DESIGN PROJECT FINAL REPORT

AUDIO TALES

DESIGN FOR RECREATIONAL ACTIVITIES FOR KIDS INSIDE THE CRIGS IOT SANDBOX HOUSE

11.1.2018 M1.1

CONNECTING RICH INTERACTIONS IN GROWING SYSTEM (CRIGS)

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Audio Tales Living In Stories

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1 SUMMARY

This design report showcases the effort to design for the experience of the recreational activities of the kids inside the CRIGS IoT Sandbox house, in a multi person/multi activity and system perspective. An interactive system of speakers and tags named AudioTales was developed to facilitate the connection of listening to stories [or the connection of storytelling] within the everyday activities of the kids inside the house. This report further demonstrates the underlying knowledge, design decisions, process, conceptual and systemic trajectory this design project took throughout the course of the semester.

2 INTRODUCTION

This report provides an analysis of the design process of a concept that tries to create rich interaction in a growing system. Methods of analysis include explanation of the design process. The aim of this project is to design a system children can use during their relaxation time. The outcome is AudioTales, a system designed to embed stories into a child's home. It consists out of speakers and tags, which provides an immersive and personalized experience by using customizable stories as a way to motivate children. The goal is not only to be a new friend who tells interesting stories to kids, but also be a companion for their everyday tasks.

The squad CRIGS focusses on system design for interactive products. It uses IoT as its carrier for systemic design. The squad tries to find ways to create Rich interaction in an ever changing environment where new products are adopted and change the interconnectivity of existing products. The current solution to allow change is often a generic touch screen as it allows updates, but lacks rich interaction. The vision of the CRIGS squad is that this solution is not the silver bullet to interact with IoT products, but a solution that suits the gibsonian view of affordances [Gibson, 1986]. Within this project the focus of our work aims on finding ways children can use IoT products in their relaxation time and how these products affect other IoT devices in their home. For research purposes the people we design for are characters living in a so called "IoT Sandbox". The IoT Sandbox is a scale model of an apartment where all simultaneously developed projects interact with each other in order to allow growth to manifest between them. Growth in this sense is meant as a dynamic system where communication between devices results in added value for the user.

3 ITERATIVE PROCESS

3.1 SCENARIOS

3.2 RICH INTERACTIONS

3.3 DEPLOYMENT

3.4 REALIZATION PHASE

3.1 SCENARIOS

CHARACTER CREATION

In the design brief we were given to work with a number of characters with predefined main characteristics. During the project the characters had to be created by the whole squad. The main focus for our team are the two children in the family – Anne (4) and Susan (8). See the discription below for the features of the two girls.

Figure3.1 Anne

Name: Anne Andrews
Gender: Female
Age: 4
Relationship: Child of Sarah and John Andrews

Loves
Singing, pretending to be a wizard,cherry pie, jumping in puddles, bedtime stories

Hates
Somebody taking her toys, cleaning hertoys, cleaning her room, broccoli, cats

Biography
Anne is an energetic girl, who always speaks her mind. Creativity and imagination are her strong points. Her mom takes her every morning to day care. She likes the time she spends at the daycare, but prefers to play on her own. She got Nintendo Switch as a present for her last birthday and really enjoys games like Lumo and Super Mario. Often enough, she watches Cartoon Network and one of her favourite shows is 'Steven Universe'.

She likes to role play all day and her favourite role is that of a wizard. She also likes to pretend to be one of the characters from her games and TV shows. Sometimes her sister, Susan, joins her in her playtime, but often that results in a big chaos. Once, they were running around and accidentally they broke their mom's vase.

Background
Anne is a cheerful kid and likes to wear colourful clothes. She is 1.05m tall and has long light-brown hair. She likes to run around a lot and is not a picky eater. Thus, she has a big appetite and mostly it is for sweets. She loves when her parents give her responsibility for different tasks. Like when she got her very own pet fish Lily. She feeds it every day after day care.

Figure3.2 Susan

Name: Susan Andrews
Gender: Female
Age: 8
Relationship: Child of Sarah and John Andrews

Loves
Hockey, playing outside, hanging out with friends, her little sister Anne

Hates
Vegetables, waking up early, a dirty room

Biography
Susan is a very sportive girl, who loves to play outside. Her strong points are being fanatic and diligent. Every morning her mom brings her to school. Because she is such a fast learner she is already in her fifth year of elementary school. She is a perfectionist, she keeps her room tidy and she gets upset whenever something is not in the place it belongs. Last year she started to play hockey. Every Monday and Wednesday afternoon she has hockey training and twice a month she has a competition on saturday.

Whenever Susan is not working on her homework, she goes outside. In front of her house is a huge playground with a small soccer field, a basketball field, a couple of swings and many more. She meets and plays there with her friends and sometimes even with her little sister.

Background
Susan is a happy child and she finds happiness in working hard and being diligent. She is 1.35m tall and has long brown hair, which she often braids into a ponytail. She loves playing outside and running around the place. She is a picky eater and doesn't like a lot of veggies. The only vegetables that she likes are tomatoes and broccoli. She loves to play the big sister and whenever her little sister doesn't know something or does something wrong she explains and corrects her. She loves both her parents and she likes it whenever they play with her at the playground.

3.1 SCENARIOS

DEFINE EVERYDAY ACTIVITIES

Possibilities of what may happen in kids' daily life were explored at the beginning by brainstorming and making categories of different activities. (Figure 3.3) We found that their activities could be classified by three aspects(Figure 3.4) which are relevant and connected with each other.

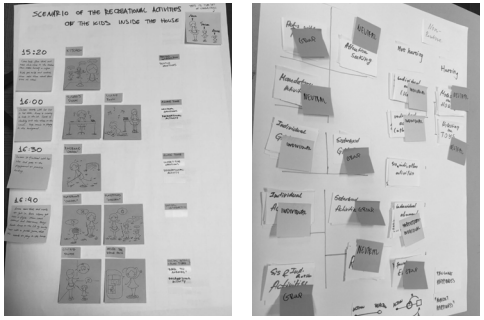


Figure 3.3 Scenaros brainstorm

Figure 3.4 Scenarios

Exploration And Insights

From the creation of the scenarios, the concluded problem was that the kids had a terrible experience when they were pushed to finish routinely tasks. To make it recreational, we found that storytelling was a powerful tool since children love stories. It is in kids' nature to role- play, and in most cases, they are more engaged in the activity as a character. They are easier to be persuaded by stories.

Scenario1 - Routinely tasks

Example:
Nightly Challenge - to get kids to go to bed, and stay there.

Anne is playing with her favorite toys in the living room, but it is already 10pm when she should go to bed. She is so engaged in her game and doesn't want to go to her room. So Sarah has to take her toy away, even though it makes Anne cry loudly.

Scenario2- Recreational Activities

Example:
Drawing– drawing with the audio stories.

Drawing is Anne's favorite activity to do before bedtime, especially while one of her parents is telling wizard . She enjoys creationg different magical pattens in the air, illustrating her favorite characters. Sometimes She also uses the brush as a wand to role play with John.

Scenario3 - Transitions

Example:
Cleaning Challenge - to get kids clean up their toys.

After a lego party with her best friends, Anne's room is in a mess but she doesn't want to clean it. This situation happens very often, and in most cases, either it ends in tears or Sarah just ends up doing it herself because she gets tired of nagging.

3.1 SCENARIOS

BACKGROUND LITERATURE REVIEW

System design in IoT

This project is named CRIGS, Connecting Rich Interaction in Growing Systems, a fairly impressive name and without any prior knowledge incomprehensible. In order understand any part of the project this concept therefore needs explanation.

The non-digital world expresses a lot of information on how to use it. A hammer clearly communicates its potential. It is called feedforward. Because of its form we have a certain interaction with it that is linked closely to its function. This principle works well for a lot of objects we interact with, so much we don't even have to think about it anymore while interacting. The challenge we face today is how to implement this human-product interaction into the digital world. Especially when we go beyond the one-man-one-product, but see it in an IoT environment where a product is part of a whole, such that it is influenced by other products. The most addressed solution is a standardized screen-based solution. This project researches the advantages of Rich Interaction over generic interfaces [Frens, 2009].

Rich Interaction

Taking back the example of the hammer. A hammer clearly communicates its function, at least, if you are in the situation you would need to punch a nail into wood. When you need to open a beer and the only thing you have is a hammer, its function does completely change.

This concept, introduced by Gibson [1986], is a way to describe the perceived action possibilities of objects. Only in 1999 this concept gained attention by the Human Computer Interaction community by work of Don Norman [1999]. Norman used a different interpretation of affordance in his work by leaving out the perceived action possibility and mainly focusing on the meaningful relationship between body and the form of an object.

The concept of rich interaction [Frens, 2006] brings the Gibsonean view of affordance into HCI. Frens proposes a framework to give meaning to interaction using three pillars; form, interaction and function.

Growing systems

How can Rich interaction be implemented into the dynamic IoT environment where screen-based solutions are the status-quo. The challenge of IoT is it dynamic nature where new products arise and need adaptation. Four Approaches that seem currently suitable for this challenge as proposed by Frens [2017] are:

1. Hybrid Approach
2. Modular Approach
3. Shape Changing Approach
4. Service Approach

These approaches do not cover the true solution to this challenge, but provide a starting point. For this reason the aim of the project is to find a more suitable solution for the challenge to adopt rich interaction in a growing system.

These approaches do not cover the true solution to this challenge, but provide a starting point. For this reason the aim of the project is to find a more suitable solution for the challenge to adopt rich interaction in a growing system.

As mentioned before the within the CRIGS project each team had their own design challenge within the topic. Our specific design challenge was to design for the recreational activities of the children living inside proposed "IoT Sandbox".

We faced issues to get the project going. Our initial focus was on our own childhood by asking ourselves what we were missing in our own lives back then. From this thinking process various ideas popped up, such as an abstract communication tool for both kids in the house. We came to the conclusion that focusing on our own lives did not work as we were designing for two specific fictional children. We focused on their preferences and tried to find unique points that made them who they are. The youngest child was really imaginative and this made us think how we could encourage her to do what she loves, living in an imaginative world.
We came up with the idea of role-play as a means for the children to escape reality by giving them a tool that would assist them in this activity. Without anything defined we searched for interactions we liked in our daily lives to help us to know what type of interactions we would like to include in the concept. A video that boosted our process about a bottle being filled up by a tap with light instead of water gave us the direction towards the current concept.

3.1 SCENARIOS

BACKGROUND LITERATURE REVIEW

Children

Since the project was revolving around the experience of the recreation activities of the kids inside the house who are 4 and 8 years old; it was essential to acquire information about their capabilities of understanding, behaviour and preferences. For this purpose we analysed the development of children in those ages. Santrock (2011) describes four stages through which children go through until reaching adulthood. The younger character (Anne) fits to the Preoperational stage where children begin to represent the world with words and images. The older girl, on the other hand, has passed that stage and is in the Concrete Operational stage where the child can now reason logically and classify objects. The difference on physical, emotional and cognitive levels is present. We must place an emphasis on the cognitive abilities of the children. Cognition is not yet in its full capacity during the preoperational stage. Mainly, the "ability to reconstruct in thought what has been established in behaviour" (2011). Children from 2 to 4 years of age can mentally imagine objects which are not there. Another peculiar trait of their thought process is animism, or the belief that inanimate objects have lifelike qualities. Kids at that moment of their life are creative as their imagination knows no boundaries. Their reasoning is primitive and based on intuition. Later on, at the age of 7-8, the reasoning becomes logic, but mostly concerning concrete matter. At that stage transitivity is also shown. This is the capability of creating logical relationships between indirectly connected objects.

