MOLO

Memories of Little Ones

A smartwatch device to help foster closer ties between parents and their children.

Team

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Problem and Solution Overview

In today's social media dominated era, we find that parents face problems during the process of sharing memories of their children online. For instance, many parents are unhappy with the lack of control with privacy when sharing photos online. Also, the consent of children is neglected when parents post memories of them online. These are just some of the main problems that hinder parents from fully enjoying the experience of capturing and sharing memories of their children online. Hence, we are designing a smart watch, MOLO (Memories of Little Ones), to help solve the problems that parents face during this process so as to enhance their overall experience. Our main goal is to help parents capture memories of their young children efficiently and securely, so that they can look back and reminisce on those memories in the future. We chose a smartwatch because it is lightweight, portable, and convenient for parents to use on the go when their hands are full. Also, it allows for easy connectivity between parents and children during the process of sharing memories. Overall, our hope for MOLO is that it would effectively help to foster closer ties between parents and their children through the use of a memory sharing smartwatch application.

Design Research Goals, Stakeholders, and Participants

We interviewed a total of **four** participants. When selecting our participants, we aimed to interview parents with young children over a wide age range. This is why we ended up interviewing parents with kids as young as 1 month old to as old as 12 years old. This is to help us better tailor our solutions to meet the needs of our primary and secondary audience who are parents and children respectively. We chose interviews as our main research method because it was the best way we could gather as much information as possible given the limited amount of time we had to carry out our design research. Initially, we thought of doing a diary study, but quickly realized that it would be too time consuming and thus impractical for this class. Below are the details of the parents whom we have interviewed.

Our first participant, **C**, is a web developer in his thirties. He's Anita's older brother, and we talked to him outside of a cafe in Beacon Hill called Fresh Flours. C is the father of a 7 week old baby girl, and as it is his first child, he had to learn a lot about taking care of children. He works remotely, which might suggest that he has more time to physically care for his child. Some of his unique characteristics include being a protective parent, as he brought up concerns of pedophiles on social media. C is a visual person: he dislikes writing, and sticks to photos and videos. He's also fond of organizing photos in collages before he shares them.

Our second participant, **A**, is a nurse practitioner in her thirties. We contacted her via Angela's church, and the interview was done at the clinic she works at in Downtown Seattle. She's the mother of two girls, one of which is 3.5 years old, and the other is 1.5 years old. A is a very thoughtful parent, as she's created Facebook accounts for both her daughters and set them to private, as well as creating Gmail accounts for them to send them pictures/videos and comments about them as they grow up. She's not very well-versed in technology, as she does not know how to blur pictures, and thus tries to avoid sharing photos when her children are not fully clothed.

K is a part-time assistant kids director in her forties. We contacted her via Angela's church, and the interview was done in K's office in Bellevue. She's the mother of three children, who are 5, 17, and 18 respectively. K is a parent who is very respectful of her child's opinions, given that she seeks the approval of her children before posting about them on social media. She prefers writing down notes about her children's health on paper, as she felt it was unnecessary to track health long term.

J was our fourth participant thus far, and is a stay at home mom in her forties. She was previously a molecular biologist, and we contacted her via Angela's church. This interview was done online, by sending her questions to type answers to on Google Docs. She's the mother of two children, who are 10 and 12 years old. Her unique characteristics as a parent are that she is a rather private person, who rarely shares memories on social media platforms, mostly stores them on OneDrive, and essentially only shares them with her husband. She is a very organized parent; she records all doctor and dentist appointments on her Outlook calendar to reference when their last appointments were, and she has folders for each kid where she keeps notes from past doctor appointments.

Design Research Results and Themes

After reflecting on the information we received through our interviews, we have probably narrowed down our relevant area of interest. Of the parents we talked to, none of them were particularly involved in or interested in tracking their children's health long term. Just being cognizant of unusual changes was enough for them. Most of them were interested in storing pictures and videos for memories, but there was a degree of wariness regarding how to share them so that only the people they trusted could see them. Moving forward, we should focus on making tracking memories more convenient and possibly consider privacy issues when sharing. Below are the common themes that emerged in our design research.

First, our participants track their children by taking photos and videos frequently. They tend to take more photos of their younger/youngest children because they make cute mistakes more often, while they leave their older children to share their own memories online. Some have interesting ways to organize photos such as creating an email account and sending the photos to that email address, or creating Facebook accounts for their children and tagging them in photos so they will have access to the photos in future. Different platforms are used such as Google photos, OneDrive, WeChat and Facebook. Some reorganize the photos while some just leave them in storage.

Second, all of our participants are planning to go back and reminisce on the photos, and to share them with their children in the future. Milestones that the participants believe are noteworthy include: first crawl, first roll over, first birthday, first time potty trained, favorite friends, family trips, first day at school etc.

