of warmth (50.88% for women versus 43.33% of men). Overall 82,46% of women is interested in a warming object vs. 83.33% of men. There is no difference between the sexes.

2. First reaction women



4. Do women feel like they need Ignite



General (long-term relationship versus short term relationship)

In the second analysis a comparison was made between long term couples (N=30, dropouts excluded) and shorter term couples (N=38, dropouts excluded). Long term couples are in this survey defined as people who have been together for at least four years. Short term couples are therefore automatically defined as couples who have been together for less than four years. 83.33% of the people in long term relationships is positive towards the concept, versus 83.78% of the people in short term relationships. However, people in short term relationships are more likely to be very positive (40.54%) in comparison to people in long term relationships (30%). It seems that there is no significant difference between long-term and short term relationships when it comes to positivity towards the product. There are no differences in feeling a need for the Ignite or likeliness of buying the product.

Product features

93,34% of the people in long term relationships is at least “somewhat interested” in the warming function of the massager, whereas this is 70.28% for people in short term relationships. An explanation for this could be that people in shorter term relationships are less likely to be interested in sensual play and more so in sexual play, with which warmth can be highly associated. However, this is only an assumption. In long term relationships the “satisfaction on frequency of intimate contact” is more around “satisfied”, whereas for people in short term relationships it is more distributed from “very dissatisfied” to “very satisfied”. The majority of people in short term relationships however is “very satisfied” (54.05%) compared to 20% of the people in long term relationships. This is in line with what the preliminary interviews showed (section 2.2.1): People in long term relationships tend to be happy “with what it still is”.

5. How interesting are the design features for people in general?

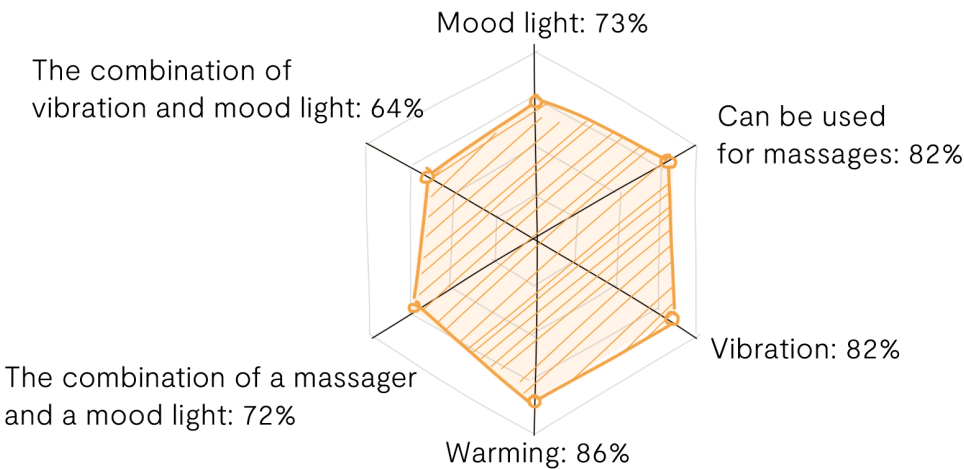


Figure 58 - Visual representation of the results

Evaluation research couples

In order to receive feedback on the design of the Ignite directly from target users who had already been introduced to the topic, an e-mail was sent out to the couples who previously performed the context mapping study. The message introduced the Ignite to them, including some images of what it looks like. This was followed by a list of questions, which five of the people responded to. Following are the questions, with a summary of the answers.

Results research participants

What is the first word (or combination of words) that comes to mind regarding the appearance of the product?

Three out of five called the design “classy”. Four out of five called it “beautiful” or a word with a similar meaning. Other words were luxurious, professional, sleek but warm, triggering curiosity, great visual appearance, coherent and attractive.

What is the first word (or combination of words) that comes to mind regarding the functionality of the product (massager + mood light)?

Two people said they thought this was a good combination. Other thoughts were “relaxing”, and triggering curiosity. Also, one participant mentioned that the fact that it creates an ambience makes it attractive to use.

How do you like the idea of connecting the Ignite to an app, through which date nights can be scheduled?

Four out of five respondents were positive towards the idea of scheduling date nights. It can help give that extra trigger which people like, but it can also be exciting to have something to look forward to. One person said to not use it for the purpose of scheduling date nights, but he would use it to control the Ignite from a distance, so it can already start preparing before actually getting to the bedroom.

Do you think the presence of the Ignite could cause you and your partner to integrate massage more in your intimate life? Why/why not?

Five out of five respondents thought the Ignite would cause them to integrate massage more, because of its constant presence in the bedroom which would remind them of using it.

Is the idea to give or receive massage with this product appealing to you?

Four out of five respondents said the idea was very appealing to them, mainly because of the warmth which they had already experiences during the context mapping research, and also the shape and the vibration were attractive features for them. One respondent said she found it hard to image whether or not she would like how the shape of the massager feels.

Is the idea of integrating the mood light in your bedroom appealing to you?

Four out of five respondents said integrating the mood light appealed to them, because it provides the perfect light for an intimate moment, and also because the light could also be used without using the massager. One of the respondents was still hesitant because he was afraid people might associate it with a sex toy. Another respondent said she loved the idea that the massager can be hidden, so you can choose whether or not to display it.

How big is the chance that you would purchase this product, assuming the price is within your budget? Answer with extremely small, small, neutral, big or extremely big.

Three out of five answered “big”. One answered “extremely big” and one answered “the chance is present, but there is other products which are higher on my wish list at the moment”.

Conclusion

An important factor to take into account is that these respondents have all been primed by executing the context mapping study. It makes sense that they had a lot more feeling towards the product than someone who has never tried such a thing before, like the respondents to the survey. It is therefore important to conclude that upon launching this product, people need to be informed very well so that they can imagine what using it would feel like. The respondents were all very positive towards the design. The visual appearance was highly appreciated, as well as the fact that it could be integrated in the bedroom. The warmth element seems to be the most appealing feature, and triggers curiosity.

**“Beautiful and professional design. Sleek, but at the same time a warm expression. It triggers my curiosity. The design really comes together. The graphic appearance is really beautiful.”**

Woman evaluating the Ignite according to images



5.1.3 Viability – Expert interviews

For the viability evaluation two interviews were conducted: one with relationship therapist and relationship researcher Marieke Dewitte with whom an interview was conducted at the start of the project as well (section 2.2.3). The second interview was with Anne Siemons, a sexologist who runs her own practice together with Leila Lambrechts: “Seksuologen met Twee”, in the Netherlands. From both interviews the most important insights will be presented in this section, followed by an overall conclusion on the viability of the product according to these experts.

Method

The interviewees were, after having signed an NDA, presented the Ignite concept through images and an explanation of the target user, context and use scenario. After this, they were asked four questions:

- » *What is the first thing that comes to mind?*
- » *How do you think the Ignite could affect people’s intimate lives?*
- » *What are Ignite’s strong features?*
- » *Where is room for improvement? Why?*

Results interview Marieke Dewitte

Marieke Dewitte raised some interesting topics: First of all, before being presented the concept, she highlighted that in practice the solution should not be searched in increasing the frequency with which people have sex, but to increase the rewarding feeling people get from having sex. In other words, she believes that sex should be different and more fun. We need to improve the quality and the relaxing value of it. This way sex can become more rewarding, which results in people wanting it more and being more open to engaging in it. Her reaction to the presentation of the Ignite was as

follows: “You are creating the opportunity to maybe switch to sexual arousal. Because what we often see [in the practice] is that it is not like “I feel like having sex right now” but more like “do I feel like opening up for sexuality?” That often has to do with creating a context in which sexual stimuli can be processed. So actually it is creating a context in which intimacy can be present.” She stressed that it this concept is not just about the physical product, but also the message that it brings: “This instrument is not meant for genital stimulation”. This contributes to a shift in the meaning people give to sex. It tells them the importance of “learning to put effort in it and create a context”. It also teaches them to use their whole bodies as an erogenous zone, rather than just their genitals. For long term couples it is important to know that “sex is not spontaneous, but needs effort, preparation and the right context”. According to Marieke a pitfall might be that the device might be seen as some sort of foreplay product. This is what you want to prevent, because then there is still the so called “performance pressure”, where people feel like they need to have penetrative sex as if it is the highest achievable goal. It is important to take the pressure out of sex.

Marieke thinks that the fact that the Ignite is constantly present on the bedroom is “a way to integrate it in people’s daily lives”. Another pro is the fact that it is unisex, and therefore not specifically focused on pleasure for one of the partners. Moreover, from her therapeutic perspective, she believes the Ignite could also be useful in therapeutic practices. As an example she says she would tell her clients: “Go and try out this instrument, ten minutes per partner. Focus on relaxation, senses, and do not look for sexual arousal. Also avoid looking for penetration. Really stick to touching.” I see opportunities. Marieke thinks it is a pro as well as a con that the

“So, actually it is creating a context in which intimacy can be present”

Ignite is multifunctional; It can be used for genital stimulation, but we should avoid to only use it for, or associate it with that. But that is up to the user to decide. Lastly she says she thinks the Ignite might help people break their “avoidance routine”, where couples continuously avoid sexual activity and reject initiation. This avoidance often has to do with expectations which are for example created by sex scenes in movies, which make people think that is the way sex should be. The Ignite focuses on another way of intimacy, which might take away these expectations and therefore performance pressure. It stresses the importance of ‘good enough sex’, which is not so much about fire and passion, but more about calmness and intimacy. Marieke recommends further research into the material of the massager, because she believes metal might not feel comfortable on the skin. On the other hand, she thinks plastic or silicon might make people associate it with a sex toy again, something that needs to be avoided.

