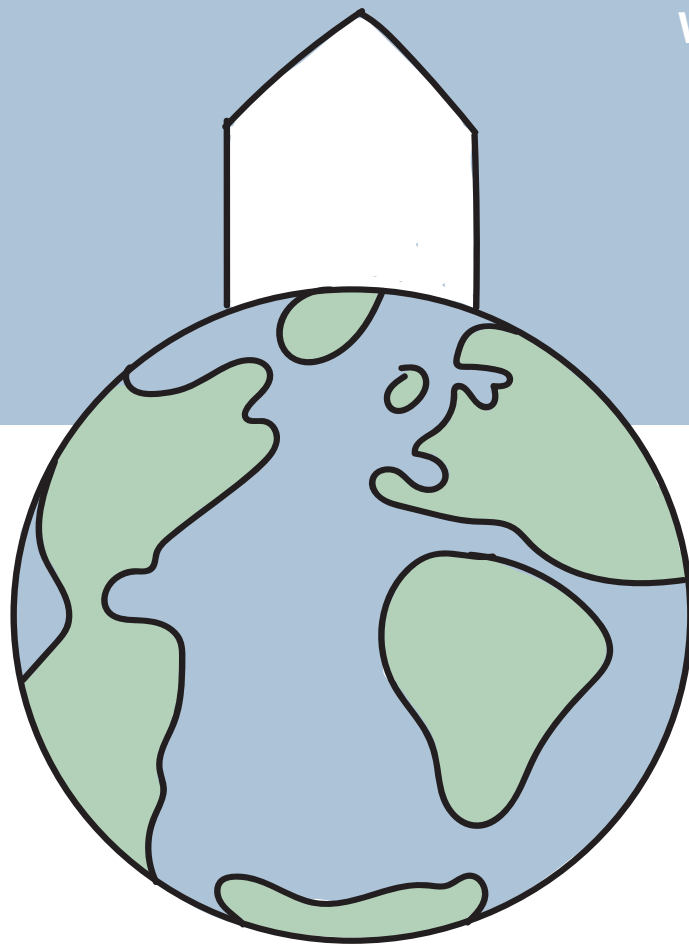# DAILY FAMILY ROUTINES AFTER CORONA TIMES

Master thesis
Wies van Nifterik

Design for Interaction
Delft University of Technology

DAILY FAMILY ROUTINES AFTER CORONA TIMES

Master thesis

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4359119

Delft University of Technology
Master Design for Interaction
Faculty of Industrial Design Engineering

Preface

In February 2020 my graduation project started at the Politie Rotterdam. After a month it was already clear that I could not continue with my project; the Corona crisis turned everything upside down. So this meant quitting at the Politie Rotterdam and trying to start with something new.
Two weeks later I had the kick-off of my new project; searching for what we could learn from the Corona times within families. I never imagined that this would have been such a good choice. For this I would like to immediately thank my supervisors Froukje Sleeswijk Visser and Jeroen van Erp, for the opportunity they have given me to start my own project and to support me during the whole process. They encouraged me to just do it. Making choices and decisions is not my strongest quality, but I certainly improved in this during this project. I owe this to Froukje and Jeroen.

In addition, this project would never have been such a special and inspiring project without all the families I was allowed to explore, research and test with. I've been passionate about designing together with users, but this project has brought me many extras about its value. I am amazed and grateful for the openness of the families and with how much love they have helped me. Many thanks to Marijs, Aram, Emme, Jop, Margriet, Sef, Evy, Denn, Maartje, Geeske, Elke, Marco, Marjolijn, Pieter, Jacob, Liselot, Winnie, Geertje, Dirk, Robin, Nisa, Nida and Eyup .

During the project I had to think of new ways to collaborate with the families and explore remotely. For this I organized a Corona-proof co-creation session, thanks to Olivier, Nienke, Marit, Arlette, Marjolijn, Jacob and Liselot for all the input and inspiration you have given me during this session.

Gijs, thank you very much for your editing skills. This has made my documentary much more to the point and clear. I want to thank Bob for helping to build the prototypes. This allowed me to finish everything on time within my tight schedule.

Also, I would like to say thank you to my dear friends and family who helped me during this project. Thank you for supporting, listening and believing in me during the past period. A special thanks to Petra, Eva and Sem for reviewing my report.

Enjoy reading!

Wies
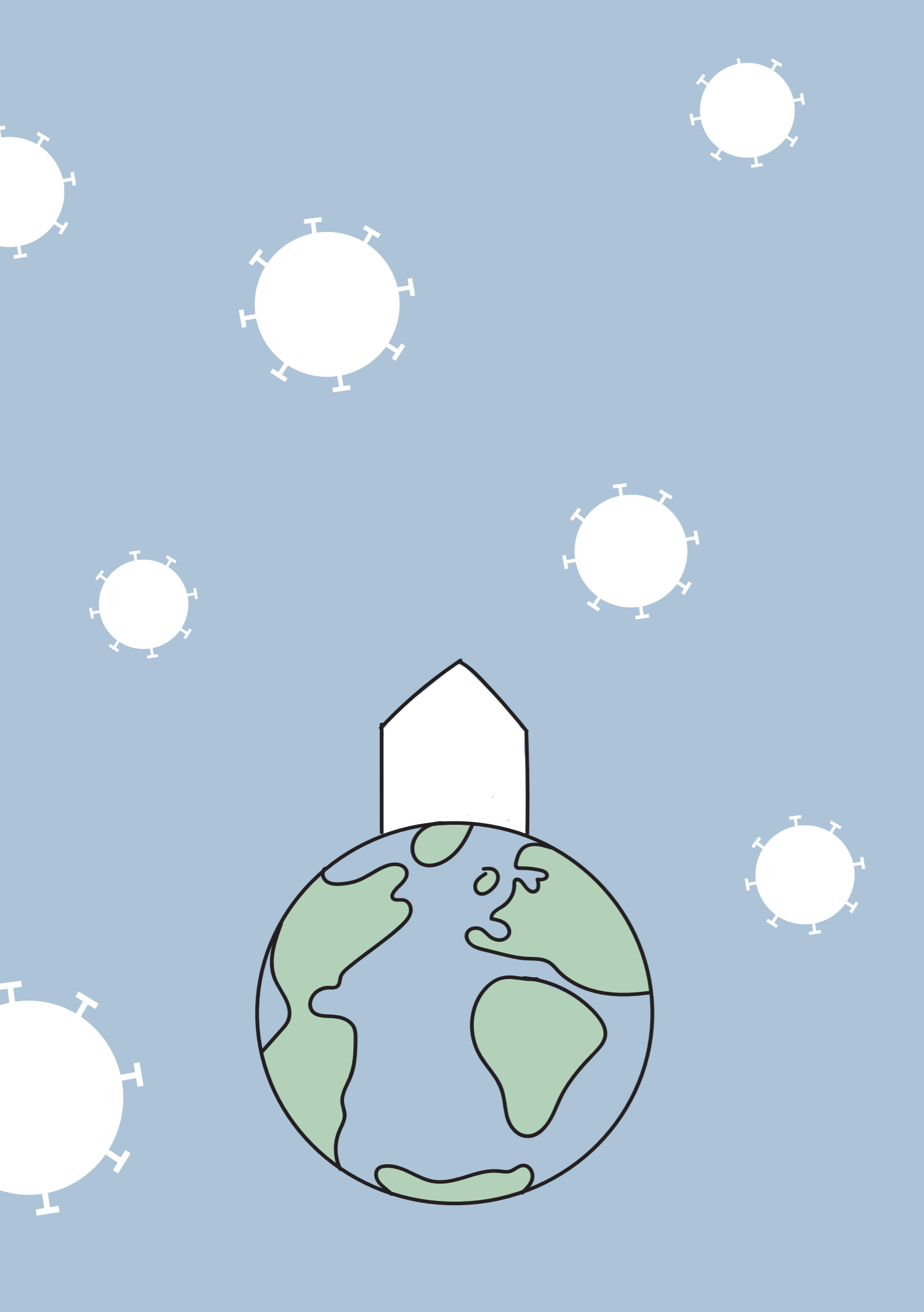
Executive summary

The COVID-19 pandemic had a major impact on the daily routines of families in the Netherlands. From March 2020, strict measures were taken by the government to prevent the spread of the virus; The Dutch population was under quarantine. This caused many changes in the everyday life of families.

Using an exploratory process with six families, research was conducted over six months into what families could learn from this quarantine time. Remote Context Mapping, a Corona-proof co-creation session, Zoom-interviews and iterative prototype tests ultimately led to a design which incorporates the lesson learned.

The exploration with the families showed the quarantine made the worlds of the families smaller. As the world became smaller, families began to appreciate other things; the little things in life. This was because there were fewer possibilities, creating new standards. Comparing yourself to others became harder, so they were more satisfied with their own lives. Finally, less pressure was experienced from others and themselves, therefore the families were living more in the moment.

As the worlds of the families were experienced as smaller, the relation between parent and child changed. The lesson families have learned from the Corona times is that we must continue to give valuable meaning to the moments of being physically together at home.

The defined design goal from the conducted exploratory research is: To make family members aware of the moments of togetherness and spend those moments in a valuable way, even if rhythms and routines are less synchronized and when living less in the moment.

Based on the interviews and prototype tests the PIN Light is designed. The PIN Light is designed to consciously experience the moments of togetherness and to use these moments in a valuable way, despite the busy lives which will return. It helps families to stay abreast of each other's lives, it allows families to appreciate the moments together and it connects family members by creating a "moment of light".

The PIN Light can be implemented within a broader context as well. It could be implemented in social work, within family homes and it could help to connect blended families. Therefore the learned lesson from daily routines during Corona times adds value in an even broader context than traditional families only.
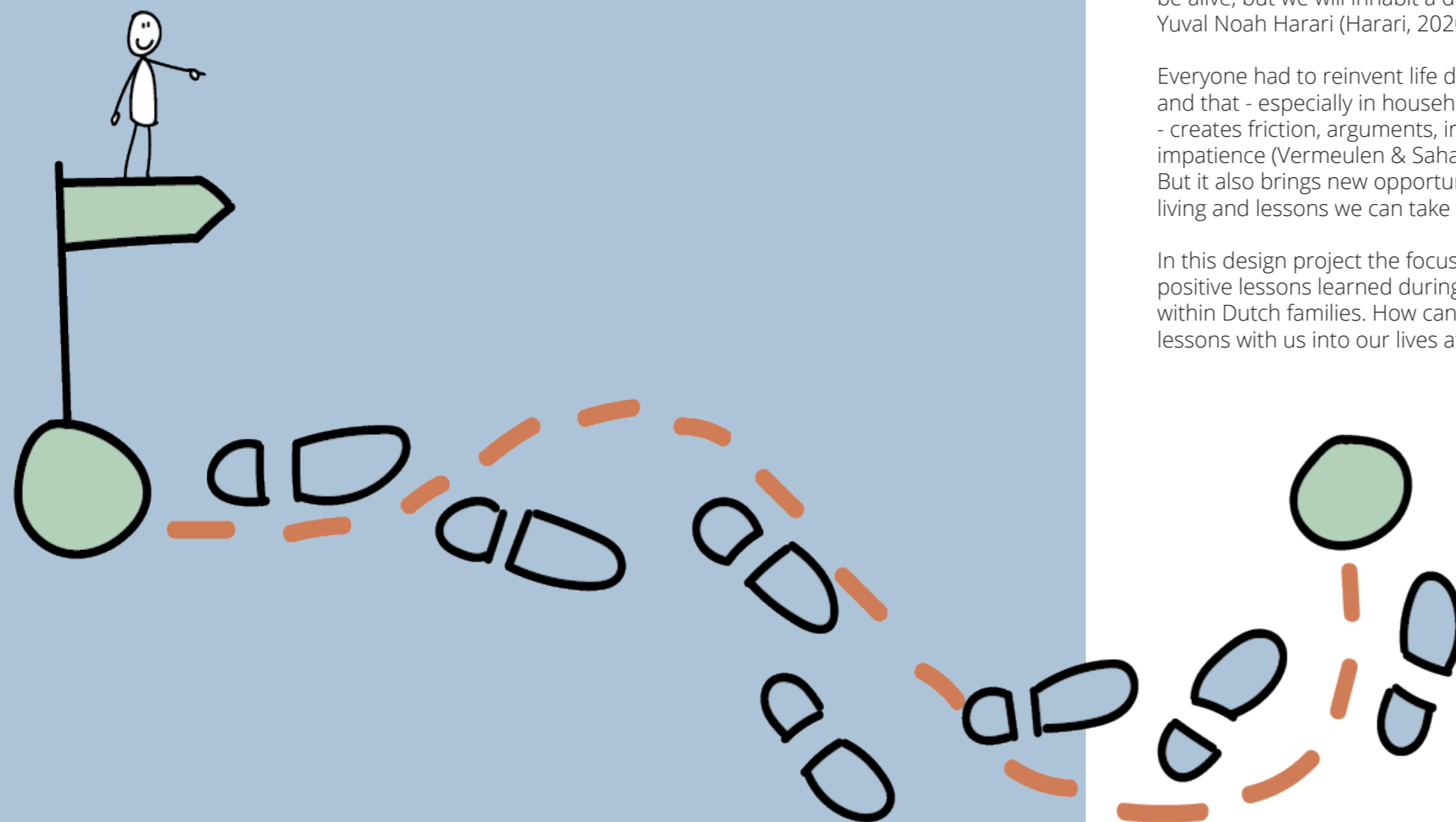
Introduction

Since March 2020 humankind is facing a global crisis; the COVID-19 pandemic. The whole world is gripped by the Corona crisis, and still, we are all together in this and nobody knows how long this will take. This crisis will shape not just our healthcare systems but also our economy, politics and culture (Harari, 2020).

This is a transition where everyone has to find their way in how to continue their daily routines. We should ask ourselves not only how to overcome the immediate threat, but also what kind of world we will inhabit once the storm passes. "Yes, the storm will pass, humankind will survive, most of us will still be alive, but we will inhabit a different world" says Yuval Noah Harari (Harari, 2020).

Everyone had to reinvent life during this period, and that - especially in households with children - creates friction, arguments, irritations and impatience (Vermeulen & Sahadat, 2020).
But it also brings new opportunities, new ways of living and lessons we can take with us.

In this design project the focus is on defining the positive lessons learned during this forced isolation, within Dutch families. How can we take these lessons with us into our lives after the crisis?

The goal of this project is to explore the context of daily routines within Dutch families and to identify the lesson(s) learned during the Corona crisis. In the end a solution will be designed to take the learning(s) with us.

This report exists of three chapters. The first part is focussing on the exploration of daily routines within Dutch families. This exploration was done during the Corona restrictions of the government to work from home, schools were closed therefor children got home-schooling, hospitality was closed, events were cancelled and only groups up to three people were allowed at public spaces (keeping 1.5m distance). Therefore, the context exploration is done remotely. At the end of this chapter a first design goal is formulated.

The first ideas for solutions are devised in the second part. The design phase is divided into two lines. The first line deals with theories and literature that can be used to design a solution. The second line is about research within families. Interviews and tests are done within this second line. Several concept ideas are emerged from this.

In the third chapter, one concept is further elaborated on. A validation for inspiration is done by testing different prototypes within different families. Out of this one final concept is composed. In the end the PIN light will be placed in a broader perspective, to evaluate the value and to map out some possibilities for the future.

Table of content

The approach & Reading guide

The approach

The process consists of three phases. The focus is on exploring more specifically in each phase to ultimately converge to a final concept. The process is from my point of view; the design researcher. But in this report I will tell stories, experiences and insights from different families to use a user-centred design approach. In an iterative way of working I try to take as much of the insights from the perspective of the users with me, to find a solution which fits the perceptions and the interest of the different families.The three phases are presented in figure 1 on the right page.

Reading guide

Before reading the report it is valuable to highlight the differences between certain terms that are used. In phases 2 and 3 ideas and concepts are conceived. To make a clear distinction in how these terms are used, it can be read as follow:

• *Solution:* A way to solve a problem or deal with a difficult situation (Cambridge Dictionary, n.d.).

• *Idea:* Option for a *solution* with **no further** elaboration in **detail**

• *Concept Idea:* Abstract idea for a solution with **some details** developed.

• *Final Concept:* Concrete way to solve the problem or to deal with a difficult situation, **developed in detail** (focused on use, appearance and interactions).

PERSPECTIVES

Because the research question of this project was not formulated by a client, the choices were made from my own perspective. This is done as much as possible in combination with including the perspectives of the families (the users). Yet the final choices/ideas are made by myself. That is why side notes in green boxes have been added throughout the report to make my thoughts, choices, inspirations and goals visible. With this I want to take the reader along my exploration path and provide clarity in where and why certain steps have been taken.
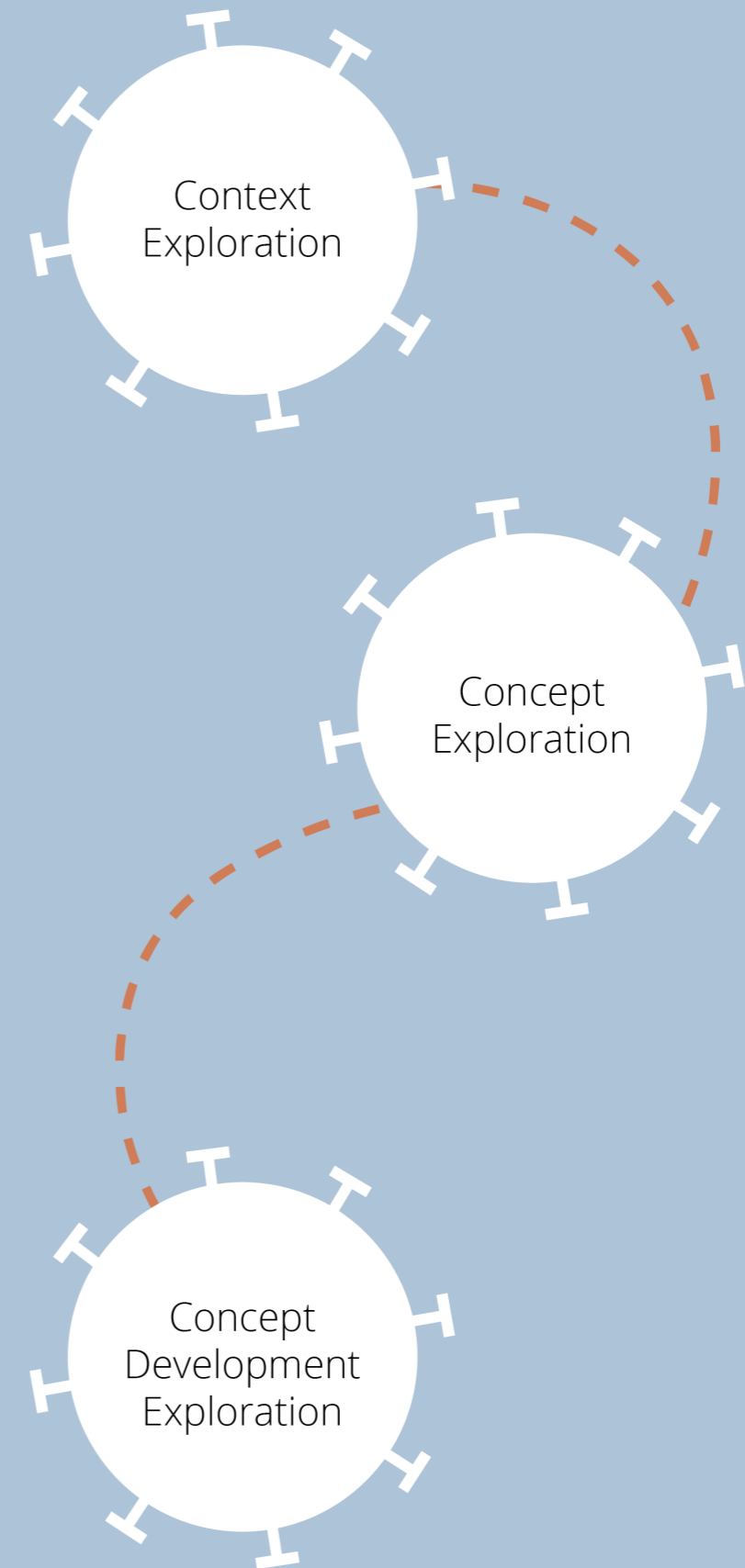
Context Exploration

Concept Exploration

Concept Development Exploration

Figure 1: *The three phases of the process.*

1. CONTEXT EXPLORATION

Figure 2: *A family filling in the Context Mapping booklets.*

1. CONTEXT EXPLORATION

1.1 Families and their context

The aim of this research is to gain insights into the daily routines of Dutch families during the Corona crisis (a forced isolation). What goes different, better, less well etc.?

In order to discover the lessons learned from the Corona crisis, it is valuable to have a clear picture of what is happening in the daily routines during this period; from the perspective of the family itself. Context Mapping is used to get an image of these daily routines. A remote way of Context Mapping is created to research the context from distance in order to follow the Corona restrictions (More about the remote way of Context Mapping in chapter 1.2.1.)

Figure 3: *Flyer used to search for families.*

Social platforms have been used to find families. A flyer with the search message was spread on various platforms. A positive approach is emphasized in this project, therefor the flyer was mainly focused on spreading the positive message; learning from the crisis.

Another focus in the project is creating a personal process. Which means making a personal connection of trust and sharing with the families to create an empathic understanding. Therefor the flyer consisted of a personal introduction.

Within one week, three families wanted to participate in the project. Interestingly, the enthusiasm of the families to participate in the project came from the positive message of the flyer.

One of the families was already aware of the positive side. The other two families a little less, but wanted to cooperate because of curiosity within this question.

1.1.1 The families

1. Marijs (41) , Aram (4), Emme (3), (Jop)

2. Margriet (38), Sef (5), Evy (9), Denn (7)

3. Maartje (43), Geeske (14), Elke (11), (Marco)

The three families live each in a different city; Amsterdam, Amersfoort and Rotterdam. The ages of the children varied between 3 and 14 years old, therefore there was a difference in the phase of life and education. For example, the youngest still goes to playgroup and the oldest is in the second year of high school. This age different probably will lead to a difference in the daily routines and experiences. For the first exploration, it is actually interesting to explore in a wide range and to paint a broad picture of the daily routines.

In two families the fathers participated in the background. Beside this, one family is of divorce, where the exploration was with the mother of the family and her three children.

Figure 4: *Pictures of the participating families.*

1.2 The exploration process

Context Mapping was used, in order to discover the lessons learned from the Corona crisis, from the perspective of the families itself. This was done remotely due to the Corona restrictions, therefore a remote way of Context Mapping was created.

1.2.1 Remote Context Mapping

The chosen medium to get a clear picture of everyday experiences and actions from a distance is video in combination with four days of small assignments. The assignments were made to sensitize the families with their daily routines and to bring some structure in the video recordings. Nevertheless, the assignments were an indication, the families were still free to share what they wanted and what they thought is representing their daily routines.

Figure 5: *The Context Mapping package.*

Video

Video was used to catch the daily routines of the different families. They had to make the recordings themselves, which resulted in material which is very personal and with a huge load of insights. Using video makes it is possible to observe the context of the target group from a distance. The interviews were done by video-calls. Interestingly, research shows that video calls doesn't have a negative influence on the empathy formation compared with face to face meetings (Nguyen & Canny, 2009).

The interviewee is in his/her own environment during an interview by video calling and the interviewer remains at a distance. This appears to have positive results in this study. It is not only about the answers to the questions, but you also get a glimpse into the daily interactions in the family.

Figure 6: *Some screenshots of the Zoom-interviews*

Marijs had to help the construction workers for a moment during the video-call. Therefor, I had a private moment with Emme (3yrs).

Assignments

The assignments were divided into four days. The process starts on day zero. On this day, families were contacted about the booklets sent by post. They received a selfie stick/tripod and sticker sheets with the booklets.

Because a family consists of different members with different perspectives, it was decided to let everyone within the family participate in sharing his/her daily routines. To create structure during the "observe week", all families received a personal assignment booklet. These booklets consisted of various assignments to give all family members the opportunity to share their experiences about everyday life during the forced isolation.

The parents received an extensive booklet with extra explanation about the assignments and tips on how they could help the children with the assignments.

The booklets consisted of five assignments for each family member. A different distribution of assignments per day was made for each family. The assignments are described in Appendix A.

Margriet's family lives in Rotterdam, where the books could be brought along.