Third, they mentioned that sometimes they do not post as often as they would like to because they are cautious of sharing those photos and videos with people they are not very close to, such as certain friends on Facebook who might just be acquaintances met through work. Usually the people they are comfortable with sharing those memories with are family members (like grandma, grandpa) and close friends. Some mentioned that they specifically do not post pictures of their children bathing because they are not sure of how to blur out parts of the image. As a result, it would be inappropriate to post those images online.

Fourth, they mentioned that it is only necessary for parents to keep track of the health-related things within the first few months of a child's birth. Also, some responded that even when they forgot to write certain things down, they would just give the doctor a rough estimate based on memory. Additionally, some prefer tracking these things on paper rather than with an app because it is more convenient, and that some of them are not well-versed in technology.

Last, our participants prefer using apps that are user-friendly (eg. quickly adding the same photo to multiple albums) and that will allow them to easily share memories with others. The latter includes sharing ownership of photos with their spouses and children, and easily controlling who cannot see the photos. They also prefer using platforms that are capable of storing an immense amount of memories, eg. OneDrive. For instance, a participant said that she uses Facebook more than Gmail because Gmail limits the size of attachments one can send, while Facebook compresses the photos which allows for more to be shared. Additionally, our interviewees expressed that they want to be able to use the platforms on different synced devices.

Answers to Task Analysis Questions

Who is going to use the design?
Based on our research, mums with young children between the age of 0 and 12 are our primary target audience. However from one of the interviews, we learnt that children sometimes have opinions about the kinds of pictures that their parents put up on social media. Hence, children of these parents will be our secondary target audience.

What tasks do they now perform?
Our interviewees responded that they often take pictures and videos of their children, though they take more pictures than videos. All but one responded that they frequently share these memories on social media platforms, the most popular one being Facebook. Our interviewees also told us that they only capture moments when their children are acting especially cute, doing something out of the ordinary, or have reached certain milestones like their first month of birth, first birthday, first day at school, first time at a park, and many more. Additionally, we learnt that they rarely use technology to track the health details of their children, and many expressed that health tracking is no longer important after the first few months of birth.

What tasks are desired?
Many interviewees responded that they wished Facebook supported additional features that would enhance their experiences of sharing photos and videos on this platform. For instance, one parent told us that she wished there was a way to add a single picture into multiple albums because if she wants to add a particular photo or video into both her daughters' albums, she will have to do it twice. Another parent also told us that she wished there was a better way to manage the privacy setting because currently, she has no choice but to share her pictures and videos with a wide range of audience.

How are the tasks learned?
Our interviewees responded that the learning curves for the technologies that they use are not very steep. As a result, they could pick them up pretty easily. However when they do face technical problems, they will consult the people around them.

Where are the tasks performed?
Based on our research, we gathered that the pictures and videos are taken anywhere and everywhere, just because the location is not a deciding factor as to whether a moment is noteworthy or not. The actions and behaviors of their children are the determining factors.

What is the relationship between the person and data?
We find that the data is personally attached to parents and their children. Parents usually go out of their way to track the memories of their children (especially when their children are younger), and sometimes the children even ask to have pictures taken.

What other tools does the person have?
All of interviewees have phones and laptops that they can use to store and share memories, though the specific platforms that they use vary, depending on their preferences.

How do people communicate with each other?

Our interviewees responded that they only share pictures with people that they know, especially their families. There are a variety of platforms that they use, such as WeChat, Facebook, OneDrive, and Marco Polo. They also rarely write a lot of words along with the photos and videos that they share, because these things are capable of speaking for themselves.

How often are the tasks performed?

Most of our interviewees take and share pictures and videos on social media frequently, mainly at least once a week. For the interviewee who does not share anything online, she only captures memories once to twice a month, and subsequently uploads them onto OneDrive.

What are the time constraints on the tasks?

Three out of four of our participants responded that they take photos and/or videos of their children at least once a week, and only one participant said that she does this once or twice a month. We predict that this task is generally performed weekly. There isn't really a time limit outside of recording special occasions.

What happens when things go wrong?

Most of our interviewees responded that if they forget certain health details of their children on a doctor's visit, they would just give a rough estimate based on memory, and this has turned out fine. They also added that after the first few months of birth, these details are no longer important. As a result, they do not see the need to diligently take down health updates of their children. On the other hand, they do not see taking pictures and/or videos as a "task" or a "responsibility," so there is nothing much that can go "wrong" with it. It is more of a thing they do for fun, so it is fine even if they forget to capture a certain moment of their children on camera.

Proposed Design Sketches

Design 1: Smart watch

This smartwatch is designed to be convenient to take pictures/videos of your children no matter where you are (*Figure 1a*), as well as managing the memories that you, your friends, and your family have taken so far (*Figure 1b*). It has connectivity with others of its kind, and allows you to set permissions on who can see the things you share, as well as requiring permission of the individuals tagged in the pictures/videos (*Figure 1c*). Since it can connect to the internet, it is also fairly easy to share on social media platforms. It can even automatically generate a personalized album on your birthday (*Figure 1d*).

