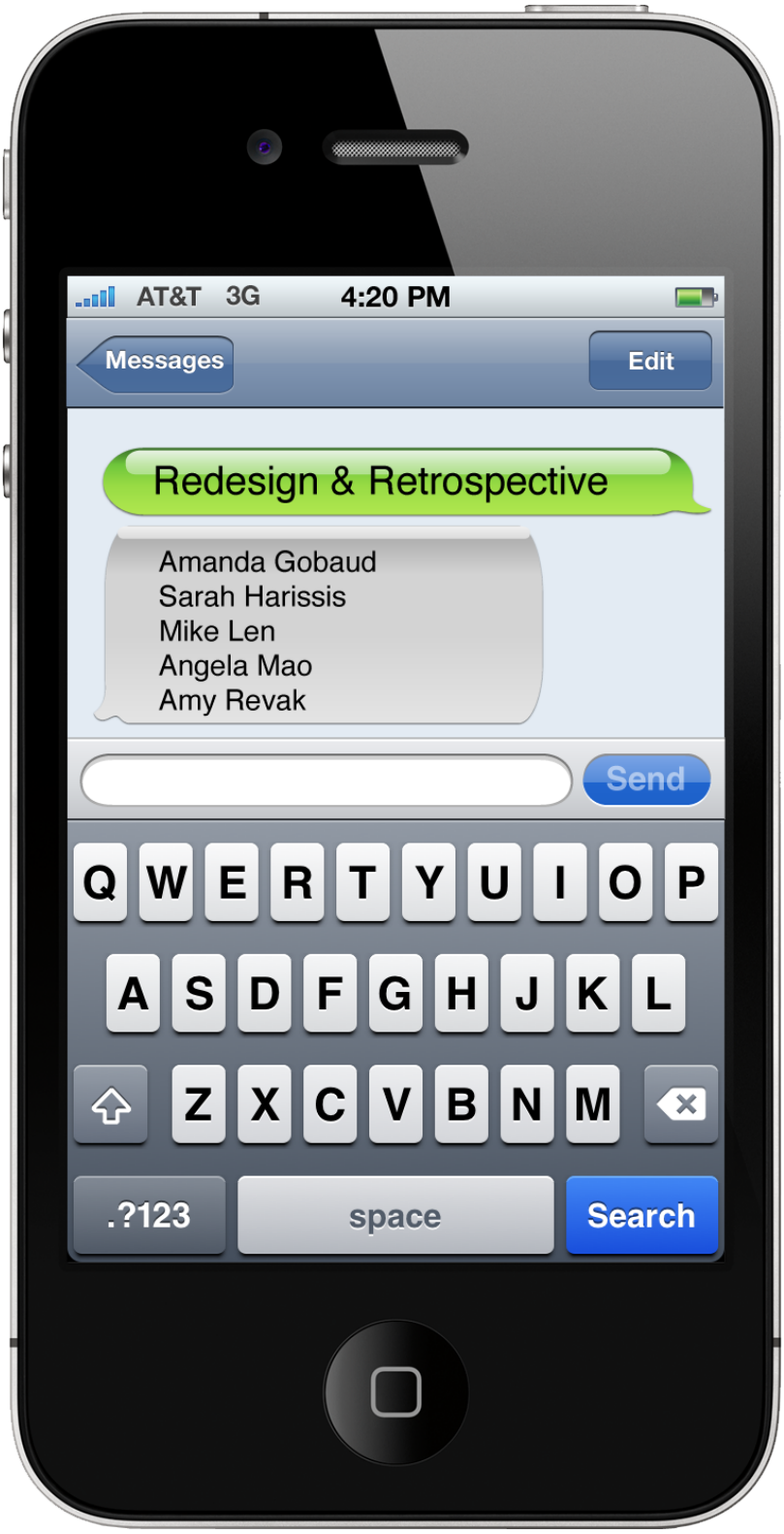


Word Counts:
Executive Summary: 444
Redesign: 2617
Retrospective: 2533

Change is inevitable. For parents, sometimes the hardest change is watching their children grow up, move out, and begin independent lives. And with this change comes a challenge; surviving the "empty nest"—a house once populated with children and now deserted of all but their leftover belongings.

Determining which belongings to keep as sentimental reminders of childhood and which items to throw or give away poses a challenge for both the children and their parents; both parties live independent lives, keep different schedules and timelines, and vary in their availability. Since children and their parents cannot always be in the same place at the same time, having a way to communicate about the child's belongings from afar is crucial to this decision process.

Throughout the semester, our team of five worked together to grow our design skills through analysis and interpretation. Comprised of three Information Systems majors, one Computer Science major, and one Communication Design major, we drew upon our individual skills to create a solution to the difficult and time-consuming decision process of what belongings within the childhood home to keep, and what to discard.

We used Contextual Inquiry (CI), Contextual Design (CD), Think Aloud (TA), and Heuristic Evaluation (HE) to drive our design decisions and provide insight toward a useful solution for the user's decision-making needs.

Through our analysis, we discovered three main issues that hindered progress:

- Location: Since the child and parent are not in the same physical location, they cannot sort through belongings together, and thus cannot both see what items need to be evaluated.
- Availability: The parent and child have different schedules, so communicating in real-time is often not possible. Because the two individuals are not always available at the same time, they cannot discuss decisions that need made.
- Organization: Having a clear-cut plan of action is one thing that is important; the parent is looking to sort through the child's belongings, and being able to do so in an orderly manner makes the process easier. Organization aids the decision process by providing a system of action for items as they are categorized.

With the design of an iPhone application, named *ClutterCapture*, we provide a solution to the main problems in the item decision-making process. The interfaces work together to provide a comprehensive system. By utilizing commonly available technology, we are able to provide a solution that will allow the parent and child to collaborate on decision-making from different physical locations, be accessible to each party on their own time schedule and availability, and provide a step-by-step plan for what actions to take with individual belongings.

Making decisions from afar about what childhood belongings to keep and what to throw away is a daunting task. For the child, it can be overwhelming to decide the fate of each and every item in their childhood home. For the parent, it means a lot of cleaning, tidying, de-cluttering, and organizing. To aid this decision process, our group has designed ClutterCapture, an iPhone application that allows parents and children to visually communicate about childhood belongings. Through analyzing a Contextual Interview of a family going through the transition from the child living at home to living independently, as well as data models, a Think Aloud study, and Cogtool analysis, we discovered that location, availability, and organization were three main challenges to the decision-making progress. Our application addresses these three challenges.

The Application: An Overview

Our application consists of two interfaces: one for the parent, and one for the children. The parent signs up for the application and by entering the email addresses of her children, signs them up (both parties need to download the application first). Through this action, the children are linked to the parent, so that the parent's application can communicate to the child's. For the purpose of our design, we assume that the parent has an account and has created accounts for her 3 children. Upon opening the application, the user (parent or child) logs in with his/her unique username and password (Figure 1). The username/password is validated, and the user is taken to the homepage; there are different home pages for the parents and children, since each of them has different capabilities within the application. The parent interface allows the user to take a photo of an object, add an optional description to the object, and send the picture to the corresponding child. The parent receives updates as the children make decisions about objects. The parent is able to view all of the photos or view groups of photos broken down by child. A red notification bubble appears next to the name of the child when a child makes a decision about an item (Figure 2a).

