LET’S TALK ABOUT WASTE

Overview

Humans have a lot of stuff. Consequently, they also throw away a lot of stuff. As this waste grows with population, we as people are forced to stop and consider what impact this has on the world, and what we can do to change that.

For the past ten weeks, we have been researching what happens to all of that stuff. Where does it end up, how does it get there, and what can we do to change that?

Team

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Secondary
Research

How we Started

Going into our secondary research, we knew we needed to drastically narrow our scope. Between our personal backgrounds, interests, and knowledge, we decided to look at object attachment in the life cycle of an object. When does an object turn from a possession to waste? Why do we still retain items after this turning point? We started looking into existing researches in physical possessions to understand the scope of the research done around the topic, and understand methodology others have taken to shape the way we conduct our research. We learned a lot about the deep psychological barriers that prevent a lot of people from throwing things away. A lot of this research lead to information about hoarding and mental health.

Survey of Existing Research

Cognitive processes in hoarding: The role of rumination

Amberly K. Portero, Daphne A. Durmaz, Amanda M. Raines, Nicole A. Short, Norman B. Schmidt

The authors examined the relationship between rumination and hoarding. There has been a lot of interest between the relationship of the two; however little research done. The authors found that there is a positive relationship between rumination and hoarding. Through their research they discovered that the act of saving would reduce the anxiety and distress of a potential loss.

The authors asked 275 undergraduates and 106 individuals in the community to answer self report questionnaires. They determined their depression, rumination and hoarding scale through a series of self reports. In doing so they were able to assess their behaviors through hierarchal regression analyses.

This research was a first step to explore the relationship between rumination and hoarding to allow further research to be done in the future; however it did not explain how these emotions effected hoarding but rather showed a positive relationship between the two factors. The research was supported by Military Suicide Research Consortium and Office of Assistant Secretary Defense for Health Affairs.

Source http://www.sciencedirect.com/science/article/pii/S0191886915004055

Survey of Existing Research

Cognitive correlates of hoarding symptoms

Orçun Yorulmaza, Nilüfer Dermihanb

This study explores if there are any cognitive constructs related to hoarding in a nonwestern community, Turkey. Also, the authors wanted to see if the culture factors outweighs the cognitive constructs. The researchers discovered that roles of indecisiveness and emotional attachment to belongingness has a much higher correlation compared to the cultural factors.

The research was conducted on 775 adults, which 88.2% reported having an average income. Many were given self reports to identify the scale of hoarding symptoms, object attachment, cognitive confidence, decision making, and ways of coping. Researchers were given consent to follow the participants at their work places. Through series of self reports and statistics they were able to uncover the cognitive behaviors that were a cause of hoarding behaviors.

This research was supported by a scientific research program grant at Dokuz Eyul University in Turkey. Even though, hoarding is an extreme case; however this research illustrates how certain cognitive behaviors effect hoarding symptoms. Therefore, it can potentially relate to non extreme cases.

Source www.sciencedirect.com.offcampus.lib.washington.edu/science/article/pii/S2211364915300154?np=y

Survey of Existing Research

Why can’t some people throw anything away

Michael Anft

In this study Michael Anft investigates material possession behaviors in modern day society. In a search to find a correlation between hoarding and genetic or emotional triggers, Anft evaluates big data surrounding DNA, hoarding habits, and home storage.

Initially, connections with medical professionals guide ideas about a genetic link to hoarding behaviors. Anft didn’t fully detail the genetic findings, but did allude that some “genetic clues” lead to a possible DNA connection with hoarding.

Anft highlights the desire for Americans to have possessions but keep them out of sight by sharing the comparison of one coffee shop for every two self-storage facilities in America. This point and others lead to the fact that whether it be a genetic disorder of not, material possession is a common life problem that many people can relate to.

Source http://archive.magazine.jhu.edu/2011/11/why-can%E2%80%99t-some-people-throw-anything-away/

Survey of Existing Research

Consumer-product attachment

Hendrik N. J. Schifferstein, Elly P. H. Zwartkruis-Pelgrim

The authors of this analysis conducted an investigation in consumer product attachment. To further explore this relationship between consumer and product, the authors inquire the ideas of attachment from the views of irreplaceability, indispensability, and self-extension. Findings showed time invested in a product was a major factor. Memories and self identity also ranked amongst the highest reasons for attachment to products.

Schifferstein and Zwartkruis-Pelgrim derived their analysis from research conducted on a random sample from members of a consumer household panel. Interviews were conducted on the owners' and products they are attached to and reasons for why they are attached. The authors collected the measurements of attachment for different reasons.

The authors approach this investigation with interest in sustainability and how products can be promote consumer product attachment.

Source http://repository.tudelft.nl/view/ir/uuid:80d304ef-d154-406a-bc16-5850867c5e79/

Survey of Existing Research

Product attachment

Ruth Mugge, Jan P.L. Schoormans, Hendrik N.J. Schifferstein

The researchers from Delft University of Technology investigated why people develop strong relationships to certain products and how designers may influence the attachment through product design.

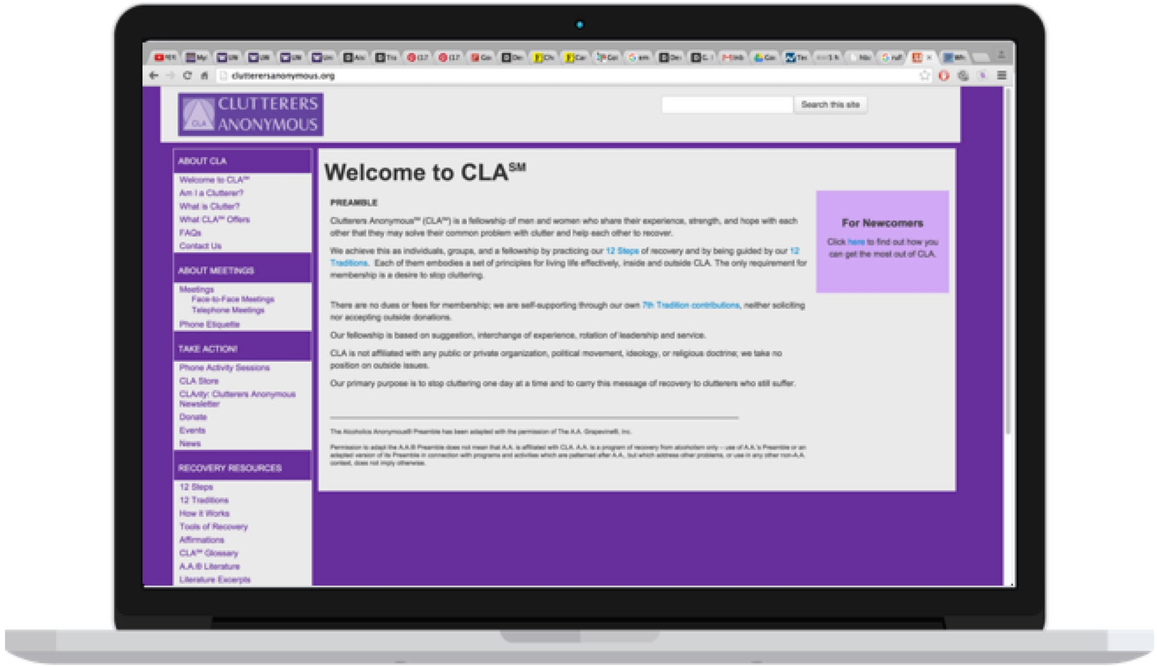
The team defined product attachment as “the strength of the emotional bond a consumer experiences with a specific product,” as their measuring basis, yet they didn’t fully detail the process, how they measure the strength of emotional reactions, and the factors that may be involved in creating the bond that could possibly be manipulated by designers.

They pointed out why other research on positive emotions is inadequate to understand the experience of attachment to a product. Many products can instantaneously evoke strong positive emotions even without any direct contact with a product. Experiencing positive emotions in response to a product doesn’t necessarily bring out protective behaviors, such as handling with care and repairing, as people would with an emotionally attached product. Strong product attachment may be a factor in hoarding behaviors, whether it’s psychological, or manipulated by design.

Source www.sciencedirect.com/science/article/pii/B9780080450896500204

Current Solutions

In addition to information about the problem, we learned a lot about existing solutions. We found that there are a fair amount of service designs in existence that address severe object attachment scenarios, particularly objects that have turned to waste. What hasn't been addressed is the more-present everyday scenarios of object accumulation, and how people like you and I avoid this wasteful behavior. Many existing services address clean out for insignificant possessions.