Conclusion interview Marieke Dewitte

According to Marieke Dewitte the Ignite can be a helpful tool to teach users a different way of sexuality. She believes Ignite could help taking away the pressure people in long term relationships feel around sex, and she even thinks it could be a tool that would be recommended by therapists to couples who struggle with becoming intimate. In conclusion that means that from Marieke’s point of view the Ignite is a successful concept, although further research into the most suitable materials is desirable.

### Results interview Anne Siemons

Overall Siemons was very interested in the Ignite concept. She mentioned the benefits of using the Ignite in her practice to begin with. This aligned with what Dewitte mentioned previously. Siemons said to be highly familiar with couples who would like to experience more or different sexual activity within their relationship. She therefore thinks the Ignite is a great way to tackle this problem. The Ignite is a great tool to use while practicing Sensate Focus exercises (see Glossary). The product helps couples to break their patterns, in which they tend to get stuck over a period of time. The fact that it gives the opportunity to plan intimate activity could be a benefit for people, since there is an external factor encouraging them to take this time (even though they themselves had to preset it).

From a sex therapist point of view she mentioned wanting to recommend the Ignite to clients. Lots of couples she treats claim to want more of different sexual activity. She often recommends people to practice Sensate Focus exercises, which they need to plan ahead. This can help couples break their routines and rediscover each others bodies. According to Siemons this is important because people are likely to stick to the familiar road, whereas circumstances like living situation, hormone levels, bodies and so on constantly change. This causes sexuality perception to change too, and thus requires people to also change their habits over time. Sensate focus exercises, where couples take time to explore each other's bodies by means of touch, help break these routines. Siemons thinks that the Ignite is the perfect tool to support this practice, because of the planning aspect, as well as the taking time for intimate touch aspect. The fact that it warms up and vibrates distinguishes it from existing massage tools. This is in line with what Dewitte previously said.

Furthermore, the Ignite does not focus on genital stimulation, and has a unisex appearance. According to Siemons this helps people explore this different kind of sex, which is not focused on genital stimulation and more so on “foreplay” (a word she prefers not to use because of its implication that sex is a linear act with a hierarchy in different steps). Siemons also believes that there could be the long term effect of people, with regular practice with Ignite, becoming more intimate spontaneously. This is because the more intimate people are, the more intimate they are likely to become. Regular intimate play with Ignite could therefore lead to more overall intimacy.

To make the Ignite even more suitable for sex therapy, a “sensate focus” setting could be integrated in the light, where it indicates when it is time for partners to switch sides or switch roles. It could then function as an indirect timer and a less clinical way of practicing sex therapy.

Lastly, Siemons stresses that the Ignite fills up a gap in the market: Where almost all couple toys focus on genital stimulation of merely heterosexual couples during intercourse, the Ignite focuses on gender neutral intimate play, without focus on genital stimulation, but with the possibility to do so.

### Conclusion interview Anne Siemons

According to Siemons the Ignite is a viable concept. She thinks the most important features are the fact that Ignite encourages people to plan intimate activity, just like they plan other activities in their lives, and secondly that Ignite helps to break patterns like Sensate Focus exercises do. It could therefore really help couples explore new ways of sex and explore their bodies in different ways.

***“This is the improved, sexy, intimate and good version of a standard massage tool for partners”***

***“Something I keep telling my clients is: Extend foreplay!”***



### 5.1.4 Feasibility

In order to make the Ignite feasible for the client company, new production techniques need to be adopted. Currently, the portfolio does not contain any metal products. However, the fact that metal vibrators exist (figure 59) make it plausible that manufacturing is possible.

Within the client company there is a lot of engineering experience, in the field of electronics as well as physical prototyping. A lot of innovation on a technical level has been done before, and knowing the company consists of many prototyping resources it can be assumed that there is the expertise to produce working prototypes of the Ignite massager, for further development.

For the accompanying lamp a new manufacturer should be found, since mood lights are currently not in the brand portfolio. However, the resources are within the company to produce working prototypes that can be tested by users upon further development.

The most important opportunity for the company is the potential to enter a new market within the adult products industry, which their main competitors have not entered yet. With their extensive market reach this could cause lots of people to change the way they define sex, which is beneficial for the quality of many sex lives. A threat could be that people do not understand the product, and are therefore not adoptive to it. This can be compared to Apple launching the iPhone: People did not know they needed it, until they were told so. Clear communication to nudge people before launching the product is therefore essential.

As has been mentioned before in the implementation section (4.6), it would be beneficial for the company to start with launching a simplified version of the



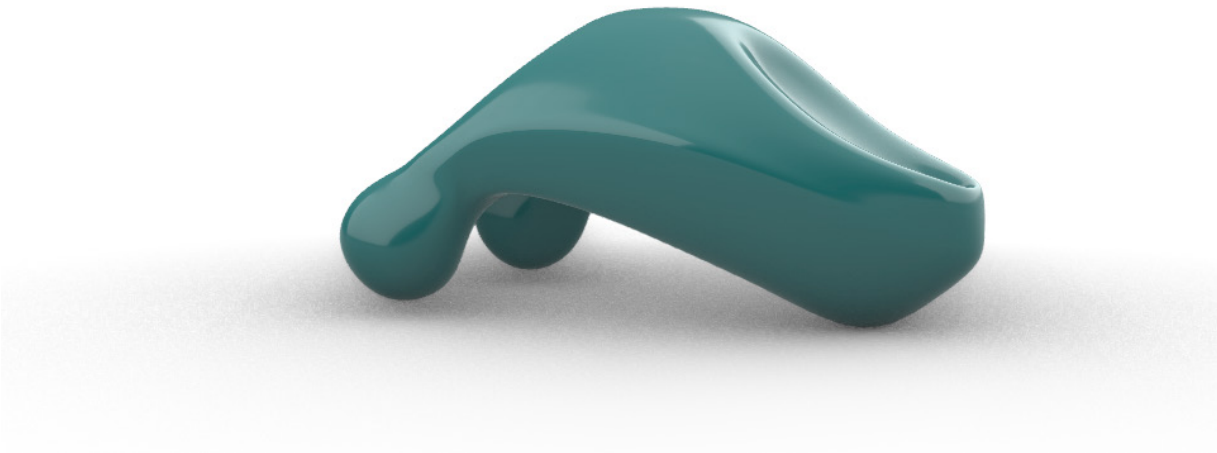
**Figure 59** - Example of a metal vibrator

Ignite massager. This could be a hard plastic version of it (figure 60). The evaluation session with only the 3D printed prototype of the massager showed that people are already very intrigued by its shape only, making it assumable that people would be interested in the product without its other functionalities.

The first next step would be implementing the warmth element, because this is most appreciated by everyone and triggers their curiosity. This could be accompanied by adding the vibration motors. This can all be done by the company with the resources they have right now.

The following step would be to integrate the mood light, to complete the envisioned experience of the Ignite.

The final implementation step would be to launch the massager in metal, to enhance the luxurious appearance.



**Figure 69** - Example of the Ignite in hard plastic

# 5.2 Conclusion

The design process of the Ignite was based on the design goal:

“To come up with a viable concept that is meant to allow long-term couples get intimate in a way that does not cause the feeling of pressure that any kind of sexual activity should be a follow up step. The concept focuses on helping couples to relax together mentally as well as physically, to inspire them to explore a new way of intimacy. This should be done by means of a physical product that fits the brand portfolio.”

This goal can be subdivided in separate elements. This conclusion is based on an evaluation of each of these elements.

## “...viable concept...”

I personally believe that the Ignite has great potential to help couples explore a new way of physical intimacy. Based on the comments of people I talked to, people who have listened to the story of Ignite and have seen and interacted with the prototype. People in long-term relationships often feel the pressure of having to have sex, however, I can not imagine people feel pressure when being offered a warm massage.

According to the interviews conducted with relationship therapist Marieke Dewitte and sexologist Anne Siemons, the Ignite can likely be called viable. They believe the Ignite has the potential to help couples who are striving for more or different intimacy reach that goal. However, only testing the Ignite with couples over a longer period of time can tell whether the product actually causes them to find more satisfaction in their intimate life. Therefore the conclusion is that the Ignite is seemingly viable, but that it needs further user testing.