Figure 7: *Maartje's Context Mapping package.*

Figure 8: *Me bringing the Context Mapping packages to the family of Margriet.*

1.2.2 Snapshots of the families
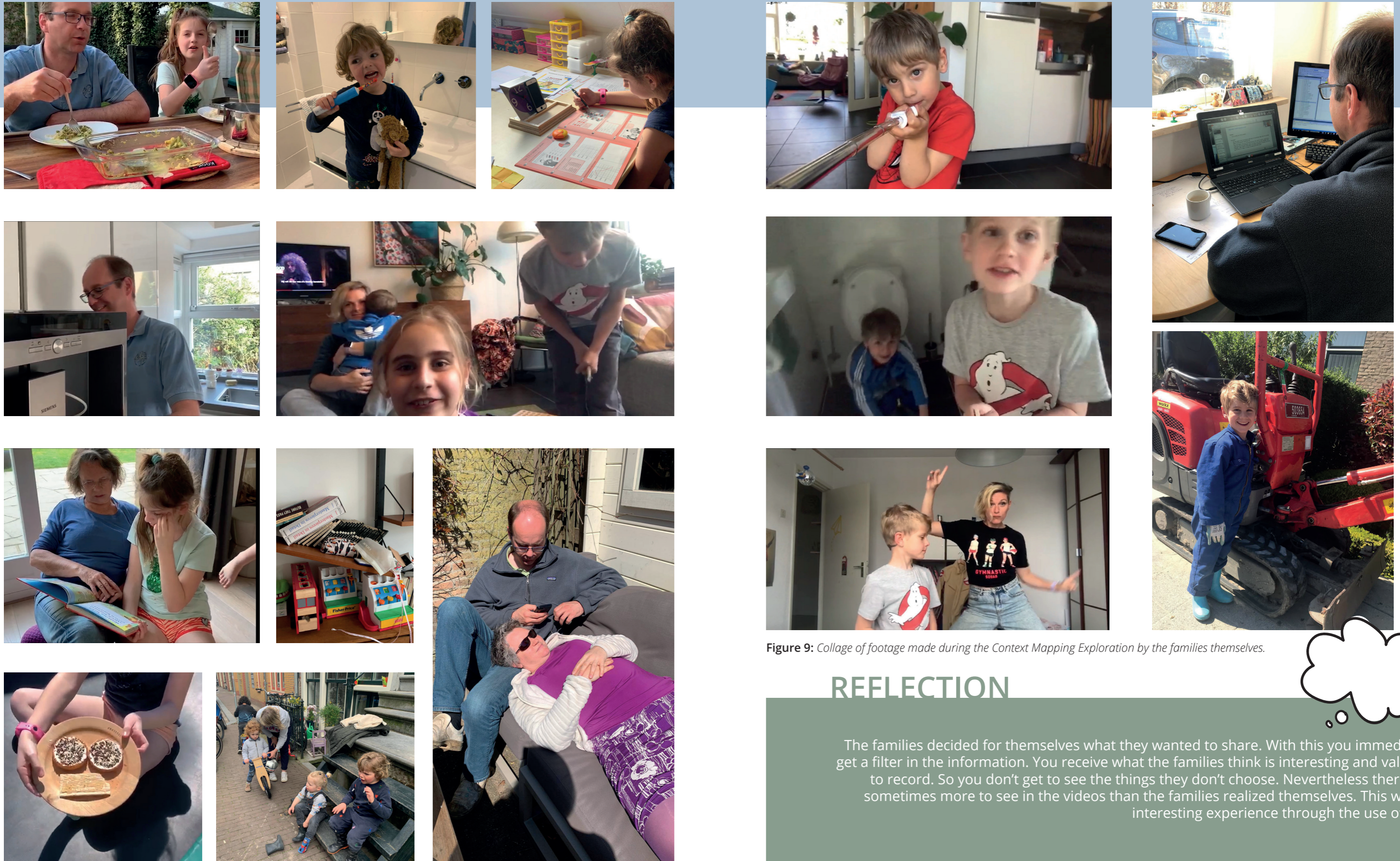
Figure 9: *Collage of footage made during the Context Mapping Exploration by the families themselves.*

REFLECTION

The families decided for themselves what they wanted to share. With this you immediately get a filter in the information. You receive what the families think is interesting and valuable to record. So you don't get to see the things they don't choose. Nevertheless there was sometimes more to see in the videos than the families realized themselves. This was an interesting experience through the use of film.

1.3 Analysing collected data

The participating families had different backgrounds, ways of life and family compositions. Interesting for the next step is to compare the collected data and look for overlaps and recurring aspects.

The data comes from different sources; there are images of everyday routines and actions. Observations can be extracted from this. Beside this, there are the assignments and the discussions about the assignments. Furthermore, there is the final interview, where we look back at the observing days and evaluate these.

The interviews have been transcribed in order to compare the different findings.

Appendix B presents the clusters from de transcribed interviews and observations. The next pages show the clusters.
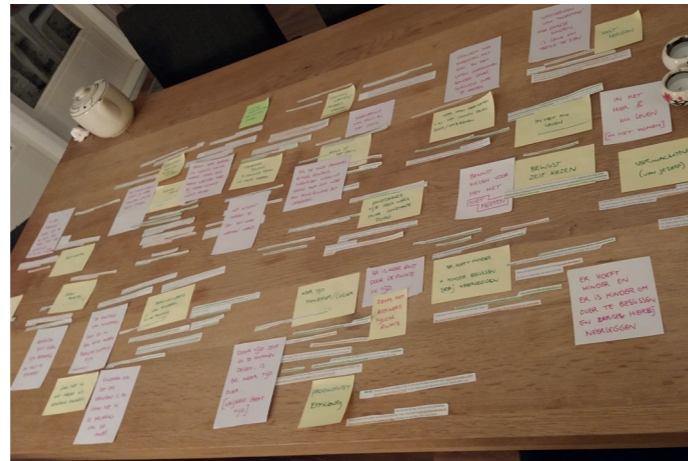
Figure 10: *Context Mapping analysing materials.*

Figure 11: *Me analysing the Context Mapping materials.*

MINDSET

As a designer, I did not do the analysis necessarily with designer glasses on, but with the focus to **absorb myself with the experiences of the families** and to analyse it with an overarching eye. I looked for recurring elements, for connecting statements and the first insights about what went different and what we might see as a lesson. My goal was to dig deeper into a wide variety of insights into what are the experiences of families' daily routines during the early weeks of quarantine.

1.3.1 Clusters

1. Let go of expectations to live in the now.

"There is less, so there is less to decide"

"Working from home sometimes makes you less productive and the trick is not to feel guilty"

"Just take the time for the things you like"

"I **choose** to leave it now"

2. Freedom of time brings the feeling of more time.

"There is less time pressure in a day"

"Now a teacher can explain in 20 minutes, instead of 50 minutes"

"I don't have a tight time to start, I have a target time"

"While we are limited in area, there is more space in time"
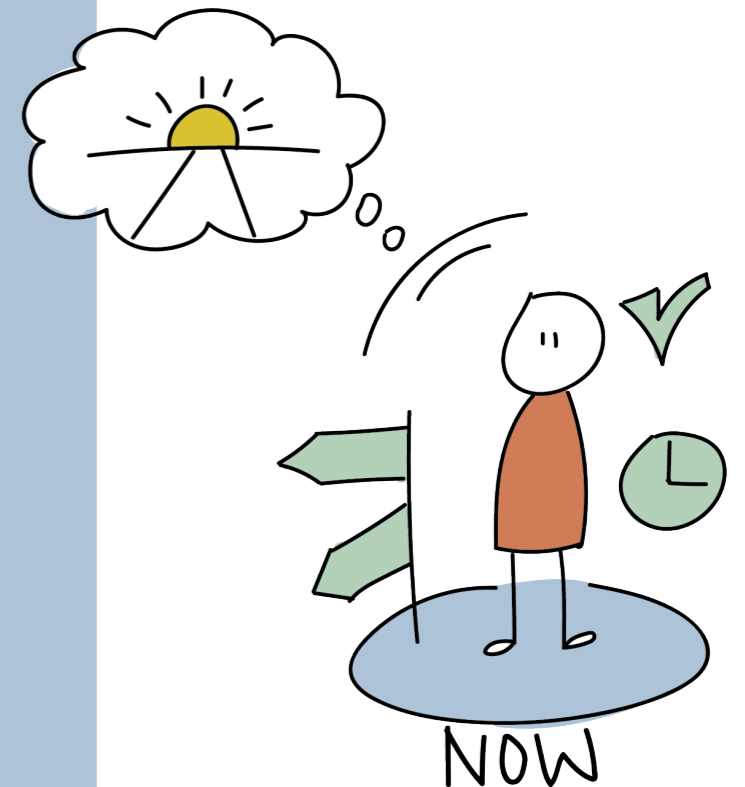
3. Seeing the value of being together.

"Doing things together is the most fun"

"A home to be safe and cherished"

"My boyfriend likes to be more at home and see a lot. You enjoy the little things more"

"I'm happy again when the kids are home"
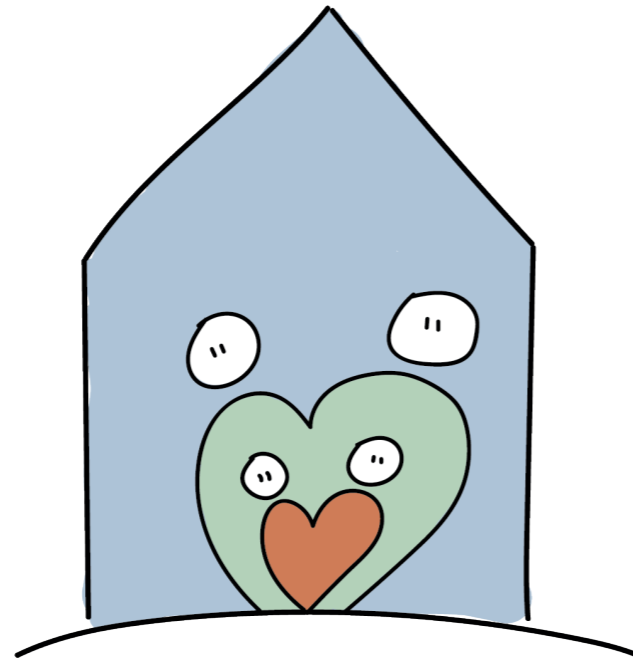
4. If old habits, routines, rhythms disappear, we would like to create new routines ourselves.
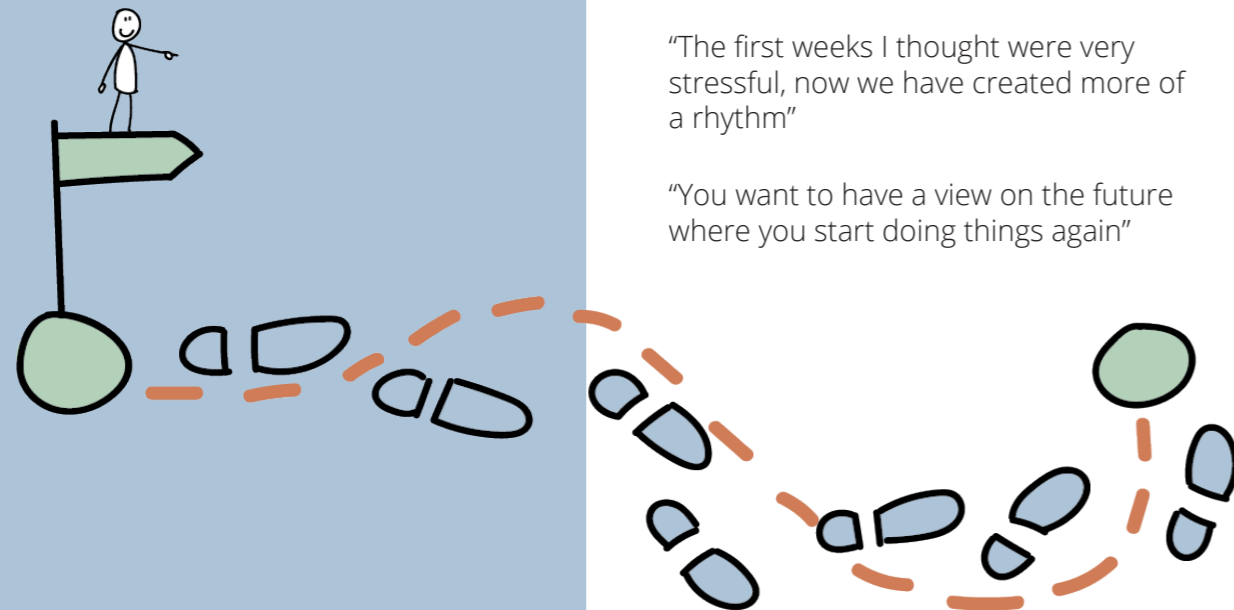
"We found more peace and there is regularity and I really like that. I feel that every change is accompanied by so much uncertainty"
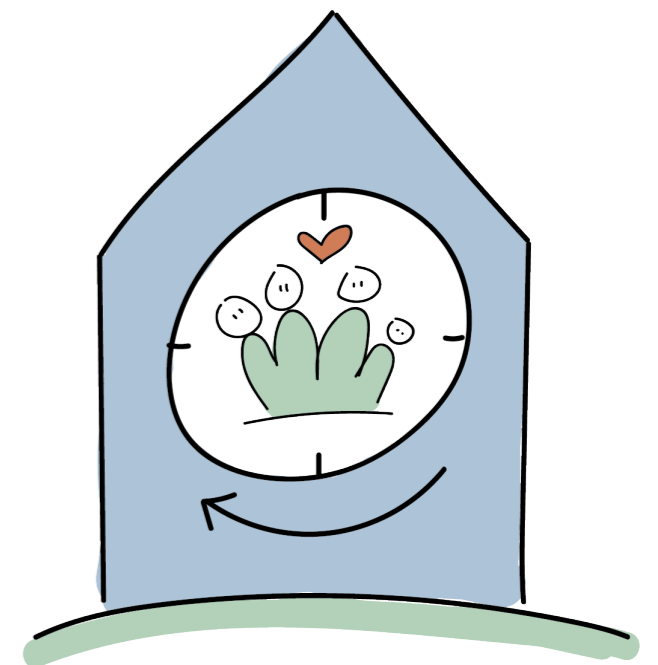
"Nice you can plan more yourself"

"The first weeks I thought were very stressful, now we have created more of a rhythm"

"You want to have a view on the future where you start doing things again"

5. A small world, let you appreciate little things more.

"A holiday feeling at home"

"By not going on vacation it is different from normal, so suddenly you enjoy other things"

"I'm going to miss the bubble"

"What I like is that you enjoy the little things at home and in the city again, it is now very quiet in the city, so we now often just take the scooters over the canals"
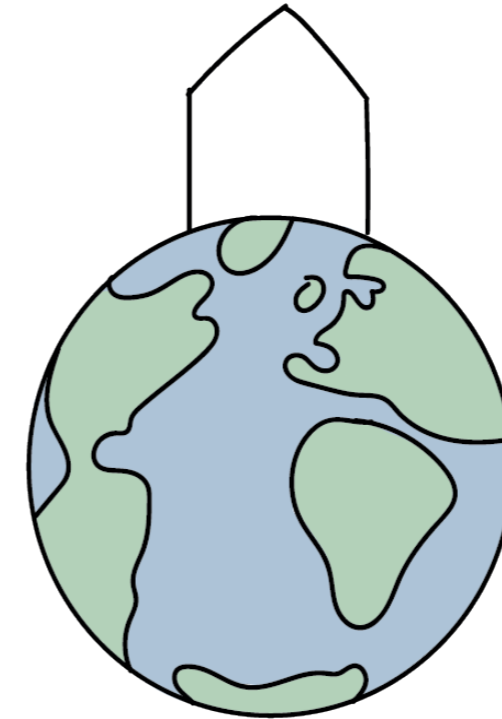
6. Because everyone's world becomes smaller, these small worlds come together and you will appreciate each other more.

"I'm barely in the car anymore, I can do everything wihtin 5-6 blocks around my house"

"The house is very big, because it goes beyond the walls of the house, it is really the garden, the neighbourhood"

"There is much more contact in the neighbourhood, people help each other"
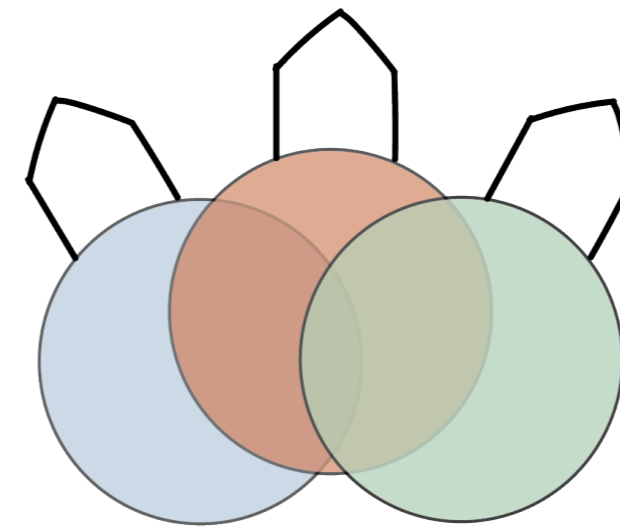
7. Children's imaginations allow them to be in a completely different world of experience, making it easier to let go of things.

"And that you stand in line for the supermarket and then they are super-roller coasters"

"A man with a mouth mask looked like a ninja"

"...homework and then lunch and then I went over the mountains with a giant be-hind us and I had to go over lava"
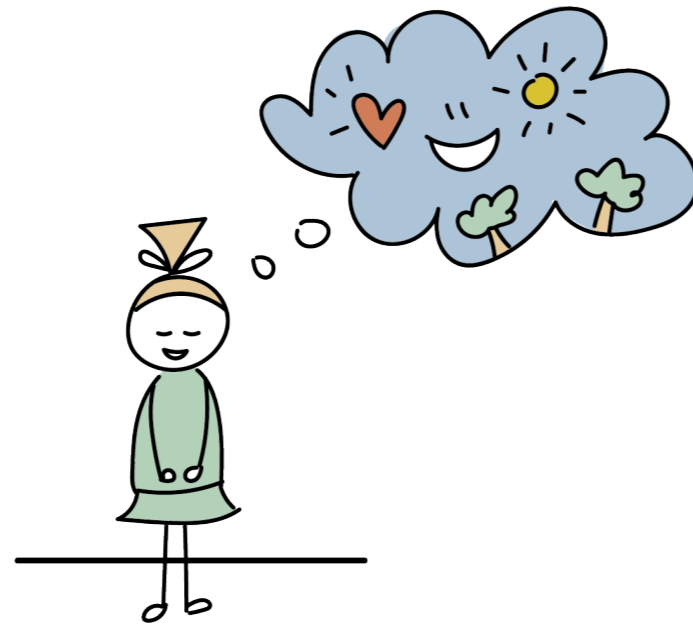
1.3.2 The overarching insight

By comparing these findings and substantiating them with quotes and observations from the exploration, it became clear that many of the insights are connected. The overarching insight of the 7 clusters I recognized, was about valuing and finding peace in the here and now. Also described by one of the participants as "the bubble".

Because families experienced the Corona times like living in a bubble, their world is getting smaller. You could say a forced isolation will make your world smaller is a logical insight. A more surprising insight is the ease in which families can now enjoy small things through this small world. Which in turn results in less pressure, fewer decisions, fewer choices.

This insight is still a broad concept. Ultimately, this broad insight can be used as an umbrella definition out of the context exploration. To make it more specific, it is valuable to go a little deeper into what this small world is. What is appreciating? And how can we learn to appreciate?

A small world makes you appreciate the little things more.

THE BUBBLE

"I really like how it is now, we are in a bubble. I don't watch the news, and it makes me peaceful, I just go with the flow of the day and then we go into a new day."

There is less, we can do less and there are fewer options and descisions to make.
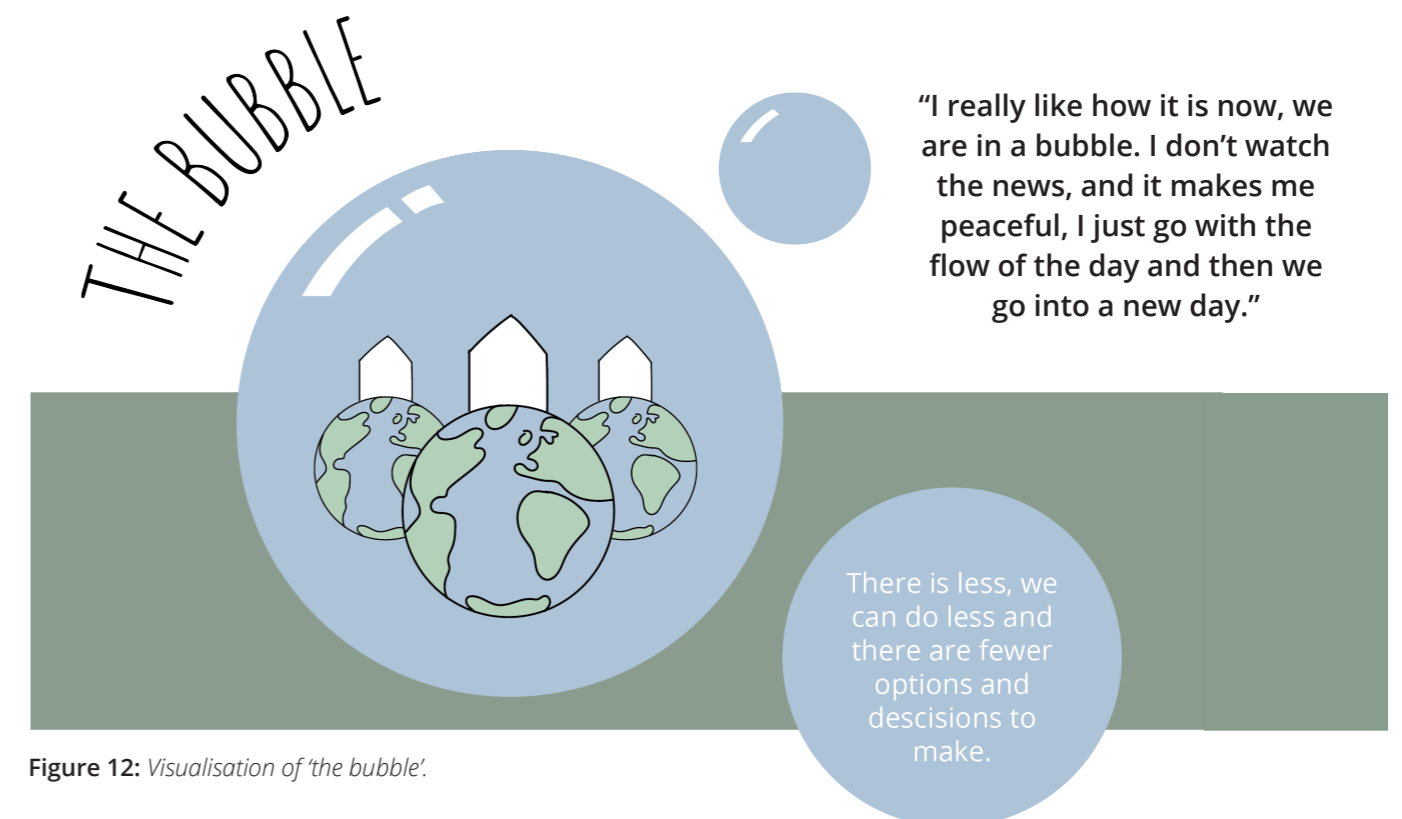
Figure 12: *Visualisation of 'the bubble'.*

A SMALL WORLD
MAKES YOU APPRECIATE

THE LITTLE
THINGS
MORE

Learn to appreciate the little things.

1.4 What is appreciation?

Appreciation is described in Cambridge Library as: the act of recognizing or understanding that something is valuable and/or important (Cambridge Dictionary, sd).
This means appreciation is about recognition. You have to see it yourself. So it is based on your own experience.
Mitchel Adler, Psy.D., explains that as you learn to appreciate it increases your well-being and life satisfaction and also the sense of connection with what we have, what we experience, and to life itself (Adler & Fagley, 2014).
About this, you could say that if we learn to appreciate, we need less. Why do we find it hard to be content with what we have?

Could you say that if we let go of our expectations, we could appreciate more? Looking at the context exploration, where it was found that we are able to appreciate more when we live in a smaller world, it shows that it is indeed about expectations. Out of the exploration I determined three different aspects within appreciating: The norms, our way of comparing our lives with others, and the feeling of pressure.

"Turn your expectations into appreciation and your whole life will change."
– TONY ROBBINS
(Team Tony, n.d.)