Clutter Anonymous

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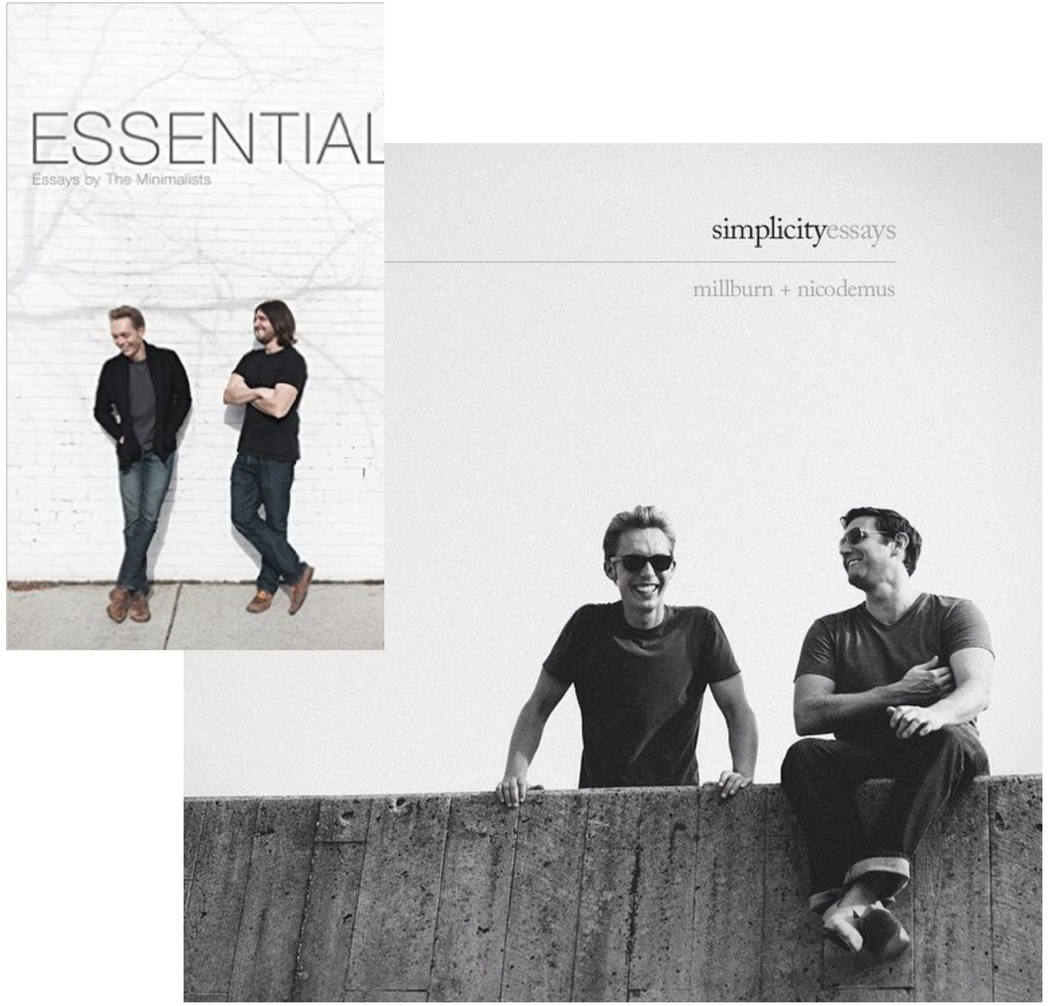
Source www.sciencedirect.com/science/article/pii/B9780080450896500204

Unfilth Your Habitat

Unfilfth Your Habitat challenges and motivates people to declutter and clean their living spaces. The amount of profanity motivates users to clean up. Even though, the application can be humorous; however the usage of profanity is not for all audiences and the app is a solution to cleaning but not a prevention of waste production.

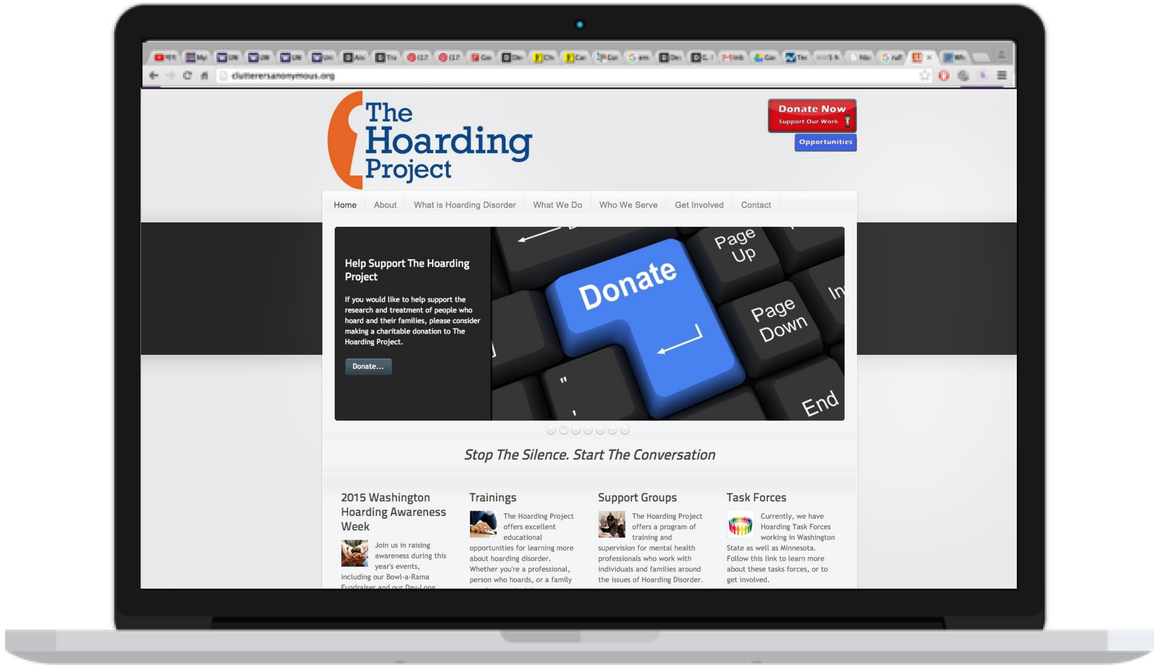
Source https://itunes.apple.com/us/app/unfilth-your-habitat/id542909191?mt=8&ign-mpt=uo=4



Essential: Essays by the Minimalists

Essential is a book written by two popular bloggers that help people live a more minimalist lifestyle. It helps people declutter things from personal belongings to friendships. The book educates ways to reduce waste; however their opinions and thoughts are not the most effective way and requires the readers to spend a lot of their time to reflect about themselves.

Source www.theminimalists.com/ee/



The Hoarding Project

Essential is a book written by two popular bloggers that help people live a more minimalist lifestyle. It helps people declutter things from personal belongings to friendships. The book educates ways to reduce waste; however their opinions and thoughts are not the most effective way and requires the readers to spend a lot of their time to reflect about themselves.

Source http://thehoardingproject.org/home/

Tanner Goods

Tanner Goods creates leather goods and uses social media to show the longevity and quality of their goods from consumers. However, the prices of their products may make it inaccessible for potential customers from purchasing their good.

Source www.tannergoods.com/pages/worth-holding-onto

Research Insights

Our biggest takeaway from the secondary research was what we didn’t want to design. We wanted to look more heavily into the space surrounding object accumulation before it becomes trash. This involved deviating from the extreme cases and addressing the root of the problem; making sure the objects you attain are significant and hold value in the first place. We planned to investigate the more present every-day scenarios of people just like you and I who just plain have stuff they don’t use.

Primary
Research

Study Plan

Background

We all go through the cycle of buying things, using it, contemplating whether to throw it away, and finally throwing it out. Our emotional attachments cause us to keep objects even though we may not need them. By exploring the space of when our objects become trash, we can gain insight surrounding these attachment behaviors, their social roots, and what causes them to manifest.

Goals

Understand social habits around waste in varying neighborhoods, socio economic classes, locations, etc.

Uncover social pressures surrounding physical objects and their presence in homes

Explore what factors contribute to object attachment issues

Research Questions

What social factors influence the way people ages 20–25 emotionally attach to items in their home?

How do people differentiate between trash and personal belongings?

What factors contribute to whether or not a person will purchase a new product?

Our Methodology

We will be conducting in person interviews with 8-12 participants. Each interview will take approximately 60 minutes and will be held by two team members. One member will interact with the participant and provide questions while the other team member will serve as documentarian.

Target Audience

Interviewing 20–25 years old that have at least moved once in their life and have an occupation.

Jimmy Liu
Helen Qin
Caroline Reis
Davin Tsubota
Aubrey Lane
Shane Bang
Sarah Shin
Josh Wang

Jimmy Liu

"I stuff them in the bag and leave them in the closet over there."

Our interview with Jimmy was focused on the accumulation of his possessions, and the reasons that he kept all of those items. He described his room as organized chaos because everything was dispersed in piles. It was interesting how he talked about how each item has a potential use; therefore he felt it would be a waste to throw things away. It was insightful to see and learn about his living spaces, and how each object could have a second life.

Helen Qin

"I would meet up with sellers to make sure quality is good. I tried to sell my old equipment on craigslist so I can buy something new."

Our interview with Helen gave us a lot of insights to our problem space. She discussed how object attachment was taking too much physical and mental energy in her life, and how she value the memories more than the objects that help making them, because physical objects are replaceable. She doesn't want to collect just for the sake of owning and is more inclined to keep intangible items such as photos (not prints) now. While she made an effort to remove object attachment overtime, she still have items that she holds onto with unique characteristics that can't be replaced. We also discussed her view on second hand buying, and her workarounds to assure the quality.

