PROMOTING SHARED, HOME-BASED FAMILY ACTIVITIES WITH INTERACTION DESIGN

Interaction Design, Master Thesis

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TABLE OF CONTENTS

ABSTRACT ................................................................................................................................. 2
1 - INTRODUCTION AND BACKGROUND .............................................................................. 3
2 - RESEARCH FOCUS ............................................................................................................... 5
3 - METHODOLOGY .................................................................................................................. 6
4 - RESEARCH THROUGH DESIGN ......................................................................................... 7
5 - TARGET GROUP/COLLABORATION ................................................................................... 9
6 - EXPECTED RESULTS .......................................................................................................... 9
7 - POTENTIAL RISKS ............................................................................................................. 10
8 - THEORETICAL GROUNDING – RELATED RESEARCH .......................................................... 11
9 - INTERVIEWS ..................................................................................................................... 16
10 - DESIGN OPENINGS ........................................................................................................... 21
11 - ANALYTICAL GROUNDING: RELEVANT DESIGN EXAMPLES ........................................ 23
12 - DESIGN WORKSHOP ........................................................................................................ 29
13 - DISCUSSION .................................................................................................................... 39
14 - PORTFOLIO OF SUGGESTED CONCEPTS ..................................................................... 43
15 - PROTOTYPING/USER TEST ............................................................................................. 46
16 - FINAL CONCEPTUAL EXPERIMENT ............................................................................... 49
17 - KNOWLEDGE CONTRIBUTIONS ...................................................................................... 50
18 - CONCLUSION ................................................................................................................... 51
LIST OF REFERENCES ............................................................................................................... 53
ABSTRACT

This project focuses on the interaction between parents and children in their everyday practices as a family. It investigates how interaction design can help to engage both children and parents in shared home-based activities through digital media. The target group involved in this project is limited to boys aged 10-12 and their parents. This user group is not an overall representation of this age group since the users are from the same community and the boys attend the same school. It naturally limits the research field and has been beneficial in the sense that their interests, values and social behavior have been somewhat similar which has proved valuable for a research project this size.

The project has an ethnographical approach where qualitative research is the foundation for the chosen methods. Qualitative interviews and explorative workshops with the families have helped establish the users’ needs and wishes and their participation has provided crucial knowledge about their habits, interests, values, likes and dislikes, benefits of digital media at home as well as it has been a great part of establishing the two suggested concepts that the project presents in the end. The theoretical grounding has been found both within Interaction Design, Human Computer Interaction, sociology and psychology and has been the foundation for the analysis. It has helped gained a greater understanding of how digital media influence the family dynamic, how digital media affects children this age, how children respond to the lack of parent-child interaction that comes with the increasing use of new technology and how to design for this multi-generational user group. Existing design examples and research projects will be presented and discussed in order to highlight important and relevant points.

In the end, user tests will also lay the grounds for analyzing and discussing the suggested concepts. The literature of relevance is found in both interaction design communities as well as within psychology and relevant official journals on the subject.

The project has produced reflective and analytical knowledge contributions within the field of interaction design research as well as presented two design suggestions for how this knowledge can be put to use as a digital design concept. It concludes that when designing digital media intended to enhance relations between parents and children, the main focus is face-to-face interaction and creating a space that allows for creativity, communication and physical presence.
1 - INTRODUCTION AND BACKGROUND

Spending time together as a family with children can be a difficult thing to plan for and often, a lot of the time spent at home is spend on an individual basis. Meals are shared and the occasional TV-show on a Friday night might also be a family-gathering event, but for many families with two full time jobs and small children, living at home, there simply is not enough time or energy to take initiative to do home-based activities that include both parents and children. This goes for children as well, who often seem like they prefer to sit with their smartphone or tablet after a long day at school and after-school activities. As much as this wish for alone-time should be respected and even valued, there are still some critical reflections one might want to think about. This will be discussed further, later on.

This project focuses on the interaction between parents and children in their everyday practices as a family. The background and inspiration for this project has evolved from a previous project which focused on children and cooking. One of the things found to be really interesting here was the fact that learning to cook was not only about learning a new skill, but more importantly about taking part in an everyday-activity with parents and thereby spending time together. Studies show that this interaction (not only cooking, but all parent-child activities at home) is highly important for children to develop their self-esteem and become confident individuals (Simmons, D.; Chapman, G.E., 2012) Furthermore, it enhances the relationship between child and parents (Rasmussen, K.; Broström, S., 1981).

When focusing on digital media and parent-child relations, there has already been a lot of discussion about this for the past years. The more this technology becomes a part of our everyday life and the more it becomes a necessity to so many people, the more it raises a lot of questions about how parents interact with their children at home and if we could even claim than some children actually becomes more neglected as a direct result of parents always having to be available to the rest of the world – even when they are spending time with their children. On the other hand, children also spend more and more time on these devices and are spending less and less time on physical play and face-to-face interactions with friends and family. This also conflict with a lot of research showing that these aspects of childhood are highly important and can, if neglected, cause serious damage to a child’s development.

The technology allow us to be in constant contact with everyone and to never be alone, but many researchers argue that instead of gaining from this, we actually becomes “alone together” as Sherry Turkle has described it (“In Constant Digital Contact, We Feel 'Alone Together’”; interview with Sherry Turkle, 2012). How does this affect a family and how can we produce technology that brings the family together.
instead of separating it? This area is something that has been done a well amount of research both within psychology and within design. It can be a little difficult to find relevant literature and related projects within interaction design which are focusing on this specific area of parent-child interaction with this specific user group, but there are still interesting examples to look at. This subject therefore seems both new and relevant within it’s field and has potential to be investigated further. Research within this project will not only be relevant to interaction design, but also to other fields such as psychology, ethnography and teaching. The project does not clash with any moral issues and this will not be an issue since the focus area will not hurt any of the involved parties or conflict ethically.
2 - RESEARCH FOCUS

The main research domain will be how interaction design can help to engage both children and parents in activities at home in which they usually do on their own. This project wants to explore how the family dynamic and individual interests could potentially be changed into something more collaborative and by doing so, bringing these interests and wishes for each other to a shared field.

The purpose for this study is to look into the day-to-day activities of children and their parents within their homes with the aim of creating a concept for a shared home-based activity that could potentially enhance parent-child relations. The aim is to explore and design different concepts that can work as a framework and a repertoire which can support family members to spend more time together. The concepts will not be fully developed, but will be suggestions to how this could be done and directions where further research and design work could be valuable.

The concepts are likely to be in the shape of a tablet application since the belief is that this is a shared digital platform where both adults and kids feel safe and intrigued. Other digital platforms as well as social media, were not disregarded in the beginning of the project, but became less and less relevant as the project moved on since the clear impression was that it would be difficult to find shared grounds for both parents and children within social media such as facebook, twitter, Instagram, flikr etc.

2.1 – RESEARCH QUESTION

→ How can interaction design help facilitate parents and children to engage, collaboratively, in day-to-day activities at home

→ How can we design a tablet/smartphone app that engage both parents and children?

→ How can we promote time spent together within the family by looking at already existing routines and activities?
3 – METHODOLOGY

In this section the chosen methodology will be presented and discussed.

When working with qualitative research methods, one thing to keep in mind, is the fact that the group of people participating in workshops and qualitative interviews, are often (and especially in this case) much smaller than the amount of people you can reach with quantitative research methods such as surveys and polls. This will of course also affect the diversity in the observations and answers provided from the research method chosen in this case. But even so, this method is still to prefer given the fact that it is the children’s and parent’s opinions and views that we are interested in. It is important to be able to put these answers and views into a context instead of having a lot of data where you might not understand the actual context of the answers provided.

For this project, it makes sense to understand the process that takes place in a home within children and their parents and it will (most likely) not be sufficient enough to only gather quantitative data.

3.1 – QUALITATIVE RESEARCH METHODS

For this project, a qualitative research method will be used with a focus on the following specified methods:

**Ethnographic observations** can be a first part of collecting data from a specific social setting that was otherwise quite unknown and inaccessible: How children and parents interact with each other in their private homes. This way of collecting data can be very challenging since it is quite difficult to walk in to a completely natural setting without them being affected by the observers presence. This will most likely change the setting and natural environment of the family’s routines too much to actually gain valuable data on behavior and how they spend time in their house.

Instead **Qualitative interviewing** is a good way of narrowing down a (so far) pretty broad research field to try and make sense of what might be an interesting way to continue. The first experiment (this will be described further later in the project proposal), was three open-ended interviews with small exercises to get the interviewees to talk and to explore their views and beliefs in what could potentially be an interesting design opening. Children this age can be challenging to get to speak their minds, but done the right way, this is indeed possible. The aim for the interviews were, that they should become more like a conversation within specific topics/subjects between me, the kids and their parents and allow it to change direction if this proved to be relevant. This way of interviewing will most likely allow both the children and parents to verbalize some of the issues/challenges/wishes that could work as potential openings for the project. (Bryman, A; Bell, E., Business Research Methods, 2007)
3.2 – DESIGN WORKSHOP

A design workshop was used to explore the field both in terms of narrowing down the research area, but also to go more into depth with specific ideas and concepts and to test these out. Workshops and hands-on activities are especially relevant when working with children who can have a hard time expressing themselves verbally to people they are not that familiar with. Especially since this project focuses on interaction and collaboration between two parts (kids and parents) this is also a good way to do observations on how this actually plays out in real life.

3.3 – CONCEPTUAL AND THEORETICAL WORK

The theoretical work; how children engage and interact with their parents and how the relationship between children and parents can benefit from this interaction will be one of the main theoretical approaches for this project.

The findings from the workshops, interviews and theory, will be the groundings for analyzing and discussing the gathered data. This data will be the groundings for the suggested concepts and lo-fi prototypes and finally, the user test/validation will be conducted.

