

MEMORY.zip

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Rhode Island School of Design
The Master of Industrial Design 2018

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MEMORY.zip

A thesis presented in partial fulfillment of the requirements for the degree
Master of Industrial Design in the Department of Industrial Design of the
Rhode Island School of Design, Providence, Rhode Island.
By Yu-Hsing Wu 2018

Abstract

I want to turn the unintentional “digital traces” we leave on the Internet into a tangible format so that we can be more aware of the traces we are making. To do this, I have created a series of physical objects that capture those digital traces. My hope is that this series will eventually reflect our relationship with these traces and how we feel connected to the people we care for today.

Contents

01 | Exploration

- Introduction
- Exercise 1
Are Digitized Things Better?
- Exercise 2
Digital Memory
- Exercise 3
- Exercise 4
- Design Statement & Principles

02 | Making

- Sketches
- Model Making

03 | Design

04 | Conclusion

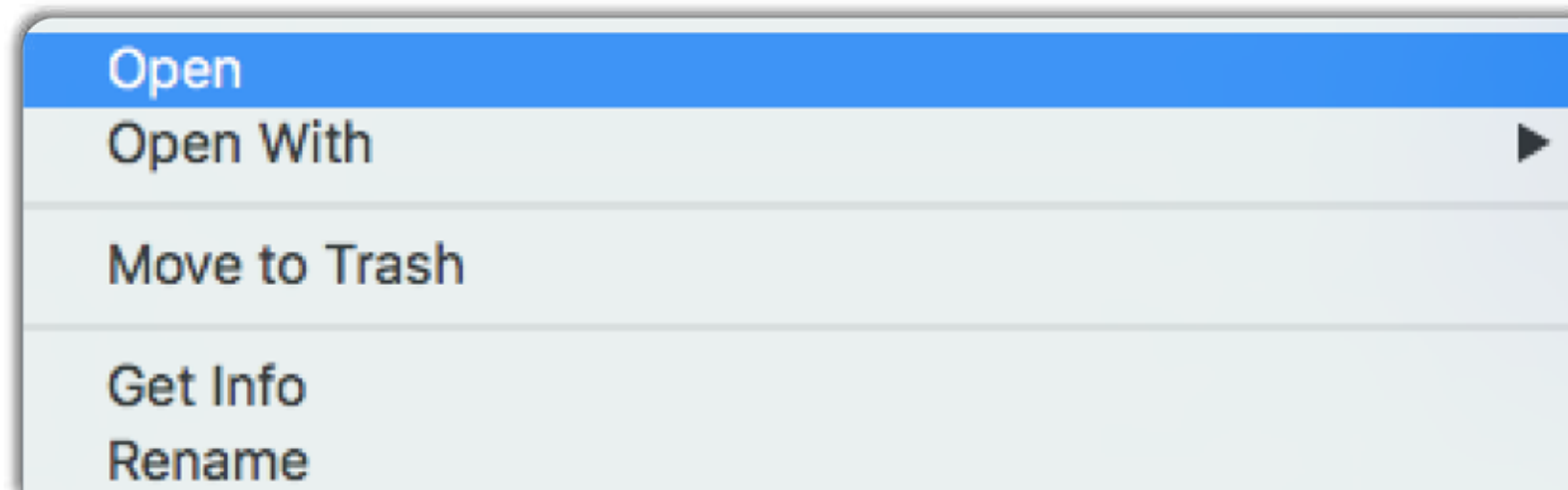
1

Exploration

Introduction

We are the first generation of humans to experience intangible ownership. Instead of physical objects, most of the things that we feel represent us—like the music we like, the movies we watch, and the photos that capture our friends and family—are stored in computers in digital formats. It is interesting to think about how few physical things will be left at the end of our lives. We will leave behind not letters, photo albums, and CDs, but numerous online accounts and digital files.

Digital traces are something we leave online every day. Some of them are intentional and visible, like emails and texts we send, and the photos or videos we share on social media. But the others are invisible and unintentional, like search and purchase histories. We are well aware of visible digital traces' existences, because most of them are made by us intentionally. We know where we can find the traces and what information the traces include. However, we also live in a world that records unintentional traces on a minute-to-minute basis. These invisible digital traces describe most of our lives, but we seldom see them as truly belonging to us. Because most of them are hidden secretly in our computer, we do not know about their existence until something goes wrong, like someone accessing our online accounts or steal our identities on social media. We've long outsourced our memory to paper, photo, and video. Invisible digital traces are yet another format for recording memory, the only difference is that they capture the memories we may not even be aware of.

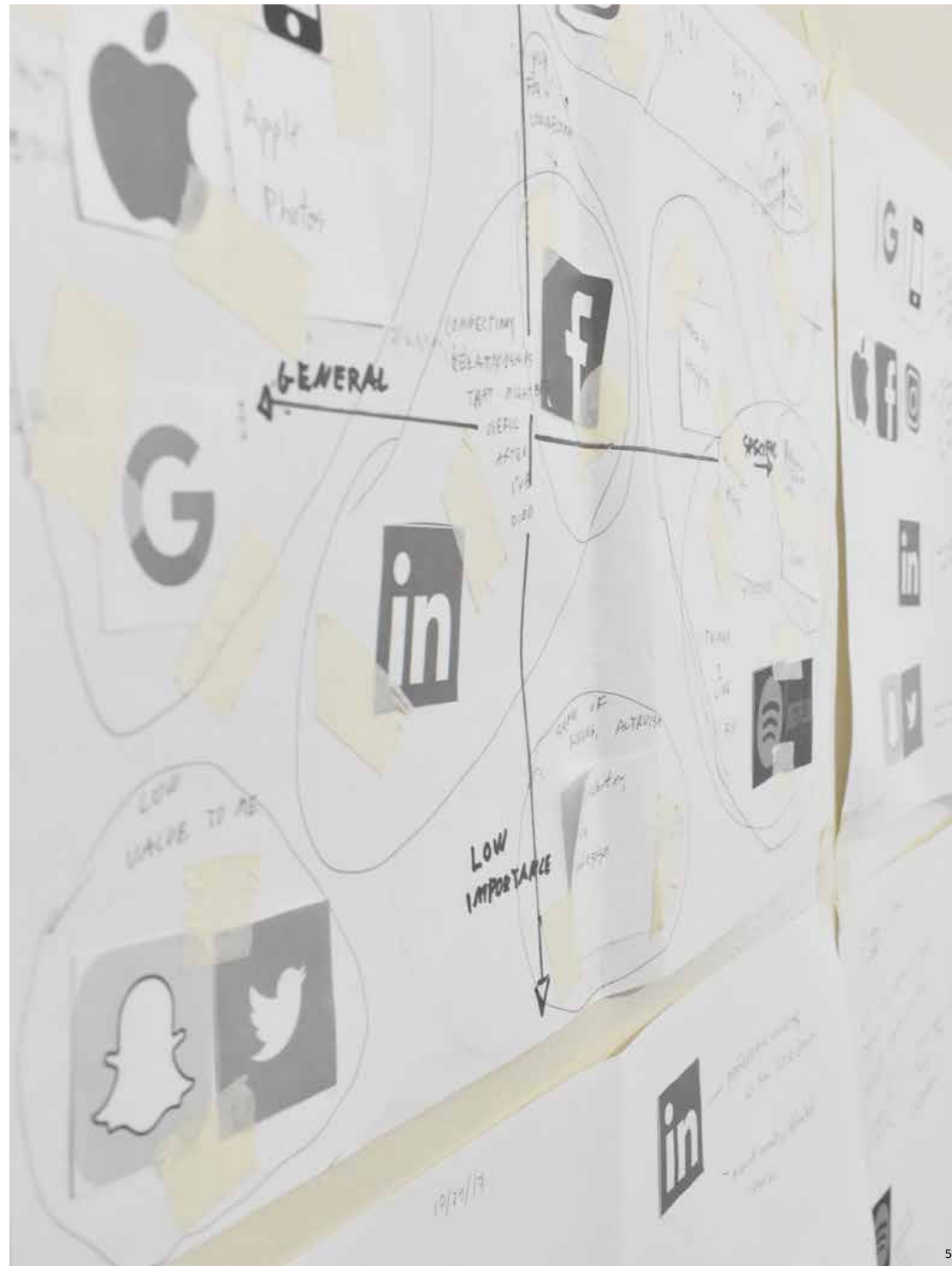
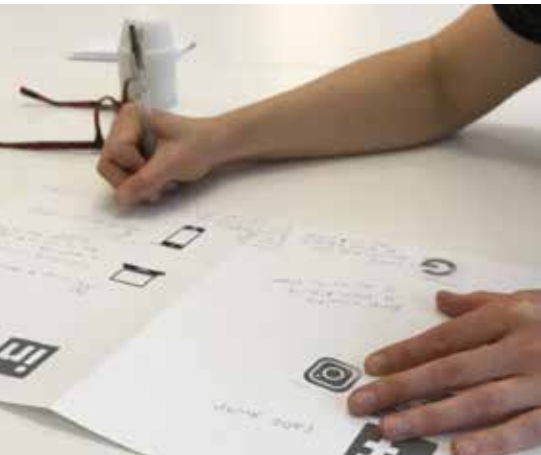


