

Aio - All in One

The Most Useful Card in the World!

Final Report

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Existing Solutions

Because we were aiming to design an “All in One” card holding solution, we had to explore all of the current design solutions that users dealt with on a daily basis. At the core, there is the traditional solution for multiple card use, carrying multiple cards. At any given time, the average person may be carrying a driver’s license, vehicle insurance card, credit card, debit card, as well as a number of gift cards and membership cards. The average person carries at least six different cards in their wallet at all times. Carrying a lot of cards can be problematic, as they become easily misplaced or confused with other cards.



(Traditional credit cards + gift cards)

Consolidating the use of multiple cards is a universal problem, so we searched for companies that were trying to solve the same problem. We found two products, the Coin Smart Card and the OneCard. Both are devices that are currently in development, but are not close to being released to the public. These devices focus only on credit and debit cards, and do not include the ability to add gift cards, insurance cards, or forms of identification.

In an effort to differentiate ourselves from this “competition”, we wanted to make our product a true “All in One” smart card. This means including not only Credit Cards and Bank Cards, but allowing users to add in forms of identification, and gift cards. Our goal is to allow the Aio to replace any and all cards that one might have in their wallet.



(OneCard - multiple card solution)



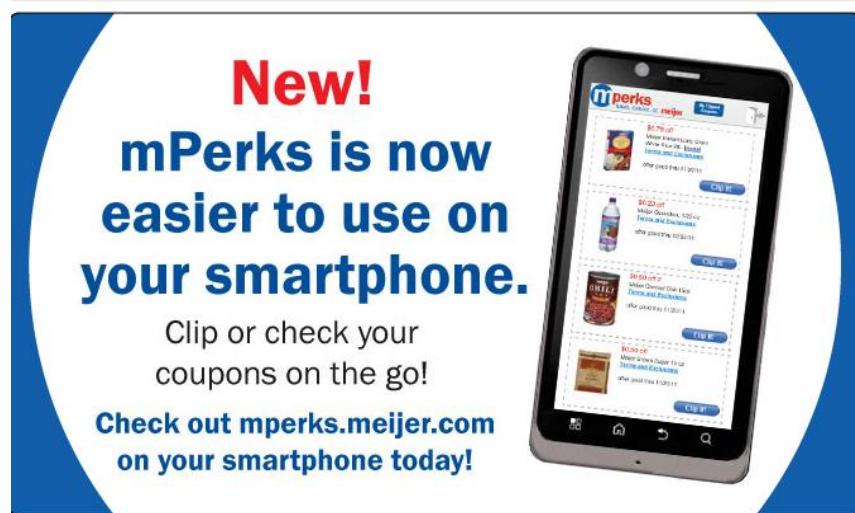
(Coin Smart Card - Main Competition)

To further differentiate ourselves, we also wanted to include the ability to search for and use coupons on this device. Because this will be used in shopping situations, many of our users indicated that they would be interested in some sort of coupon functionality. From there, we looked at the existing design solutions for coupons. There is the traditional method of clipping physical coupons out of the newspaper, which is both time consuming and can be a messy experience.



(Traditional Coupon Clipping)

Exploring further, we also found apps that allowed users to search for and “clip” coupons digitally. These apps would tie into a user account, where the user could then show the clipped coupons to a cashier and have them applied directly to their bill.



(mPerks - mobile app)

Interview Scripts and Field Notes

Initial Design Ideas:

We conducted three interviews before we started creating our first set of designs. To ensure the quality of our interviews, we spent some time discussing the information we needed to gather from potential users. Pictured below is our initial structure map of the Aio's features.



Initial Feature / Structure Map of the Aio

Design Problem Interview Questions:

Below are the questions that we used during our first set of interviews. Each interview was recorded and then transcribed later for use in our Affinity Diagrams.

- How many cards (personal identification, credit, bank, health insurance, car insurance, etc.) do you have?
 - Which ones do you tend to use on a daily basis?
 - How about on a weekly basis?
- How do you arrange and keep track of your cards?
 - Do you keep all of them in the same place?
 - Do you have a particular way to sort them?
 - Do you find it difficult to keep track of them all at once? (There might be some question bias here. I mean this question might influence the way the subject perceive keeping track of cards. Maybe we can just delete this one.)
- Can you recall a situation where you could not find the card you were looking for?
 - Where was the card you were searching for?
 - How did you deal with that situation?
- What is your process when you lose one of your important cards?
 - Have you had any troubles with cancelling accounts and ordering replacement cards?
- How often do you use coupon / store membership cards (like Kohl's or Best Buy)?
 - If often → do you carry them with you all of the time? Or only when you know you will be visiting that store?
 - If not → why do you not keep them around all the time?
- How do you check your available bank and credit balances?
 - If ATM or Checkbook → do you find this to be inconvenient or time consuming? (Same bias problem. Maybe this one can be rephrased as "How do you think the convenience of this way?")
 - If online → how often do you check your balances?
 - Do you check your balance before every major purchase?

Interview Transcriptions:

Below are the transcriptions of the three interviews that we conducted before we started our first prototype design.

Interview 1

[1] How many cards (personal identification, credit, bank, health insurance, car insurance, etc.) do you have?

[2] Can I check really quickly?

[1] Yeah, sure.

[2] So, just like identification cards?

[1] Whatever cards you keep in your purse.

[2] Five, six...it's a subway gift card.

[1] Also gift cards or coupons.

[2] Really? Then maybe...like twenty. A lot, cause this is my purse.

[1] Which ones do you tend to use on a daily basis?

[2] My debit card, and maybe my license.

[1] Yeah, and how about on a weekly basis?

[2] Maybe I will use a gift card maybe, on a weekly basis. And the same, like debit card and my licenses obviously. Oh and my school ID probably will be used on a weekly basis.

[1] How do you arrange and keep track of your cards? Do you keep all of them in the same place? Or do you have a particular way to sort them?

[2] Yeah. So I sort them based on how often I use them. So the ones that I use the most are the ones in my wallet that are on the top of the stack.

[1] Okay, it's a good way. And can you recall a situation where you could not find the card you were looking for?

[2] Yeah, it's because some of them I keep in the different wallet. So if I go somewhere, and I need certain cards...Like at one point, I wore my ID around my neck. And I didn't have it with me when I went to the library, and they need your student ID. So it was in a different wallet.

[1] Then how did you deal with that situation?

[2] Oh I had to leave, and then get my student ID and come back.

[1] That's bad. Can you recall an occasion when you mixed up different cards?

[2] No, because I don't have multiple, like, debit card, credit card. So, I only have one. And my license. Only have one license. My one student ID. Maybe gift cards, but that's not really important.

[1] Yeah, so one card for the same...

[2] I have one card for each thing, like... You know banking, license, student ID. Only have one card for each so I can't really mix those up. Health insurance card, I only have one.

[1] So that sounds like a strategy you use to avoid the mix up thing.

[2] Yeah, Yeah. I don't have too many, so I can't even mix them up.

[1] What is your process when you lose one of your important cards?

[2] First I freak out. And then I will have to...it depends on what card it is. If it's a gift card, then you just lose it, and that's it. But if it's like a debit card or your license, you have to go, and call the bank or go to the office and get a new one. So it depends on the kind of card. But first I freak out, and then I take the appropriate measures necessary to get a new card.

[1] How often do you use coupon / store membership cards (like the Loft or Best Buy)?

[2] Oh I have a Kroger card, so I use that every time I go grocery shopping, which is like a store membership card. And I use coupons, like pretty rarely.

