PEEK & BOOK

Transforming the outside into an imaginary playground

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Today, urban children are spending time indoors more than ever before and getting away from phenomena of the outdoor world, which creates a big concern on how they develop their senses and get physical exercise. The tools, games and devices they interact with are preventing their imagination rather than sparking, by making kids consume content rather than asking for their participation.

Peek transforms the outside into an imaginary playground for children, where interacting with the natural world takes the focus and the child’s simple acts and explorations can turn into their own stories. It is an expressive digital tool that invites children to explore the outside, capture audio and visual snippets, and build stories around them. It comes together with a physical book which triggers child’s imagination through guided explorations and allows the child to keep the stories they created.

The result is a play experience designed for children aged between 5 and 8 years old.

“ We have to deal with children and give them a method to deal with reality, and as a desire for understanding and expression. ”

BRUNO MUNARI
DESIGNER AND INVENTOR

“ If it hasn’t been in the hand and body, it can’t be in the brain. ”

BEV BOS
EARLY CHILDHOOD EDUCATOR
During my gap year in this Masters education, I interned at a consultancy (Local Projects) designing for public spaces and I had the chance to work on an explorative tool in a museum setting. This sparked my curiosity on what other explorative tools I can design. Kids has been an interesting user group to me, because I believe they need the tools to explore the world with, beyond the task-based, utility aspect.

My upbringing in urban context also played a role in choosing this project to start with. I have been drawn into children’s disconnection with nature. I was curious to find out what experiences in nature are important to keep for children and also, as an interaction designer, what kind of tools I could design in order to sustain these experiences for today’s children. I believe studying for two years in a unique nature-focused area like Umeå/Sweden has only made these invisible connections stronger for me to get started this project.

During the project, I had access to 2 external tutors, who I contacted for their design advice and expertise on designing for kids and speculative design. Through regular check-in’s, they provided me extremely valuable feedback on my process and craft.

Federico Lameri
Frog, global design consultancy
Munich, Germany

Simone Rebaudengo
Automato, design & research company
Shanghai, China
With more than half of the human population living in urban areas, which is expected to increase to more than two-thirds by 2050 (UN, 2014), addressing the lack of human-nature interaction will become increasingly important. This is a growing problem already today for especially children, as they are in the beginning of their lives and they should be establishing a connection to nature. In 2012, a National Trust report called Natural Childhood revealed the growing gap between children and nature. Less than one in ten children regularly played in wild spaces. (Moss, 2012) In urban areas, it is a common fact that wild spaces are not very accessible for families to go to.

The need for going to wild spaces is actually related to something even more important for children: unstructured free play. In urban areas, families live on a pretty fixed schedule. What activities they are going to do, where they are going to go is planned from before. Children have busy schedules living in urban life as well. Their school time and extra curricular activities are all planned and their schedule doesn’t leave much time for unstructured free play. Though, sixty minutes of daily unstructured free play is essential to children’s physical and mental health. (American Academy of Pediatrics, 2007)

Besides considering the access to wild spaces, the access to outdoors in general doesn’t look like a good picture either. Today, children are spending half as much time outdoors as they did 20 years ago. (National Wildlife Federation, 2017) The decrease in time being spent in outdoors is terrifying and it does invite me to look further into this issue. It is not only lack of access to certain places, but it is a societal, complex problem that we see happening in childhood that concerns many children and their families.

Some, like child advocacy expert Richard Louv, thinks children started to have Nature deficit disorder. The nature of childhood has changed and that, there’s not much nature in it. (Louv, 2008)

Today, children’s understanding of nature comes from what they can see from the media they watch, books they might read or a seldom visit to a natural history museum. Not a thing they can draw to their everyday life. We should be introducing children to the natural world, beginning from their early years. Their social, emotional, and physical health depends on this exposure to develop. Humans are hardwired to need nature, because we are part of it. Exposure to nature can help remind children that the world contains an infinite variety of things and all are important. To observe nature requires patience and quiet watchfulness. Imagination comes into play as children create special places and use natural items to create stories and play. All senses become engaged when children interact with the natural world.

Toys have undergone a big transition in the latest years. Toys that teach solely information and knowledge is a thing of the past. Now, children can play with interactive toys by creating dynamic output and recently, toys have also turned “smart” by being connected to internet. Today, tools and toys that are made for children aim to teach information on coding, maths and physics. In a way, all the designed effort is to bring children as ready as possible for their adulthood. However, no tool is being considered to bring children close to the nature and create a connection with the outside world for them.