Task 1: Share memories of children with loved ones in a secure way
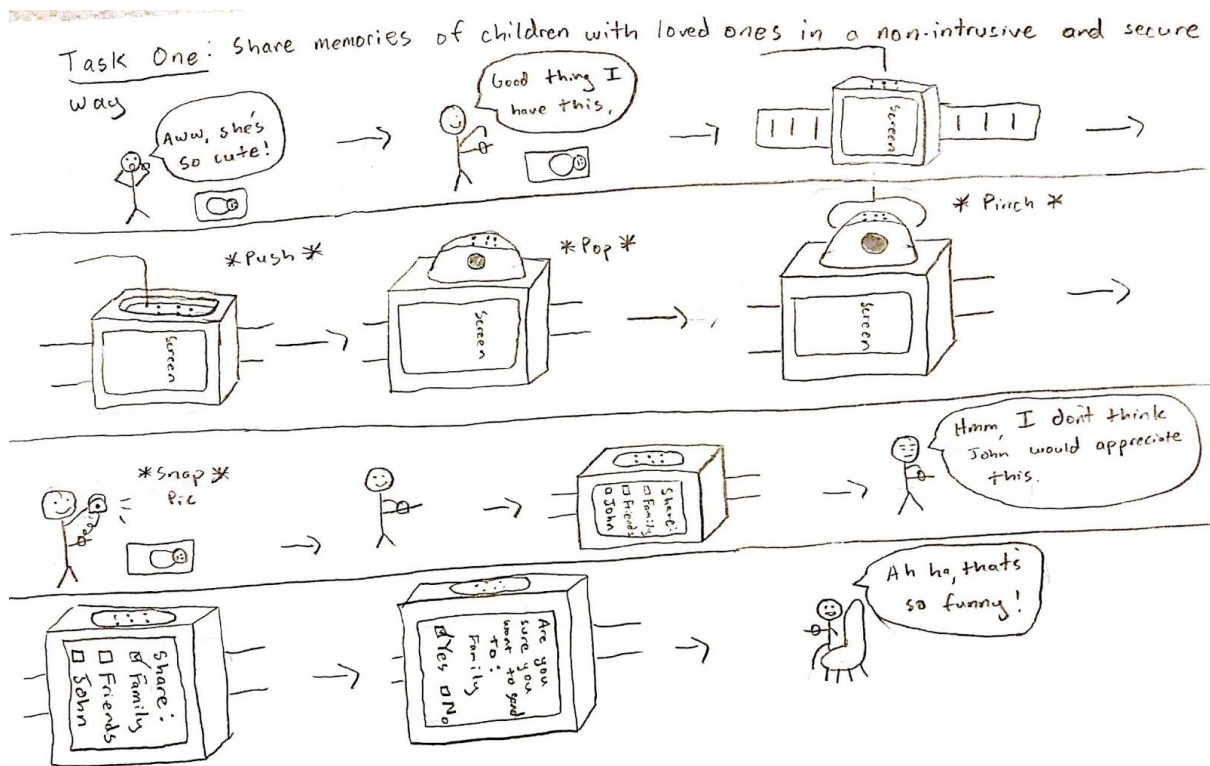
Figure 1a

Task 2: Organize memory captures of children like to add labels or categorize
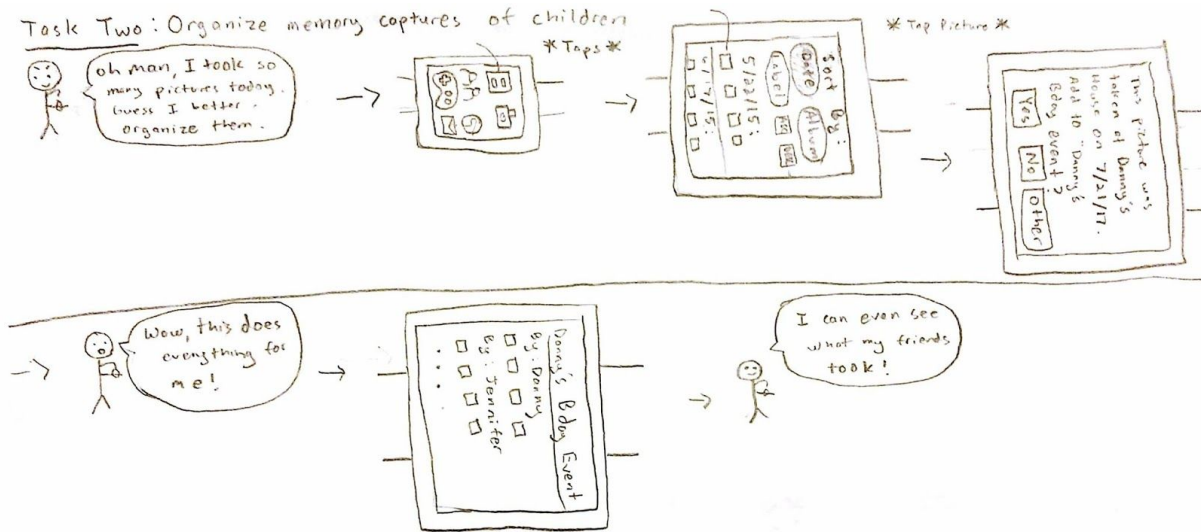
Figure 1b