[1] If you often use them, do you carry them with you all of the time? Or only when you know you will be visiting that store?

[2] All the time. You never know when you need to go Kroger really quick.

[1] How do you check your available bank and credit balances?

[2] On my phone. Just one second. There is an app.

[1] How often? If I can ask.

[2] Probably every other day.

[1] Okay, that's pretty much it. Thank you.

[2] Oh, you are welcome.

Interview 2

[1] How many cards (personal identification, credit, bank, health insurance, car insurance, etc.) do you have?

[2] About 12

[1] Which ones do you tend to use on a daily basis?

[2] Bank debit card 1 to 2 each day

[1] How about on a weekly basis?

[2] Bank debit card, driver license, business credit card. So about 3 or 4

[1] How do you arrange and keep track of your cards?

[2] By type, bank cards, others, etc.

[1] Do you keep all of them in the same place?

[2] Yes, in my purse

[1] Do you have a particular way to sort them?

[2] No

[1] Can you recall a situation where you could not find the card you were looking for?

[2] Yes

[1] Where was the card you were searching for?

[2] In a different purse. I switched purses and didn't move all my cards to the new one.

[1] How did you deal with that situation?

[2] Had the store look up my information by my name and social security number.

[1] Can you recall an occasion when you mixed up different cards?

[2] No

[1] What is your process when you lose one of your important cards?

[2] I've never lost one.

[1] Have you had any troubles with canceling accounts and ordering replacement cards?

[2] No

[1] How often do you use coupon / store membership cards (like the Loft or Best Buy)?

[2] Several times a month

[1] If often → do you carry them with you all of the time?

[2] Yes.

[1] How do you check your available bank and credit balances?

[2] On my cellphone or iPad

[1] If online → how often do you check your balances?

[2] 4 to 6 times a week.

[1] Do you check your balance before major purchases? How?

[2] Yes, online via cellphone app

Interview 3

[1] How many cards, personal identification, credit, bank, health insurance, car insurance; do you have?

[2] Does that include, like gift cards and loyalty cards?

[1] Yeah it does.

[2] Are you asking that I carry or how many I have?

[1] How many do you generally carry?

[2] I could count if you want me to?

[1] Yeah, if you wouldn't mind.

[2] (Counts through wallet) so I guess like 20?

[1] 20? Haha

[2] Yeah, and I actually have a lot more than that, but I don't carry them all.

[1] Which ones do you tend to use on a daily basis, do you have an estimation of how many?

[2] I would say, uhm, on a truly daily basis or across the week? On a daily basis I would say three of them.

[1] Would you mind disclosing which ones those are?

[2] Probably like my driver's license, my university ID because we use that as a key now, and one of my credit cards that I use most often. My American Express card.

[1] And that would change on a weekly basis then?

[2] Well I mean like weekly, I don't go to the ATM every day but I go to the ATM maybe once a week. I might go to Panera once a week and I use my loyalty card, stuff like that if that makes sense. There might be 3 or 4 I use on a weekly basis that I don't use on a daily basis.

[1] Ok, how do you arrange and keep track of your cards? Do you keep them all in the same place?

[2] Pretty much, I sort of have a loose organization in the wallet. I bought my wallet because of its features, so it's got like, kinda like this window view for ID which is right on the outside so it is quick to get to. And then it's got lots of card holders so I always put my American Express right

in the front so it's my first thing to pull out. [2] And then kinda like my cards I use most often are over here (in front) and the cards I use less often are under the little flap window, if that makes sense. And then the cards I don't even carry, so I have like a bunch of gift cards that I sometimes keep in my jacket or if I don't wear my jacket I just keep them in my car, so if we go to a restaurant we'll be like 'Oh we've got a gift card for that!' We'll have that with us.

[1] Yeah that makes sense; do you find it difficult to keep track of them all at once?

[2] Uhm, I would say more for like the non-standard cards, I mean the ones that I use often I just carry with me, but it's like 'Oh I went to Qdoba, oh damn I have a loyalty card for this... but is it in the car? Do I want to go back to the car or get it or is it at home, where is it?' - I also have a few credit cards that you get at like Kohl's or a Sear's card that I never use but used at one point. But then you know, there is a special promotion where you gotta use that card to get the discount, then it's like where did I put that?

[1] Can you recall a situation where you couldn't find a card you were looking for?

[2] Uh, yeah. Just the other day haha.

[1] Where was the card you were searching for?

[2] I never found it hahahaha. We went to Sam's Club and got a membership, or renewed a membership and they only take MasterCard and I stopped carrying my MasterCard and I stopped carrying it because I only use it at Sam's and we didn't have a Sam's membership... so when we renewed we were like "Crap it's not in my wallet!" and I looked at home and I couldn't find it, so I need to figure out where it is.

[1] How did you deal with that situation?

[2] I'm still looking for it, I thought oh should I call and cancel it or get it changed... but I thought most likely Hudson (his 1.5 year old son) took it somewhere and stuck it behind something so... I'm pretty sure it is somewhere in the house haha.

[1] What is your process when you lose one of your important cards?

[2] Uhm, It's been quite a while since I've lost a card but you know I'd try to call the company right away and report it being lost. I think it's happened before, but then you know sort of, it's hard to know "who do you call, and what's the number" and stuff like that. Like usually if I travel, not so much in the US but if I travel abroad I just go out and photocopy all of my stuff before I go just in case I lose it.

[1] Yeah so at least you have a copy, yeah. You said sometimes you use coupons or store membership cards for Kohl's or Best Buy, and that you tend to just carry them on you when you know you'll be visiting the store?

[2] Typically, yeah. I mean certainly I've got ones I have, I mean I like it best with ones where they don't require a card, like you can just give your phone number or something like that?

[1] Or like those little key fobs or whatever they are?

[2] Ehhhhh nahh, I don't really like those actually. Because, I mean yeah my keychain is already big enough I don't want to add more to it.

[1] If you had enough room in your wallet would you keep them around all the time?

[2] I don't know, I think that everyone is... you know there is too many of them. So not necessarily.

[1] How do you check your available bank and credit balances?

[2] Typically online. So either through either a mobile app or just on the website.

[1] Ok, so do you check it often?

[2] Probably a few times a month? Two or three times a month maybe?

[1] Do you tend to check your balance before every major purchase or before you go to some of the stores you may be using a gift card on?

[2] Umm not really, more at just bill payment time. You know like, when at pay time cause it auto direct deposits. I guess if I am paying major bills but it's not so much when I go shopping. Cause usually when I go shopping I put it on a credit card, it's more like when I'm paying off you know like a credit card or you know like a mortgage payment.

Interview Scenarios:

Below are the scenarios we created for use during our prototype-testing. We asked our users to navigate through these scenarios as best they could, and noted how well they used our interface. This allowed us to test whichever features we wanted to test, and have consistent and reliable data from our participants.

Dinner Scenario:

- You are going out to dinner and want to pay your bill using a credit card.
- Find and use the Bank of America VISA card to pay for your meal.

Shopping Scenario:

- You want to go shopping, search for stores in your area.
- Look for coupons for the store of your choice.
- Make a purchase using a coupon; use the Discover Card to pay.

Pharmacy Scenario:

- You are going to the Pharmacy to pick up medicine. The front desk asks to see your driver's license.
- They also want to see your health insurance card.
 - Show them the front and back of the card.
- Pay for your medicine using your Bank of America Master Card.