4 - RESEARCH THROUGH DESIGN

When we talk about producing design knowledge, which this project aims to do, we must first address the term “Research through Design” (RtD). RtD is “A research approach that employs method and processes from design practice as a legitimate method of inquiry” (Zimmerman, J., 2010). RtD can lead to new knowledge that can potentially contribute to other design situations. In this case, the methods used in the design workshop provided very valuable data to further investigate in – data that would not have been found in traditional research methods. Arguing for why RtD can be seen as a valuable and important research method, Löwgren argues that “On a general level, I would suggest that scientific criteria are about novelty, relevance, groundedness, and criticizability.”(Löwgren, J., 2007), and thereby saying that RtD is a relevant and important way of gaining scientific knowledge that can also be useful to other designers in the future - as long as it fulfills these criteria. The design methods used in this project fulfill these criteria and can be viewed as efficient ways of collecting knowledge and data that could not have been found otherwise. Löwgren also claims that one of the most important elements of design ability is to build a repertoire of examples that can be used to issue ideas on other projects. In a field which is as broad as “promoting shared, home-based, family activities”, this is especially interesting and was also one of the
key-factors of the design workshop. By looking at other examples that already aims for this target group and can be viewed upon within the context of this project, it is easier to identify what seems to work and what does not – as well as new ideas arise from testing and discussing these examples.

Looking at interaction design in particular, there is an understanding of lxD being trapped in the tension between scientific norms of informatics and HCI and the aim to make design a part of the knowledge-construction process in under broader general scientific criteria (Löwgren, J., 2007). Gaver describes this process as a way of providing knowledge that would not otherwise have been found and argues that RtD can indeed compliment other design methods and thereby provide invaluable design knowledge for other projects. Within this field, there is a lot of scientific research done within children’s phycology, but not so much within the field of interaction design even though it is a personal believe that this area would benefit from such research. Design practices such as workshops i.e. can provide very meaningful insight into how children act and behave in certain situations – knowledge that otherwise would be difficult to obtain from the traditional qualitative –and quantitative methods. Especially with children where it can be much more challenging to gain insight into their thoughts and feelings based on interviews and surveys and where observations and actual hands-on opens up to a more real understanding of how they think and act.

RtD is, according to Gaver, defined as a very open process with room for changes and adaptions along the way. In order to gain design knowledge it is it does not work in traditional research where the approach is more problem-solving and where there are already expectations to the results – and if they are not as expected, the experiment is viewed as wrongly executed. In a design process, this is central in order to gain the most valuable knowledge about the field. Doing workshops, prototyping and validating requires the ability to always keep adapting and changing the process and the concept. It is necessary to keep the main focus on the user’s needs and wishes and not on the designer’s/researcher’s. (Gaver, W., 2012)
5 - TARGET GROUP/COLLABORATION

The user group in this project will be children aged 10-11 and their parents. This age range is chosen since it is an age where the kids actively can participate at home and at the same time an age, where they start separating more from their parents. (Brøby, M. et.al., 1990). It is an interesting age group, since they are still children who are very dependent on their parents in everyday life, but almost teenagers who start to have their own opinions and can differ between their parents’ opinions and their own opinions. Furthermore, access to children this age and their parents, is established and makes them accessible.

Five families have been involved during this process where some of them have participated in several activities and some only in one specific workshop or interview. A good contact through family and friends and because of previous participation in other projects has made it fairly easy to establish a good and trustworthy relationship with the families involved. This established connection has been mostly beneficial since it has eased the process of contacting people and having them say yes to participate. The personal relation has not affected the outcome of the experiments since the connection with the families is not direct, but through other people which means, that there have been no pre-defined thoughts or opinions about the families.

The challenge here has been for each individual family to find the time to participate at specific dates and times and there have been some issues with reaching the families and have them spending four hours on a Sunday, participating in a design workshop. This has affected the amount of interviews, workshops and user test which was possible to execute within the given time frame.

6 - EXPECTED RESULTS

The expected results from this project, is to learn ways of using digital media to engage and awake both children’s and parent’s interest in participating, collaboratively in shared home-based activities in order to enhance their relationship and time spend together in an everyday setting.

The knowledge contribution produced from this project is expected to be relevant for both interaction design research, but also to other communities who investigate within the same fields of interest, such as psychology, education and pedagogical research.
7 - POTENTIAL RISKS

The potential risks with a project like this is first of all the issue of finding people who can and want to participate in workshops and interviews. This can always become a bigger challenge than first assumed and this project has been no exception. Even if people seemed interested and willing to help, actually planning and setting up these events became far more complicated than expected - especially in a time-limited project as this.

The amount of interviews and workshops set up has, however, been sufficient enough to conduct relevant design knowledge and conceptualize from. The project could have benefited from more design workshops and this could have provided the suggested concepts with more depth and details.

Another risk is the fact that the amount of families accessible might not be enough to create a greater understanding of a general family’s everyday life and needs. The families within this project are all well-educated, have a good income, live in the same neighborhood and have their children in the same (private) school. This might create an image of a small and somehow similar user group and the fact that the children are in the same school might also affect their interests and habits since they might very likely share some of these interests. This makes the understanding of this age group smaller, but for a design project this long, there has proved to be some positive consequences of this, otherwise unintended, factor. The subject in itself is rather large and the fact that the user group is somehow very similar has provided a natural way of limiting and targeting the design choices made along the way. Furthermore, all the children participating are boys which narrowed down the target group even more. This has of course been kept in mind during the process and has naturally created a user group that is primarily targeted at boys aged 10-12 years old which might influence the interests and habits revealed within user group.

8 – THEORETICAL GROUNDING: RELATED RESEARCH

The area of children and how they behave and interact with parents is, as mentioned, a well-researched field especially within psychology, but it is also a subject for many design projects –also within interaction design. The following section will draw upon some of the most relevant theories within this field and will be part of the grounding for the discussion later on.

The research done within psychology does also seem highly relevant within this field and can become of great use to investigate in how children socialize, act and behave with parents on a general level.
8.1 – CHILDREN AGED 10-12

This project focuses on children aged 10-12 and their parents. Since the parents are a bit harder to generalize because of different ages, education, and background, the point of departure for the theoretical grounding will be the children and a more general view on parent-child interaction.

According to the German-born psychoanalyst Erik Erikson’s “Psychosocial Theory of Development”, a person passes through eight interrelated stages throughout life.

1. Infant (basic trust and mistrust)
2. Toddler (autonomy vs. shame)
3. Preschooler (initiative vs. guilt)
4. School-age child (industry vs. inferiority)
5. Adolescent (identity vs. identity diffusion)
6. Young adult (intimacy vs. isolation)
7. Middle-aged adult (generativity vs. self-absorption)
8. Older adult (integrity vs. despair)

The age group for the children involved in this project belongs in the stage ‘School-age child’ which covers children aged 6-12 years old. According to Erikson, this is the stage where we are capable of learning, creating, and accomplishing new skills. It is a very social stage of life and this is where we really begin to establish social connections outside of our homes and families. School and neighborhood become more and more important and even though the relationship with parents is still a very important one, other authorities begin to appear and new relations are built. Friends, teachers, and other social relationships become more and more influential during this stage which is also that time in life where self-esteem problems begin to appear if we experience unresolved feelings of inadequacy and weakness. (Erikson, E.: [http://www.learning-theories.com/eriksons-stages-of-development.html](http://www.learning-theories.com/eriksons-stages-of-development.html))

This stage covers a part of life where a lot of changes are happening and naturally, there is a huge gap from six to twelve. The age group in this project is in the late part of this stage and it is important to note that they are on the verge of being adolescent which means that they also struggle a lot with delimiting themselves from their parents and are trying to figure out who they are on their own. They reflect themselves in their friends more than earlier and the need for doing things on their own is bigger than before. (Brørup, M; et.al., 1990)
8.2 – THERAPLAY: THE IMPORTANCE OF PLAY

“Theraplay” is a relationship-focused treatment method between parents and their kids. It is originally an intensive, short-term approach which requires the parents to actively engage in the sessions in order to fine-tune or create the parent/child relationship. The treatment method is suited to meet the needs of troubled families, which comes in many shapes. On one hand we have the obvious troubled families struggling with poverty, crime and abuse where children grow up pretty much on their own. Interestingly enough though, this theory also describes the average middle-class family as a potential “troubled family” due to too much material indulgence, too many choices given and more importantly (for this project) too few opportunities for face-to-face interaction with parents and not enough time for play. This theory goes on to describe play as physical games with human interaction and as a result of missing these things, the book claims “Children are missing the whole magical world of childhood.”.

Theraplay is designed to help these “troubled families” reconnect and fully engage with each other. The treatment method contains playful interactions that should help parents and children become both physically and emotional close. According to the theory behind Theraplay, the child “…learns to the important skills of taking turns, adapting to the other person’s rhythms, cooperating, and making friends.”

Theraplay has also been used in prevention programs where the focus was on strengthening the parent-child relationship in the stresses of everyday life.

Examples of some of the playful interactions a Theraplay session could consist of:

https://www.youtube.com/watch?v=t5IoEDHY-Y4

The theory behind this treatment method is highly interesting for this project as it touches upon the missing face-to-face interaction between parents and children in average, middle class families where time is spend on work, school, digital media and day-to-day routines. Especially digital media (according to the findings from this project), “steals” a lot of the time at home that, beforehand, was spent more on physical play and being together. A consequence of this is that parents and children spend less and less time together at home which can potentially harm the development of the child’s ability to adapt to other people, cooperate with others, develop self-esteem and make friends. In the case of this project, these potential risks seems to be slightly exaggerated. The boys in this project all seem to balance all of these skills already and have not been deprived of all face-to-face interaction with parents at all. But it is still an interesting aspect that the lack of this interaction can potentially harm the child’s development in many in ways and it should not be disregarded.
8.3 – PARENT-CHILD INTERACTIONS

The importance of parent-child interaction (parent or primary caregiver) is well discussed within psychology and is a huge factor for a child’s development and act as “a critical component in understanding cognitive and social-emotional pathways for children and youth.” (Salkind, N.J., 2005).

As an infant, our parents’ ways of responding to our needs is unique and these interaction patterns remain more or less stable throughout our childhood and youth. Naturally, the ways of interacting is also determined by individual characters, social class and support systems as well as cultural and societal norms. The way a parent interacts with their child in e.g. Denmark or Sweden, might not be the same way a parent interacts with a child in countries where cultural and social norms are different and where social class might influence priorities in life.

Even so, research show that this interaction is one of the most influential factors to how a child views the world and how he or she will view them self throughout life. The consistent interaction with a parent or caregiver will provide a base from which the child can explore and engage in the world. A lack of this interaction will have an impact on the child’s self-esteem and self-reliance which will affect future relationships.

Within this field of research, the relationship between parent and child is often viewed as a one-way variable where we talk a lot about how parents influence their children. It is important to note, that this relationship goes both ways and all children are different which means that the ability to adjust to your child’s individual personality and behavior and knowing what will produce the most positive outcome is the way to acknowledge the child’s contribution to the interaction.