Caroline Reis

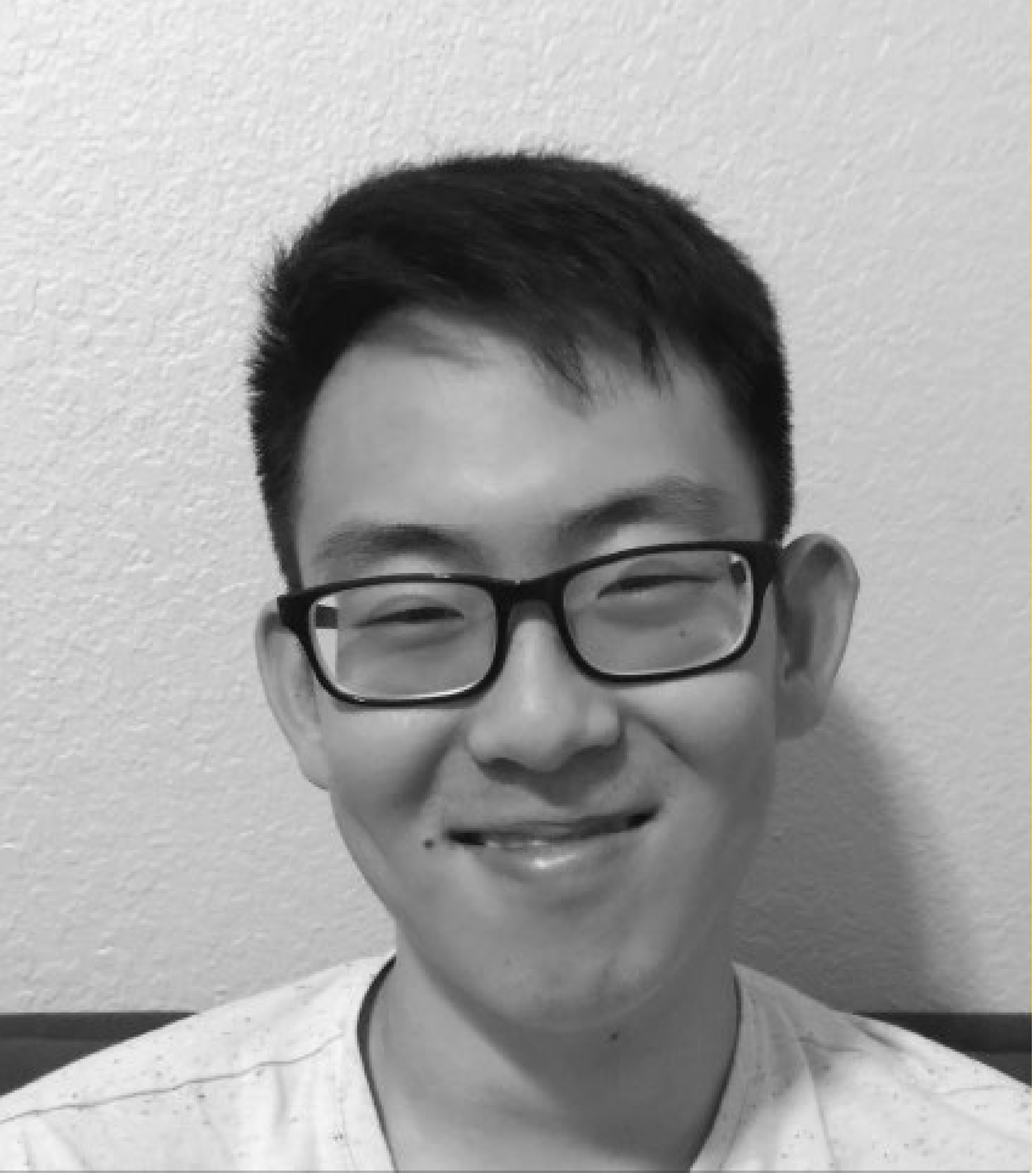
"My mom said we should do something with them and not have them just sit there and accumulate dust, because they were these beautiful, vintage items."

Our interview with Caroline was focused heavily on at what point in an object lifecycle she gets rid of something, and what different methods she uses to do that. It was interesting to hear how and why she would donate something, and look at that process specifically. She gave a lot of insight into how anonymous donating can be at a place like Goodwill.

Davin Tsubota

"I try to keep only essential things but it's hard to not hold onto things like gifts."

Our interview with Davin was focused on his emotional attachments with gifts that no longer have a purpose in his life. He described multiple objects in his room that he continues to keep because he can't throw it out due to his guilt that it was given to him as a gift. Even though these objects have become waste he holds onto these objects because of the emotions and memories. Similarly, he keeps his old video games even though he no longer has a console because of the memories that the games hold. We learned that about possessions that hold memories and emotions affect the lifecycle of objects.



Shane Bang

"I'm not going to throw it away because it is special to me because of the memories of that season, but at the same time I have a new jersey I'm going to wear."

In our interview with Shane, he talked about how he isn't very sentimental and throws away a majority of the things that don't hold use for him anymore. However, he talked about his Shaun Alexander Seahawks jersey from the first time the Seahawks went to the Superbowl. He said that the he will never get rid of the jersey because it holds memories of his family gathering to watch the Seahawks play during Christmas. Even though he has a new jersey he wears currently, the old jersey holds too many memories to throw away.

Sarah Shin

"If I don't wear it anymore then it's just collecting dust and I would donate it and have someone else wear it."

Our interview with Sarah was focused on her thought process of being very selective in what objects she would keep, and the methods she would use to remove objects that she no longer valued. Every year she does a spring cleaning and donates items to goodwill that she no longer uses to prevent wasted space. She doesn't have any overly strong emotional attachment to her objects so she finds it easier to throw things away. This interview provided insightful content about removing possessions that no longer have a use in one's life.

Josh Wang

"I usually keep things until they break or until they aren't usable anymore."

In our interview with Joshua, we gained a lot of insight into the potential and memories objects held for an owner. He talked a lot about his clothes and how he would repair holes until they reached a point they could not be repaired anymore. For him, his clothes still held potential use that could be extended through repairs but would eventually reach a point where they would become trash. Another object he discussed was the potential purchases had to create connections and

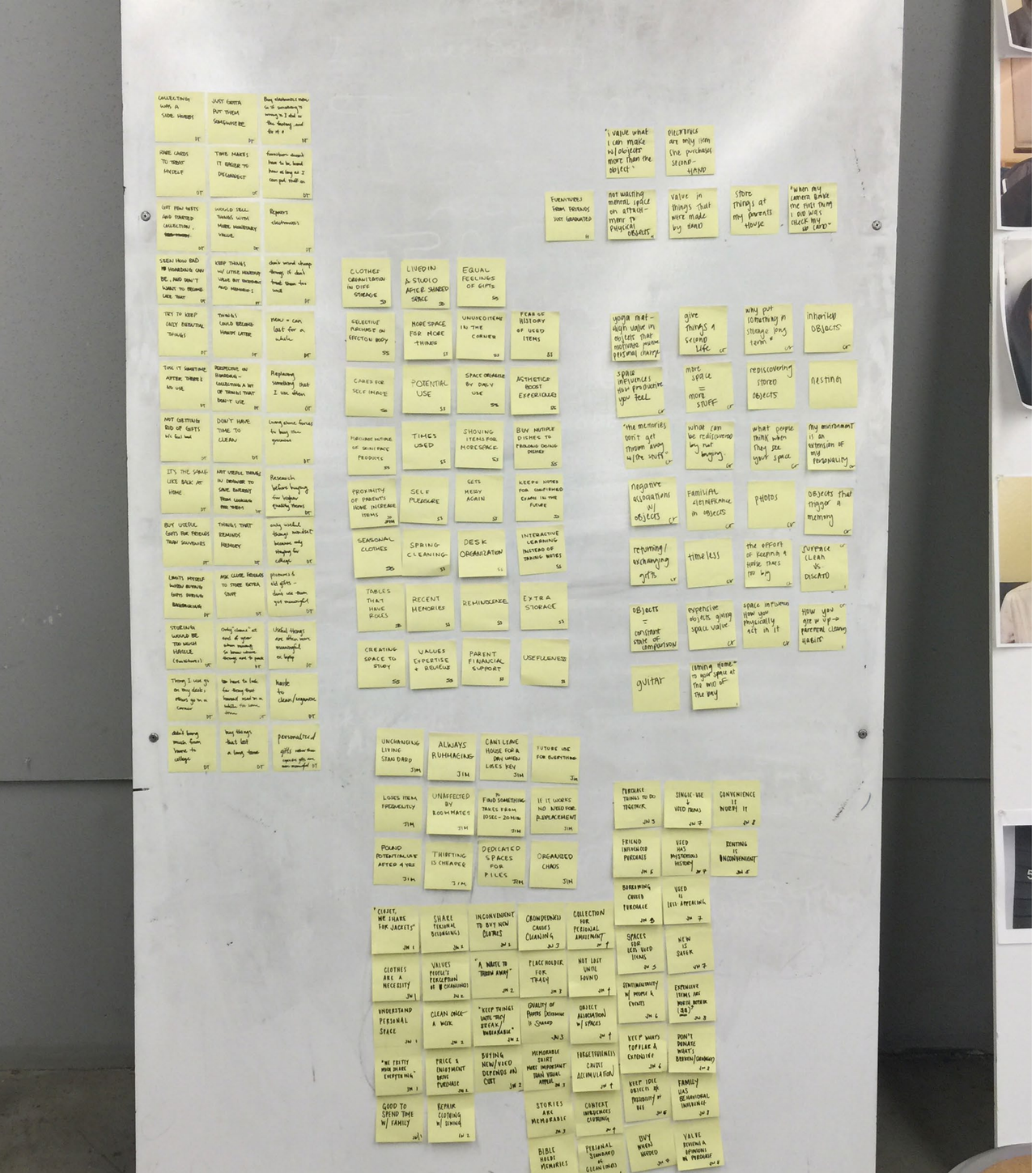
Aubrey Lane

"My mom said we should do something with them and not have them just sit there and accumulate dust, because they were these beautiful, vintage items."

Our final interview was with Aubrey Lane. Our interview with her quickly deviated from the research questions, and focused heavily on items that triggered personal memories. She discussed how if she is going to hold on to items that make her recall memories, she wants to have those items visible in her space. This interview provided very interesting content about possessions that hold memories, family ties to the things we keep, and when storage is more or less useful.