Feature Testing Scenario:

- Use voice activation to select the Discover Card.
 - Look at Credit Card's additional information (using the i button next to card)
 - Look up your transaction history for one of your credit cards
-

Field Notes:

Below are the highlights of the notes that we took down during our interviews and their resulting iterations of our design. We conducted 2-3 interviews before each round of iterations.

First Round of Iterations:

1. Added an introductory paper to introduce the basic Aio functionality before testing
2. Redesigned on/off button and home button, added long hold functions
3. Added explanations of the cards at the back side to help find cards during the test
4. Created specific scenarios for play test

Second Round of Iterations:

1. Reorganized the feature structure, moved “categories” down one level, moved favorite coupons to “favorites”, etc.
2. Defined flip gesture (swipe up and down) to change from Front image to Back image
3. Reorganized coupon features with the idea “save coupons, search by stores”
4. Added unified grey shaded header to all the function cards
5. Redesigned the coupon layout, added enlarged barcode and terms and conditions;
6. Added “back” option on the unlock screens;
7. Found a better way to arrange the cards effectively, allowed for “switching screens” more quickly

Third Round of Iterations:

1. Added “Quick Pay” - a default payment card feature (activated by long hold of the lock button)
2. Added “back” option on back side of cards
3. Added “information” option on the card display screens

Final Design Improvements:

1. Clicking “Coupons” will go directly to a list of favorite coupons, instead of a listing of coupons in the area
-

Affinity Diagram Process

Below is the process we followed to complete the affinity diagramming procedure.

1. Documented the interviews into scripts, type set them into a format that contained one sentence per line. Printed out and cut the scripts into sentences, attached them to the sticky notes.
2. Distributed the sticky notes to all the team members evenly.
3. Team members took turns to sort the notes into different categories by each one's understanding, names of the categories are added and adjusted during the process.
4. After all the sentences are attached to the board, team members reviewed all the categories and sentences again, participated in discussion and rearranged, changed, added, and deleted some categories.
5. During the second round, relocated close categories into groups and added second-level category titles.
6. Reexamined all the sentences and first level category names under the second titles. Rearranged them if necessary.
7. Third-level overarching titles were added on the top after more discussions near the end.



Affinity Diagram Outcome Tree Map

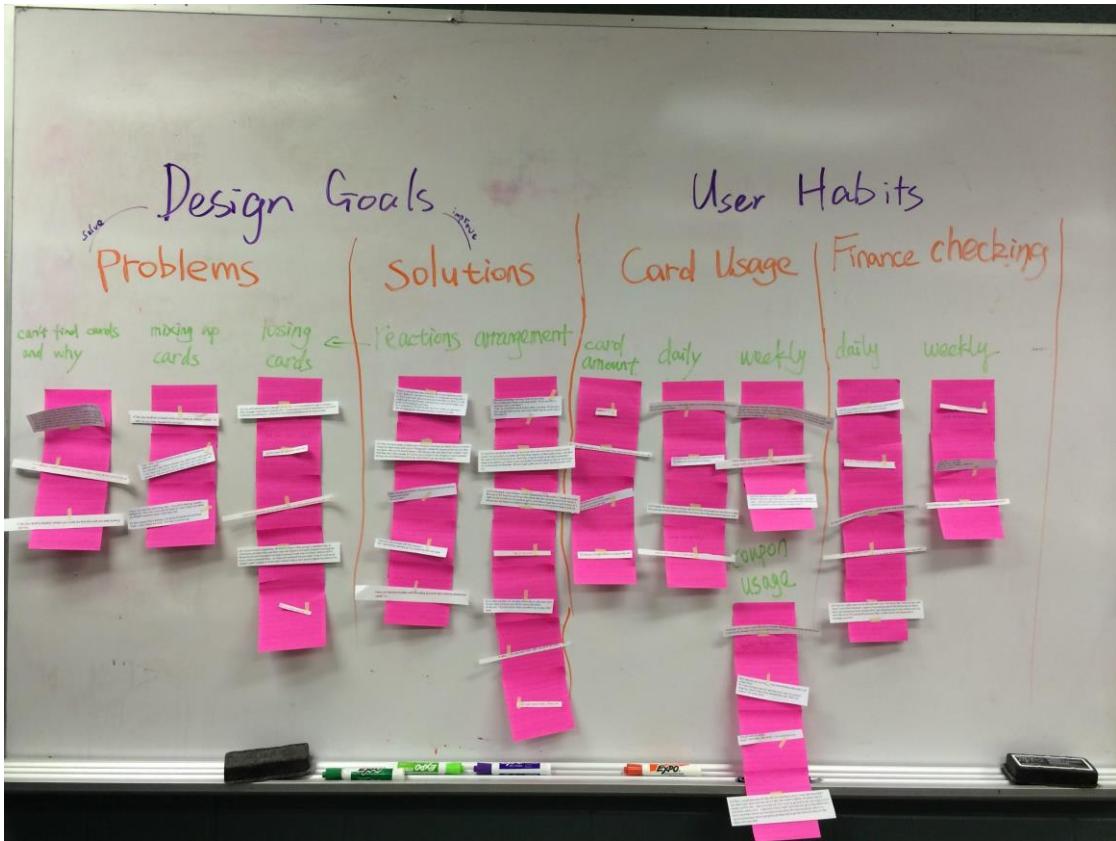


Photo taken of our affinity diagram scene

Summary of Findings:

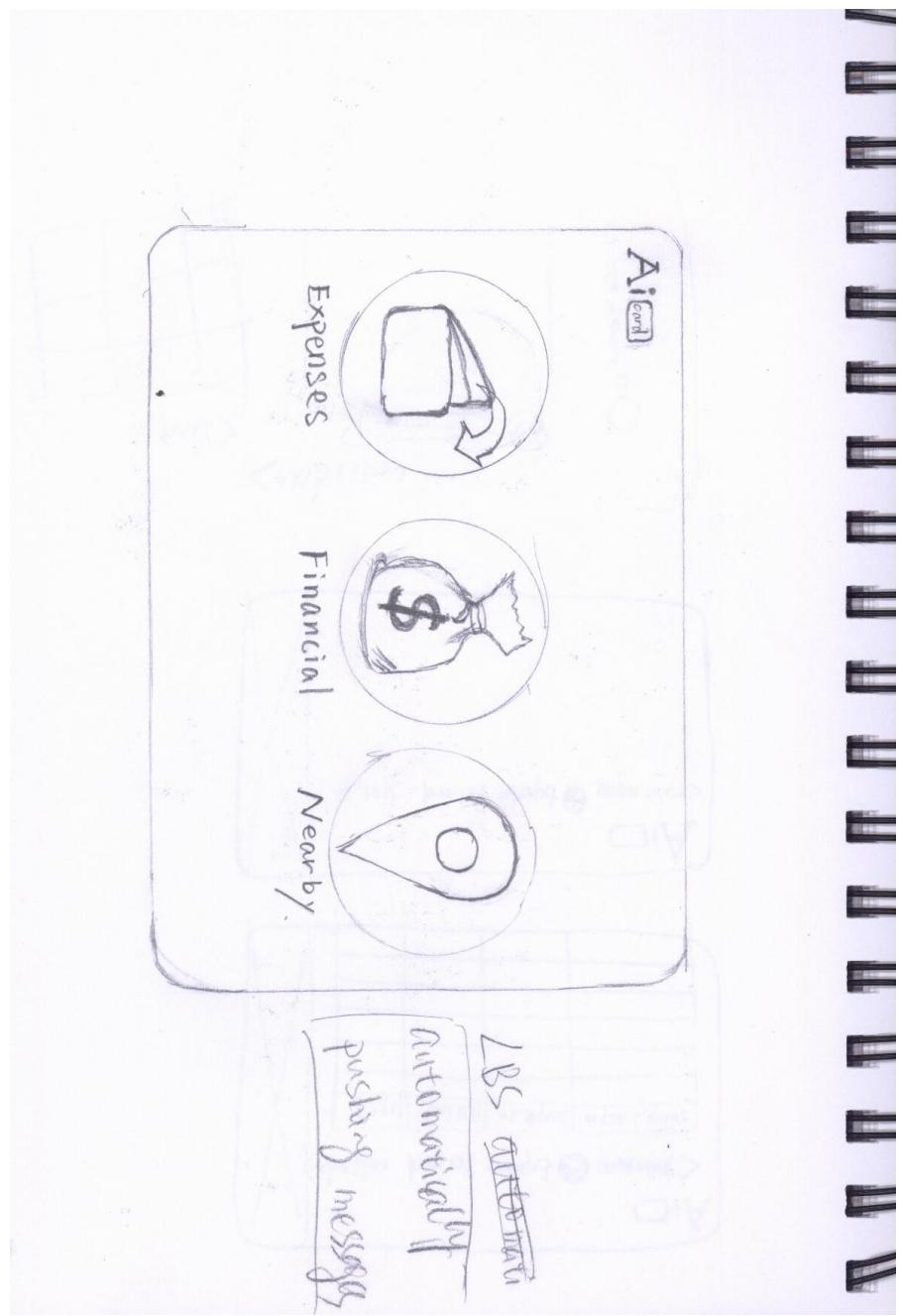
Through this process, we affirmed some hypothesis about the existing design problems that we had before, and acquired a better understanding of people's card using habits. These two major findings led us to the initial feature list which addresses both the solutions to the problems and also adopt their needs and habits that potentially improved the general feature structure.