As the intelligence of these toys increases and voice interface technologies start to get into toys, we see the trend that these toys aim to be the ultimate play machine. They seem to be replacing the human connection that the child needs during their development, and offers to do too many things together with the child. These toys stop being a tool for the child for specific purposes, but become a caretaker to the child, in general.
DESIGNING FOR KIDS

Children belong at the heart of utopian thought, and they inspire us to demand a different, better, brighter future. When we look at the design history, we see that, for anyone wanting to create a new world, the wellbeing of children has been a good place to start. In order to gain more knowledge on Design for Kids topic, I’ve read the book, Century of the Child: Growing by Design 1900–2000, which is a compiled book for the exhibition that was at MOMA.

There have been a big shift in how to approach and design for kids in the last century. Until late nineteenth century, kids were seen as little workers and the attitude for designing for kids was centered around this. Only in the beginning of the twentieth century, the concept of play and kindergarten teaching materials started to gain importance. Later, Maria Montessori and Rudolf Steiner, child educators who founded their own schools, developed philosophies and methods that continued to inform educational theory and inspire modern design to this day. These people believed in humanistic educational methods and they emphasized the importance of well-designed teaching materials and learning environments and their roles as active agents in the educational process. (Kinchin, J. & O’Connor, A., 2012)

These findings give me the encouragement to focus on the wellbeing of children by aiming to create a playful experience that doesn’t ignore their specific developmental needs.

PROJECT GOAL

Today, children are getting over-informed on various subjects and the given attention is aimed at getting them close to the adult life. Toys and tools designed for children are aiming to convey certain specific knowledge. I believe that interaction design doesn’t only deal with designing tools that transfer knowledge but also deal with designing tools that can let children explore and facilitate learning through their own explorations. On the other hand, by focusing on outdoor experiences and activities for children, I am aiming to merge these two potential and design a tool that invites self-expression, amplifies their own capabilities and facilitates learning in outdoor environment.

“PLAY IS NOT A TRIVIAL THING; IT IS THE BUSINESS OF CHILDHOOD. IT IS THE MEANS BY WHICH THEY LEARN TO THINK AND TO FEEL. IT IS THE BASIS OF ALL LATER LEARNING AND LIVING.”

Lady Allen of Hurtwood, Founding president of World Council of Early Childhood Education
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RESEARCH
Research Plan and Strategy

I have started the research with an initial observation on urban kids and their disconnection with nature. Later, I carried out research activities on three consecutive sections: theoretical research, expert interviews and user research.

The goal of the research phase was to:
. Validate the intention of the project
. Collect stories and facts from experts in this field, 5-10 years old children and their families
. Get inspiration for the ideation stage of the project
. Be able to map out possible opportunity areas

SCOPE OF INVESTIGATION

A mapping of the project scope was created in order to better understand what needed to be explored during the research phase. This map included, 1. Theories on nature, 2. The true value of experiencing nature and 3. The landscape of “Kids and Nature”.

Key questions in relation to the research scope were:
. What are different theories on nature?
. What’s the value of experiencing nature?
. Why do we want kids to be interested in nature?
. How are people bringing nature to the city?
. What’s already out there for kids and nature?

METHOD

The project started off with a phase of secondary research. I’ve done desk research on nature approaching it from various angles like the definition of it, the value of experiencing it and the representation of it in urban children’s lives. I decided to immerse myself in my project’s topic by finding out as many perspectives as possible before I settle on my own angle for “nature for children in urban areas”.

I continued with a primary research, done in Umeå(Sweden) and Istanbul(Turkey). When I was planning how to conduct my research activities in the best way, I was inspired by what our program director Stoffel Kuenen has said once: “I don’t believe in design methods, I believe in design methodology.” I approached my research with one general strategy in mind: Looking for the extreme and mainstream side of my topic through doing research in two distinctively different locations.

Umeå provided me the extreme side as nature and outdoors is valued immensely here and I could access to many experts to have interviews with. Through talking to experts, I tried to understand “What’s so good about nature and being outdoors?”.

Istanbul provided me the mainstream side as it is a good example of a populated urban area. It has allowed me to understand the problem space and come up with my opportunity areas. In both locations, I used simple, straightforward research methods like interviews, observations and shadowing.
Theoretical Research

I took couple of weeks to do theoretical research and look into questions like “What’s the true value of outdoors?” and “What are some definitions of nature?”, before I take for granted that nature is good for children. Furthermore, I wanted to come up with my own definition of nature that I would like to use in this project.

DEFINITIONS OF NATURE

**The commodification of nature**

Even nature itself has become a commodity. Many believe they cannot experience it unless they are in a nature reserve, have the right pair of binoculars, or are wearing the correctly endorsed clothes. So often, nature is seen as something to travel to – not something we are immersed in all the time and dependent upon for our physical, emotional and spiritual health.