Exercise 1

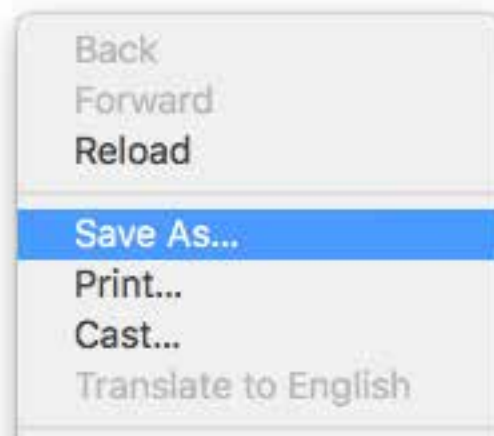


“ If you were going to die tomorrow, how would you arrange your digital legacy?”

To better understand how people think about their ownership of visible digital traces, I organized a “Last Will and Testament” workshop. Six grad students in the RISD industrial design program participated in this workshop. I asked participants, “If you were going to die tomorrow, how would you arrange your digital legacy?” The tremendous digital data we leave behind is a concern that previous generations have not had to consider. It is a hard question to answer. Our digital traces are too many to be easily organized. Some people in my workshop wanted their families to be able to keep their digital files. However, other people did not want their families to see all of their data. Most of the participants were unsure about how to deal with their digital legacy. Our relationship with the intentional and unintentional digital traces are both intimate and awkward. We create our traces about us but we barely feel like we own them.



Are Digitized Things Better?



“When you think about the quantity of documentation from our daily lives that are captured in digital forms, like our interactions by email, people’s tweets, and all of the world wide web, it’s clear that we stand the chance to lose an awful lot of our history” So warned Google vice president Vint Cerf in 2015. We usually think of our traces in the digital world as being immortal. We believe everything in digital formats will last forever. For example, we have stopped keeping our photos in physical format for the past two decades. Most of the photos we have taken are in digital format. The photos exist in our phone, laptop, and Cloud. We firmly believe that the digital format is the best solution to preserving our photos. However, these digital traces are often more fragile than physical objects. Marc Weber, curatorial director of the Computer History Museum in Mountain View, California explains, “Digital records are more like an oral tradition than traditional documents; If you don’t copy them regularly, they simply disappear.” Take the floppy disc: we used it as a universal data format for 40 years until the 1990s. Now, it is hard to find a computer that can read floppy discs at all. More recently, in 2013, Apple started to make their laptops without a disc drive at all. Five years later, it is not easy to find a laptop that can read old CDs. The change in the digital world is fast and old technologies and formats are often not preserved.

Still, digitizing the objects we own seems to be the default nowadays. For the past decade, we have turned more and more objects and actions into digital formats, from the music we listen to