NOW
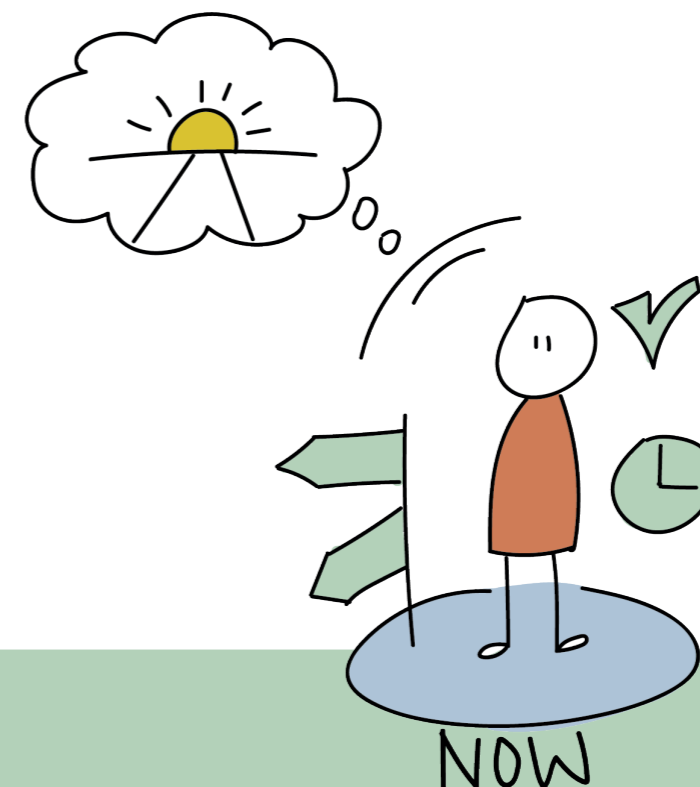
1.4.1 New norms

Our luxurious life is the norm, and because it becomes more of a standard, it produces less appreciation. The sentence below is a statement from the context exploration, explaining what happened with this standard during the quarantine:

"We often went out for dinner, quite luxurious, but not that I miss it very much or something, because we just did a lot. I think I would like to go out for dinner again, but it is more that it is also really nice at home"

This could mean appreciation is reflected in a change in routines and rhythms as well.
In a small world, during the quarantine, your own norms change. Where first a luxury life was about often going out for dinner, going to the theatre and going on holiday as much as possible. During a forced isolation all these norms of our luxury life are not possible anymore. At this point people realise these things are not needed to experience appreciation. Without those things people normally do, they start appreciating other things; the little things. Like what happened within the families of the context exploration.

Figure 14: *The family of Marijs having lunch.*

But this is easier said than done. As human being we compare. Through social media we have much more comparison material. Social media create an overload of possibilities for interaction; but on the other hand it does broadcast more options than possible, in our limited time (Przybylski, Murayama, De Haan, & Gladwell, 2013). This creates a desire for more and more wanting and the feeling that you are missing out on experiences; Fear of Missing Out (Jood, 2017).
Fear of missing out (FoMO) is a type of internet slang used to describe the "pervasive apprehension that others might be having rewarding experiences from which one is absent" (Przybylski, Murayama, De Haan & Gladwell, 2013).

During a forced isolation, there are less options to compare yourself with, because everyone is in the same situation; everyone is limited. The comparisons people make are simpler and easier to achieve for themselves. This means they expect less of themselves.

1.4.2 We love to compare

Human beings compare things. We compare ourselves to other people. We compare different people to one another. We compare ideologies, languages, plants, animals, ways of being in the world. Comparing is just one of the fundamental ways we human beings think. We cannot not compare. Comparing similarities and differences is simply one of the fundamental ways we organize our world (Dale, 2020).

This is what we as people are used to and want to keep doing. But comparing with others can also cause negative effects. You are going to judge your own life because you are comparing it to others. Martha Graham (perhaps the most influential dance choreographer of the 20th century) states that you don't have to judge over yourself. Your job is to offer from where you are right now (Clear, n.d.).
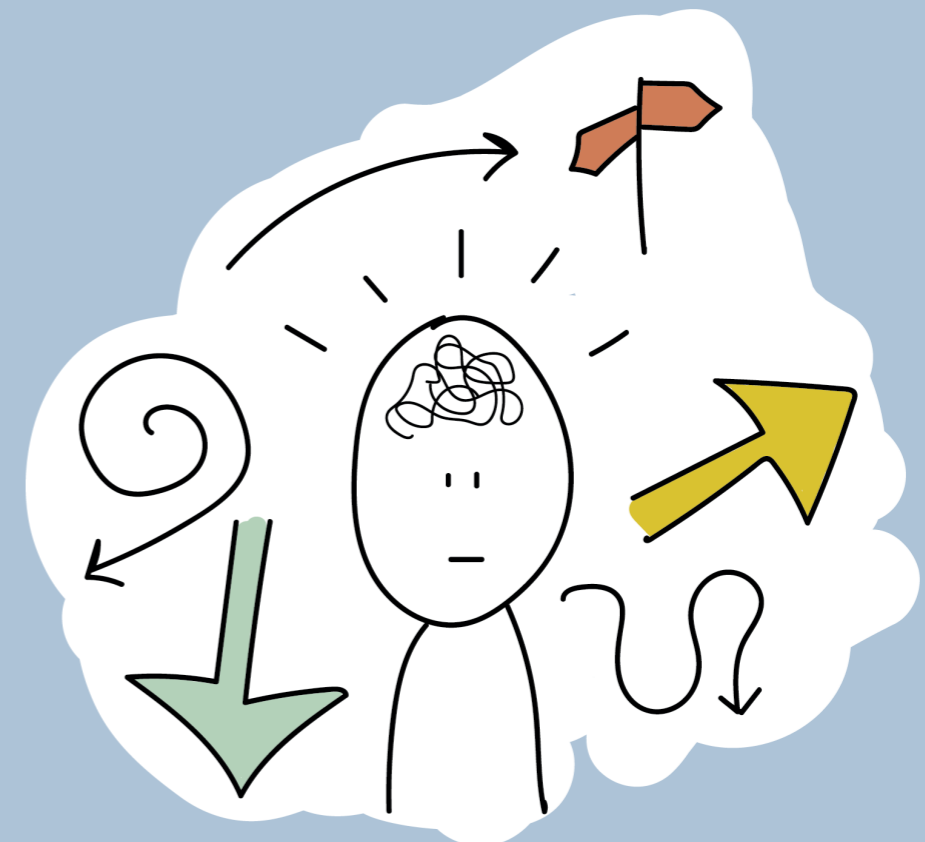
"Your job is to come as you are"

–Pema Chodron , a Buddhist teacher

(Clear, n.d.)

1.4.3 Pressure of must do

We live in a world where a lot is expected and a lot has to be done. During the Corona period, families are limited in possibilities. This means they have to do less, and therefor there are less options and decisions to make. This results in less expectations from others and themselves. One of the participants of the context research described:

"Today is just such a moment of awareness. I see it is messy and I see that piles of papers of school work are growing everywhere. And I choose to leave it for now. In this Corona period, there are new habits , at least I created them for myself, where I have to do less. There is less, and that's okay. That means that it is sometimes messy and there is nothing wrong with that."

"So if more is going to be possible again, choices must be made again as well. I like about the situation now, that there is no choice. The choices are only at a daily living level. "
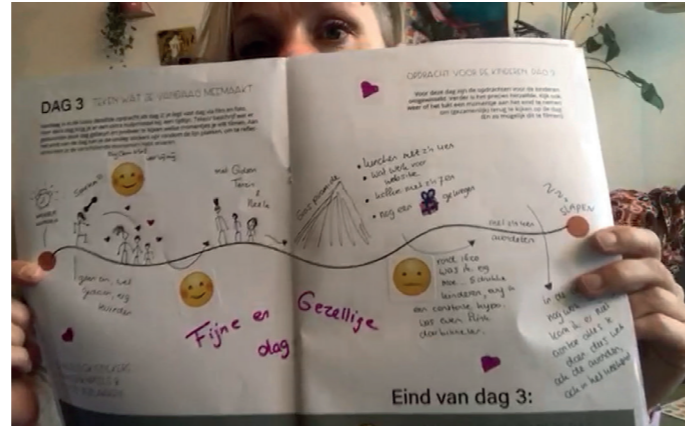
Figure 15: *Mother presenting her day written in her Context Mapping booklet.*

1.5 First insights of the context exploration

The context exploration showed that families minimize their world during this period of the quarantine. This results in a different way of appreciating things. Families are going to appreciate the little things in life more.

This is because the standards are changed; there is less, which makes families realise less is fine as well and having less options and making less decisions, makes us happy as well.

Beside this, families can compare less in a minimized world. Everyone is limited by the measures, so they are able to accept doing less. Because less is possible, families feel less pressure from expectations of themselves and others. They live more day by day and in the moment.

All these points show that by reducing and limiting their world, families can still find appreciation and happiness, because they are able to see the value of other (little) things.

Therefore, we could ask ourselves the question:

Norms

Comparing

Pressure
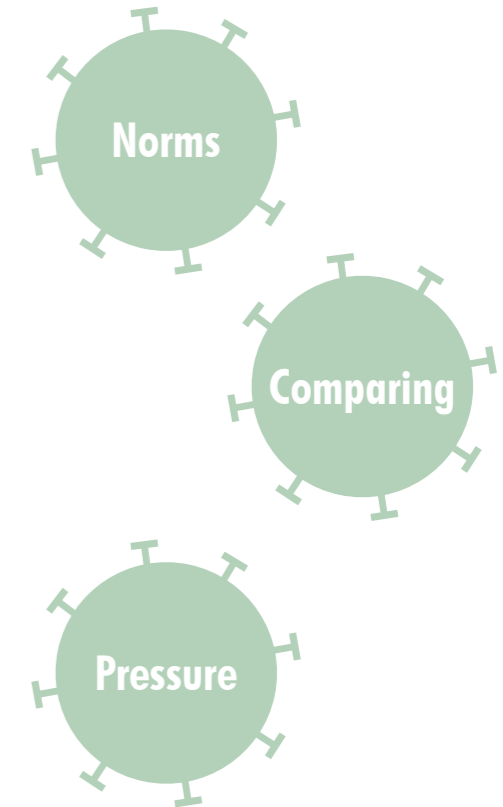
> In the big open world, how can we continue to appreciate as many of the little things in life as we do now in a forced isolation?

INSPIRATION

I started reading a book of Haemin Sumin, a buddhist monk: "Dingen die je alleen ziet als je er de tijd voor neemt" (Things you only see when you take the time). He wrote this book to help people to find rest during our modern busy lives. He states a modern dilemma:

"There are countless television channels, but there is nothing interesting to watch. Too many choices make people unhappy. "

Such a simple thing can influence your life, because there are too many options.

Figure 16: *A father reading to his children.*

1.6 Inspiration session

Narrowing down using different perspectives

A co-creation session was organised to look for inspiration to determine directions to focus on within the current question (Chapter 1.5). A variation of participants was invited to take a wide range of perspectives and approaches into account. The participants had to think of a solution to learn to appreciate the little things in life. The results of this session were used to gather more insights and more perspectives within this question.

The Corona measures made it quite difficult to organize a session. We had to stick to the rules of 1.5m distance and a maximum of three visitors at home. That is why this session was organized with my own neighbourhood. Many different families live around my house; a perfect place to organize a inspiration co-creation session.

Figure 17: *Two different families trying to get in contact with each other during the session.*

1.6.1 Participants

The session was facilitated from my own garden. This meant that families needed to be located around our garden to be able to participate. The neighbours next to our garden participated, with two children with the age of 8 an 10 years old.

Furthermore, the neighbours of a few houses away, with a 10-month-old baby participated from our garden, taking the rules of 1.5m distance into account. In addition, two roommates participated, to add some extra perspectives (and to stick to the rule of inviting maximum three people). In total we were with seven participants. During the session, the group was split into three groups; the three different households.

Figure 18: *Me facilitating from my balcony.*

Figure 19: *The participants working on their introduction-format.*

Figure 20: *The participants working on their concept poster.*

1.6.2 The assignments

The aim of the session was to get inspiration where to focus on. In Chapter 1.4, 'Learning to appreciate the little things in life,' was further explored into different elements connected to appreciation. These elements were used during the session to come up with ideas.
The assignments used during the session are presented in Appendix C.

Figure 21: *The materials and formats for the session.*

Figure 22: *Two teams working together at a distance on the How-to questions.*

Figure 23: *The participants working on the How-to question.*

Figure 24: *Participants working together on their concept poster.*

Figure 25: *Filled in format of the How-to question: How can you appreciate something?*

1.6.3 Results

The concept ideas were described in a poster format (Appendix D). In the end, each team presented their poster. The three concepts were clearly different, which was valuable. These different directions have been used in the next chapter to dive deeper in the design question and to narrow down.

Figure 26: *Collage of the inspiration session.*

1.6.4 Using the results

Ideas and stories emerged from the inspiration session. The end posters provide a lot of insights. The insights gave some directions within the question of *how to keep appreciating the little things in life*, see Appendix D. But there is more richness to discover, by connecting the insights out of the inspiration session with the clusters and first insights of the context exploration (Appendix E). The next chapter describes how the connected insights lead to the design goal.
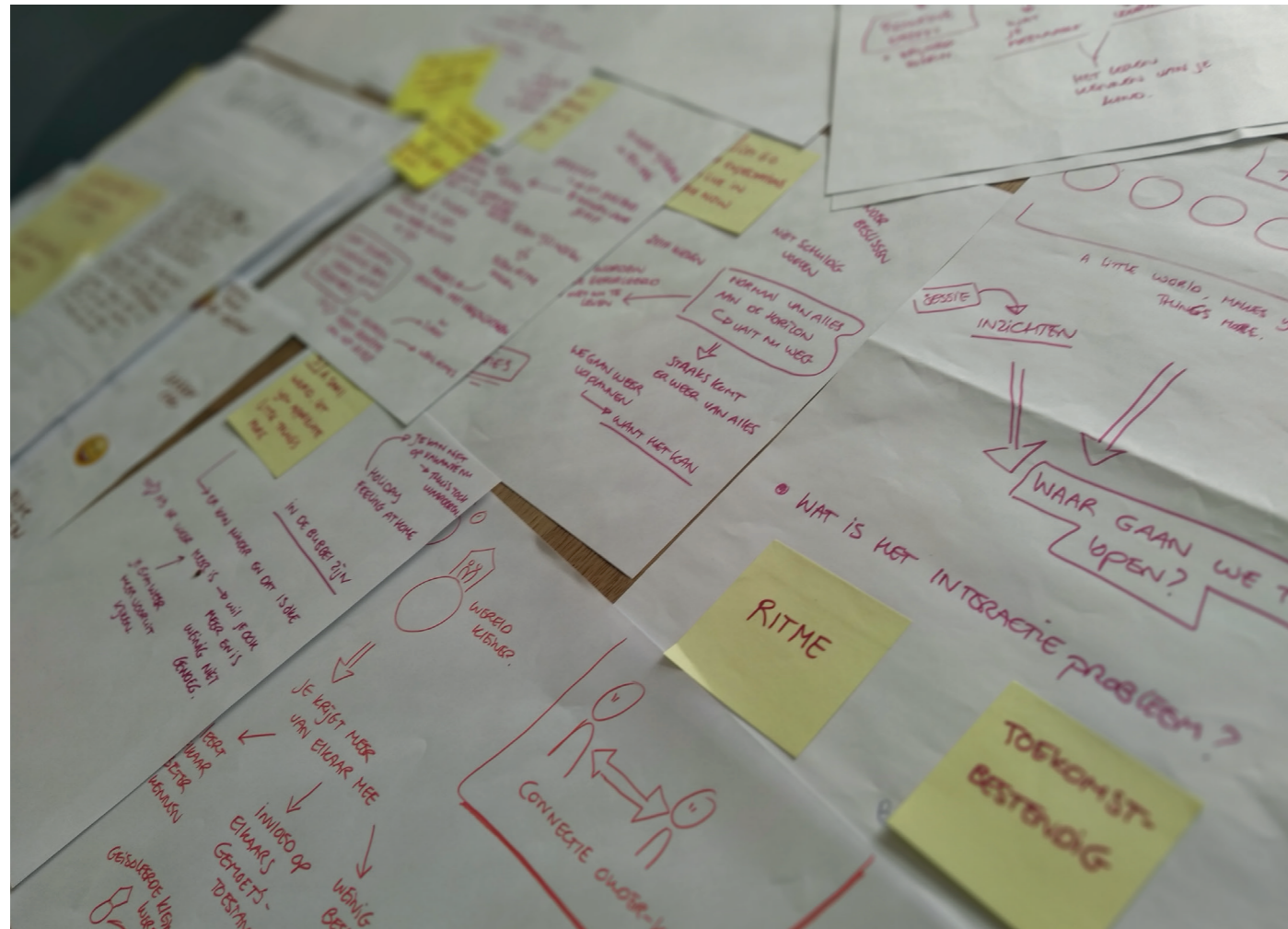
Figure 27: *Drawings and Post-its made to connect the results and insights.*

REFLECTION

Many insights emerged from the Context Mapping and the inspiration session. A difficult step is to filter and converge. In this part I experienced how important it is to take enough time for this and to take sometimes a few steps back.

1.7 Defining the design goal

The inspiration/co-creation session was organized with the aim of getting new inspiration to narrow down within the formulated question in Chapter 1.5. What do we want to appreciate? What are those little things we appreciate during the Corona time and why should we want to take these with us? Answering these questions a design goal will be formulated in this chapter.

The insights from the session have been combined with the first insights from the context exploration (the 7 clusters, together with the overarching insight about appreciating the little things in life) in order to arrive at a rich defined design goal.

Context Mapping

7 Insights

7 Insights bring a overarching insight:

A small world, makes you appreciate the little things more.

Inspiration/co-creation session

Connecting

Design Goal

Insights

Figure 28: *Visual overview of the process steps: using the insights of the context exploration and the inspiration session to determine the design goal.*

1.7.1 Connecting the insights

A recurring theme appeared, about the value experienced of being together with your family that much. Because of this, the parent-child relation changed; it became closer.

During the Corona period, families realized how valuable it can be to be much more with your family and live much more synchronized. Many families of the context exploration mentioned they experienced a holiday feeling at home during the quarantine.

Interestingly, the holiday aspect appeared in a concept, made by one of the families during the inspiration session, as well. They explained the holiday feeling is about being together, enjoying together and live much more synchronized with your family.

Figure 29: *Margriet dancing together with her son.*

1.7.2 And the future…

Several families mentioned they do not look forward going back to the normal, open world again. And why?
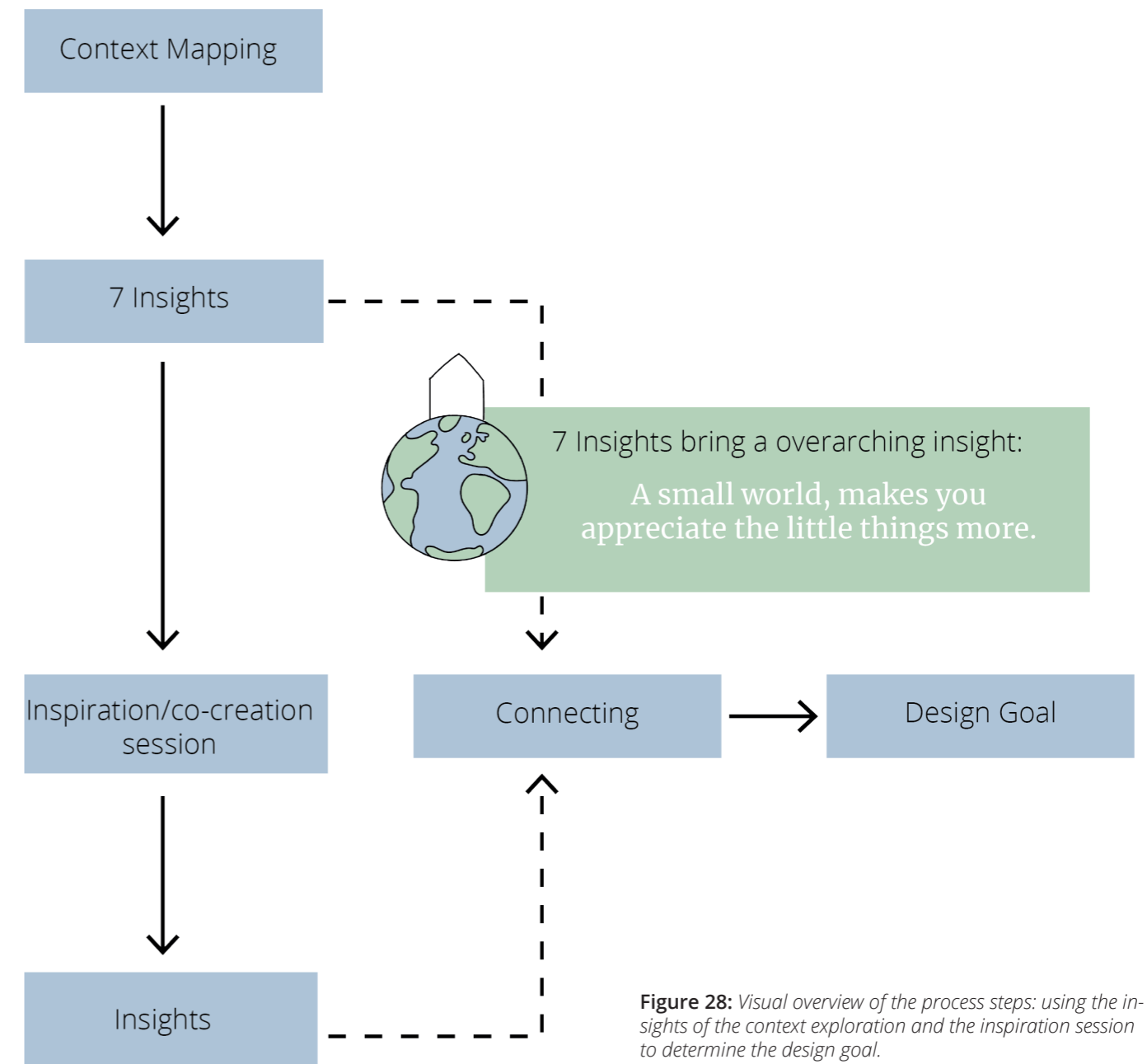
After connecting the insight, the expected bottlenecks for the future were defined. What could happen when reversing the Corona restrictions?

Going back to 'normal life', the rhythms and routines within a family will be less synchronized. This probably will result in getting to know less of each other's lives. Furthermore, going back to 'normal', means more will be expected again from the families. Parents have to look ahead, plan more and make a lot of decisions again.

1.7.3 The design goal

Therefore, the design goal is focused on **presence** of the family members and **experiencing the value** of it. On the next page the design goal is formulated. This is the first definition, during the concept exploration, in the next chapter, the design goal will be further detailed.
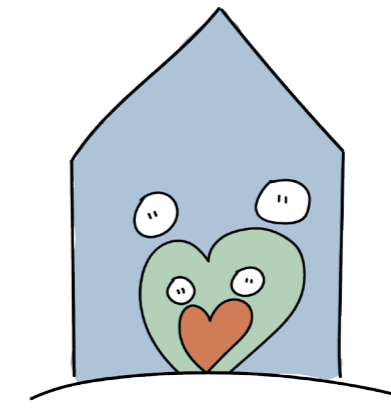
Recurring theme:

A change in the parent-child relation

Realisation of not wanting to go back to normal.

Why?

Lives will be less synchronized within a family.

More expectations from everyone.

Getting to know less of the lives of other family members.

Parents have to look ahead, plan more and make a lot of decisioins again.

THE DESIGN GOAL:

To make family members more present in each other's lives, even when rhythms and routines will be less synchronized and less in the moment, to experience the value of being together.

Figure 30: *Visual overview determining the design goal.*

2. CONCEPT EXPLORATION

Figure 31: *Post-its with insights out of the interviews and tests.*

2. CONCEPT EXPLORATION

This chapter is about exploring a solution for the design goal. Making the design goal more specific, some elements can be defined in more detail. This chapter will focus on clarifying what these elements of the design goal mean and what is needed to achieve them. This will be done by literature research and field exploration.
The first steps are focused on creating many ideas out of the design goal. Beside this, literature about behaviour and motivations will be connected to the ideas. Furthermore, field exploration with the families will be done to gather insight about the experiences of the families. Out of the collected data ideas will be created and at the end of this chapter a concept will be presented.

2.1 Design goal

In order to go to the next step to design a solution, it is valuable to get a clear picture of what the different components of the design goal mean. The design goal is about presence and experiencing value. The design goal is adjusted to include a focus on the actual experience relevant for these families.

Design goal will be:
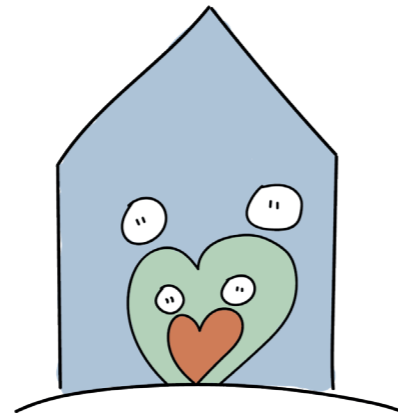
> To make family members **experience** the feeling of presence in each other's lives, even when rhythms and routines will be less synchronized and less in the moment, **to remain the awareness** of the value of being together.

The problem that has been incorporated into the design goal is focused on the rhythms and the routines, which were synchronously during the forced isolation, and which will diverge more and more when we go back to our 'normal lives' again.