Task 5: Allow children to participate in the application when capturing memories
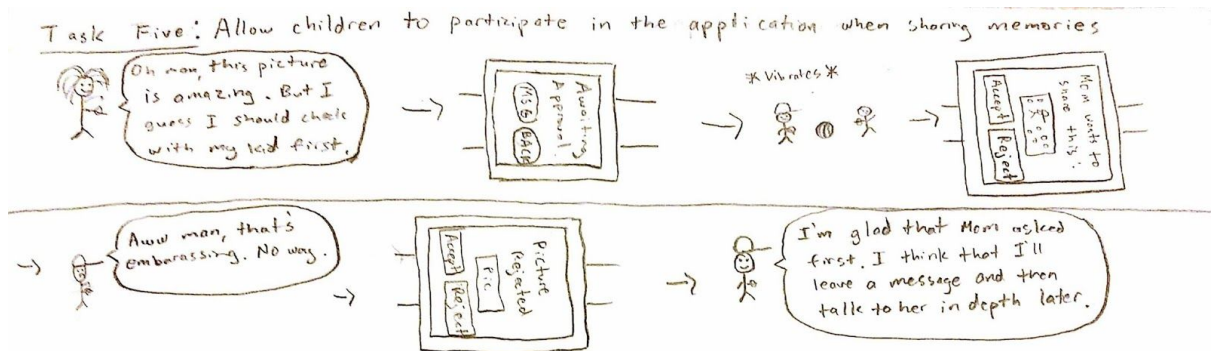
Figure 1c

Task 7: Sharing a personalized album of memories with children on their birthdays
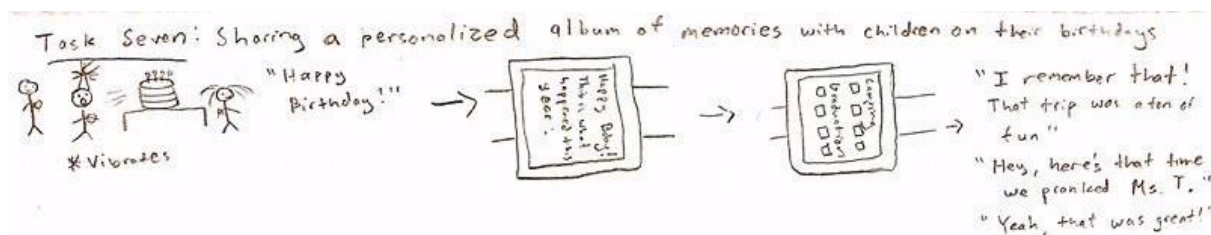
Figure 1d

Design Two: Smartphone Application

This design focuses on the process of events and capturing the memories concerning it. It also focuses on sharing the collection of memories with others in an organized and secure way, as well as giving children a way to control what is shared. There are three main screens *(Figure 2a)* where

the first screen is a camera used to personalize the photo with filters, stickers, text as well as share the photos *(Figure 2b and 2c)*. The second screen is a calendar that allows the parent to organize important events *(Figure 2d)*. The third screen is an organization of the photos and videos through albums and tags *(Figure 2e)*.
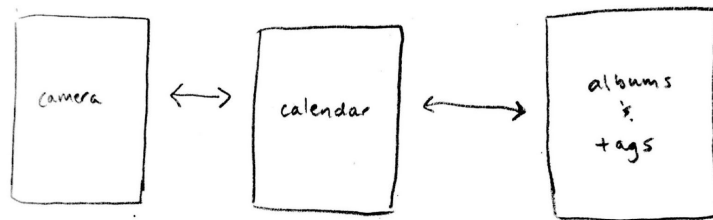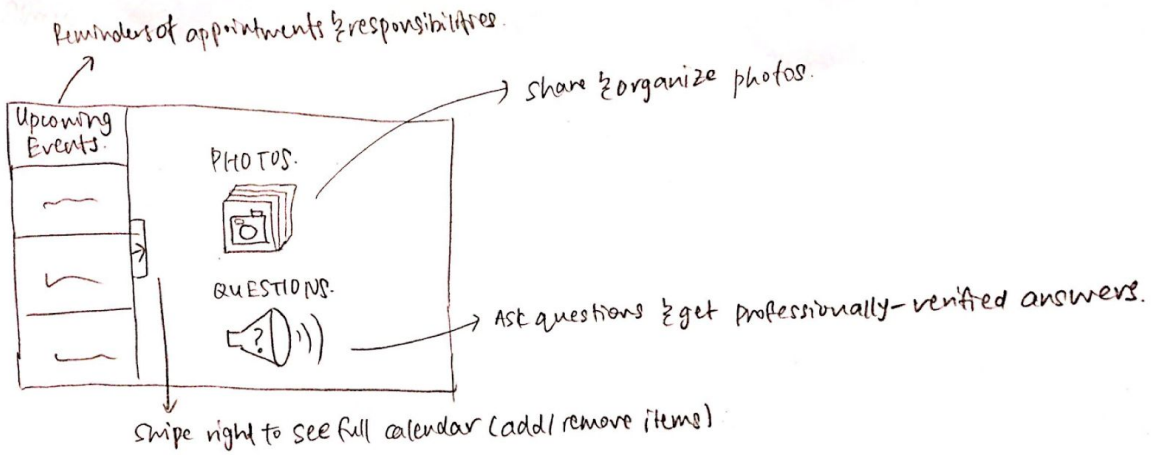