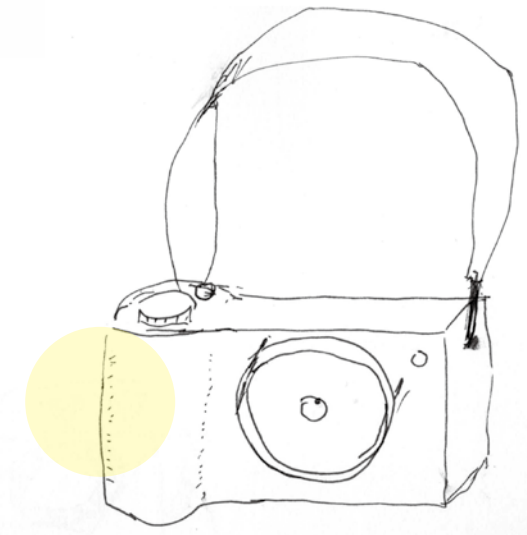
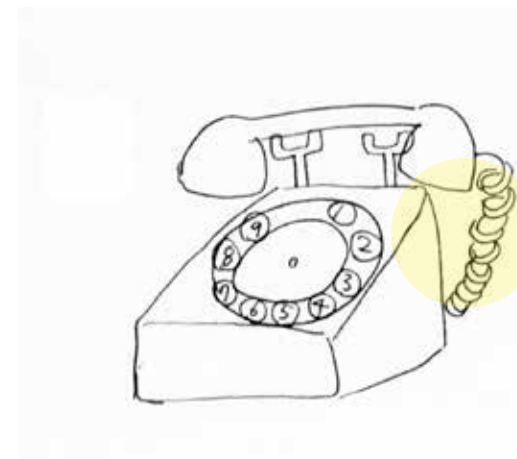
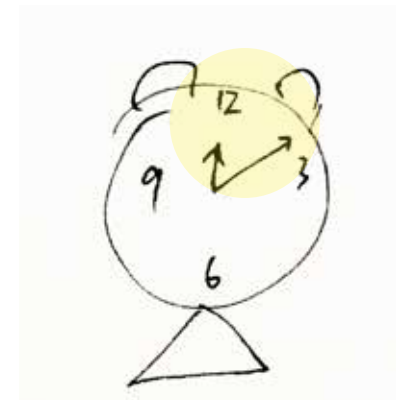
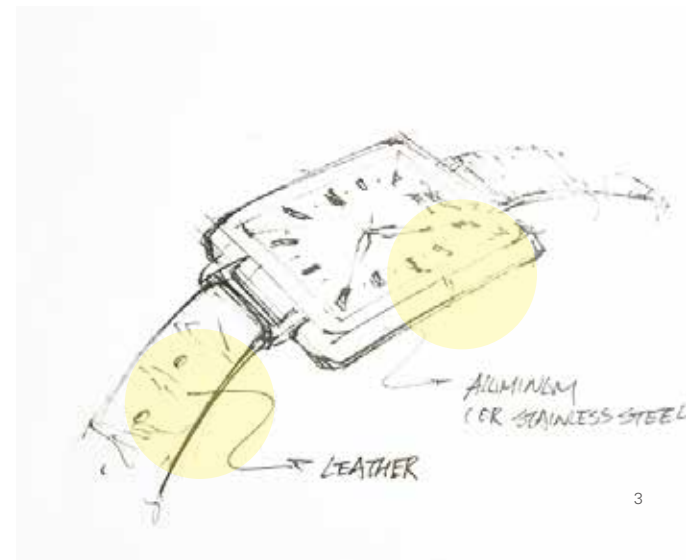
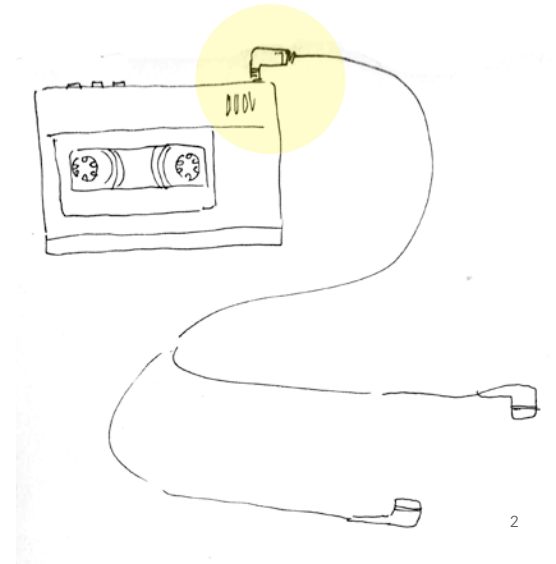
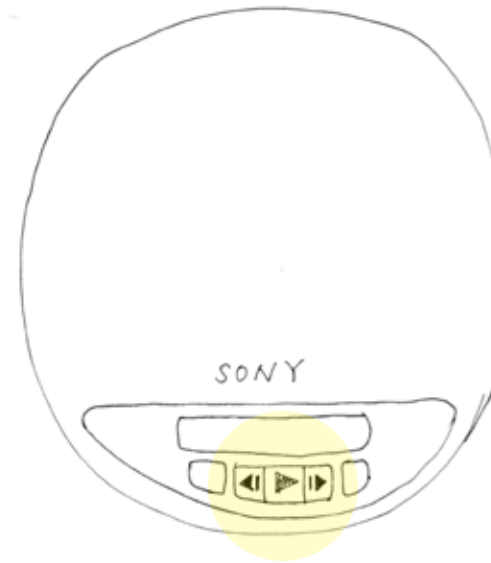
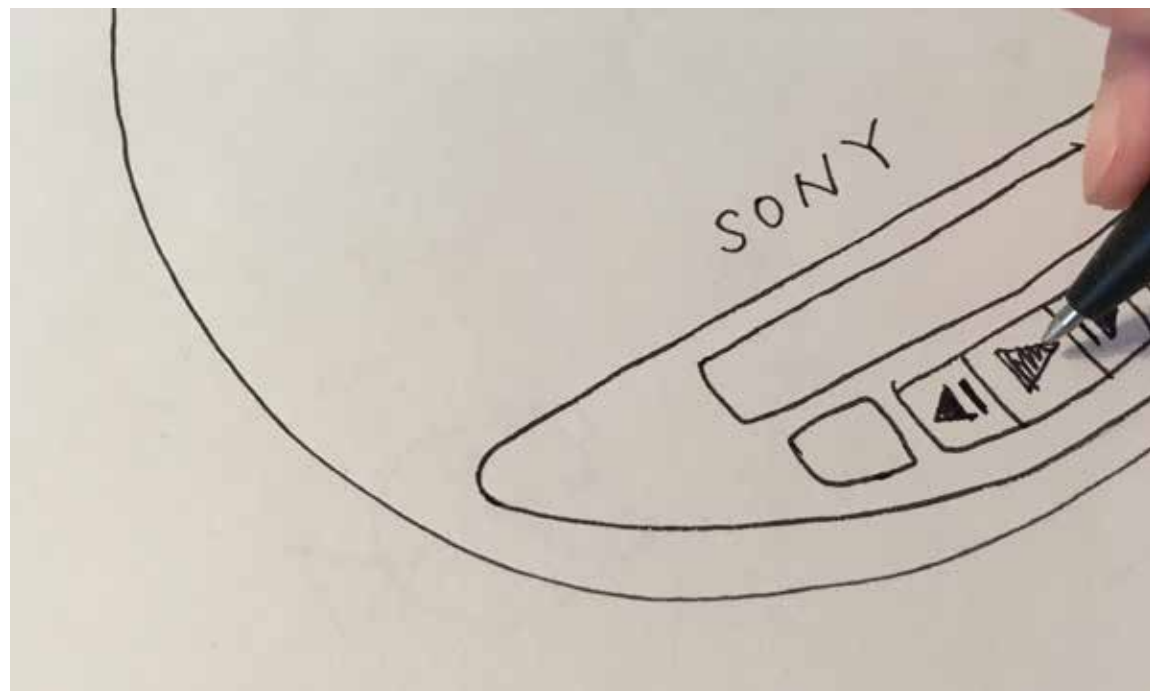
our most recent exchanges with friends. The entire world is a click away. But in some ways, we still crave a more sensory and material experience. According to Billboard and Nielsen Music, in 2017, the United States’ vinyl album sales hit a record high in the past two decades and made up 14% of all physical format music sales. Remarkably, half of vinyl buyers are under 25 years old¹. These young adults, born in the era of YouTube and Spotify, still crave vinyl. The digital solution seems to be the cheapest and most convenient one to access and store materials. However, we want to experience things more fully than by just clicking on a screen. In order to find out what kinds of experiences people remembered the most while using physical objects, I decided to run an observational exercise, Exercise 2.

¹ In 2015, MusicWatch, a music consumer research company, reported

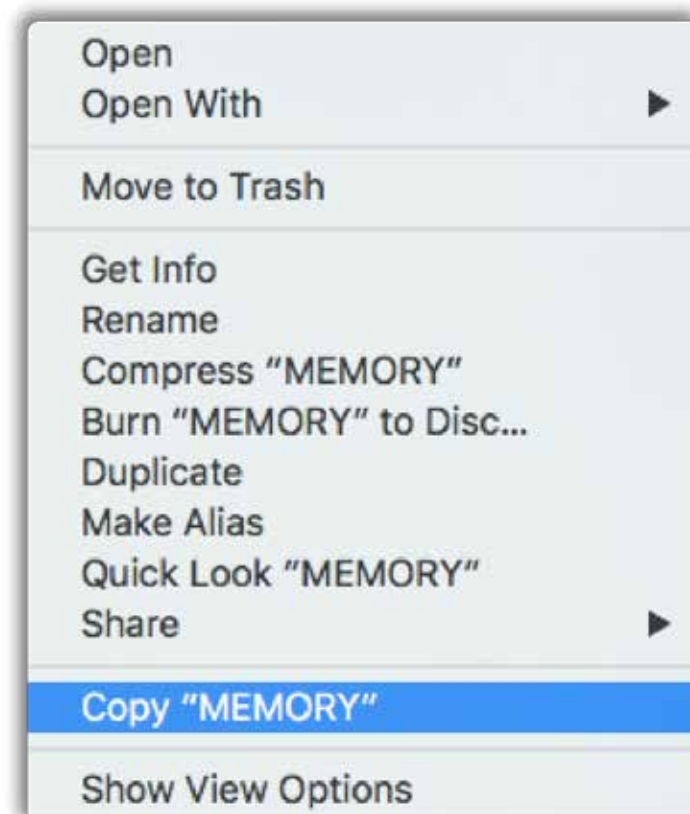
Exercise 2

“ Draw me picture of an object that you own”

For this workshop, I asked people to draw from memory an object that they own. Six grad students from RISD or Brown University participated in this workshop. One person drew the Sony Walkman portable CD player she used in high school, another drew the watch he wears everyday. In my observation, when drawing, people spent more time portraying the parts of an object that they have touched or that move physically—for instance, the window on the CD portable player or cord of the telephone. While experiencing an object, people tend to remember the parts involving more of their senses.