Prototypes and Wireframes

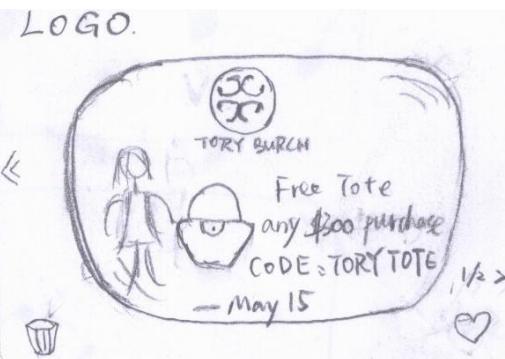
Below are a collection of our original sketches, revised sketches, workflow diagrams and the eventual paper prototype that was used in our playtest sessions.

Original Sketches:

The original sketches came out after the first version of the feature list. The first sketch produced is the hardware, including buttons and status lights: what do they look like, where are they places, how will they function, etc. Then sketches are produced based on screens in a logical processing way. Most of them were modified later along with the modifications for feature list as well as the flowchart. Text explanations are added before the revised sketches are delivered to the paper prototype creator.

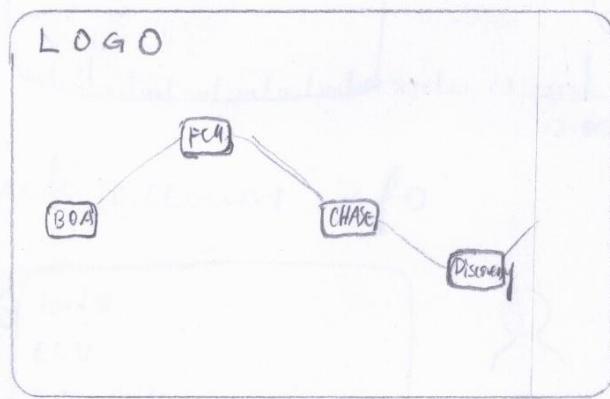


Originally designed home screen

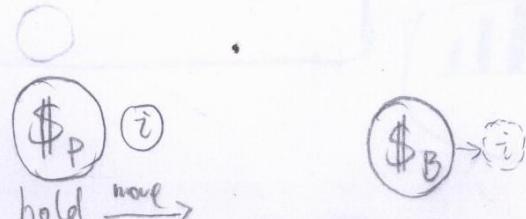


~~tap~~ ~~long~~ to discard/like ~~like~~ ~~wipe to~~ see next

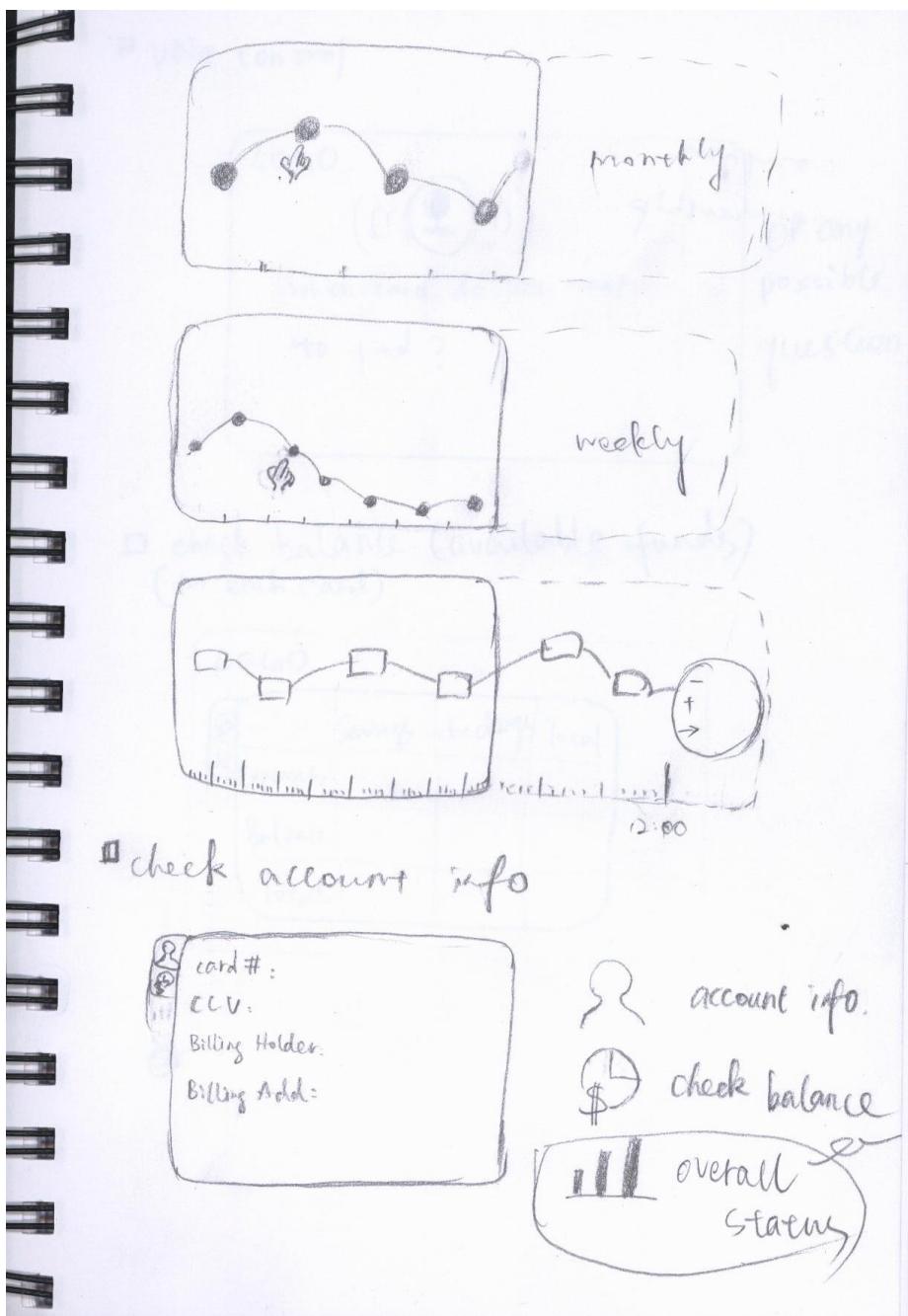
□ overall financial info checking



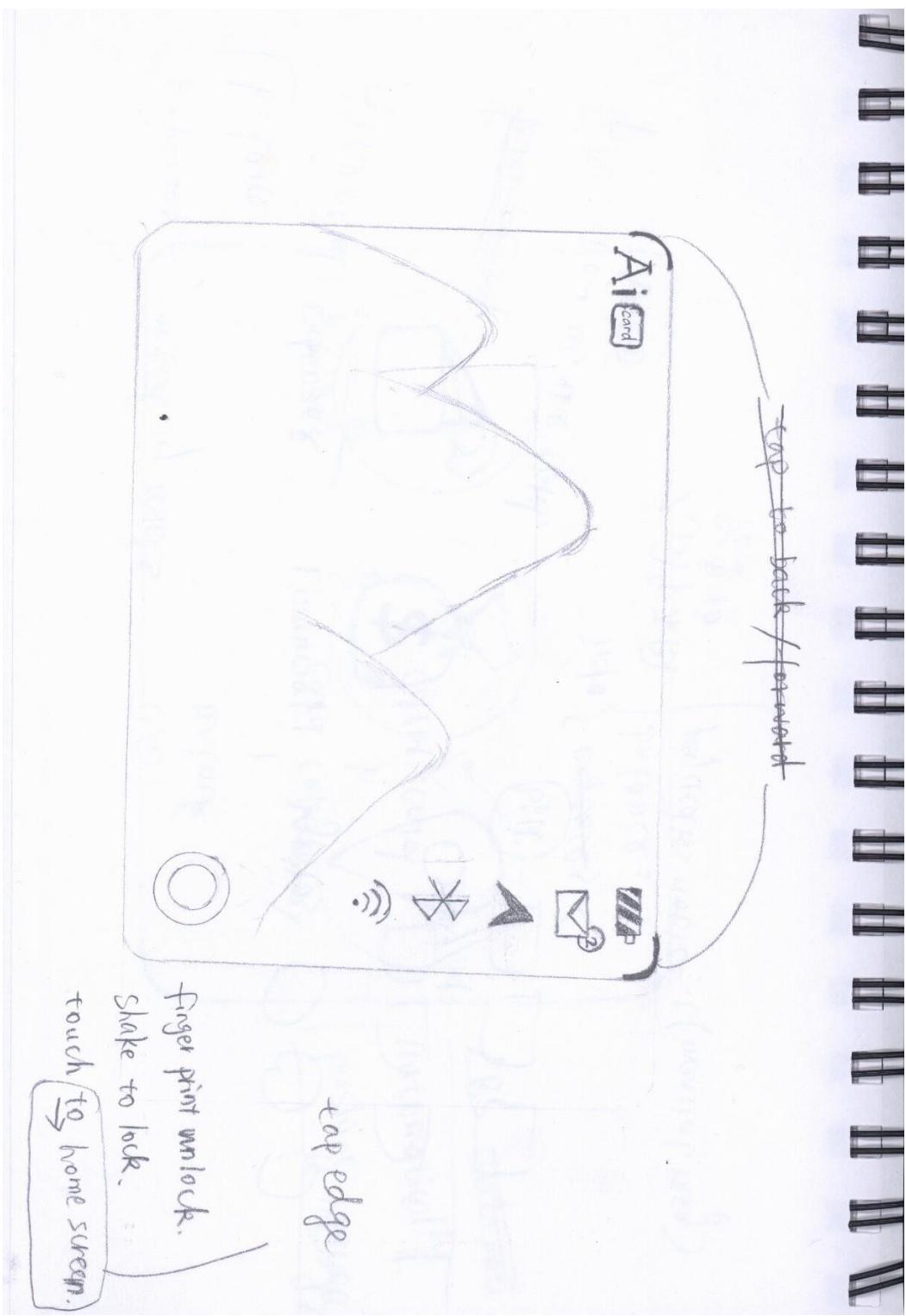
note: activate way:



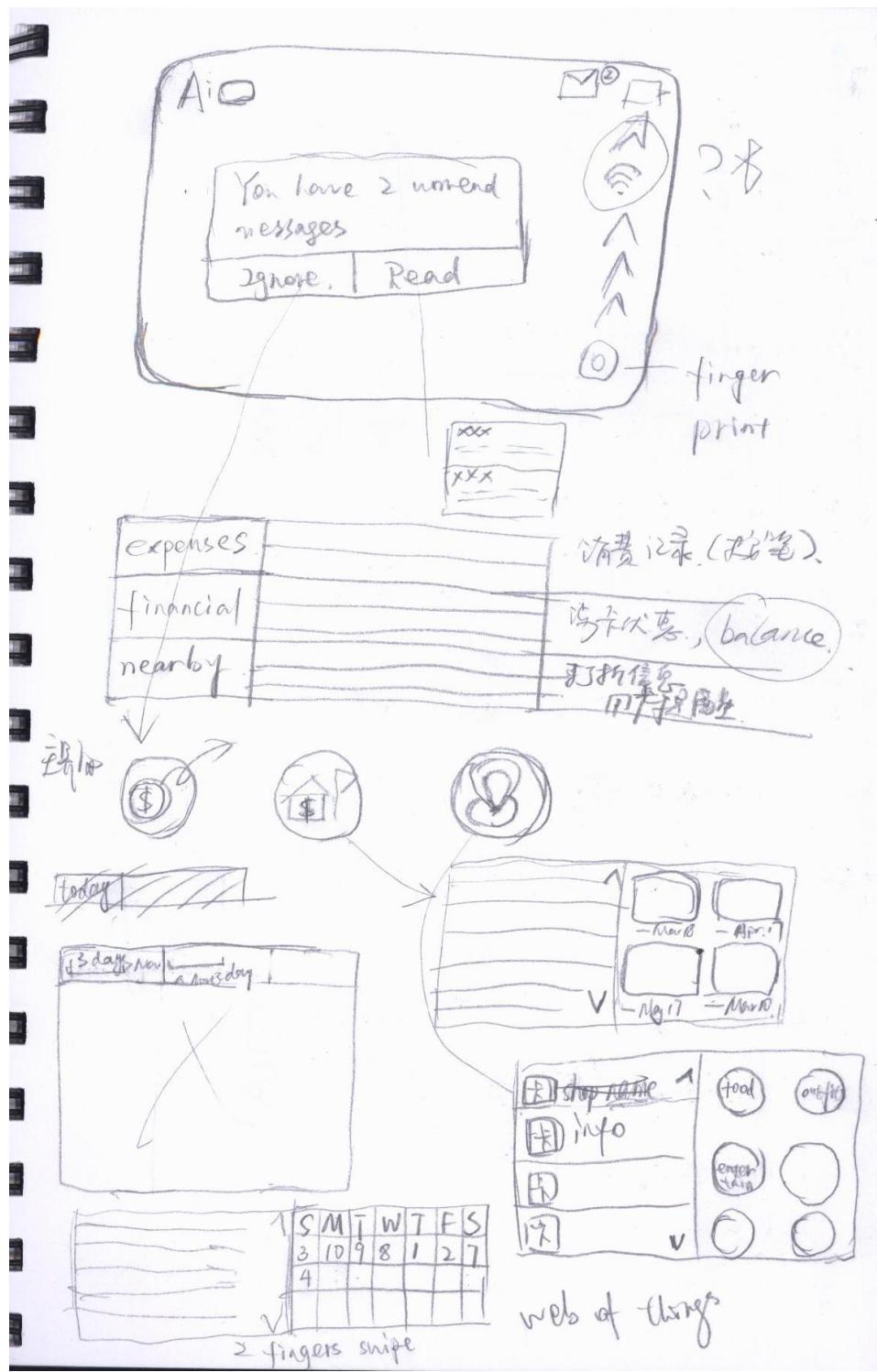
Originally designed coupon and financial info checking screens