The cognitive development of these stages depends on external and internal factors. Playing is an activity, or as Perry Else describes it – a process, which incorporates choice, engagement and satisfaction (2014). It is an essential part of children's and adults lives. Some psychologists suggest that play is a way through which an individual develops sensory-motors, cognitive and socio-emotional skills.

Storytelling

An inseparable part of play is storytelling, and in particular role-play. Through role-play children 'rehearse the future' and try out their recently acquired skills (Bruce, 2001). Kids' creativity is often inspired from looking at what others do, especially their parents. They observe their environment and from that they create beliefs about how things work. Making up stories comes natural to children and they are not constrained by the limitations of reality. During role-play kids have the choice to make their own world.

In order to design for the recreational activities of children, based on role-play, we must investigate the structure of stories. Stories consist of six parts. Namely:
The setup - introduction of the environment and characters;
The first plot point - the introduction of the problem the main character's face;
The response – the reaction of the characters to the problem;
The midpoint – the stakes have risen;
The attack – main character solves the problem;
The second plot point – final piece of narrative information;
And the resolution – no new information can be added (Brooks, 2011).

As we want to focus on younger children, the story structure should be simpler. Other aspects which are interesting for our project are the concept, characters, theme, scene execution and writing voice of the story. The concept refers to the platform on which the story evolves. The main and sub-characters and their goals and emotion are the driving force of the action. Theme defines the real-life issues which are manifested. Through scene execution the rhythm of the story is set. The voice or the way which the story is delivered must not only match the whole setup, but also add to the experience.

3.2 RICH INTERACTIONS

EXPLORATIONS OF INTERACTION (VIDEOS)

The purpose of the videos was to explore the interaction of the first iteration of the concept. They were useful to discover gaps of the interaction and give new ideas for further development.

Scan to wath all videos.

Video1

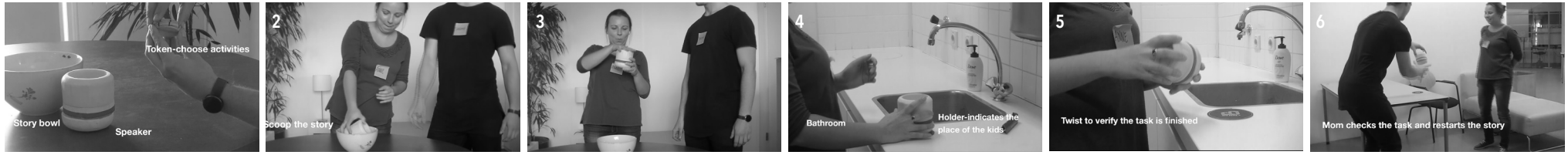


Figure 3.5 Screenshots of video1

The concept at the time we made the first video was consisting of four products: a bowl, speaker, tag and tokens. During the filming we found some problems of this solution. Firstly, the function of story bowl was too weak to give more value to the design. But the scooping motion did not make sense without the story bowl. Secondly, the token increased unnecessarily the complexity of the system.

Video2

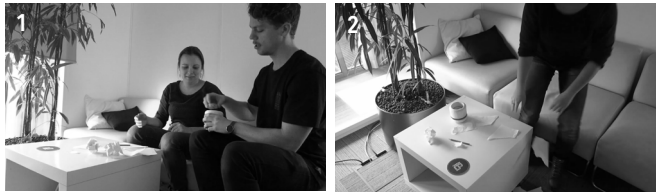


Figure 3.6 Screenshots of video2

Video 2 emphasizes on how parents are involved in the whole experience. A new function of the token was added during this period and the story bowl was removed from the concept. The token could be used as a controller which is able to define the number of interruptions within the story when parents put it inside the speaker. But it increased the surveillance aspect, which would influence negatively the experience of both kids and parents.

Video3

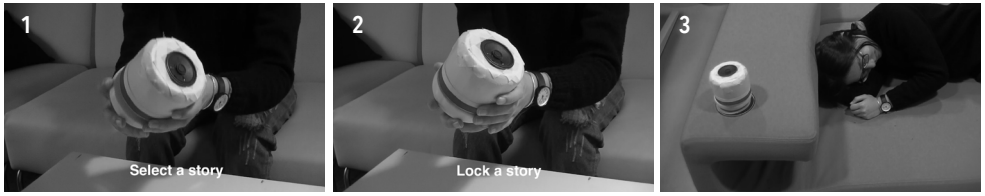


Figure 3.7 Screenshots of video2

In the third exploration of the interaction, we also discarded token. The function of story selection was integrated in the speaker itself. To avoid the surveillance matter, there was no checking procedure from the side of the parents in this updated concept.

3.2 RICH INTERACTIONS

EXPLORATION OF INTEGRATING RICH INTERACTION INTO SYSTEM DESIGN

Video1
Circulation in video1

Video2
Circulation in video2

Video3
Circulation in video3

Figure 3.8 Circulation in three videos

3.3 DEPLOYMENT

As part of the Phase 2: Evaluation milestone of the CRIGS project description; it is necessary to step back from the IoT Sandbox and conceptualization phase and apply some interaction elements and systemic aspects of the defined at that moment concept in a real life living environment. A field study was conducted together with another master design group of the squad in a family house in Malden, the Netherlands. The study was based around the use of two research prototypes (one for each team) and the use of a diary which participants were encouraged to fill after the end of each day. Due to the main target audience of both projects being around the everyday lives of young kids; a family of four with young kids was the ideal target participant for this experiment. After some common acquaintances of a team member of the other master group a family was willing to participate with their two young daughters (11 and 8 years old).

AudioTales belonged in the cluster together with the master group designing for the morning experience and the individual final bachelor project designing for the entry/exit experience. After discussion it was decided that the best and most fruitful way to do the deployment was to find a family with young kids due to the commonality of the cluster being around the everyday lives of parents with young kids. In this way, it would be avoided to have to change key elements of the concepts in order to fit for example a deployment setting of a student house. A friendly family of four (two parents with their two young daughters in the age of 11 and 8 years old) living in Malde was willing to be part of the study (due to one person's close acquaintance) and help with testing the deployed prototypes for a period of one week. Together with the deployed prototypes the family also was encouraged to daily complete a diary study and note their experience while using the different devices. Two interviews were conducted; one before the deployment started where both the prototypes and theme of the study was introduced to the family and one after the completion of the study where the family had the chance to reflect on the experience of using such artifacts in their daily life.

The set up of the deployment

Since the project was revolving around the experience of In the weeks prior to the deployment it was extensively discussed how the current concept of AudioTales could be integrated into a beneficial diary study that had the potential to bring new insights to the surface. It was decided to leave a big percentage of the concept out of the study and focus strictly on the essence of the targeted interaction of storytelling in different location inside the house and if using interrupts inside the stories are beneficial. The initial setup of the study was to create two prototypes/artifacts one which would play the role of the speaker that tells stories and one of the tag that the family can place inside a room of their house. The speaker would have a simple plug with an integrated mp3 inside; giving the possibility to turn on or off the mp3 and the tag would have an RFID tag to locate if the speaker has been placed on top of the tag. Other plans of integrating more technology into the prototypes (such as being able to communicate and share data with the other teams, having leds turn on while the speaker is initiated etc) were made yet not followed through.

Due to limited time and feedback from the coaching session it was noted that the targeted question should be simplified together with the research artifact and to clearly communicate a more tied story. Therefore the targeted question was changed into how does storytelling affects daily life inside the house. Another aspect was to change the prototype into a simpler more free version of our conceptual one although keeping some of the very essential points of the concept (such as the forma d shape of it that hints that is something that can be listened to near the ears) which would easier hint different possibilities of interaction and therefore give us better insights into unexpected things that kids could possible do while listening to stories. Also it was noted that mp3 players indeed are an easy and reliable way to play music on demand; yet the way of interacting with the artifact would be different from the main interaction we wanted to test (such as unplugging and plugging the cork). Therefore the focus shifted more into having the main interaction (plugging and unplugging of the cork) work with the playing fo stories.

In order to do that an arduino with a Wave shield and switch button was implemented into the prototype. This solution was indeed more successful in playing on demand the stories

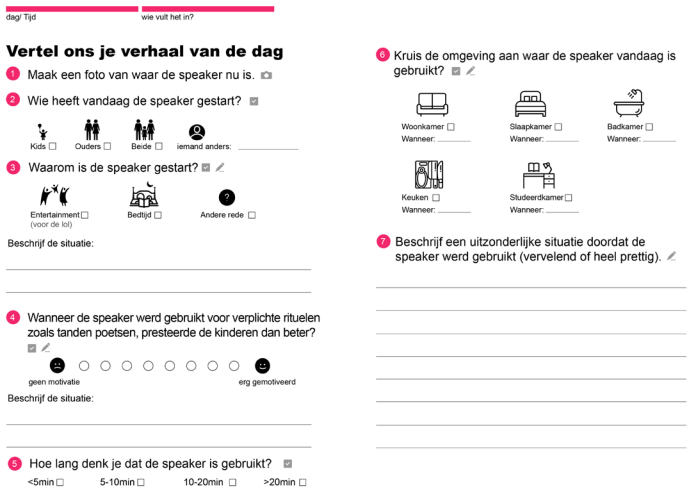
Our main question for the deployment was to clarify the effect tales with interrupts that asked children to do something had on their bedtime routine. But this is more about the first interaction of the set up.

3.3 DEPLOYMENT

SET UP - DIARY

After a coaching and feedback session it was mentioned that the diary lacked the ability to give the participants the freedom to express the realness of the situation they were getting themselves into.

Due to the issue our own line of stories was not ready for use at the time of the deployment we required external rescourses. The works of van Kempen [2015] were used in the creation of the deployment prototype. The stories were chosen due to their clear sound and modern type of storytelling. The stories also had an appropriate length for our testing purpose. The youtube stories were converted into sound samples. Each sample was edited to feature a welcome message, a cut with the request to go to the bathroom and brush your teeth, a cut with the request to change into sleeping attire and a farewell message. The cuts were placed at appropriate moments, such that they were not placed in the middle of a sentence. We purposely cut some stories mainly at their beginning and others at the end to see what worked better as motivator for the family we tested our prototype with.


dag/ Tijd
wie vult het in?