For children who are in their late childhood or early adolescence (as this user group is), their freedom increases and they become more involved with their peer groups. This means that less time is spent with parents which can make the parental monitoring more challenging than before. This, however, does not make the interaction between parent and child less important, since self-esteem and cognitive competences still are being developed in this stage of life.

Variables that influence the interaction between parent and child in a negative way can e.g. be; mental illness, financial instability, substance abuse and lower level of education. (Salkind, N. J. (Ed.), 2005).

Living in Scandinavia, children at this age actually do not get to spend as much time with their parents as many other places in the world or as children did here only 40-50 years ago. Both parents are often working full time and kids spend a lot of time in day care. In Denmark, they start as early as six months old and continue throughout their entire childhood going from kindergarten to school to after school places and even to youth-clubs up until the age of 18. This results in less interaction between parents and children.
Not because the parents want it to be like that, but because of a stressful day-to-day routine that leaves less time at home as a family. A consequence of this is, according to Keld Rasmussen and Stig Broström in their book “En nødvendig pædagogik”, that children become more isolated from basic interaction with parents/caregivers. (Rasmussen, K.; Broström, S., 1981)

8.4 – PARENT-CHILD INTERACTION IN THE AGE OF NEW MEDEA

In an article in the Danish newspaper “Kristeligt Dagblad”, this issue of spending less and less time with parents is discussed in relation to a new and very distracting element; parent’s use of digital media at home. According to phycologist, Charlotte Clemmensen, this is use of smartphones or tablets seems to be “worse” than books and newspapers which used to be the distractions for parents. What seems to cause the problem is the fact that when we sit in our living room at home, we each sit in front of our own individual screen. Earlier on, the TV used to be the most used digital media at home, but this was something the family would gather around together and somehow share with each other.

The thing with electronic devices is, that we are drawn to it in a different way than a newspaper e.g.. Most often, we have contact to other people through social media, mail or texting while we sit at home with out smartphone/tablet and are thereby available to everyone even when we are at home. This kind of togetherness is just as bad as not being present at all, says Clemmensen.

(http://www.kristeligt-dagblad.dk/familieliv/mobiltelefoner-og-travl-hverdag-forstyrer-b%C3%B8rns-n%C3%A6rv%C3%A6r-med-for%C3%A6ldre)

Not only parents are smartphone and tablet consumers, children this age spend a lot of their time looking into these electronic devices as well. In Denmark, 80% of children aged 10-12 have their own smartphone (http://www.kidsnews.dk/undervisning/boern-og-smartphones) and almost 50% of all children have access to a tablet at home (http://www.dst.dk/pukora/epub/upload/18685/itanv.pdf).

This indicate that both parents’ and children’s behavior within their home, probably has changed a lot during the past couple of years and will continue to do so since the use of electronic devices is only growing bigger and smartphones and tablets are very quickly replacing TV, newspapers, books, videogames etc. since all of these “old-fashioned” activities are also available via your phone or tablet.

8.5 – SHERRY TURKLE: ALONE TOGETHER

When parents and children are at home – together – it is supposed to shape and strengthen their relationship with each other as a family. However, one of the biggest concerns related to families and technology is the notion of them being together physically, but being alone mentally due to personal digital devices that allow our bodies to be in one place, but our minds in another place.
Sherry Turkle, a clinical psychologist and professor at the Massachusetts Institute of Technology, have been investigating and doing research within this field for the past 30 years. One of her findings have been that technology changes the way parents relate to their children because of the constant need to keep their devices at hand all the time. When asking teenagers and parents why they prefer this type of communication, they answered that they liked the control it gave them in the sense that they could think about concrete answers and mold what they wanted to say, before sending it to the receiver – it gave them a better way of deciding what they wanted to say, how long they wanted to stay in the conversation and where the conversation would lead. They thought they had more weaknesses in face-to-face interactions. But Turkle actually argues that these ‘weaknesses’ of conversation should be viewed upon as strengths as they teaches skills of negotiation, of reading each other’s emotions, of having to face the complexity of confrontation and dealing with complex emotions. She even claims that people who are too busy to have real-life conversations outside of their digital devices, are not making the emotional connections which are highly important. Or in other words: we are able to be in constant digital communication and still feel very much alone.

For young children who need their childhood years to develop capacity for solitude, digital devices like smartphones or tablets challenge that, Turkle claims. These children never learn to feel OK by themselves without always being able to communicate with others online.

“I talk to college students who’ve grown up with the habit of being in touch with their parents five, 10, 15 times a day. And it’s no longer Huckleberry Finn as a model of adolescence, you know, sailing down the Mississippi alone — we’ve developed a model of adolescence and childhood where we sail down the Mississippi together with our families in tow.” (“In Constant Digital Contact, We Feel ‘Alone Together’“; interview with Sherry Turkle, 2012)

In regards to parenting, Sherry Turkle did 300 interviews over 5 years and found that some of the most common feelings children have towards their parents’ use of technology was jealousy, competition and being hurt. The time they feel should be spend with them, is instead being spend on being available to the rest of the world. (“In Constant Digital Contact, We Feel ‘Alone Together’“; interview with Sherry Turkle, 2012)
9 - INTERVIEWS

In order to conduct knowledge and information regarding the typical life and routines of a Danish family with kids (in this case boys) in the age-range of 10-12, three semi-structured, qualitative interviews were done.

The interviews were conducted at three different occasions and where all set in the homes of each family. One parent and one child were present at each interview, due to the fact that it was challenging to find time where both parents could participate together.

The focus of the interviews has been to get insight into their lives and daily routines and to try and investigate how they spend their time within the family and with each other.

The main reason for this was to try and map out their interests, routines, habits, ways of spending time together, wishes for the family and wishes for themselves as individuals.

The interviews were carried out with three boys aged 10-12 and one parent present.

The interview was set up so the child would answer first in order not to be too influenced by what his parent would answer. This worked quite well and it was manageable to get some diverse answers from them.

It led to a general talk about how a normal day is structured, who does what and when, their interests, how they spend time together and what subjects they talk about at the moment.

At one point they were asked to write down three keywords each on something that they were interested in or something that they thought was important for them as a family at the moment. These answers worked as a starting point for a shared discussion with both of them.

From these interviews it was possible to get a closer look into what a normal day looks like at a particular family. Having done only three interviews, might limit the findings and it is difficult to conclude anything general on children this age. However, it did provide an interesting insight into their routines, interests, values and roles within the family.

The interviews provided knowledgeable insight into the families’ lives and furthermore it provided a good foundation for design-openings that could be interesting to further investigate.

Below are the findings from the three conducted interviews.
9.1 – INTERVIEW NO. 1

The first interview was conducted with a 10-year old boy and his mother. The structure of the interview was a set of qualitative interview question that led to a more open discussion about them as a family. The interview started out by discussing how the daily routines were within the house in terms of breakfast, after school/work activities, evenings, dinners, household activities, weekends etc. Afterwards a discussion of interests, family values, main things the parents were focusing on regarding their son at the moment and what subjects/interests/values were important for the son according to himself.

FINDINGS

The main findings from this interview were that the parents were in charge of almost everything regarding household (cooking, cleaning, washing etc). The mother emphasized that this was something they talked a lot about and aimed at getting their son to participate in more. At the moment these activities were mostly something he had to be told several times to do before he did it. The alternative was that his parents would pay him a smaller amount to add to his pocket money if he would vacuum the living room or clean the dishes e.g. The son did not seem too understand why this was important to his parents and difficult to convince him why his participation was needed or wanted. The family had tried to have a weekly day where the son would participate in cooking dinner, but due to stress and lack of interest, this was rarely realized.
Another finding was the relationship the family had with technology; both parents and child spend time on ipads or smartphones when they were at home relaxing. The parents however, had setup time restrictions for the son in terms of how long he could play games on his tablet or computer before they would ask him to go do something else. He said he thought the one-hour-a-day rule was too little time and thought two hours would be more fair. The interesting thing was that his mother also mentioned how both parents would relax when they got home, by spending time online or by playing games on their ipads or smartphones. The general impression was that the time they spend together at home, was mostly during breakfast and dinner or when they planned activities outside the house – especially travelling was something they spend much time planning.

The sons specific interests in this family was besides smaller games, Minecraft, fantasy universes such as Harry Potter and Lord of the Rings, and natural science and pre-historical reading.

The mother mentioned that she would like it if the mutual interest in technology could be something that could be combined with activities where both parts could engage in and thereby spend time together. Preferably something that might also be combined with the boys specific interest in science or school.

9.2 – INTERVIEW NO. 2

The second interview was set up with an 12-year old boy and his mother.

The procedure of the interview was the same as the first one described above.

FINDINGS

The findings from this interview was in general not too different from the first one. Mornings were very similar; child gets up and gets ready for school, parents prepare breakfast and pack lunch for everyone, if time allows it, the son would sit and play on his phone for a short while before leaving the house for school on his bike.

In this case, the meals were also the family’s gathering-point where they got to talk about work, school, interests and occasional had talks about deeper subjects such as: how to be a good friend or brother or the importance of taking responsibility.

The son had after school activities four times a week, including gymnastics, piano and swimming. This meant that many days a week he was not at home until 7pm and had dinner after the rest of the family.

But in general, the family had an agreement, that breakfast and dinner are shared activities.

The weekends provided more time for family gathering and the children were also included more in cooking during Saturday and Sunday when the parents had more time. In general, this family focused a lot on how to include the son (eldest of three children) in household activities, not only because of the fact
that it is important for him to learn, but also for the simple reason that the parents needed the help around the house with three young children. The son seemed very understanding and admitted that he thought it was fair that he should help out and he understood the parents’ reasons. However, this still seemed to cause debate at home and the parents still had to have long discussions with him in order to get him to do it. They even had a point-system previously where the goal was to get the children to do what was asked of them. If they did it without being told twice, they would get four points. If their parents had to mention it more than once, the points would decrease. If all children for a week had gotten only 4s, the family would ‘celebrate’ by doing something fun together; going to watch a movie, going out for dinner etc.

This system was no longer used and when asked why, the mother said that she actually did not really know – it just “died”.

Also in this family, technology took up a lot of time and it was also a topic they spend a lot of time talking about; how to use it, how much time was allowed to spend on it, and what was good to watch/play and what was not. In general, tablets, computers, TV and smartphones were used for individual “brain dead” activities (the mother’s words) such as apps like HayDay, CandyCrush, FruitNinja and similar games. The TV-shows that would gather the family was mostly talent shows like X-factor or the occasional film that everyone in the family could agree on. Other family activities included; board games, playing cards, jumping in the trampoline together or having guests over.