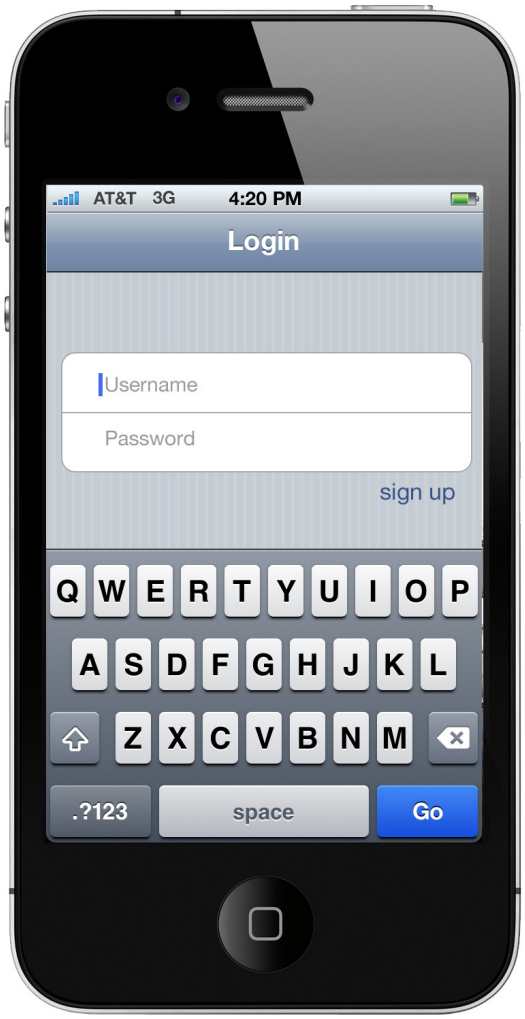


Figure 1

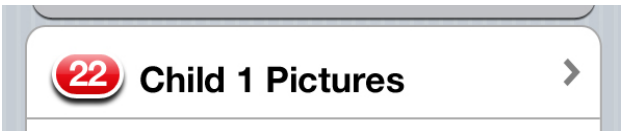


Figure 2a

The Problem: Location

Throughout the Contextual Inquiry (CI), the different physical locations of the parent and child limit progress. Early on, the difficulties became evident; by 5 minutes into the CI, challenges arose. It was early in the day (9:30 am EST) when the parent began the analysis of her children's belongings. One of her two children consented to phone communication during the decision-making, but was not positive that she would be available to talk. The other child lives in California, and since it was 6:30 am there, the parent was unable to call. The physical location differences also present a challenge in that the children are unable to visit home often; the parent communicated that the next time the child in California would likely be home was at Christmas; this CI was conducted in August.

Different physical locations also pose a challenge for the decision making process because making decisions about objects without seeing them is difficult. During the CI, the parent describes items to her daughter on the phone, but very few decisions are made. While on the phone, the daughter asks for some items to be brought to her when her parents come to visit so that she can sort through and decide what items to keep and what items to throw away. It is clear that the lack of visual communication prevents action from occurring.

The Solution: ClutterCapture

ClutterCapture provides a solution to location issues. The primary purpose of our application is to facilitate visual communication between parent and child. In the application, parents take pictures of their children's belongings and children respond to the pictures with decisions of what action to take regarding the item. The use of images as the primary form of communication allows the child to make a decision based on a picture, rather than a verbal description of the item via a phone call. Subsequently, the parent is able to take action regarding the child's belongings without the child being physically present.

In the CI, the parent hopes that her child will be free so that the two of them can get on iChat and use video chatting so that her daughter can "actually look at some things and make some decisions"(CI, lines 68-69). iChat, a text/video messaging program would have allowed for the type of visual communication that our application makes possible. However, video chatting was not possible because the child was traveling while the parent was working on de-cluttering. We feel that this desire to share visual information provides a key clue as to how ClutterCapture will benefit the parent and child. It is clear that the parent wants to show the child an object, rather than simply describe it, but the location differences make it impossible to do so.

Our application interface provides a simple, all-in-one way for a parent to take a picture of an item and share it with her child. This solves the show versus describe problem that the parent and child face.

Once a parent logs into the application (Figure 1), he/she is given three options: "Take New Picture", "See all Pictures", or view an individual child's pictures (Figure 2). To take a picture, the parent taps the "Take New Picture" button, and the application automatically redirects to the iPhone's built in camera (Figure 3). The parent takes a photo (Figure 4), and is automatically redirected back to the application. The parent then chooses which child the item in the image belongs to, and can add an optional description (Figure 5). By pressing the "Save" button, the image/description is sent to the corresponding child's picture folder as well as to the child's application. The parent also has the option to cancel the picture upload before submitting. The parent is then redirected to the home screen (Figure 2).

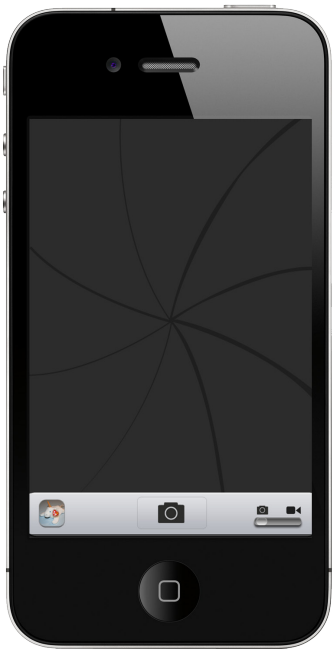


Figure 3

Figure 4

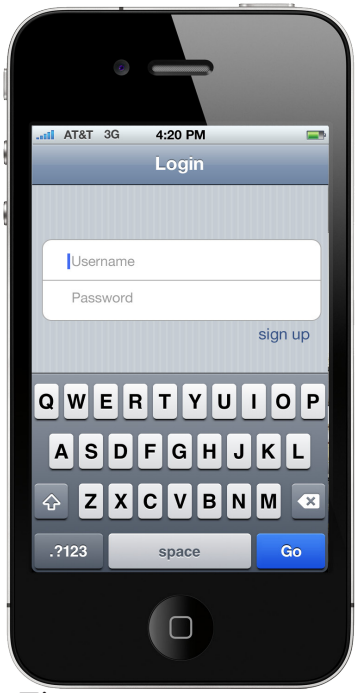


Figure 1

Figure 2

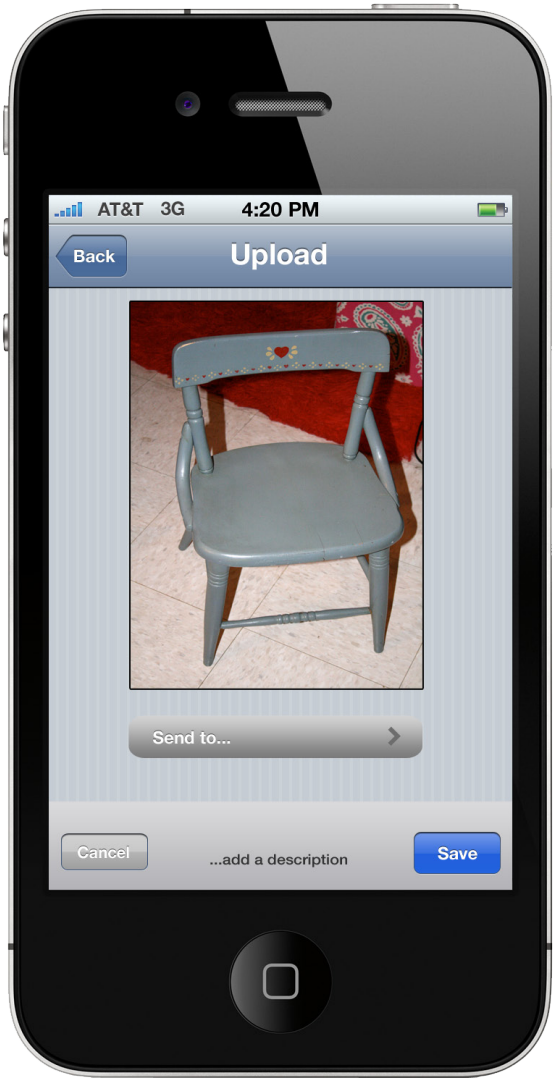


Figure 5

The Problem: Availability

One issue that arose during the CI was the availability of the children. When the parent was looking to work on making decisions about childhood belongings, her children were not available. Because of this, the parent was unable to make decisions – she needed the input of her children to decide what to keep and what to throw away. This lack of availability ultimately ended in very little progress being made in terms of making decisions about items. While the parent was able to talk to one of her children, the conversations were brief, and the child was wary of her mother throwing anything away that she might want. The child was also traveling, so it was not convenient for her to talk on the phone for long, and the two could not iChat, as her mom had hoped (CI, transcript lines 68-69). Additionally, the parent's other daughter, who lives in California, is on a completely different schedule, and so could not be contacted at all during the CI. The parent used the Notes application on her iPhone to write down things that she wanted to discuss later with her child. The "notes" application allowed the parent to create a "to-do" list of sorts, of objects to ask her child about.

The Solution: ClutterCapture

ClutterCapture is designed to allow children to be asynchronous with their parents. Therefore both parents and children can be as effective as possible whenever they are doing their part. The application works in real-time; as soon as a parent sends a picture to a child, the child's application icon displays a red notification bubble with the number of pictures pending decisions. When the child makes a decision about a photo, it is automatically sent back to the parent; the parent's application icon then displays a red notification bubble. When the parent opens her application, she is able to see the number of decisions that have been made, sorted by child. The red notification bubbles act as reminders for both the parents and children; red notification bubbles mean there is work to be done! Since the child and parent are able to work independently of one another, availability is no longer an issue.

Once a child makes decisions about items, the pictures are sent back to the parent. The parent can then view the notifications, which are presented in a thumbnail list. Within the folder for each child, notifications are broken down by color; green for "Keep this item", yellow for "Hold on, I'm not ready to make a decision", and red for "Trash (or donate!) this object".