Figure 2a

Task 1: Share memories of children with loved ones in non-intrusive and secure way
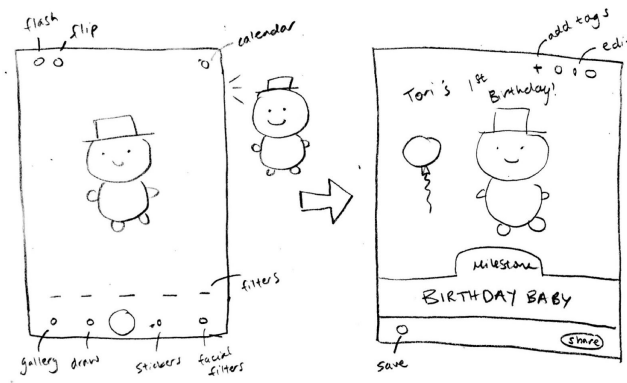
Figure 2b

Task 3: Personalize memory captures of children (emoji, filters, captions)
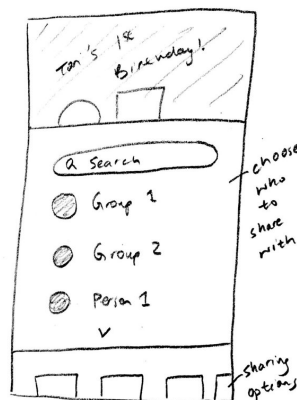
Figure 2c

Task 6: Make it easy to remember appointments and other responsibilities as a parent
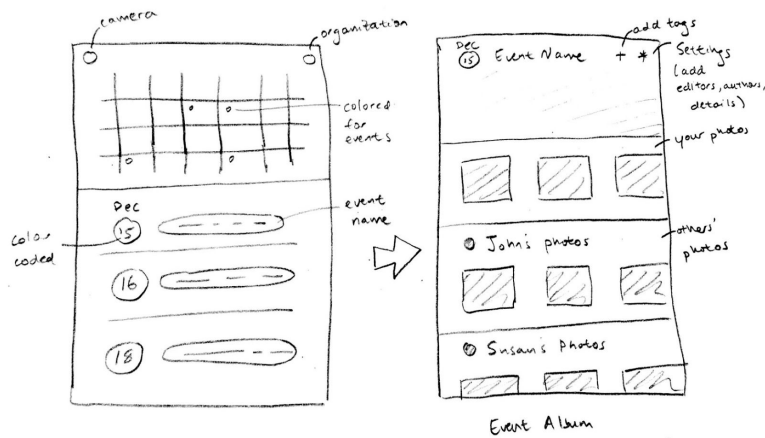
Figure 2d

Task 5: Allow children to participate in the application when capturing memories
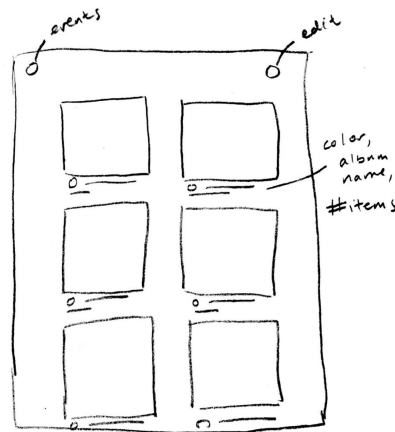
Figure 2e

Design Three: Smart Fabric

This design focuses on parental use, where parents are able to conveniently share and organize memories of their child, get medically approved answers to the questions they have about their child, as well as set reminders for appointments and responsibilities they have as parents. The rationale behind this idea is that fabric is lightweight, portable and compact, making it easy for parents to bring it wherever they go. It also provides a bigger surface for parents to interact with, and comes with a sticky tape at the top. This is how the home screen would look like *(Figure 3a)*:

Reminders of appointments & responsibilities.

Upcoming Events.

→ Share & organize photos.

PHOTOS.

QUESTIONS.

→ Ask questions & get professionally-verified answers.