Families are going to live separate lives in the same household instead of really living with each other. How can families experience the feeling of presence in each other's lives? How can they consciously experience the value of being together?

2.2 First steps of designing solutions

With the questions at the end of chapter 2.1, How-to questions are composed. These were the first steps of splitting up the design goal. With these questions first small ideas were created.

2.2.1 First idea generation

To come up with solutions for the design goal, it has been split up into several sub-questions in the form of How-to questions:

How to be more aware of each other's lives?
How to experience the positive sides of each other?
How to keep reminding the value of an experience?
How to keep living in the moment?

With these subquestions, different ideas have been devised, from realistic to bizarre ideas, from large to very small ideas. Within this wave of ideas, various ideas have been selected to brainstorm one step further with. In Appendix F the first idea generation is presented.

Figure 32: *Sketches of the first ideas generation.*

2.2.2 Solution directions

During the first idea generation many ideas were created. To converge, the ideas were clustered (Appendix F). After clustering the ideas, three directions of solution approaches appeared:

Reminding:

Solutions to be reminded being consciously together at home. This is focused on solutions with a meaning of symbolism with the function of being aware and being reminded.
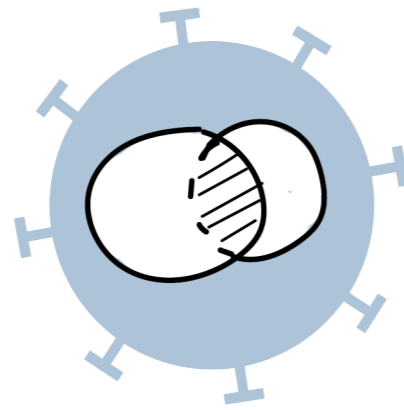
Transparency:

Another direction is the focus on solutions to obtain/ask for information about each other's lives. This stimulates us to keep abreast of what the different family members experience, learn, develop, etc.
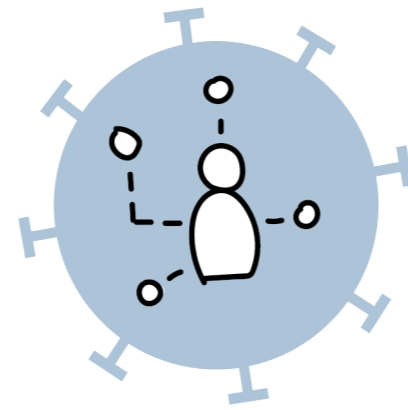
Remote connection:

The third direction is focused on remotely connecting family members by digital means. This way we can easily share experiences about our lives within the family. The solutions are about how to do this consciously and how to capture the value in the shared information, to distinguishes itself from for example a WhatsApp group.

2.3 The approach: Two lines

These directions provide inspiration, however they raise more questions as well. In the search for more clarity, research and design activities are combined. The next part consists of two lines of research and design, which will run simultaneously and overlap on several points.

There will be one line focussing on literature and existing theories to identify more insights about motivation and behaviour. With this data, inspiration can be obtained to design a sustainable to use concept.

The other line is focussing on obtaining information on how to achieve the feeling of presence and how to experience the value of being together in the future. This is done by gathering information about how they have dealt with the transition of the relaxation of the Corona restriction. Beside this, the first ideas and concepts will be tested with the families.

It will be an iterative process; using literature, already defined insights, designing and testing/validating.

2.4 First line: Background research

One of the difficult aspects in the design goal is the intrinsic motivation that is needed in the concept to reach te goal. To come up with a sustainable solution, the solution must either be attractive to the user, or the user should be forced. An approach to optimize the human motivation is to look at Gamifaction.

2.4.1 The Octalysis framework

In order to keep families motivated to use a longer-term solution, it is valuable to look at the motivation. Motivation is described in social psychology as: "wanting to do what is necessary to achieve your goals" (Britttamar, 2012). Motivation is a run-up to behaviour, an "urge", but not behaviour itself. Sometimes it comes "naturally" and sometimes it requires willpower (Britttamar, 2012).

Intrinsic motivation is about the urge that comes from yourself to achieve certain goals. These are often long-term goals with more value and importance (Dio Agency, 2018).

It is valuable for designers to capitalize on the intrinsic urge to create a connection between the user and the product.

To create guidance, a framework has been designed called Octalysis, by Yu-Kai Chou. The framework is based on Gamification, this is about the deriving all the fun and engaging elements found in games and applying them to real-world or productive activities (Chou, n.d.).
Yukai Chou made an octagon shaped framework with 8 Core Drives (Chou, n.d.).
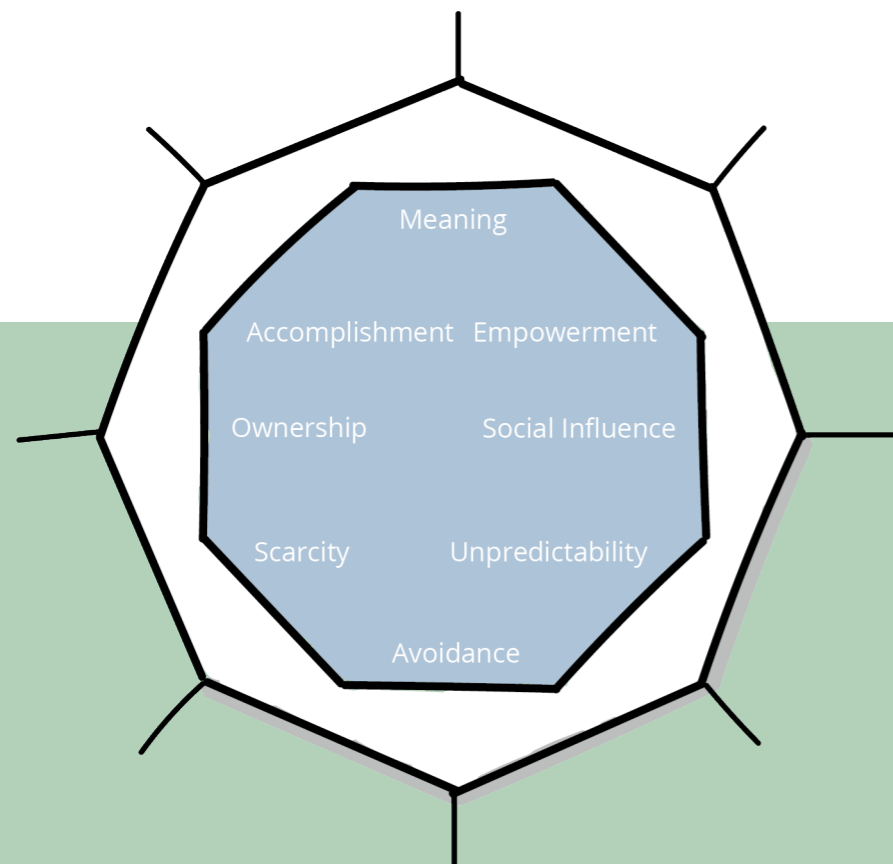
Figure 33: *Visual based on the Octalysis framework of Yu-Kai Chou (Chou, n.d.).*

The 8 Drives

The 8 Drives out of the Octalysis framework are interesting to include in designing a sustainable solution for the families, to retain the intrinsic motivation. These drivers will be used in the idea generation.

1. Meaning	Show the individual that he is "chosen" to do something.
2. Accomplishment	The intrinsic urge to make progress, develop skills and ultimately overcome challenges.
3. Empowerment of creativity & feedback	Users are engaged in a creative process where they are repeatedly figuring things out and trying different combinations.
4. Social Influence	Responding to humans as a social animal. Everyone wants to be liked and respected by friends and strangers.
5. Unpredictability	A desire to know what's going to happen. People remain fascinated when they respond to unexpected elements.
6. Loss & Avoidance	Avoiding that something can turn out negative. The urge to continue if there is otherwise fear of losing everything that has been worked hard for.
7. Scarcity	"Wanting something because you can't get it right away" or because there is very little of it.
8. Ownership	The urge when people experience ownership, automatically want to make it better and bigger.

Figure 34: *Table of the 8 Drives out of the Octalysis framework (Dio Agency, 2018).*

Another interesting point to find a suitable form for a sustainable solution for the families is to look at how people respond to major life changes. During this period our whole life is turned upside down, but our brain has its own ways to deal with these kinds of changes. An explanation for this is the phenomenon of Hedonic Adaptation.

2.4.2 Hedonic Adaptation

Hedonic Adaptation is about flattening the emotional impact of the feeling of happiness after a major event or change in life (Sylvester & Beauchamp, 2018). The Corona period is certainly a big change in our daily lives.

This makes it interesting to further explore this phenomenon and place it in the context of the families. A major event can have strong emotional consequences, in the feeling of happiness as well.
Interesting about the phenomenon of Hedonic Adaptation is the idea no matter how good something makes us feel, most of the time we drift back to where we started, emotionally speaking (Halvorson, 2012).

People are set up in such a way that after these intense emotions we eventually return to 'the baseline' of the feeling of happiness (Halvorson, 2012). For example, the feeling of happiness can be very high after winning a lottery, but after a few years the feeling of happiness is not much different than before (Brickman, Coates , & Janoff-bulman, 1978).

There are two reasons why we return to "the baseline" (Sheldon & Lyubomirsky, 2012):
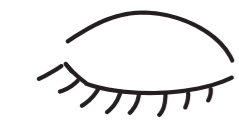
- After a while you no longer see the change consciously, you become used to it.

- The change creates new possibilities, with new opportunities. This becomes your new standard again, where new expectations are set for increasing the feeling of happiness (Halvorson, 2012).

Nobel-prize winner psychologist Daniel Kahneman uses the term; "satisfaction treadmill", because we continuously shift our standards in order to feel satisfied again (Halvorson, 2012).

During the forced isolation, we saw more and more positive sides of being at home and being consciously together with the family. The families experienced the importance of sharing a lot of each other lives and living in the same rhythm. An interesting question would be; When we get used to this again, will we still experience it as something positive?

The families were approached again to find out how they are doing two months later. See chapter 2.5.

Figure 35: *Two children playing in the garden during lunch break.*

These insights about Hedonic Adaptation demonstrate that it is important to include the following aspects in the concepts:
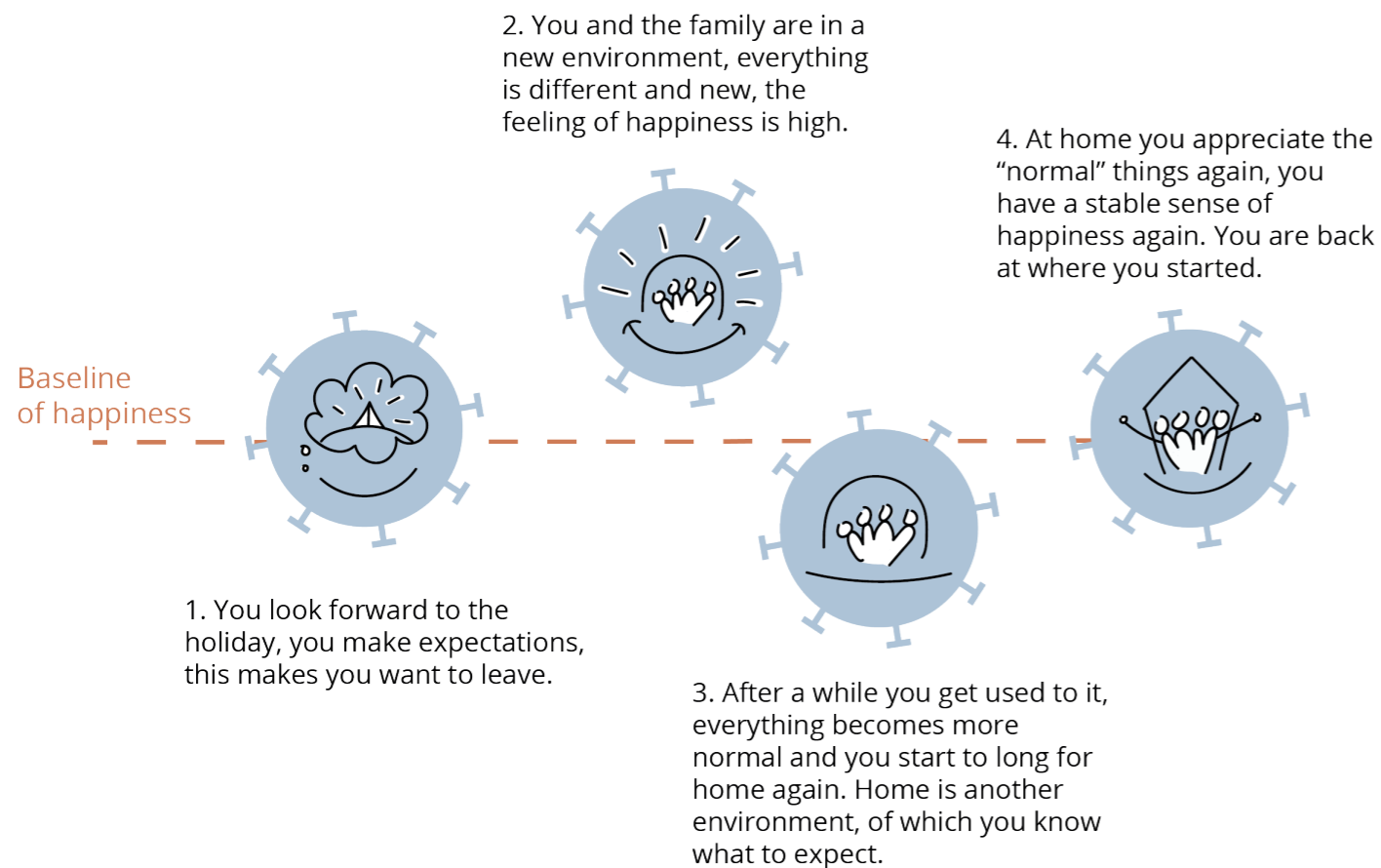
- The solution has to continuously stand out in a way that you keep seeing it and you don't get used to it completely. In order to prevent you don't see it anymore.

- It should provide a sense of satisfaction, to prevent continuously raising your standards and therefor expecting more and more.

Hedonic Adaptation in practice

Repeatedly in the process, the example of the experience of going on vacation came back as an example in response to the families as an experience of precious time together. This experience could be seen as an example of Hedonic Adaptation as well. A schematic representation of this has been made in figure 36. The figure is based on diagrams explaining the phenomenon of Hedonic Adaptation showed in Appendix G. The data presented in figure 36 is based on assumptions, therefore no exact data can be extracted. It is intended to add an extra context to this theory.

2. You and the family are in a new environment, everything is different and new, the feeling of happiness is high.

4. At home you appreciate the "normal" things again, you have a stable sense of happiness again. You are back at where you started.

Baseline of happiness

1. You look forward to the holiday, you make expectations, this makes you want to leave.

3. After a while you get used to it, everything becomes more normal and you start to long for home again. Home is another environment, of which you know what to expect.

Figure 36: *schematic visual of the Hedonic Adaptation phenomenon in the context of a holiday, based on the diagram of the Hedonic Treadmill (Appendix 7) (Brickman, P. & Campbell, D.T., 1971).*

You could say, by being in a different/abnormal environment/situation, you appreciate the 'normal' things again. As soon as you are forced to change everything, such as during the forced isolation, you will find yourself in a different situation; you will adapt and change your norms. This can be connected to Chapter 1.4.1 about norms influencing our way of appreciation.

As long as we are not forced, we will continue doing what we do, and we will look in every corner to achieve the continuous shifting of our happiness. So it's about the human response of getting used to something, finding it normal and setting new goals. This continues all the time, which brings us back to Daniel Kahnman; "the satisfaction treadmill".

This insight can be valuable in the solution direction of Reminding. We want to keep remembering the value of consciously being together. We could always go on holiday, to appreciate again that the being together with your family is nice and important. We can also come up with a solution that creates the same thing. That we get satisfaction from the current situation, by being reminded of the feeling of happiness that being together brings.

A valuable finding to take into account in this direction of ideas, to ensure that we do not continue to set our goals higher and higher, but take satisfaction with what we have by being consciously reminded of it.

2.4.3 Conclusion of the first line

This line of research focuses mainly on inspiration for a suitable form that can actually be used sustainably; About the motivation and appreciation that we can stimulate with simple elements.

To stimulate intrinsic motivation, it is important to look at the 8 Drives of the Octalysis framework.

In addition, we have a baseline of happiness. We can set our standards high, but eventually we will return to our baseline (the phenomenon of Hedonic Adaptation). In order to maintain a stable sense of happiness, it is important to pay attention to the permanent visibility of the solution and the satisfaction level it yields.

These findings will be linked to the ideas presented to the families in the next chapter, in order to develop the ideas into concepts.

Elements to take to the second line:

The theories mentioned above also raise questions about the content of the solution. The aim is to experience "the feeling of presence" and "the value of being together". The questions that emerge from these theories are:

- About Hedonic Adaptation: At this moment, that you're used to these more open conditions again, do you appreciate it in the same way you did appreciate the changes at the beginning of the forced isolation period?

- What do families want to keep/remember about being together?

 In the next exploration line the focus will be on these questions.

2.5 Second line: Field exploration

In this part, I went back to the families from the context exploration. With the aim to see where they are now, how the past period has expired and how they look back at the past period of the forced isolation.

Furthermore, the goal is to gain insights into **how families experience the value of being together and what the experience of presence means**. With this the design goal can be specified in more detail.

Finally, the first idea will be presented and tested to get feedback for further design steps.

2.5.1 Interviewing the families

How are the families doing at the moment?
The first steps back to 'normal life' have started. The children of primary education go back to school completely and the secondary education is still part time. The government is still encouraging companies to work from home. The companies themselves determine how they organize the working conditions, but still a maximum of 30 people is allowed, and only when the measurement of 1.5m distance is possible.

What does the feeling of being together mean and what do we want to keep?
Keeping and remembering the value of being together, which was learned during this forced isolation period, is an essential part of the design goal. Also from the theories mentioned in Chapter 2.4 about remembering and staying aware. But what exactly is it that families want to hold on to?
The questions asked in the interview about these topics are described in Appendix H.

2.5.2 Exploration of the first ideas (within the 3 solution directions)

In addition to the interview, the first ideas were tested. The three solution directions contained different ideas that were still based on assumptions. A few interesting ideas were picked out, but needed to be validated to make it possible to determine if it could be a suitable solution.

Within the solution direction Reminding:

In the idea generation several ideas emerged about objects with a symbolic meaning. One of the ideas was to assign a lamp to every family member, which you turn on once you come home. This idea raises many questions; Do you feel connected to your lamp? Do you feel connected when all the lamps are shining? Does it refer to being together? Does everyone turn their lights on and off properly? Is a lamp the right object? Should it be an action, or should it be automatic?

A simple prototype was made and tested with one family for one week, to find the first answers on these questions (Appendix I.1).

Figure 37: *Prototype of testing the lamp-idea.*

Another idea was the idea of a service that allows the family to get a personalized home item after submitting various data about being together with their family. A first idea was to gather information about being together in the form of a postcard. The assignment consisted of a postcard where sentences had to be completed (Appendix I.2). The questions that could be answered were: What have you been doing a lot with the whole family lately? What do you like and want to do more together? Where did you do this and what does it look like when you are together?
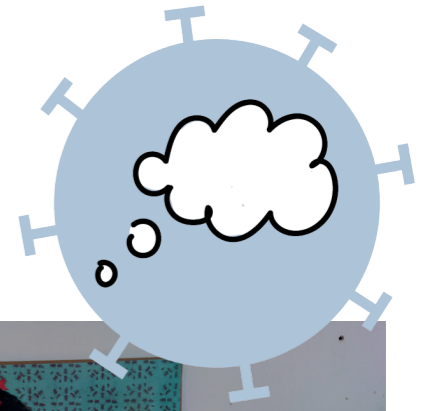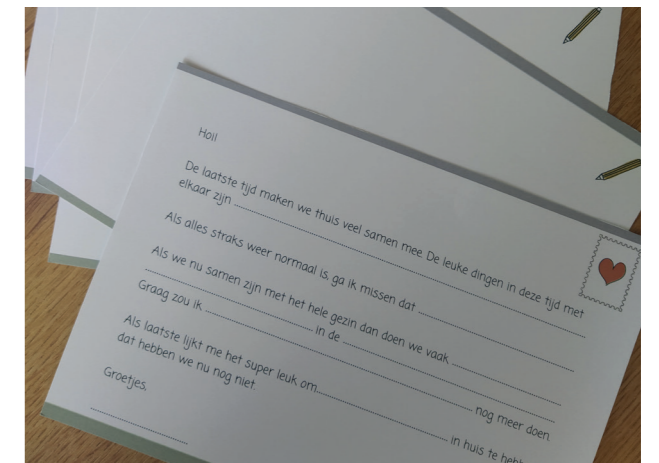

**Figure 38:** *Prototype of the postcards.*

This direction is about keeping abreast of what everyone in the family is going through. Many different ideas were devised for this purpose. These are ideas like drawing boards on the table with a question on it, a block calendar in the bathroom, place mats with questions, etc. (Appendix F).

An important thing to know within the direction of Transparency, (already described above) is what the family members want to know from each other, so what should be asked. This is one of the questions in the interview (question 3 in Appendix H).

In addition, a valuable aspects is to be reminded about the solutions wihtin the direction of Transparency. This is again about intrinsic motivation. The Octalysis framework of Yu-Kai Chou can be used for this (Chapter 2.4.1). Furthermore, it is valuable to know what moments of the day families share information with each other and how this is experienced. This was part of the interview (last sub-question of question 3 in Appendix H).

Within the solution direction Remote Connection:

This direction is about creating a connection where you are still in contact through digital means. Question 4 (Appendix H) in the interview is focused on this connection. Beside this, the information from the postcards about being together is valuable within this direction as well; about the form in which families appreciate the value of being together.
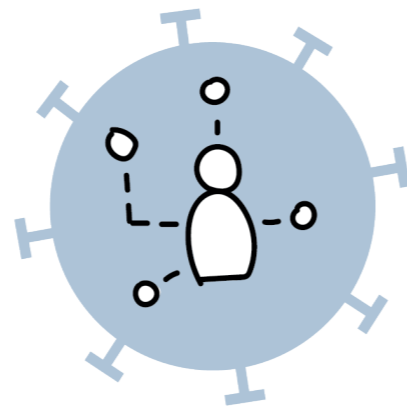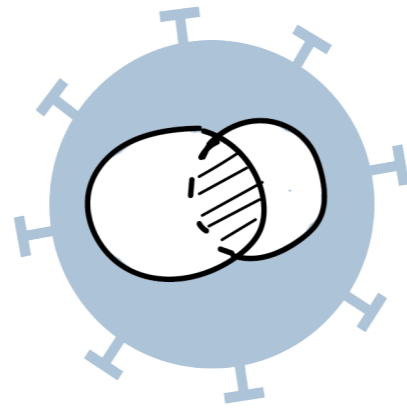
2.5.3 Using the data

The interviews and idea generation resulted in a lot of data. The insights from the interviews and tests have been analysed (Appendix J). The insights are presented in the next section and after this the design goal is made more specific.

Figure 39: *Collage of the different kind of data gathered out of the interviews and tests.*

MINDSET

During this analysis I focussed on looking for a base on what family togetherness mean. As a designer, the goal was to define what family togetherness looks like, using the experiences of the families. Already many ideas were created, but now the focus was on finding a focus, a recurring element to design further with.

2.5.4 Insights about family togetherness

Insights about what being together means for the different families and what elements the families would like to take with them/remember, emerged from the interviews and the first small tests.