## “...inspire long-term couples...”

The Ignite inspires couples by being constantly visible in the bedroom, in contrast to sex toys which are usually hidden in a drawer of the night stand. Its presence reminds people of the intimate moments they spent with their partner. Besides that, the Ignite strives to bring physical sensations and experiences which are so pleasurable, people start looking forward to use it again. The warmth here is an essential aspect, which people highly appreciate and helps them to relax. Besides that, the function of scheduling date nights with the Ignite app encourages couples to use it, and make that time for each other. Overall this means that the Ignite does inspire long-term couples to use the product.

## “...to get intimate in a way that does not cause the feeling of pressure that any kind of sexual activity should be a follow up step...”

Since the Ignite communicates sensuality rather than sexuality, people should be able to let go of the pressure of having to have genital focused sex. However, in order to verify whether this is true and people do not see the Ignite as a foreplay toy, long term user testing is necessary. Communication around the Ignite should ensure customers that Ignite does not belong in the known linear sex model, which should take away the pressure for them. The unambiguous shape of the massager, which is not to be associated with a sex toy, should support this. This means that the design does allow people to get intimate in a way that is not based on genital focused sex. Long term user testing will show the validity of the assumption that the Ignite can be considered a sense toy rather than a sex toy.

## “...helping couples to relax together mentally as well as physically...”

The mood light as a context creator helps people to relax mentally. Light is widely used to set certain ambiances: Candle light for romantic dinners, flashy colourful lights in clubs and at festivals, and warm, dimmed light in yoga studios. Besides that, the growing popularity of products like the Philips Wake Up Light proves that adjustable lighting is an effective and desirable way of creating certain moods.

The fact that the Ignite requires couples to take time (since the massager first needs to warm up) and not rush things allows them to unwind from stress that they are experiencing. Physical relaxation is ensured by the massage itself. Important is to research to what extent the light helps people to relax. Therefore the conclusion is that this part of the goal needs more exploration to be able to find whether the mood light significantly adds to the experience, even though Dewitte claims that creating a context really helps couples get into a certain mood.

## “...explore a new way of intimacy...”

The context mapping study as well as the expert interviews with Dewitte and Siemons showed that people enjoy exploring massage. The couples of the context mapping study were all very positive about it, and were excited to apply this more frequently in their intimate lives. Also, the couples in observed user research enjoyed trying out different products and explore what feels good. The ambiguous shape of the Ignite, the different settings for the light and the fact that the shape has the potential to also be used for genital stimulation allows couples to keep exploring with the product. Therefore the conclusion is that this part of the goal has been reached.

## “...a physical product that fits the brand portfolio...”

The Ignite fits the brand portfolio in terms of shape and functionality (vibration). However, since the features of warmth and light are new, as well as the fact that it is a sense toy instead of a sex toy, the Ignite should be implemented in different steps. Therefore the conclusion is that the Ignite does not entirely fit the current brand portfolio, but that it can be seen as an expansion of it.

The Ignite was evaluated on desirability by the target customer, the viability and the feasibility:

### Desirability

About the desirability of the Ignite can be concluded that there is clearly interest from the target audience. They seem more sceptical towards the mood light, but are very interested in the warming and vibration features. Therefore the conclusion is that the massager of the Ignite is definitely desirable, but the mood light needs further investigation.

### Viability

As mentioned before, the Ignite is considered seemingly viable, but it needs further user testing in order to find out whether or not it has the desired outcome over a longer period of time.

### Feasibility

In terms of feasibility the conclusion is that the company has the resources and expertise to research and develop the Ignite, but would need new manufacturing relations in order to get the product produced.



# 5.3 Recommendations

*For further development of the Ignite a set of recommendations is formulated. This section presents them. The recommendations are subdivided into different categories: Interaction design, technical design, and marketing and communication.*

## 5.3.1 Interaction design

### The app

Since the Ignite is connected to an app, it is necessary to design the user interaction with it. Therefore research should be done into which features actually contribute to the whole user experience with the Ignite. Envisioned features of the app are setting up the Ignite (temperature, light colour, timer), scheduling use, information on how to use Ignite, notifications to a partner in order to initiate intimate play, and predefined experiences like Sensate Focus therapy.

### Control

Further research should be done into how the Ignite is controlled. The decision has been made to make use of proximity sensors, so that one does not have to touch the lamp with oily hands. The exact control however, on how to turn on and off the device as well as how the lid flips open, needs further investigation. Also button placement for controlling the vibrations in the massager needs prototyping and testing.

### Lamp

Since the respondents to the evaluation survey were slightly sceptical about the addition of the mood light, contrary to the sex therapists and people who have interacted with the physical prototype, further iteration on the lamp is essential. Research should show whether or not the lamp significantly adds to the complete experience.

## 5.3.2 Technical design

### Material

For the material of the massager it is important to find a way to in which metal can be processed to the desired shape. If it turns out this is not possible within the capabilities of the client company, another material with similar specifications needs to be found. This could be chrome-like plastic with a warming element inside, but that won't have the same look and feel. It is necessary to produce several functional prototypes in different materials, with warming element and vibration motors inside, in order to find the most suitable material from a manufacturing point of view.

For the lamp it is important that the material can be cleaned easily, and is oil resistant. The wood therefore needs to be treated with a protective varnish.

It is also important to have a cost analysis of manufacturing the Ignite, so see how feasible this is within the capabilities of the client company.

### Electronics

Further development needs to be done regarding the electronics of the Ignite. The idea of the massager warming up as long as it is connected to the lamp needs to be validated. Further research also needs to validate the functionality of proximity sensors as a way to control the lamp.

## 5.3.3 Marketing and communication

For people to be open to a new product like Ignite, it is important that attention is paid to the marketing and communication around the product. It is in the first place important that the Ignite will be advertised as a sense toy, which has nothing to do with genital focused sex. Besides, it is important to make target customers feel like they can relate to the story Ignite is telling. Through media it should therefore be advertised as a new way of intimacy, instead of an addition to traditional genital focused sex. It should be seen as a stand alone product, that opens up a new market.





## Reflection

*Looking back at the project it reminds me of motorbiking bumpy roads through the beautiful, foreign country Vietnam. A lot of sharp turns after which the progression could not be foreseen, but which was amazing every time. Sometimes I forgot to check my tires on time, almost ran out of gasoline or had to conquer heavy rain. I stayed the nights in motels along the way, overthinking whether or not to switch my vehicle, or change direction. After riding for weeks, I realized that if I would continue at the same pace I would never end up at my final destination: the capital Hanoi. So against my principles, I decided to throw my bike on a bus. Now I had the time to manage everything while being transferred to the final stop (figure 61).*

Although it has been stressful and challenging, the project has been an amazing end to my studies. I have enjoyed going on the adventure and learning more about a subject I love. I have been able to execute lots of research, which I enjoyed and gave lots of insights.

There have been drawbacks throughout the project, and it hasn't always been easy, but with the help of supervisors and friends I always managed to get back on the road.

The most important lesson I have learned is to trust my own intuition and abilities. I tend to want to validate everything I say or claim, forgetting that there is also common knowledge and my own expertise.

In hindsight I would have tried to start interaction prototyping in an earlier stage, so that I would have had more time to investigate in the functionalities of the lamp. That would have given me the opportunity to explore the actual effects of different kinds of light on people's mood.

Regarding project management I would have liked to bring more structure into team meetings. I would have held on to a presentation template that I

could have used every meeting, so that the team knew what to expect. However, I do not think the absence of this template has been a drawback, since meetings have always been efficient and fruitful.

Towards the end of the project, like the analogy of my Vietnam motorbike trip explains, I figured there were many things I would want to do, but in which I had no experience myself. That's when I decided to accept help from others, so that I could make the ideas in my head reality. At first this felt like cheating, but then I realized that being able to find the most efficient and effective ways to execute your plans, bringing you to the desired destination is also a skill. It lead to very satisfactory results, and I am proud of having been able to do this.

Lastly, I have learned that it is fine to not do everything you initially planned. You always find out that certain tasks take longer than expected, and the priorities of the project continuously shift. Is has therefore been important for me to be flexible, and keep adapting to the situation.

Overall I am very proud of what I accomplished and learned over the past seven months, and look forward to the next steps in my professional life.



Figure 61 - Me crossing Vietnam on a motorbike

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# 06

## Appendix

- Appendix A - Interview script*
- Appendix B - Transcript interview*
- Appendix C - Consent form*
- Appendix D - List of requirements*
- Appendix E - Research existing products*
- Appendix F - Results clay model testing*
- Appendix G - Evaluation results*



# Appendix A: Interview script

## Practical information

- 1. What is your age?
- 2. Do you have children?
- 3. How long have you and your partner been together?
- 4. What is your living status?

## Relationship/sex life overall

- 1. When do you feel yourself most drawn to your partner? Can you describe the context?
- 2. When was the last time you shared an intimate moment with your partner? How did that go? Can you walk me through it?
- 3. How often are you intimate with your partner on average? How do you feel about this number?
- 4. How important is sexuality in your relationship for you?
- 5. If you were to grade your relational satisfaction between 1 and 10, what would it be? Why?
- 6. If you were to grade your sexual satisfaction between 1 and 10, what would it be? Why?