Vertel ons je verhaal van de dag

1 Maak een foto van waar de speaker nu is.

2 Wie heeft vandaag de speaker gestart?

Kids ☐ Ouders ☐ Beide ☐ iemand anders: _____

3 Waarom is de speaker gestart?

Entertainment ☐ (voor de lol) Bedtijd ☐ Andere rede ☐

Beschrijf de situatie:

4 Wanneer de speaker werd gebruikt voor verplichte rituelen zoals tanden poetsen, presteerde de kinderen dan beter?

geen motivatie — erg gemotiveerd

Beschrijf de situatie:

5 Hoe lang denk je dat de speaker is gebruikt?

<5min ☐ 5-10min ☐ 10-20min ☐ >20min ☐

6 Kruis de omgeving aan waar de speaker vandaag is gebruikt?

Woonkamer ☐ Wanneer: _____
Slaapkamer ☐ Wanneer: _____
Badkamer ☐ Wanneer: _____
Keuken ☐ Wanneer: _____
Studeerdkamer ☐ Wanneer: _____

7 Beschrijf een uitzonderlijke situatie doordat de speaker werd gebruikt (vervelend of heel prettig).

Figure 3.9 Diary for parents

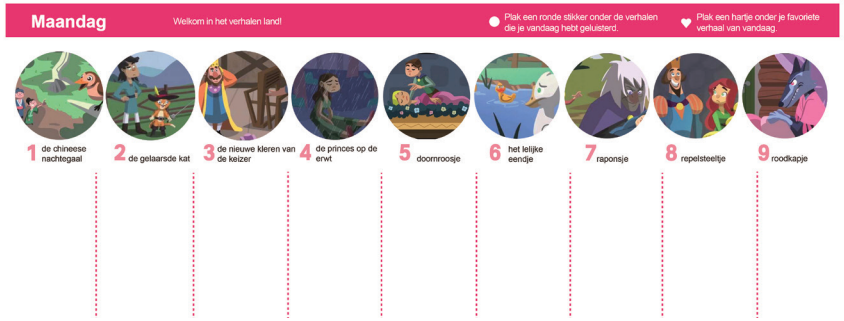


Figure 3.10 Diary for kids

3.3 DEPLOYMENT

SET UP - PROTOTYPE

Scan to wath the video

Final deployed prototype
The design and fabrication of the final deployed prototype was created around the idea of having a rigid, robust and essential safe prototype for the kids to use during that test week. Even though a lot of the elements of the proposed concept had been removed for the sake of simplifying the study; small yet essential details of the concept were kept such as the cork on-off switch and the speaker being formed into a shape which can be closer to the ear.

In order to create the form and look of the desired shape of the speaker the combination of using Solidworks and Illustrator resulted in a fast workflow of being able to design a 3D object and converting its dimensions in 2D shapes in illustrator for laser cut purposes. The final prototype was laysercutted in 3mm MDF.

Even though different iterations of playing music with other microcontrollers were tested prior to the deployment, using the Adafruit Wave Shield proved to be the most reliable at that moment. The hardware difficulty that was first encountered was fixed. Yet the speaker did not include the possibility to be able to change to a different story as long as it proved to be very difficult.

The full code of the deployed prototype can be found here:
https://drive.google.com/drive/folders/1bMsYmSoqJLqNKs9Dd3JRYLZ87IsMAUln?usp=sharing

Total deployed set of artifacts
-Speaker
-Diary for parents
-Diary for kids
-Set of stickers for the kids to complete the diary
-Instruction on how to use the speaker and change the batteries
-Camera
-Batteries

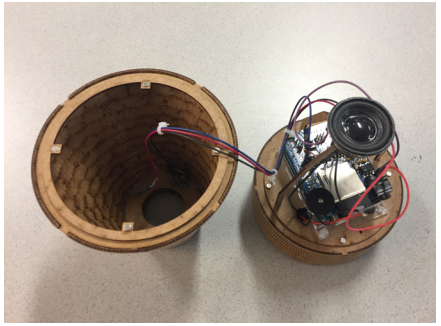


Figure 3.11 final deployed prototype

3.3 DEPLOYMENT

OBSERVATIONS & INSIGHTS FROM DEPLOYMENT INTERVIEW

On the day of the deployment of the research prototypes and the diary study; a small interview with the family took place together with an explanation on how to use the prototypes. The following qualitative observations were noted during the interview.

General Observations

-The interview took place at a time when the kids were wearing pajamas and were preparing to go to sleep (around 21:00- 21:30pm)

-The house is infested with arts and crafts projects from the kids.

-An introduction of the project was first mentioned to the father and later on; the mother came by with the two daughters (first the older daughter 11 years old and later the youngest one 8 years old). At one time the kids had to go to bed and the mother had to intervene to 'push' the youngest kid to go to bed.

-In the kitchen sink the father has placed a picture of instructions (Figure 3.12) on how to brush your teeth. It was given to the kids in school by a mother who is a dentist and the father thought that if he glue the picture in the kitchen sink they will remember to brush their teeth every day. But he is not very positive that it still works as he consider this system to be effective only for the first couple of weeks; after that he believes that the kids have forgotten about it.

Figure 3.12 Instructions in the kitchen

Storytelling

-Kids had their parents read them stories by a very young age around 4 years old. When the kids started to read themselves they were able to read stories without the help of the mother. The older girl reads herself now books and doesn't anymore like to read fairytales.
On the opposite side the young one still likes to be read stories by the mother and really enjoys fairytales.

-Parents don't listen to audiobooks neither the kids except from sometimes inside the car during vacations.

-When asked about listening to stories for bedtime parents think that shorter stories are more appropriate for youngest daughter.

Other

-Younger kid has sometimes troubles to go to sleep but the oldest one needs to go to sleep much earlier because it was mentioned that she feels tired otherwise.

-Sometimes they have some discussion about when to go to sleep but generally there is no problem with bedtime routine the parents believe.

-Each day the kids get a specific amount of 'screen time' which means that they can only spend 1 or 1.5 hours per day watching screens (be that tv, computer or nintendo) in total.

-One girl likes to watch tv and the other likes to watch youtube.

-The young kid believes in Sint-Nicolas but the oldest doesn't anymore. Although she very much enjoys writing small letters with stories on behalf of the Sinterklaas and leaves the letters inside the boots for her sister to find them.

Conclusions

- The aspect of storytelling during the bedtime was very interesting according to the parents for the younger daughter of 8 years old.
- The kids liked the stories although they would like them to be longer than 5min.
- The speaker was used not only by the kids but also by the whole family.
- The volume of the speaker is a bit lower when more than one person wants to listen to stories.
- Due to the malfunction of not being able to change the story, the speaker was used for only two to three days in total by the family.

3.4 REALISATION PHASE

CREATING THE SPEAKER

Within the scope of this project it was decided to create a form family of products as part of the deliverables. From family entails "groups of related products derived from a product platform" [Messac, 2002]. The product platform was created by designing the form of the speaker first as means of setting guidelines for the other products.
The starting point for the form of the speaker came from its use. It is a speaker that tells tales and should be easily transportable within a house by kids (6+ as this was the youngest kid living in the IoT sandbox). For the sake of it being a tales teller, the interaction should feel a bit magical/poetical to enhance the whole tales experience. In order to design the speaker we imagined how the speaker should be used. Therefore the first interaction we designed was the on/off switch. We really didn't want a switch for this function as it did not incorporate anything of the magical experience the speaker should have and as it was the first interaction with the product one would have. Therefore we searched for other options to fulfill this function. In alignment with the Rich Interaction framework we wanted this function to represent its purpose. How do you stop sound? One effective way for a human is to put his fingers in ones ears. Or in this case, ones hand on a speaker. This interaction seemed interesting enough to pursue.

The size of the speaker is defined by a child holding the speaker with both hands. By doing so we want to enhance the experience of the speaker being something magical, as it was a bowl filled with stories.

an open top to let the sound through, the rotary knob can be placed at the bottom of the bowl and the cone light up if made from a translucent material.

Other functions that had to be incorporated into the design were the switching between tales, volume control, and indication of which tag it had to be connected with (part of the storyline). The first and second functions are grouped in one feature. This decision is made of it similar nature in how we would like to control them. A rotary knob seemed an obvious choice for both as the turning motion is applicable to scroll through the selection of stories and its similarity to a potmeter to control volume. This interaction should link to the understanding of how one would scroll through an imaginary tales library as it was a View-Master and the understanding of how a potmeter works, or for a child the understanding of minimum and maximum. To create a separation of these two functions it was decided that while listening to a tale the volume control has more importance than the availability to select another tale. For this reason the two functions do not have to be apparent simultaneously. Lastly, we wanted the speaker to illustrate that when a tale is selected it is being poured into the bowl. We want to do this with light.

The ingredients for the design are thus as follows:
- physically shutting down the speaker
- being able to hold the speaker like a bowl
- rotary knob with two modes to either control volume or stories from a library
- light to mimic a story being poured into the bowl.

With these features in mind we went to the workshop to create models that could include these functions. The model that passed by the most was a cone with a rounded bottom to represent the bowl. The cone can have:

Rotary knob
When the cone shape came to mind the switch function of the rotary knob was selected to be a push-pull mechanism where the different modes will be active depending if the rotary knob is pushed out of the bowl or when it is pushed against the bowl. Therefore the clearly visible position of the knob determines which function it holds. When it is in its pulled out position a tale can be selected and when pushed against the bowl, it controls volume. This mapping is designed, such that when a story is selected the pushing inwards motion feels like pushing the story into the bowl. Another benefit from this is that the bowl is easier to carry around when the knob is in volume mode.

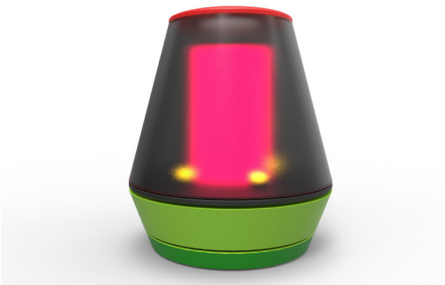
On-off switch
With the wish of creating a physical sound blocking on-off switch we thought of a cork on a bottle. Therefore we thought the cone could also be seen as a cork on a bottle. Maybe the kid has not experienced a corked bottle before, therefore the shape of the cork should clearly communicate it can be pulled out.

Light
The middle section of the cone was a perfect area to emit light from, as it was not directly used as structural part. Structural parts were placed inside the cone. Therefore we could choose from a wider variety of materials that we could use for this part. There are though some boundaries for this part. It should be strong enough to grasp it, such that the speaker can be held at this point. It should not be transparent, such that you don't see the electronics on the inside.

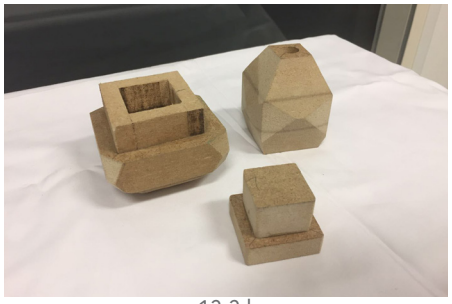
3.4 REALISATION PHASE

FORM FAMILY DESIGN

Speaker shape
Armed with this set of wishes and demands we started to design the speaker and find ways how we could manufacture it. The design was mainly done in solidworks, because of its precision regarding how to fit all electronics in within design. First version of the solidworks model(Figure 3.13 a)



13.3 a



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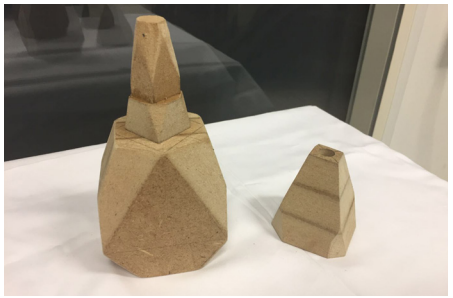


13.3 c

13.3 d

Figure 3.13 Exploration of speaker form

The design decision was made to only use straight lines and sharp edges for the speaker to create a stronger product platform for the form family. The distinctive shape can be better applied on other products, such that they are recognizable as part of the same design family.