After the interviews and tests, all insights were clustered and connected to the previously devised ideas/idea directions. The analysis is described in Appendix L. On this page and in appendix K, the clusters derived from the analysis are presented, answering the following question: What does family togetherness mean and what do families want to keep/remember?
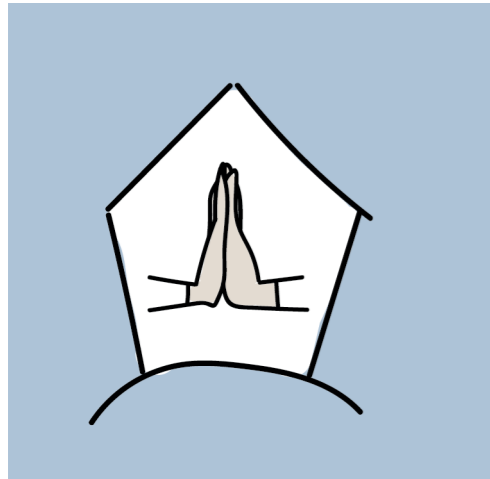
Own peace at home

"I would normally have gone into practical focus more quickly around that time, thinking about what we could do, making plans. Now I try to do something more consciously with the children. Also to maintain that feeling of being together. "

The safe feeling at home

"It really felt like OUR family. We against the others "

"It feels safe, you protect each other"

"The relationship has become much closer through the past period "
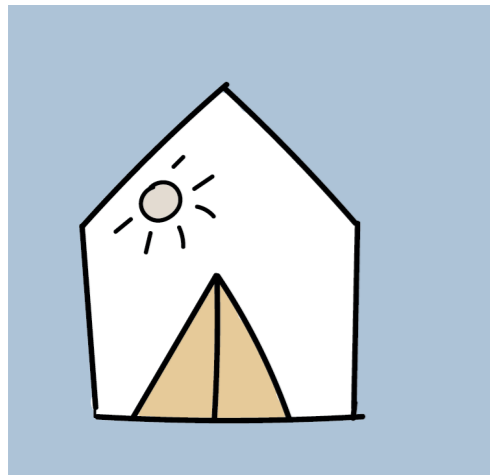
Holiday feeling at home

"It's just so nice at home"

"Home is no longer school"

"These three months feel like the cosiness of being on vacation"
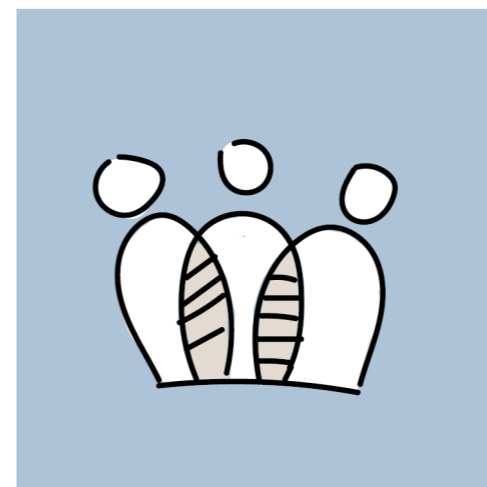
Get to know each other better

"We usually share things at the end of the day. Around dinner time. But then, what I notice is that Marco and I are both tired, so there is less attention. "
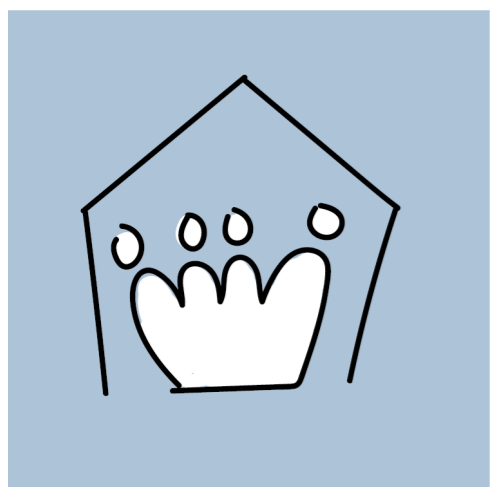
Physical togetherness

"Even if you are busy with other things, it is nice to be in one room with each other and to hear each other."

"I enjoy it more when we are with the four of us, even though we don't all do the same"

Closer to the fire

"Yes the progress they are making, I think I will miss that and last period you were on top of it"

"You were closer to the fire, so everything you did as a parent had an immediate effect, you could just address it. Now, when they go back to school, you are further away "
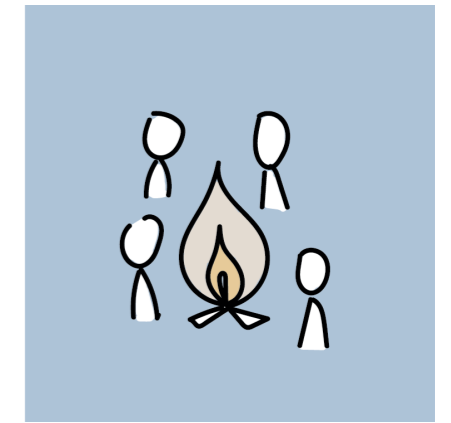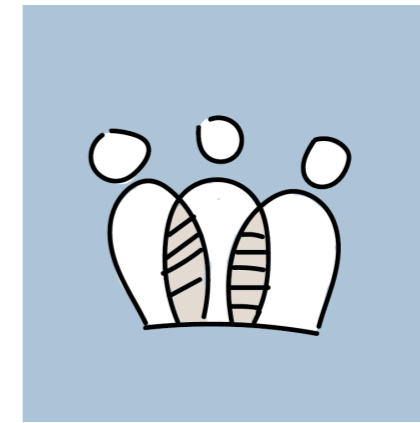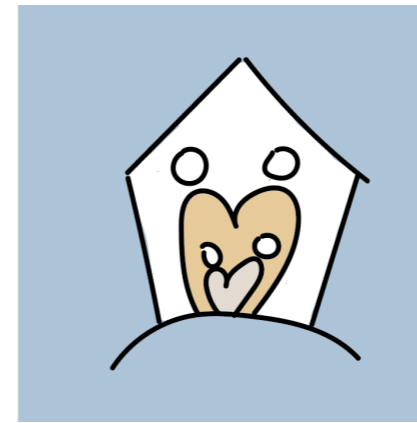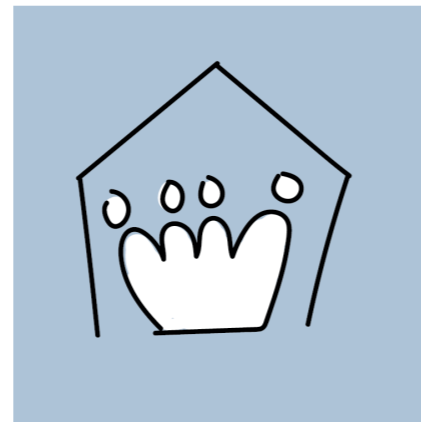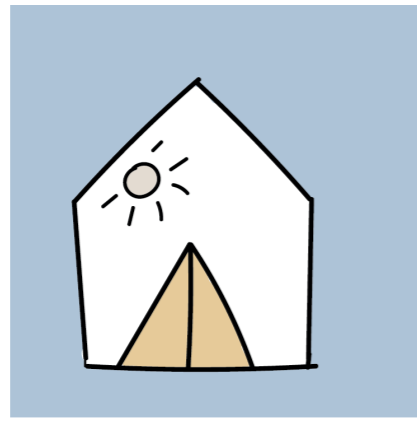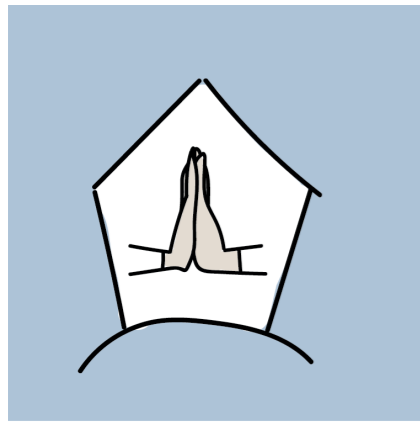
2.5.5 The lesson learned

These insights about the experiences of families being together are interesting to link back to the design goal. The design goal was about the feeling of presence. Comparing the above insights, it becomes clear that being together emphasizes **being physically together at home.** Families have experienced this during the Corona time and they have recognized its value; this is something they have learned.

Now that everything is returning to 'normal life', it becomes even more clear how quickly everything becomes less synchronized within a family. The moments of being together are already decreasing and these moments become more practical.

An important lesson that families have learned is that we should not forget the precious moments of being together through busy lives; **the moments of togetherness**. Families should learn to remain aware of these moments and spend these moments in a valuable way.

The design goal can therefore be defined more specifically. It is still about the feeling of presence and the value of being together. The insights out of the research shows that this means for the families:

Grasping these moments of togetherness at home and spend them in a valuable way, despite the busy lives.

2.5.6 The final design goal

To make family members aware of the moments of togetherness and spend those moments in a valuable way, even if rhythms and routines are less synchronized and when living less in the moment.

2.6 Concept ideas within the solution directions

2.6.1 Directions

After the analysis it became clear that the emphasis is on **the physical moments at home**. The direction of Remote Connection is therefore no longer a fitting direction within this tightened up design goal. The clusters about family togetherness presented in chapter 2.5.4, can be divided within the two solution directions; Reminding and Transparency, showed in figure 41. The clusters can be defined as the specifications of what these directions mean for the families and what the families want take with them.

Concept ideas

"The How" in figure 41, are the chosen concept ideas. In the analysis, all ideas were put together. Within the Remembering direction, a first test had already been done with lamps. This test showed the lamps create awareness about togetherness of the family. The mother of the family explained after using the lamps for 1 week:

"Well what I thought was funny, well funny, I've been quite busy for the past week, and it took a long time before all the lights were turned on at the same time. Of course you were in The Hague, I had to work a lot, the children went to school, and that was actually the moment I thought, oh now it is time the lights are on all together. It is getting old-fashioned busy again."

Therefor, the lamp-idea will be used within the direction of Reminding, to create awareness of being together. Many additional questions and comments about this concept idea arose as well, which should be further explored and tested (Appendix J).

For the direction of Transparency, it emerged during the research with the families that keeping abreast of what the others in the family are doing is an important element for the valuable moments together, but the motivation to keep informed about each other is crucial. Therefore, the idea came up to combine this direction with a game. The game element was a recurring answer on the postcards within all families about something you like to do with the family. This could be a possibility to make it fit within the routines of a family.

The two concept ideas are further explored and described on the next pages.

Two ways to find a solution for the design goal:

Reminding — Own peace at home; Physical togetherness; Holiday feeling at home; The intimate and safe feeling at home. HOW: Symbolic object in house; lamp.

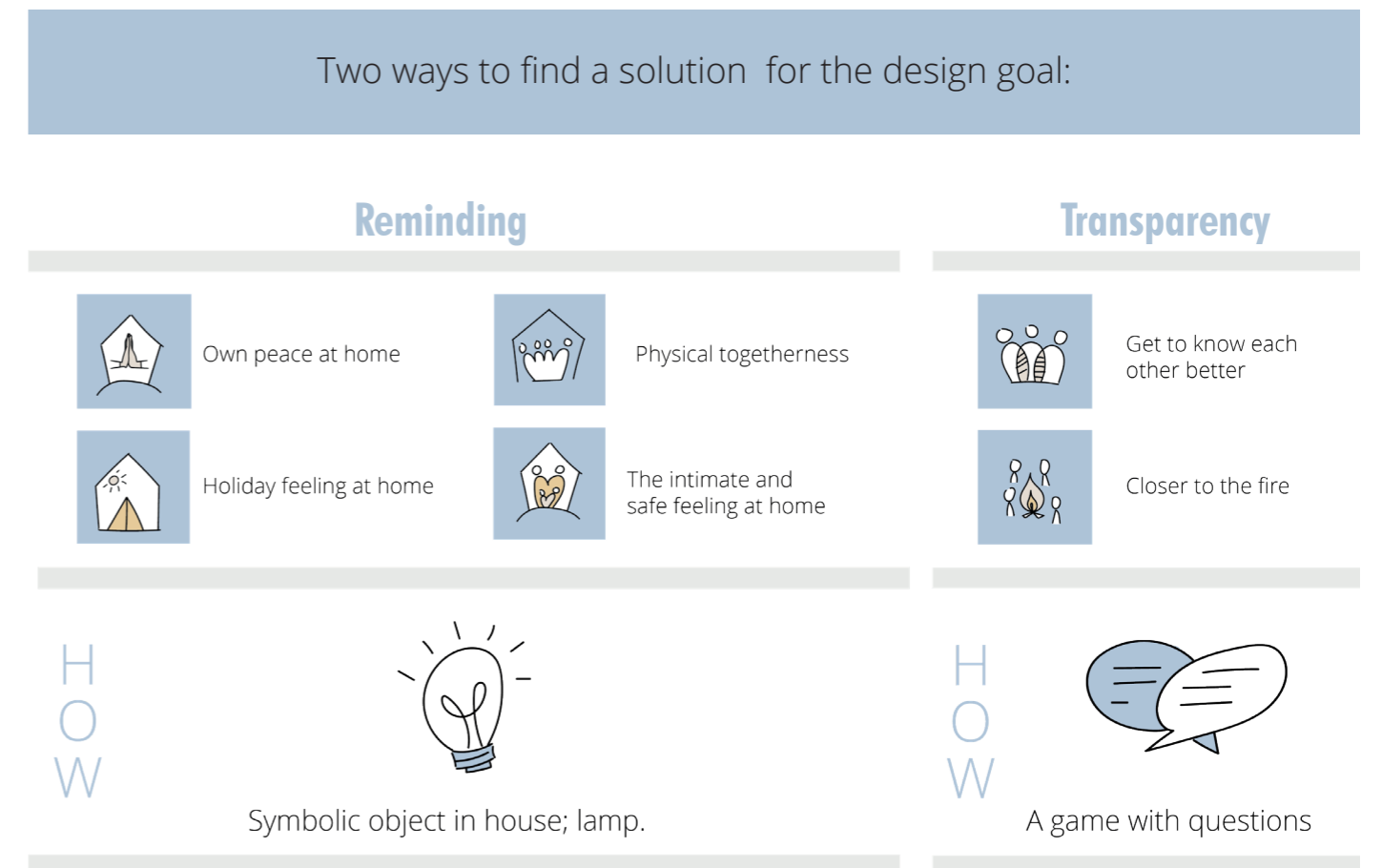**Transparency** — Get to know each other better; Closer to the fire. HOW: A game with questions.

Figure 41: *Visual overview of the two solution directions connected with the defined clusters and connected solutions.*

Figure 40: *Post-its with insights out of the interviews and tests.*

2.6.2 Concept idea 1: LAMP

The concept idea of the lamp aims to create awareness about when everyone is at home and when family members are missing. By realizing this, more value will be attached to the moment when the family is complete.

During the Corona period, we learned within a family how valuable it is to be together that much. When everything turns back to normal, the moments together will become less common and more practical.

The light also has an extra symbolic meaning of the warmth of home. Once the lamp is not complete, the family is incomplete as well.

Each family member is responsible for his/her own part of the lamp. This can be linked to the intrinsic motivation it yields from the Octalysis (Chapter 2.4.1) about the drives of Meaning and Ownership.

The interaction opportunities

The act of turning on the lamp is more than just pressing a button. To find interesting ways of interaction with a lamp, research is done looking for inspiration (Appendix M.2). The ideas for the interaction are:
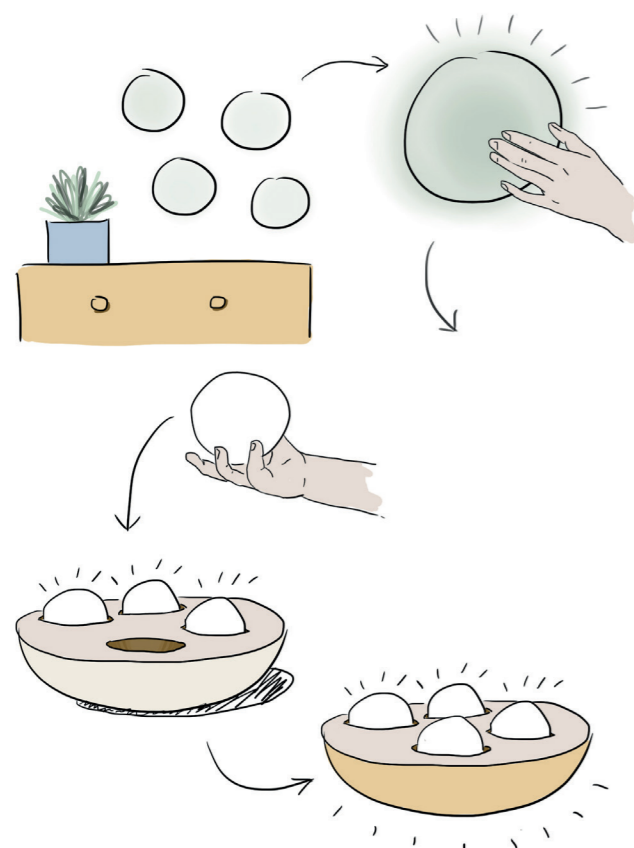
- Making it attractive to turn on the lamp, through a touchscreen.

- OR making it annoying if you don't do it. This is the idea of loose balls you have to put place in a base with holes. After placing the ball in hole, the light turns on. As long as you don't do it, the balls are loose next to the lamp (which probably is annoying).

Feedback from the family was that it would become more interesting if you get something extra in return when the lights are all turned on. For this it has been thought that an extra light at the bottom will turn on.

Figure 42: *a. The interction of touch using the lamp. b. Interaction of grabbing a ball.*

Development opportunities

More shapes and variations were devised on the basis of the insights from the interviews and tests. Furthermore, the concept idea is linked to the Octalysis framework to look for more inspiration to make the concept a sustainable solution. For the complete brainstorm and idea generation see Appendix M.

2.6.3 Concept idea 2: Question-game

From the first idea phase, many ideas were devised with the topic of asking questions within the family (Appendix F), in order to create Transaparency. This was in all kinds of shapes, such as a placemat, a block calendar in the bathroom, drawing blocks on the dining table, a family book, tableware with questions, etc.

After the research with the families, an insight was defined about the value families experience by playing a game together. By combining the element of asking questions and playing a game you make the concept attractive for families AND you focus on the Transparency.

Combining ideas
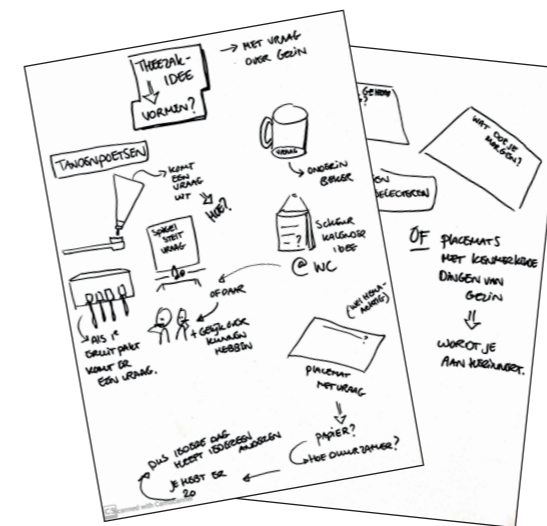
A lot of ideas about
asking questions.
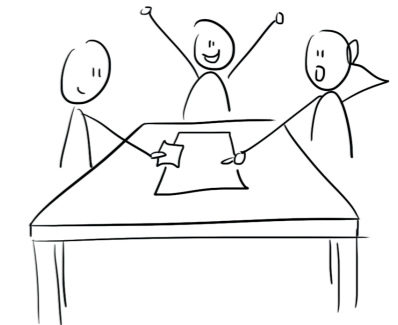
Insight out of the field research:
playing games is a connecting
activity for families.

To give this concept a clear shape, the inspiration on the postcards was used (Appendix I.2). The families mentioned that a game that is fun for the whole family should not last too long and elements such as bullying and sabotage make a game fun. All kinds of forms of games have been devised with these elements (see Appendix N).
Other elements of the postcards were also used in developing this concept, such as the passion for camping of Maartje's family and the favourite games of families like Carcassonne and Saboteur were included for inspiration.

THOUGHT

In the end, two games were devised that could be tested further. Yet suddenly an essential element became clear in this; the game must be remembered first to start playing. Therefor the following questions arose about the game-idea: Should it be continuously present?

2.6.4 The essence
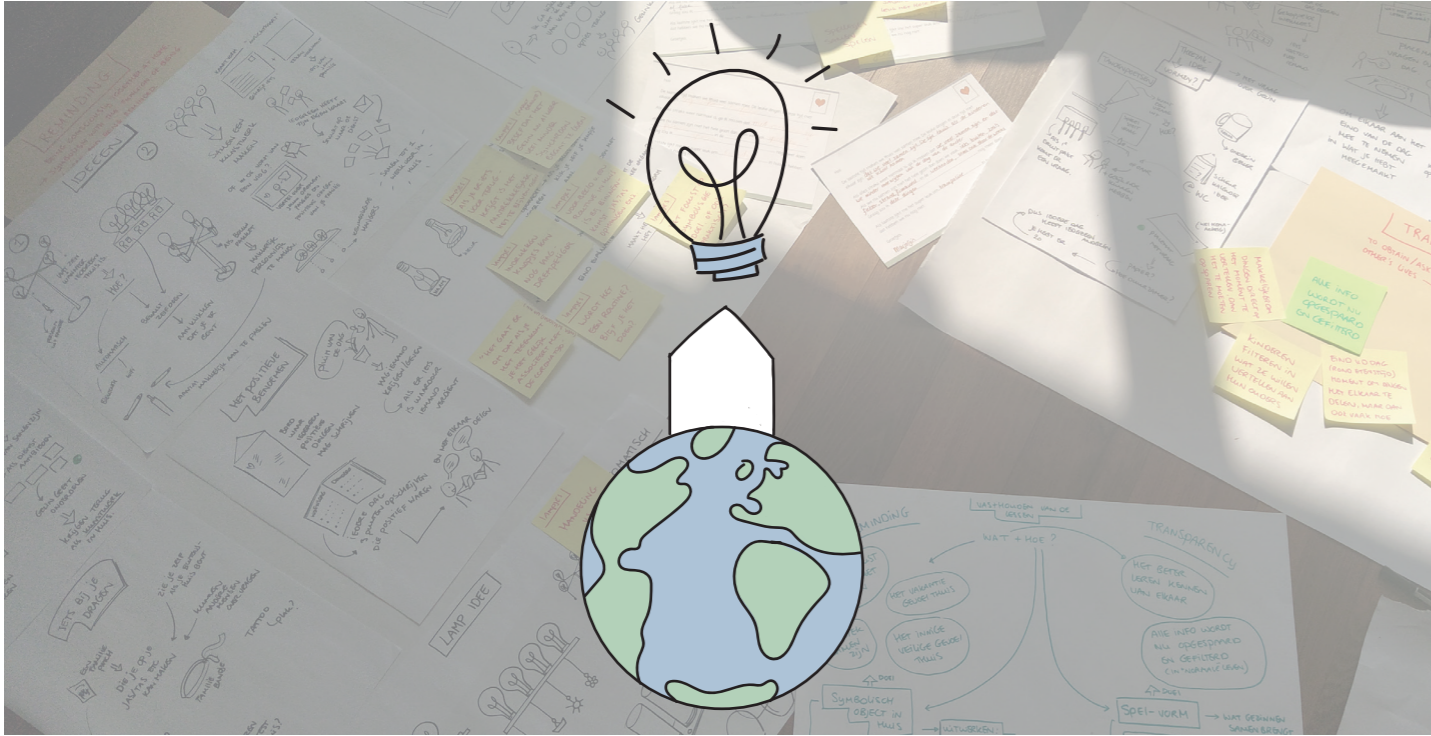
During the development of these two concept ideas, something essential became clear. The game concept is a valuable idea with the aim of maintaining transparency in a forced way. But step one is that the game will be played. The aim of the game is to use the moments you are together with the family in a valuable and conscious way. A conscious step must be taken by the family members to do this. Therefore, it could be an idea to let the game be constantly present.

In the end it is actually about the first step; being reminded to grasp the moments together and thereafter use that time in a valuable way. Therefore, a further development step was made in the concept development by combining the essence of both concepts.

Step 1: being reminded of the value of being together.

Step 2: keeping abreast of the lives of the other family members.

2.6.5 The concept ideas combined

Combining the essential elements of both concept ideas, the following concept was created:

Goal of the concept

A lamp that makes you aware of the presence of the different family members, by a simple/attractive action of the members themselves. When all lamps are on, the lamp is clearly complete; which is the family as well.