## Desire

- 1. If we look back on your current relationship, how would you say your sexual desire towards your partner has evolved over the whole duration of you being together? Can you explain why it evolved in this way?
- 2. How would you describe the feeling of desire?
- 3. When do you feel desire? Either towards your partner or someone else?
- 4. What are factors that influence desire for you?
- 5. How is the balance in desire between you and your partner? How do you feel about this?
- 6. How do you feel about the level of desire you feel for your partner right now?

## Arousal

- 1. What do you consider arousing?
- 2. What does it take someone to arouse you?
- 3. How does your partner generally arouse you?
- 4. How do you know you are aroused?
- 5. What are turn offs for you?
- 6. Have you experienced issues regarding getting aroused? Can you explain? Mental or physical?
- 7. What have you done to overcome these issues?

## Initiation/foreplay

- 1. How do you move from being aroused to actual foreplay? What are emotions you feel at this moment?
- 2. What happens when one partner initiates, but there is no interest from the other partner?
- 3. How does foreplay look like within your relationship?
- 4. How important is foreplay for you?
- 5. How long does foreplay on average take?
- 6. How does sexual initiation look like in your relationship? Who does it? What happens?

## Sex

- 1. How do you move from foreplay to main play? Who initiates? What are emotions you feel at this moment?
- 2. If you were to determine the level of variation within your sex life from 1=always the same to 5=lots of variation where would it be? Why?
- 3. How would you describe an average sex session between you and your partner? What happens? How long does it take? Where does it take place?
- 4. How is the orgasm ratio between you and your partner? How do you feel about this?
- 5. How do you feel about the amount of effort your partner puts in giving you pleasure during sex?
- 6. What kind of sex products do you own?
- 7. How often are they used? For what reason?
- 8. What are issues you have encountered within your relationship regarding main play sex? How common are/were these issues? What have you done to overcome them?
- 9. How does a sex session come to an end?

## Aftermath

- 1. What does the aftermath look like? What activities are included? How long does it take? What emotions do you feel at this moment?
- 2. What happens after?

## Solo sex

- 1. How often do you masturbate alone? Why this number?
- 2. On what moments do you masturbate alone?
- 3. What are reasons for you to masturbate alone?
- 4. How often do you use external stimulators, like pornography or sex toys?
- 5. How would you compare masturbation arousal to partnered sex arousal?

## Wrap up

- 1. Have you had any negative sexual experiences in the past? How do they influence you now?
- 2. I think I have asked everything. Is there anything you might want to add?



## Appendix B: Transcript interview Marieke Dewitte

Lisa: Goedzo. Ja dit is eigenlijk, vind ik fijn, want het is heel veel van wat ik ook heb gelezen wat je nu vertelt, en een heel duidelijk verhaal en je zegt dat de opwindingsproblemen vooral dan komen doordat er een verkeerde prikkel dan is of in ieder geval niet sterk genoeg.

Marieke: Het hoeft niet verkeerd te zijn maar gewoon niet opwindend genoeg. Het is heel belangrijk om te weten van kijk onze lichaam reageert vrij automatisch dat is ook wat er gebeurt bij verkrachting bijvoorbeeld he. Vrouwen voelen zich daar heel vaak schuldig over he van ze worden verkracht en hun lichaam reageert automatisch, dat is absoluut geen aangename prikkel maar het is seksueel dus je lichaam reageert. Op het moment dus dan die betekenisverlening dat is eigenlijk wat dan bepaalt of dat gevoel mee gaat en dat is vaak wat dan het belangrijke punt is dan gewoon die betekenisverlening heeft te maken met ervaringen die je vroeger had, he, herinneringen aan seksualiteit, of de context, he, dat wordt met allerlei processen verwerkt, en daar moeten we voldoende aandacht aan besteden, en als je natuurlijk als vrouw op een bepaalde manier zegt oke, seks ie heel erg gericht op penetratie, waarvan we weten dat is het minst aangename stukje, tenminste dat is leuk maar dat is niet het stuk waar vrouwen echt opgewonden of door klaarkomen. Maar als je natuurlijk een seksueel script dat heel erg gebaseerd is op penetratie ja dan komt die prikkel binnen en dan denken vrouwen ah ja, oke daar gaan we weer, ja prima ik doe wel mee maar het is niet per se dat ik daar supergeil van word. En dat is vaak wat we dus zien is dat vrouwen hebben niet per definitie minder zin in seks dan mannen, maar het is gewoon omdat we op een bepaalde manier vrijen dat het voor mannen gewoon de verwachting van beloning veel groter is dus dat ze meer zin hebben. En daar moeten we dus eigenlijk iets aan doen. Gewoon ervoor zorgen

dat de seksuele prikkel aanleiding is of aan vrouwen duidelijk maakt oke er gaat iets leuks volgen, het is een beloning. En dan ga je zien dat die zin evenzeer is. Zolang je de juiste prikkel aanbiedt, hebben vrouwen evenveel zin om te vrijen als mannen.

Lisa: Ja, en heb jij enig idee, want je doet natuurlijk ook onderzoek in het laboratorium, wat er dan anders zou moeten, wat er dan beter zou werken?

Marieke: Ja het punt is natuurlijk dat ook heel erg, ja een stukje individueel verschillend is in de zin van dat ja, wat vind je leuk? Dat is de eerste vraag die wij seksuologen ook aan vrouwen vragen van ja goed, wat heb jij nodig om opgewonden te geraken? En dat is een vraag want we zien ook dat mannen heel erg gericht zijn op die penetratie, want dat is universeel vaak iets van het is er lekker warm het is zacht het is vochtig, dat is heel fijn voor de penis dat is de meest stimulerende manier. Voor vrouwen weten we dat het vooral gaat om stimulatie van de clitoris, maar los daarvan als je natuurlijk meteen naar die clitoris gaat en je bent nog niet voldoende opgewonden dan is dat helemaal niet fijn. Dus in die zin gaat het ook heel erg om die opbouw en de tijd nemen om. En vaak zit daar ook en beetje die druk. Je begint he en het voorspel is zo snel mogelijk naar het ‘echte’ spel gaan. Terwijl ik zeg ook vaak tegen cliënten van: Het voorspel is niet de aperitief en dan de penetratie het hoofdgerecht. Het voorspel is het hoofdgerecht en penetratie is dessert en soms heb je zin in dessert en soms ook niet. Dat hangt er gewoon van af. Dus wat heb je precies nodig op dat moment. Soms kan het ook zijn dat, vrouwen kunnen evenzeer genieten van een vluggertje, of een, penetratie kan op zich ook leuk zijn, het is niet per definitie zo dat vrouwen dat niet leuk vinden. Het is alleen als het alleen maar op die manier is, dus het is ook vaak een kwestie van genoeg variatie aanbrengen, stimulatie die ook vooral gericht is op de clitoris, clitorale stimulatie,

is als het dan neerkomt op het orgasme, maar los daarvan gaat het ook heel erg om het aanraken van je lichaam, het prikkelen van je fantasie, ik noem dat ook vaak de vibrator van je geest, en dat is ook wel een stukje zo. Het ding bij vrouwen is dat zij heel vaak fantaseren tijdens seksualiteit, en dat is ook de reden dat nu bijvoorbeeld podcasts, he er zijn allerlei erotische podcasts, of er zijn verhalen, mensen die graag erotische verhaaltjes lezen, en waarom werkt dat zo goed bij vrouwen, omdat dat veel meer de fantasie aanspreekt. Mannen zijn veel visueler ingesteld. Een blote borst, een puur expliciete prikkel is vaak nodig voor mannen terwijl voor vrouwen het veel meer gaat om de suggestie en het verhaal. En dat is waarom we zo goed het onderscheid zien tussen pornografische films gericht op mannen en dan pornografische films gericht op vrouwen. Daar zie je wel een verschil in want bij vrouwelijke pornografie het veel meer ook gaat om het genot van de vrouw en de context.

Lisa: Ja super duidelijk verhaal en heel interessant want weinig mensen toch denk ik die dit soort dingen weten en daar iets mee kunnen.

Marieke: Ja, een van de dingen wat ik ook altijd zeg tegen mensen als vrouwen zeggen ik heb problemen met opwinding en orgasme dan zeg ik: Ga op ontdekkingstocht en kijk naar wat jij leuk vindt. Ga eens winkeltje gaan spelen bij wijze van spreken, ga eens op zoek, en dan zeg ik ook tegen mensen: Ga eens porno kijken. Niet dat jullie allemaal plots aan de porno moeten, maar porno kan wel prikkelend zijn, je hebt verschillende soorten porno, je kan gaan selecteren, kijk eens naar twee vrouwen die seks hebben met elkaar, misschien vind je dat opwindend. Dat wil daarvoor niet zeggen dat jij een niet-heteroseksuele orientatie hebt. Maar je kan het wel prikkelend vinden. Dus ga vooral op zoek, wat zijn elementen die mij prikkelen. Ga eens iets lezen, ga

eens iets luisteren. Want sommige vrouwen vinden gewoon dat visuele veel te expliciet, veel te into your face. Ga ook je eigen lichaam exploreren, dat is ook wat we heel vaak doen zo de streel oefening waarbij ik eigenlijk aan vrouwen zeg van kijk, als je doucht ga eens jezelf bewust aanraken. Niet snel snel snel alles afwerken maar gewoon kijken van goh als ik over m’n arm voel dat is precies anders dan in mijn nek en tussen mijn dijen, ga gewoon eens al de plekjes of na het douchen een body lotion, smeer jezelf in en kijk eens wat voor jou, niet op zoek gaan naar seksuele opwinding, maar wel: wat voelt voor jou anders? Hoe gaan de verschillende aanrakingen in je lichaam anders voelen en dat is een heel belangrijk punt.