We recognize that making decisions about what to do with childhood belongings is not always black and white; sometimes a child is unsure whether they want to keep the item or throw it away. Sometimes he/she needs more information before they can make a decision. ClutterCapture allows the child to choose the "Hold" button when such an instance arises (Figure 7). The hold button is a solution to availability issues, too; it conveys information from child to parent through the application. When a child chooses the "Hold" button, they are prompted to enter details as to why they have tapped the "Hold" button (Figure 9). This information is transmitted with the decision back to the parent's application. In this way, even if the parent and child are not available at the same time, they are able to communicate about decisions.

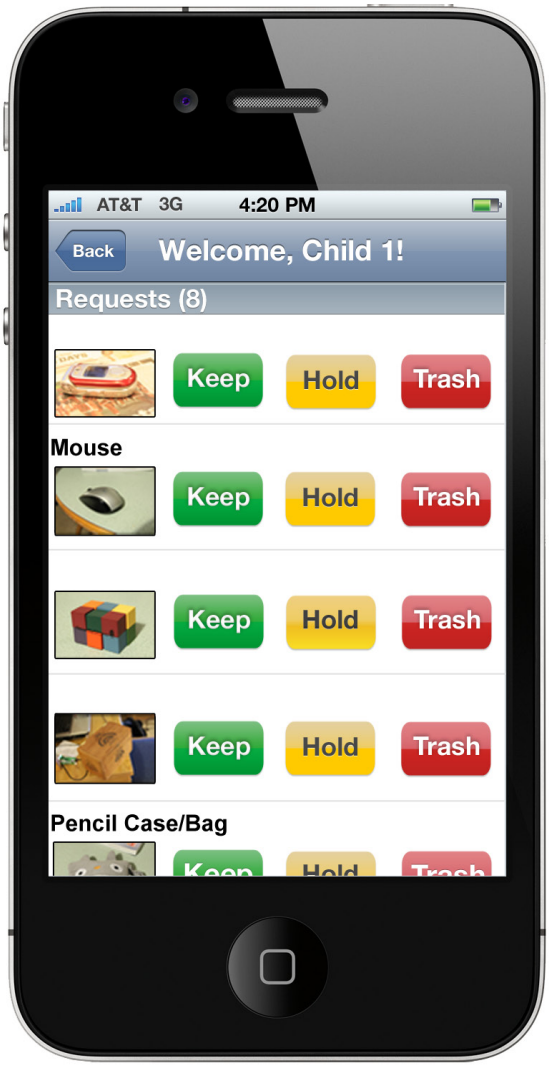


Figure 7

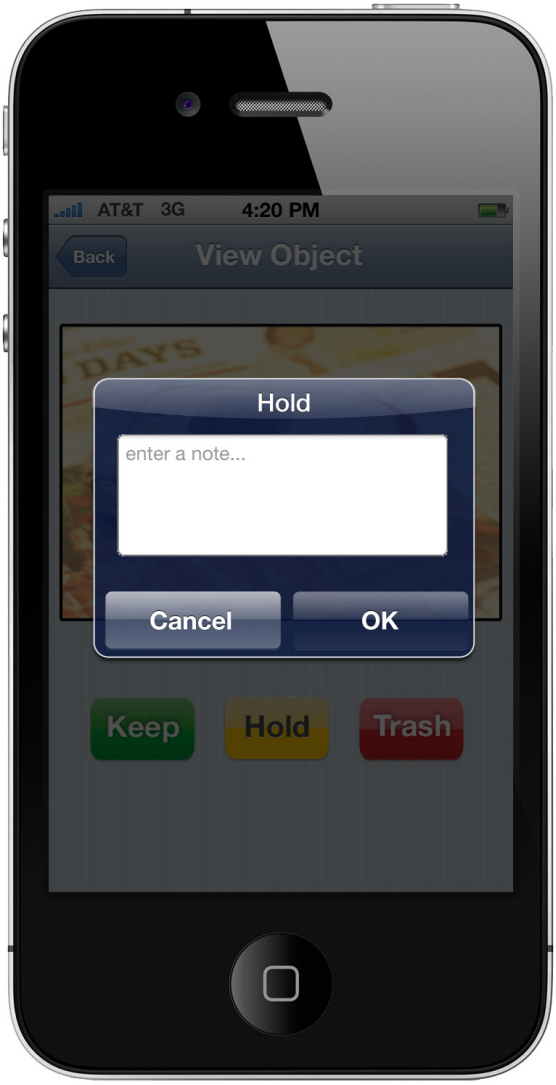


Figure 9

The Problem: Organization

An important part of any decluttering process is maintaining organization. In the CI, we saw that the parent tried to maintain a form of personal organization through the Note Application on her iPhone (CI, lines 89-93). As seen in the Artifact Model, it was clear that the parent was attempting to describe physical items with words, when it would have saved time to simply have pictures of the items being described. The parent wanted to make notes on what she was seeing, so she could go back to her daughter with questions and decisions to move forward with certain items.

A meticulous parent, the mother in our CI was very careful about getting her daughter's input about every item (CI, line 135). This type of care and organization towards every item, while admirable, slows down the entire decluttering process. The parent will simply have to make note of each item, for the daughter to decide upon at a later date. This slows progress down considerably – the parent even comments "I feel like I'm taking stock of what has to get done" (CI, line 206). She feels the need to organize before she can even make a dent on the decluttering that needs to get done. During the CI, the parent mentions the idea of having a box to place items in that need decisions made in person (CI, line 260). This idea of allowing the child to make a decision with the physical item is obviously important to this family.

The Solution: ClutterCapture

ClutterCapture provides a solution to organization issues. One of the main goals of the application is to provide a quick and painless method of organizing the de-cluttering process for both the parent and the child. By allowing the parent to sort the pictures of the items they take by child (Figure 2) or by whether or not the child wants to "Keep" the item, "Hold" off on making a decision about the time, or "Trash" the item based on a colored box around the image (Figure 6), the parent has two solid ways of organizing the items that need decisions from their children. This simplicity is part of the beauty of ClutterCapture – with this basic form of organization, both parties have an easier time of making a decision and then sticking to the decision made.

No longer does the parent have to struggle with finding the most appropriate way to describe certain items with words – the parent can now take a picture of the item and let the child decide what action should be taken for that specific item. The parent does not have to make note of what needs to be put aside for the child for, because the child can make a decision on every item there is a picture for as soon as they see the item (Figure 7). This helps both the parent and the child, because there is less of a delay between the need for a decision, and the actual decision itself. The parent can continue on with the de-cluttering as they please, so that days are not wasted "taking stock of what needs to be done" (CI, line 206).

Figure 2

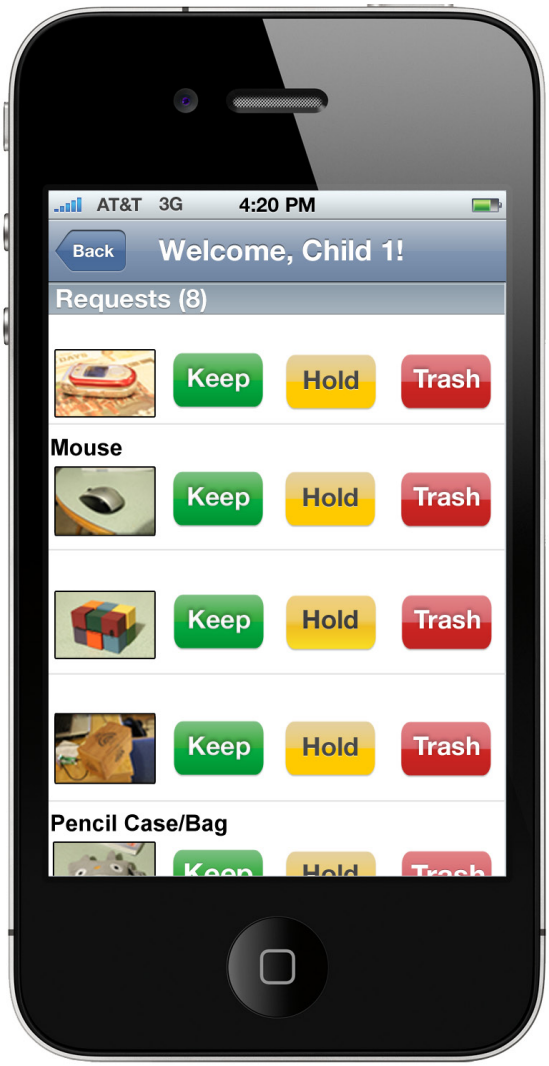


Figure 7

Heuristics, Usability Aspect Reports & ClutterCapture

In designing ClutterCapture, we worked to incorporate heuristics of good design. Poka-yoke is a Japanese term meaning "mistake-proofing", an error-prevention heuristic. In developing ClutterCapture, we worked to make sure that our application followed poka-yoke principles. For one, we require confirmation before a child is able to decide to "Trash" an item. This extra step helps prevent the user from accidentally deciding to throw away a childhood belonging that he/she actually wanted to keep (Figure 9). Another heuristic we were mindful of was consistency/standards (Heuristic Evaluation lecture, slide 12). iPhone conventions are well-established; each button, word, arrow, and key is standard across all applications within the iPhone interface. We worked to make sure that our application fit within iPhone standards. Minimalistic design was important when designing ClutterCapture. Not only is minimalistic design an important heuristic, but also an important aspect gained from earlier Usability Aspect Repots.