9.3 – INTERVIEW NO. 3

The third interview was set up with an 11-year old boy and his dad.

The structure for this interview was the same as the previous mentioned ones.

FINDINGS

The findings from this interview also seemed to have a resemblance to the previous ones. Also within this family, the issue of technology was a well-debated subject at home that occasionally led to discussions and arguments. The boy’s interests were at the time: Minecraft, programing and Donald Duck magazines and books.

The father being interviewed was a developer and was very thrilled with his son’s newly found interest in programming which he occasionally would sit and do with him at home. Besides that, the boy would mostly go to his room after school to play Minecraft on his own. Also watching Youtube videos of other people playing Minecraft was a very big time consumer. Also in this family, the parents would set up restrictions for use of computers, smartphones and tablet (all of which the boy owned for himself) and make sure he got outside as well or came downstairs to watch a film or read a book. Still a lot of hours were spent like
In this family, meals were also the main gathering point and often the boy would have friends over after school that he would play with and who would also participate in dinner. Breakfast was always eaten together and this was the time a day where they planned and talked about what they all were doing during the day.

Practical help during day-to-day activities were not so much a cause of debate here as it was within the other two families. The reason for this was, according to the father, that they did not really bring it up so often even though he knew that it was something that they needed to focus more on in the future. Only smaller tasks like clearing or setting the table or taking out the trash were asked. For bigger tasks, they boy would receive pocket money.

9.4 – GENERAL FINDINGS FROM INTERVIEWS

From the above mentioned interviews, some general findings were used in the generation of the initial design openings.

Above all, it seemed that all three families valued the time they spent together with each other a lot, but were also realistic about the fact that a busy household did not provide as much time for this as preferred. Sharing meals at the dinner table was mentioned in all three families and this indicates that this time is valuable to the families since they are often separated during the day, but both breakfast and dinner provides a shared basis for being together and relaxing.

The relationship with technology in the families could also indicate some similarities. It was a subject that would both cause debate and discussions in between children and parents, but also an interest they all share and use for the same purposes (at least within their homes) – relaxation and fun. Even so, this is also an activity that is very separated in the family – expect from the occasional TV-show or film that they gather around on weekends. This could indicate that here is a potential for looking into the opportunity of using this interest as an advantage for promoting more shared activities with the family.

Another finding is the fact that household activities is an important subject for families with children this age. The parents want the children to participate – not only to teach and educate them, but also for practical reasons since they need the help around the house to have more free time to spend on other activities such as shared family ones.

This, however, seems to be one of the biggest reasons for discussions within the family and it can be difficult to find a way to make the children understand the importance of their help and that this is a needed and wanted thing for them to participate in – both for their parents sake, but also for their own.
These interviews also provided an interesting view on a generation of children where “being bored” is just not an option. The children involved in this project are always occupied with something and as soon as they have nothing to do, they grab the nearest digital device to kill time with and the parents allow it because they feel bad if their children are bored at any time. They are (what in Danish media shave nicknamed) “Curling children”. A term that came up in the late 90’s and is, according to the Danish dictionary, defined as:

“Spoiled children who are over protected and are being serviced by their parents who do not seem to demand anything from their children” (translated from Danish, Den Danske Ordbog online).

This is a harsh and exaggerated way of talking about these children and obviously, it is only in some aspects that this can be said about the children who participated in the interview.

The findings from the interview led to the following design openings.

10 - DESIGN OPENINGS

1 – GAMIFICATION OF HOUSEHOLD ACTIVITIES
How can household activities become a fun and engaging part of the family’s everyday routine?
One opening could be to look into how gamification of cooking, cleaning, washing etc. could work. According to Oxford Dictionaries, the word gamification is defined as:

“ The application of typical elements of game playing (e.g. point scoring, competition with others, rules of play) to other areas of activity, typically as an online marketing technique to encourage engagement with a product or service: gamification is exciting because it promises to make the hard stuff in life fun”
(http://www.oxforddictionaries.com/definition/english/gamification)

The design opening could be to look into how these “boring” activities could become more fun by adding elements of game and play that might increase the engagement.

One example could be to view these activities as a way of earning points that could then be used on either existing games favored by the kids, points to do social activities with the family or developing a new game that could work as the platform for the real life activities in the house.
One issue here is of course the risk of boredom: It might be a motivation to begin with, but it may also
quickly become monotonous and lose its shine. For this project it seems interesting to look into how gamification of these activities could lead to more time spent as a family.

2 - COMBINING ALREADY EXISTING GAMES/APPS
It seems that there is a shared interest in these games or apps, but still this is an interest or activity that is very much separated in the family. An opening could be to look at how the parent’s games/apps could be linked to the children’s games or apps and by doing so making the activity collaborative.

An example could be to link the drawing app “Draw Something” (that one parent mentioned) with the computer game “Minecraft” (which two of the interviewed boys shared an interest in) and have the kids draw something in Minecraft that the parent(s) had drawn for them in Draw Something.

3. FAMILY PLANNING – HOW TO TAKE PART IN EACH OTHER’S LIFE WHEN NOT TOGETHER
Following each other’s everyday activities by digital storytelling/diaries. This design opening came from the idea that each member of the family spend a great deal of time apart during the day and that there is a wish to be able to know about each other’s daily routines outside the house.
ANALYTICAL GROUNDING: RELEVANT DESIGN EXAMPLES

Within interaction design, there are a lot of examples on design for parent and child interaction. Mostly though, for younger children where the parent’s role is more of a supervisor or guide who helps the young child along the way. These are not so relevant for this project since the user group is different and the focus is more on teaching/helping the child with a certain activity than it is on promoting shared activities that are equally engaging. However, there are some relevant examples available that are very much worth mentioning in regards to this project.

KIDS ACROSS PARENTS DOWN

“Small moments can have big payoffs in families. When you have an activity that kids and parents can enjoy together, you’ve got a chance to relax, share, and get closer. Kids Across/Parents Down is a simple concept that gained its popularity reaching millions of readers through weekly syndication in newspapers like the Los Angeles Times, Chicago Tribune and The Washington Post. These are crossword puzzles with easy words and clues for kids to do across, and brain-tickling, age-appropriate down clues for adults.”

Amazon description.

Created by Jan Buckner Walker, published in newspapers and used in family restaurants for entertainment at the table.

Walker came up with the idea after 9/11 based on the thought that people wanted to stay at home and bond with their children. It is interactive on an in-person level which makes it interesting in a multimedia time like ours where many children activities are between them and a machine. In order to solve this, they...
have to consult each other since some of the challenges are aimed at the child and some at the parent. The puzzles are appropriate for children aged 5-13 and the creator’s vision is that instead of making them too difficult for parents, they should be fun since she believes that is more motivating.

INTERLIVING PROJECT

“The goal of the InterLiving project is to, in collaboration with families, study and develop technologies and artifacts for communication between generations.”. http://interliving.kth.se/description.html

The aim was to develop technologies that would encourage communication, collaboration and creativity. http://www.cs.umd.edu/hcil/interliving/

The aim of the InterLiving project is to develop technology that can contribute to bringing family members together - similar to this project, but the difference being that the InterLiving project aimed at creating new technologies that supported co-located and distance communication and coordination.

It is coordinated by CID (Centre for User Oriented IT-Design), at the Royal Institute of Technology in Stockholm. Partners that are involved in the project are: INRIA (Institut Nationale de Recherche en Informatique et Automatique), LRI (Laboratoire de Recherche en Informatique Université de Paris-Sud) in France and the Human-Computer Interaction Lab at the University of Maryland in the USA. InterLiving is funded for three years by EU’s program “Disappearing Computer” and started in 2000.

This project focuses on designing a digital artifact that will engage the whole family. The focus is very much on designing something that the family will accept as a part of their house.

Six families have been involved; three in Sweden and three in France. This cooperation with the families has created an “understanding for the complexity for their geographic and communicative situation”. Researchers and families worked together in order to design useful and adaptable digital artifacts. Some of the methods used were ethnographic studies, interviews, video diaries, probes and “work-and-play”-workshops.

DESIGNING FOR FAMILIES

What is the very fabric of everyday family life? What brings families together when they are at home with each other? During this study, it has been quite obvious, that digital media takes up more and more time within the homes and it also seem to separate the families more and more – in terms of spending less time together. The following section will look at previous research projects where the aim has been to design for families.
Technology has in many ways changed the way families stay in touch and spend time together and the interest in designing for the home has increased a lot in the past years. Family-friendly applications for smartphones or tablets, digital message boards, game consoles etc. – commercial companies are doing their best to develop new technologies for the home. The question is how we design for this user group? How is it different than designing for other user groups? The article “Technologies for Families” poses two components for this topic:

- Design techniques (how to work with families, what are their needs, evaluation questions)
- Technologies (functions, aesthetics, performance, acceptance, marketability)

The article discusses the design of new technologies for families and aims to “…discover new ideas, which can be disseminated more broadly.” (Plaisant, C.; Druin, A.; Hutchinson, H., 2002)

In 2002, the University of Maryland organized a workshop with 12 participants from industry and academia to work on this (at the time) new topic for HCI (Human-Computer Interaction) and the two components above, were seen as the main ones for this topic.

In terms of design techniques within this area includes cooperative design, participatory design, cultural probes and cooperative inquiry which enable adults and/or children to participate in the development of new technologies.

Designing for the home is different from designing for the workplace e.g. - the main goal is not necessarily to improve productivity or efficiency. The article claims that home users find interpersonal communication more popular than e.g. information or entertainment applications. The home users are also less likely to be tolerant to less attractive looking technologies as well as their patience is lower when dealing with software failures. These families are much more diverse than the target audience of many other technology products, which is also one of the takeaways from this project. Especially when designing for adults and children at the same time, there are some challenges in regards to handling the wishes, interests and habits of two generations in such different stages of life. The article also touches upon the fact that technology has the unwanted side-effect of separating families instead of uniting them at home which might lead to “…causing declines in psychological and social well-being.” as child psychology also points towards. The article “Technology Probes: Inspiring Design for and with Families” also indicates that “…computers and the Internet can contribute to this problem by isolating people from family and friends and increasing their daily stress levels.” because people participate in civic affairs less frequently.