Lisa: Ja, ja zeker. En ehm, ja, waar bestaat zeg maar het onderzoek wat jij nu aan het doen bent uit?

Marieke: Nou wat wij eigenlijk doen is vooral een stukje nu naar de basismechanismen kijken, dus van hoe koppels, hoe partners hun seksuele opwinding op elkaar afstemmen. Dus wat we eigenlijk een stukje willen doen is die subjectieve en genitale opwinding, die meten we allebei, dus hoe mensen zich voelen en ook hoe hun lichaam reageert, en dan willen we kijken goh zien we een soort interactie tussen mensen. Als bijvoorbeeld twee partners met elkaar vrijen en de ene, want meestal zeggen we altijd we winden elkaar op. Als je zegt van ik ben opgewonden en je partner ligt erbij van ‘ja doe maar, let’s get it over with’, dan ga je ook minder opgewonden zijn, maar als je partner heel erg into the game is ja dan windt dat je meer en meer op dus je ziet dat mensen heel erg die opwinding op elkaar afstemmen. IS het inderdaad zo dat als we zien dat er een stijgende lijn is in opwinding bij de ene partner zien we dat dan ook bij de andere partner? En is dat zowel op lichamelijk als subjectief niveau of kunnen die twee los van elkaar staan? En dan ook

een stukje gaan kijken van, wat gebeurt er dan als er een probleem is? Want je zou denken afstemmen is positief, ja je windt elkaar op, maar wat dan als een iemand een seksueel probleem heeft, want dat is wat we vaak ook zien in relaties is dat als de een een probleem heeft, de ander ook problemen ontwikkelt. En dat heeft waarschijnlijk ook te maken met dat afstemmen. Want dat afstemmen lijkt op zich iets positiefs te zijn, maar dat kan ook iets negatiefs zijn wanneer het fout loopt. Dus dat is eigenlijk iets wat we willen gaan onderzoeken.

Lisa: En die zeg maar seksuele ongemakken die je nu beschrijft, waar gaan die vooral over? Zijn dat zeg maar fysieke problemen voornamelijk of ...

Marieke: Problemen met verlangen, problemen met opwindning, en dan heb je de orgasme problemen en de pijn problemen, dat zijn de vier categorieën van seksuele disfuncties, zowel bij mannen als bij vrouwen. Pijn bij vrouwen is iets wat ik heel erg bestudeer, want wat we vaak zien is dat op momenten dat je pijn hebt zijn vaak momenten dat je niet genoeg opgewonden bent, en op het moment dat je dan penetreert dan heb je heel vaak ook de bekkenbodemspieren die gaan samenspannen. En dan ga je ook minder opwindning hebben en op dat moment krijg je pijn. En dus wat wij nu ook aan het doen zijn we zijn heel erg we zijn nu ook allerlei instrumenten aan het ontwikkelen samen met de technische universiteit van Berlijn en Eindhoven waarbij we echt kijken of we smart dilators kunnen ontwikkelen. Dat zijn dus eigenlijk instrumentjes waardoor vrouwen eigenlijk leren hun bekkenbodemspieren trainen en dat ze dat ook thuis kunnen gaan doen.

Lisa: En waarom moet dat smart zijn?

Marieke: Omdat personalised feedback een heel

belangrijk punt is. Dat het automatisch is dat ze eigenlijk een soort feedback hebben van hun lichaam. Dat is eigenlijk een instrument waarbij je dan de vaginal pressure profiles, dus eigenlijk drukpunten hebt, waardoor we kunnen gaan meten hoe veel spanning er is in de bekkenbodemspieren. Op het moment dat er te veel spanning is dan kan er feedback door gaan, niet verder oppompen want, je moet eerst zorgen dat je genoeg ontspannen bent, pas het moment dat je voldoende ontspannen bent pompt het zich verder op en kan je dus eigenlijk die bekkenbodemspieren gaan trainen, en op die manier worden vrouwen zich ook bewust van hun bekkenbodemspierspanning. Bij genitale pijn zie je heel vaak dat zij zich daar niet bewust van zijn. Ze leren eigenlijk daar bewust van worden, daar controle over krijgen en leren te ontspannen. Dus dat is een stukje, daarnaast hebben we natuurlijk ook de instrumenten waar we meer ja, naar seksuele opwindning gaan kijken, en we hebben ook de mobiele instrumenten, we willen ook thuis gaan meten. Omdat je altijd het probleem hebt als je onderzoek doet in het lab, ja dan zit je natuurlijk met die artificiele context. Dus is het ideale als we echt kunnen gaan zien van kijk, ga nu even lekker thuis met elkaar aan de slag, zodat we eigenlijk ook in real life kunnen gaan zien wat er gebeurt eigenlijk op dat moment.

Lisa: Ja echt heel goed dat dat bestaat nu. Wat wie ontwikkelt die instrumenten dan?

Marieke: Dat zijn onze engineers. Dus we hebben ook een research engineering department, dat is ook de TU Eindhoven en de TU Berlijn, t is een samenwerking.

Lisa: En waarom vind jij het nou zo belangrijk om dit soort onderzoek uit te voeren? Wat heeft jou hier gebracht? Goh, ja ik ben vooral dus in dat koppel stuk

geïnteresseerd, in hoe partners op elkaar afstemmen en opwindning. Mijn opmerking was een beetje, ik heb eigenlijk een achtergrond in relatie onderzoek, en het moment dat ik dus die overstap maakte naar de seksuologie dacht ik dat er heel veel onderzoek was naar seks en relaties, want dat leek me zo evident he. Maar dan keek ik naar dat onderzoek en relatie onderzoekers zeggen bijna niks over seks, en seks onderzoekers zeggen heel weinig over relaties. Dat vond ik al eerst raar. En toen ging ik naar het onderzoek zelf kijken bij seks onderzoek, en dan zie je de studies die gaan over seksuele opwindning, zijn mannen of vrouwen he, dus individueel in het lab kijken naar een pornofilm en dan zeggen we, ah ja we maken conclusies over opwindning. En dat vond ik heel apart omdat ik dacht ja, wat zijn we aan het doen? Mensen zijn naar een pornofilm aan het kijken, dat is een heel andere soort seks dan seks hebben met elkaar. Want we weten allemaal dat masturberen, solo seks, heeft een totaal andere functie dan seks met een partner, en we weten dat als er seksuele problemen zijn, deze problemen er meestal zijn als je seks hebt met je partner maar niet tijdens solo seks. Dus ik dacht eigenlijk van de manier waarop we meten kan on dus eigenlijk niks verder brengen van wat er nu eigenlijk aan de hand is in het geval van seksuele opwindingsproblemen. Dat was voor mij de eerste stimulans van oke als we onderzoek doen naar seksuele opwindning moeten we met beide partners gaan, en dan moeten we kijken naar hoe partners op elkaar gaan reageren. Dat was eigenlijk de eerste stimulans en toen bleek dat daar eigenlijk nog nooit onderzoek naar gedaan was, nog nooit echt samen koppels in het lab, tenzij in de jaren 60 met Masters en Johnson. Maar goed, dat was dus eigenlijk voor mij de interesse, omdat ik eigenlijk zoiets had van als we het ecologisch valide moeten maken, zoals we dat dan noemen, als we echt willen kijken van hoe is onderzoek afgestemd op de realiteit, ja dan moet je ook echt die interactie in

kaart brengen. En ook als ik bijvoorbeeld onderzoek doe naar genitale pijn, het maakt een verschil uit of de partner aanwezig is of niet. We zien dat ook vaak als we naar behandelingen he. Stel nu he, vrouwen gaan in een behandeling bij de seksuoloog of bij de fysiotherapeut, en leren hun bekkenbodemspieren te ontspannen, en ze kunnen dat perfect, maar op het moment dat ze naar huis gaan en de partner is erbij, dan verkrampen ze terug. En dat heeft gewoon te maken met het feit dat die partner een heel belangrijke trigger is, en een bepaalde betekenis gekregen heeft. Dus wanneer we in het lab ook onderzoek willen doen naar wat gebeurt er eigenlijk bij vrouwen met genitale pijn, dan moeten we die partner erbij betrekken, om echt te kunnen zien wat er eigenlijk aan de hand is.

Lisa: En is dat wel ‘to overcome’?

