### Interview protocol

#### Interview Protocol

L Rapport

Tell the child who the interviewer is

#### Identify the purpose

() Inform the child about videotaping purpose and the presence of accompanying adults () Address the child's concern regarding being videotaped

Maggie, I am Sherry, I am here to design a toy for you. We are going to together design a dream toy for you. Before we start designing, I need to ask you several questions. Can you help me answer these questions?

### II. Questions

#### (About school)

1. What's your favorite thing about going to school?

2. What subject do you like most at school?

- (After school)
  - 3. What do you like to do after school?
  - 4. Do you do anything fun?
  - 5. Do you like to play video games or watch cartoons?
  - 6. What's your favorite cartoon?

#### (About play)

- 1. What is your favorite toy?
- 2. What do you like to play?
- 3. Why do you like the toy?
- 4. Do you like to play with your friends, your family or do you like to play alone?
- 5. Can you describe the last time you play anything? Or the best time playing anything?

#### (About learning)

- 1. What is the thing that you wish you can get better at?
- 2. If you can unlock one skill, what skill is that?

#### III. Co-design activity

Bring a paper and several color markers, and ask Margie to draw anything she likes or a dream toy she wants to possess.

## **Design idea**

### (ream Bloomb



- co-desian A description of your initial idea(s) for the dream toy.
  - · What toy/toolkit did you and the kid converge on?
  - · We decided to build a wooden house with different rooms. Inside rooms are different furnitures. There will be multiple dolls that can have various clothes for replacement.

Similar products

- What are the learning goals of the toy?
- There are two learning goals. First is learn about interior design and decoration. Maggie will have freedom to decorate the house and learn about the functions of different rooms and appropriate furnitures in different rooms. Secondly, Maggie will have the chance to learn about fashion making and designing outfits for the dolls. Lastly, Maggie can play the toy with her family. It is a chance for family to enjoy playing together.
- · What design decisions did you make about the toy/toolkit, and why?
- I will use wood to build the house and different rooms. I will use various materials, including wood, mdf, clay, fabric, and metal to make the furnitures. Ideally, I will use copper tape and LED to luminate the house, and I will use 3d printing to make the dolls.
- · Are you going to incorporate 3D fabrication into your toy or in your omni animal? If so, how?
- I will use 3d printing to make the dolls, and I will use vacuum machineand modeling to make some furnitures.

# Reflection

#### Reflective conclusion:

- · How do your decisions for medium (virtual, physical, etc.), format (game, puzzle, free, tutorial, etc.) and interaction possibilities align with the learning goals?
- · Meggie wants to learn about fashion and interior design, and she also likes decorating and constructing. So I think this will be a good start to learn about pairing different outfits and decorating rooms.
- · What did you learn from the process about the kid, about the process itself. etc?
- · I think it is very difficult to interview kids for me. I don't understand the toys she likes and I don't know about the books she reads. so I think I learnt a lot from her about what kids of their age like to do and play. It is very different from what I like when I was little. It is also interesting to discover that what I have asumed about kids, how they learn, and what they want to learn are something very subjective. It was a very good chance to see how children communicate and the ways they think
- · What will you change when you do user research for your final project?
- I think I focus too much on the toy itself without thinking about the learning theories behind the design. When interviewing kids, it is also ideal to prepare some activities to do together with kids.

### Interview process

I visited Meggie's home on Sunday morning. Her mom Megan is very friendly, and showed me their house and Meggie's room. Meggie's room is very organized with a tall pile and a bascket of stuffed animals and soft dolls. She also has a shelf of books, and her favorite book is Dork Diary. Then we had a nice conversation about her school life, her hobbies, her favorite toys, and skills and knowledge she would like to gain in the future. Her favorite subject at school is History, and she has a special interest in the history of film. She likes fashion and singing. Her favorite musician is Taylor Swift, and she wants to learn piano and guitar in the future. She likes to play at Central Park, and school playground. She likes to play with her friends, but she also enjoys play alone. She likes to play video games (switch games) with her father.



# Persona Brainstorm

Non-electric

She showed me her favorite toys. It is a Blume doll. She told me that it was her second favorite, but she lost her favorite when her family moved. She also showed me some other toys, like a hand-on fashion making kit. cute pillows, and science experiment kit. Then she showed me some of the crafts she made. She loves making crafts, especially when she makes them with and for her family. She makes a cute craft for each member in he family. She really loves her family, her brothers and her mom and dad.







#### After seeing the toys she like, and the crafts she made. We talked about what she would like to have as a toy, and I showed her some pictures of similar toys.



### **Design and Prototype**







3d Modeling



Laser Cutting

 I used gravit to do the 2d design of the house and laser cutted it. I also learnt to build bunny and bear in

TinkerCad and 3d printted it. • For the next step, I'll be more creative by not just learning from other people's design, but making something very unique to Meggie

### **User testing**



### Suggestions for

improvements - After seeing her play, she gave some suggestions for improvements. First is to add more colors, or customize colors. Second is to make the structure stronger, and the third is to have more ways of playing it.

Play - I visited Meggie on Tuesday afternoon, and showed Meggie the prototype. She was surprised first seeing it, and tried to put the pieces together. She got frustrated as the material was fragile, and she was unable to build it. (I would use MDF, and make it stronger and easier to assemble). It was surprising that **she didn't want to build, but want something that has already built**. I asked whether she would like the process of assembling and disassembling, and she said if the process was not so frustrating, she would like it. Another thing is that, there is not much thing to play around the house. There were only two rooms and limited number of furnitures, so she was tired of playing it after a while.

## **Next steps**

### Sculpting and printing dolls

 I will sculpt and print dolls and I found some online tutorials about how to make bjd dolls. Meggi loves dolls a lot, so I think this will be the first thing listed on my design plan.



Refining the house and furnitures and paint them or attach fabric

 One thing that Meggie got really disappointed about the prototype was its color. She said "I don't want something brown". Her favorite colors are pale pink, red, and turqoise, so I will use fabric and paints to decorate the final product.



Making it more playable and purposeful

- Right now, there is not much difference between the other doll houses, so I think I will make it more playable, so Meggi can play it with her parents.
- Create stories about the house, ask her to write it down in a form of a dairy, create something around the house.
  Digital tools to create digital stories.