Nick Baker, naturalist and writer, suggests that maybe the natural world is not that exciting. Maybe it simply cannot compete with the instantaneous immersion of a games console or the internet. He admits that these bright lights can be dazzling but he also believes that nature is truly exciting; just watching a butterfly punch its way out of its chrysalis, a damselfly nymph ruining the life of a water flea. (The Wildlife Trusts, 2017)

**Biophilia**

The biophilia hypothesis suggests that humans possess an innate tendency to seek connections with nature and other forms of life. Edward O. Wilson introduced and popularized the hypothesis in his book, Biophilia(1984). He proposed the possibility that the deep affiliations humans have with other life forms and nature as a whole are rooted in our biology. Unlike phobias, which are the aversions and fears that people have of things in their environment, philias are the attractions and positive feelings that people have toward organisms, species, habitats, processes and objects in their natural surroundings.

**Importance of nature in child’s development**

Being surrounded by nature and natural items provides infinite benefits to children. Nature instills in everyone a sense of beauty and calmness. It exposes us to things that are alive and growing and promotes curiosity and exploration. With an adult as a guide, children can learn about being gentle and respecting living things. Self-esteem can thrive outdoors because nature doesn’t judge people. At a time when bullying is prevalent—even in preschools—exposure to nature can help remind children that the world contains an infinite variety of things and all are important. To observe nature requires patience and quiet watchfulness. Imagination comes into play as children create special places and use natural items to create stories and play. All senses become engaged when children interact with the natural world.
Umeå has been a unique place for my research, because there are many organizations working around the Nature/Outdoors topic, due to the fact that people living here and the municipality do care about taking care of nature and sustainable development.

In Umeå, I’ve talked to experts with diverse backgrounds including outdoor educators, biologists, forest school teachers, and nature scientists. My first visit was to Naturskolan which is an organization connected to Umeå Kommun with the aim of giving outdoor education to children in public schools. They informed me on what type of outdoor activities they do with young children and also shared stories with me from their excursion days with students. One key insight was how much it differed from one child to another, when it comes to being used to spending time outside. When one child was very used to being out, the other one could be really not familiar or even curious about it. However, the educators expressed that, after every excursion they have done, all children were much more encouraged and excited to spend time outside than before.

In order to hear about the ongoing research on the relationship between children and outdoors, I have searched for research papers and been lucky to talk to one of the researchers at the main campus, who is working on this topic. Annika, researcher with an outdoor educator and teacher background, informed me on what she sees as missing in play experiences today and how these affect child development, considering sensorial development and getting enough physical exercise. She highlighted that learning through body is essential in kids and today, the children are growing up lacking these type of experiences. She also introduced me to the influential educator Dewey, who created many theories on how mind and body is connected to each other. (Novack, 1960)

In Istanbul, I have done home interviews, visited a preschool, talked to children aged 5-10 years old, their families and teachers. The kids have invited me to their life, by showing the games they like playing with, their handicrafts and talking about their daily routines.

During 3 home interviews I have had with children and their older family members, some findings were relevant to all of them and visualised a quite big picture. One of the was that children were spending nearly all time at home besides school and going to extra curricular courses/activities. Parents didn’t let their kids go outside and play without their guidance due to safety concerns. Though, they were able to go out to the backyard of their residential building, without their parents’ assistance. This small finding actually pointed a bigger reality:

They were not able to spend time in nature, though they were still finding opportunities to spend time outside, in very limited sense.

The preschool teacher that I talked to also mentioned her concerns from a developmental point of view. She brought her students outside quite rarely due to their schedule, but she highlighted that only in these moments children use their whole body and inside they can’t, even if the classroom would be big in size. Overall, my takeaways were a mix of impressions from urban children’s current lifestyle and the developmental concerns from teachers and parents. These concerns were actually resonating with the expert interviews I have had in Umeå as well.

A SELECTION OF EXPERTS THAT HAVE BEEN INTERVIEWED DURING THE RESEARCH

RESEARCH PARTICIPANTS IN UMEÅ AND ISTANBUL
OUTDOOR PLAY LANDSCAPE

I have mapped and analyzed what current outdoor play projects are out there.

Animal Superpowers>
A set of tools to let the kids experience how animals sense the world. The ant apparatus allows you to feel like an ant by magnifying your vision 50x through microscope antennas in your hand. The bird device, which uses a GPS system and vibrates when you’re oriented in a certain direction, say towards an ice cream shop, home, or your pet. The giraffe device acts as a child to adult converter by changing your voice to lower octaves and raising your perspective by 30cm. (Woebken, 2017)

VR Experience by Marshmallow Laser Feast>
Visitors to an English forest were able to explore the woods through the eyes of different animals as part of a virtual reality experience by London design studio Marshmallow Laser Feast. Visitors were given globe-shaped virtual reality headsets decorated in moss and plants to wear. (Dezeen, 2015)

Analysis
During my desk research on outdoor play, I have noticed that toy companies and design industry haven’t really played a lot on outdoor play for kids, even though, there is a big potential in play experiences in outdoors. These projects have either been an artistic experiment or had an educational goal to solely give information on nature to kids. I decided to focus on the “experimental” and “long-term” side of the map, where we currently see this hasn’t been played on much. I wanted to focus on creating an experience that is explorative for the kid and that open to repetition in the long term.