Swipe right to see full calendar (add/remove items)

Figure 3a

Task 1: Share memories of children with loved ones in non-intrusive and secure way

SHARE

ORGANIZE

Figure 3b

MUM
DAD

• Mum ⊗
• Dad ⊗

Confirm
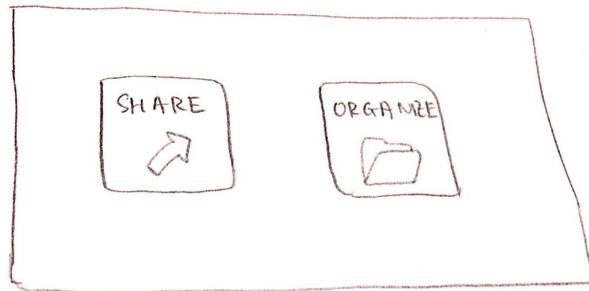
Figure 3c

Figure 3d

Task 2: Organize memory captures of children (add labels, put under categories)
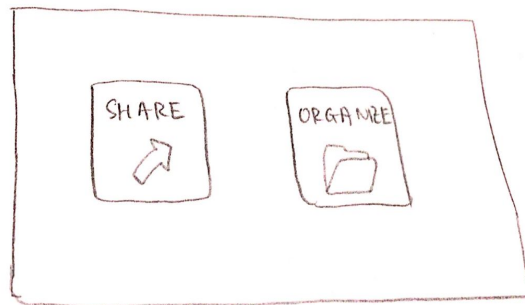
Figure 3e

Figure 3f
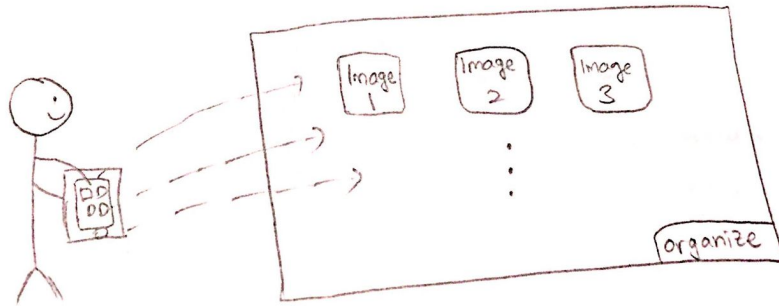
Figure 3g

Task 4: Give guidance by providing professionally-verified answers to common questions and crowd-sourcing parents' answers
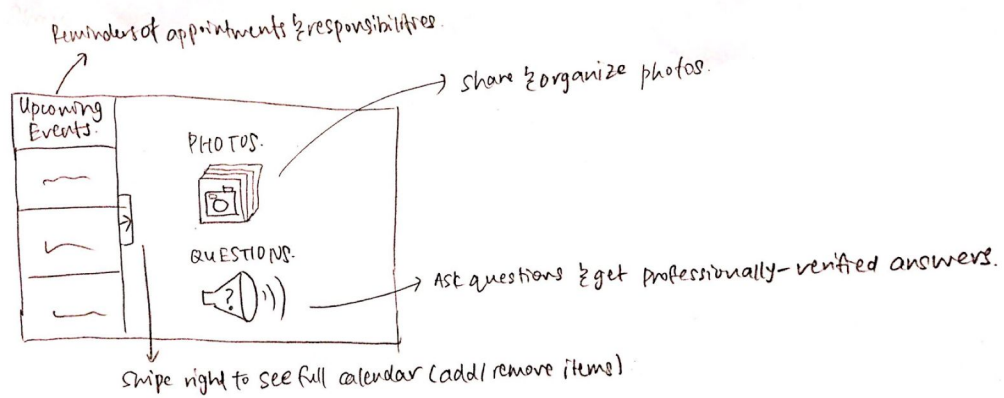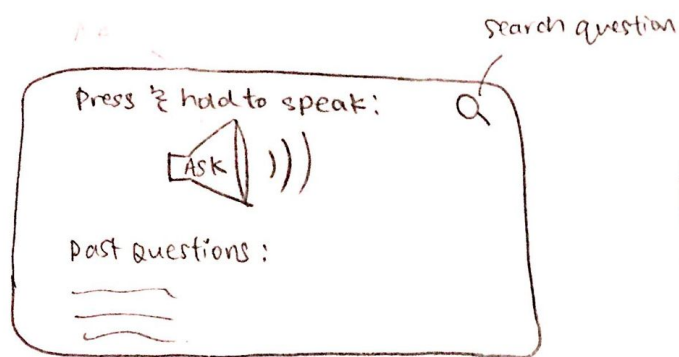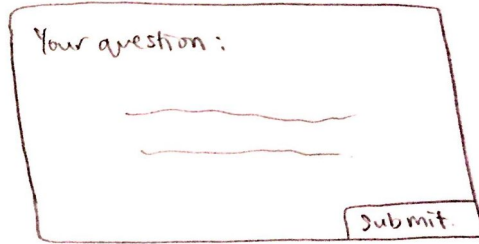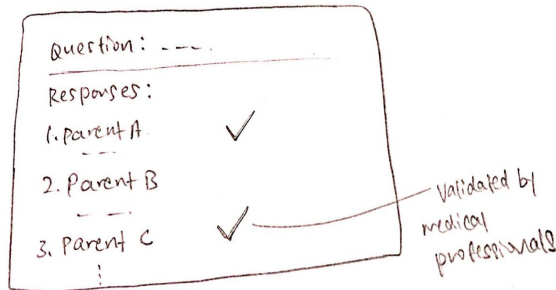