Earlier this semester, our group analyzed a Think Aloud study in which a user completed tasks within the flickr.com website. We created Usability Aspect Reports (UARs) summarizing good and bad components of the Flickr interface, as made clear from the Think Aloud data. From the insights gained

from our UARs, we modified our iPhone application, working to make it as user-friendly as possible.

One challenge the user experienced when interacting with the Flickr interface was how to complete the task of adding "tags" to photos. The terminology of the word "tag", as well as the steps needed to go about adding tags created confusion for the user (See UARs, "User is unable to complete photo tagging task within 3 minutes", Appendix). We combated this problem by eliminating the idea of tagging; the parent can add an optional description to the picture before sending it to the child if he/she wishes, but we feel that, in most cases, the image speaks for itself. We also chose to use the word "description" rather than "tag" so as to use familiar terminology. The UARs generated from the Think Aloud data of Flickr were helpful in determining what aspects of the Flickr site were applicable to the iPhone application.

In the Flickr interface, the user is able to sort photos into folders (known as "sets") after uploading photos. The user struggled with the keystrokes/mouse clicks necessary to complete the sorting task. We decided that there was an easier way for us to sort photos, given the purpose of ClutterCapture. Rather than choosing where to move photos after uploading them, we decided to have the interface prompt the user to decide to which folder the photo belongs before the photo was uploaded. The amount of "folders" in ClutterCapture is limited to the amount of children associated with a parent's account, so pre-sorting the photos as they are taken/added was an easy step. Also, while Flickr intends for a user to do a "batch upload" of multiple images, ClutterCapture is intended to be used to take photos one-by-one while the parent sorts through the child's things. Through analyzing well-developed heuristics and creating and utilizing UARs from Think-Aloud data, we were able to streamline ClutterCapture.

Figure 9

One of the most interesting things in learning about the different types of data-gathering techniques for Human-Computer Interaction is that they are somewhat difficult to fully understand until you finally analyze all of your data. After taking part in each technique, we gained an understanding of how important each technique is, how different the data gathered is from the other techniques, and how each set of data is important in developing a solid design backed with empirical evidence. While not all of the techniques proved to be useful for our particular design, each technique has a specific use for a specific time frame with regards to our design process.

Affinity Diagram

Affinity Diagramming was useful in the focus setting process of our design. By brainstorming as many questions related to the topic as possible, it helped us develop our foci rather than developing foci with no support behind it. The affinity diagram technique clusters questions together to emphasize where the foci should be and it allowed us to focus all of our attention in one direction.

Our affinity diagramming produced two foci. The first focus was "How parents change relationships with themselves, children, and others". The second focus was "Understanding distribution of material possessions as a child becomes an independent adult". However, these foci were not really used in our design process because we did not conduct our own contextual inquiry. However, our second foci ended up relating to our design very well – ClutterCapture is intended to make the process of distributing material possessions easier and more organized, just as the second foci suggests. Ideally, our own foci would have been helpful to set the purpose for our own contextual inquiry.

Contextual Inquiry

Contextual Inquiry (CI) was vital in the conception of our design, and should be important almost any design that has a specific goal in mind. It is useful because it helps us as designers learn more specific information about an existing workflow rather than other exploratory methods (such as verbal interviews). In order to create an effective design that satisfies a particular user or group, the designer has to first fully understand the user. As the HCI mantra goes, "The user is not like me". Designers will not succeed if they believe that they can determine the needs of the user without talking to the user. Also, if we simply rely on only what the user says, there is a high chance of the user missing something as they describe their wants and needs. Performing a Contextual Inquiry provides the designer with a strong set of data regarding what the user actually does, and can help provide the designer with a clear understanding of what the user really needs.

For our project, the Contextual Inquiry helped to create the framework for our design and gave us the broader information that we needed. It helped us understand the type of tools the users had at their disposal, what kind of problems the users faced, and what kind of restraints were put on them. Much of

this information may not have shown up in a normal interview. For example, the parent may explain how she interacts with her children, and how sometimes the time difference between her and her child would hinder progress. However, by explaining her process without actually performing it, some subtle aspects of her process may be neglected, such how the parent uses her iPhone to keep track of objects to ask about at a later time. The way the Contextual Inquiry is held is also important to keep in mind. When the interviewer goes off on a tangent or asks leading questions, the answer the interviewer is leading towards will come out, but that is not necessarily the answer that will benefit the design in the end. The subjectivity of the interviewer is not the purpose of the CI; we need to rely solely on the user and the user's behavior.

Contextual Design

One major aspect of Contextual Design is modeling the raw data we get from a Contextual Inquiry. This step allows the design team to organize their information into more directed groups of data. The models we learned to develop included Flow, Cultural, Physical, Artifact, and Sequence models. The separate ideas behind these models is useful for very large sets of data, and allows important design ideas to stand out more.

These data models had similar impacts on our design as the direct CI analysis. While our group attributes many of our design ideas to the CI, many of these ideas were created after looking through the information once we had modeled the data. Watching the CI from start to finish over and over gave us valuable information, but focusing on gathering information for a specific model highlights breakdowns in that model. For example, our Sequence Model shows breakdowns regarding what gets thrown out. At Part 2 in the CI videos, 2:50, the parents had a breakdown in communication because they could not continue cleaning their daughter's room until they were able to communicate with her. At Part 3 in the CI videos, 2:57, the parents wanted to throw out the Beanie Babies, but couldn't until they asked their children. At Part 3 in the CI videos, 13:18, the parents find a drawing, but don't know if they can throw it out until they ask their children. Simply watching the video, we gathered that there needs to be some form of communication between the parent and child, but by creating the sequence model, we realized how many times the parents are inhibited by the availability of their kids. This ability to focus information is one example of the usefulness of data modeling.

Think Aloud

The Think Aloud study was important for our design to a certain extent, but in a very different way and at a much different point in our design process. They helped us evaluate what the what the user was thinking and how the system lent itself to the user's understanding as they interacted with the system, not how the user interacted with the system. In this way, we found out what is important to the user, and what aspects of the photo uploading process to improve upon. The Think Aloud study helped us understand what the user actually does and what problems the user faced while uploading and organizing photos on the Flickr interface. The results from these Think Aloud studies are not simply based upon speculation, but actually from the thoughts of the users. Therefore, it is easy for us as designers to validate our designs with Usability Aspect Reports, which are based on the Think Aloud studies.

Although the Think Aloud assignment was based on a Web interface (Flickr) and our final design is an iPhone application, it was helpful to analyze the Think Aloud study through Usability Aspect Reports (UARs). With the UARs, we were able to figure out the problems with the interface, as well as identify the good aspects. These reports allowed us to design accordingly to suit the needs of the user. As we dig deeper into the video and the user's actions, we learn more about the typical user and what he/she would like to see in the interface. There were certain points where there were obvious problems that the user faced, but many of the problems were nested and could be broken down deeper into more general problems with using Flickr as a tool to help parents declutter their children's things.

The Think Aloud study told us the exact problems that the user faced, but it did not actually tell us the reasoning behind the problem and what the solution should be. It is then the designer's duty to interpret

these problems and arrive at possible explanations and solutions for them. Our group pooled all of our UARs for the Think Aloud study, and found that we could interpret the user's intent and behavior according to how we believe they acted. We also found and interpreted different problems and good aspects of the interface. From what we learned from the Think Alouds and the UARs, we saw that the user struggled with having too many options, such as the labeling of the tags, and the difference between a description versus a comment. Therefore, with our design, we decided to keep the interface simple and clean without too many options for organization and categorization. With fewer buttons and options, the user will not have trouble taking photos, sharing them with their children, and asking their children for a decision on the items. It keeps the interface simple to follow and understand for the user. Understandability and usability were a main focus in our design.