RESEARCH SYNTHESIS

As an initial way to map out the research findings, quotes and scenarios, I have mapped all of them under specific users or places that I have interviewed.

During the synthesis phase, I have tried capturing the opportunities through looking at my research from bottom-up. I have kept an eye on what have been the key similarities and differences I have noticed across my research.

On a separate path, I also mapped out my desk research, theoretical research findings and key child developmental needs. In the end, it was about making a bridge between the user stories that I wanted to highlight and making the stories stronger by strengthening them with more quantitative-like arguments.
Opportunity Areas

Through three documentary-like videos, I incorporated the state of play in urban areas based on examples observed in Istanbul, clearly identified problems, key inspirations that are gained from experts and theoretical research, key child development aspects for 5-10 year olds and the potential opportunities I’ve spotted as a result.

Under each opportunity area, the narration from the video and the video link are highlighted.

Today there’s too much focus on cognitive-based learning at schools, but learning through body is essential in child development and it is lacking for urban kids today. When talking to an outdoor educator in Umeå, she introduced me to the “whole-body approach”, which is the main idea behind being outdoors: where kids can learn through their body, not only their mind.

During my interview with a preschool teacher in Istanbul, she highlighted the importance of physical activity for young kids: “In here (indoors), there are many limitations for them. Whereas, when we take them out, we see the true movement of the child. The children are restricted inside, doesn’t matter how big the classroom is.” Through physical activity, kids use their senses a lot, and this is how they absorb and process information at that age. It is both a huge learning experience and a developmental one, because our body is connected to our brain.

MAIN TAKEAWAY
Right now, there’s a big concern in sensorial development because urban kids are spending time indoors more than ever before. The games, toys and tools make them mostly use their eye vision. Whereas, outdoors bring the ultimate sensory experience, where they get to use all their senses, beyond sticking to eye vision. We shouldn’t be limiting their use of senses but give them the tools that would encourage them or maybe guide them to look closer, hear sharper, touch more carefully, so that, they would develop their senses by playing in the natural world.

sensorial development

On my search to find the true value of outdoors to kids, I visited a Nature School in Umeå. Yes. A school where kids are encouraged to spend most of their time, out in the garden. Their pedagogy emphasizes to cultivate children’s emotional life and imagination because role of imagination is huge in child development, up until age of 9. Imagination goes hand in hand with stories, where children can personify themselves with a character and become one. They can almost live through this type of games. They might look like doing something so simple like sliding, but in their mind, they might be running away from a dragon or simply seeing the thing as something else like a spaceship.

BRINGING OUT THE PURE IMAGINATION

Currently, kids’ interaction with media or devices prevent imagination, rather than sparking. Gunilla, teacher from the Nature School, made me notice that this is the case even at outdoor play areas: “When you look at a school yard, where kids can climb and play, it looks perfect and ready. Somebody has done it already, there’s nothing more to find out. But out here, it’s not ready, kids can experiment, build and do their own things.”

MAIN TAKEAWAY
For this, the opportunity lies in, allowing the outdoors to be the place where their imagination runs wild and give them the tools to be engaged in their own stories.
Development psychologists understand that children’s healthy development involves an engagement with the real, natural world. Though, many people believe that they can’t experience the natural world, unless they’re at a natural reserve, have the right pair of binoculars, wear correct clothes... Some home interviews I’ve done in Istanbul also showed me that kids are on this track as well. Natural world is seen as something to travel to - not something we’re immersed in all the time and depend on for our physical and emotional health. But, why is it important to experience natural phenomena? Because kids explore the world by trying out, learning from their mistakes, by getting direct feedback from natural elements - these activities they are doing outside is important to keep.

 MAIN TAKEAWAY
During my talk, Annika made me notice what’s missing in play experiences today: “Today children are used to play digital games but they are not used to play games by using their whole body. It’s a good idea to play games outside - especially to experience the natural phenomena that is outside. That’s one part that’s missing in devices.”
Ideation

In two weeks timeframe, I have done personal ideation, threw a long-distance workshop with Frog Munich office and had couple of workshops with UID students. My aim with ideation was to generate as many ideas as possible, and later, choosing a couple of directions to explore.