According to “Technologies for families”, the key to avoid this problem might be to embed the technology in more social areas of the home or make it lightweight and portable so they can be carried where the
users want to use them. Now, this is a fairly old article (when discussing technology and new media) and these “lightweight” options are by far already established within the homes of an average family in Denmark. Still it seems that these options do not really gather the family more; even when being physically within the same space/room, these individual, portable devices distract each family member from actually being together on a mental level as well. The article concludes that the users appreciated the ability to multi-task, they wanted to keep in touch with family members in a fun and simple way and to communicate in more expressive ways. It also says that they valued privacy and did not want something that created new obligations. As an overall conclusion, this article emphasizes the importance of understanding these multigenerational families before we, as designers, start to blindly build technologies for them. This requires that we look upon research from a variety of fields in order to gain an understanding of which directions are the most promising when designing for families.

One way to approach this challenge could be by working with technology probes like in the case of the InterLiving Project mentioned earlier. “A probe is an instrument that is deployed to find out about the unknown – to hopefully return with the useful or interesting data” (Technology Probes: Inspiring Design for and with Families, Hutchinson, H; et al. 2003). A technology probe is a specific type of probe which combine social science (collecting information on users and use), engineering (field-testing the technology) and design (inspiring users and designers to think of new ideas to support their needs and wishes). In the InterLiving project, the technology probe was to install a technology into the real user context of a family’s home in order to watch how it is used over time and then being able to reflect on the use and inspire ideas for new kinds of technologies. A technology probe is not a prototype, but an actual tool to determine which other technologies could be interesting in the future. The InterLiving project used technology probes combined with ethnographic interviews and design workshops over a period of three years and proved that technology probes are a promising design tool when working with families; they help reveal practical needs, they provide real-life use scenarios to motivate discussions in interviews and workshops and they introduce families to new types of technologies which will encourage them to consider other and more creative uses of technology in the workshops.
RELEVANT EXAMPLES TO USE AS A POINT OF DEPARTURE IN WORKSHOPS

Based on the interviews, it seems to be very difficult to combine the very specific interests of children (in this case boys) within this age group with whatever the parents find fun and stimulating. These interests also seem to change a lot during this age and can be very specific for the group of friends they are with at the time and are very dependent on what is popular at their school at the moment.

Looking at what would make sense in the workshop, the activities that should be tried out here will more or less all based on an existing app/game/activity that somehow applied to the boys participating. This choice was made due to the fact that it seemed like a good starting point to engage the children. Adults are easier to get to “play along” even if it is not their favorite activity to begin with. Not thereby said, that the engagement will last forever if they do not find it appealing.

MINECRAFT

The first example of something that could be used as a shared, home-based activity is Minecraft (https://minecraft.net/). The boys who participated in this project are all Minecraft players and huge fans of this computer game that allows you to build anything imaginable by using raw materials like wood, minerals, plants etc. There are no restrictions to what you can build, it is only a matter of imagination. Minecraft has a huge community surrounding it and its users are both children and adults which makes it interesting to investigate as a platform for shared activities between parents and children.

The idea of building and destroying everything on your own terms seems to fascinate them and engage them on a level where they can spend hours and hours in front of their computer. What is interesting to note is, that Minecraft is not easy. It takes time and a lot of effort to get to know and it requires skills to build the objects wanted. In other words; it is a game that requires a lot of patience and practice to get familiar with.

The idea was to see if this game could somehow lay the grounds for an activity where the parents could also be involved and take part in building and being creative.

BUILD YOUR OWN GAME

Another activity for the workshop would be to build a game together based on the individual interests and qualities that both parent and child have. This activity is based on the design opening about mashing up apps or games that they already find appealing.

The activity will not take it’s starting point in an already existing game maker designs even though there are plenty to choose from online.
A few examples are:

**SPLODER:** A game maker that helps you build your own arcade game, puzzle game, space shooter game etc.

![SPLODER Game Maker](image)

**GAME GONZO:** claims to let you create your own game in just a few clicks.

![GAME GONZO](image)

There are quite a few of these available online both on your computer and on your app. The reason for not choosing to try out these in the workshop was that they are already pretty customized and pre-defined.
Furthermore they will take up a lot of time just trying to figure out how they work since they can seem a bit complicated when first looking at them. Also, they are not targeted at this specific user group and are meant for single use.

**FAMILY PLANNING**

In all families, there are routines and different ways of doing things. How each family chose to plan and spend their day also determines when and how they are going to spend time together as a family. For many families (e.g. the ones interviewed for this project), they also plan for family time. In the workshop the idea of family planning as a tool for taking more part in each other’s lives, is tried out in the workshops.

**12 - DESIGN WORKSHOP**

Based on the findings from the workshops and the design openings, a design workshop was executed to try out different concepts and to observe how parents and children collaborate with each other.

The workshop consisted of explorative and experimenting try-outs of existing games/apps/family-activities combined with assignments/experiments for children and parents to solve together.

**FOUR FAMILIES PARTICIPATING, 3.5 HOURS IN TOTAL**

The workshop was set up with four boys aged 10-12 along with one parent each (two fathers and two mothers). The boys who attended this workshop are from the same neighborhood/community and attend the same school, which meant that both parents and children were familiar with each other. This was not a deliberate choice, but it is realized how this might affect some of the findings as well as the knowledge of this - and the fact that it was an all-boys-workshop - laid the grounds for some of the activities and the choices made before meeting the participants.
12. 1 - FIRST EXERCISE: FAVORITE APP/GAME

The first activity at the workshop was an individual writing/drawing task where the participants were all asked to spend 15 minutes to think about their favorite app-based game or entertainment and write down why this was their favorite at the moment, what made it fun, which elements of the app were the most intriguing and important, what was less good about it and when they used it.

Three out of four boys wrote down GeometryDash which is a level-based game where the player can create their own levels and challenges along the way – which was also one of the reasons they all gave for why it was fun. It had (according to the boys) endless levels and got really complicated the further you got and even too complicated which could cause them to give up. As one of the boys wrote: “I play it when I feel hardcore”. The parents of these three boys chose: Tune-Pal (an app which can identify traditional Irish melodies and find the cords for you), QuizBattle (a game where you play online with friends or strangers and compete in trivia) and BikePlanner (an app where you get to find and plan the best/most interesting routes for your bike trip).

The last boy chose “Injustice: Gods Among Us” which is a fighting game with superheroes. His mother chose BubbleMania (a game where you shoot colored bubbles to eliminate them from the screen and to free “babies”).

The second part of this exercise was that the participants to sit together (child with parent) and pretend to be game/app developers who had to come up with a new concept for an app by combining the two already chosen “favorite apps”. They were asked to think about which elements of their apps they thought were most important for them to bring into a new concept and to think about how to make the new app relevant.
and interesting for both child and parent.

Below is a short description of the four new apps the participants came up with during this exercise:

**ANDERS AND ALFRED (10 YEARS OLD)**

“GeometryDash” and “AppTuner”

“Social Survival”

This game was based on the ideas from GeoDash, but combined with the voice-recognizing technology from AppTuner. A level-based game with obstacles along the way. The new addition to the original GeoDash would be that you would be able to meet virtual characters that you could talk to via the voice-recognition technology.

The better the player would be at communicating with these characters, the more help they would get.

The most important factor here for the child was to keep the game in its original format and then allowing for extra add-ons to personalize the game. For the father, it seemed that what was most important or intriguing was the fascination with the technology and possibility of playing with voice-recognition technology.

**METTE AND JANUS (11 YEARS OLD)**

“BubbleMania” and “Injustice Gods Among Us”

The game here was mostly inspired by BubbleMania, but with the theme and layout of “Injustice Gods Among Us”. The player would be able to choose a superhero-character to play with (the universe would chance according to this). Some of the elements from “Injustice Gods Among Us” would also be implemented into their game: The possibility of gaining extra lives and more superhero powers if the right bubbles were shot.

The more points gained in each level, the more characters and powers could be “bought”. Furthermore they decided that for each superhero would be a short film that would introduce this new character and universe to the player. It seemed that the universe of the game “Injustice Gods Among Us” played a huge role in why the child liked it and it was the most important element of the game he
wanted to bring into a new one. The short introducing films which set the emotion and feel of the environment meant a lot to him. This is the same boy interviewed earlier on who was very much into the supernatural genre.

HENRIK AND LASSE (10 YEARS OLD)
“Cykelplanen” and “GeometryDash”

Cycle-Dash
The main function of this app was to use GeoDash as an add-on to CykelPlanen to make it more game-like in order for it to become more fun for children and to encourage physical activity.
The point of the app was to use it as a shared app where the child or the parent could plan a route for a real life cycling trip and the other person could lay out virtual obstacles or challenges that the person biking would have to avoid/overcome. The obstacles would be communicated via sound so the person biking could wear headphones and thereby play the game without having to stop. The game could be included in everyday routes till and from school/work or it could be used with the family to encourage physical activities with the family. The child mostly found it funny to sit at home and plan complicated routes for his dad and nod the dad had seen it more as a shared thing.

SUSAN AND MIKKEL (12 YEARS OLD)
“QuizBattle” and “GeometryDash”

QuizDash: This idea was based on GeoDash, but with an addition of the quiz-element from QuizBattle.
The idea was to play the game in multiplayer-mode and the along the way, the players would receive questions they had to answer in order to move on. If they answered wrongly, they would lose time or be set back a few steps. The questions were adjusted so the parent would get more difficult ones than the child, but within the same category.
FINDINGS FROM 1st EXERCISE
What proved to be really interesting with this exercise was actually how engaged both parents and children were in discussing and coming up with ideas together. It seemed that the whole idea-generation and being creative together was actually what triggered both parents and children the most. Whether the apps invented would actually work in real life is difficult to conclude, but the idea of combining and inventing together was very well received and actually proved more interesting than the actual apps. Both parents and children were very engaged and involved and as one of the parents said afterwards: “It’s very rare that I get to spend so much quality time with my son”.