Problem Space

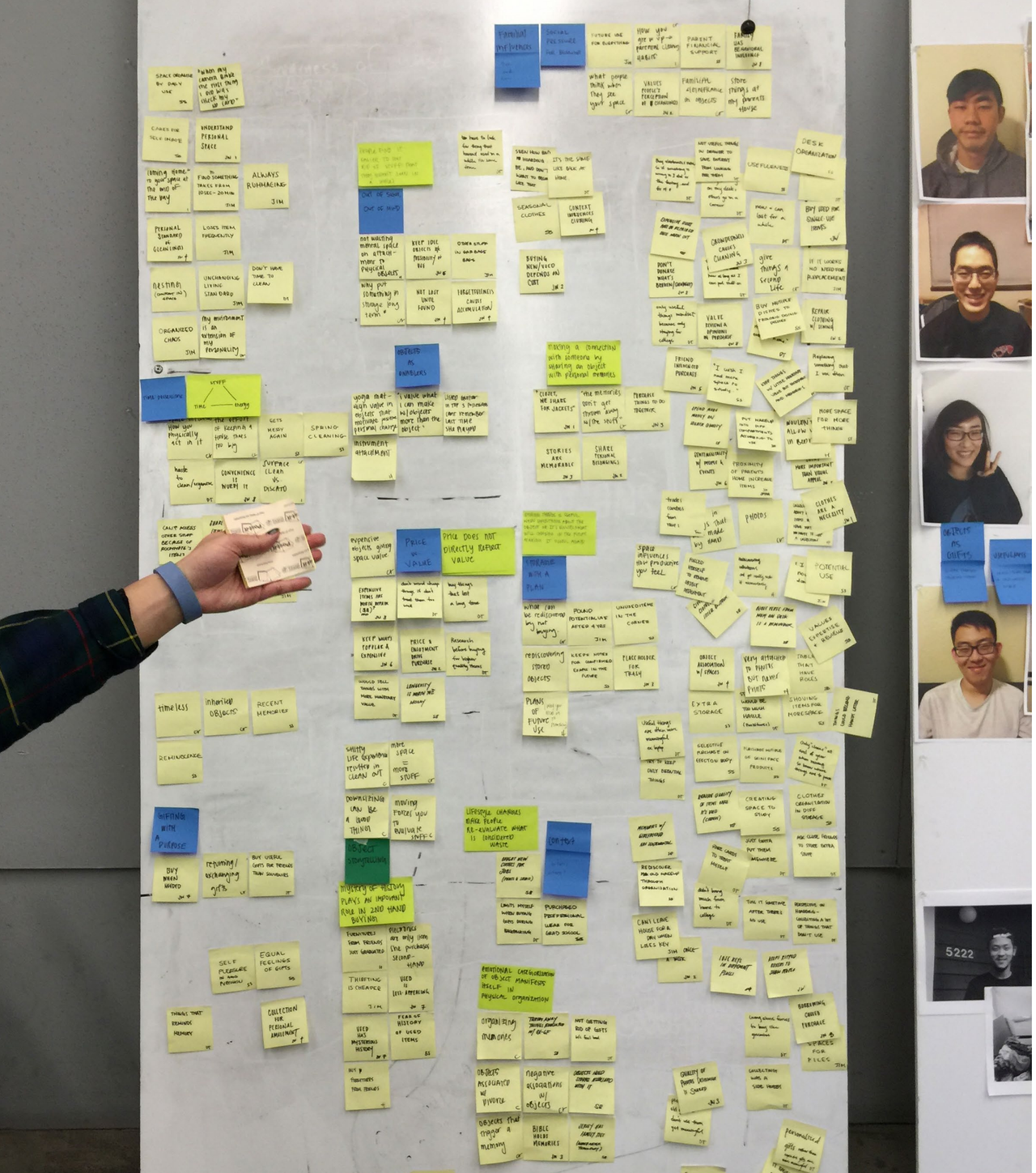
People accumulate
too many possessions.



Data Organization

Affinity Diagramming Phase 1

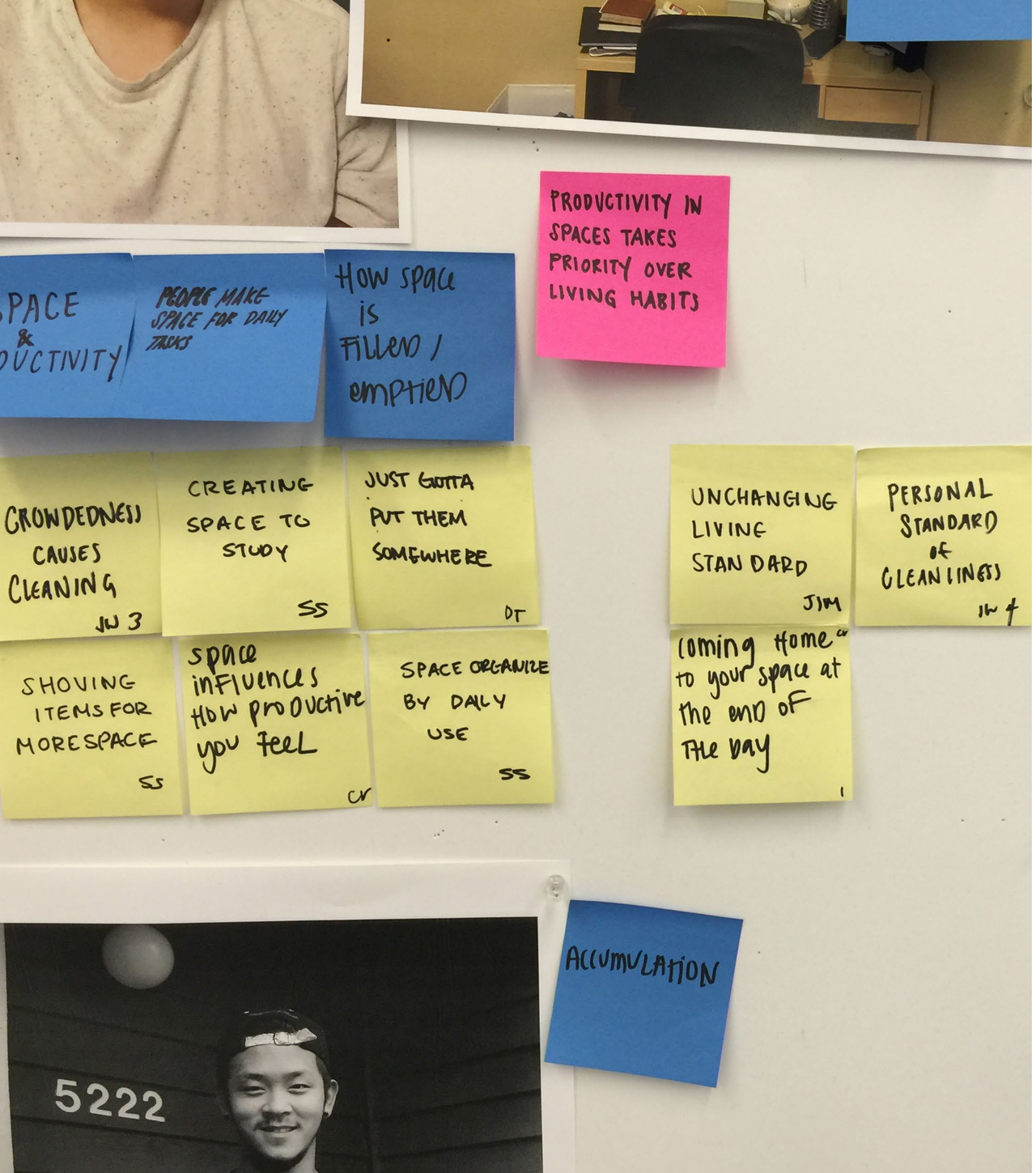
The affinity diagramming primary phase began by cataloging all of the data we accumulated during the interview. This included quotes, questions, ideas and photos. We assembled it all into one space based off audio, video, and transcriptions from the interviews.