I have consciously avoided creating prototypes to test during ideation, instead, I focused on generating ideas, settling on a direction and communicating my direction through simple representative mock ups in order to gain more open feedback.

PERSONAL IDEATION

Firstly, my ideation started with going through my research notes and documenting all the loose ideas I have noted down during research phase. Previously having defined three opportunity areas gave me the chance to start ideating right away, under each opportunity area, I have mapped my ideas under these three areas and looked at what themes are starting to emerge.

THEMES

1. Imagination & Stories >> Stories became the backbone in pretty much all ideas I had, as they had the potential to drive the engagement and make kids go outside. I saw that stories could find a place in my concept of making kids go outside. I noticed when designing these tools, I could learn from the old explorer tools, when I try to come up with “new” explorer tools for kids today. I was drawn into the tactility of these ancient tools and how they were designed tool could call for kids’ attention when being outside. I noticed how these tools were making a big contrast with the digital tools kids are using today that I have seen in my research.

2. Explorer Tools >> Kids could get immersed in a story through going out and exploring the world through the tools I give to them. I started describing these tools as “Explorer Tools”. At this point, I started looking into arcade, old explorer tools, as I believed I could learn from the old explorer tools, when I try to come up with “new” explorer tools for kids today. I was drawn into the tactility of these ancient tools and how they were making the users focus on the natural world through using their body. I noticed how these tools were making a big contrast with the digital tools kids are using today that I have seen in my research.

3. Active Senses >> In my ideas, sensorial skills were something kids were able to develop when they are outside and my designed tool could call for kids’ attention when being outside. I noticed when designing these tools, I could learn from sensorial development principles like making the kid focus on one sense at a time and putting the kid in a highly stimulated place. In my ideas, I focused on how to make kids use their senses actively when collecting experiences outside.

WORKSHOP WITH FROG

To further ideate, I have threw a long-distance workshop with Frog Munich office with the help of my external mentor. It was refreshing to see how my topic resonates with an external crowd. This workshop provided me more loose ideas and overall, it was an interesting experience for me to facilitate a workshop from distance for the first time.

“WHAT MIGHT BE?” WORKSHOP

I threw a workshop to include other UID students in my process to have new, fresh perspectives. I've done a “What might be?” workshop with 7 participants, which resulted in 62 ideas. (See Appendix)

I gave a brief description of my project and shared the current state of it. We've done the Crazy Eight Brainstorming method (Knapp, 2012) as a way to find creative answers for the questions, “What might be some explorer tools for kids?” and “How can explorer tools inspire them to collect experiences from outdoors?”. Each participant has came up with 8 quick ideas in total 5 minutes.

Through brainstorming, I asked them to consider:
1. What things kids can collect outside
2. How kids can use their senses more accurately outside
3. What happens before and after collecting
4. How story/game can trigger outdoor experiences

We've then looked at all ideas we've come up with and marked the ones we liked the most. Then, each participant has come up with their explorer tool, as a solution concept, followed by creating a physical representation of their tool with simple materials and colored papers. This activity has let them defined the shape, the use and the features of the tool. To conclude the workshop, participants have written a fictional review for their concept from a parent's point of view. (See Appendix) This has allowed them to frame the true potential of the concept and helped me to reflect on what am I aiming to achieve through my project in a more specific way.

Fictional reviews have highlighted some benefits for using explorer tools:
1. Kids started to look at the real, natural world through digital tools, instead of looking at a fictional world on a digital screen - which brought the kids closer to the outdoor world and its phenomenon instead of pushing away from it.
2. Kids got so much eager to go outside and play. Time spent outside has increased a lot.
3. They gained self-autonomy through play.
4. Kids started to be more creative and expressive by building on top of their natural collections, like singing on top of collected sounds from outside.
5. They got addicted to being out in the natural world!
CLOUD PICTURAMA
It asks the kid to capture natural settings and draw images on top of them with a digital pen.

GENERATIVE COMPANION
Collected materials can generate a new animal. Companion would remind you to go out. "Today, I lost my tail. Can you help me find it?".

NATURAL LEFT-OVERS
Tiny cameras and microphones you leave outside to record the outside world.

THE NEARLY-EMPTY BOOK
This adventure book comes with few pre-filled sections and a binocular. The book gives missions to the kid like "use the binoculars to fill this section".

"KIDS STARTED TO LOOK AT THE REAL, NATURAL WORLD THROUGH DIGITAL TOOLS, INSTEAD OF LOOKING AT A FICTIONAL WORLD ON A DIGITAL SCREEN."