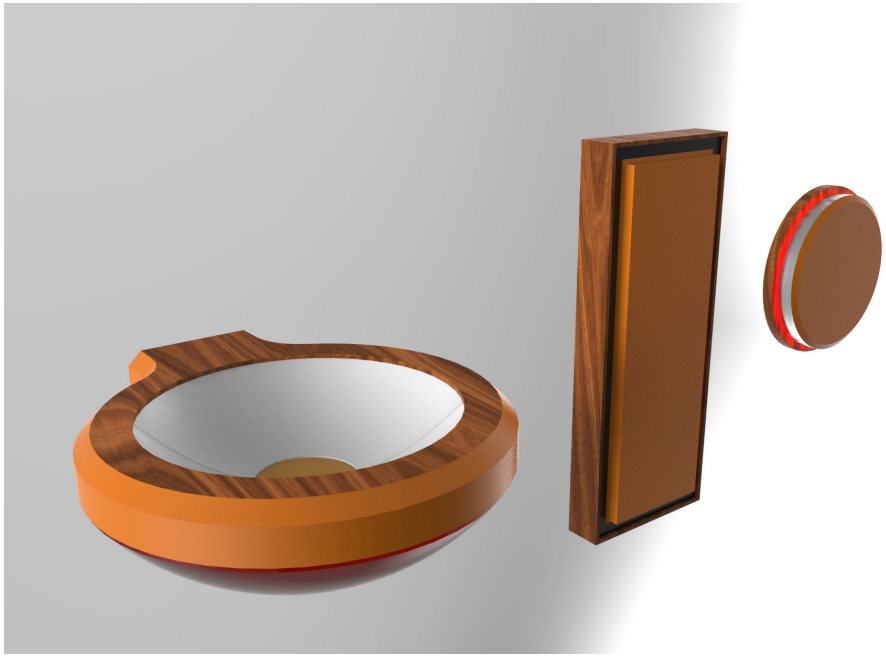


Figure 3.14 First solidworks model of tags

Tag
An important aspect for the design of the tag was how well its design was linked to the speaker. In order to create form family, the speaker and tag needed similarities as part of its design language.

In the first design of the tag it can be clearly seen how this can be incorporated wrongly. The design does indeed feature straight lines and angled sides, just like the speaker, but overall it does not communicate the same design language. Aspects which fit this design were the subtle illumination and the clear area where the speaker should be placed on.

The following steps within the form design process were to create a clearer form family for all of the products.

3.4 REALISATION PHASE

BUILDING THE FINAL 1:1 INTERACTABLE

The building process of the 1:1 interactable was divided into two parts, a. the structural building process and b. the electronic building process (including the communication between different systems inside the squad) . These two were developed simultaneously and integrated into one piece at last.

Structural building process
The basis for the structural demo model was the deployment model. The model proved to be too small for all electronics. Also while holding the prototype it seemed too small. It was easily carried with one hand, while we wanted the device to be held with two hands to emphasize the poetic aspects of it. For these reasons we wanted the demo model to be bigger. After deciding the definite dimensions of the model we revised the bottom part of the model. The deployment model featured a straight cylindrical bottom in which the batteries were placed. Because of our demand to have a turning knob at the bottom that should be able to be pulled outwards and its bulky look we decided to also place a conic form at the bottom. This form attracted the attention more towards the turning knob, an important feature within the concept.

These revisions resulted in the form we wanted to show during the demo day.

The following weeks were used to define the exact working of the system.

We decided upon using two manufacturing techniques, laser cutting for its precision and 3D printing of its ability to create forms we were unable to craft by hand. The speaker was divided into three parts.

Figure 3.15 Render of the main part

The main part
The basis of the system where the all the electronics would be fit on.

For this part we used laser cut MDF for its proven strength during the deployment. When glued together it was first sprayed with two layers of primer and again two layers of medium gloss black paint. Between all layers the surface has been sanded to create a solid looking end result.

Figure 3.16 Render of the turning knob

The turning knob
3D printing was used for this part, because of its small details. In order to convey feedforward the knob featured a gear like pattern on the side. The top parts of the gear were angled in order to make the pulling out motion of the knob easier. In order to create a solid turning motion the knob consisted out of two parts, the turning knob itself as its bottom half and a thin surface as its upper side. The two parts featured a ring on its connecting surface with slightly different diameters, such that they would fall accounting for the solid turning motion. In order to provide a click when turning, magnets were used as means of feedback. At the connecting surface of the gear there were two magnets placed (2x4mm) and on the upper side 20 (2x2mm) magnets were placed.Both parts were held together by the potmeter at their center point.

Figure 3.17 Render of the translucent upper part

The translucent upper part
Demands for this part were that it should be strong enough to grasp, but thin enough to pass light through. It had to be cut precisely to fit into the other parts of the design, therefore we tried out materials from vertigo, such as Vivak.

Because precise cuts were needed in the material we used the laser cutter to cut the material. Instead of cutting it molted the material, resulting in unprecise cuts In order to find a solution we consulted the expertise of the D-search lab within the Industrial Design faculty. They were experimenting with a new type of plastic impregnated with cellulose to give the plastic paper like characteristics, while still maintaining strength. While testing out different shades of the material (amount of glucose in the material and thickness of the plastic) we decided upon the 2mm thick variant as it proved to be strong when being bend while still being translucent. This material was then lasercut to be ready for use into the demo model.

3.4 REALISATION PHASE

ELECTRONIC BUILDING PROCESS

In order to reach the desired high fidelity systemic design proposal (as defined by the squad and project guidelines) during the Demo day, it was essential to implement the interactive and systemic aspects of the concept into the physical prototype. It was decided to present during the Demo day a dynamic system of two speakers (referring them as speaker 1 and speaker 2) and one interactive tag. Both the speakers and the tag would be able to connect with each other (sharing their status, share data with other prototypes and systems and receive from them their status.)

The first step into achieve this was to narrow down the core interaction elements of the speaker and the tag as seen below. This was later on translated into raw hardware and further on flowcharts were created to showcase the possibilities of the algorithms how the prototypes would be coded (Figure 3.18 3.19)

Both speakers and the tag were created around the use of a ESP microcontroller which has the possibility to connect with WIFI and was coded in Arduino IDE. Later on it was connected with OOCSI. During the demo day the system was implemented into the squad's data canvas. As seen in pictures, an analytical code of the three different prototypes can be seen in the Appendix.

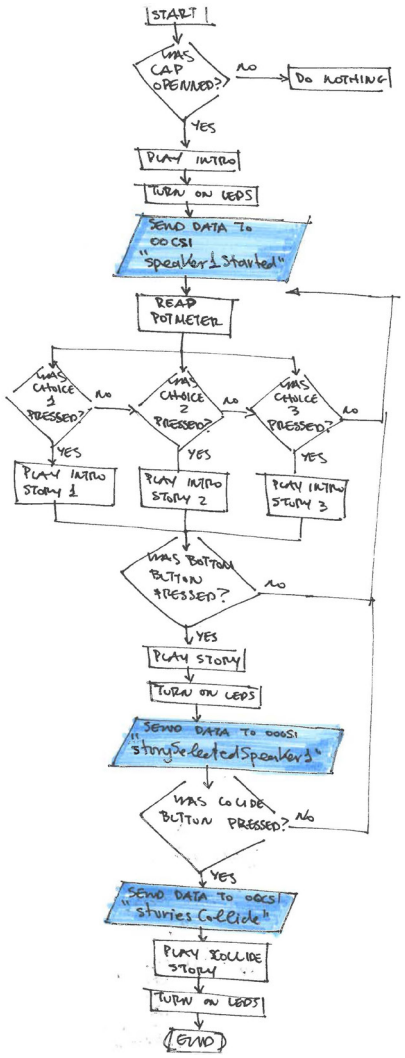


Figure 3.18 Flow chart of speaker

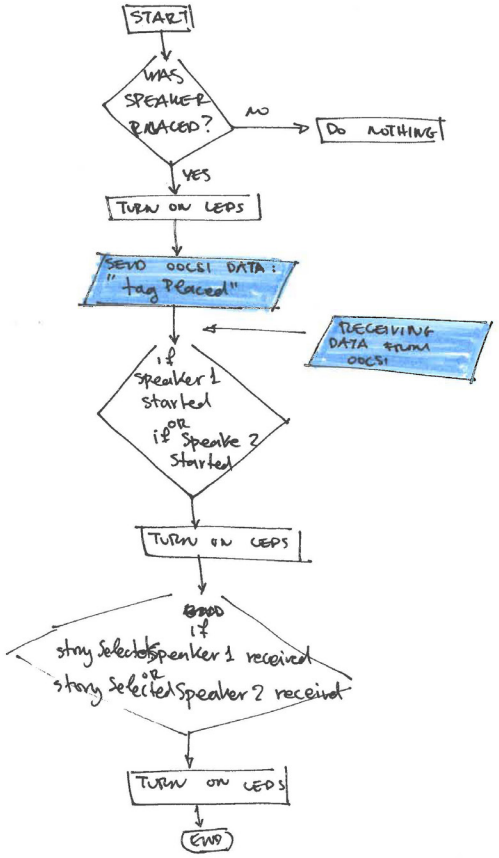
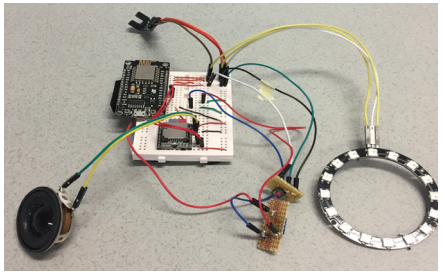
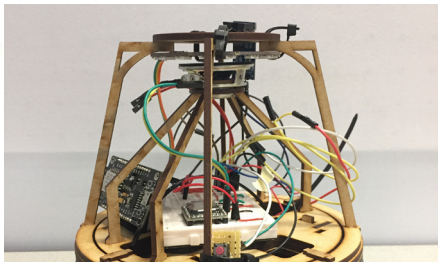


Figure 3.19 Flow chart of tag





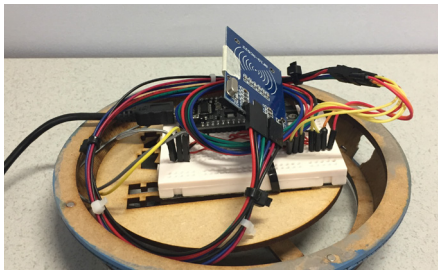


Figure 3.20 Electronics components

4 AUDIO TALES

This chapter explains the final design of our concept. It incorporates how the marketing plan is envisioned; how it would suit different goals of users; and how the interaction of the device unfolds.