Option of the form

The shape of the concept needs to be defined. One of the ideas in terms of shapes described in concept idea 1 will be included in this combined concept for now. The final shape will be determined in the next chapter. Figure 43 presents the scenario of using the combined concept. In this figure the shape is based on the idea with touch lamps.
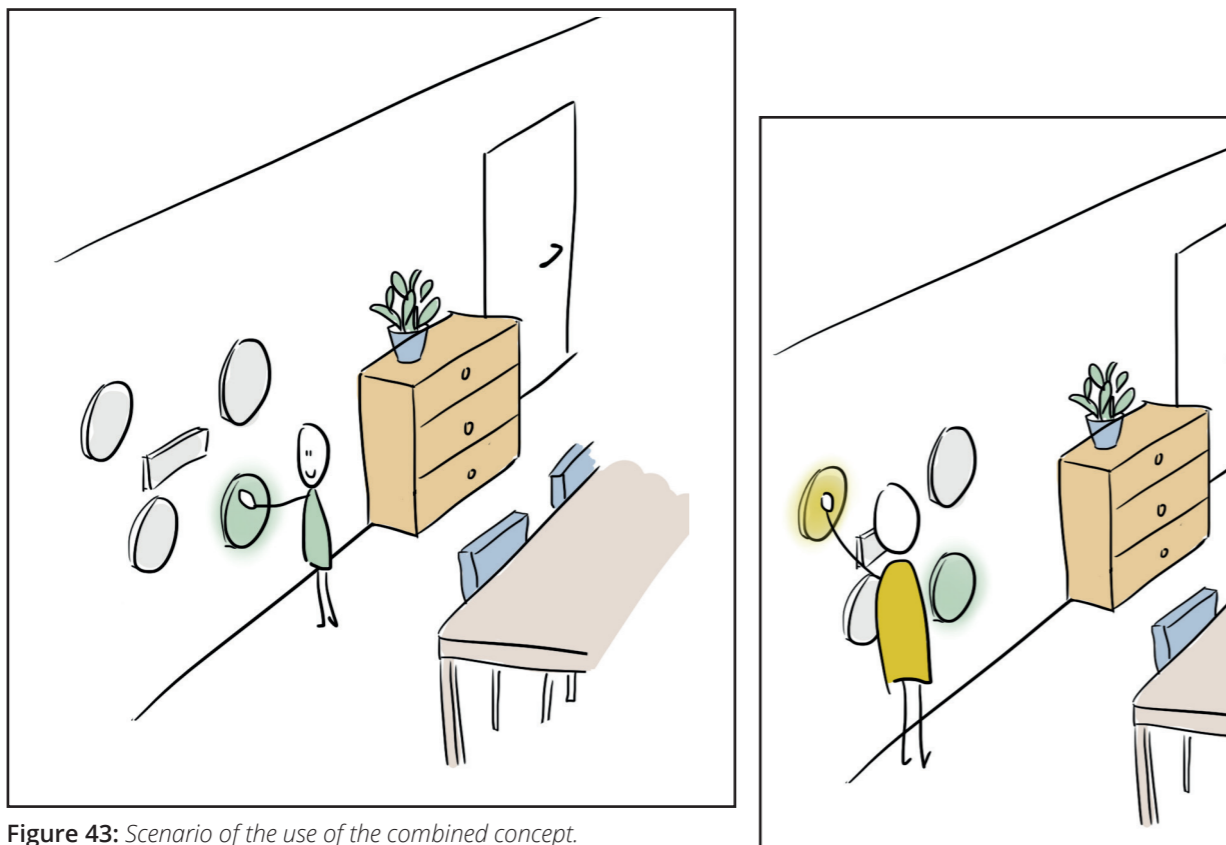
Figure 43: *Scenario of the use of the combined concept.*

Use and interactions

When someone comes home, the person turns on his/her lamp. The assumption about this idea is this act is attractive which motivates the person. Or because it produces something annoying by not doing it. This will be further investigated and elaborated in the next chapter.
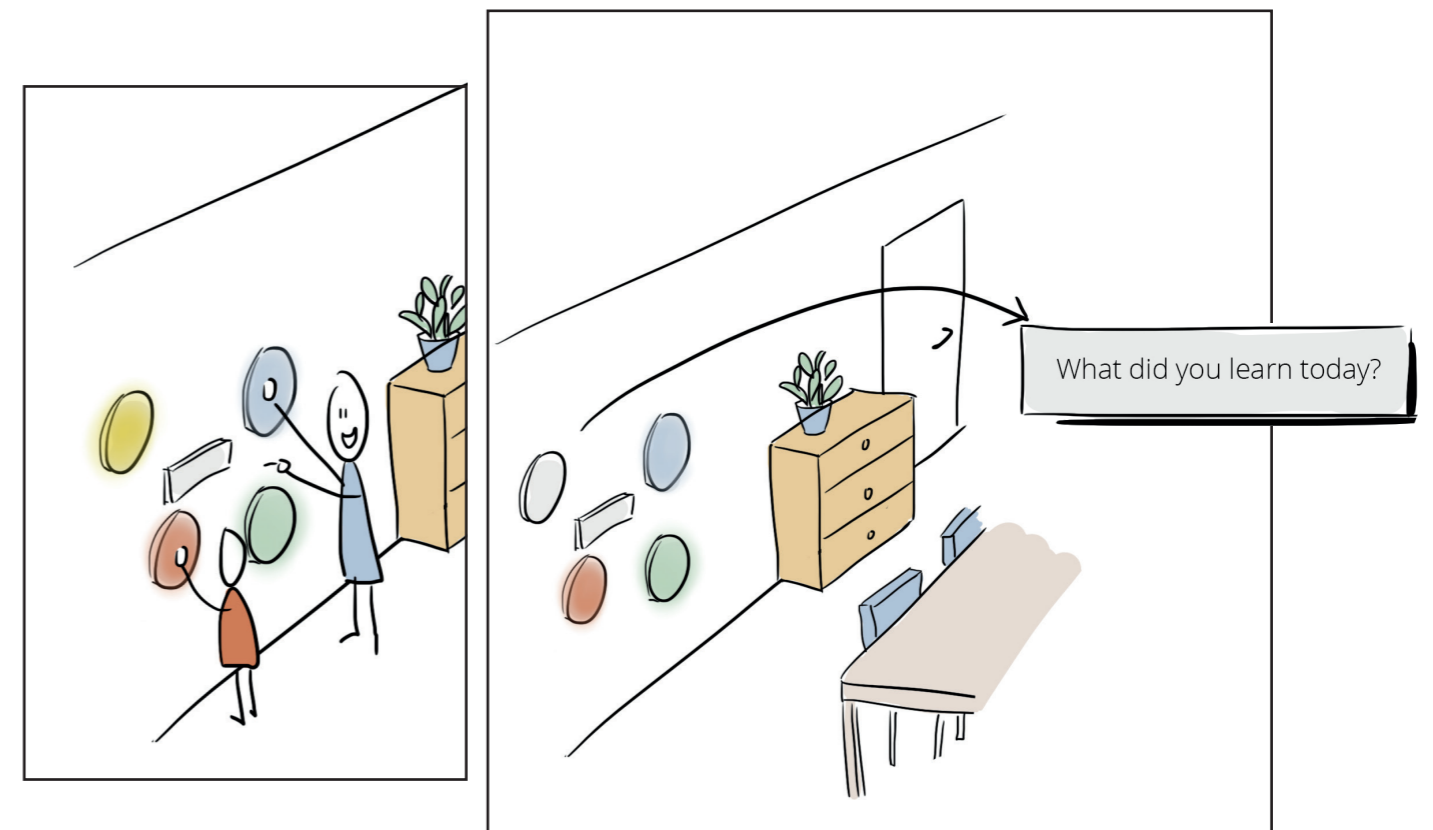
When all lamps are shining, the lamp is complete; which is the family as well. In addition, a question will appear. A question that concerns experiences, feelings, personal values etc. The question does not necessarily have to be answered immediately. The essence of the question is that it makes aware that at that moment everyone is at home and that you could use this moment with focussing on each other by asking a question.

As soon as one of the lamp is turned off, when someone leaves or goes to bed, the question disappears. With this you will be remembered and motivated to stay aware of each other's presence, despite the less synchronized lives and the busyness in our lives.

3. CONCEPT DEVELOPMENT EXPLORATION

Figure 44: *Family of Margriet testing the concept idea of the lamp-bulb.*

3. CONCEPT DEVELOPMENT EXPLORATION

The previous chapter ended with a presentation of the combined concept. In this concept many parts and elements need to be defined.

The approach in this project is from the perspective of the families (the users) themselves. Determining the form and use of the concept is done by exploring with the users as well. Therefor, this chapter will start with a validation for inspiration. In this way, the input from the users can be included in the concept development.
At the end of this chapter, the insights from this validation will be incorporated into a final concept with clear specifications (covering the usability, interaction and appearance aspects).

3.1 Validation for inspiration

There are several elements of the concept that need to be determined. These are:

•   The shape and design of the lamp.
•   The action/interaction of turning the lamp on and off.
•   Getting a clear picture of the questions asked within a family, and how these questions can be used.

3.1.1 Determining the shape

In chapter 2.6.2, two shapes of how the lamp could look like are presented. One of the elements assumed in both of these shapes is the concept should be clearly visible. To validate this, different forms of prototypes will be tested with the families. In the final interviews the appearance of the lamps will be evaluated as well. The shape and interaction of the lamp are connected. Therefore, the different prototypes will test a combination of form and interaction.

3.1.2 Determining the action & interaction

After testing the first idea with the lamps (Chapter 2.5.2), it emerged that the motivation of turning the lights on and off is an essential part. Already a brainstorm was done to improve this part of the concept (Appendix M). Furthermore the assumption is made that the motivation of using the lamp is based on two kinds of approaches; make it a very attractive interaction, or force it through a stimulus.

For the shape of an attractive action, a touchscreen was chosen, which is easy to combine with the idea of the round shapes on the wall. The idea of touchscreen was a recommondation of the father of the family who tested the first lamps. He thought it could be too much effort pressing the button, so he suggested touchscreen (Appendix J.2.1).

The approach of a forced motivation is combined with the idea of the lamp consisting of balls being placed in a basic shape. The stimulus of motivation is when the lamps are turned off, the balls lie next to the basic shape. The assumption is that this is inconvenient. As soon you get home you will make sure your ball has to be placed in the basic shape. This will be tested using a simplified prototype.

3.1.3 Determining the questions

The combined concept presented at the end of Chapter 2 consists of a question which appears when all lamps are shining. When should these questions appear and what should these questions be? These elements will be defined by testing with the families.
The determination of the questions are combined with the test of the lamps. One test will fully focus on the determination of the questions without the lamps.

Figure 45: *Building one of the prototypes.*

3.2 The tests and prototypes

The previous pages describe the information needed for the concept development. The following protoypes are made to obtain this information:

Figure 46: *Prototype of the question-box.*

Figure 47: *Prototype of the balls-lamp.*

Figure 48: *Prototype of the bulb-lamp.*

Figure 49: *Prototype of the touch-lamp.*

1. The question-box
Goal:

To collect questions from the families' contexts for the final solution.

Prototype:

- A box with a small gap on top.
- A stack of empty cards (in a cardholder).

Assignment for the family:

Write questions individually or collectively and put them in the box. The box can be placed at a location in the house where the family often meets. When there is a moment it feels like an good occasion to ask questions, grab a completed card from the box and ask your family member(s). The families are free to use the prototype according their own interpretation.

.

2. Balls-lamp
Goal:

To validate the assumptions about the interaction with the lamp, to explore the appearance and visibility, to collect question and gain information about the use of these questions.

Prototype:

- A base block with four holes and four coloured balls. The base block has LED lighting in the holes. As soon a ball is placed in a hole, the light of that specific hole will switch on.
- A card set with twenty questions (Appendix O.4) in a cardholder).
- A stack of empty cards.

Assignment for the family:

Everyone chooses a coloured ball. When you get home you make sure that your ball is in the base block and your light is therefor turned on. When you go to sleep or when you leave the house you turn off your light by taking off your ball. As soon all four lamps are shining, a questioncard (or several) may be taken. It is up to the family how to use the questions. In addition, extra questions may be added on the blank cards.

3. Bulb-lamp
Goal:

To evaluate the the experience of the lamp-question combination, to validate the concept with a divorced parents family and to collect questions.

Prototype:

- Four separate lamps with different colours.
- A stack of empty cards (in a holder).
- Twenty cards with questions.

Assignment for the family:

Everyone chooses their own lamp. When you are at home you make sure your lamp is turned on (when you go to sleep you switch off your lamp). As soon all four lamps are switched on, a question or several questions may be taken. It is up to the family how to use the questions. Extra questions may be added on the blank cards.

4. Touch-lamp
Goal:

To validate the assumptions about the interaction with the lamp, to explore the appearance and visibility, to collect question and to gain information about the use of these questions.

Prototype:

- A round plate with four separate touch-lights Each light has a circle with a different colour.
- A holder with cards placed in the centre of the round plate.
- Twenty cards with questions and some extra blank cards.

Assignment for the family:

Everyone chooses their own lamp colour. When you get home you make sure your lamp is turned on. When you go to sleep or when you leave the house you turn off your light. As soon all four lamps are shining, a questioncard (or several) may be taken. It is up to you how to use the questions. In addition, extra questions may be added on the blank cards.

See Appendix O for the making of the prototypes.

3.3 Results of the prototype tests

Different prototypes have been tested at four different families. The test time varied from five to seven days. As described above, the goals of the tests varied between the prototypes.
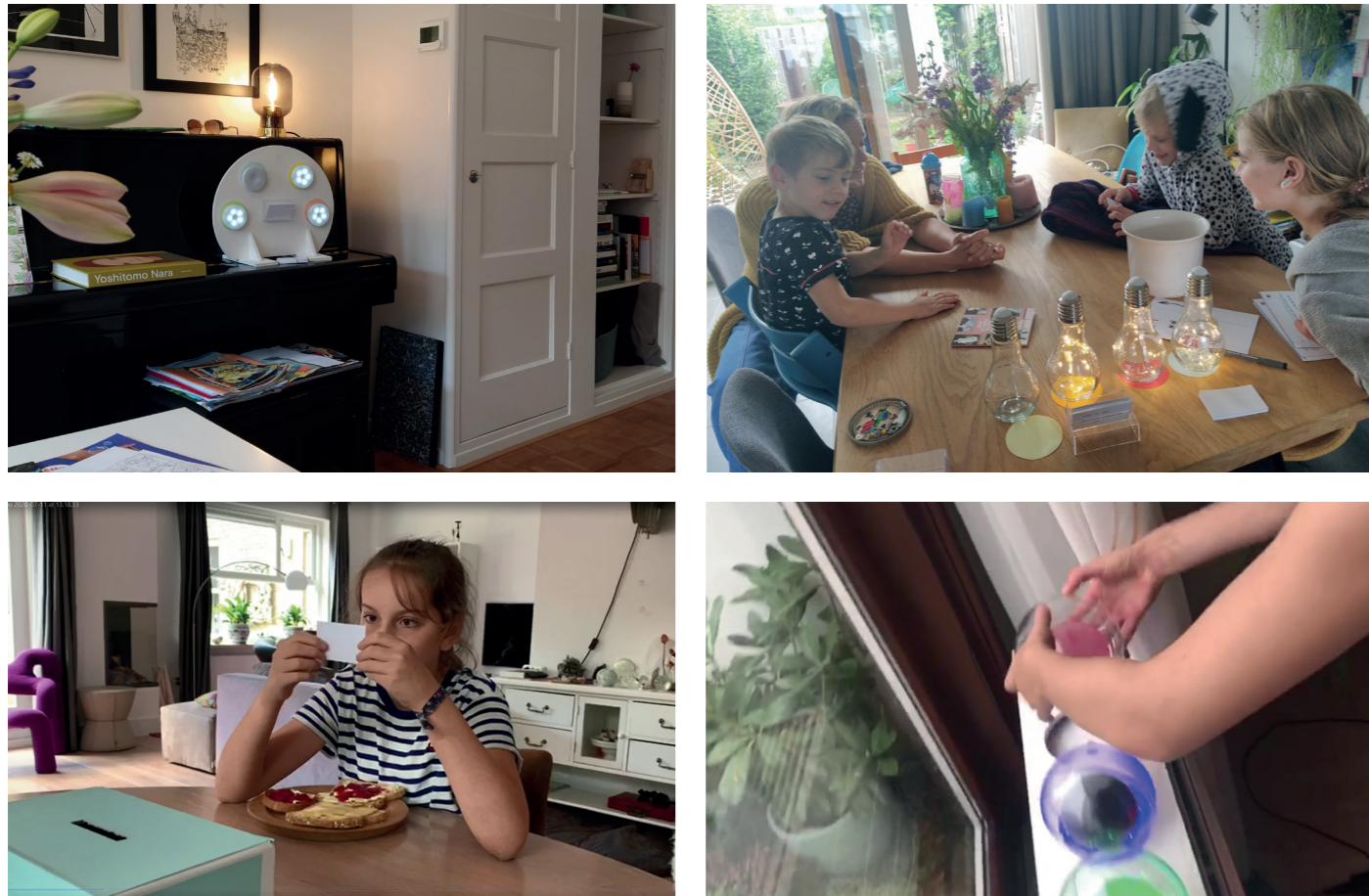

Figure 50: *Families testing the prototypes.*

After the families used the prototypes, an interview was conducted to find answers to previous mentioned prototype questions. The interviews have been transcribed and the important/ valuable/ recurring statements were highlighted. The complete analysis is described in Appendix P.

💭 **REFLECTION**

The tests were done by two families who participated with the context exploration already and two new families. These new families had the same backgrounds, because they were approached through the networks of the participating families. As expected, the outcome brings not a wide variety of insights. In Chapter 3.6 I will come back to this, in order to broaden the scope.

In addition, the prototypes were tested for a maximum of one week due to the limited time of the project. Elements such as intrinsic motivation cannot be fully validated on longer term. Assumptions have been made based on the short-term tests.

The following insights derived. They provide directions to detail the concept fitting the everyday context of the participating families. Some cover usability aspects, some aesthetics, and some context and rythm aspects.

- It has to be an easy interaction to turn on and off the lights. Touch was experienced as pleasant. On the other hand placing balls into an object is too much effort.

- Making the lamp customizable, could provide more connection with your own lamp.

- The different lamps have to be a unity.

- It would be nice if the lamps could be placed near the dining table. There is also a preference for hanging the lamp on the wall.

- The lamp has to project warmth and cosiness.

- It should not be too noticeable, but it should be visible, otherwise you will forget it.

- Let the lamp ask the questions, therefore no one will be in charge. Otherwise it becomes too competitive.

- An optional addition should be a possibility to add or collect memories with the lamp, to feel more connected to the lamp.

Figure 51: *Inisghts out of the tests and interviews connected with the prototypes.*

3.4 Shapes

The concept had been further iterated on with the insight out of the validation for inspiration (see Appendix P). This resulted in three shapes of designs. All three designs consist of the following parts:

· Different lamp-elements with an interaction of touch.

· A basic part where a question appears when all the lights are turned on.

· A customizable element for each lamp.

· The possibility to hang it on the wall.

· Light from the lamps is yellow/ warm light.

The different designs are described on the following pages.
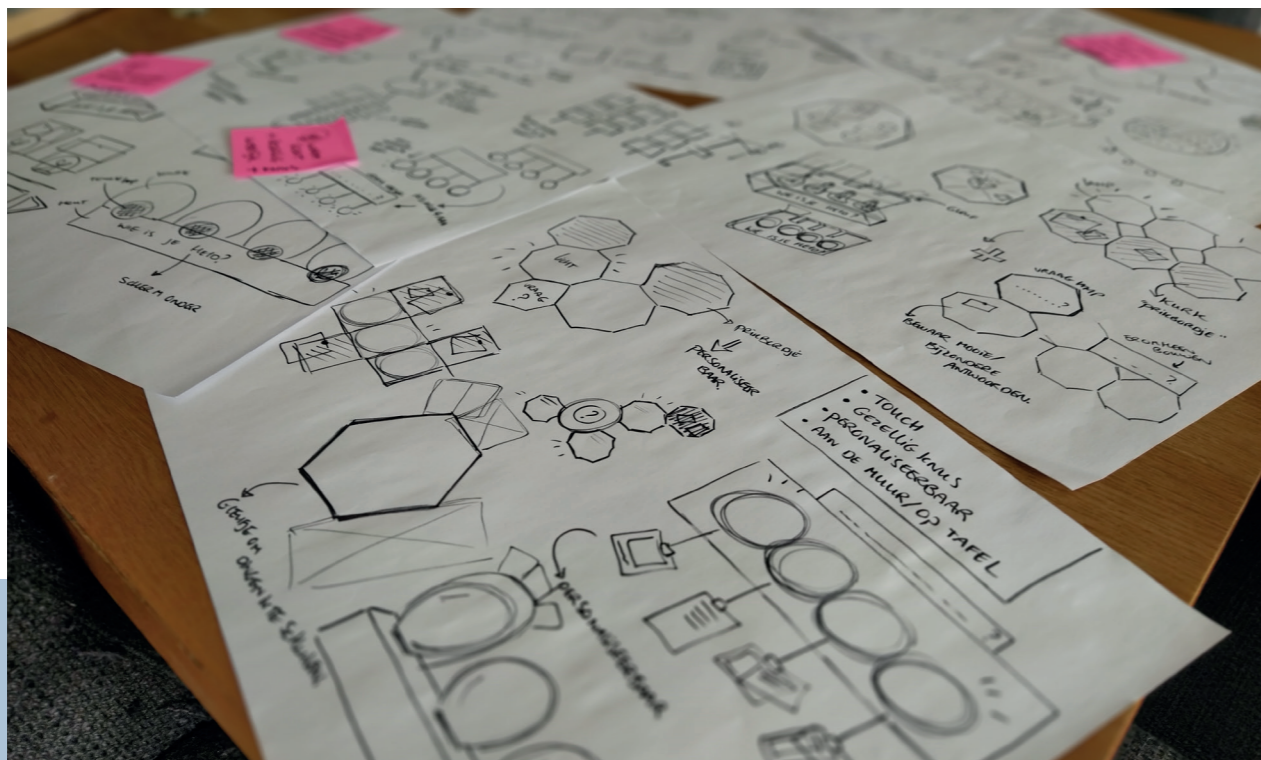
Figure 52: *Sketches of different shapes of the concept.*

3.4.1 Shape 1: Bulb-Block

This design can be personalized by placing something personal in a groove in the wood, behind your own lamp.

The lamp goes on through touch. When you are at home, you turn on your own light.

When all the lights are on, it means everyone is at home. A question will automatically appear. These questions are designed to get to know each other better and create a warm feeling. The question remains visible as long as all four lights are turned on. The family can decide what to do with the question.

WIE IS JE HELD?

Figure 53: *The design of the Bulb-Block.*

3.4.2 Shape 2: Pin-Hexagon

Everyone in the family has their own hexagon lamp with a cork pinboard attached to it.
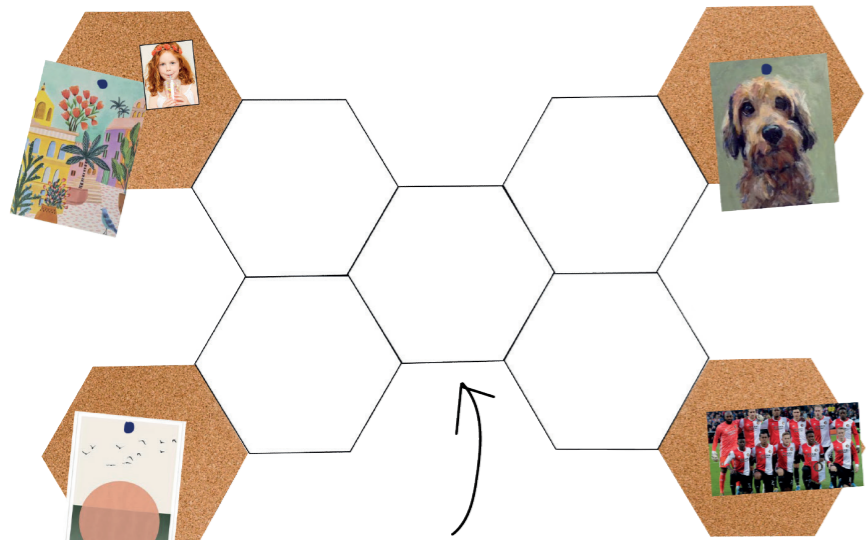
There is 1 base lamp. All other lamps are connected to this one.

Everyone can pin personal things or memories on the pin board of your own lamp. This makes your lamp yours. You can also share things with your family using your pin board.

When you come home, you turn on your own lamp. This works with touch. When you leave or when you go to sleep you turn off your own lamp.

Wat doe je als je bang bent?
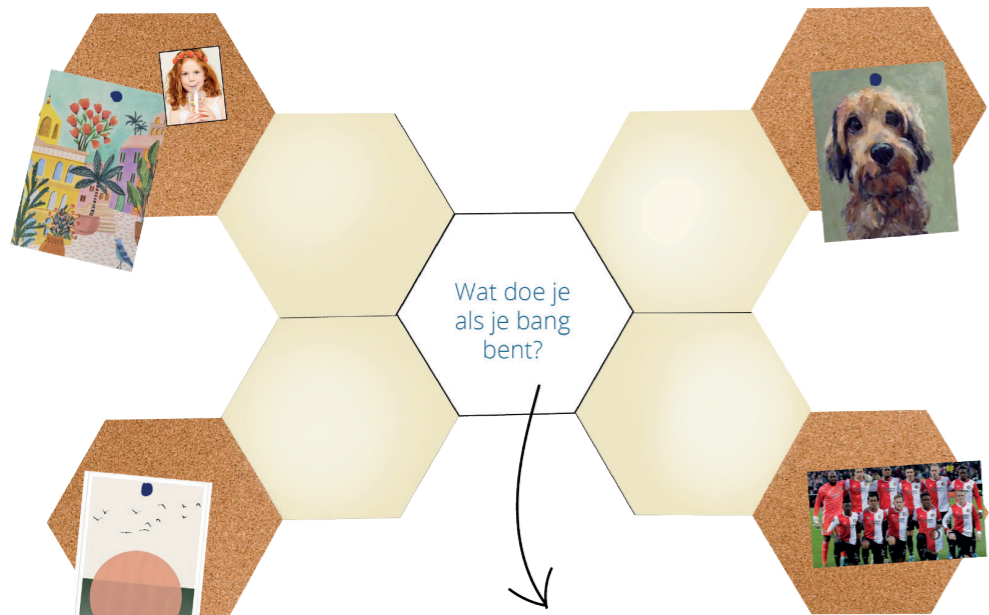
When all lamps are on, a question appears in the base lamp. Like the other design, the question aims getting to know each other better and to create a warm feeling.