"WHAT MIGHT BE?" WORKSHOP
In order to conclude my ideation and create an evaluation point for my upcoming prototypes, I have come up with design principles. These principles were focused around 1. The tool, 2. The experience, 3. The process.

Give physical tools to kids >> My design should be like “explorer tools” for kids to discover the world and be engaged in new ways. Tangible tools are appropriate for outdoor use.

Allow the kid to be expressive >> My design should let them use their own creativity. Collection process should inspire them to express themselves.

Build a story around their outdoor experiences >> My design should help kids develop storytelling skills based on not some random shapes and cards, but instead, on what they did outside and collected.

Collect experiences outside and bring these to inside >> My design should make going outside a habit.

Give them triggers to go outside >> My design should include “missions” for the kid to go out and discover.

Foster self-autonomy in kid’s play >> My design should encourage the kids to do things on their own.

Ask the kid to use their senses actively >> My design should guide the kids to focus on one sense at a time.

Include a building process >> My design should include freeplay.

I created three different tools that were able to capture image, sound and movement separately.

I wrote an existing story and mixed it with simple instructions for the kid to go outside and play with it through “filling in the blanks”. Step-by-step, the kid was invited to complete the story by capturing image, sound and movement. They could build on the story with their narration as well. In the end, kid could watch and hear the whole story from how it reveals on the tools.

This prototype focused on capturing without being attached to any story. The kid could capture multiple items on the tools and come back to the book. By putting down the tools one by one, the tool would reveal what has been captured and the kid can talk about it. On the last page, the kid could hear her own narration combined with the collected materials in timely manner.

I have evaluated the prototype initially with my peers, mentors and myself. On the second part, I have got feedback from the Waldorf school on the storytelling side of the prototype and the concept was found similar to their current storytelling activities. Fun part of the whole experience was found to be actually going out and capturing. However, little consideration was found on how the output will look like.
Design Refinement

ITERATION POINTS

The prototype showed clear points where play experience were broken and not quite smooth at times. These were the iteration points were decided to taken further to be implemented at final result.

From multiple tools to one tool
- It proved to be too complex to use multiple tools for a seamless experience. Also, specific tool for capturing movement wasn’t found to be adding value to the experience. I decided to combine the audio and image tools into one unified tool.

Building stories at outside
- Just capturing outside, and building the story inside at home was found to be a broken experience. Kid should create the parts of the story on the tool itself during the capture moment.

Beautiful and captivating end result
- Multiple tools revealing what has been captured before wasn’t found as a captivating result for the kid. The end result should be all captures stitched beautifully together.

Book as a storage
- Transferring the story to the book was found to be very unclear. Book should serve as a platform(diary) where already made stories are being transferred to.

Give more focus on freeplay
- Prototype and process gateway presentation were giving equal importance to guided mode and freeplay mode. Guided explorations were decided to be done just in the beginning, free exploration is the main experience for longer period of time.

STORYBOARDING

Storyboarding and sketching the tangible interface, as well as the pages of the physical book were important in the development of the design. Careful consideration was given to develop the flows of use and making sure the interaction between the tool and the book is as simple as possible. This storyboard was later used as a preparation for the final storyboard for filming.

INTERACTION MODALITIES

[Diagram showing interaction modalities]
Form and Interaction

Book - tool interaction was given the highest importance during the development of final design. I had to come up with a solution for the connection between the book and the tool, in order for the book to come with pre-embedded content and reveal those on the tool, as well as to allow the kid to capture content on the tool and assign their own content on specific pages in the book. My solution was to introduce visual codes on the “call for action parts” on single pages. Through image recognition of the codes, the camera on the tool could realize whether there is pre-embedded content and reveal or assign the newly captured content on the specific page.

The interface on the tool consists of the front camera, screen, mic, speakers on the top, and capture button and led slots to show the story progress in the bottom, and a back camera on the back side. On the tool, the capture is done through long pressing on the capture button. Each story can be constructed through filling in 10 slots and the story progress is shown by lighting up one led at a time in the slots. In guided play, visual parts of the story is shown as the video itself and audio parts of the story is shown as soundwave representation. In both reveal moments, there is a branded transition on the interface that marks the start and end of the revealed content. In free play, through 10 slots, capture is done on the tool, then the kid goes to the book to assign the newly created story on a blank page and draw something related to the story.

For the form of the tool, I was inspired by several single-function tangible tools where the product highlights that one function it carries, like in the example of “Slow Games” by Ishac Bertran. (See Appendix) As my tool also carries a single function, capturing, I wanted to highlight the capture button by making a contrast. I have decided on the size of the tool and handle by making quick mockups with paper, foamboard, lasercut MDF and tested these on a 10 year old’s hand. For final prototype, I aimed to hide an Iphone 6s inside and planned my model accordingly. By 3d printing, sanding and painting, I tried to achieve a high quality look for both final video and exhibition purposes.