Digital Memory



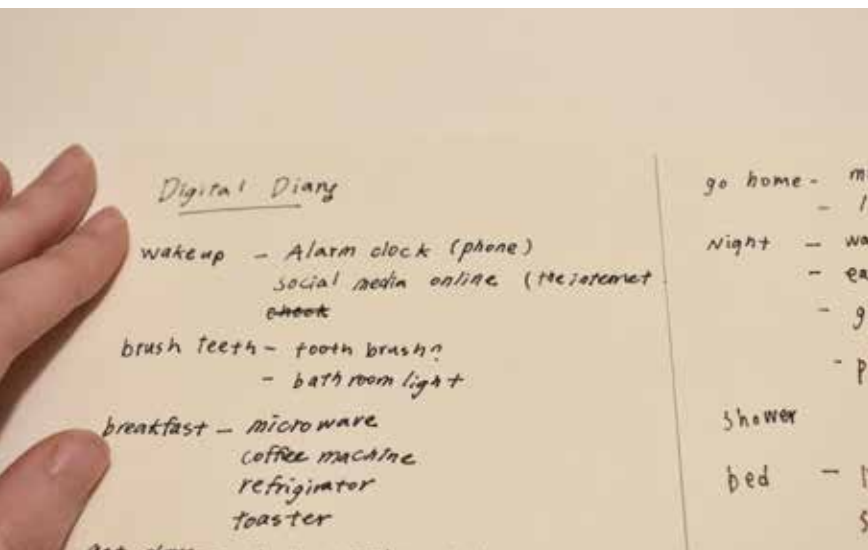
More and more events in our lives are creating digital traces. From making deposits in our mobile bank accounts to adding items to our online shopping carts, we generate data about ourselves. In the past, preserving memories used to require some effort and care: we wrote in diaries every night before we went to sleep to remember our daily activities. We recorded VHS family videos to capture every birthday party. We continue to take numerous photos to remember how we smiled or looked at a particular moment. But the biggest shift in recording memories through digital traces is that it requires very little attention. That is why few of us today can keep the habit of writing in a diary every day or maintain well-organized family photo albums. Compared to visible digital traces, the invisible digital traces are frequently a passive accumulation. The invisible digital traces are the memory we do not intend to make.

Your phone, for instance, knows when you wake up every morning to its alarm clock setting. Your search history learns what keeps you busy during the day. Your smart light records when you get home and when you turn off the light to go to bed. The information that digital traces can reveal about us is beyond our imagination. Compared to other memories, invisible digital traces are more

susceptible to being abused by others, as in the case of the Facebook data breaches revealed in 2018. We often don't know exactly where our data is stored and who is going to use it for what purpose. Our relationship with our digital traces is thus a paradox. On the one hand, we try to ignore the fact that we create invisible digital traces while we are using free services online, like Google or Youtube, but on the other hand, our anxiety about our data being misused keeps growing over time. In order to find out people's perspectives about the services involving digital traces, I ran a brainstorming workshop, Exercise 3.

Exercise 03

“ How can we use digital traces as a material?”

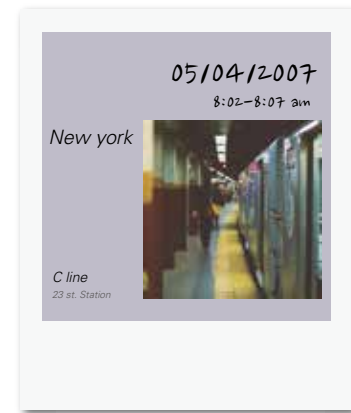
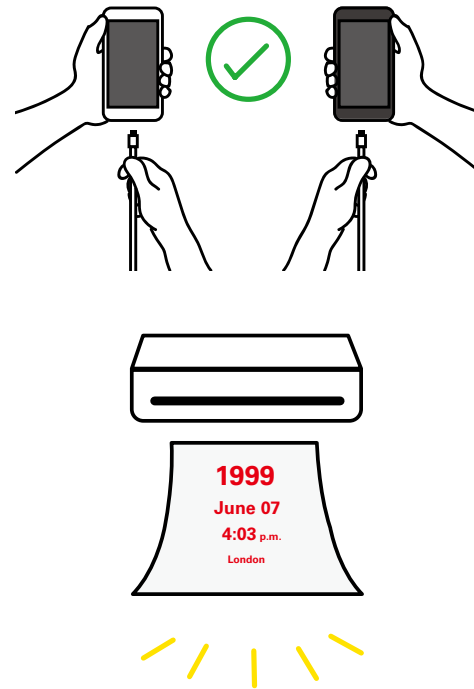


In a brainstorming workshop, I asked participants to use their own invisible and visible digital traces, including their playlists on Spotify and the location history in Google Maps as material to create a new service they would want to have in their lives. I had each participant create a service based on the three cards they picked. The first card showed a type of visible digital traces the participant created, like my Google calendar. The second card showed a type of invisible digital traces for the imagined user, like your alarm clock setting. The third card indicated the possible time frames for the service, like for the past three months. At the end of the brainstorming session, we created ten different kinds of services, like a service that will play the music based on the breakfast your friend had. The following page illustrates two of the best ideas I got from the workshop.



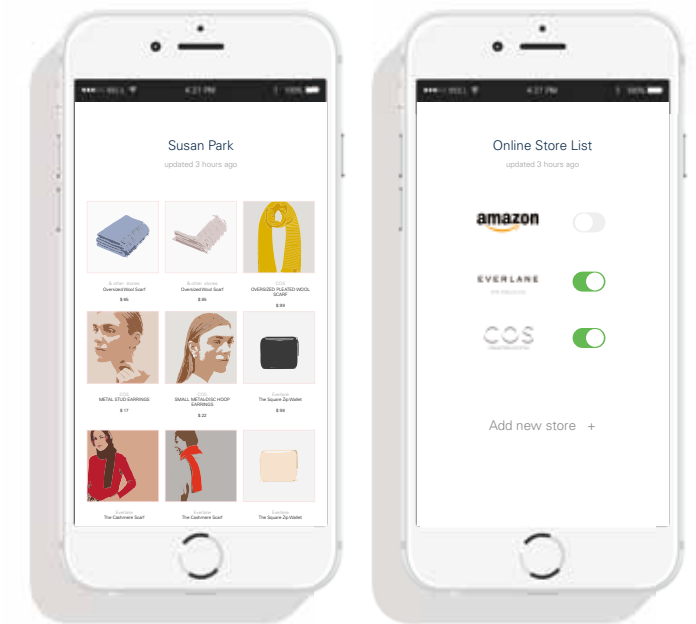
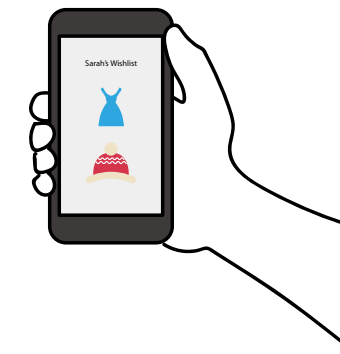
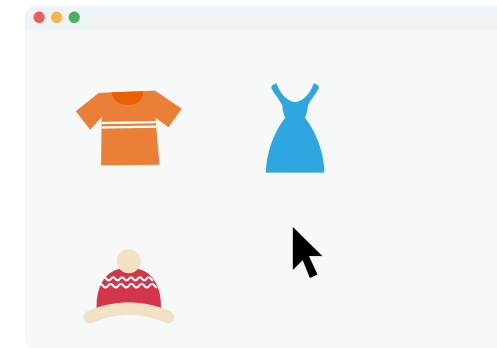
Idea 01

By comparing location history, we can find shared connections with our friends. We may have met before when we were complete strangers to each other. I may stop by the café you like to go every morning, we may sit next to each other in the restaurant, or we may play with the same dog in that afternoon. These shared moments will generate new relationships between people.