12.2 - SECOND EXERCISE – FAMILY PLANNING WITH MINECRAFT
Since all the boys who attended this workshop are very much into the game Minecraft and spend hours each day building and playing within this universe, this exercise focused on how to involve parents in this interest. The main idea with Minecraft is to collect resources in the Java based universe which can then be used to destroy or build houses, art, landscapes etc. The game is either a single–or multiplayer version and there is also a possibility to attack other players within the game. The boys who attended this workshop, mostly play multiplayer, but instead of destroying and attacking, they help each other to build and create universes together.
From the initial interviews, it showed that one of the things that could gather the family was talking about travelling and planning forthcoming vacations. With this in mind, this exercise was intended to be an extension of such a planning-talk. Instead of talking about the next trip to Spain or Vietnam, the child and the parent were asked to build what they thought the place they were visiting might look like.
During this activity, the families build: A Japanese temple, a beach house on the Spanish island Menorca, Twin towers in New York and an autocamper (see screenshots below).
FINDINGS

It was very impressive to observe how fast these kids were at building with Minecraft, but for most of the families, it seemed that the parents were left out of the actual building, and instead took on the ‘guiding role’ who told the kids how a certain place should look. The reason for this distribution of work seemed to be based on how they could solve the task at hand the quickest. The boys would easily get impatient whenever the parents would try to take over the computer and try to build. Interesting observation, since it also seems to be the problem in many other cases were the parents will take over. It seems that if one of the participants is better/quicker at something, it is a huge challenge to engage equally in the given activity. Both parents and children are very fast at getting impatient and that ruins the purpose of learning from each other.
12.3 - THIRD EXERCISE: FAMILY PLANNING

Based on the notion, that these families spend a lot of time apart during the day, this exercise was meant to investigate in what daily activities both parents and children wanted to share with each other as well as figuring out what was important for them to know about each other during the day.

They were asked to visualize the past week’s activities in a way they felt suited. All of them chose a calendar-based visualization and three out of four had very detailed explanations of what they did (both individually and together as a family) and one was a very simple one that only showed the minimum of their weekly activities. When asked why this was, the father said that they did not need a media platform to share this information because they already did so through texting and calling during the day. What mattered most for him, was to know that his son was happy during the day and not so much exactly where he was or what he did. For the child, the most important thing to know was when his parents would be home. As the dad said: “We do not need a media that will allow us to take part in each other’s everyday life, cause in reality, all we want to know is when we will be home so we can actually be together in real life and then talk about what happened during the day”.

The three remaining families had a similar focus in their weekly stories – all based on timelines, but very much addressing what the child had been doing and what feelings he had during the day. It seemed that the need for following each other’s activities during the day came primarily from the parents. The children mostly cared about practical things like when their parents would pick them up, if they could go play at a friend’s house etc.

12.4 - FOURTH EXERCISE: TESTING “EPIC WIN” APP

This app is thought to be a personal to-do list with a build-in motivator in the shape of an avatar that you are in charge of. The main functionality of the app is, that whenever you complete one of the tasks (that you plug in yourself along with the amount of points you think it is worth), your avatar will move forward in the “game”. Along the way, there are milestones where you collect/receive gold or other resources.

All four families were asked to sit down, child with parent, with the app and do a review based on what they could figure out within 20-30 minutes.

They were asked to review it with the following in mind:

How this app could be used as motivation for children to participate in household activities at home. Would such an app/game be a way of encouraging children to take more part in household activities?
The parents and children were asked to test the app as if it was meant for this purpose. The reason for this activity was to test how gamification of household activities could potentially work – in this case as a reward system, where points in the game would work as the reward.

On the left: Epic Win App. On the right: Susan and Mikkel trying out Epic Win

FINDINGS

The overall finding was that this particular app would not work for this purpose. The game that was linked to the to-do list was simply too boring for the children. The parents were a bit more positive towards the concept, but also agreed that the universe created and the “reward” for completing a task was simply not fun enough. Also, with this particular app there would be a potential risk of cheating since the person using the app can easily tap each task before completing it and receive the awarded points. Not that the parents suspected their children to do so, but even one of the boys mentioned how this option made it less fun since there would be no satisfaction in completing the task and pressing the button when you could easily do it without having to clean your room or take out the trash. Also, this way of using the app was very anti-social since the tasks were individual and so was the reward.
GENERAL DISCUSSION WITH PARENTS
When the workshop ended, the parents naturally went into a conversation about their children, the relationship with technology and the dilemma of how they wanted the kids to spend more time on other activities than their computers/smartphones/tablets, but at the same time set a bad example by using these media whenever they needed to relax themselves. They also discussed the issue of feeling guilty because of lack time spend with their children and emphasized how activities like the workshop reminded them what it actually felt like to spend “quality time” with their child. The subjects that came up during this workshop will be addressed further in the “Discussion” part of this paper.

Please go here to see a short video from the workshop:
https://www.youtube.com/watch?v=Y3KsgQVSuCQ&feature=youtu.be

12.5 - GENERAL FINDINGS FROM THE WORKSHOP
The most important finding would be how the actual time spend together and the fact that they were asked to use their creativity on shared activities in the workshop, proved to be the biggest eye-opener. It seemed that both parents and children really appreciated this time spend with each other and especially the exercise where they had to create ideas for a new app/game was valued. The benefit of working with children is how easily you will discover if a certain activity does not engage them since they will very quickly lose focus and drift off to do or talk about other things. This was the case with the storytelling exercise where the boys would very fast lose interest.

TAKE-AWAYS FROM THE WORKSHOP
The idea of merging two apps quickly turned into a process of idea generating and spending time on being creative with each other. This shift of focus was really interesting and opened up to a new idea within this area; how to be inventive together and using both parent’s and child’s creative senses and wish for spending time with each other.
Family storytelling in the shape of a diary did not prove to be as relevant as imagined. The need of taking part in each other’s everyday-practices outside the house was not big and if so, it came mostly from the parents who by the end of the day, mostly wanted to know if their child was happy and content with whatever they were doing. This could just as easily be taken care of by sending a text message. The children were mostly interested in knowing when their parents would get home from work. In general it seemed, that both parts were overall interested in knowing when they could spend time together in real life.
The Minecraft exercise showed potential by shifting the natural roles of between parents and children where the parent is usually the one who provide the knowledge in learning situations. In the exercise with Minecraft, these roles shifted and the child were in all four examples the ones who had “the upper hand” and could teach their parents something new. The idea of sitting down with each other and imagining the next vacation destination might not be a long-lasting and engaging enough activity though. For all of them it really quickly became more about completing the task as fast and efficient as possible, which was done by having the child build in Minecraft and the parent giving instructions on how the place should look since that was where they could provide knowledge that the children did not have. If this had been a competition on time, all four would have done very well since they managed to complete very impressive buildings/landscapes within a very short period of time. In the sense of this being an exercise that was meant to engage and involve both parties in a shared, fun activity that should have been more about the time spend together and not so much about completing a task, this exercise did not completely support this theory. It did however provide an interesting perspective to an activity where the natural parent/child roles shifted for a change.

The last activity, testing the EpicWin, app proved to show potential (at least seen with the eyes of the parents) in terms of how to view household activities in relation to children. This app itself might not have been successful for this purpose, but it raised some interesting questions on how to involve children more in helping out at home. An interesting point made here was, how the “reward” for helping out around the house could basically be that the parents would gain more time to spend on activities with their children.

It is of course important to reflect upon these findings in the light of the situation. The activities were set up and the environment was not natural in the sense that it was not in their private homes which is actually what this project is researching for. That could make some of the findings very much tied to the given situation. Participants can also seem more engaged and excited during a workshop than they would in the privacy of their own homes where a certain activity was an option they had among many others. The benefit of working with children is, that they are somehow more “honest” and it is a bit easier to detect whether they are engaged in something or not. Adults can adjust easier to the situation and by that come across more positive than what might be the case. On the other hand, adults have an easier time communicating their thoughts and opinions verbally which hopefully provides a somewhat honest reflection of their actual beliefs.
13 - DISCUSSION

The discussion will take it’s point of departure based on the initial interviews and the design workshop and related literature and examples mentioned earlier.

Interacting with your child is something all parents (in this case the ones participating in this project) know the importance of and mostly also work and plan for to happen. Parents are aware of the fact that this is an important part of their child’s development and furthermore, parents really want to spend as much time as possible with their kids. This, however, is not always what happens on a day-to-day basis. Not because of bad intentions, but because of a stressful day-to-day life, where spending time with your family is mostly something that happens during dinner-time and weekends. Some of the theory discussed previously focuses on the importance of this interaction. Not only is it a huge part of the child’s development of self, but it also determines how they perceive the rest of the world and other adult-relations throughout life.

This interaction is crucial for infants and young children who are very dependent on their parents, but the need for interaction continues all the way to adulthood (where the interaction also is wanted of course.) Children in this user group are at an age where they are slowly starting to put some distance to their parents and are more focused on friends and hobbies. For the children who participated in this project, they did not seem to be too aware of the importance of their parents spending more time with them which makes you want to ask the question: “Are we actually creating a problem that isn’t there?”

No, the fact of the matter is, that parents and children are spending far less time together than they were before computers, smartphones and tablets became such a huge part of these families and this might, according to theory, affect the children in the long run.

As mentioned earlier on, the parents’ use of electronic devices creates a distance to their children even when they are in the same room. Sherry Turkle hints at the fact that this is a way of neglecting your child. The term “alone together” that she talks about (“In Constant Digital Contact, We Feel 'Alone Together’”; interview with Sherry Turkle, 2012), is very much relevant for this user group. The time they spend at home as a family seems to be very influenced by individual use of digital media which creates a distance even when being in the same room. Children this age also spend a lot of time with their smartphones or tablets and, according to the interviews, even think they should be allowed extra time with them. Children this age might not see the benefits of spending more time with their parents right now, but other research show that they do in fact notice the problems of their parents spending time on digital media (hence Sherry Turkle) and feel they have to compete for their parents attention which makes them hurt and jealous.

However, the parents in this project all verbalized the wish for more interaction with their children and they seem to know that they are having stressful days that limit their time with their kids. Still, the parents
interviewed earlier on, all admitted that being relaxed at home very often included some sort of tablet or smartphone entertainment and that each family member would often sit in each of their rooms when they got home from school/work. Obviously this is not all these families did and this way of presenting it might come across somehow harsh and exaggerated. But it is very interesting to see how parents and children actually spend a lot of their time using the same devices for similar activities, but still cannot seem to transform this shared interest into a shared activity that promotes them spending time together.

During the workshop it was clear to see that the joy of spending time together was there and that not only the parents, but also the children clearly enjoyed this way of being together. As mentioned earlier on, one parent said during the workshop that it was very rare they got to spent this much “quality time” with their child. This implies that that the wish for spending time together is there, but the everyday routines as a modern family are often so packed and stressed that there is not a lot of energy left to spend on figuring out how to make this happen. Also the constant “being available to the rest of the world” has a big influence on this – even if the parents did not mention it themselves.