Originally designed balancing checking screens

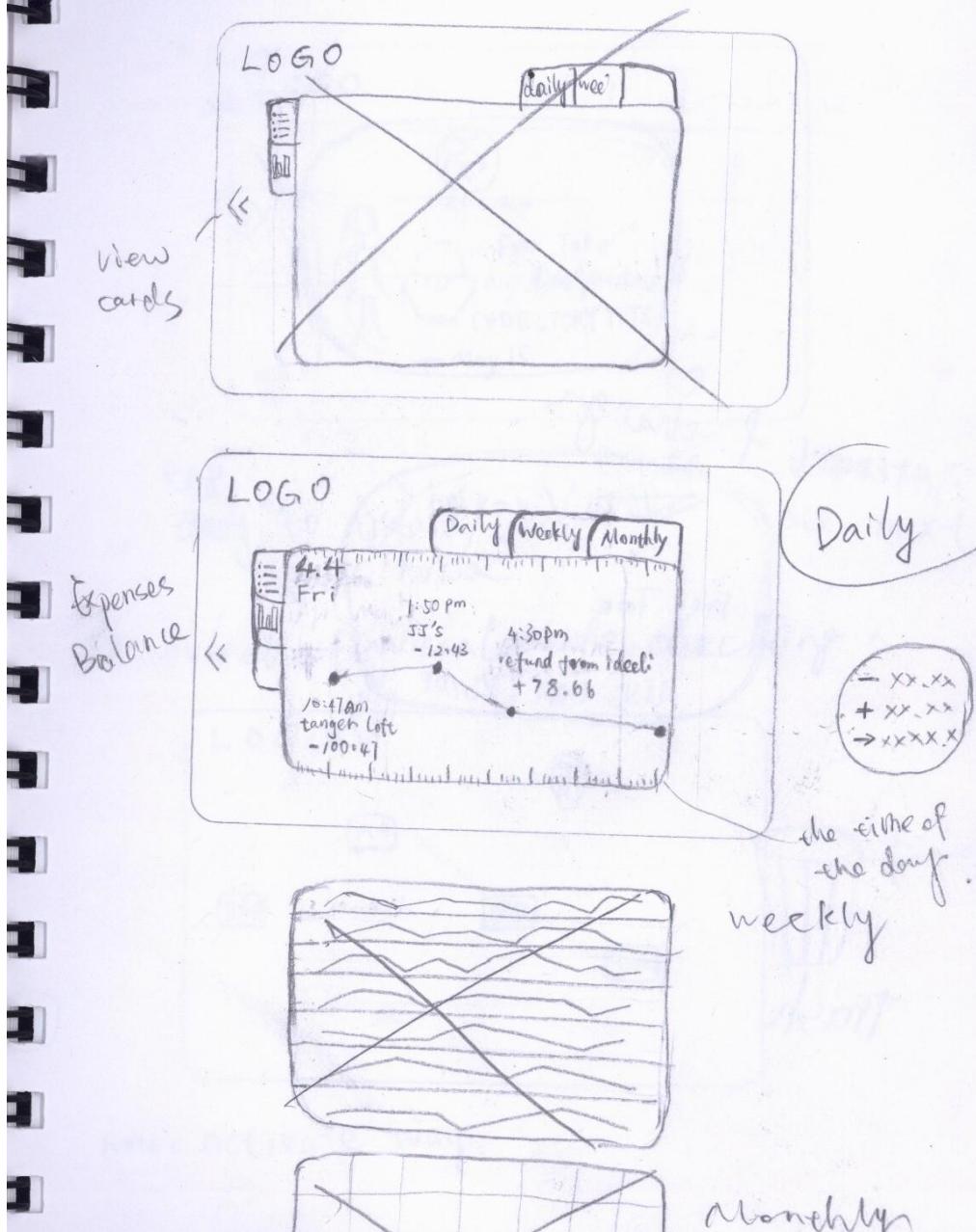


Originally designed locked card background

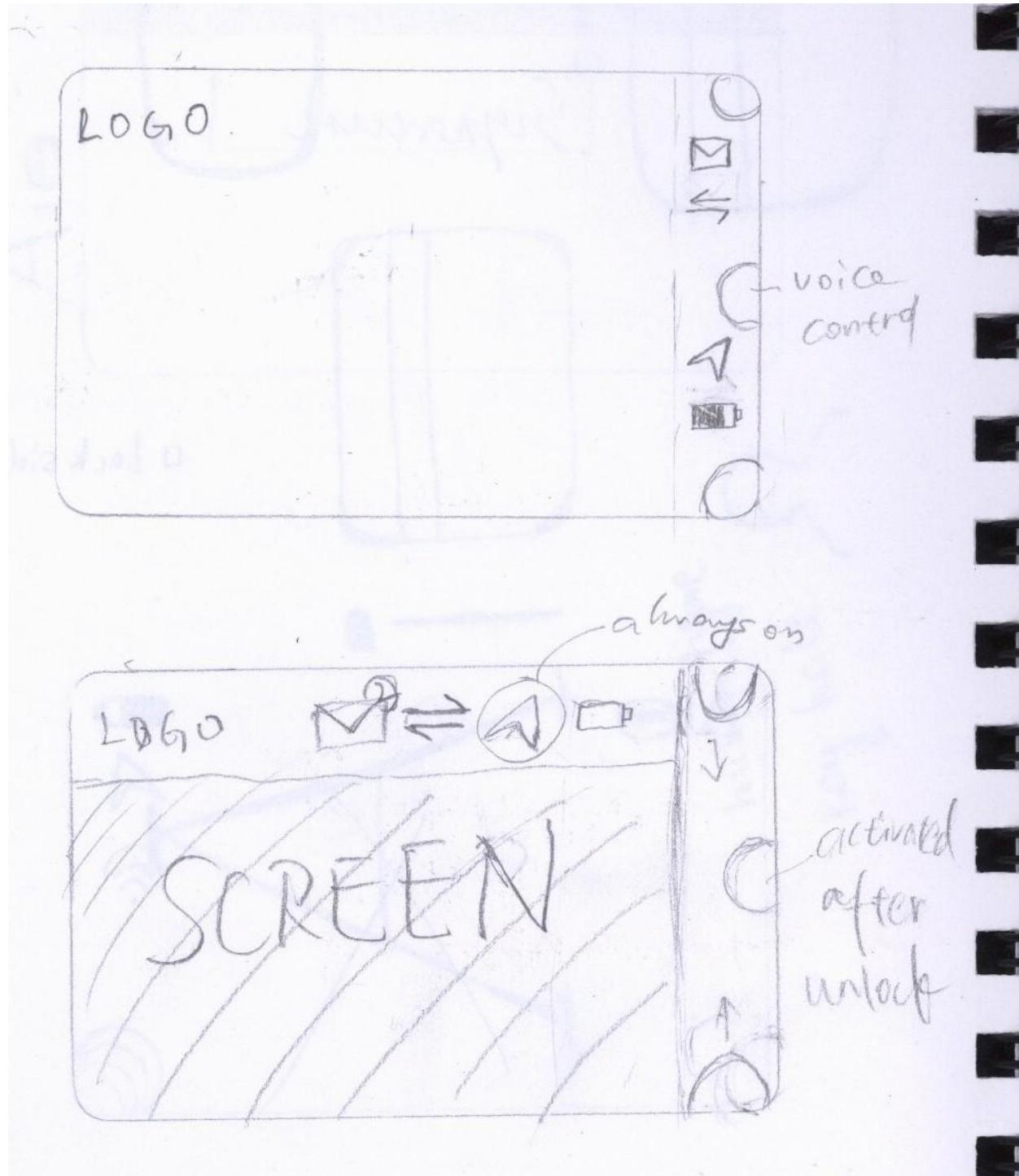


Some random sketches

Checking bills (Account statement)



Another trial for the balance checking (unfortunately this "cool" feature doesn't get a chance to be realized in the final design)