Surface Insights

Affinity Diagramming Phase 2

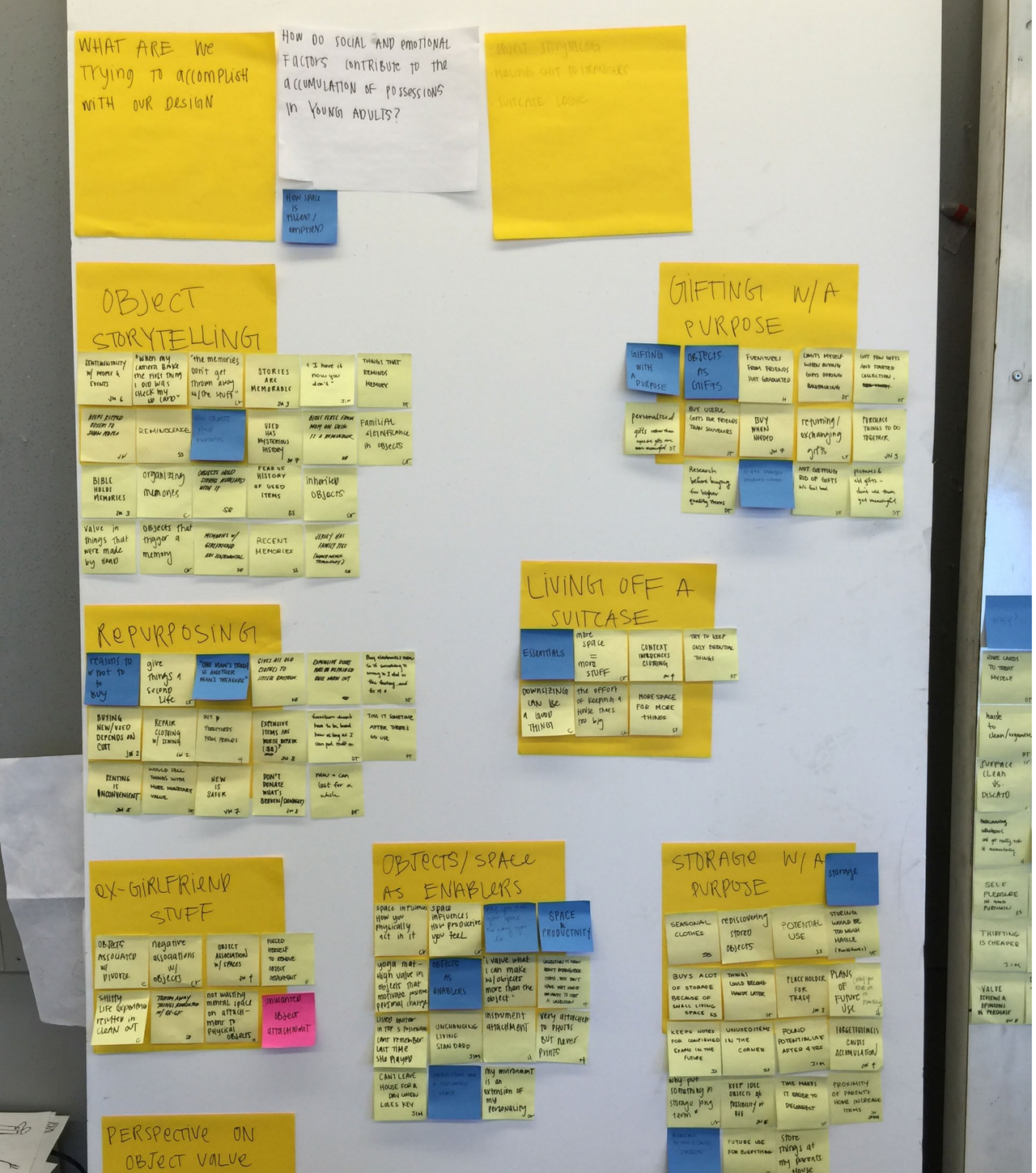
The second phase of affinity diagramming involved grouping all of our primary data and making surface level groups of content. It was the first pass we made at organization and allowed us to see the initial trends forming in the groups of data.



People and Insights

Affinity Diagramming Phase 3

Putting the data back into the context of our research enabled us to begin forming significant insights. It revealed further trends, groups, and let us step back and reflect on what we were learning from the data.



Ideation

Affinity Diagramming

From the existing insights, we took yet another step back and started discussing these ideas in the context of a design space. This process helped us imagine the ideas fully developed.

Research Insight 1

Proximity plays a key role in second hand buying and selling.

The mystery of previous or future owners can make secondhand buying and selling feel unapproachable and daunting. Having any sort of relation to the other party involved highly increases the probability of secondhand exchanges.

Research Insight 2

Personal associations with possessions often forge a significant connection to the object, whether we like it or not.

Objects have the potential to hold personal connections and associations within them. Items as gifts, heirlooms, etc often give an object additional value. Although this often perceived as a positive association, it can leave owners with unwanted items that they feel obligated to hold on to.

Research Insight 3

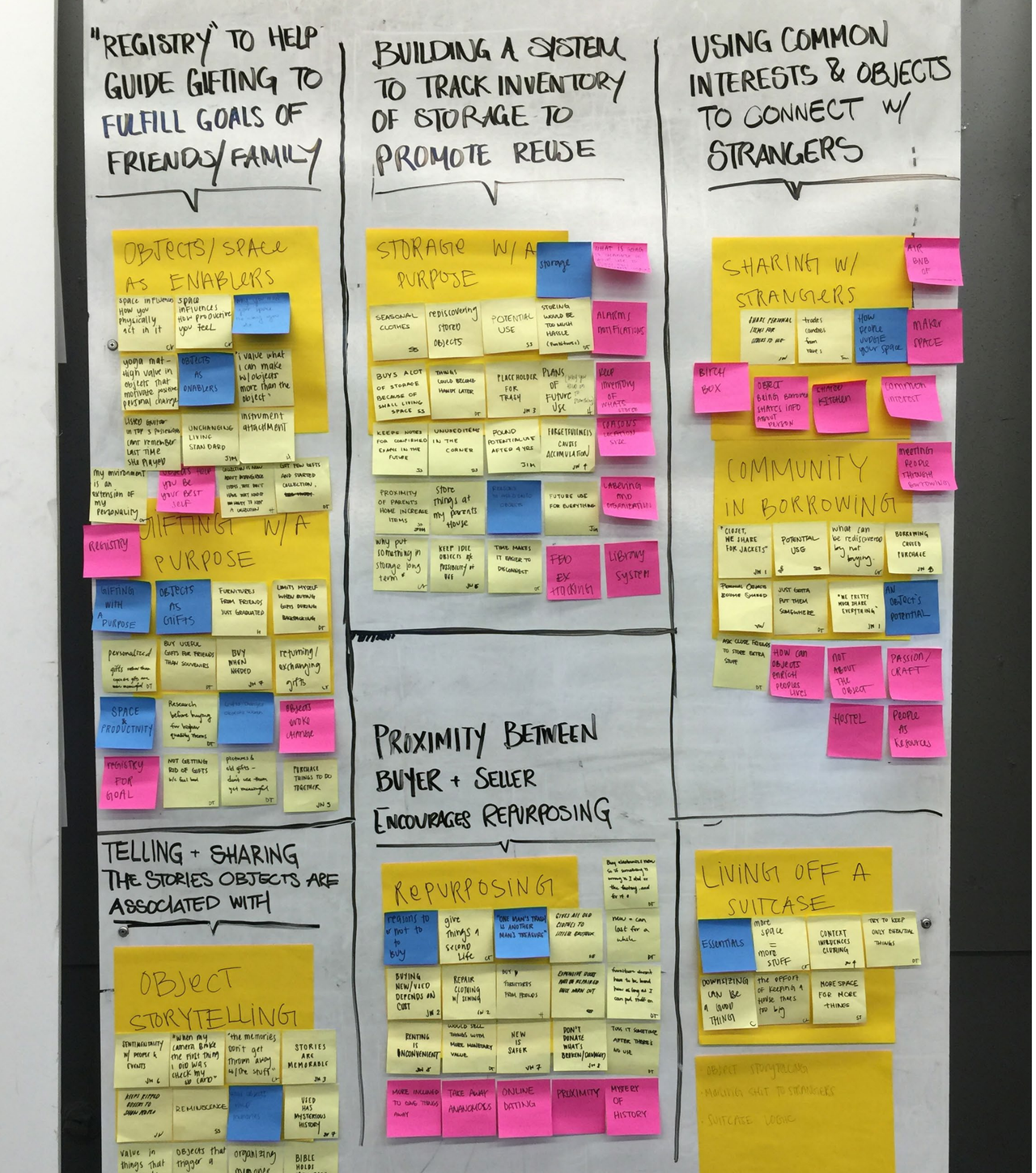
The value of an object is defined by much more than price.

High price is often a primary indicator of how someone perceives an object's value. However beyond further investigation, many other factors are found to have contributed to how valuable someone thinks an object is including an object's age, source, emotional value, etc.

Research Insight 4

Some of the most prized possessions in our lives are ones that directly enable us to achieve goals.

A possession becomes more than a material object when it changes how someone lives their life. As a result of this, objects that facilitate the positive aspects of someone's life become immensely valuable.



Concept Development

Affinity Diagramming Phase 5

After fully developing our insights and design directions, we chose five concepts that seemed to have potential, and paired them with existing insights.

Design Objectives

_1 Identify the emotional connections formed between two people by an object and utilize this connection to facilitate meaningful object accumulation.

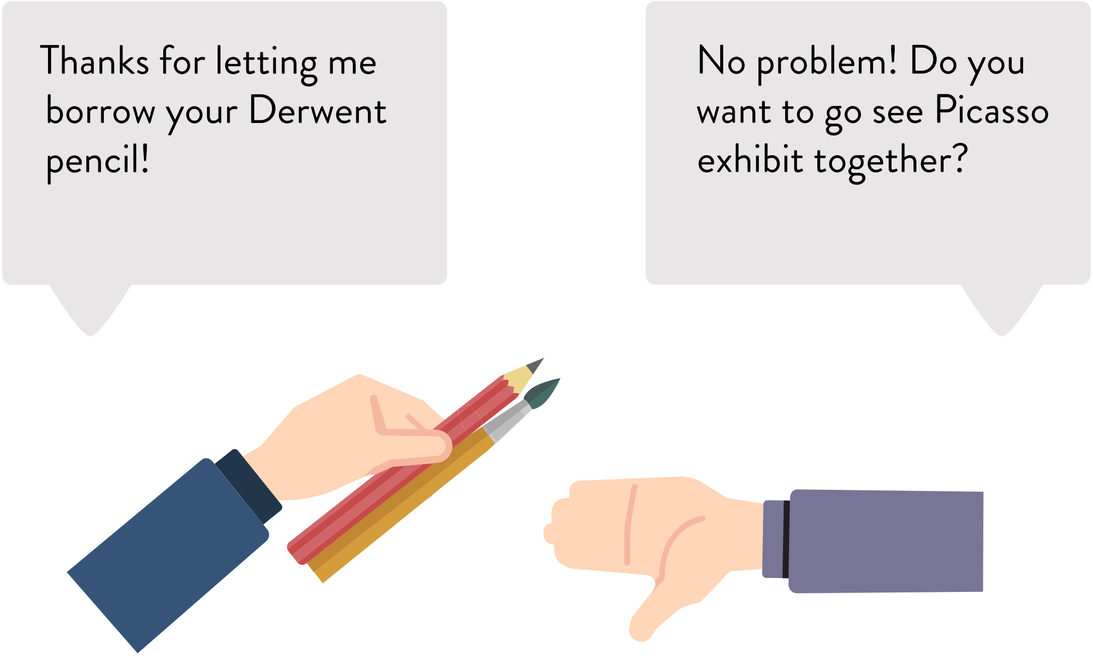
_2 Incentivize object repurposing by utilizing personal connections.