Cogtool

Cogtool was an interesting introduction into Human Performance Modeling (HPM). HPM as a technique helps designers precisely measure how long it takes for a user to perform a task. This type of information is useful for determining problematic parts of a workflow in a design that has already been developed in some way. HPM is also useful to compare two different designs or two versions of the same design. Cogtool is a great way to introduce students to HPM without the rigorous training that they would need to perform it by hand. The designs given for our homework accurately portrayed the use cases of HPM. We used HPM to determine a weak point in Picasa by itself, as well as compared two designs to decide which was faster.

With regards to our specific design, the Human Performance Modeling and Cogtool designs we performed were not as useful as other techniques. This is mainly because our group decided to design an iPhone application, while our Cogtool analysis was directed towards web interfaces. Groups that designed web interfaces could easily compare their designs to the Cogtool designs they already created (or perhaps create a more focused task, and re-script Flickr and Picasa for that task). However, our group was able to extract key lessons about how the application needs to be designed in general. For example, one of the takeaways we found from our use of Cogtool was that tagging pictures took a large portion of time for a feature that has little use for an application with our particular goals. Therefore our application, which focuses around pictures of objects does not need to have a description for pictures, because the descriptions (or tags) are basically reiterating what can be seen by the children in the picture. ClutterCapture, Picasa and Flickr can potentially all accomplish similar organizational goals for parents and children. Yet because ClutterCapture has a different task order and input (touchscreen instead of a mouse), we believed it would not be accurate to compare its Cogtool model to Flickr or Picasa.

Cogtool's ability to apply the Keystroke Level Model has potential to provide useful data for our design. If we were to use Cogtool on our design, we would gather some information about what aspects of our design take too much time, but without a competing application to compare our application to, we will not be able to take anything else away from our Cogtool usage.

Heuristic Evaluation

A heuristic is a rule of thumb that when used, increases the chance of achieving a certain goal. In relation to Human-Computer Interaction, heuristic evaluation refers to the sets of rules that are used to generate good usability in a system. There are many different heuristics to be followed when designing and implementing an interface, and all of them emphasize focus on the user and their expectations. We follow these heuristics in our design process because they are tried and true methods to create a system that is useful, usable, and enjoyable. Heuristic evaluations are useful for both major and minor problems in the user interface. These heuristic evaluations explain why something was designed in a less optimal manner. In each step of our design process, we tried to follow the heuristics we have learned about in the course. Examples of this can be seen in our design process for ClutterCapture.

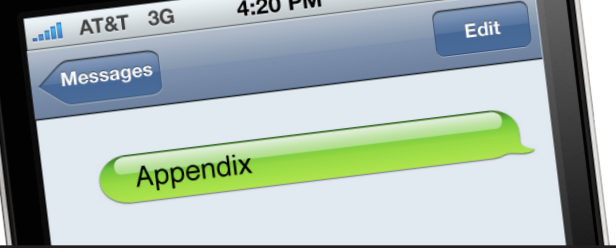
The first example reflects how we upheld the heuristic of user control and freedom. In our first iterations of our application, we realized that if the

user tapped something by mistake, they could not go back. This was something we overlooked in the original design. If had we not caught this problem, it could have been detrimental to usability because it could cause the user to make irreversible mistakes, which in turn could cause frustration and/or misunderstandings between parents and their children. Therefore, we felt it was essential to add back buttons to all steps in our system to allow the user to navigate freely within ClutterCapture. Since back buttons are conventional and present in most systems we use, they could also be categorized under the consistency and standards heuristic.

Another example of following heuristics can be seen with the use of confirmation dialog boxes when the user chooses to "Trash" an object (see Figure 8). This is categorized as error prevention because it double-checks if the user really wants to throw the object away. If for some reason the user accidentally clicks that button instead of another option, the have the option to go back if this action was not intentional. This feature is key because otherwise, items could be accidentally marked as trash. Therefore, important items could potentially be thrown away, causing the child to be upset. This use of error prevention not only supports good usability, but also greatly reduces the chance of the parent throwing away a valued object.

Conclusion

Many techniques were used to contribute to the design of our iPhone application, ClutterCapture, but the main method that provided the most input and guidance would have to be Contextual Inquiry. Most of the other techniques we performed as part of this class were focused around web based interfaces, but the CI we analyzed for our homework revealed the problems we had to solve and provided the foundation of our design, with the support of the data models we created. Heuristic Evaluation was also very useful because although we did not use it as part of our homework, it ensured that our application met standards that have backing in research. Cogtool would have been useful, but we would need another similar application to compare it with that performs the same task in order for us to get influential data. If we performed a Think Aloud study on our application, it would help determine if our application is easy to use, but the study we analyzed for class was not directly useful for our design. Affinity diagramming and focus setting would have been important if we performed our own CI, but due to the limitations of the class, it was not possible. Because of these problems, our group agrees that if all of the students in HCI Methods were part the HCI Methods Lab, the class as a whole would understand more about how the methods are used in the real world. Having this experience, in our opinion, would reinforce the techniques learned. Conducting our own studies would create more focused data for our design process.



Ln 90

Artifact Model: The iPhone Notepad App

Used because Laura was not reachable by phone

Returns to table of contents

Create a new note

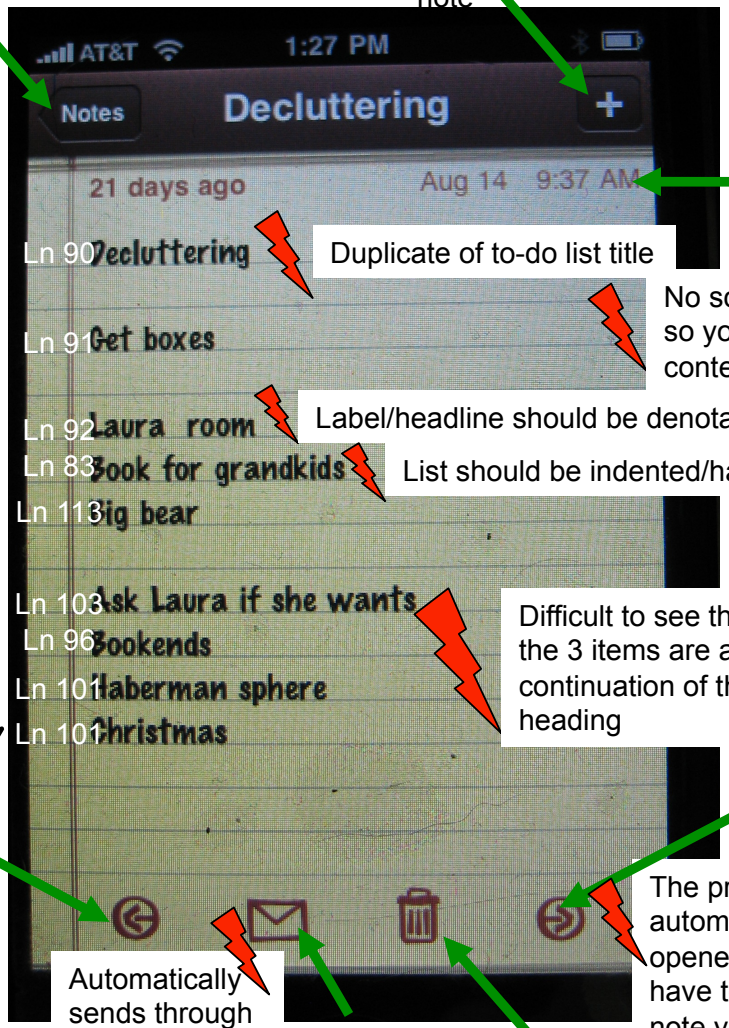
This allows for quick note for easy access while working on the cleaning.

These notes act as memory triggers for what actually needs to happen.

Items are added to the list based on thought process flow

If the autocorrect wasn't edited, certain errors would have remained (e.g. misspelling of Laura' name

*Nature of the app makes it so that users don't type out exactly what they are thinking. So, something might not make so much sense.



Time stamp of when note was created

Duplicate of to-do list title

No scroll bar visible in idle state, so you can't be sure if there is content below.

Label/headline should be denotated

List should be indented/have bullets

Difficult to see that the 3 items are a continuation of the heading

Next note

Previous note

The program opens automatically to the last opened note, so you have to "next" to the note you want.