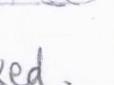
Originally designed hardware layout

□ Locked look.

LOGO

(slide)

off



status
bar.^①

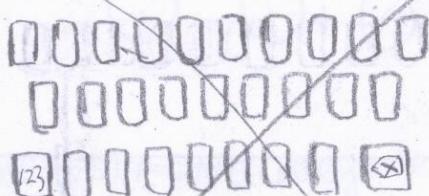
(slide)
on

①: remains as unlit when locked.

but shapes are visible.

~~unlocking~~

LOGO



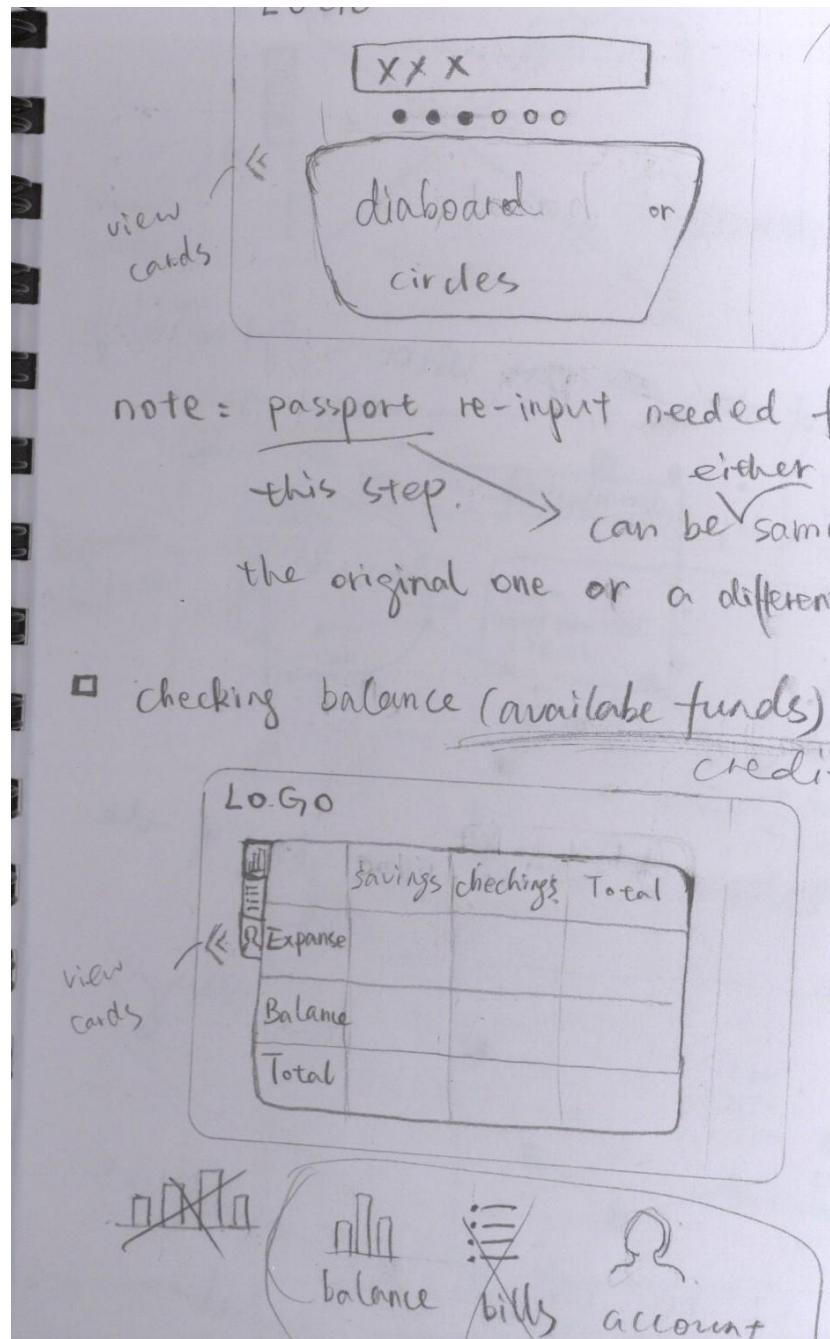
lit

OR

LOGO.