_3 Relieve people of the burden of emotional object accumulation.

_4 Inspire someone to give away something they've been holding on to.

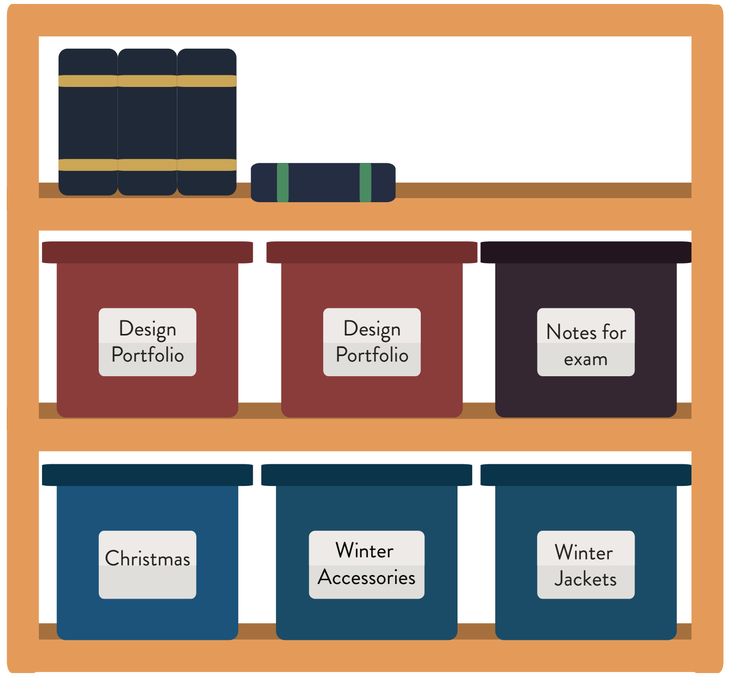
_5 Use empathy to break down the emotional barrier that causes object accumulation.

Concepts



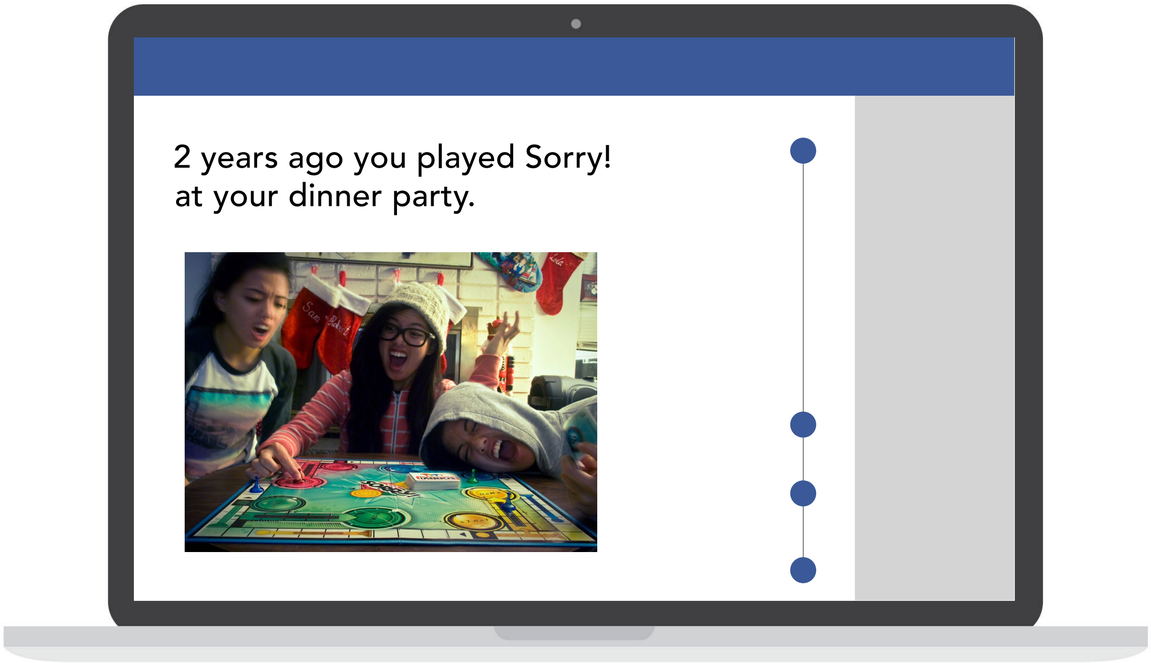
Creating social connections with strangers through objects

Keeping potential items for future use can be useful when they may become needed, but they can also result in accumulation if not used. However, these objects still hold the potential to be useful to others while it is not useful to the owner. By creating a system to allow owners and strangers alike to reach out to community to find an item they need, community members can opt in to share the objects strangers need. This creates purpose in items with potential while creating social connections with strangers in the community.



Platform to track inventory of storage to promote reuse

Young adults accumulate a lot of objects. They store items because of the potential use, different seasons, and planned exams. However by storing many items we forget about these objects and it causes accumulation. What if we could track these items and receive notifications to promote reuse? A young adult would categorize their items into boxes, which they would input that box information into an application. Then the application would give reminders when it would be appropriate to open the box or when something has not been used for a long time. Young adults could keep track of their items and remember to use it again.

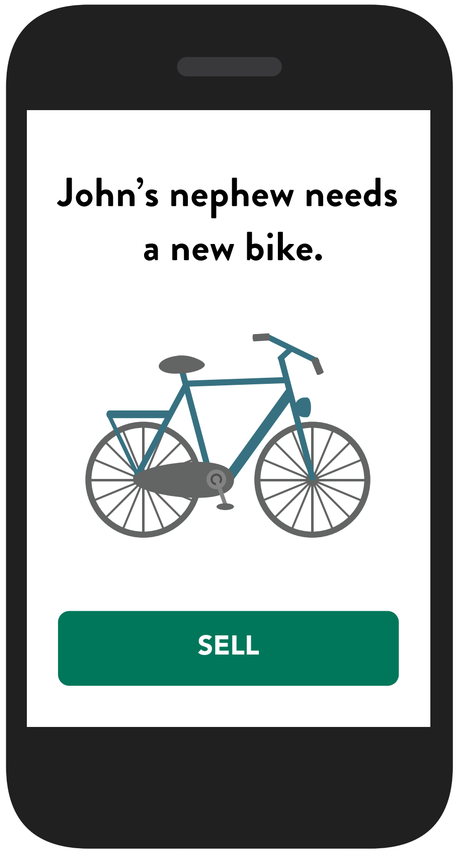


Using objects as a catalyst for storytelling

One of the biggest criticisms of the current digital photo accessibility is that nothing ever comes of the photos. By incorporating facial recognition software to recurring objects in our every day lives, we can begin to catalog where items reappear and begin to tell a story. These stories can be used to see where items fall in the timeline of our lives, which aren't appearing often, and use this information to decide which items hold significant value in everyday lives.

Registry to guide gifting to fulfill goals of friends and family

Giving meaningful gifts can often be a challenge, but asking people exactly what they want can be a let down. Couples use registries for wedding gifts to allow people to get them what they want and need. By taking a similar system and applying it to a goal, friends and family can help a user reach their goal by contributing meaningful objects that the user has specifically selected.



Proximity between buyer and seller encourages repurposing

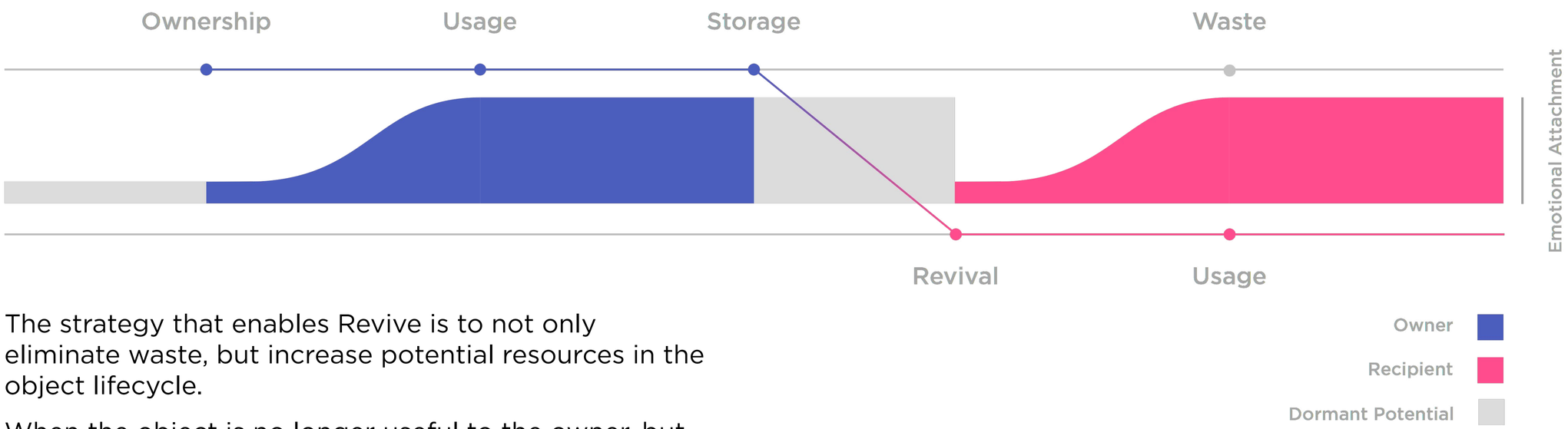
Repurposing give objects a second life and allow others to create more memories with the items that are no longer needed. Yet second-hand buying is intimidating to many, having to rely a lot on trust on both parties. Buyers worry about the mystery of history of the item, and sellers worry about the care the buyer would have for their item. What if we have a platform that allows people to find out the wants and needs from people around them? By taking away anonymous, buyers can be reassured the quality of the item and the story it holds, and sellers will be more inclined to give things away knowing the buyer personally. The item also holds meaningful connection between the buyer and seller.