Automatically sends through 1 account w/ out asking which account

Email (share)

Delete

Intent:

To start cleaning the rooms

Trigger: Jenn says to get started
(Part 1 4:33, Line 62)

↓

Get Garbage Bags
(Part 2 0:00, Line 77)

↓

Describes Fly Lady's Boxes, but doesn't actually get boxes
(Part 2, 0:02, Line 78)

To clean Laura's Room

Trigger: Walks into Laura's room
(Part 2 0:44, Line 82)

↓

Describes things in the room
(Part 2 0:44, Line 82)

↙ ↘ ↘ ↘

Branch: Sees books & baby books
(Part 2, 0:44, Line 82)

↓

Decides to keep the books for grandchildren
(Part 2, 0:54, Line 83)

↓

Decides to put everything in the attic, not leaving them in the room
(Part 2, 1:05, Line 85)

↓

No boxes for the books -- breakdown in coordination -- can't put anything away because there are no boxes

Branch: Sees bookends
(Part 2 2:32, Line 96)

Decides to keep bookends -- Laura might want them - breakdown in communication because can't decide until they ask Laura
(Part 2:50, Line 98)

↓

Writes down things Laura might want and asks her later
(Part 2 3:19, Line 103)

Branch: Sees Hoberman ball
(Part 2 2:51, Line 100)

Desides to keep Hoberman ball
(Part 2 3:10, Line 101)

Branch: Sees Stuffed Animals
(Part 2 4:09, Line 112)

Might want a couple -- doesn't do anything with them - breakdown in communication because they can't decide until they ask Laura
(Part 2 4:28, Line 113)

Intent:

To clean Liza's room

Trigger: Realized that there is a lot of trash in Liza's room
(Part 2 4:38, Line 115)

↓

Sees Magazines
(Part 2 4:52, Line 118)

↓

Calls Liza to ask what she wants/doesn't want
(Part 2, 4:56, Line 119)

↙ ↓ ↘

Branch: Gets permission to recycle all magazines
(Part 2, 5:41, Line 128)

↓

Sees Shadyside news from December 14, 2007
(Part 2, 6:05, Line 132)

↓

Decides to keep that magazine
(Part 2, 6:25, Line 137)

Branch: Liza tells the parents that she will go through her stuff next weekend if they bring her all the clothes
(Part 2 6:52, Line 137)

↓

Parents agree to it -- breakdown in coordination because they have to bring everything to her before knowing what she wants and what she doesn't want
(Part 7:16, Line 139)

↓

Sees Clothes (shadyside PJs)
(Part 2 9:25, Line 167)

↓

Decides to keep them
(Part 2 9:37, 172)

Branch: Asks Liza about the entire drawer of bags
(Part 2 7:23, Line 141)

↓

Gets her permission to throw away the bags
(Part 2 7:31, Line 143)

↓

Chili pepper is kept; not a bag! breakdown in communication -- dad was about to throw away this
(Part 2 9:10, Line 165)

↓

Keeps a gift bag
(Part 2 8:38, Line 160)

Intent:

To clean the pink room

Trigger: Steps into the pink room
(Part 3 4:08, Line 212)

↓

Sees a book on class structures of Columbia - 2006
(Part 3 4:08, Line 212)

↓

Decides to throw it out
(Part 3, 4:16, Line 213)

↓

Sees a book on team building and decides to throw it out
(Part 3 4:17, Line 214)

↓

Sees Masterpieces of Western Music, a midterm, camera instrument of photography, and Fall 2006 Homework -- Decides to call her
(Part 3 4:55, Line 222)

To clean the "guest room"

Trigger: Sees this room on the way to the Pink Room
(Part 3 3:17 Line 207)

↓

Couldn't clean anything because they had to modify some things in the room and cut out some pieces and put it in the basement, but since it was the wall unit they had to take everything out of it. This was a breakdown in coordination because this room just never got cleaned from the big process of cleaning the room. One thing leads to another thing, which causes them to not clean the room. They did not clean the room.
(Part 3 3:@3, Line 209)
(Part 3 0:42 - 1:57, Line 186 - 191)

Intent:

To clean the pink room

Trigger: Steps into the pink room
(Part 3 4:08, Line 212)

↓

Sees a book on class structures of Columbia - 2006
(Part 3 4:08, Line 212)

↓

Decides to throw it out
(Part 3, 4:16, Line 213)

↓

Sees a book on team building and decides to throw it out
(Part 3 4:17, Line 214)

↓

Sees Masterpieces of Western Music, a midterm, camera instrument of photography, and Fall 2006 Homework -- Decides to call her (breakdown in coordination -- can't continue until they call her)
(Part 3 4:55, Line 222)

↙ ↘

Branch:
Gets permission that she doesn't want all of the notebooks
(Part 3 5:47, Line 228)

↓

Keeps the extra paper (as told by her)
(Part 3 6:13, Line 233)

Branch:
Identifying owl pellet contents -- asks her if she wants
(Part 3 56:18, Line 235)

↓

Gets permission to throw away
(Part 3 6:36, Line 238)

↓

Keeps the extra paper
(Part 3 6:56, Line 244)

↓

Decides to keep everything for the daughter to decide later
(Part 3 7:32, Line 253)

↓

Decides to put everything in a box for her -- Conflict in communication - dad wanted to throw everything away while the mom wanted to keep it for the daughter
(Part 3 7:57, Line 260)

Intent:

To clean the pink room

(continued)

Sees Masterpieces of Western Music, a midterm, camera instrument of photography, and Fall 2006 Homework -- Decides to call her (breakdown in coordination -- can't continue until they call her)
(Part 3 4:55, Line 222)

↓

Sees a taped box
(Part 3 9:01, Line 274)

↘

Doesn't remember what it is for -- decides to open the box
(Part 3 9:48, Line 281)

↓

Finds Tarrytown T-shirts - decides to keep and marks it as "good things"
(Part 3 10:26, Line 286)

↓

Sees a binder
(Part 3 10:19, Line 291)

↘

Decides to throw it away (trash)
(Part 3 10:57, Line 292)

↓

Finds a bicycle drawing
(Part 3 12:56, Line 313)

↘

Wants to keep the drawing
(Part 3 13:18, Line 317)

↓

She doesn't know what her daughter wants to keep or not -- another breakdown in communication and coordination -- can't clean up until she asks her daughter (Part 4 0:00, Line 332)

↓

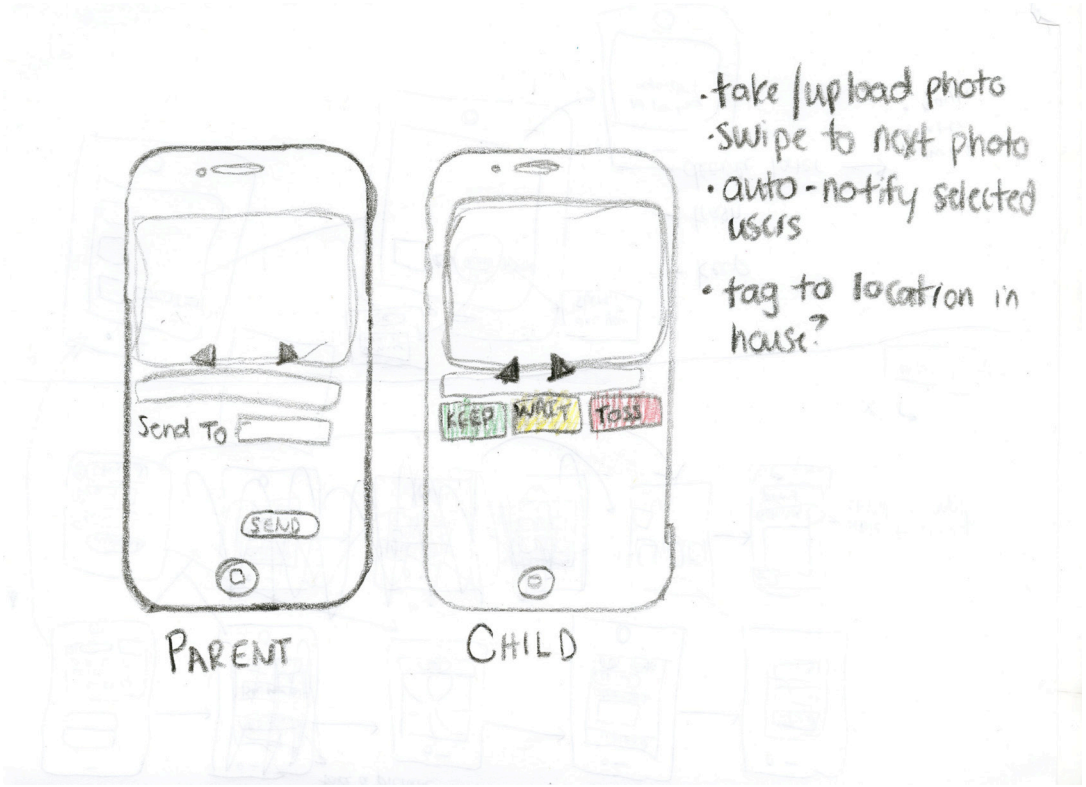
Decides to digitize the art
(Part 4 0:30, Line 338)