Figure 3h

Figure 3i

Figure 3j

Figure 3k

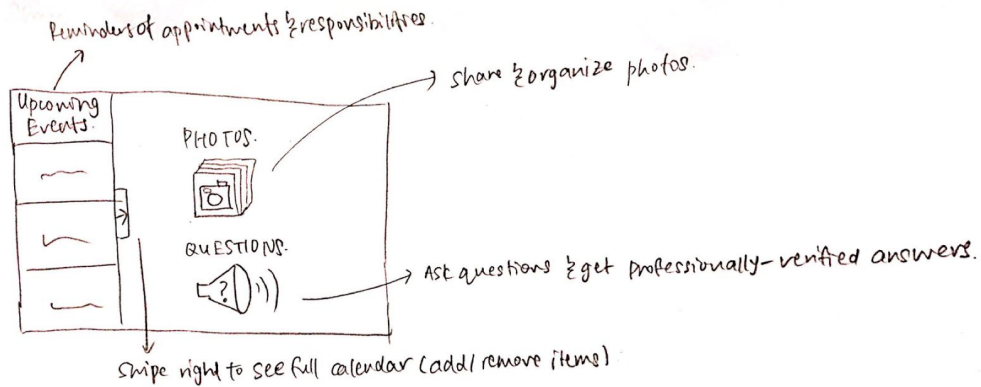**Task 6: Make it easy to remember appointments and other responsibilities as a parent**

Figure 3l

Our Choice of Design

After much consideration, we have decided to proceed with design one, the smartwatch. This is mainly because we believe that the device will better suit our primary audience: busy parents who may not always have a free hand to physically hold the device, and our secondary audience: children who know how to take photos but may not be old enough to own phones. We also know that the main goal of our app is to capture memories to store and share them. Hence, the tasks we have decided to focus on are allowing parents to share memories in a secure way and children to participate in the process.

Written Scenarios

Task 1: Allowing parents to share memories in a secure way *(Figure 4a)*

Dirk walks into the living room and sees his young son, Chuck, trying to do a handstand. Eager to capture one of the rare moments where Chuck is doing something silly, Dirk tries to think of the fastest way to snap a picture. Dirk's phone and camera are charging upstairs, but Dirk has his smart watch with him, and can immediately position his arm as if he was looking at the time. While holding his arm steady, Dirk uses one of the preset voice commands to activate the camera mode on his watch. Then, when the watch camera automatically focuses on Chuck, Dirk uses the preset voice command to take the picture. Oh, but Dirk has to get to work! While Dirk knows that he could simply tap the watch screen for input, he thinks it would be easier to just glance at the screen briefly and use voice commands while he gets ready for work. He activates the sharing mode via voice, and then thinks briefly about who would appreciate such a picture, and Jacob appears to be a good choice. Dirk also selects his recipients via voice. Jacob then receives the funny picture of Chuck trying to do a handstand through his own smartwatch.

Task 2: Allowing children to participate in sharing of memories online *(Figure 4b)*

Amy realizes that it has been two months since she last shared pictures and videos of her 8-year-old son, Jason, with her and her husband's parents who are very concerned about the growth of their grandson. So today, she decides to share some memories of Jason that she has captured over the past two months with them. She swipes through the videos and pictures on her smart watch and checks the boxes to those that she will be sharing with both sides of the family. After confirming that she has selected all memories that she wants to share, Jason receives a notification of his mum's sharing request. He then proceeds to view all the memories that his mum wants to share, and either approves or declines the request to post that particular memory of him. After he has checked through all the memories, he is informed on his completion. Amy then receives a notification telling her that she is now ready to share the pictures and videos of Jason with her parents and parents-in-law.