For this project, the interesting part has been to find design openings within these everyday-routines and constant use of technology which would not have to compromise too much with how they already relax and spend time at home.

Figuring out the general need for a family with children this age is difficult and trying to design for this multigenerational user group is very tricky since all the kids have very different interests and so do their parents. Trying to nail one activity that grasps all of them is close to impossible when the focus is on engaging and promoting shared home-based activities that could work for everyone within this user group. Still this is highly important and often mentioned when looking into projects within the same field. When designing technology for families, it should aim at being fun and enjoyable and focus on connecting the family members and enhance communication between them.

The age group of the boys involved in this project is tricky, since they are at an age where they are fully aware of what is and isn’t fun and they know how they prefer to spend their time. Their need for being with their parents does not seem to come in as a first priority and friends and interests are more important for them. What is relevant to point out here, is the fact that the user group for this project are all well-functioning children from the same community with well-educated parents and stable and secure homes. This might mean that these boys know that their parents are interested in them and that they do not feel any specific deprivation when it comes to spending time with their parents. Had the user group been another, these needs might have been clearer or different.
Still, it is interesting to see how family life changes along with new technology becoming more and more dominant in every home and even if they, as a family, does not seem to notice any negative consequences of this, there seems to be a belief among phycologists and researchers that this influence can, in the long run, be negative. This is why it is relevant to look into, even if the user group does not see their own need right away.

During this process, some interesting findings have appeared and they have pointed in a direction that could be interesting to design for. Figuring out activities that both parents and children find amusing and engaging has been quite difficult and especially since the scope of this project has been rather broad to begin with. Having narrowed down the scope earlier on might have made the process of coming up with a more specific concept a bit easier since having “home-based activities” is very broad and it has been difficult to find a direction to follow since there were so many things pointing in so many directions.

However, what seemed to be very interesting during the workshop was how the method actually became the interesting finding here. The activities planned were more or less engaging for the participants, but what really seemed to trigger something was the way of spending time together. Being creative and inventive with each other seemed to over-shine the smaller details of the individual activity in itself. This also relates well to the theory of Theraplay and how actual face-to-face play and communication is both rewarding and fun for both parents and children. This finding proves that what really works here is the fact that both parts are on equal terms and have the same starting point. They were asked to design an app or game on fairly freely terms based on an equal amount of their individual interests and likes. The boys, who are very much into gaming, instantly liked this opportunity to become “game-designers” for a moment and the parents were surprisingly hooked as well. This assignment worked very well as a starting point for them to invent something together since it was on equal terms, very free and not very limiting, but still had some guidelines and a point of departure that both parts understood. This was also the only exercise during the workshop where no one finished before the given time was up.

As mentioned earlier on, the Minecraft exercise did not work out in that way it was intended, meaning that there was a clear division in roles and the lack of knowledge about the game, made the parent lean back and let the child take over from the beginning. It was clear to see that the boys got impatient with the parents really quickly and wanted to do things on their own. The interesting aspect of this was, that the roles shifted; the child was suddenly the one who had to teach the parent something new and not the other way around. This led to an uneven situation where one part had “the upperhand” just as if the parents would have helped the child with something where they felt more qualified. The conclusion could
be that when trying to design for an activity that engage parents as much as the children, the starting point needs to be somehow more equal since it will lead to lack of interest when one part is clearly more into the activity than the other. As previously mentioned a lot of adults actually play Minecraft as well and this game is probably one of the games in the world right now that grasps the broadest user group, so for some families Minecraft could definitely be an interesting platform to do other design work targeted at parent-child interaction.

Helping out at home is a subject for most families with children this age and something that seems to be a big reason for discussion and arguing. What the interviews proved was, that for many parents this is not only about teaching your child practical skills and for the benefit of them learning how to take responsibility, but actually it was more about saving time. Many of these families had other young children living at home and for most parts, the practical work at home, take up a huge amount of time. The interesting aspect of this “dilemma” is, that the children seem to understand the need for their help and for most parts find in fair that they have to help out. But as one of the boys said during the interview “it’s just SO boring”. This leads us back to the notion of children never having to be bored. And for the most parts, they get away with it because their parents want them to have fun and be happy or because they just do not bother to have the discussion with them. What this does, is that it makes the kids feel that it is OK never to participate simply because it is boring and they do not feel they have to ever be bored. Many would claim that being bored is good and healthy for all children and a way of learning how to be yourself without anything to disturb you. Teaching children – and their parents - that being bored is not necessarily a bad thing, might be for a different project than this, but it is interesting to have in mind as we continue to design for them. It seems that ‘being bored’ is the last thing a designer wants (even for a short period of time) when designing for children – if you want to keep their attention for longer than two minutes, that is.

But since the parents were all very focused on how to get their children to participate at home, it might be interesting to look into the gamification of household activities. The app “EpicWin” did not at first glance seem too intriguing, but the idea of gamification seemed appealing to both parents and children. Especially the parents mentioned that they would like to have some device that could make it more fun and easy for their children to participate. The act of practical help at home does not immediately indicate spending time together, but it might create time for being more together as a family.

Based on the findings and the analyzed/discussed subjects and issues, two design concepts are presented in the following. The concepts are sketches and are not fully developed or finished.
PORTFOLIO OF SUGGESTED CONCEPTS

Based on the findings from the interviews, workshop and theory, which has been discussed in the above section, two concepts have been developed as the most promising. In the following these two concepts will be presented and described:

14.1 – CONCEPT NO. 1

GAMIFICATION OF HOUSEHOLD ACTIVITIES WITH A SOCIAL “REWARD”

Tablet/Smartphone application

The idea for this concept came from the application EpicWin which was tested in the design workshop. This App combined with a suggestion mentioned in one of the interviews where the mother explained a point system they had earlier in the family laid the grounds for this concept. This concept is based on the notion that parents need more practical help at home in order to have more time to spend with their children. And children within this age group are old enough to take care of such practical activities. The thought of this concept, is to create an app where helping out at home would be rewarded with social activities. These social activities would be shared, family activities.

The idea is that the application facilitates the parents to type in what kind of work/tasks around the house they would like to receive help with from the child and how many points each activity is worth. The children can then plug into the app what kind of social activities/events they would like to do with their family and the parents will then decide how many points this should require. When this is settled, the child can start earning points by helping out with whatever household activities the parents have listed.
14.2 – CONCEPT NO. 2

BUILD YOUR OWN FAMILY GAME

Smartphones/tablet application

This concept is based upon the idea that building and inventing together is fun and that it engage both parents and children. As seen in the design workshop, the activity that proved most intriguing for all, was the exercise where they had to come up with an idea for a new app. All of them went with a game idea which is also why this concept revolves around designing a game.

It is important to mention that this concept is more about the process of coming up with ideas and being creative and innovative with each other than it is about the actual potential games that would evolve from such an app. The concept presented here is not a fully developed or tested concept that could be taken straight to the market. It is a suggestion to a shared, social activity that (based on the findings from this project) seem to involve both parents and children on an equal level which enhance the possibility of both parties enjoying it and wanting to spend time on it.

The idea is to create a simple DIY-app where the main focus is to build your own family app.
It will contain of pre-made features that the users can then drag and drop into their game. They will get to choose the universe in which the game takes place, the characters they want to identify with, the winning conditions, amount of levels, obstacles along the ways as well as extra features based on previous research which indicate both what parents usually like in games as well as what children (in this case boys, 10-12) like in the games they play. The amount and possibilities with characters, universes, features, levels etc. could be endless.

Visualization of concept no. 2
15 - PROTOTYPING/USER TEST
This session was set up similarly to the first design workshop.
Two families participating: Alfred (10) and Birgitte; Mikkel (12) and Susan
Since the concepts are still very limited in their amount of details, this user test was set up more as another design workshop in order for it to still be explorative.

SOCIAL REWARD GAME USER TEST/DISCUSSION
This user test was done with the app EpicWin, but with additions that made it resemble this concept’s features:
The child was asked to think about a social activity which they wanted to do with their family and the parents would type in to the app, which activities they would like their child to participate in at home and adding suitable points for each activity. This user test ended up being more of a discussion about a potential app like this than an actual test of the concept, mostly because an app like this would have to be tested over a longer period of time which was not possible at the given state of the project. The outcome of this discussion proved to be quite interesting both to the project, but also to the parents.
An overall finding was, that the children involved in this test did not view social activities as a good enough “reward” for helping out at home. Both boys claimed that they would rather receive money or “things” as a reward for helping out. The reason for this was as simple as this: They knew that these social activities would happen anyways and that they did not value activities higher than things. This finding might indicate that these boys come from quite privileged families and the way of viewing a social reward as invaluable might be due to the fact that such activities happen from time to time regardless of their participation in home based activities. Both children admitted that they understood why their help was needed, but that did not change the fact that they still felt it was their parent’s duties and not their own. Whether this finding might change with a different user group is likely, but not definite and this assumption would require more testing and validation of such a concept. But for this user group, an idea like this is not very likely to promote more family time spent together.
BUILD YOUR OWN GAME

The second concept presented to the participants was based on the assumption that the process of idea generating and being inventive together triggered something with both child and parent that engaged them equally. The user test was done based on a Low-fi prototype made from paper cut-outs. To design a fully functioning prototype or application would have been too time consuming to fit within the scope and timeframe for this project.
The participants would create their own app-based game by following some simple guidelines and answering some pre-defined questions that was set as the frame for the game. How many levels (1-∞), Winning conditions (points or speed), universe (different examples), characters (recognizable ones), obstacles (slippery banana, fences to jump e.g.), challenges (Trivia questions, three in a row, identify a piece of music e.g.) and lastly they had to decide whether they wanted to play against each other or with each other. They were given 45 minutes to create their game.

Go here to watch one parent-child team explain their game (Note: In Danish):
https://www.youtube.com/watch?v=JSRMlhlSrhQ&feature=youtu.be

This activity proved to be very successful in terms of engagement and entertainment. Both parents and children were very engaged and had many talks/discussion during the process on how a certain aspect of the game should be designed or why/why not this and that made sense. However, for this to work as an app-based activity there would probably have to be build some sort of framework to support these options for it to be realistic on a technical level. What seemed to work well here for the parents was the addition of elements, found to be liked by adults in apps/games in previous workshop and interviews. Both teams ended up inventing a level-based game with very specific rules and winning conditions. During the whole
process, the parent and child seemed equally involved and engaged and both cared for the decisions being made. No one, not even the parents, ended up just agreeing with their children, but actively questioned most of the decisions they had to make along the way. This indicates sincerely interest and involvement with the activity.