REVIVE

Product Summary

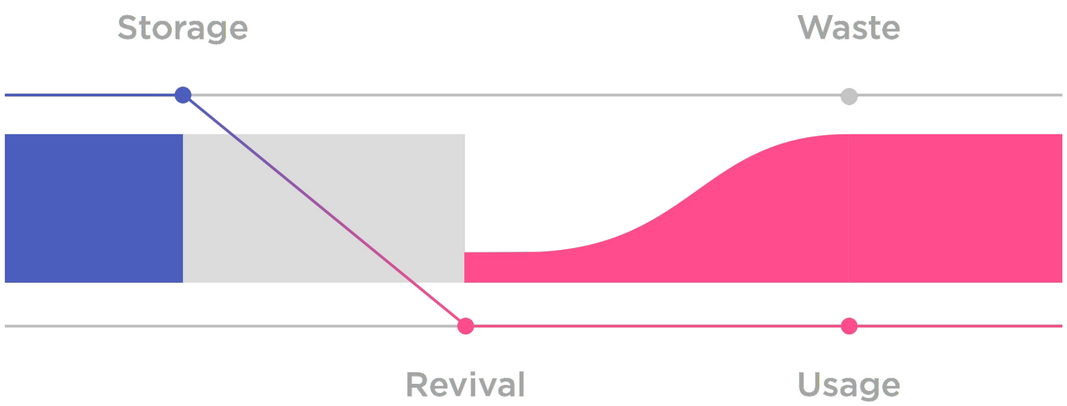
Revive is a digital platform that promotes neighborhood-based freecycling. Freecycling is the act of giving away usable unwanted items to others. The concept of freecycling is gaining momentum in cities around the world, but lacks refinement and designated platforms. Revive provides that platform, and takes the repurposing one step further by not only preventing objects from going to the landfill, but inspires users to part with static objects in their lives to help others.

Life of an Object



The strategy that enables Revive is to not only eliminate waste, but increase potential resources in the object lifecycle.

When the object is no longer useful to the owner, but still has enough value to remain in their life, the object often goes into storage and becomes dormant. Revive targets this point in the object lifecycle when it still has both practical value and emotional value. The practical value makes it appealing to a second hand user, and the emotional value is why the owner holds on to it.



Transition from User 1 to User 2

The object lifespan hits different points incorporating when a person plans to buy an object, buys it, uses it effectively, etc. The space in that cycle that Revive targets is when the user would usually decide to put an object on a shelf or in storage. This time is when an object is still practically valuable and useful, but has become static or doormat in the first user's life.

By targeting that space and making the transfer in ownership at that time, Revive enables the object to have a second life while it is still valuable. This serves emotional value for both the first and second user, and ultimately brings the object back to life.

Design Principles

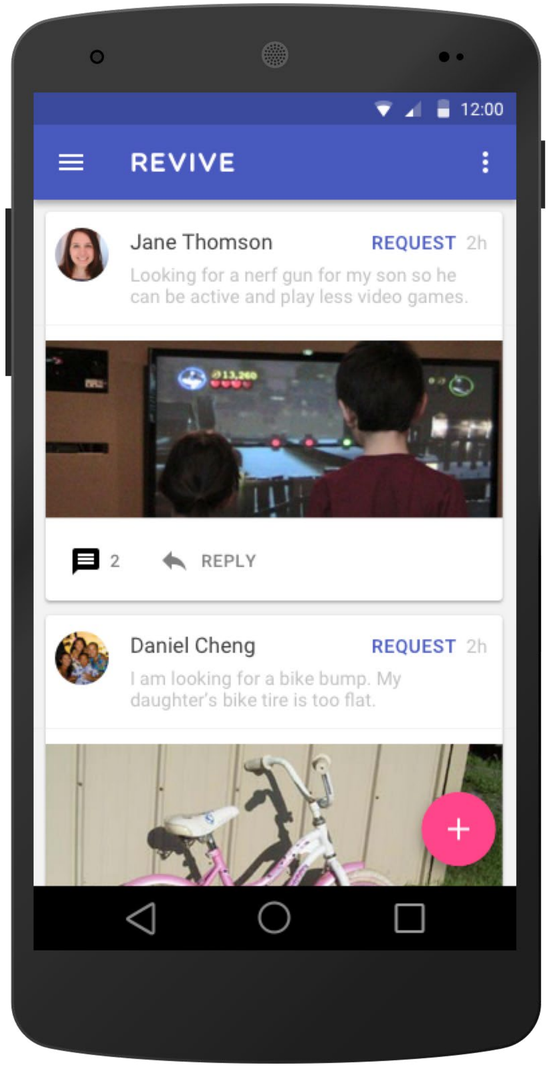
_1 Use storytelling to inspire people to give away possessions they've been holding on to.

_2 Strengthen the community by forming new connections for users with

_3 Create a safe and engaging online gift economy

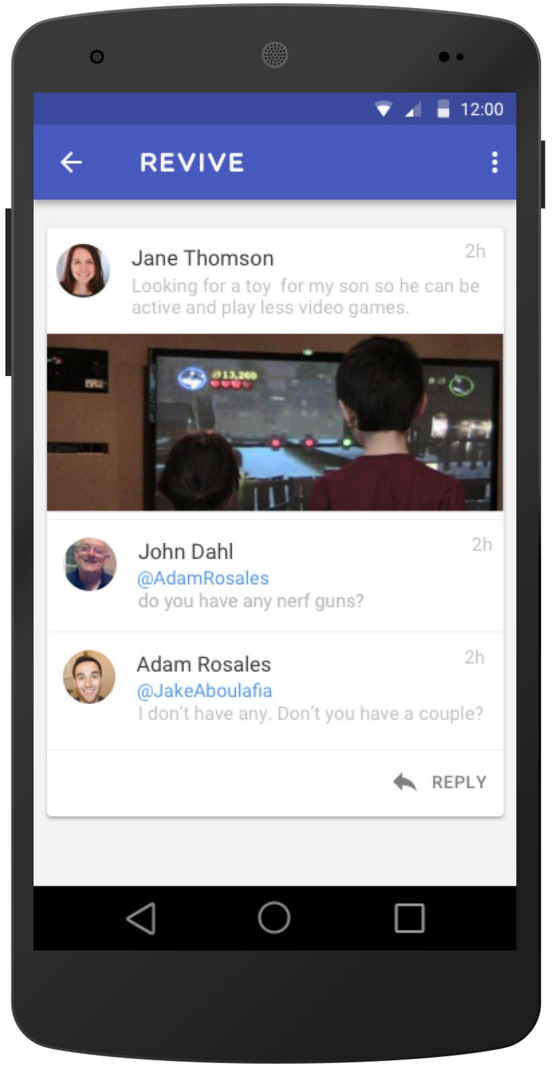
_4 Use proximity to promote trust in the platform

_5 Leverage empathy to overcome limiting emotional attachments



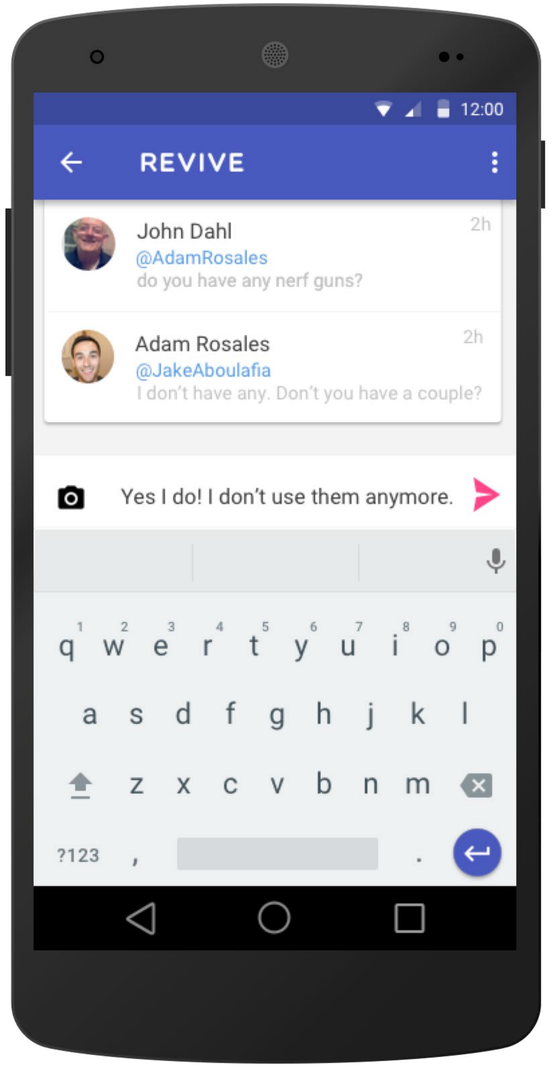
Newsfeed of requests and stories

The Revive home page is a feed cataloguing all current requests and the stories crafted around them. Each post contains information about who posted the request, photo and text content detailing it, and any active conversations surrounding the post.