Marieke: Te behandelen? Ja, uiteraard, dat hopen we toch, daar hebben we onze behandelingen voor he? Het is vaak een combinatie, daar heb je, ik zeg het fysiotherapie, soms moet er soms wel wat medicamenteuze ondersteuning zijn, maar we doen altijd, en ik ben ook altijd, alle seksuologen geven ook aan kijk counseling, is een heel belangrijk onderdeel van seksuele dysfuncties. Want je hebt natuurlijk ook seksuele dysfuncties die effectief door lichamelijke oorzaken veroorzaakt worden he. Maar goed, erectiele dysfunctie, dat weten we, dat is gewoon een fysieke reactie. Maar dat wil niet zeggen, we geven een pilletje en het is opgelost. Want die psychologische mechanismen van de faalangst, de angst om te presteren, de druk om te presteren, de negatieve gedachten, dat speelt sowieso een rol. Ook als het een medische oorzaak heeft. Dus ook bij genitale pijn of wat dan ook. De oorzaak doet er niet toe. Eigenlijk heb je altijd die psychotherapie nodig om een stukje, ja, die onderliggende gedachten. Want wat je vaak



ziet is als wanneer mensen een seksueel probleem hebben, gaat seks met heel veel negatieve emoties geassocieerd worden. Dus zelfs als het seksuele probleem is opgelost puur fysiek dan nog merk je dat mensen die negatieve associatie hebben met seks van oei, de vorige keer heeft het pijn gedaan, stel dat het terug gaat pijn doen. En dat zet een vicieuze cirkel in gang. Dus daarom is het ook zo belangrijk om altijd die mechanismen aan te pakken, en dat is eigenlijk wat we doen in behandeling. Dus zo veel mogelijk dat multidisciplinaire waarbij we ook echt alle componenten van het probleem proberen te behandelen.

Lisa: Er is echt gewoon een tweedeling in fysiek en mentaal, gewoon op ieder gebied. Ja, en dat is wat er ook vaak gebeurt, he, dus dat er te veel nog die dualistische benadering is van of medisch of niet, terwijl wij eigenlijk altijd pleiten het is niet of of het is en en. Je hebt het echt allebei nodig, je kan geen pure onderscheid maken tussen, en vaak is het zo dat als je een seksueel probleem hebt, het eerst wat men doet is wat is de oorzaak? Is het biologisch of niet? Want dat bepaalt de behandeling. Terwijl wij als psychologen zoiets hebben van die oorzaak doet er niet toe. Of dat nu fysiek is of niet, de behandeling is eigenlijk altijd multidisciplinair, zoals we dat noemen. Er is altijd een component fysiotherapie en psychologie erbij.

Lisa: Ja precies. Oke, ik vind het allemaal heel erg interessant en ik was blij dat ik dit vond omdat het allemaal zo precies aansluit op wat ik ook aan het doen ben. En ja wat ik eigenlijk wilde informeren gewoon, in hoeverre zou het bijvoorbeeld mogelijk zijn dat ik ook een keer zou testen in een laboratorium setting, zeg maar verderop in mijn proces, want ja dat zou voor mij wel heel erg ideaal zijn.

Marieke: Nee dat is prima, dat is absoluut mogelijk

als je zegt van ja ik ben ben daarmee bezig, ja ons sekslab dat is er dus ja dan kunnen wij gerust even kijken van goed, kan jij een paar testen uitvoeren. Dat kan zeker.

Lisa: Ja nee dat zou echt heel fijn zijn. Ik moet wel kijken hoe dat zit qua non disclosure agreements enzo met het bedrijf waar ik dit voor doe. Maar zij waren in ieder geval ook enthousiast over dat dit bestond. Want zij hebben een hele boel test participanten eigenlijk, gewoon echt een gigantische poule aan mensen, maar zij hebben niet per se een laboratorium om mensen naartoe te halen, dus ik dacht op die manier wellicht zou daar een combinatie gemaakt kunnen worden. Dus dat vind ik heel fijn om te horen.

Marieke: Ja dan moet je maar even laten weten hoe dat dan praktisch gaat. Het is natuurlijk voor ons ook interessant van wat wil je precies weten, wat ben je precies aan het doen, wat ben je aan het ontwikkelen.

Lisa: Uiteraard, dat zou ik dan ook laten weten. Ik zit nu nog helemaal in het begin van mijn proces maar ik dacht, ik ga je gewoon toch gelijk mailen, ook al heb ik nog niet per se hele concrete dingen. Dat is voor nu wel wat ik met jou wilde bespreken. Ik ben heel blij met alle informatie, dat is super waardevol.

Marieke: Ik ben benieuwd om op een later niveau te horen wat je wil gaan ontwikkelen, dus houd me in de loop en houd me op de hoogte en als je iets nodig hebt dan mail je maar.

Lisa: Ja dat is helemaal goed, dankjewel, en dankjewel voor je tijd, en nog een hele fijne avond gewenst.

# Appendix C: Consent form research participants

Informed consent form for research with human participants

Author : Lisa Kleisen, Master’s student Design for Interaction, TU Delft. Based on template provided by TU Delft

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Dear participant,

The purpose of the research you are participating in is gathering insights on the intimate lives of people who have been in a long-term relationship, meaning that they have been together for at least two years, and are also cohabiting. The research focuses on clarifying feelings and emotions partners in long-term relationships have when their partner initiates intimacy in certain ways, in situations where partners are not particularly aroused (yet). \*confidential information\*

The benefit of participating this research is that it will help participants get explorative in an intimate way with their partner. Also, participants will be rewarded with a gift after having finished the research. Possible risks are that participants might perform tasks which they do not feel comfortable with. If that is that case, the participant is allowed to quit at any time while performing the tasks.

All participants are allowed to withdraw from the research at any time, even after having completed the research. This can be done by sending an e-mail to the researcher at \*confidential information\*. There is no need to clarify the reason of withdrawal. All data of the particular participant will be destroyed in this case.

All personal information of the participant will be gathered by online Google Forms, and online interviews which will be audio-recorded for transcription and analysis purposes. This data will be stored until the end of the project, which is estimated to be February 2022, and be destroyed after the graduation thesis presentation. In the meantime participants are allowed to request to have their data destroyed in an earlier stage.

All information might be shared with the researcher’s supervisors, who are as follows:

- Derek Lomas, chair of the supervisory team, professor at the TU Delft
- Jeske Weerdesteijn, researcher’s mentor, professor at the TU Delft
- \*confidential information\*

Contact details researcher:

Lisa Kleisen  
Van der Mastenstraat 20, 2611 NZ Delft  
06 36 42 71 82





Appendix D: List of requirements

Technical requirements	Material requirements	Ergonomics requirements		User journey requirements	Interaction requirements
The massager should ....	The massager should be ....	The massager should ....	The massager ...	Ignite should... (interacting with)	Ignite should...
Be able to provide deep vibrations, which work well as a massage	Able to capture warmth ✓	Be comfortable to hold for the providing partner, when it's turned off as well as turned on, for at least 15 minutes	Should have at least three different massage options: Big surface, 1 pressure point, 3 pressure points ✓	Using the product should be that pleasurable for both partners, that they would want to interact with it over and over again	Not require too many steps ✓
Be magnetically rechargeable ✓	Able to transfer deep vibration	Be comfortable to be massaged with, for at least 15 minutes, while device is vibrating	Should be usable with one hand ✓	Guide the providing partner in how to use it ✓	Give different options for different occasions ✓
Provide pressure points which feel pleasurable during massage ✓	Able to work with different kinds of massage oils or lubes ✓	Be comfortable to stimulate the genital area with	Should be close enough to the skin to transfer the heat nicely ✓	Be able to be turned off with oily hands ✓	Leave the decision to the user whether to display the massager or not ✓
Make use of different temperatures to add to the experience ✓	Be body safe ✓	Be intuitive to hold	Should be an organic shape with one symmetry axis, ✓	Make massage easier and accessible for inexperienced people	Should indicate when it is ready to be used ✓
Look appealing to at least 80% of the potential customers	Feel smooth on the skin ✓	Be shaped in a gender neutral way ✓	Should be easy to hold even with slippery hands ✓		Should feel comfortable to interact with ✓
Be intuitive to use ✓	Look appealing ✓		Should give the user indications on how to hold it ✓		Should indicate whether the device is turned on (with or without the light) ✓
Be able to warm up to a certain temperature and maintain that warmth	Not attract dust				
Should be big enough to house a vibration motor and a warming element and battery	Be easy to clean				

Appendix E: Research results existing products

Couple 1, providing partner female:

Best looks: Jimmy Jane (simple, calm, not too bright of a colour)  
Best ergonomics: Jimmy Jane (feels like an extra hand, it is nice to hold)  
Confidence about giving massage: Jimmy Jane (“It probably feels nice for him”)  
Likeliness of buying the product: Jimmy Jane  
Likeliness of using again: Jimmy Jane  
Couple 1, receiving partner male:  
Best feels: Jimmy Jane (“Wait, is this warm? It feels more like a hand because it’s warm. You can apply a lot of pressure”)  
Nicest to be massaged with: Jimmy Jane (“Because the vibration of the other one was not strong enough”)  
Likeliness of wanting to be massaged again: Jimmy Jane (“Was nicer when it was still warm”)