Mix & Match

Base lamp
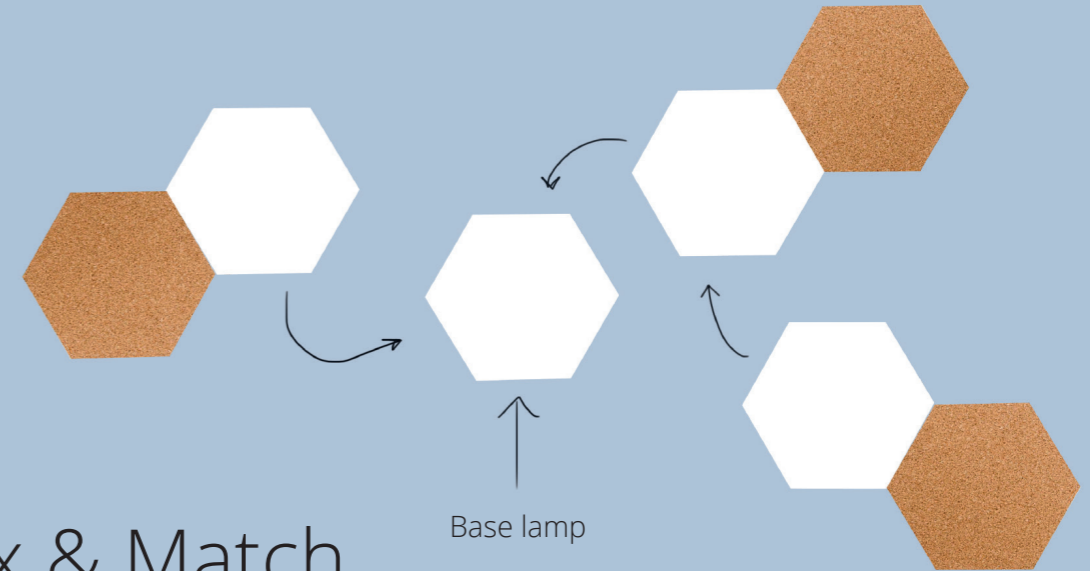
The lamps can be assembled in different ways to make it fit with different preferences and interiors.
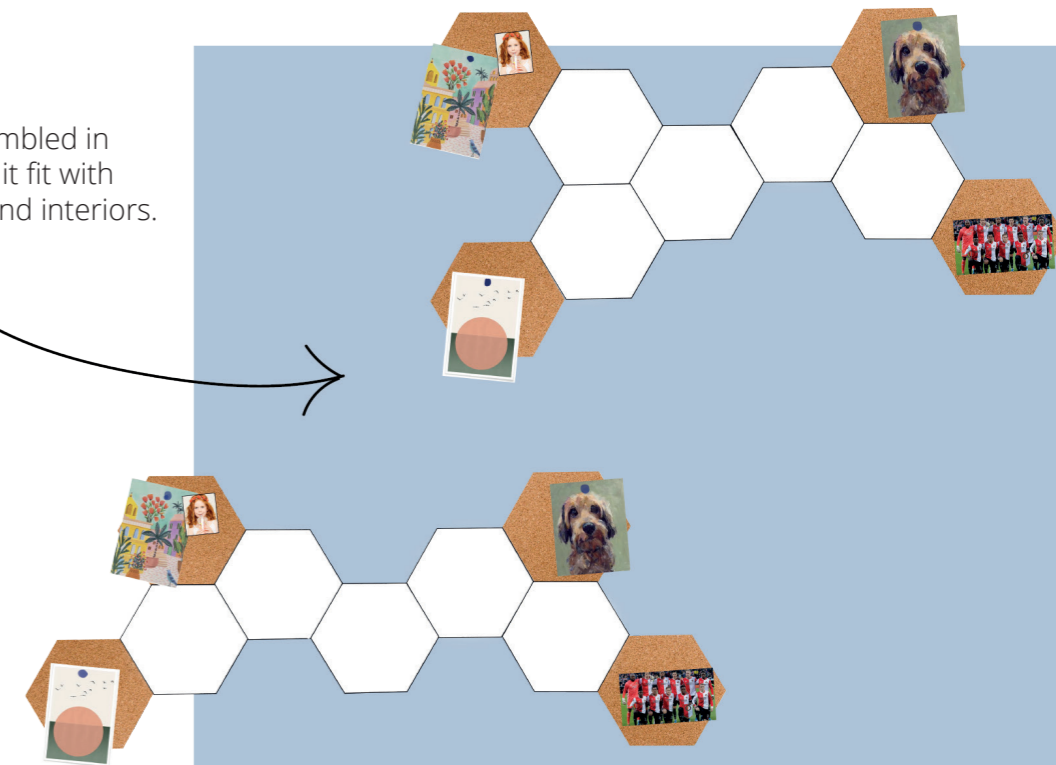
Additional lamps can be added or lamps can be removed. For example, if the composition of the family changes.
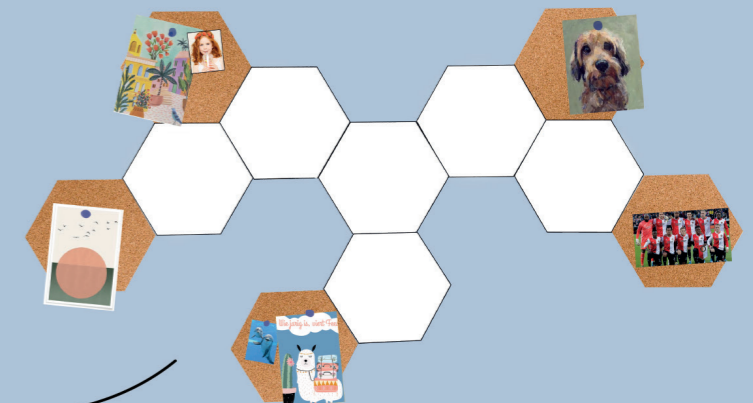
3.4.3 Shape 3: Click-Clock

This shape has a similar principle like the second design. This shape is slightly more compact and it can be assembled in different compositions.
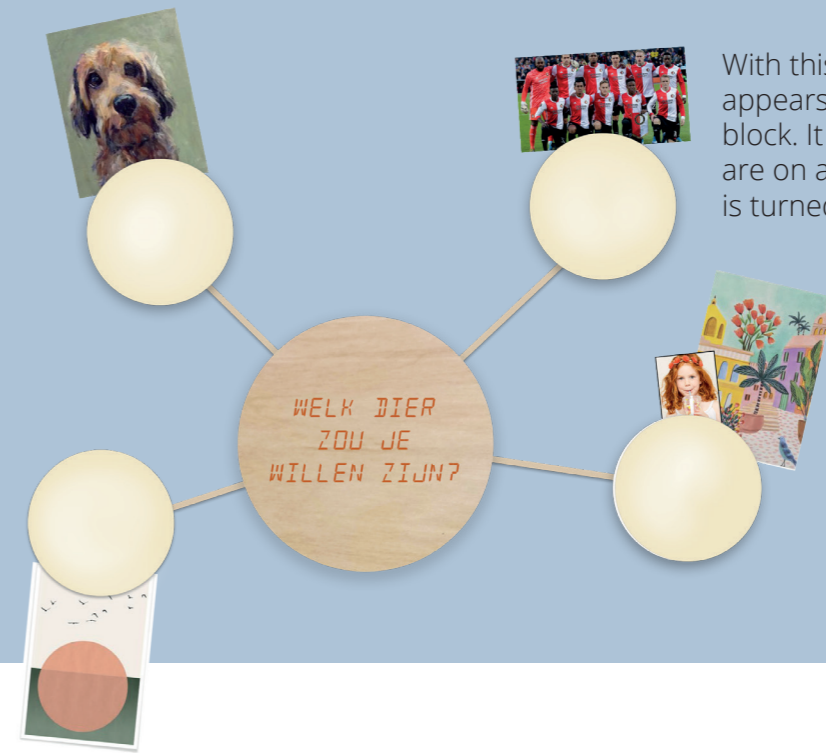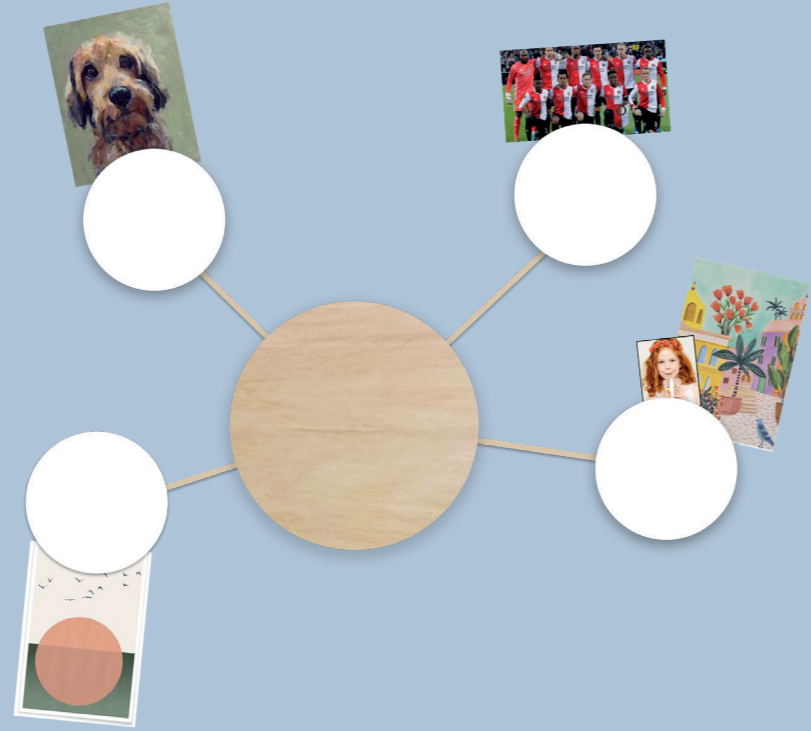
With this design, the question appears in the middle wooden block. It appears when all lights are on and turns off when a light is turned off.

WELK BIER ZOU JE WILLEN ZIJN?
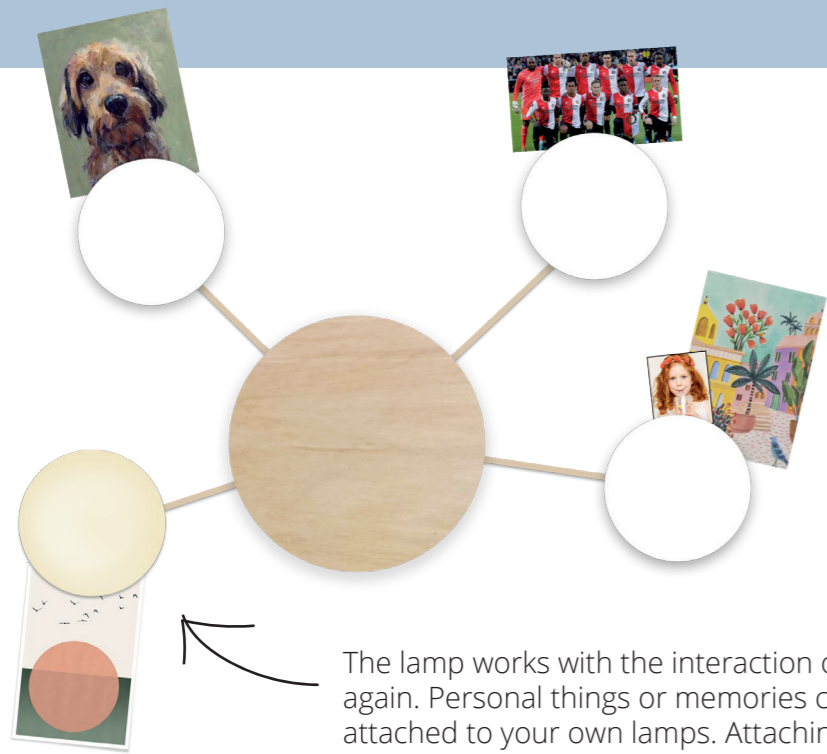
The lamp works with the interaction of touch again. Personal things or memories can be attached to your own lamps. Attaching things to a lamp works with a clamp at the back.

Additional lamps can be added or lamps can be removed.

3.4.4 Choosing the shape

The designs are compared using different perspectives, to choose the final shape of the concept. The designs were presented to the four participating families of the prototype tests. In addition, the different design are compared with the insights out of the prototype tests. In this way the insights are used like 'wishes' about the appearance of the final concept.

The different designs were presented to the different families using GIFs. The GIFs gave a brief overview of the possible interactions with the designs.
The voting table is presented in Appendix Q. Shape 1 (Bulb-Block) and 2 (Pin-Hexagon) received the same amount of votes.
Therefore, this poll is combined with an Harris Profile based on the list of insights (Chapter 3.3) (used as a 'wish list'), to compare the designs. The Harris Profile is presented in Appendix R.

Figure 54: *The design of the Bulb-Block.*

"It is compact. Nice that you can put cards in it and cool that there is text on a piece of wood"

"It's more peacefull on the wall and it looks really nice with those pictures behind it".
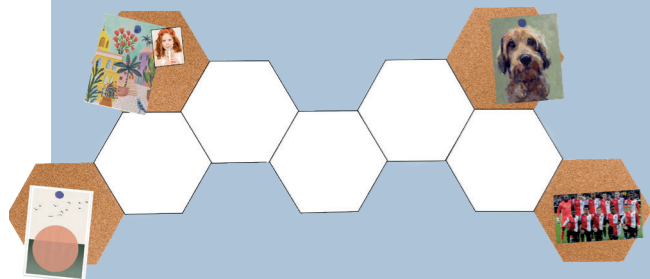
Figure 55: *The design of the Pin-Hexagon.*

"It retains something individual and yet there is unity."

"Nice you can change the shape and we like the pinboard because you can also attach 3D things to it."
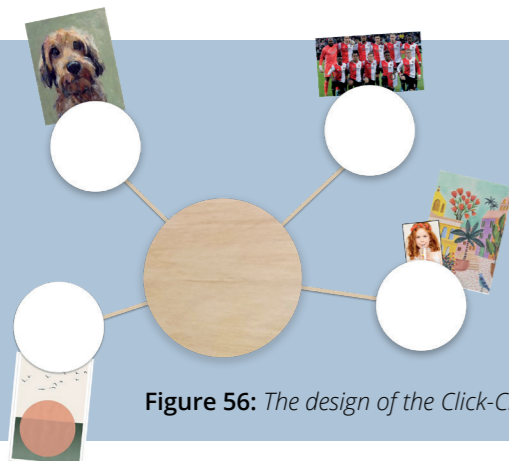
Figure 56: *The design of the Click-Clock.*

"There is much space between the lamps, it is the lightest design."

From the analysis using a Harris Profile, designs 2 (Pin-Hexagon) and design 3 (Click-Clock) appeared as strongest within the defined 'wishes'. Design 2 got most votes as well, therefor it scores in total slightly higher compared to design 1 and 3.

Beside this, there is one more valuable aspect which is not mentioned yet making the choice of the final shape; Design 1 is a totally fixed shape. This means when the family composition changes, the lamp cannot be changed. This is a negative aspects in terms of sustainability.

The final shape

In the end this means, design 2 emerged as a choice for the families, as it emerged most strongly in the Harris Profile (Appendix R). In addition, it is a more sustainable solution because of the possibility to adjust the shape and composition when needed. Therefore, design 2 will be used. The final concept will be fully presented in the next part.
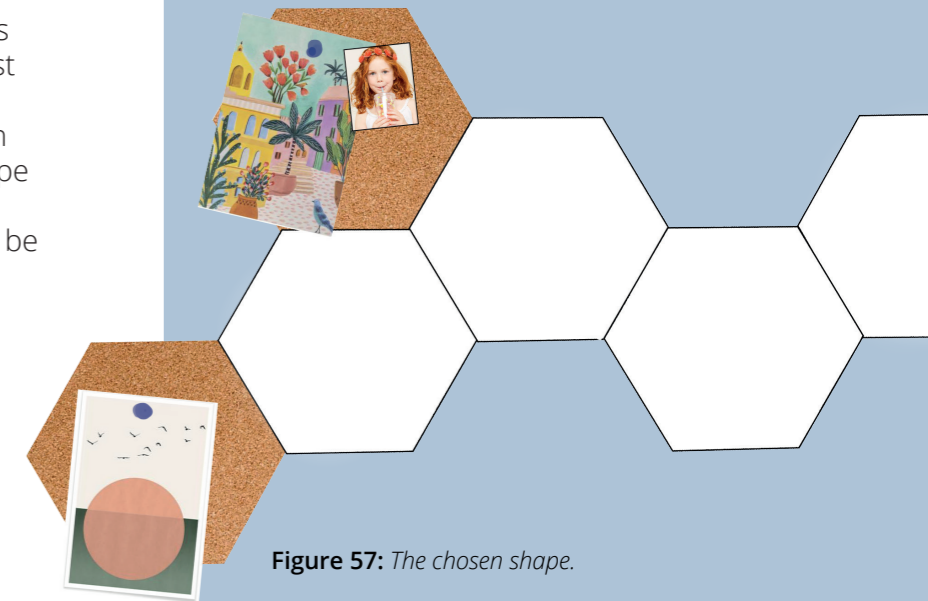
Figure 57: *The chosen shape.*

MINDSET

I tried to make a final choice of form together with the families as much as possible. This was a quite difficult choice due to the variation in the preferences of the families. In the end, the deciding factor for me was the value it brings with the possibility to easily adapt it to the number of family members. That, no matter what happens, it continues to suit the family. This allows the product to be used for a longer period of time. **My goal as a designer is focused on products with a long, valuable lifespan, and actually add something.** There are plenty of unnecessary short-living products in this world already.

3.5 The final concept

3.5.1 Back to where it started

During the Corona period the lives families have been turned upside down. It started with keeping a distance of 1.5m, working from home and children getting home schooling, to the closure of the food service industry and public areas and cancelling events. For Dutch families, this caused a major change in their daily routines. Everyone had to work, learn and live at home, at the same time. This caused disadvantages, but we certainly learned from this period, being forced to change our daily routines.

Because the family's world became smaller, they started to appreciate other things in life. They learned to appreciate the little things more; the norm changed. Within this new norm, the relationship within families changed as well. The parent-child relationship became stronger. This was something families could learn from and try to take with them to the future.

The routines and rhythms within a family, during the forced isolation, were much more synchronized. In the open, busy lives, everyone is much more concerned with themselves, with planning things ahead and focusing on practical matters. Therefor they easily live less in the here and now, and less with each other. The lesson families have learned is to keep abreast of each other's lives, to get to know each other better and to live more in the moment with each other. And how are families not going to forget this lesson?
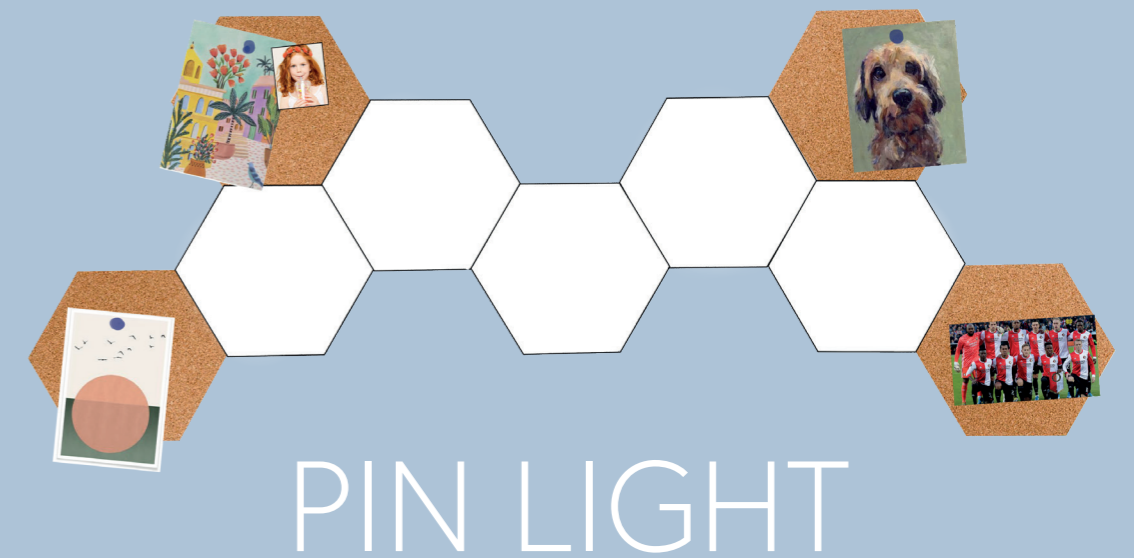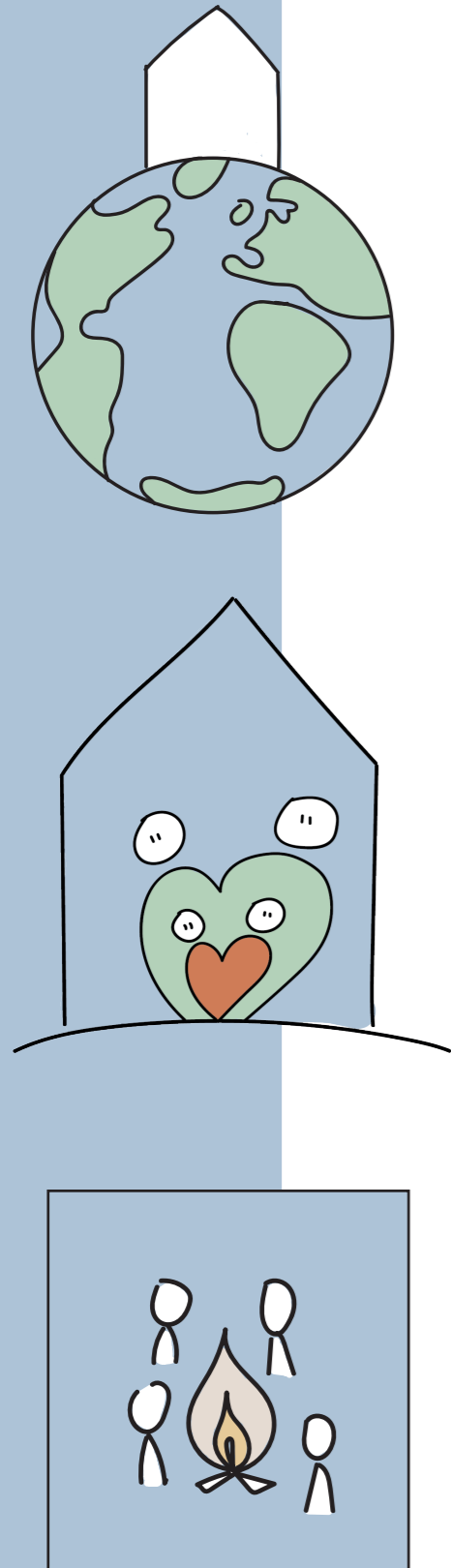
PIN LIGHT

'Pin your moment of light'

3.5.2 The PIN Light

The PIN Light is designed to consciously experience the moments of togetherness and to use these moments in a valuable way, despite the busy lives which will return. The daily routines of family will become less synchronized compared to the recent period of the forced isolation. We have learned how valuable being together is. The PIN Light helps us to keep abreast of each other's lives, it allows us to appreciate the moments together and it connects the family by creating a "moment of light".

Personalize & Connect

The design consists of several lamps in the shape of a hexagon. Each family member gets their own hexagon lamp connected with a hexagonal cork board. This can be used as a pin board to personalize your own lamp.

Furthermore, you can share information with each other. Memories can be collected at the pinboards as well.

Figure 58: *The Pin Light with one light turned on.*

Awareness & Transparency

Being at home, you turn on your own lamp. When you leave or when you go to sleep, you switch off your light. When all lamps are turned on, a question will appear. The question is visible as long as all lamps are shining. As soon as a lamp is turned off, the question disappears.