Do you remember how stories used to make you feel? You wanted to be that witch or wizard and use your powers to create stardust, or even fly like a bird. Back then stories were as real as everything else for you. Stories play an important role in children's lives. Traditionally, stories are either read from a book or watched on TV. Children are only observers to the adventure they want to participate in. However, their environment could be so much more than the static entity which is presented.

Parents know the power stories have on their children. Sometimes they use it to motivate kids to do difficult tasks. For example, by pretending to be one of the child's favourite characters to help them clean their room.

To embed stories into a child's home we created Audio Tales. It is a system of speakers and tags, which provides an immersive and personalized experience by using customizable stories as a way to motivate children. The goal is not only to be a new friend who tells interesting stories to kids, but also be a companion for their everyday tasks.

In order to provide a personalized experience, kids can choose numerous types of stories from an online platform and upload them into Audio Tales speaker. Additionally, dynamic stories are generated by the system according to the choice of the kid. That choice is made by placing the Audio Tales Speaker on a different tag. The context is consistent with the house setting (e.g. going to the waterfall means going to the bathroom) to create an immersive experience.

To share this experience two Audio Tales speakers can interact with each other. They can become two different characters. Some stories may include routine tasks for children, which are connected to its context.In this manner the child gives more meaning to the action and make it effortless.

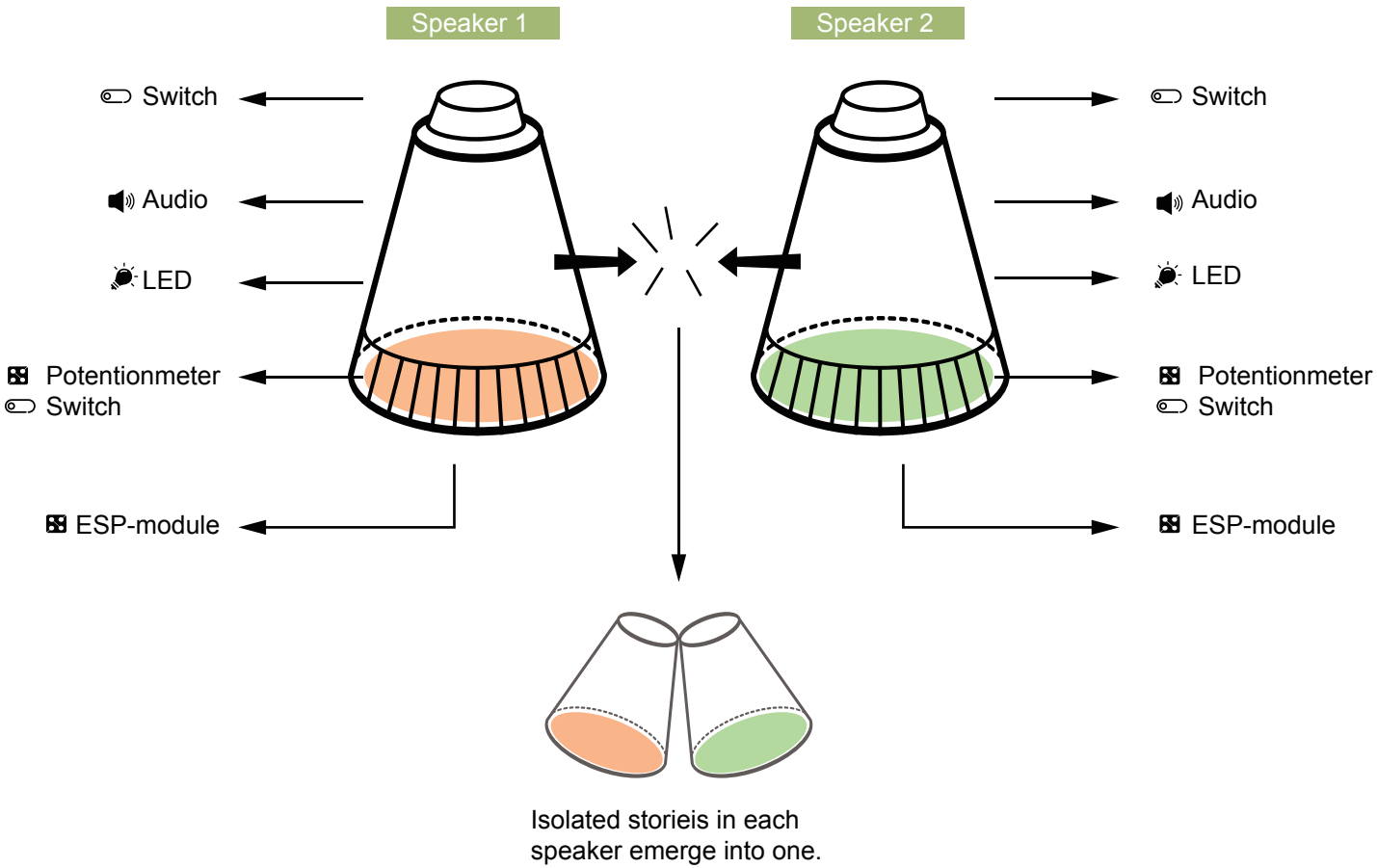
Stories are also affected by other systems in the house and vice versa. Thus, giving the system possibilities for growth.

Scan to wath all videos.

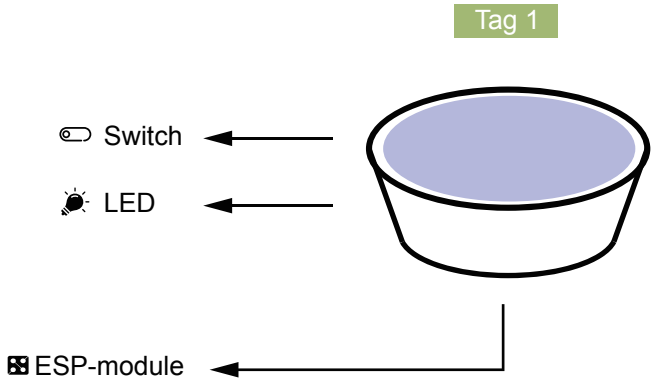
4.1 AUDIO TALES

PRODUCT COMPOSITION

Speaker Composition



Tag Composition



4.2 AUDIO TALES

BUSINESS IMPLEMENTATION

When purchasing AudioTales, customers have a choice from buying the "Basic Package". This package consists of several elements: one speaker, three tags, one manual, a USB cable, and one credit card. Additional items which can be bought are a separate speaker, tag or a credit card.

Figure 4.1 Basic package

After acquiring a "Basic Package", a user can connect the speaker to his laptop and use the AudioTales online platform to receive stories of his choice. Those are obtained by using the credit card, as each story "costs" a number of credits. The credits can be topped up also online.

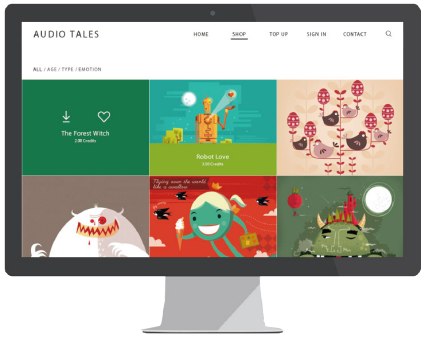


Figure 4.2 Official website

The following step is to upload the stories on the speaker. The manual is used to guide the user in how to properly operate the products.

Figure 4.3 Mannual

An important step of the setup is to place the tags in relevant locations throughout the house. Each tag is labelled with a different symbol. The "Basic Package" has a waterfall, forest and a castle label, which have to be located in the following rooms respectively: bathroom, living room and the child's room. Supplementary tags, which have different labels, can be bought in order to be placed in different locations.

4.3 AUDIO TALES

INTERACTION WITH SYSTEM

The speaker is launched when its cap is removed. This is followed by a welcoming sound. Upon rotating of the bottom part, different titles of stories are introduced. With every twist a new title is announced. To choose the desired story a user must click the bottom to the main upper part. As a consequence, the upper translucent part fills with light. The story begins and with its progress the light decreases.

When the story reaches an interruption point, the light of the speaker turn off. If the interruption is of an assignment kind, the light of the tag connected to it blinks. If the interruption is of a choice kind, all lights of the tags connected to the choices blink. Upon selecting a tag by placing the speaker on it, light fills up in the speaker again. During the assignment interruption point the light ring of the speaker counts down the remaining time until the story resumes.

Two users have the opportunity to go into collision mode when they tilt the speakers against each other. At that moment the lights of both speakers blink twice. To pause a story, the cap needs to to be placed into its place. When the cap is removed again, the story resumes. To turn of the system completely, the cap must be placed and the bottom part has to be unlock by popping it back. This is also the way to restart the device and select a new story.

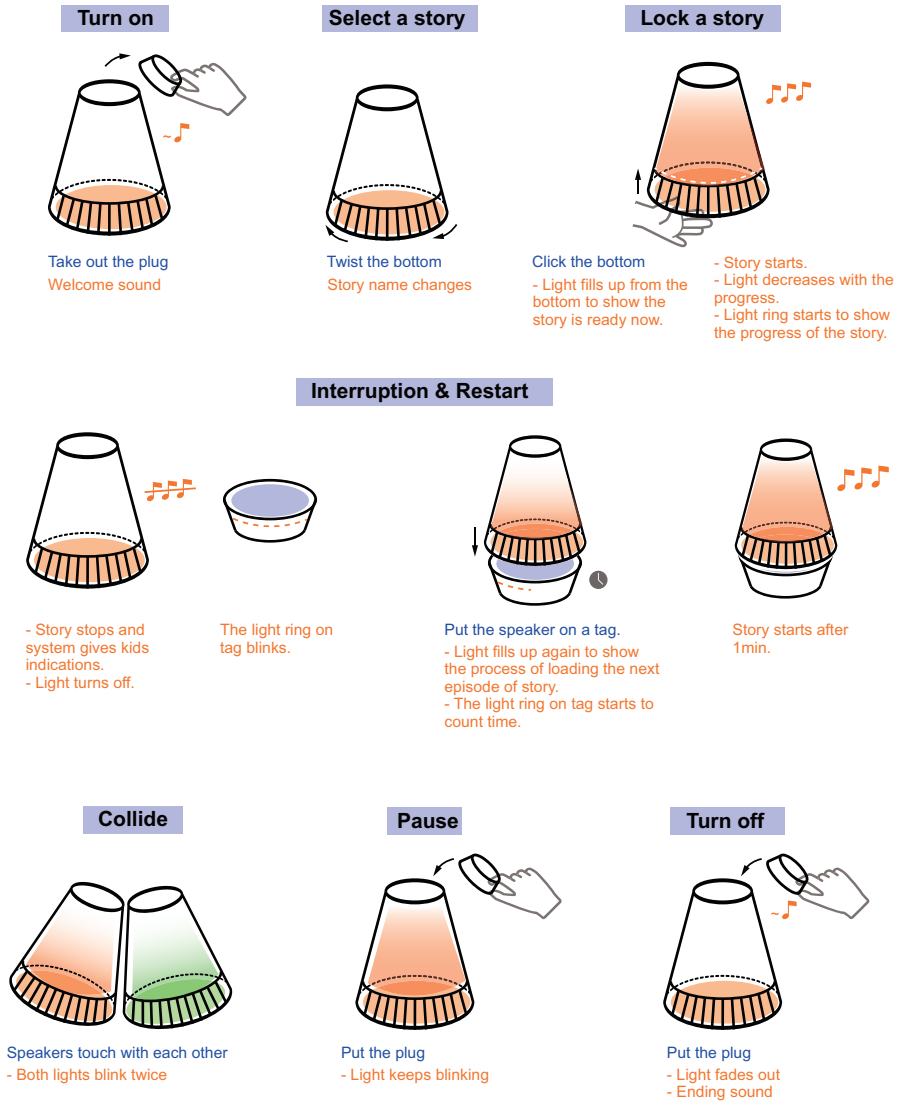
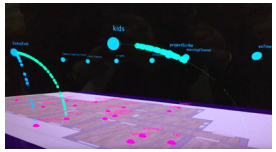