Idea 02

This service lets you share your wishlist secretly. Your colleagues, friends or family can buy the data about whatever item you ever click on in the online shop. Through this information, he or she will know the latest items you need recently or the style you like. With this product, there is no more awkward hints or frustrating guessing.



Exercise 4

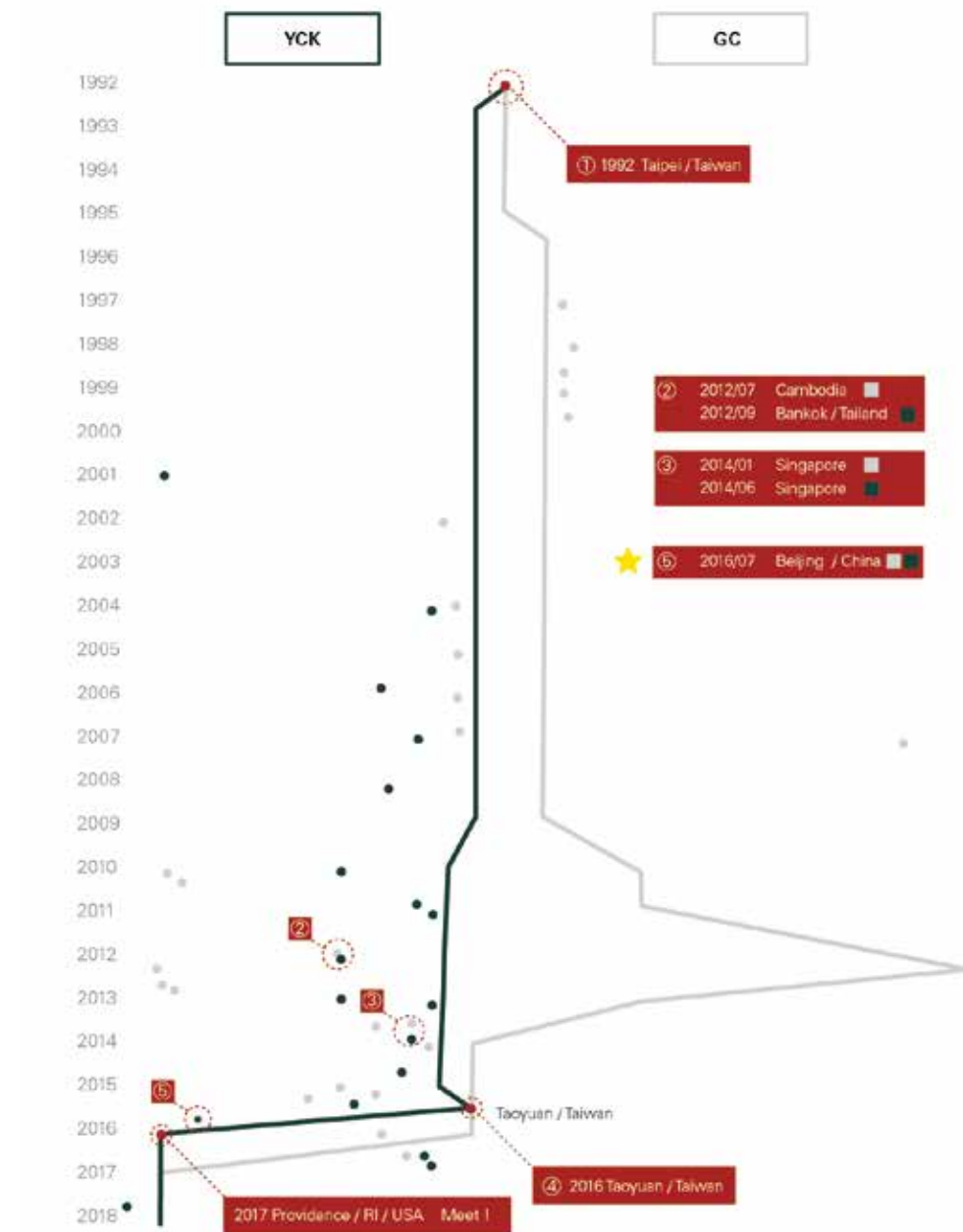
“1. Please list any places you lived for longer than 3 months, and the year(s) you lived there.

2. Please list some places you have visited or traveled to for business or pleasure for less than 3 months, and when you went there.”

For this workshop, I asked people to list all the places they have lived and when they lived there. This exercise is a physical way of creating one’s own location history. For the places participants had lived for a long-term period (more than three months), participants easily recalled the location and time period. However, for places participants had lived only short-term (less than three months), participants often had to rely on social media or photo storage systems to recall the location and timing of their stays. Details about travel experiences that occurred before the existence of their social media accounts proved hardest for participants to recall in detail. In some ways, people find it really useful to retrieve their forgotten memory from the digital traces. But in another way, they feel unsafe about this data stored online.

From this exercise, I also found that creating these personal location histories revealed previously unknown overlaps between people. Comparing their geographic histories, two of my friends found out they had actually been in Beijing at the exact same time—a year before

they actually knew each other. I arranged a dinner and told this surprising finding to two of them. After they knew the fact that they went to the same place together at the same time, they asked each other about the details of that trip and exchanged the photo they took on that trip. Both of them admitted that this unexpected finding brought them closer and made their memory of that trip more special.



The infographic about the two participants location histories

Design statement

I want to turn the unintentional digital traces we leave behind into tangible objects so that we can be more aware of the traces we are making. I will design a series of physical objects made based on such digital traces. The first glimpse at the objects may think they are common souvenirs which are memory objects we already familiar with. However, the objects informed by digital traces regenerate the meaning of the souvenirs and turn them into new mementos of a digital generation.

Design Principles

In my explorations, I found out that we often feel ambivalent about our relationship with unintentional digital traces. It can be difficult to recognize the value of these traces or how the digital traces could affect our lives. Based on these four exercises, I came up with the following design principles to guide my vision for my design suggestions.

Digital traces souvenir should result in a physical object.

[Exercise 2] [Exercise 4]

Digital traces souvenir should make people feel connected when they are apart.

[Exercise 3]

Digital traces souvenir should prompt conversation.

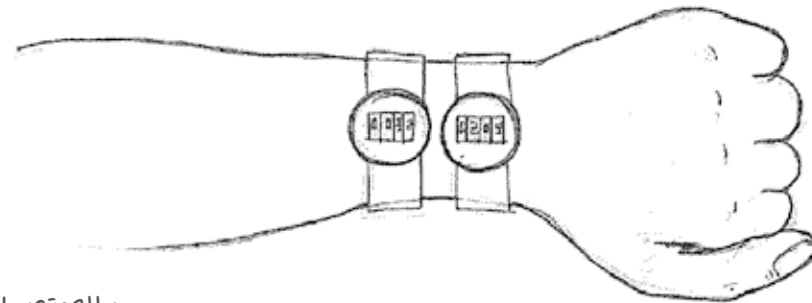
[Exercise 4]

2

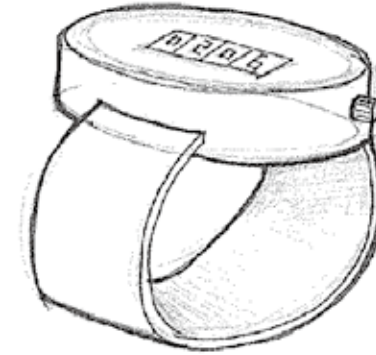
Making

Sketches

A device keeps tracking the time we physically being with our friend.