Wat doe je als je bang bent?
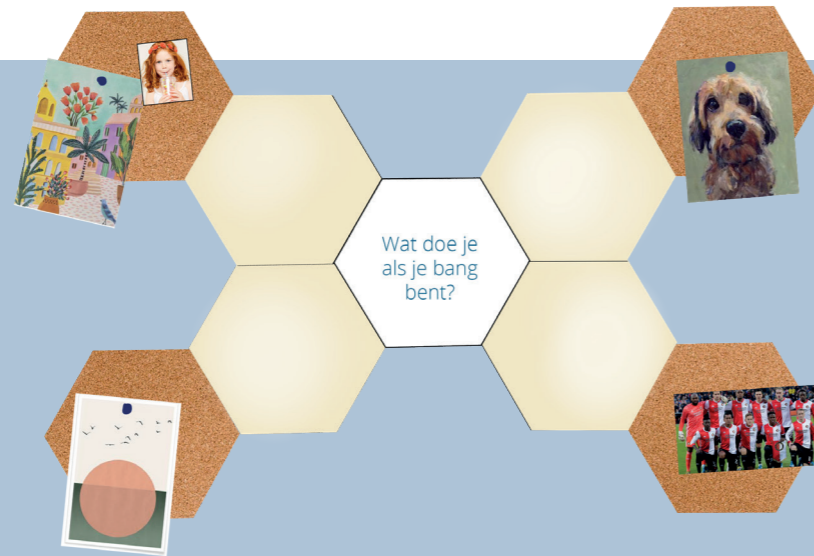
Figure 59: *The Pin Light with oll lights turned on, and a question appears.*

Mix & Match

The lamp can be assembled on the wall in various shapes and compositions. There is one base-hexagon, this provides the power and it presents the question. The other lamps can be attached to this base. A lamp can be attached to another lamp as well, if at least one lamp is connected to the base-hexagon.

Base-hexagon where everything is connected at. The question appears on this lamp.
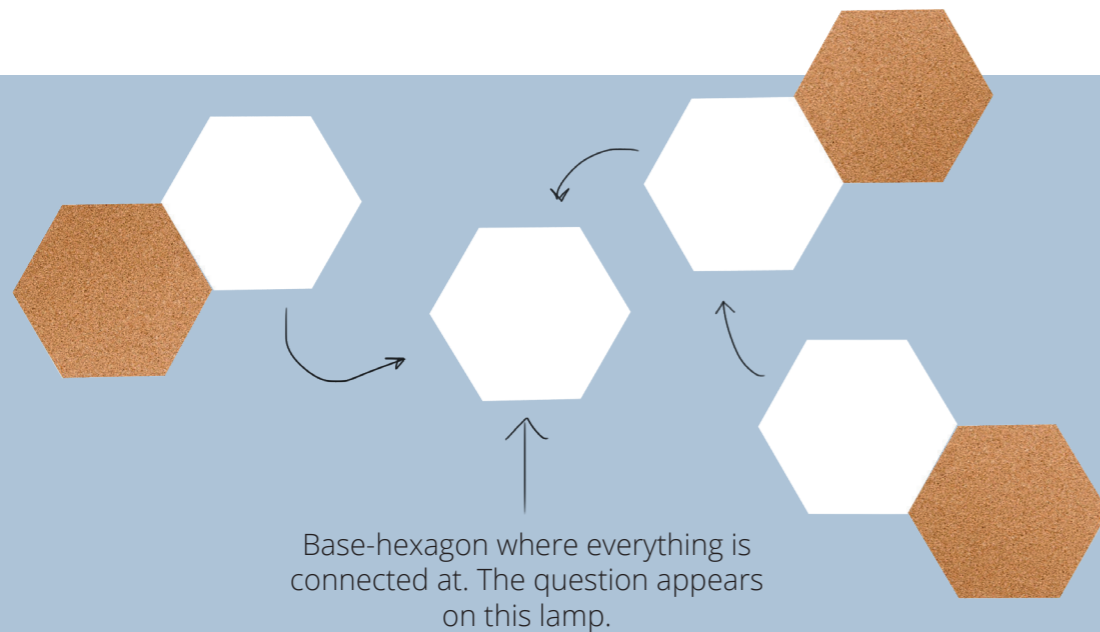
3.6 The scope

This design project is done with an exploratory approach with the users. The process has been in collaboration with five different families. These families were gathered through the use of my own network, but this is not necessarily a representative sample of the society. In this section there will be critically reflected on the scope of this project. An additional validation is done to zoom out from the research group and use a different perspective on the PIN Light.

The participating families within this project

All five participating families had a Dutch background, living in Rotterdam (Noord and Lage land / Alexanderpolder), Amsterdam (Jordaan), and Amersfoort in a detached house. All houses with a garden. The parents of the families have all at least a higher professional education level. This means a very selective group from society. The PIN Light is validated with this specific user group. But does it work for other groups and cultures as well?

Figure 60: *One of the participating families of the project living in Amsterdam.*

3.6.1 Broaden the scope

An extra validation with a Turkish family living in Rotterdam West is set up. The Turkish family consists of 3 children (4, 8, and 12 years old). Both parents grew up in Rotterdam and are attached to Rotterdam West.

A validation was done with this family to investigate how another user group experiences the PIN Light. The prototype of the PIN Light has been with the family for 7 days. The full test is described in Appendix T.

Figure 61: *The children of the Turkish family playing with the prototype.*

First impressions of the PIN Light

The family was given the freedom to make their own interpretation of the use of the PIN Light. In Appendix T the specific assignment for the family is described. When the prototype was delivered, some interesting first impressions about the PIN Light immediately emerged.

The father of the family worked in the social sector in Rotterdam South. He immediately wondered at the PIN light whether it could also have a valuable effect in the social sector as a method of connecting people with social problems. He also saw it as a social way of checking-in:

"Those people often have trouble connecting with each other, and this would be a great way to stimulate this anyway".

About the PIN Light, the mother of the family said:

"The design is actually about connecting. That reminds me very much of the Ramadan, when we also make cards to do something good for each other, in order to connect. "

Figure 63: *The prototype being used for one week.*

5.6.2 Insights testing with a non-western family

All findings from the test, after 7 days of using the PIN Light by the Turkish family, are described in Appendix T. Below the valuable insights are linked to the possibilities these insights can provide for the PIN Light.

The questions of the PIN Light

The questions of the PIN Light-prototype were experienced as valuable by the Turkish family. They said such questions are not normally asked within the family.
"Normally it might be a bit of evaluating the day and watching TV."

Interestingly the father of the family explained his family is very close already, and therefore he thought it was hard to determine whether the PIN Light provided more connection within his family. Even though they asked these 'new' questions to each other. This is because they feel close and connected within their family by doing kind things for each other. It is not specifically about just getting to know more about the other famoly members.
The father of the family explained he really liked the question: *what makes your mother beautiful?*
Again, the focus is on a compliment, giving something nice to your family members.

An addition within the questions of the PIN Light could therefore be to add assignments to do things for each other, to connect.

Figure 62: *The prototype of the PIN Light.*

Figure 64: *Some of the question cards of the prototype.*

Learnings from a non-western culture

Within the Turkish family, it was clear the family feeling is of great value. The words togetherness and connection were often mentioned and this was also determined in the PIN Light. It was already mentioned above that the comparison was made with the Ramadan. This came up again in the final interview. An idea was even devised to make a special version during the Ramadan with 31 small pin boards, so you can post different messages and assignments for each other, every day.

Rhythms and structures

There is a clear difference in rhythm and structures between Western and non-Western families. For example, the father of the family pointed out there is no set eating time at their home.

> **"**
> When my parents-in-law are here (they are Turkish), the kids come from school and the first thing they do, having a warm meal. After that they start doing something for themselves. When the others of the family come home, they will have dinner in the evening. There are no fixed times and moments to have dinner.

This means the moments of being together are different and more divided as well. For example, the family noticed that it was difficult to keep the focus on the moments together within the busy family lives. It was described as:

> **"**
> What should actually be a main issue has become an afterthought and what is an afterthought, for example homework, sports, etc. We have made this a major part of our routines. The real conversation, how often does that normally take place at home?

The family is clearly looking to focus on being together. The children had answered all the questioncards within one day. So there is a clear trigger within the questions. When only one question appears each time, this could work as a good stimulus to keep focused on the PIN Light over a longer time in their busy daily routines.
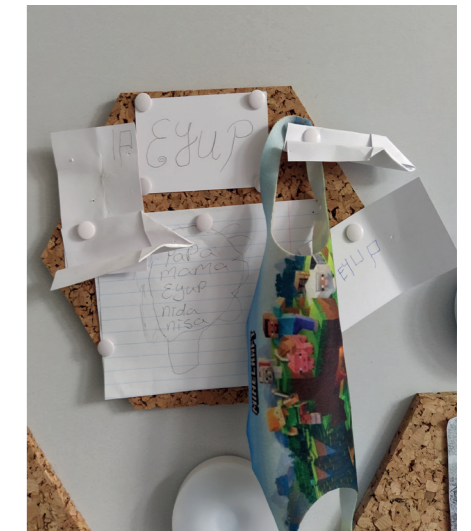

Figure 65: *The prototype being used by the Turkish famiy.*

The father of the family mentioned another culture difference in experiences around structure and planning. He has worked in youth care and he experienced clear differences in the value of the methods used between the different cultures. He explained the following example of the difference in culture and experience in the methodology of weekly schedules and reward cards:

"In a Western family people are brought up with structure, therefor these methods worked much faster with those people. Comparing it with, for example, a Moroccan family, they often responded like why should I stick to this schedule and what does it yield me, because my schedule looks completely different."

Freedom in norms and values

These insights show the importance of freedom in the use of the PIN Light. Implementing own norms and values is important within the bonding between family members. This family showed they used their own interpretation, for example by writing messages to each other and giving the questions back to the other to be modest. By leaving it free for personal use to match with the norms and values of the family itself, the PIN Light can add value in the different environments and users.

Key insights:

- The questions of the PIN Light can add value in non-western families as well.
- Connecting family members of a non-western family is about doing kind things for each other as well.
- The moments within a day of being together at home as a non-western family are different compared with a western-family. The daily routines are not that structured around a time schedule. It goes more within the flow of the day.
- Valuable to keep the possibility of freedom within the use of the PIN Light, to make it fit different norms and values of different families.
- The family hung their keys and mouth mask at their pin board. It can therefore also serve multifucitonally to temporarily hang things you want to store when you come home.

During the whole process I did the exploration with a small non varied group of people. I did experience the value of stepping out of that small sample and I'm aware of the limitations it brings when keeping it small. I am amazed about the inspiration it brings to zoom out in order to discover what the value of a design is.

3.7 Where else can we use the PIN Light?

This project is about the lessons families learned from the Corona time. An additional value could be to use the PIN Light in other contexts and places. To implement this learned lesson broader than just within traditional families. Some possible implementations are described below. These possibilities are based on assumptions.

3.7.1 A Family-home

As mentioned above, the idea arose to use the PIN Light in social work. For example a family-home (Gezinshuis) would be an interesting place to use the PIN Light.

A family-home takes in children between the ages of zero and eighteen. Not in an institution, but in a house and in an ordinary neighbourhood. In a normal family situation. The family parents can also have their own children (still living at home). In principle, the children are present in a family-home 7 days a week, 24 hours a day; it is their home (Stichting Gezinshuis Rotterdam, n.d.).

The aim of a family-home is to create a new "home". The PIN Light can provide a symbolic representation that everyone together forms a whole; you are aware of each other's presence, you can share who you are and learn more about each other. The PIN Light will help to create family togetherness.
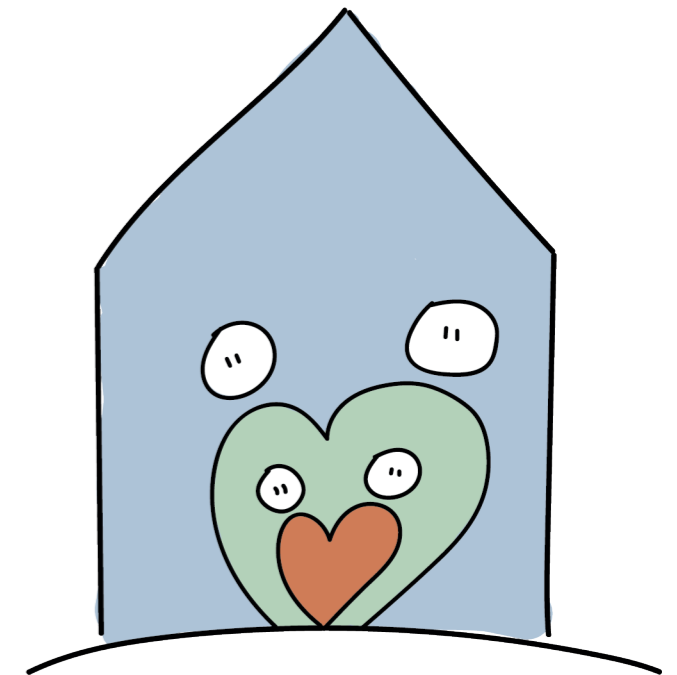
3.7.2 Blended families

Family togetherness can be interpreted differently by different norms, values and habits. What if different families are combined? When two single parents form a new couple? The two families already have their own standards and practises. A study by the University of Nebraska has compiled a list of items that could help to ensure different families to blend well:

- Start a new family tradition by spending special time with each of the stepchildren daily or at least once each week to build trust and friendship.
- Find opportunities to build new traditions.
- Have family meals together at least once a day with rich discussion.
- Set boundaries on topics that you won't discuss with the children, such as the other parent or the stepparent.
- Create and post family rules with input from each member of the new family.
- Be sure that every child has a personal space, even if it is a basket in the closet for het/his things. (DeFrain & Brand, 2012).

By comparing the above list with the PIN Light, it can be implemented as following;

The PIN Light can serve as a new tradition for the whole 'new' family, to gain mutual trust, to have discussions around the questions, to discuss and post rules together and to make your own place (your own lamp with notice board).

The PIN Light can provide the feeling of togetherness and more understanding of each other.

Figure 66: *Marije and Arnold offer shelter to children placed out of their homes (Open Rotterdam, 2018).*

3.8 Evaluating the PIN Light

The PIN Light is a possible solution to take the lesson learned from the Corona time with us. The lesson is about connecting family members and staying aware of the value of family togetherness. It is interesting to evaluate the PIN Light by linking it to other existing ideas and theories, in order to make assumptions about what it can do in the world.
The chapter above was about expanding the scope and using the PIN Light for a broader purpose. In this chapter, the PIN Light is evaluated on family quality time and motivation to learn on longer term.

3.8.1 PIN Light & Family quality time

From research with 187 family members from the US, four domains have been defined about family quality time, from the perspective of these families: Daily family life, Family interaction, Financial well-being and Parenting (Poston, et al., 2003). Interestingly, the PIN Light contributes with three out of the four domains.

Below the table describes how these different domains are connected to the PIN Light. The PIN Light contributes in a wide range to family quality time:

DOMAIN	How the PIN Light contributes:
Daily family life *(Family care, Daily activities, Getting help)*.	Being aware of each other, keeping abreast of each other's lives.
Family Interaction *(Positive interactional environment, Communication, Supporting each other, Flexibility)*.	Talk openly with each other, make plants to do things, help each other.
Financial Well-Being *(Paying for basic necessities, health care needs, Financial security)*.	-
Parenting *(Providing parental guidance, Discipline, Teaching)*.	Talking about what is right and wrong, generating structure, talk about what is learned at school.

Figure 67: *Table comparing the domains of family quality time with the PIN Light (Poston, et al., 2003).*
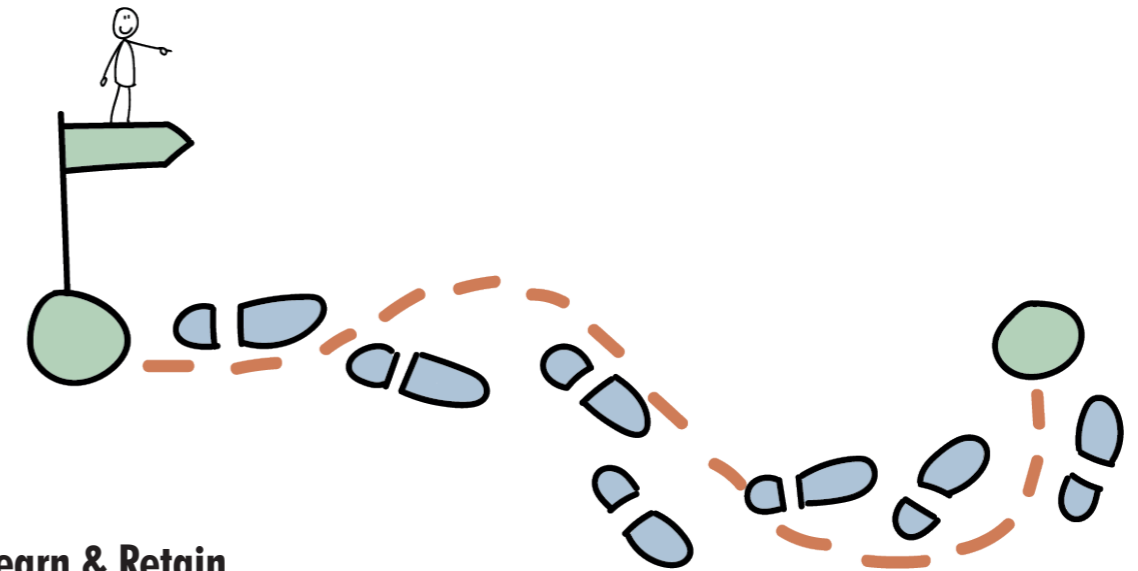
3.8.2 Learn & Retain

The aim of this project is to take the lesson learned from the Corona crisis with us. But is it reminding the user over a longer time as well?

Another existing concept that focuses on this subject is Juiststraks.nu. This is a service to help people through Corona times. It's about being conscience and being reminded of your good intentions.
The service makes it easier (and more fun) to not forget your good intentions, habits or insights. The message evoked with this service is: "let's not go back to the old days, but hold on to these insights." (Juiststraks.nu, n.d.)

On RTV Drenthe, founder Wilbert van der Kamp explains that the idea behind Juiststraks.nu is to let someone else remind you. "*It is often difficult to stick to certain intentions yourself, but if someone else helps you with this, it will go much better. In addition, the focus is on a playful way of remembering and making something fun out of it*", Wilbert van der Kamp says (Juiststraks.nu, n.d.).

These ingredients of the concept can be compared well with the PIN Light. The PIN Light helps you not to forget the valuable moments together, in a playful way as well. Valuable to see how this service has already helped over 150 people remembering the lessons learned during the Corona times. Many people who have used the service of Juiststraks.nu want to retain insights about family and togetherness (Figure 68).

"More real attention for my husband and children" - Femke.

"More energy, time and attention for my children" – Daniëlle

"Work smarter / less, spend more time at home" - Wesley

Figure 68: *Quotes of the good intentions of some users of Juiststraks.nu (Juiststraks.nu, n.d.).*

3.9 The PIN Light, what's next?

This project tells the story of six families during the Corona times. The PIN light is a possibility to take the learned lesson with us. A short documentary is made to present the story of this project. For me, the focus is on spreading this story, to remember the story and keep learning from it.

The PIN Light is developed covering usability, interaction and appearance aspects. The product itself needs to be developed on more aspects as well. Furthermore some last findings were determined in the last exploration steps. These are described as recommendation for next steps of development:

3.9.1 Recommendations

The questions

A list of questions is made in Appendix O and S. It can be valuable to further look into possibilities to add more questions with assignments to do something nice for your family members to fit different experiences of what family togetherness means (within different cultures as well Chapter 3.6.2).

Purpose

Chapter 3.7 described some options to use the PIN Light in social work. More exploration is needed to validate these possibilities.
Furthermore, an options could be to look for different themes fitting specific culture rituals about connecting family members, like the Ramadan and Christmas.

Form

The technical aspects of the PIN Light are not determined yet. The electronics and materials need to be defined in detail. This is connected with the price tag that comes with it. This also means when the price gets high, the target audience is limited. Therefore the technical development has big influence on the scope as well.
Extra: During testing the question raised to add an extra collective pin board, where you can set family goals together.

Motivation of use

The prototypes have been used for a maximum of 7 days. The motivation for long-term use has not yet been fully validated. Assumptions about intrinsic motivation have been made using the Octagon framework and to compare it with existing products. Valuable could be to test the PIN Light on long term, to validate the intrinsic motivation of using the PIN Light over a longer period of time.

An assumptions to keep the motivation on long-term is to show only one question a time when all the lights are shining, to keep it a simulating trigger to keep focused on the PIN Light. This should be validated in more detail as well.
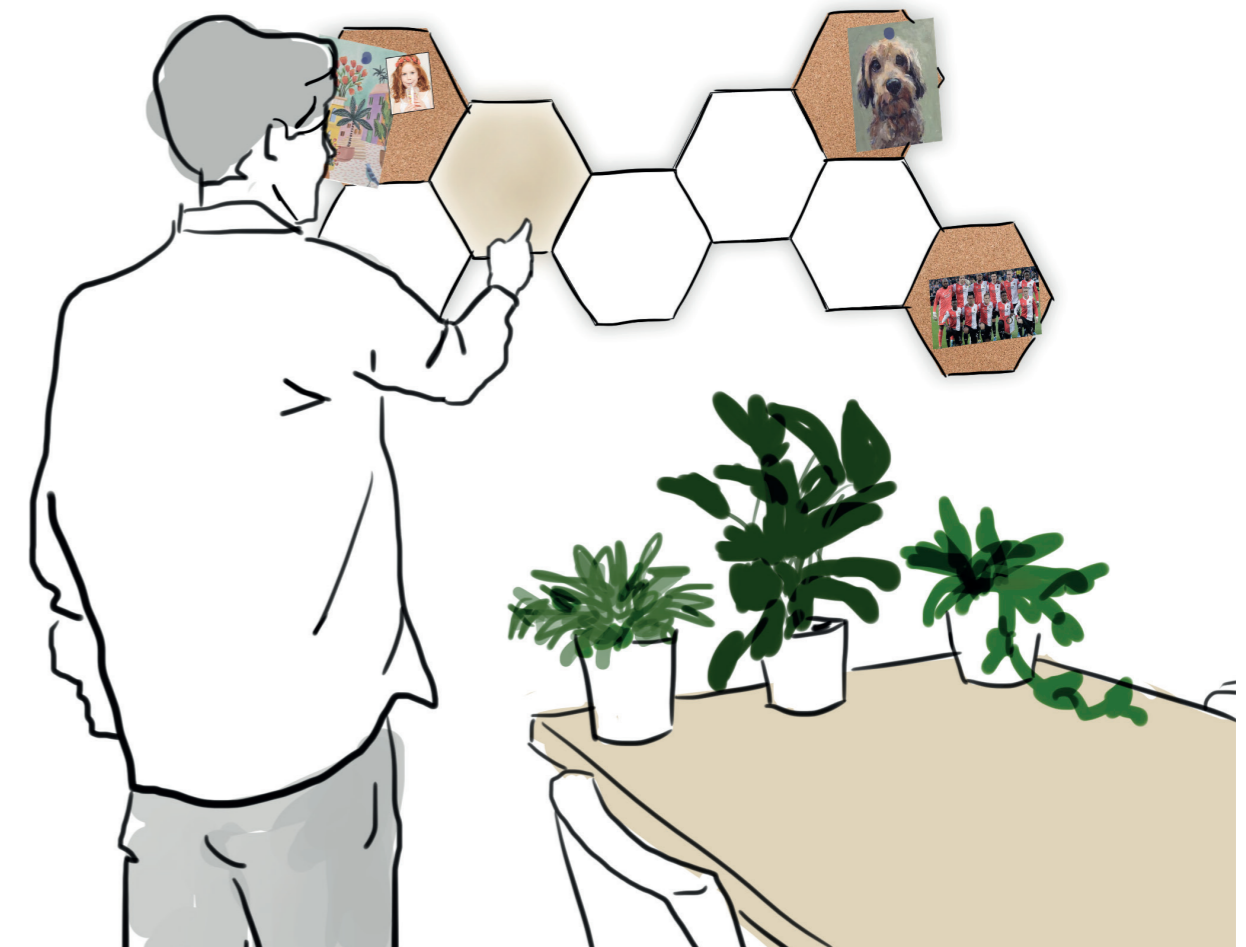
Conclusion

During the Corona times the world of families became smaller, families learned to appreciate the little things in live more. The daily routines within a family where more synchronised and more in the moment. Therefore the parent-child relation changed and they experienced the value of living close with each other. The families experienced they wanted to keep those moments being psychically together at home; the moments of togetherness.

The final concept, the PIN Light, brings family quality time when life goes more and more back to normal. It enables family members to remember to be aware of the moment of togetherness and to spend those moments in a valuable way, even if the rhythms and routines are less synchronized and when living less in the moment, which was the formulated design goal (Chapter 2.5.6).

As described in the previous chapter the designed solution could be implemented in broader purposes. It could be used to connect within a family during the Ramadan, it could help family-homes create a 'home-feeling' and it could help to connect blended families. Maybe there are even more places the PIN Light can add value. These possible scenarios should be further explored in order to map out the exact possibilities and results.

The lesson families learned is about family togetherness, from which the PIN Light highlights various elements. On long term we can remain aware of this, if we do it together and help each other not to go back to our old habits.

In the end, I learned from the families, they learned from the Corona times, and from now on, we can learn using the PIN Light. To pin your moment of light. Together. With your family.

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