Figure4.4 Interaction with system

4.4 AUDIO TALES

COMMUNICATION INSIDE&OUTSIDE THE SYSTEM



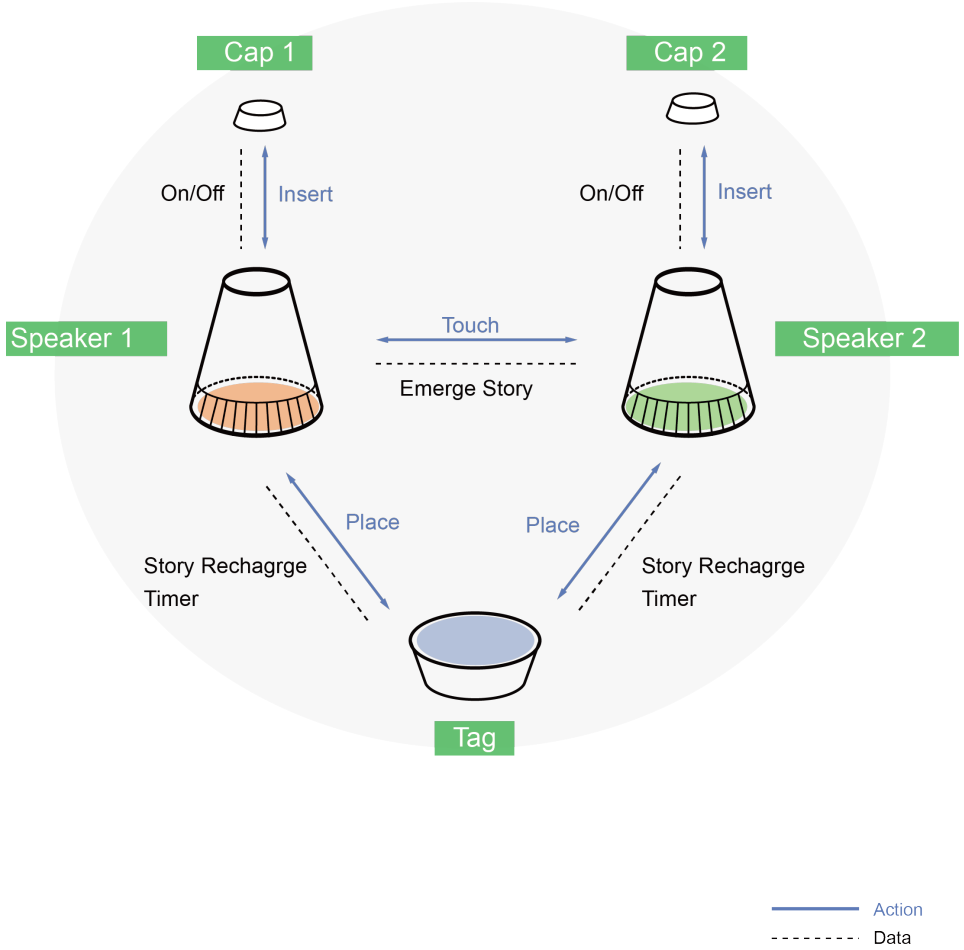


Figure4.5 Communication inside the system

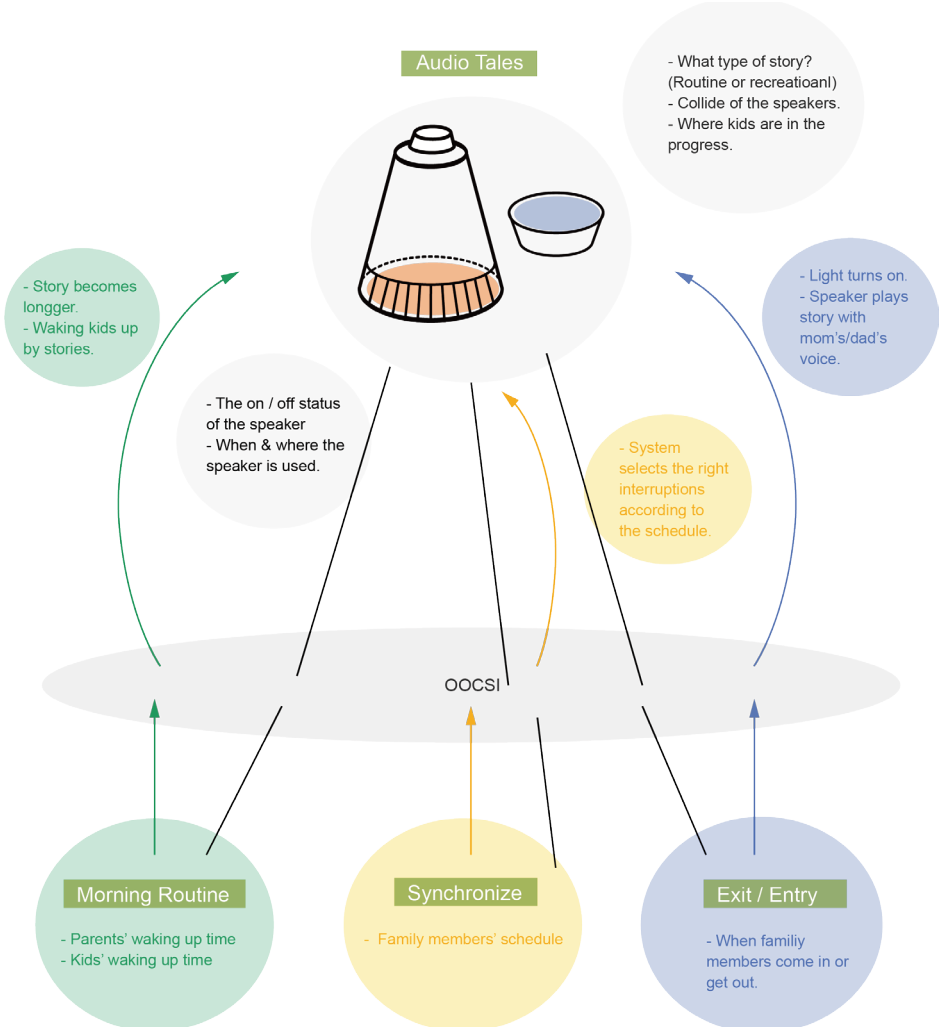


Figure4.6 Communication outside the system

4.5 AUDIO TALES

STORYTELLING CONTENT

Story Flow
After the system has been initiated, the story starts with announcing its title. It is followed by the beginning of the tale. At critical points during the process the user is asked by the general narrator of AudioTales to make a choice. These points happen when the main character of the story has a problem to solve or any other occasion when he has to decide upon one thing. Each choice is represented by a different tag in the house. In turn, each tag is connected meaningfully to the concrete place in question. Namely, if the user chooses to go to the "sea of forgotten dreams", the tag which would be linked to that choice would be placed in the bathroom. If the user places the speaker on one of them, the choice linked to that tag will be executed. The first moment this occurs and the speaker is not currently placed on one of the tags, the narrator gives three options. If the speaker is already placed on a tag, the narrator gives two options. Depending on the story format, several choice points can be added to any story.

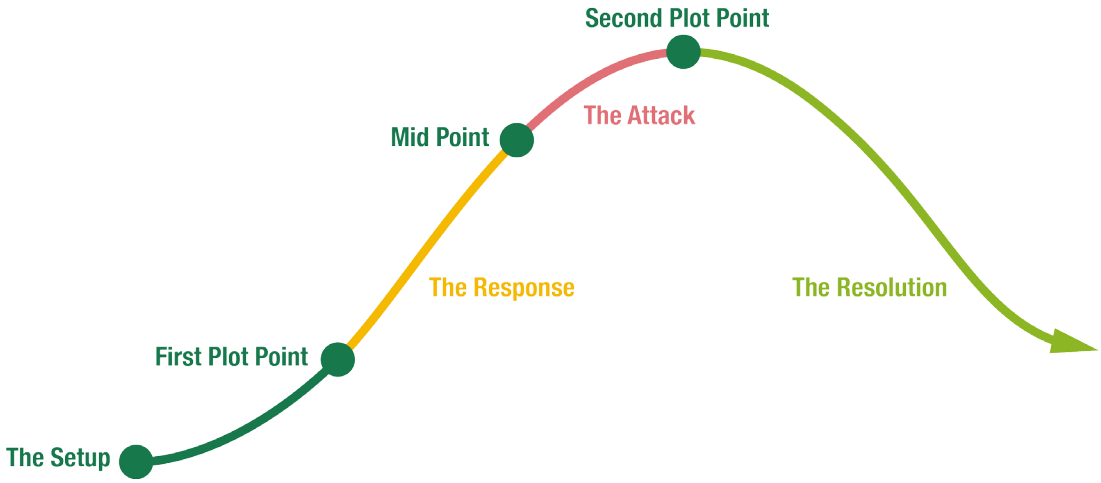


Figure 4.5 Story flow structure.

Furthermore, in order to support younger children with their routinely tasks, moments where the child is asked by the narrator to complete a task are added. They can vary from cleaning the kid's room to brushing teeth. The tasks are connected to the storyline in a logical way. Every routine assignment is also associated with a particular tag, which the child must indicate before completing the task. For instance, if the child has to put on her pyjama, she needs to place the speaker on the tag in her room. An amount of time is given, depending on the assignment, for the child to finish it. Consequently, the story resumes from where it had paused. If an incorrect tag is selected, the narrator gives an indication depending on the assignment.

To stimulate co-play, AudioTales has also a collision mode during which two speakers can interact. Whenever two speakers make contact by being tilted against each other, collision mode is initiated. Any dialogue in the story conducted by more than two characters is separated in two, so each speaker outputs the voice of a different one. In the case of collision mode running while a choice point is introduced, any of the speakers can indicate the taken choice by being placed on a tag. If both speakers select different tags, collision mode is cancelled and each speaker continues the branch of the selected story .

The storyline can also be influenced by the other systems in the house. If AudioTales and the Roomba are running simultaneously and the Roomba gets stuck, upon receiving that information AudioTales inputs an assignment point relevant to the story. This task would consist of helping the cleaning robot to continue its work. Another example of such interaction is the changing of the lights settings depending on the atmosphere within the ongoing story. That is the case only with the lights in the living room and if there is no other setting input placed by the parents.