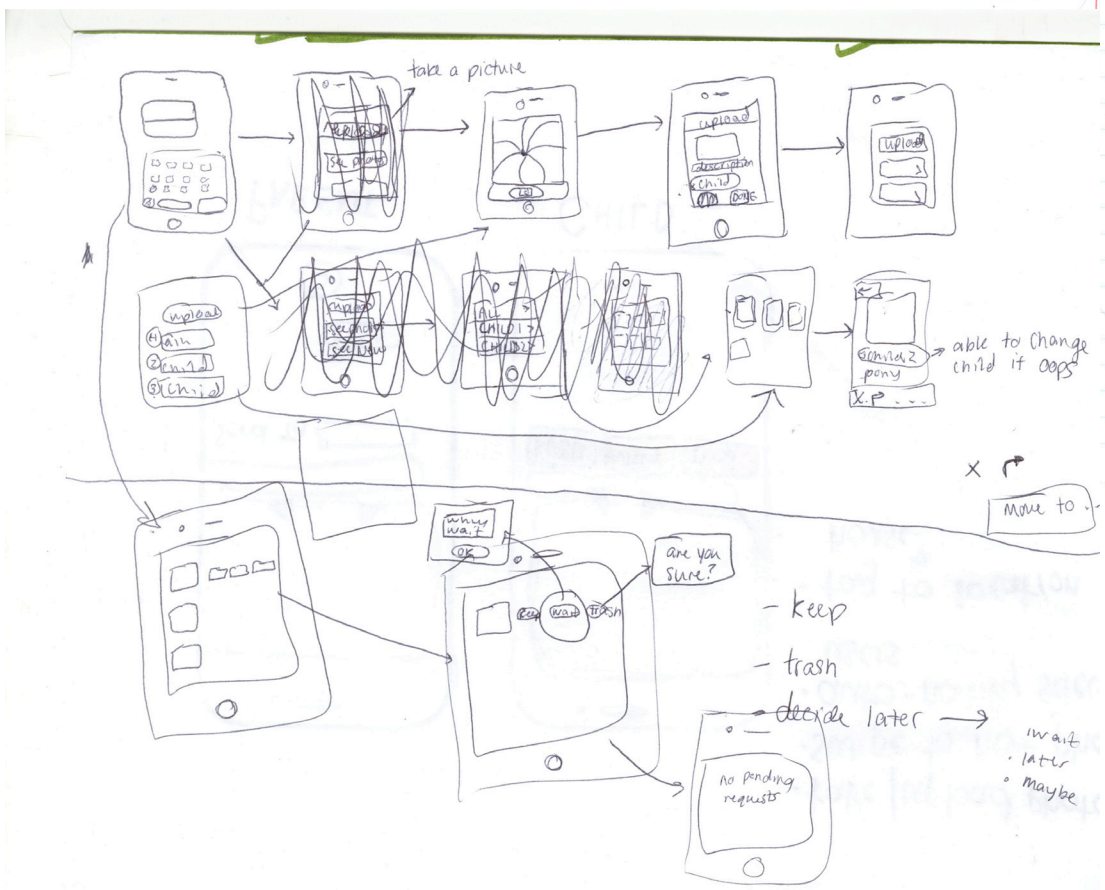
One last thought...

Our group went through iterations of our design; at first, we planned on developing a website that was flickr/picasa like but specialized to our task: helping parents and children go through the decision-making process of what childhood belongings to keep, and what items to throw away.

We developed our ideas further and determined that an iPhone application would better suit the user's needs; it eliminates the need to take pictures, download them to the computer, and then upload them to the website. By utilizing the built-in camera of the iPhone, we were able to design a concise application that allows simple, quick, effective communication about childhood things.

Included below are some copies sketches of our iterations. We're really thrilled with how the design progressed. We firmly believe that the finished product is a viable product to help parents and their children communicate through the process of determining what to do with childhood things.