Location history + watch

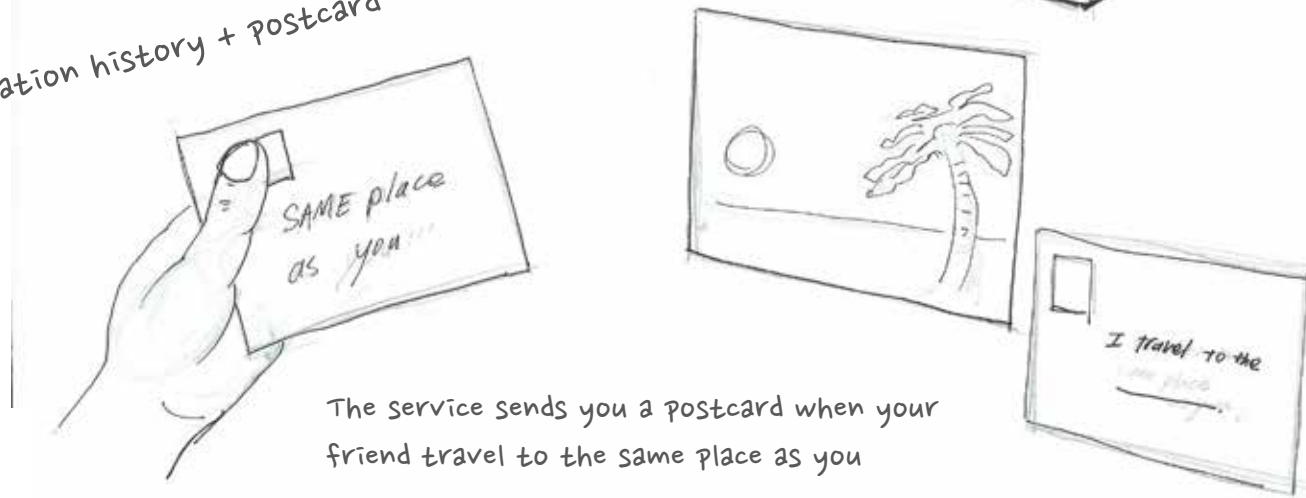


Location history + snow globe



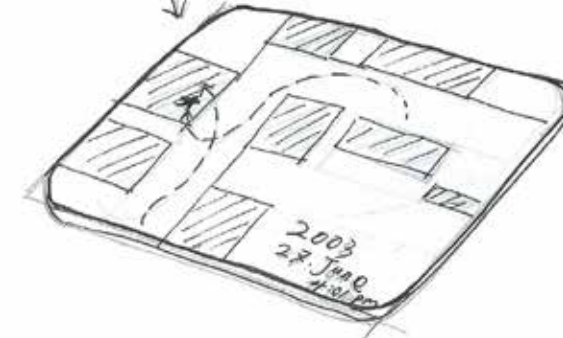
The building we first met

Location history + postcard

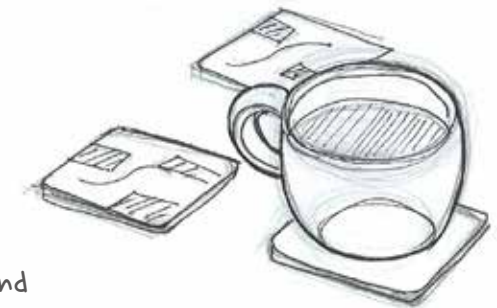


The service sends you a postcard when your friend travel to the same place as you

Embroidered map



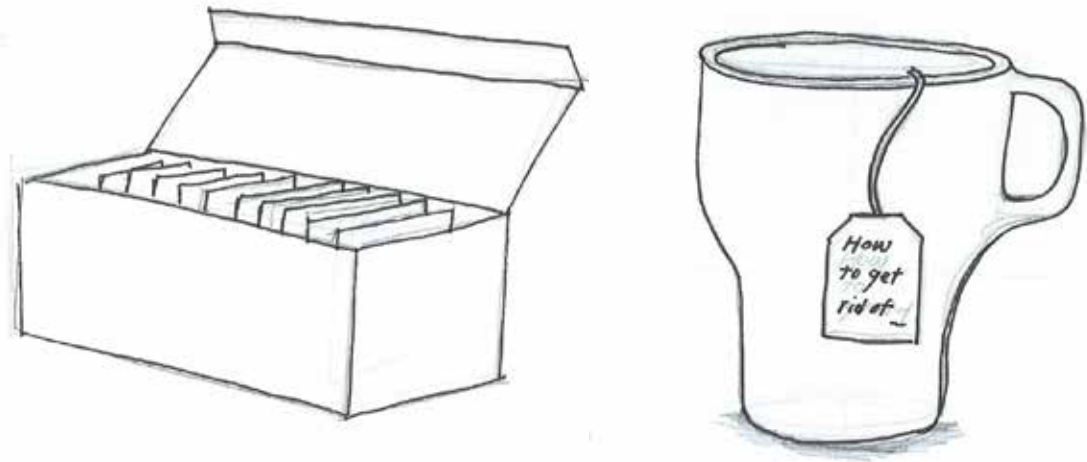
Location history + coaster



The cup coaster shows the location you and your friend first met.

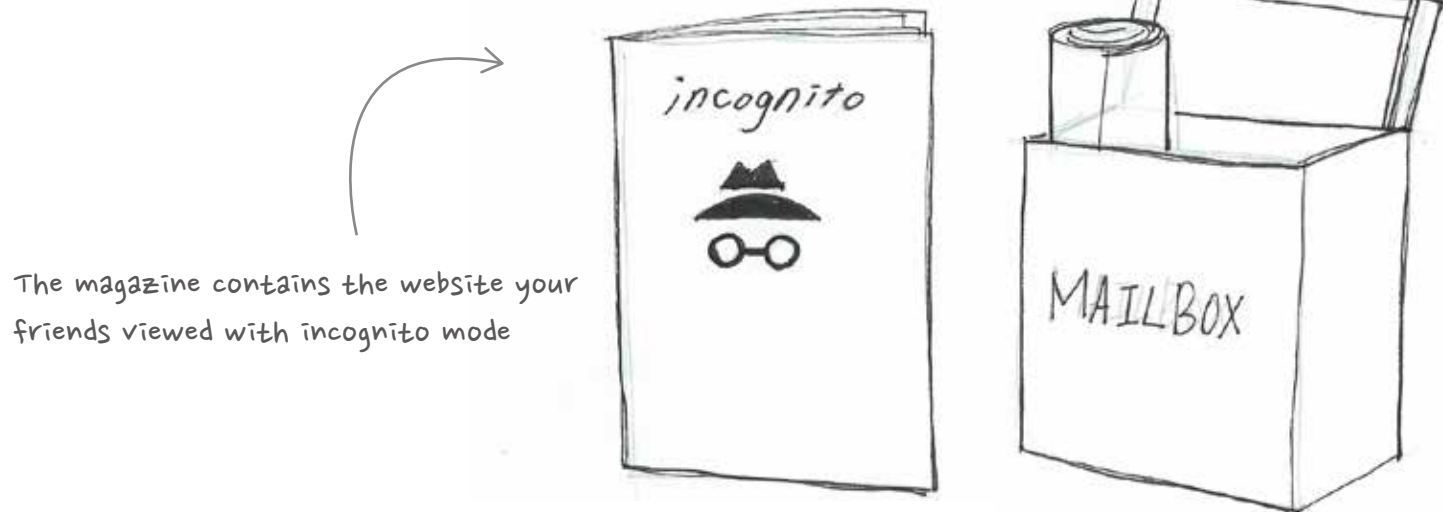
Sketches

Search history + tea bag



while drinking a cup of tea also learn what your friends are interested / worried about recently.