Visual Design

The most crucial part of visual design in my project was to design the book and tool to fit with each other visually. I have used a more joyful and subtle look on the outside appearance for both the book and the tool. In content pages, I wanted to create a contrast between two distinctly different play experiences, guided and free play, where they can either take part in stories or create their own stories. I tried to make these two distinct features come across to the audience through visual contrast. When creating the visual look, typography and graphics of the book, I was inspired by the works of some of my favorite illustrators like Adam J. Kurtz and Kate Bingaman-Burt (See Appendix), as I was aiming for a playful but not childish visual design.
RESULT
Peek is a play experience designed for children aged between 5 and 8 years old. It is an expressive digital tool that invites children to explore the outside, capture audio and visual snippets, and build stories around them.

Today, urban children are spending time indoors more than ever before and getting away from phenomena of the outdoor world, which creates a big concern on how they develop their senses and get physical exercise. The tools, games and devices they interact with are preventing their imagination rather than sparking, by making kids consume content rather than asking for their participation.

Peek transforms the outside into an imaginary playground for children, where interacting with the natural world takes the focus and the child’s simple acts and explorations can turn into their own stories.

The tool comes together with a physical book which triggers child’s imagination through guided explorations and allows the child to keep the stories they created.

Peek is a capturer tool that lets the child record audio and visual snippets when building stories around them.

The tool consists of a camera, screen, mic & speakers, capture button and led slots. Child need to press and hold the orange button to make a recording. In free story creation mode, led slots show the progress of the created story, where the child has up to 10 slots to fill in.

Peek book acts solely as a platform in two ways. Firstly, pre-loaded content is served as guided explorations. Secondly, child can transfer/assign their free story creations to single pages in Peek book.

HOW IT WORKS

**PEEK & BOOK IS A SET OF PLAY TOOLS**

**PEEK & BOOK IN THE HOME ENVIRONMENT**
System Overview

Peek & Book is a half digital - half physical system, as Peek is a digital capturer tool and Book is a physical platform. The reason of making Peek digital was very straightforward, as there is no other way than digital to save audio and video recordings. For the Book itself, I have considered to make it digital but I didn’t find the experience engaging for a kid. Both the capturing(Peek) and reviewing(Book) aspects could come together in a digital format, for example, like an iPad app. However, I don’t believe this would have become an interesting experience for the kid. The physical book is designed in an approachable and easy to use format for children.

When I saw how the kids interacted with the digital and physical system together, I could see this mix of formats worked really well together. It was very easy for the child to handle.

Peek & Book communicates through the codes located on the Book itself. The camera on Peek recognizes the code through image recognition and shows the pre-embedded content. In case there’s no embedded content on Book, Peek plays the last recorded content and it transfers to Book.

Peek & Book has two play modes: Take part in an ongoing story or Create your own story.

First mode invites the kid to complete a story by either showing a visual or audio from the story and asking to record the missing bit. Second mode allows the kid to sequence up to 10 recordings to create a unique story.

The codes in Peek Book are specific to each page.
Narrative

A video is shot as one of the main deliverables to outline the concept, highlight the problem space and the design process.

Final concept video can be watched on https://vimeo.com/219556445

Expert Evaluation

I have brought my prototype for feedback to Annika Manni, Educational & Natural Sciences Researcher at Umeå University, who also took part in my research.

Final concept video can be watched on https://vimeo.com/219556445

Exhibition

At the UID Design Talks in June 2017, I had the opportunity to present my project to a variety of people and to collect feedback and reactions to my project. During the Degree Show event, the project was also pitched to numerous representatives and UID alumni.

That pitch can be viewed on Umeå Institute of Design’s website.

My exhibition space consisted out of a poster, final concept video, expert evaluation video and the model of “Peek&Book”.

Exhibition space at the gallery in Sliperiet
05 REFLECTION

On Process
By having frequent check-ins via Skype with my 2 external mentors who live in Germany and China, I practiced how to continuously communicate the state of my work. It forced me to document and reflect in small intervals. This helped me to take better decisions and also grow as a designer, as a further step.

On Research
I have not blindly expected the research methods and tools that I applied during this project to guarantee me success, in other words, lead me to the perfect idea or result. Instead, I decided on a general research strategy (extreme and mainstreams) to look at the project topic with. So, I decided on my research strategy first, not the research methods I was going to apply.

This has brought me a peace of mind. Instead of creating many research deliverables, I focused on creating one piece of research outcome: Opportunity videos. I believe this communicated my research to peers around the world and allowed me to receive feedback, as I moved to ideation.