5 DISCUSSION

The aim of this project was to Connect Rich Interaction in Growing Systems. There is lack of growth aspect within the concept as this was not weaved throughout the whole design process. During the ideation process we did not focus enough on the IoT sandbox and how our ideas would manifest in it concerning its communication with other projects. The main goal of the ideation face was directed towards creating a product that incorporated rich interaction. The process of designing human-product interaction ended up to be the major part of the process, while this resulted in a lack of designing the nature of our device within an IoT setting. For this reason the concept does not include growth to an extend we aimed for. Reason for this is mainly a lack of communication with other teams, we should have put more effort into knowing what the idea and status of their design process was. In order to improve on this point the weekly meetings we planned with the squad required better preparation and attendance. Another point for improvement was the deployment. We were too occupied with trying to create a concept we were completely satisfied with that we did not enough time into creating a valuable deployment. Our deployment prototype did not function due to hardware limitations we realized too late. This could have been solved if the prototype was made earlier, again it should be noticed that this was not completely feasible, because the concept was not developed far enough.

6 INDIVIDUAL REFLECTION

DIMITRA CHANTZOPOULOU

JULES RUTTEN

GALINA PETROVA

LIYU RUAN

INDIVIDUAL REFLECTION

DIMITRA CHANTZOPOULOU

As a first motivation, I joined the CRIGS squad because I felt naive about designing for systems. During my final bachelor semester I discovered that I really enjoyed designing and researching systems of wearable and soft interaction and wanted to use the first semester of my master to completely focus on understanding systems alone. Furthermore, I already knew that this squad would involve a lot of hands on programming and coding and I wanted to get better at those skills and competencies (Math data and computing and Technology and realisation).

Coming from the background of soft interaction and closer to the body perspective, a lot of things that this project was revolving around (growing systems, rich interaction, systemic elements, emerging phenomena etc) were almost new to me. Thus said throughout the semester I ended up falling in love with the squad, the vision and the project. Even when the teamwork was not going well or when the project was reaching difficult stages it was still so exciting to work knowing that during the demo day all the systemic elements would come together.

Most of the times the teamwork was the most challenging and nerveracing aspect of the project. I tried very hard to make this team work but sometimes it felt that during the meetings we were getting nowhere or we were coming up with solutions that had no supporting elements to be based upon. Other times I felt that certain people inside the team did not care enough for the project or had lost their interest in working for the project. Even when I tried to be proactive or help them it felt that nothing really changed and therefore I had no idea what to do to make the situation better.

Last but not least this project taught me something i thought I would never see about my identity as a designer. During my whole bachelor I had rejected the idea that I would be hands on approach on coding and programming. I knew that I was hands on in making physical prototypes but I always took that as my main interest. Because of the nature of the project and because I was fascinated to see what would happened when all projects and systems collide with each other; I was the one in the team that did the coding and the programming. I can truly state that it was the first time ever that I have been so much enjoying coding, programming and generally understanding the communication and sharing of data. Not only it was the first time that I used OOCSI alone (the previous time someone showed to me how to do it but I had not fully understand how it worked) and creating data canvases but it was so much fun!

INDIVIDUAL REFLECTION

JULES RUTTEN

Having done this project before, my aim was to more focus on the growth aspect this semester as I focused during the previous semester on the richness in interaction. For this reason I decided upon following the elective "A designerly perspective on IoT, DCM110" and "designing intelligence in interaction, DCM130" to get more knowledge in area of designing growth systems and apply this directly into the project. The design brief proved to be quite a challenge for me as I struggled with the challenge to design for the recreational activities of the kids. I mainly struggle with the complete openness the challenge offered. During the elective DCM110 I noticed I much faster my process was with a clear set of boundaries. Looking back on the process we did have boundaries, namely the characters of the children in the house. I did not use these characters enough within the process and focused too much on a general target group, children.

Designing growth proved to be a huge challenge within the project as it relied on collaboration with other teams. The main challenge was due to teams still developing their own concept regardless of the interdependence of other products and the lack of an overall organization directing growth. From the experience of the elective DCM110 I think growth can manifest better within such a large group if the first half of the semester is dedicated to creating rich interaction and during its second part the focus lies purely on growth, as I feel the growth aspect could not flourish in the current setting. As part of my goals of wanting to be a connection factor within a group I feel I could have done more to make the Squad as one entity, because all groups were now operating on their own, which negatively affected the ability of groups creating growth among each other's projects.

To conclude, this project gave me insight in the challenges one faces when creating growth. Communication is of high importance and this lacked during the project. I feel rich interaction is well implemented in the process, but not in context with how it manifests in growth.

INDIVIDUAL REFLECTION

GALINA PETROVA

My goal for this project was to explore and dig deeper into what defines interaction into an IoT systems context. The growth aspect of it is a challenge to incorporate into any design. Previously, I worked on interaction design in an entirely straightforward manner. In a sense it was established as a purely action-reaction type of interaction. During the CRIGS project I explored interaction design in a more complex perspective, trying to fit lots of elements to each other.

The start of the project for our team was a bit chaotic. Since there was not much information to work with, we did not know where to focus. At that time every team member had a different opinion of what the goal of the project entitled. After the first coach meeting we were given options of how to explore the characters' activities which were really helpful, but could have been proposed earlier.

During the project I realised that designing with less information makes you focus on the meaningful aspects of the design. It made me question every choice we made with a focus on the characters.

Creating a system with a growth aspect was a real challenge. All groups were confused of what that means in its core. As concepts changed throughout the project, possibilities developed and disappeared. Nothing was definite at least up until the concept freeze moment. Even then communication was difficult. In that aspect, the first most helpful moment which stimulated the whole squad to design a growing system was the mid-term presentation. Also, grouping certain teams did not help much as teams were more focused on developing their own systems.

The parts which I worked on mostly were the character creation, form exploration, the story flow and interaction, and the content creation. What I enjoyed mostly during the project was the social aspect of the systems designs. Since I want to focus on designing for children, exploring their daily lives and investigating how they see the world made a contribution not only for this project, but also for future ones. I followed up also the Social Innovation elective to develop more my 'User and Society' competences. The CRIGS project and the elective complimented each other in a way for me to acquire different perspectives on designing – one for designing for a societal problem and the other, for designing for particular characters.

INDIVIDUAL REFLECTION

LIYU RUAN

What I learned the most from this project has been making while thinking. In my home school, we are not required strictly to make many mockups before the final prototype. In most cases, we just brainstorm, discuss and analyze from a 2D perspective. So I was very happy when my teammates told me 'Let's make something'. Making is of great importance during the design process because the images of my idea are different from the real things. I found the shape and the scale were quite weird the first time I used laser cut to express my idea. But I did not realize that until the idea was expressed in this explicit way. In a word, making is an effective way to modify concepts and could also inspire me a lot during the exploration. Thanks to the well-equipped facilities in Tu/e, I had a really precious experience of making.

The second keyword come into my mind is WHY. Asking myself WHY before making every design decision is what I learned this semester and also what I will always keep in my mind in the future. Making decisions randomly is much easier but it never brings meaningful value to the products. For example, about the selection of the speaker material, we did not perform very well. The lack of discussion and verification made it unconvincing to both of viewers and ourselves. The coach meeting which pointed this problem impressed me a lot and I think I will never forget that.

Additionally, some knowledge I have learned before was strengthened again in this project, like how to think in a systematic way, considering the possible relationship between different systems, designing from a user perspective etc.

Another aspect of my skillset that I want to mention is communication. At the beginning of this semester I was really anxious due to the English environment. But everything has become better with the improvement of my language ability. Though I still can not speak fluently, I am willing to express my ideas and feel I am a part of the team now. I would like to thank our supervisors and teachers for guiding us through this process, would also like to thank all of my teammates whom I have shared this time with. I have learned so much and I will always consider you as friends.

REFERENCE

Brooks, L. (2011). Story engineering mastering the 6 core competencies of successful writing (1st Ed.). Cincinnati, Ohio: Writer's Digest Books.

Bruce, T. (2001) Learning through Play, Babies, Toddlers and the Foundation Years. London: Hodder Education.

Else, P. (2014). Making Sense of Play: supporting children in their play. Berkshire, England: Open University Press.

Gibson, J. J. (1986). The ecological approach to visual perception. Psychology Press.

Frens, J. W., & Overbeeke, C. J. (2009). Setting the stage for the design of highly interactive systems. In Proceedings of IASDR'09, Seoul, South Korea.

Frens, J. (2017). Designing for Embodied and Rich Interaction in Home IoT. In Proceedings of the Conference on Design and Semantics of Form and Movement-Sense and Sensitivity, DeSForM 2017. InTech.

Messac, A., Martinez, M. P., & Simpson, T. W. (2002). Effective product family design using physical programming. Engineering Optimization, 34(3), 245-261.

Norman, D. A. (1999). Affordance, conventions, and design. interactions, 6(3), 38-43.

Van Kempen, L. [SprookjesChannel] (2015). [YouTube]. Retrieved from https://www.youtube.com/channel/UCzSotQS_OTc8OJMYJjPmbJg/videos

Santrock, J. (2011). Child Development (13th Ed.). McGraw-Hill.

APPENDIX

A CODES OF PROTOTYPES

B AUDIO FILES OF STORIES

C POSTERS

D EXAMPLE OF AN AUDIO TALES STORY

APPENDIX

A CODES OF PROTOTYPES

B AUDIO FILES OF STORIES

The Appendix A&B could be found by the link below.
https://drive.google.com/drive/folders/1bMsYmSoqJLqNKs9Dd3JRYLZ87IsMAUln?usp=sharing

Scan the QR code below to view it in a faster way.

C POSTERS

1 Story structure
2 Manual

D DOCUMENTS OF DEPLOYMENT

1 Diary
2 Manual
3 Second interview

E EXAMPLE OF AN DUDIO TALES STORY

RECREATIONAL ACTIVITIES FOR KIDS

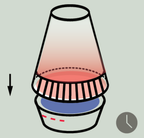
STORY STRUCTURE

How stories embed in kids' daily life?

We made example stories in which activities are closely connected with plots. Here are the main parts of the stories.

Background
Young witch lives in a cottage in the forest.

Problem
A selfish prince wants to destroy the whole forest to build his new castle.



Choices
Kids move to different places and put the speaker on tags to continue the story.

Listen to stories in a playful way

Tag1

Flood the tents of the workers.

Bathroom

Tag2

Steal all their instruments.

Kitchen

Tag3

Ask help from other wizards.

Bedroom

A bridge between stories and real life.

Integrate stories with daily tasks in bathroom.

Background
Bear lives in the forest.

Tag1

Task 1
Bear needs to clean himself before the hibernation.

Kids brush teeth in bathroom.

Integrate stories with daily tasks in bedroom.

Tag2

Task 2
Then he needs to put on his fluffy 'coat'.

Kids put on their pyjamas.

Integrate daily life with stories

Example

Single Mode
Kids listen to stories on different speakers.

Tag1
Bathroom

Tag2
Kitchen

Tag3
Bedroom

Double Mode
Sisters can collide speakers with each other to enjoy the stories together.