Search history + gossip magazine



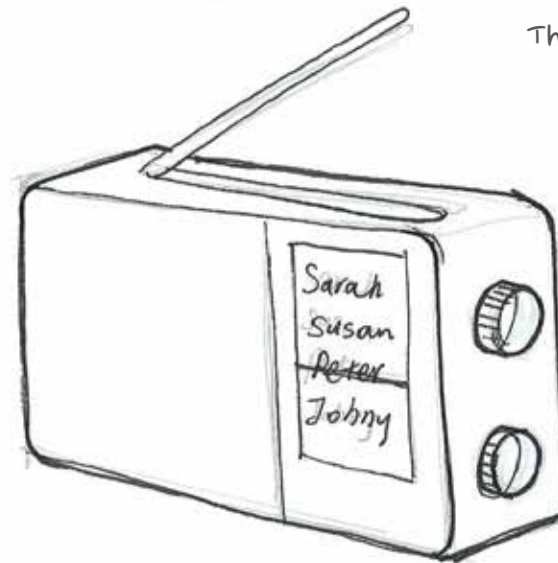
The magazine contains the website your friends viewed with incognito mode



Purchase history + candle



The candle smell just like your friend



Hearing what your friends said about you

Model Making



Together Time Tracker

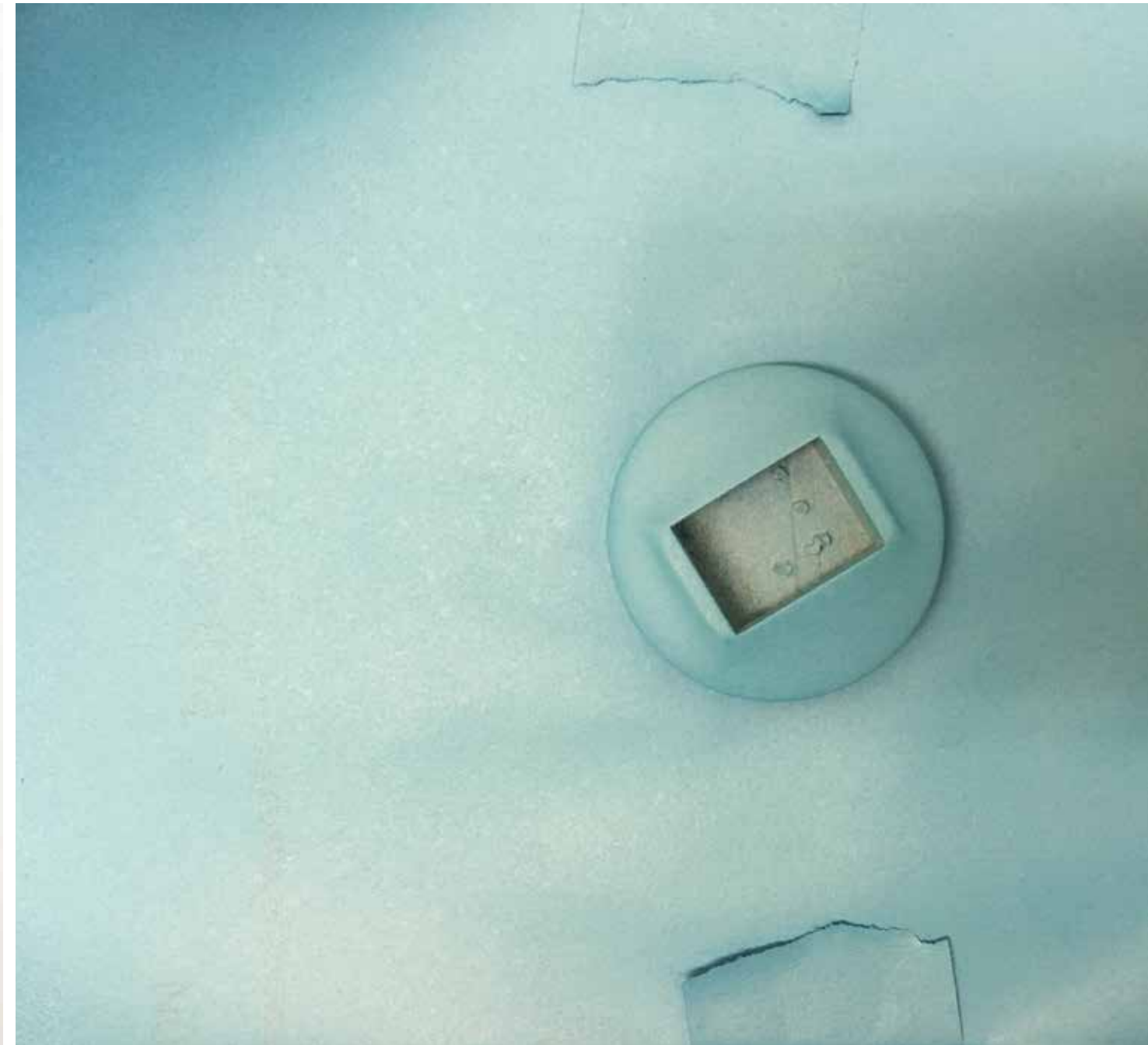


Inspired by the tally counter, the tracker used some components in the counter.

Model Making



Together Time Tracker



The trackers were 3d printed by *formlabs* and spray-painted.