This is, as mentioned, only a rough sketch for a design concept that could potentially involve both parents and children with an equal amount of interest. It is still on the very early stage of development and it is difficult to say whether this would work as a whole thing if we were to develop a fully functioning app. Also the fact that the games invented could not be tested afterwards creates some doubt since this might have a huge influence on how much fun an app like this would end up being. In other words; there are still a lot of things that would need to be tested in order for anyone to know if this concept would work or not. However, it does seem to be the most promising one and even a very lo-fi prototype caused a lot of engagement and joy for both parent and child. An engagement that seemed very real and authentic when looking at their behavior in the situation.

16 - FINAL CONCEPTUAL EXPERIMENT

The final experiment for this project has been a minor low-fi cultural probe done with the “Build your own game” concept. This concept showed the greatest possibilities and most potential to be further developed. Two families participated and were both asked to bring home the elements that were used in the user test (paper, cut-outs, pens, etc.) to use for creating family games at home. This was done to see how this concept would work within the natural setting of the families’ own home. They were asked to try out the “game” three to five times during a period of 2 weeks. They were free to use the materials provided relatively freely as long as they focused on sitting down together (one parent and one child at least) and invent games with each other. They were also asked to take notes that would explain their games and whatever reflections they had along the way.

The results were conducted afterwards when meeting up with the families. The overall finding was, that the games invented became more “unique” and less influenced by other apps or games the more times they tried it out. The children generally found it fun every time they had to sit down for this exercise with their parents, but both noted that it became a little boring at the end and would have been more fun to do if they had known that the game would actually work afterwards and if it was done on a digital surface. One of the boys said that it would seem “more realistic” if it was not done with
paper cut-outs. The parents had also found it engaging, even though one parent noted that it had been a challenge to find the time for it during the week-days and that they had done all four of their games during the weekends. But even so, both parents emphasized on the fact that they enjoyed the time spend with their children and one of them said that it “made our (the son and the dad) communication better throughout the day and we were less likely to argue or discuss in the following hours”. The other family (mother and son), said that in the beginning they would also discuss game ideas during the days where they did not design anything, but the interest seemed to fade away along the way – partly due to the unsatisfying fact, that whatever they designed, would not ‘come to life’ afterwards.

All in all, the families had enjoyed the exercise and the fact that they were “forced” to sit down and spend time together was something the parents noticed as a positive benefit. The children did not explicitly comment on this interaction, but were more focused on the lack of technology involved and both of them were very keen on providing ideas for a future app like this. It seemed that these suggestions were a sign of them being enthusiastic about the concept and idea.

A hi-fi technology probe could be conducted if the project was to be developed further on.

17 – KNOWLEDGE CONTRIBUTION

This research project adds knowledge to the design community by providing a study about how parents and children behave and interact at home. It provides knowledge about how to design for a very specific user group (children aged 10-12 and their parents) with the primary focus being on promoting home based, shared activities. It addresses the challenges there might be when designing for this user group and it adds knowledge about the specific interests and habits of both children and parents at home. Furthermore, it provides a practical and theoretical study on children this age and their parents, what triggers engagement and how important this interaction is. This research adds on to already existing research both within psychology, HCI and Interaction Design and emphasizes the importance of ‘being together’ as a family. The findings are well in-line with previous research, but focuses on a very specific user group in a very specific situation – parents and children (aged 10-12) spending time within the home. This makes the contributions new and relevant to the design community.

The research done for this project could also be applicable for several other types of projects focusing on child-parent interaction: Both workshop-planners, phycologists and pedagogical researchers could benefit from the findings that this project provides.
18 - CONCLUSION

HOW CAN INTERACTION DESIGN HELP FACILITATE PARENTS AND CHILDREN TO ENGAGE, COLLABORATIVELY, IN DAY-TO-DAY ACTIVITIES AT HOME?

The overall conclusion to this project is, that parents and children want to spend time together and that the best way of facilitating this need/wish is to look into their interests and habits and try to gain an overview of how their individual routines and home-based activities can potentially become shared ones. This is of course very dependent on the specific user group.

One of the interesting findings have been how much time both parents and children spend on their smartphones or tablets and how much they actually use it for the same purpose: having fun and relaxing. But at the same time, these activities are almost never shared. It seems paradoxical how similar interest they have and how little time they actually spent together at home. It is important to note that they do not necessarily play the same games or use the same apps and that many of these games or apps are designed for single use mostly. But, it is safe to say that this platform is a shared one that seems to appeal both to adults and children this age (at least within this user group) and therefore has been the basis design medium for this project. Interaction Design can help facilitate the wish for spending more time together by looking at these findings and this medium can definitely work as a shared platform for interacting.

How to design a tablet/smartphone-application that engages both parents and children is a challenge and a very broad question that this project has aimed to provide suggestions for. The main finding has been that both parents and children find it engaging to spend time with each other and actually taking part in something together. Creating new ideas, building stuff or inventing games have proven to be successful in terms of engaging them both and the workshops clearly showed that what triggered their commitment and engagement was more about sharing ideas and inventing new things than the actual result or activity itself. For all the families involved, it was not common that they would sit down with each other for several hours and actually spend so much “quality time” together. Talking, discussing and creating seemed to be what would actually keep both parents and children engaged for the longest amount of time.

Other interesting findings have been that children this age are almost never bored (partly due to digital media) and they find it unfair if they are. This makes designing for them (maybe) even more challenging than before since whatever you want to capture their attention with, will easily lose its appeal and be replaced with something else. However, it could seem that what could potentially engage the kids more than the usual apps and games, is the fact that their parents are participating as well. Not as in a multiplayer game from a different devices, but actual face-to-face interaction. This finding is well in-line with the previously mentioned research that claims how important this interaction is for children and how
they often feel neglected or jealous when their parents spend too much time on their smartphone or tablet.

This project suggests two concepts that could work for the purpose of spending more time together as a family. However, the first suggested concept seems to be a little too forced and looking back, this concept might have been kept for this long because the parents seemed very hooked on the idea. The last concept of being inventive and creating your own game together seems at this point as the most promising one. It does not only fit in with the observations and findings from this project, but also seems to touch upon important aspects of parent-child relations and interaction that has proven to be crucial to a child’s development. This concept would still need much more design work and testing. A next step could be to create a working prototype and do a ‘technology probe’ where the families would have access to the prototype during a certain amount of time. This would allow the families to test it more in depth and it would provide interesting knowledge about the long-term ‘effects’ of the design and could tell more about how the families would receive this “in the real world”.

On a final note: It has proved to be a challenge to try and work with a user group where you are trying to combine the needs and wishes for children aged 10-12 at the same time as you are designing for adults in their 40’s or 50’s. Children this age are becoming more and more independent and there is an actual wish to separate more from their parents than before. They are on the verge of their teen years and they are very aware of their own interests and hobbies. Their parents are also aware of this shift from young child to young adult and they also accept it. Somehow it could seem that this acceptance is also the easier choice and that the effort it takes to do shared activities at home is simply too complicated. One answer could be to look at already existing routines and interests, but also keeping in mind that as soon as one part is more engaged or involved in the activity (like the Minecraft exercise), the other part is very likely to lose focus and interest. This field of research is very large and the scope of this project might have been quite ambitious which leaves much more aspects within this research field to be explored. For example the unexplored aspect of having more children and parents participating at the same time or what an activity like this does to the dynamic of the family, when siblings and the other parent are not involved. A cultural probe could also help determine some of these aspects that could potentially open up to new and interesting design suggestions that could help enhance parent-child and/or siblings’ internal relations within their homes.
LIST OF REFERENCES

En Nødvendig Pædagogik
Rasmussen, K., Broström, S.
Forlaget Børn & Unge, 1981

Psykologihåndbogen
Brørup, M., Hauge, L., Thomsen, U.L.
Gyldendals Bogklubber, 1996

Business Research Methods
Bryman, A., Bell, E.
Oxford University Press, 2007

Encyclopedia of human development
Salkind, N. J. (Ed.)

An Analysis and Critique of Research through Design: towards a formalization of a research approach
Zimmerman, J., Stolterman, E., Forlizzi, J.
ACM digital library, 2010

What Should We Expect From Research Through Design?
Gaver, W.
ACM digital library, 2012

Interaction design, research practices and design research on the digital materials
Löwgren, J.
2007

The significance of home cooking within families
Simmons, D., Chapman, G.E.
British Food Journal 114.8, 2012, 1184-1195

Kids, parents puzzle together
Astor, D.
Duncan McIntosh, 2007

Theraplay: Helping Parents and Children Build Better Relationships through Attachment-Based Play
Booth, B. P.; Jernberg, A. M.

In Constant Digital Contact, ‘We Feel Alone Together’
Interview with Sherry Turkle
2012

Technologies for Families
Plaisant, C.; Druin, A.; Hutchinson, H.
University of Maryland, 2002

Technology Probes: Inspiring Design for and with Families
Hutchinson, H. et. al.
CHI, volume 5, issue 1, 2003

Mobiltelefoner og travl hverdag forstyrer børns nærvær med forældre
Lyng, F. J, 2013
Kristeligt Dagblad:
http://www.kristeligt-dagblad.dk/familieliv/mobiltelefoner-og-travl-hverdag-forstyrer-b%C3%B8rns-n%C3%A6rv%C3%A6r-med-for%C3%A6ldre

Børn og smartphones
Kids News, 2014
http://www.kidsnews.dk/undervisning/boern-og-smartphones

Danmarks Statistik:
http://www.dst.dk/pukora/epub/upload/17443/i	anv.pdf
Erik Erikson:
http://www.terapeut.net/artikler/menskadf/erikson/erikson.htm

Workshop video:
https://www.youtube.com/watch?v=Y3KsgQVSuCQ&feature=youtu.be

User test video:
https://www.youtube.com/watch?v=JSRMlhSRsrQ&feature=youtu.be

Minecraft official website:
https://minecraft.net/

Oxford Dictionaries:
http://www.oxforddictionaries.com/definition/english/gamification

Den Danske Ordborg:
http://ordnet.dk/ddo/ordbog?query=curlingb%C3%B8rn