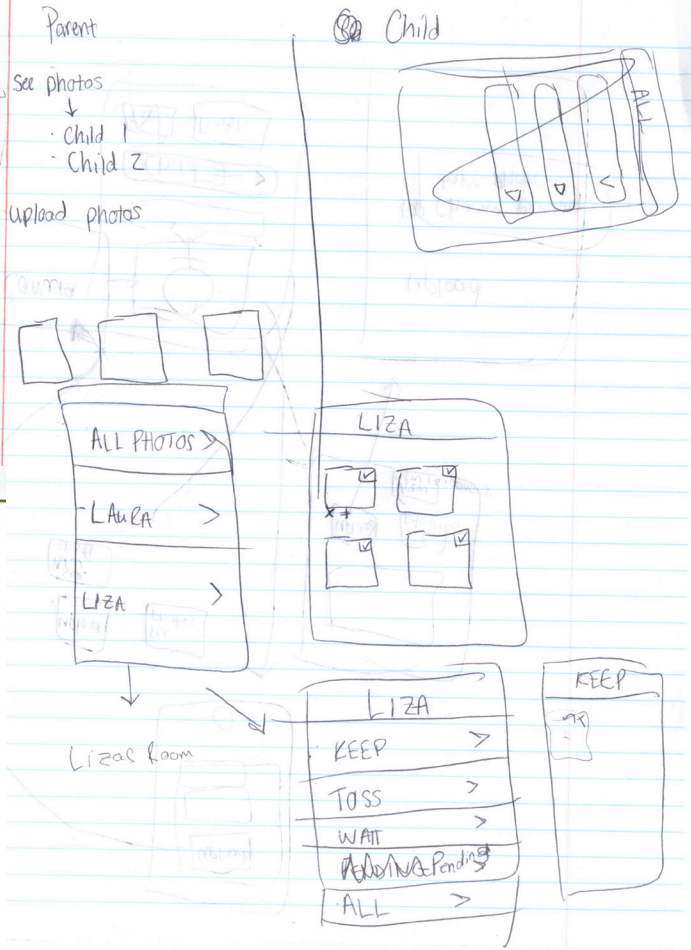


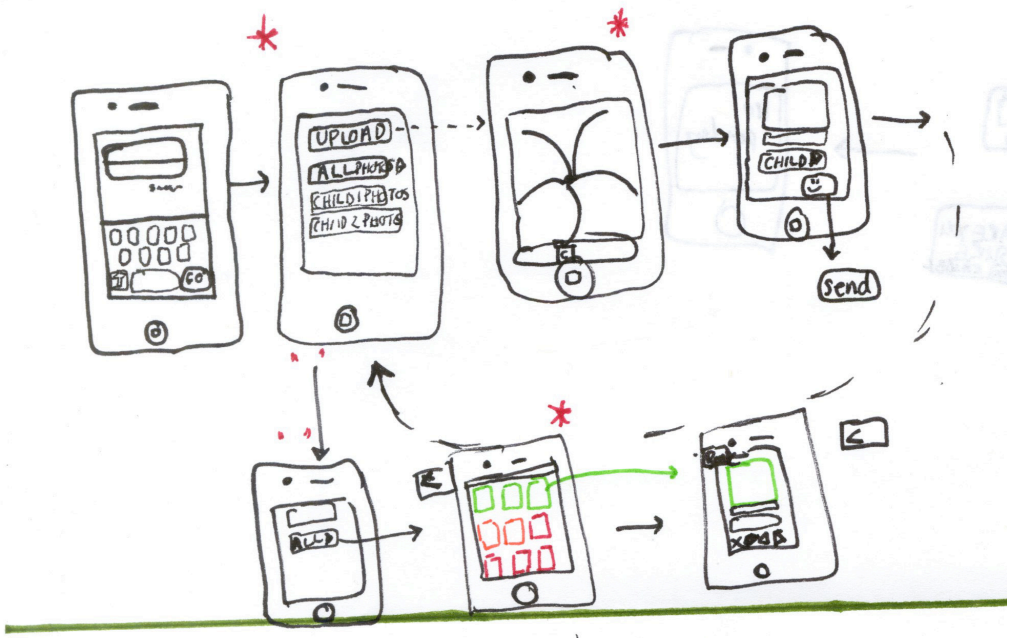


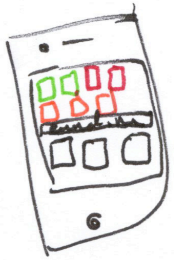
Parent

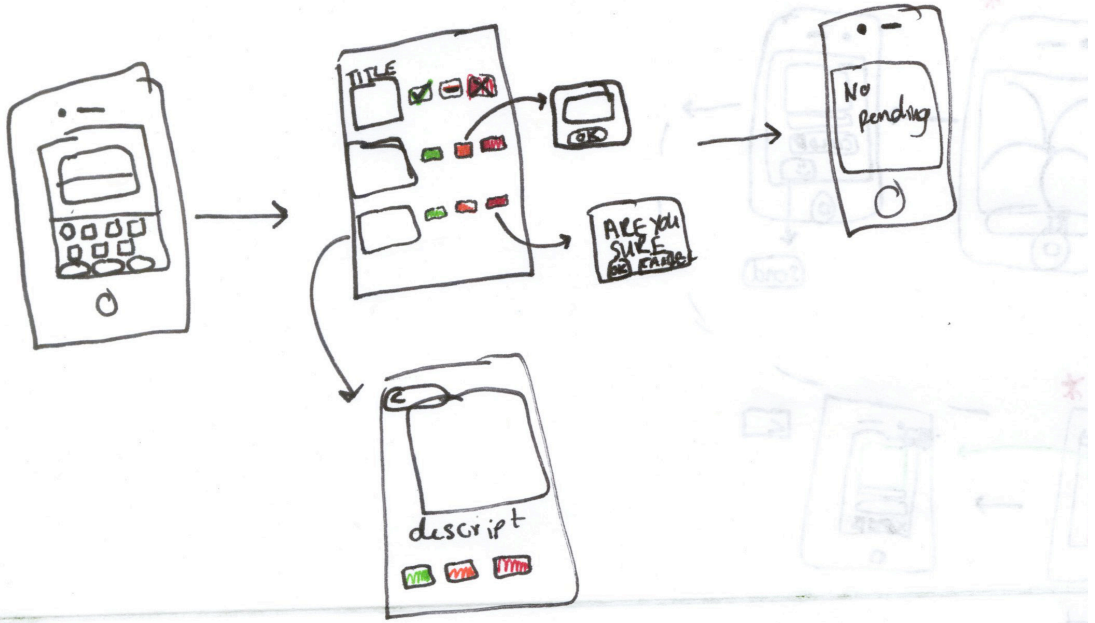
See photos
- Child 1
- Child 2

upload photos




UPLOAD
ALL PHOTOS
CHILD 1 PHOTOS
CHILD 2 PHOTOS
GO
CHILD
Send




TITLE
OK
ARE YOU SURE
No pending
descript

SH-TA-01,
AG-TA-01,
ML-TA-01,
AM-TA-03,
AR-TA-08 **Good Aspect**
Name: Privacy options are easy to use and inituitive
Evidence: @ 1:02 “Family. Private. Visible to family. That’s easy”
Explanation: User expected that changing privacy settings would be more difficult, but thought it was easy and logical.

AG-TA-05,
AM-TA-01 **Problem**
Name: Uploading photos
Evidence: @ 0:05 “So I should, what should I do? Upload these photos onto Flickr. How upload? I’ve never done it.”
@ 1:55 “finished.”
Explanation: User starts at the Organize & create tab instead of the “upload” tab at the right. He did not use the optimal way to upload photos. The user was also not sure if they were uploading or not – had to ask the interviewer for confirmation.

AM-TA-02 **Good Aspect**
Name: Uploading multiple photos is easy.
Evidence: @ 0:17 “Oranize and create. Organize your photos. Upload some photos. Let’s try”
@ 0:28 “Choose photos and videos. It was on desktop, and then Photos, and I think I can take every photo. All photos. Okay. Upload”
Explanation: User selects all photos with ease and he felt good after it worked.

SH-TA-02,
AM-TA-04 **Problem**
Name: Indication of photo uploading is unclear
Evidence: @ 1:13 “Is it uploading?”
Explanation: User is confused about the new state – not expressed clearly during uploading process

AG-TA-02,
ML-TA-02,
AM-TA-05 **Problem**
Name: Organizing the photos into sets for Toys, Bags, and Other items
Evidence: @ 1:20 “Next task is: to make it easier for your daughter to sort through… they should be organized into.. Toys, bags, and other items.”
@ 5:21 “Then bags. Okay. Now it’s easy. Bags. Save”
Explanation: The user got confused as to how to achieve his goal of creating sets, because he thought that batching was the correct way to do it first. He does create 3 sets but took more time to achieve the goal and didn’t know the difference between batch and set.

AG-TA-06,
AR-TA-01 **Problem**
Name: Creating sets took over 3 minutes – hard to navigate
Evidence: @ 1:55 “finished. Add a description? Next. Description? To every picture or…?”
@ 5:35 “So happy to have done that”
Explanation: User took 4 minutes looking for the correct selection that would have gotten him to the sets page. The pictures were small and the links were not as visible.

SH-TA-03,
ML-TA-03,
AR-TA-02 **Good Aspect**
Name: Easy to remember how to create sets after user learns how
Evidence: @ 5:25 “Now it’s easy.”
Explanation: After creating the first photo set, it became easy for the user to make another. The same procedure was used and he got predictable results. The learnability of the interface is effective.

SH-TA-05,
AG-TA-03,
ML-TA-04,
AM-TA-08,
AR-TA-04,
AR-TA-05 **Problem**
Name: User fails to complete the photo tagging task within 3 minutes (unclear you can double click images in Organizr to tag)
Evidence: @ 5:37-8:37
5:37: User reads task and begins
6:18: User right clicks an image
6:24: User clicks an image
6:34: User clicks “Sets”
6:36: User clicks their “Toys” set
6:57: User clicks “Print and Create”
6:59: User clicks “Sets” again
7:08: User clicks their “Toys” set again
7:11: User right clicks an image again
7:28: User clicks “Batch Organize”
7:30: User clicks “Sets” again
7:32: User clicks “Batch Organize” again
7:39: User clicks “Sets” again
7:40: User clicks their “Bags” set
7:46: User clicks “Your Photostream”
7:57: User clicks back button
8:14: User clicks “Your Photostream” again
8:18: User finds “Tags” link
8:36: User clicks back button
8:37: 3 minutes go by without finishing the task!
Explanation: The participant tried several things to try to tag photos but failed. After 3 minutes of clicking, the user still does not figure out how to tag an image.

ML-TA-05 **Problem**
Name: Unclear that you cannot add tags from the Tags menu of the photostream
Evidence: @ 8:20 User viewing photostream and clicks on Tags link. He is directed towards FAQ.
Explanation: User tried multiple things to add tags and he clicks on the tags link but is directed to the FAQ page so it is not helpful.

SH-TA-06,
ML-TA-09,
AR-TA-03 **Problem**
Name: Unclear action to take to "save" user's entered comment text
Evidence: @ 9:37 "Where is save?"
Explanation: The user entered text in the comment text field but doesn't know how to "Save" or post it. The button is in a logical location but the language used (post instead of save) makes the button's purpose unclear to the user.

SH-TA-7 **Problem**
Name: "Add a description" link after photo upload has unclear meaning
Evidence: @ 2:00 "Add a description? Next. Description? To every picture or…?"
Explanation: User is unsure of the action of the button – description apply to one or all photos

SH-TA-08,
AG-TA-04,
AG-TA-08,
ML-TA-06,
AR-TA-06 **Problem**
Name: User thinks that they completed the task the correct way, but did not
Evidence: @ 10:51 "So, I've posted several tags now."
Explanation: User says they posted several tags but they only made comments on the images. There
is a misunderstanding for the user with the definition of tag and comment.

ML-TA-07 **Problem**
Name: User does not know what the Photostream is, or its purpose.
Evidence: @ 7:44 User clicks "Your Photostream" link and he says, "here, Photostream?" Then clicks the back button and says "Why should I go there. I don't understand why I should find tag."
@8:14 "Your Photosream, what should it mean?"
Explanation: Looking for tags, the user clicks on the Photostream link and he's taken to a page he's never seen. He goes back, then clicks on the Photostream link again because he is confused at what it is.

SH-TA-09,
AG-TA-07,
ML-TA-08 **Problem**
Name: User does not tag photos in an optimal way
Evidence: @ 6:25 "Set. Where's the tag? I don't see where there's a tag. Sets…"
Explanation: User takes more than 3 minutes to do a simple task that shouldn't take that long. The user didn't achieve the goal – commented instead of tagging.