Model Making

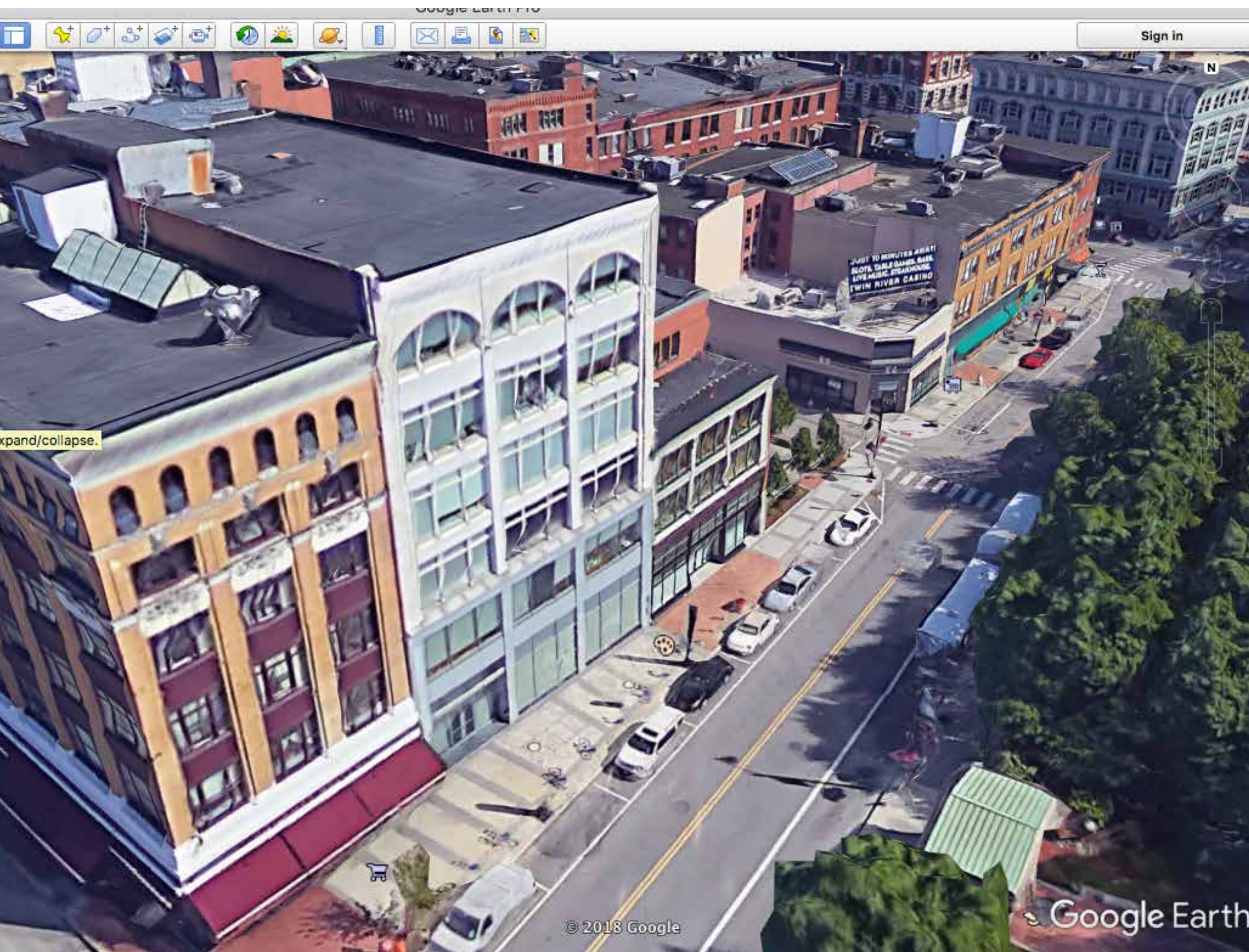


Purchase History Candle



A collection of my friends' shampoos, body washes, hand cream, shave gel, and detergents.

Model Making



Crossed Paths Globe



I used the screenshot photo from Google Earth to represent the image of the building.

3

Design

To anticipate consumer responses to these new digital trace souvenirs, I imagined how and why people might use these objects. To capture these scenarios, I have created the following description consisting of fictional product reviews. These stories are inspired by people I know or don't know, online and offline.

Together Time Tracker

A watch-like wearable device for keeping track of how much time you physically spend with the people you care for.

- Tracks and maps (with Google Maps) in real-time
- Pairs with the mobile app to generate personalized insights and suggestions for how to improve a relationship.
- Gives users the choice to reset every month, season or year





Customer Reviews



Useful for what it is

Been using it for a month now. Started to use it when our second child was born. I feel that I spend less time with my wife since the baby is here. We spend lots of time with the baby but not with each other. I hope this product will remind us that we should make an effort to have meaningful time together.



Crap!!

Bought this with my boyfriend several months ago. Since we started dating, we basically spend every day together. After using it, he realized how much time we have been spending together and said it is too much. He suggested we should spend some time apart. It doesn't help the relationship at all. Do NOT waste your money on it.



BFF Forever!!

I've recently graduated high school. My friends and I bought these together in our junior year. Even though I don't see them every day, we make plans to see each other, like going to each other's houses, parties etc. We post and celebrate on social media every time we reach another 100 hour together.



Is it so wrong that I don't like spending time with my kids?

My wife forced me to buy this so we can keep track of how much time we spend with our kids. But the truth is, I am trying to have good quality time for myself. I come home as late as possible so I can spend less time with them. The monthly insights always trigger fights with my wife. She is mad at me for not making an effort to improve. I am mad that she forced me into this stupid service. This device will ruin your life.

Purchase History Candle

A candle based on the scents of the products your friend is using

- Scents of the shampoo, body wash, lotion, perfume, aftershave, mouthwash or toothpaste your friend bought recently online
- 20-30 hours burn time
- All natural soy wax
- Made in the USA
- Hand-poured in small batches





Customer Reviews



Smells like home

My mom uses a certain brand of detergent; I don't use it because it is too expensive. Sometimes I will just buy the candle to feel safe and home again.



About to move on

This is my third time that I purchased my husband's candle, who passed away 6 months ago. It is the mixed smell of his aftershave and cologne. The smell is on my clothes, towel and bed sheets. With the smell, I vividly recall the time we spent together. I will keep buying it until I can fully move on.



Fail

I bought one of my friend's candles. She is someone who actually smells like a breath of fresh air. I want to know how some people achieve that constant nice smell. It turns out that she only uses scent free products, so my candle smells like nothing.



Catch a Liar

Verified my (now ex) boyfriend was cheating. Sucks but it's better than never knowing the truth. We have been in a long distance relationship for two years. We added each other to the list so we can order each other's smells whenever we want, and I buy his candle every six months. I smelled something different in the most recent order. He is a person who does not change his detergent or shampoo brand easily. It confirmed what I had suspected: he has been living with another girl, while having a long distance relationship with me.

Crossed Paths Globe

The first meeting place of you and one of your friends is captured in a snow globe.

- Based on your location histories, we will find out where you met each other for the first time
- Includes a 3D print of the building from Google Maps
- Each globe is individually crafted from start to finish





Customer Reviews

★★★★★

Amazing!

My husband and I submitted our data to celebrate our 15th anniversary. We received the globe fairly quickly and found more information than expected. We both thought we met at one of our best friend's house. But it turns out we first met at the little restaurant just a block away from each of our parents' houses when we didn't know each other. It is amazing. Definitely recommend to any couple looking for a special anniversary gift.

★★

Boring

Tried the service with my best friend from high school. Hoped to find out something surprising but it turned out the way we expected. What a waste of money.

★

Terrible experience

This company retrieves its data from Google. I didn't use the Google location history service until last year so the location I got is totally not the first place my friend and I met. It is just the restaurant we went the day after I enabled the location history service on my phone ... VERY DISAPPOINTING.

★★★★

Its okay I guess

You can find out some cool things, like when and where you met each other. You're going to get bored with it after a while though. So, I would say buy it only if you have the money.

Conclusion

In my journey of the thesis, I find out that digital trace is a topic which people keep avoiding to talk about. For most of people, the only solution of digital traces is either deleting them all or ignoring the existence of them. But I see them as a material which has more potential to be something wonderful. I am wondering if we all forget our insecurity about our data being misused for a second, what kind of product can be produced out of it ?

I have been mistaken trying to persuade people the digital traces are something valuable and should be considered as part of memory. This part of statement still stays true till the end of my project. However, I changed the way to tell the story by leaving for some space for the audience to interpret the work themselves. I completed my final design by involving more speculative approach. The speculative approach not only allows people to view this project in the third people perspective but also be related to their own experiences. Instead of persuading people that digital traces are beneficial to our life directly, my project simply offers an opportunity for the viewer to reflect on their relationship with their digital traces. I see this project as a journey of creating a tool for sensitive topics. As a product designer, I firmly believe that the most important part of my design is how the story can be evoked by the objects I created.

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List of Figures

Cover. screenshot (macOS Sierra) by author, 2018

Page 2. screenshot (macOS Sierra) by author, 2018

Page 4. by author, 2017

Page 5. by author, 2017

Page 6. screenshot (macOS Sierra) by author, 2018

Page 8. by author, 2017

Page 9. picture 1 draw by Yun-Chu, King

picture 2 draw by Wei-Hao, Wang

picture 3 draw by Jerry, Ding

picture 4 draw by Wei-Huan, Yu

picture 5 draw by Chia-chi, Wu

picture 6 draw by Tsung-Han, Yang

Page 10. screenshot (macOS Sierra) by author, 2018

Page 12. by author, 2018

Page 13. by author, 2018

Page 14. draw by author, 2018

Page 15. draw by author, 2018

Page 16. by author, 2018

Page 17. draw by author, 2018

Page 20 draw by author, 2018

Page 21 draw by author, 2018

Page 22 draw by author, 2018

Page 23 draw by author, 2018

Page 24 by author, 2018

Page 25 by author, 2018

Page 26 by author, 2018

Page 27 by author, 2018

Page 28 by author, 2018

Page 29 by author, 2018

Page 30 screenshot (Google Earth) by author, 2018

Page 31 by author, 2018

Page 35 by author, 2018

Page 36 by author, 2018

Page 39 by author, 2018

Page 40 by author, 2018

Page 43 by author, 2018

Page 45 by author, 2018

To mom and dad,
for supporting and believing in me.

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