Couple 1, providing partner male:

Best looks: Jimmy Jane (Calm, discrete, artsy) & Njoy (“I like the metal, I like the heaviness”)  
Best ergonomics: Vibrating pressure point massager (“This is nice to hold”)  
Confidence about giving massage: Jimmy Jane (“Easy if you apply pressure”)  
Likeliness of using again: Jimmy Jane & Njoy (“The shape allows you to be creative”)  
Couple 1, receiving partner female:  
Best feels: Jimmy Jane (“Wow this is confusing. You feel the pressure on a larger surface when it is flipped. I do like that better than separate points. This feels more like an actual massage”)  
Nicest to be massaged with: Jimmy Jane & Njoy wand (“It feels smooth. Solid but smooth”)  
Likeliness of wanting to be massaged again: Njoy wand  
Overall comments: You need to be able to see how to massage with a product. Adding warmth is really nice. Ambiguity is nice, so you can play with it and try out different things. Small pressure points feel like they can relax the muscles better. Vibration has potential but should be strong enough.  
Key insights: Jimmy Jane has the best looks and feels best to massage with, the Njoy wand gives creative freedom, warmth is really nice

Couple 2, providing partner female 1:

Best looks: Njoy wand (“Looks sick, like an instrument. The shape does not tell me how to use it”)  
Best ergonomics: None (All of them were rated quite low)  
Confidence about giving massage: Steel vibrator, vibrating massager, Jimmy Jane (“I feel more comfortable, but it could also be because I have been doing it for a while now”)  
Likeliness of buying the product: None  
Likeliness of using again: Jimmy Jane  
Couple 2, receiving partner female 2:  
Best feels: The warmth and vibration (“Nice, the vibrations give a deep, rumbling feeling, which goes deeper”)  
Nicest to be massaged with: Njoy wand (“Because the pressure points are further apart, it feels like it hits the spot better”)

Likeliness of wanting to be massaged again: Steel vibrator (“The vibrations feel nice and calm. You can do multiple things with it”)  
Couple 2, providing partner female 2:  
Best looks: Njoy wand (“Very pretty, elegant, sleek, nice metal”)  
Best ergonomics: Steel vibrator (“Straight up quite nice, and nice variation between straight up and flat”)  
Confidence about giving massage: Steel vibrator, Njoy & vibrating pressure point massager (“Easy if you apply pressure”)  
Likeliness of using again: Steel vibrator (“Quite nice compared to the others”)  
Couple 2, receiving partner female 1:  
Best feels: Warmth and heaviness of the Njoy wand, the cold of the ball massager (“Refreshing”), vibrations from the vibrating massager (“You can apply a lot of pressure. It feels like a whole, but with the benefits of the pressure point massager”)  
Nicest to be massaged with: Vibrating massager (“Not necessarily relaxing, more like a sports massage”)  
Likeliness of wanting to be massaged again: Vibrating massager

Overall comments:  
- They like it best with bare hands, because the providing person understands what she is doing. Also for the receiving partner it feels better, because she can feel more confidence. The tools were too straight forward.  
- Wow moment when there was warmth  
- Both prefer something that optionally vibrates  
Key insights: Vibration, warmth, understandability of the product, skin on skin contact

Couple 3, providing partner female:

Note: For the third couple the massage ball and the vibrating massager were eliminated, because of time restrictions and the fact that the researcher felt that testing those were not going to give new valuable insights. Also, couple 3 only did one round of massaging, so the partners did not switch roles.  
Best ergonomics: Jimmy Jane feels nicest to hold, even though there are not many options. The warmth of the Njoy wand feels nice, but oil makes it slippery and hard to hold. The vibrations of the steel vibrator tickle the hand.  
Confidence about giving massage: Njoy wand is the nicest to massage with (“This feels more sensual because of the material”), the vibration from the steel vibrator feels sensual, makes it more exciting.  
Likeliness of using again: Njoy wand  
Which one would you pick for a sensual massage: Jimmy Jane for its shape, Njoy wand for its material  
Couple 3, receiving partner male:  
Best feels: Njoy wand for its heaviness, warmth, metal smoothness. The vibrations of the steel vibrator are more arousing.  
Nicest to be massaged with: Vibrating massager (“Not necessarily relaxing, more like a sports massage”)  
Likeliness of wanting to be massaged again: Njoy wand & steel vibrator. The warmth of the Njoy wand is so unique, you cannot do that with your hands so that is a unique selling point.  
Overall comments:  
I like metal the best, but you have to be careful with bones.

Key insights: Warmth is a unique selling point, vibrations work arousing, but for massage they need to be stronger and deeper, metal is the preferred material because of heaviness, looks and heat transfer capacities.



# Appendix F: Method clay model testing

Questions asked for evaluation of the clay models:

*Only looking at the shapes*

- 1. Which shape looks most appealing, from an aesthetic point of view?
- 2. Which shape would you pick if you were to give a sensual massage to your partner?
- 3. Which shape shows most obviously how to use it?

Picking up the shapes

- 1. Which shape feels best to give massage with, if you imagine it being warm and able to vibrate?
- 2. Concerning ergonomics, looks and understandability, which shape would you buy to massage your partner with?

*Instructions*

- 1. How would you like to be instructed on how to massage with the product?
  - a. Images delivered with the product in or on the packaging
  - b. Images online, for example on the website
  - c. Videos available on YouTube
  - d. Videos available on the website
  - e. I do not want or need instructions, I like to experiment myself
  - f. The product controls itself, with for example AI
  - g. Other

*Display or hide*

- 1. Would you like to have the massager displayed or hidden when it is sitting next to your bed?

*Other thoughts*

Appendix G: Evaluation results

Own interpretation			
Test couple 1			
Providing partner	"I enjoy knowing how good this feels for the receiver"	"I think going along the spine with these two points is a good idea"	"I am going to figure out what other positions are possible, because it is a very ambiguous, multifunctional shape"
Receiving partner	"I am really loving this. Along the spine and around my shoulder blades it feels really good. On the ribs it is less pleasant"		

Test couple 2			
Providing partner	"sometimes it slips away from the muscle. I think it would help if the material were heavier"	"I think the vibrations would really make it feel sensual, but also that it feels even nicer on the muscles"	"It looks so satisfying. There is skin on skin contact but also with the product"
Receiving partner	"I love the small pressure points the best"	"Ah, this is so nice, I sometimes forget how to talk"	

Test couple 3			
Providing partner	"The oil makes it hard to hold it in some positions"	"I enjoy it more when I feel like I know what I am doing"	"I enjoy combining my hands with the massager"
Receiving partner	"I think the vibrations would really add to the experience"	"Maybe you can also try it on different body parts"	"Oh wow, I did not know there were also knots in my calves"

Position 1



"Yes, this is chill. It feels very smooth and natural to hold it like this. It makes sense."

"There is now more pressure in front, but the fact that it is followed by the two smaller points feels very nice"

Position 2



"Making a circle movement like this is harder than with two hands"

"you can feel the pressure quite deep, in places where your fingers don't easily get"

"I want to massage her arms too. I would put my hand on her back, so I can also touch her and be more stable myself."

"I find it satisfying because I can see her skin moving and I feel like it feels nice, which I find sexy"

Position 3



"It slips away in this position. However, it does feel natural to use that rounded edge"

"Even though it slips away, it feels really nice. The size of this surface feels very logical"

"I would use this on the lower back and the butt. It slips away a little bit"

"With less oil the massage goes deeper, because it does not slip away"

"I can feel a lot more pressure now"

"I am not sure where on the body to use this position. I am not sure what deep tissue is, so I would have to look for that first"

"I do not feel that much of a difference, however I do feel like there is more force going to one point"

"It feels like a computer mouse. It does feel a little less stable than before. Maybe my hand is slightly too small."

"I am curious how it feels on your breasts. I will just go over it, because I think romantic couples would use it in this way."

"I think it forces you to communicate"

"I think the best position to hold it really depends on what body part you are massaging"

"There are so many options, you can keep trying things out"

"This feels the most natural. It gives a better slide effect, but it is not super comfortable for my wrist"

"This position feels most logical to me. It feels like an extra help to the hand. When you get the hang of it you can apply a lot of pressure"

"Oh yeah, this feels nice. It feels very different than the previous position. It is nice to feel multiple pressure points"



## IDE Master Graduation

## Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

**! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT**

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

**STUDENT DATA & MASTER PROGRAMME**

Save this form according to the format "IDE Master Graduation Project Brief\_familyname\_firstname\_studentnumber\_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !



family name	_____	Your master programme (only select the options that apply to you):
initials	_____ given name _____	IDE master(s): <input type="radio"/> IPD <input checked="" type="radio"/> Dfl <input type="radio"/> SPD
student number	_____	2 <sup>nd</sup> non-IDE master: _____
street & no.	_____	individual programme: _____ (give date of approval)
zipcode & city	_____	honours programme: <input type="radio"/> Honours Programme Master
country	_____	specialisation / annotation: <input type="radio"/> Medisign
phone	_____	<input type="radio"/> Tech. in Sustainable Design
email	_____	<input type="radio"/> Entrepreneurship

**SUPERVISORY TEAM \*\***

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair	Derek Lomas	dept. / section:	HCD
** mentor	Marieke Sonneveld	dept. / section:	AED
2 <sup>nd</sup> mentor	_____		
	organisation: _____		
	city: _____	country: _____	

comments  
(optional)

⋮

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v..