Immersive Dialogue
Dialogues are spilt up on two speakers.

What're you havin?

Pork.

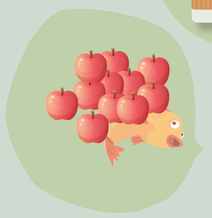
With apple sauce?

Ye-

Merge Stories
Two kids enjoy the same story line together.

Roomba get stuck somewhere and send a message to our system.

"Otto was covered by a bunch of applesnow."
[Help Otto by removing all things around the Roomba]



Connection With Other Systems In The House
Meaningful and playful ways to connect with others.

AUDIO TALES MANUAL

Welcome to Audio Tales

Audio Tales is a system dedicated to embedding ordinary stories in a house setting to maximize the magical power of stories. It can be a new friend who tells interesting stories for kids, as well as a supporter for their everyday tasks.

In the package you can find one speaker, one credit card, three tags and a manual. Follow the manual and you will know how to start your story journey.

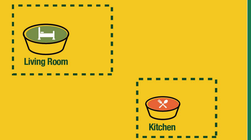
Let's start now!

Download Stories

Download your favourite stories on our official website by using the pre-paid credit card in the package.

Embed Stories In Your Home

Tags offer a variety of possibilities for new stories to emerge. Place the specific tags in the house and enjoy the stories.



How To Start Your Story

1 Turn on
Take out the plug

2 Select a story
Twist the bottom

3 Start a story
Click the bottom

Live With Stories

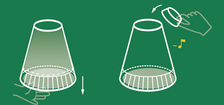
Place speaker on tags to continue stories and finish your daily tasks with characters.

Play With Others

Share your stories with your family members by using two speakers.

Touch with each other to share.

Pause & Turn Off



Pause
Unclick the bottom

Turn off
Insert the plug

Attention

Non Waterproof

No Fire

Welcome your stories with Audio Tales and any comments on our official website.
If you have any other problems, please contact us.

audiotales@gmail.com
068888888
Laplace Eindhoven
www.audiotales.com

ENJOY YOUR STORIES

Dag 1

Dinsdag 28 november

Ingevuld door: Jade, Lilian, Ronald

1. Maak een foto van waar de speaker nu is.

2. Wie heeft vandaag de speaker gestart?

Kids ☒ Ouders ☐ Beide ☐ iemand anders: ~~[illegible]~~

3. Waarom is de speaker gestart?

Entertainment (voor de lol) ☒ Bedtijd ☐ Andere reden ☐

Beschrijf de situatie:

Was nieuwsgierig naar de verhaaltjes

4. Wanneer de speaker werd gebruikt voor verplichte rituelen zoals tanden poetsen, presteerden de kinderen dan beter?

geen motivatie ○ ○ ○ ○ ○ ○ ○ ○ ○ erg gemotiveerd

Beschrijf de situatie:

N.v.t.

5. Hoe lang denk je dat de speaker is gebruikt?

<5min ☐ -10min ☐ 10-20min ☒ >20min

6. Kruis de omgeving aan waar de speaker vandaag is gebruikt.

Woonkamer ☒ Wanneer: 18.00u

Slaapkamer ☐ Wanneer: _____

Badkamer ☐ Wanneer: _____

Keuken ☐ Wanneer: _____

Studeerkamer ☐ Wanneer: _____

7. Beschrijf een uitzonderlijke situatie waarvoor de speaker werd gebruikt (vervelend of heel prettig).

–

Dag 2

Woensdag 29 november

Ingevuld door: Jade, Lilian, Ronald

1. Maak een foto van waar de speaker nu is.

2. Wie heeft vandaag de speaker gestart?

Kids ☒ Ouders ☐ Beide ☐ iemand anders: [redacted]

3. Waarom is de speaker gestart?

Entertainment (voor de lol) ☒ Bedtijd ☐ Andere reden ☐

Beschrijf de situatie:

's avonds op de bank beneden

4. Wanneer de speaker werd gebruikt voor verplichte rituelen zoals tanden poetsen, presteerden de kinderen dan beter?

geen motivatie ○ ○ ○ ○ ○ ○ ○ ○ ○ erg gemotiveerd

Beschrijf de situatie:

N.v.t.

5. Hoe lang denk je dat de speaker is gebruikt?

<5min ☐ -10min ☒ 10-20min ☐ >20min

6. Kruis de omgeving aan waar de speaker vandaag is gebruikt.

Woonkamer ☒ Wanneer: 17.00u

Slaapkamer ☐ Wanneer: _____

Badkamer ☐ Wanneer: _____

Keuken ☐ Wanneer: _____

Studeerkamer ☐ Wanneer: _____

7. Beschrijf een uitzonderlijke situatie waarvoor de speaker werd gebruikt (vervelend of heel prettig).

Begon weer bij roodkapje en daarna repetsbeertje. Had ze al gehoord, dus was daarna niet meer geïnteresseerd om te luisteren. Elk verhaaltje duurt met pauze's ca. 10min en je kunt niet doorspoelen.

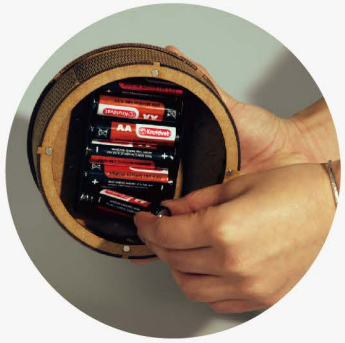
Dus rest van de week niet meer, helaas maar begrijpelijk.

Handleiding voor AUDIO TALES

Hoe verwissel je de batterijen?

1 Verwijder het kapje aan de onderzijde van de speaker.

2 Verwijder de lege batterijen



3 Plaats de nieuwe batterijen in de houder.

4 Plaats het kapje weer terug op de speaker.

Mocht er toch onverhoopt iets mis gaan, neem contact met ons op via:
E-mail: j.j.a.g.rutten@student.tue.nl
Phone: 06-40922949

Verhalen in de speaker

1 de chineese nachtegaal

2 de gelaarsde kat

3 de nieuwe kleren van de keizer

4 de princes op de erwt

5 doornroosje

6 het lelijke eendje

7 raponsje

8 repelsteeltje

9 roodkapje

Vragen achteraf

Morning group:

- Hoe vonden jullie het om personen aan te duiden met kleuren?
    - Prima. Werkte goed.
- Wat was voor jullie de grootste waarde van het systeem?
    - Met stem wakker worden. Gezelliger dan een lampje. Persoonlijk. Ziet er leuk uit.
- Vergat je soms je wekker in “wakker mode” te zetten?
    - Wel gedaan.
- Hoe zouden jullie het vinden als je maar op 1 plaats alle wekkers kan instellen, namelijk vanuit de hub in de keuken?
    - App berichtjes inspreken. Handig.
- Halen jullie de kinderen zelf uit bed?
    - Jongste komt zelf naar buiten. Oudste heeft een half uur nodig.

Kids group:

Took too long. Fast forward not available. Why?

- Did you try to use the speaker everyday?
    - Yes
- Can you describe in detail one day of using the speaker?
    - Before sleeping, really interesting for youngest. Also in diary.
- Do you have any remarks or improvements about the content of the stories?
    - -
- Do the kids have any remarks or comments about the stories?
    - It was the same every time. Though the story was fun.
- How would you think your kids would ideally like to experience the listening to stories?
    - It’s fun to have it through a device. But more interaction is necessary.
- What would you change about the listening experience of stories?
    - Being able to skip
- Do you have any comments or feedback?
    - See diary. The speaker is very soft.

Notulen dagboek

Example of an AudioTales story

Nina and the witch's apples

Transcript of recording

Once upon a time there was a witch called Nina. She was young and lived in a cottage left to her by her grandmother, who was also a witch. Her grandmother's job was to take care of the people in the region and also the forest. Nina learned everything about people, animals, plants and magic from the old witch. Nina's best friend was a fish called Otto. Otto was quite the extraordinary fish. He could float in the air and frankly, didn't like water.
It was customary for young witches to go for a year to learn from an older witch. Nina knew several witches who needed an apprentice.
{|sound| To whom shall Nina go?
→ 1) Esme Weatherwax, who lives near a waterfall in the mountains [T1-bathroom]
→ 2) Flea Nutt, who lives in an orchard full of delicious fruits [T2 - kitchen]
→ 3) Magi Kalin, who lives in a castle [T3 - kid's room] |sound|
|sound| Esme Weatherwax |sound| }
Nina packed her things, put Otto in his travelling bowl, grabbed her broomstick and flew to Esme Weatherwax's cottage in the mountains. When she was in front of its door she heard voices from the inside.

'Keep the lot, old Hopcroft said I could have as many as I wanted,' said Nanny Ogg. She gave her sister-witch a sidelong glance. **'Tasty, a bit wrinkled, but a damn good keeper.'**
'He named an apple after you?' said Granny. Each word was an acid drop on the air.
'Cos of my rosy cheeks,' said Nanny Ogg. **'An' I cured his leg for him after he fell off that ladder last year. He sells his apple trees all over the place,'** Nanny Ogg went on.
'Funny, eh, to think that pretty soon thousands of people will be having a bite of Nanny Ogg.'
'Thousands more,' said Granny, tartly.
'Thank you, Esme.' Nanny Ogg looked wistful for a moment, and then opened her mouth in mock concern. '**Oh, you ain't jealous, are you, Esme? You ain't begrudging me my little moment in the sun?'**
'Me? Jealous? Why should I be jealous? It's only an apple. It's not as if it's anything Important.'
'That's what I thought. It's just a little frippery to humor an old lady,' said Nanny. **'So how are things with you, then?'**
'Fine. Fine.'
'Got your winter wood in, have you?'
'Mostly.'
It seemed to Nanny that, despite the sunlight, the shadows were deepening in the corners of the room. The very air itself was growing dark. A witch's cottage gets sensitive to the moods of its occupant. But she plunged on. Fools rush in, but they are laggards compared to little old ladies with nothing left to fear.
'You coming over to dinner on Sunday?'
'What're you havin'?'
'Pork.'
'With apple sauce?'
'Ye -,
'No,' said Granny.
So this is how real witches are, thought Nina. Quite horrified, she took the step to knock on the door. Her hand almost touched the wood and the door opened. Nanny Ogg stared at her.
'She's a bit edgy at the moment. Good luck to ya girlie,' said Nanny and scattered away.

Nina went inside and approached Granny Weatherwax. There were apples on the huge table, some on the counter by the sink, but mostly, in piles on the floor. The door closed behind Nina.

‘So you are Nina eh? First rule of witching…you do what’s in front of you. Gytha brought these apples so I can make mi famous cider. That daffy ol’ witch dropped the whole lot on the floor. Sort them out, I need them sweet ones.’

[|sound|Can you help Nina? Collect and sort all your toys from the floor. She will meet you after five minutes (pause) |sound|]

Error message if wrong tag is selected

[|sound| Nina is not here]

Nina was almost done when she saw that Otto was covered by a bunch of apples. How did he manage to do that?

[|sound| Help Otto by removing all things around the Roomba (pause) |sound|]

She started removing all of the apples and finally saw him nibbling on one.

After all the fruits were organised Nina took a break. Was this really what meant to be a witch?