Creating A Request

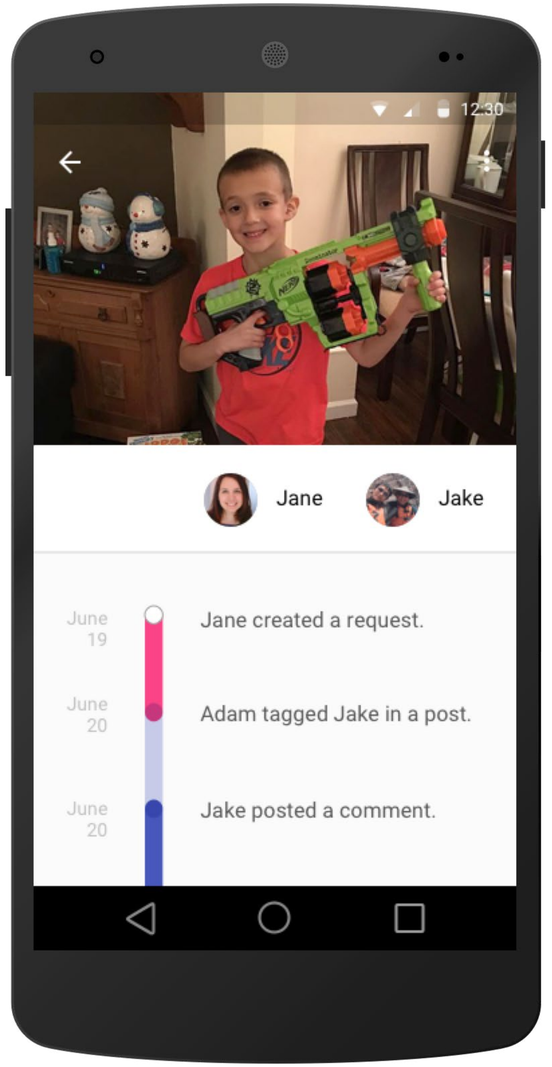
Part of what makes Revive unique is the distinct storytelling platform. When creating a request, users are encouraged to provide details, context, and a photo. These details are what makes the platform feel neighborly and connected.



Request Conversations

The conversation page allows users comment, tag others, ask questions, and generally get more information about the request.

The tagging capability allows different users to engage each other in certain requests. The objective of this function is not only increasing likelihood of fulfilling a request, but additionally engaging users in the platform when they are not actively scrolling through the news feed.

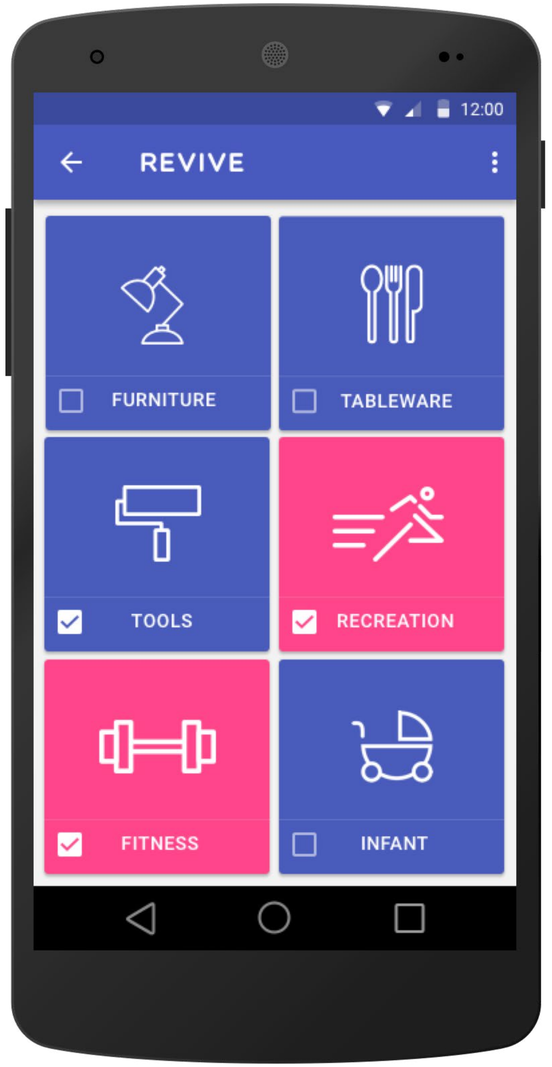


Request Timeline

The timeline page crafts the story of the object and conversations that have been exchanged between users. These stories can help inspire others to give away their possessions to people that would use them.

Future of Revive

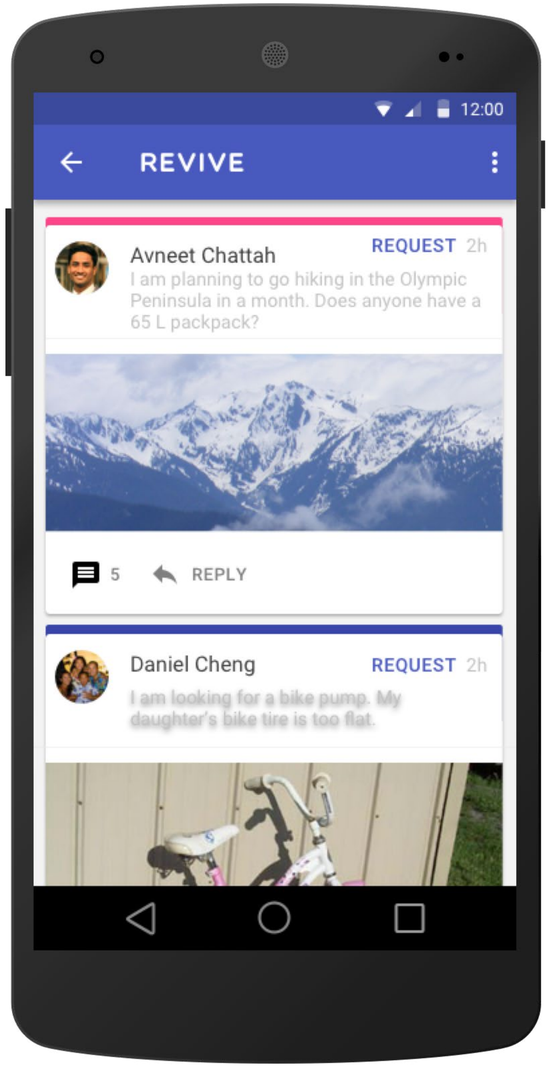
Beyond the foundation of what is going to make Revive function, we are looking to the future to see what can become of the platform.



Pre-select Item Categories

Users are able to pre-select item categories that are relevant to either what they have or are interested in. This function results in the user receiving notifications of requests that apply to them.

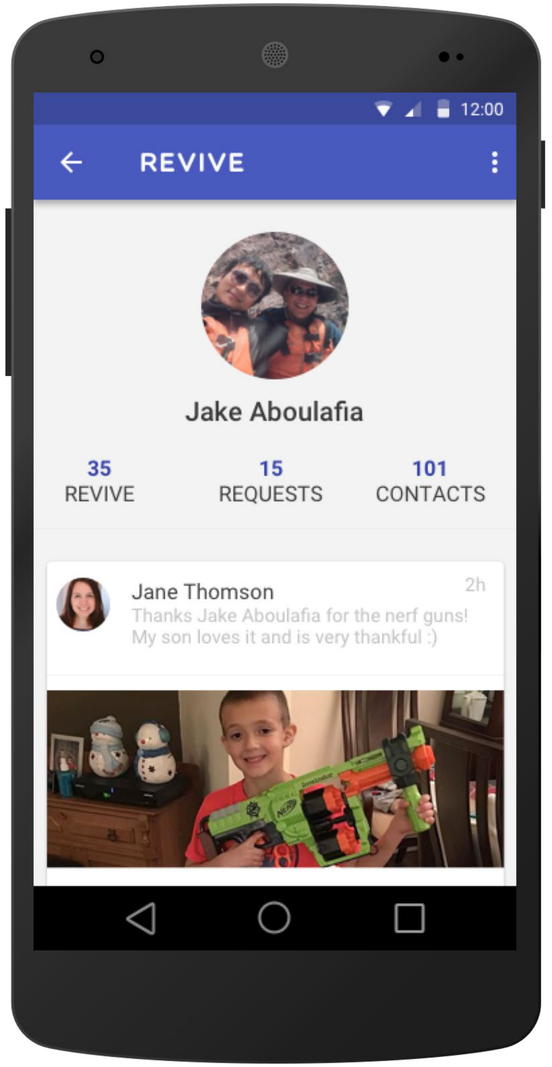
This helps decrease the amount of time reading requests on the newsfeed, and increases both users app use and productivity.



Flag High Priority Items

The ability to flag high priority relates directly back to our insight surrounding using objects that directly influence people's behaviors.

The high priority component does this by supporting actions that are time sensitive in the user's life.



User Profile

To further promote users connecting with their neighbors, we imagine Revive hosting a history of the user's interactions in the app. This encompasses contacts, requests, and general activity logs.

THANK YOU!