On Result
When I look at my result, I notice that my final design is a camera-like product to kids. This was definitely not what I was intending to do, when I started the project. However, I see this as a positive outcome of my design process. I am not giving a regular camera to kids but a camera-like tool where they can focus on certain aspects of the outside. By doing that, kids can focus not on the product itself but instead, focus on looking at the world in a different way.

Going through this project individually showed me that, as a designer, I am much better at firing out early-stage ideas than detailing a final design. This has also something to do with the time planning of the project, as I had less time to do the final design, in compare to the process part. However, in my future assignments, I want to go the extra mile and design products that are in higher fidelity.

Ezgi Sabir
June 2017

06 REFERENCES


Time Plan

January

- 16th: Research activities prep + Desk research
- 20th: Project kick-off presentation
- 23rd: Field research + Expert interviews
- 24th: Research synthesis
- 27th: Presentation prep
- 30th: Research review presentation
- 03rd: Ideation prep

February

- 04th: Report hand-in
- 05th: Report prep
- 06th: Video prep
- 13th: Presentation prep
- 17th: Half-way presentation

March

- 20th: Examination presentations
- 24th: Concept development / Prototyping

April

- 27th: Concept development / Prototyping
- 13th: Process gateway presentation
- 31st: Testing
- 03rd: Concept refinement + Modelmaking
- 14th: Video prep
- 07th: Video shoot + Edit
- 10th: Report hand-in
- 15th: Examination presentations
- 16th: Examination preparations

May

- 21st: Report hand-in
- 24th: Examination prep (Photos + Video + Slides)
- 01st: Degree talks preparation
- 05th: Rehearsal day
- 08th: UID Design talks 2017

June

- 22nd: Degree talks preparation
- 29th: Rehearsal day
- 22nd: UID Design talks 2017
“What Might Be?” Workshop

PHYSICALIZING THE SOLUTION CONCEPTS AT THE WORKSHOP

62 IDEAS CREATED BY USING CRAZY 8’S BRAINSTORMING METHOD

SOME FICTIONAL REVIEWS FROM THE WORKSHOP

Baroudeur
“She loves to spread the little bits outside. It collects the sounds and nature from around. At night, it helps her go to sleep with all these sweet sounds she collected. It also changes along the seasons. She also likes to sign on top of the sounds.”

Cloud drawer
“I’m so happy I no longer have to give my children iPads or phones to entertain them when they are riding in the car. Now when we visit the park they have no problem playing on their own with the Cloud drawer. From all the images they have made I have created a photo album and some are so great that we hanged them on the wall.”

Shifty
“I loved Shifty – my stubborn child finally wanted to go outside. He started to ask for permission from me and husband to go to places like the river. To see who Shifty will become. But... One day, he went alone to a boat that is on the lake. I don’t want to remember what happened to him that day.”

FICTONAL REVIEWS WRITTEN FOR CONCEPTUAL EXPLORER TOOLS FOR KIDS
Exploration of the tool

Before landing on "Peek", I have explored two different tools that focused on capturing image and sound separately.

- FIRST TOOL FOCUSED ON CAPTURING IMAGE
- SECOND TOOL FOCUSED ON CAPTURING SOUND

Aesthetics Moodboard

PLUGG RADIO BY SKREKKOGLE

LOOKS LIKE MUSIC BY YURI SUZUKI

SLOWGAMES BY ISHAC BERTRAN
INDEX

1. The Hidden Palace
2. Three Little Dogs
3. My Friends From Space
4. The Snowy Day
5. Grandad’s Island
6. The Monster Trouble

TAKE PART IN A STORY

CREATE YOUR OWN STORIES

THREE LITTLE DOGS

These dogs are having all the fun in the world!

You might as well also join and see what happens.

PLAY A VISUAL & ASK TO CAPTURE THE SOUND

PLAY A SOUND & ASK TO CAPTURE THE VISUAL

WATCH THE SCENE

It was a very hot day and the three little dogs have been running for a very long time.

They finally found something to drink and quickly cool down with.

Can you find how this scene would sound like?

HEAR THE SCENE

Watch out, something evil is slowly coming their way...

It is a creature going towards the bushes. For sure it must be a shy one!

Can you capture how this scene would look like?

CAPTURE & COME BACK

CAPTURE & COME BACK
Expert Evaluation

“You combined traditional with new and you bring back interaction between the child and parents.”

“This is exactly in the mindset of outdoor education and outdoor learning. It should be open for many possibilities, not closed.”

“With very simple instructions (on the Book), you focus not just the use of the eyes. Small inputs make a huge difference. Here, you really train the senses.”

“It’s not ready-made (Peek & Book). You can’t know the exact result of the story, as the child is the owner. It puts a new dimension on making their own stories.”