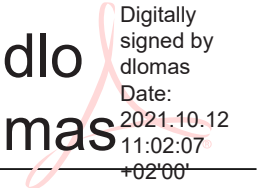
Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

**Procedural Checks** - IDE Master Graduation**APPROVAL PROJECT BRIEF**

To be filled in by the chair of the supervisory team.

chair Derek Lomas date 12 - 10 - 2021 signature 

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signed by  
dlomas  
Date:  
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**CHECK STUDY PROGRESS**

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: _____ EC	<input checked="" type="radio"/> YES all 1 <sup>st</sup> year master courses passed
Of which, taking the conditional requirements into account, can be part of the exam programme _____ EC	<input type="radio"/> NO missing 1 <sup>st</sup> year master courses are:
List of electives obtained before the third semester without approval of the BoE	
<div></div>	<div></div>
name _____	date _____ - _____ - _____ signature _____

**FORMAL APPROVAL GRADUATION PROJECT**

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked \*\*. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?	Content: <input checked="" type="radio"/> APPROVED <input type="radio"/> NOT APPROVED
Is the level of the project challenging enough for a MSc IDE graduating student?	
Is the project expected to be doable within 100 working days/20 weeks ?	Procedure: <input checked="" type="radio"/> APPROVED <input type="radio"/> NOT APPROVED
Does the composition of the supervisory team comply with the regulations and fit the assignment ?	
	<div></div> comments

name \_\_\_\_\_ date \_\_\_\_\_ - \_\_\_\_\_ - \_\_\_\_\_ signature \_\_\_\_\_

Getting romantic partners in the mood for intimacy

project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date

20 - 09 - 2021

14 - 02 - 2022

end date

INTRODUCTION \*\*

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

This project is about stimulating partners who are in a long-term relationship to get involved in foreplay, in order to improve their overall sex life. According to WebMD, an American online health platform, foreplay is any sexual activity that happens before sexual intercourse (What is Foreplay, 2021). It is like warming up for the actual event of having sex, but intercourse does of course not have to happen. Foreplay can consist of kissing, cuddling, touching, talking and way more. In my opinion foreplay can take several minutes up till days (for example when partners are apart an only texting sexy stuff). WebMD also states that foreplay can make sex more exciting because of hormones like oxytocin, serotonin and dopamine are released. Also, it helps the body get ready for intercourse. It increases the blood flow to the genitals and helps lubricate the vagina. This makes the whole event of sex more pleasurable for both parties and prevents pain during intercourse.

Context: Anywhere where romantic partners are together in a setting where they can be sensual and sexual together, either physically or virtually.

Main stakeholders:

1. The customer: Two long term (at least two years of cohabiting or marriage) heterosexual romantic partners. According to research done by Siobhan E. Sutherland et al., 40% of individuals in such relationships report sexual dysfunction. For women, this dysfunction is mostly related to sexual desire, for men mostly on premature ejaculation and erectile dysfunction. Since the participants of this research consider sexual dysfunction a problem, I assume they value improving their sex lives. According to Debby Herbenick et al., women attempt to modulate sexual desire themselves. However, a large number of women did not feel like the issues were resolved, leaving them dissatisfied with their attempted strategies.
2. The client company, of which the name has been anonymized.

Opportunities: Conducting meaningful research into new opportunity areas, and developing a product that focuses on triggering arousal in both partners rather than physically stimulating body parts is a new direction. The difference is the mental part and the physical part. The products in the current brand portfolio focus on enhancing the physical, sexual experience. This project will focus on enhancing the mental experience, or in other words, the mood. An example of such a product would be Tenga's Iroha Ukidama. See image 1 on the next page.

Limitations: We do not know how people respond to such a new product. People who have trouble getting into the mood might not be interested in sex toys to begin with. Secondly, sexual preferences are very personal. The way people have sex is extremely dependent of various factors like age, cultural background, experience, taste etc. It will therefore be a challenge to design for the majority of people, when it comes to designing for getting into the mood/triggering arousal. Every person has their own triggers. However, I also consider it a challenge to find a common ground.

space available for images / figures on next page

introduction (continued): space for images



image / figure 1: A floating, vibrating mood light designed for a sensual experience

image / figure 2:



PROBLEM DEFINITION \*\*

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 EC (= 20 full time weeks or 100 working days) and clearly indicate what issue(s) should be addressed in this project.

According to Sutherland et al. couples in long term (cohabiting or marriage, 2 years +) sexual relationships face, among others, the following sexual difficulties: dissatisfaction with the frequency of sexual relations, sexual initiation and showing interest in having sex. Both women and men consider these common and severe problems. Therefore I define my problem as follows. Long term (cohabiting or marriage, 2 years +) couples experiencing issues getting into the mood for intimacy simultaneously, and with their desired frequency. According to employees of the client company themselves it is mainly women who experience trouble getting into the mood. This causes discrepancy between men and women, and this issue should be addressed properly during this project.

ASSIGNMENT \*\*

State in 2 or 3 sentences what you are going to research, design, create and / or generate, that will solve (part of) the issue(s) pointed out in “problem definition”. Then illustrate this assignment by indicating what kind of solution you expect and / or aim to deliver, for instance: a product, a product-service combination, a strategy illustrated through product or product-service combination ideas, ... . In case of a Specialisation and/or Annotation, make sure the assignment reflects this/these.

I will research how the feeling of arousal can be triggered for romantic couples, and translate these outcomes into a concept for a physical product that fits within the brand product portfolio.

I want to design an innovative sex product that addresses the mental part of arousal, rather than, or together with the physical part. This product will be part of the brand of the client company. Customers will buy this product to enrich their partnered sexual experiences. Using the product will feel like a complete experience.

The approach is very user centered. I will make use of user interviews, cultural probes, co-creation and learning through rapid prototyping and testing.

Research topics:

- (Sexual) biology and psychology (arousal, horniness, desire)
- Past, current and future market research
- History of sexuality
- Sexual health and sexual dysfunction
- Mood and mood regulation/manipulation
- (Sex in) long-term heterosexual relationships

Specific research questions per topic can be found on Notion.

MOTIVATION AND PERSONAL AMBITIONS

Explain why you set up this project, what competences you want to prove and learn. For example: acquired competences from your MSc programme, the elective semester, extra-curricular activities (etc.) and point out the competences you have yet developed. Optionally, describe which personal learning ambitions you explicitly want to address in this project, on top of the learning objectives of the Graduation Project, such as: in depth knowledge a on specific subject, broadening your competences or experimenting with a specific tool and/or methodology, ... . Stick to no more than five ambitions.

I set up this project because I have been in the field of designing for sexuality, intimacy, relationships and so forth for the past five years. I started with designing a sex toy for the company Willie, an e-commerce company focusing on intimate products. After this I have done many projects related to the topic, and therefore it made sense to me to also do a related graduation project. Since I started in the business I have been dreaming of ending up at the current client company one day, so I was beyond excited about this opportunity.

My first ambition is improving my visualistion/embodiment skills. During the course Zen Product Design I have started using modeling and render software like Solidworks and Keyshot. During this graduation project I want to further develop those skills.

Secondly, during the course Flight Course I have had a guest lecture by Mieke van der Bijl-Brouwers, about the NADI-approach for innovation. This intrigued me highly, because meaningful design is very important for me. I believe that a strong and validated basis helps making design meaningful. Besides, the NADI-approach helps looking beyond the set boundaries, or in other words, think outside of the box.

Since everyone has a different perspective on sexuality, it is important for me to include co-creation in the project. This will help letting go of my own perspective on sexuality, and include other people's perspectives.

Lastly, I want to explore my skills in presenting/public speaking/communicating results by means of media.

My desired result for rounding off this project would be a product concept which is built upon a strong base of research and exploration. The goal of the concept is having couples getting in the mood simultaneously, whereas without the product they would experience sexual issues. It should trigger curiosity, excitement, and a feeling of togetherness.

Sutherland, S. E., Rehman, U. S., & Fallis, E. E. (2019). A Descriptive Analysis of Sexual Problems in Long-Term Heterosexual Relationships. Journal of Sexual Medicine. Published. <https://doi.org/10.1016/j.jsxm.2019.02.015>

Herbenick, D., Mullinax, M., & Mark, K. (2014). Sexual Desire Discrepancy as a Feature, Not a Bug, of Long-Term Relationships: Women’s Self-Reported Strategies for Modulating Sexual Desire. International Society for Sexual Medicine. Published. <https://doi.org/10.1111/jsm.12625>

What is Foreplay. (2021). WebMD. <https://www.webmd.com/sex/what-is-foreplay>

FINAL COMMENTS

In case your project brief needs final comments, please add any information you think is relevant.