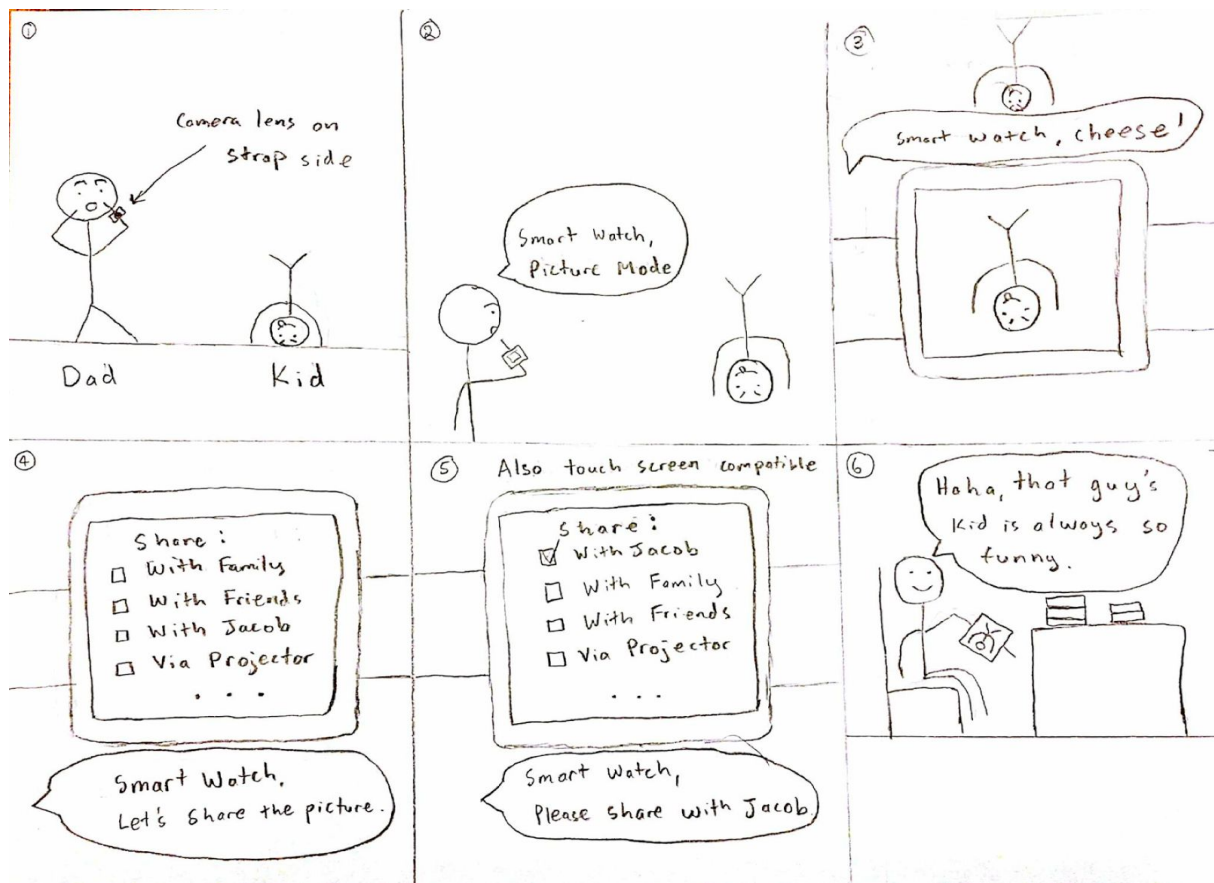## Storyboards of the Selected Design

Figure 4a
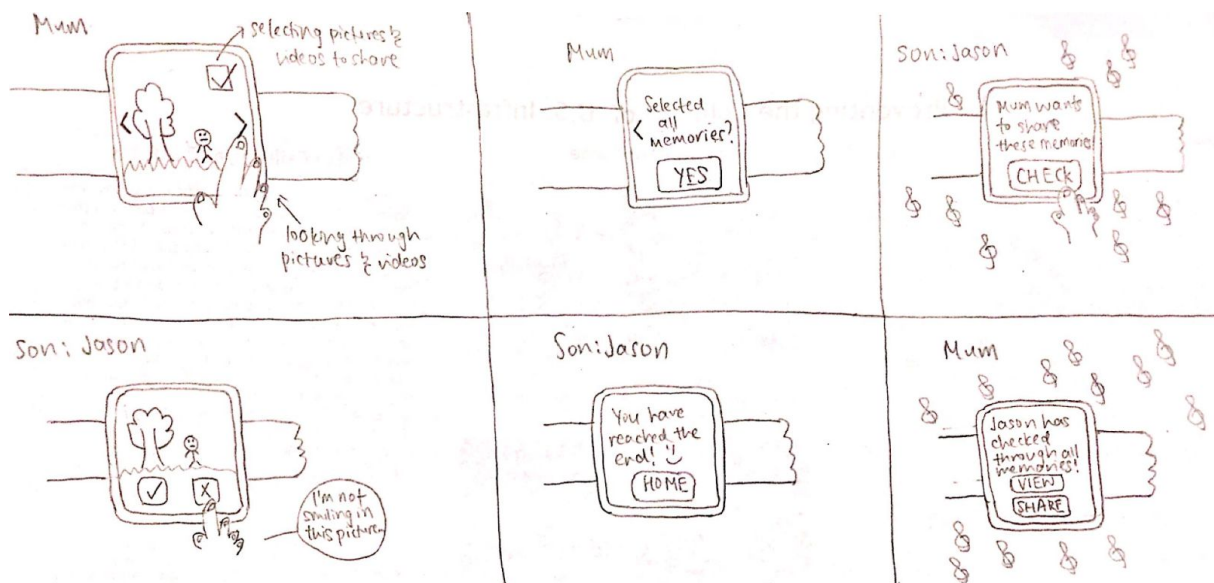Allowing parents to share memories with others in a secure way.

Figure 4b
Allowing children to participate in the sharing of memories online.