lit

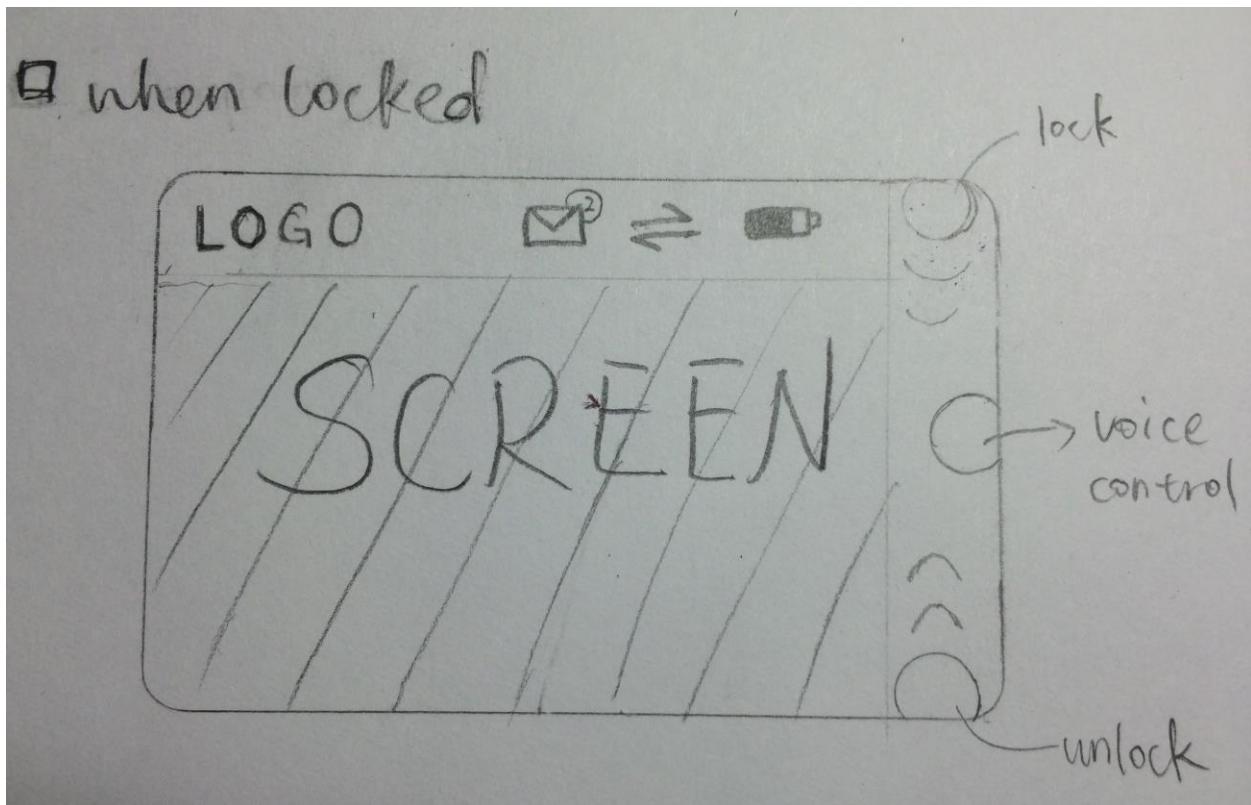
A revision of the hardware design



Originally designed unlocking screen and revised balance checking screen

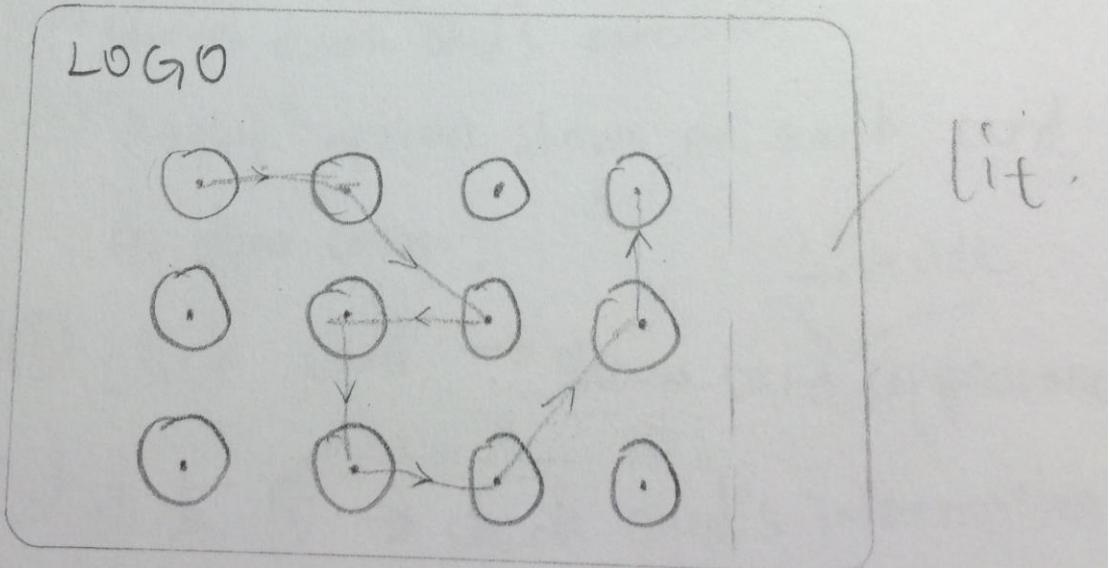
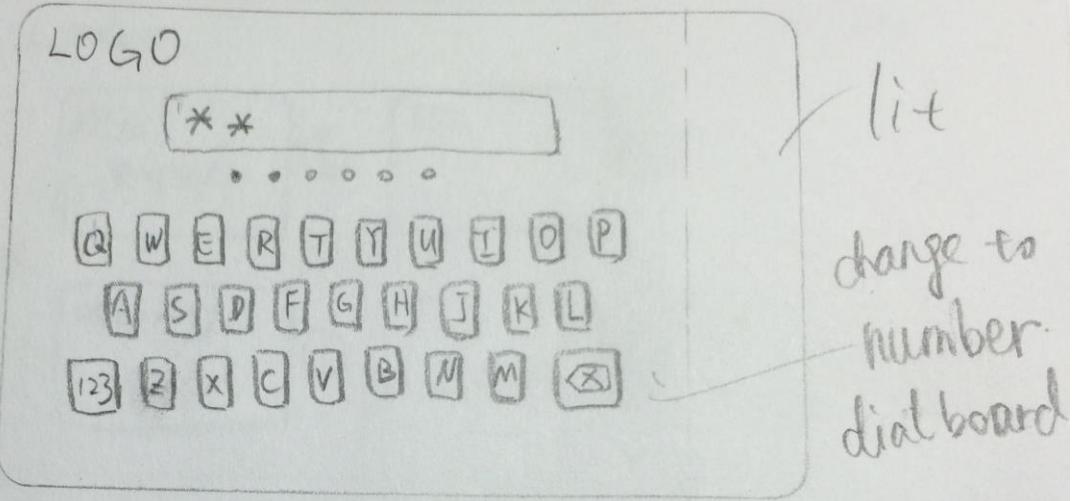
Revised Sketches:

Once the initial sketches were completed, we looked at them again as a team and compared them to our workflow diagrams. From here we discussed improvements to the user interface and overall design, and started simplifying our process. We started to focus on clarifying our feature list, which resulted in a more precise and accurate set of revised sketches.



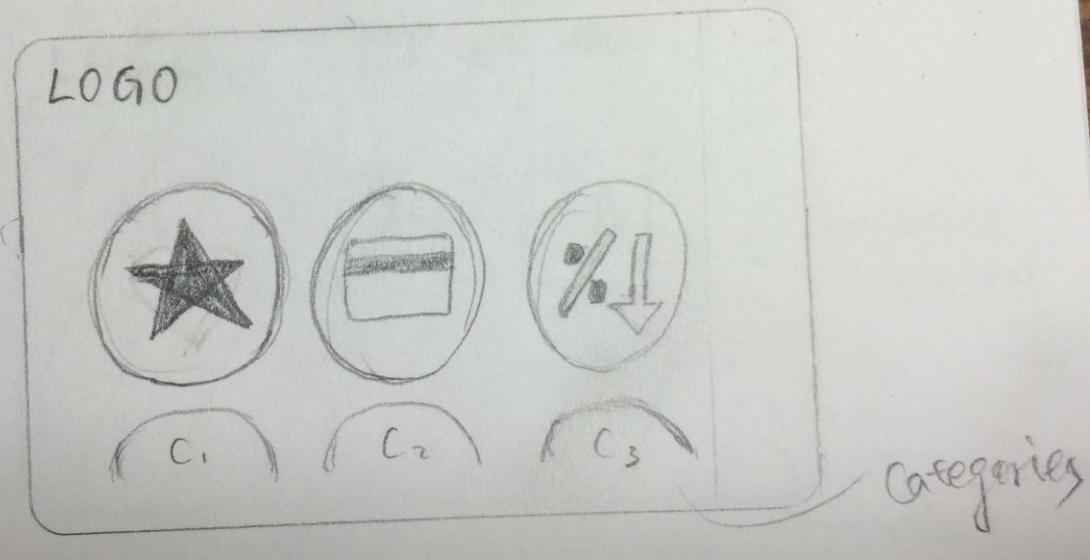
The screen when locked

□ Unlocking



Unlocking screen

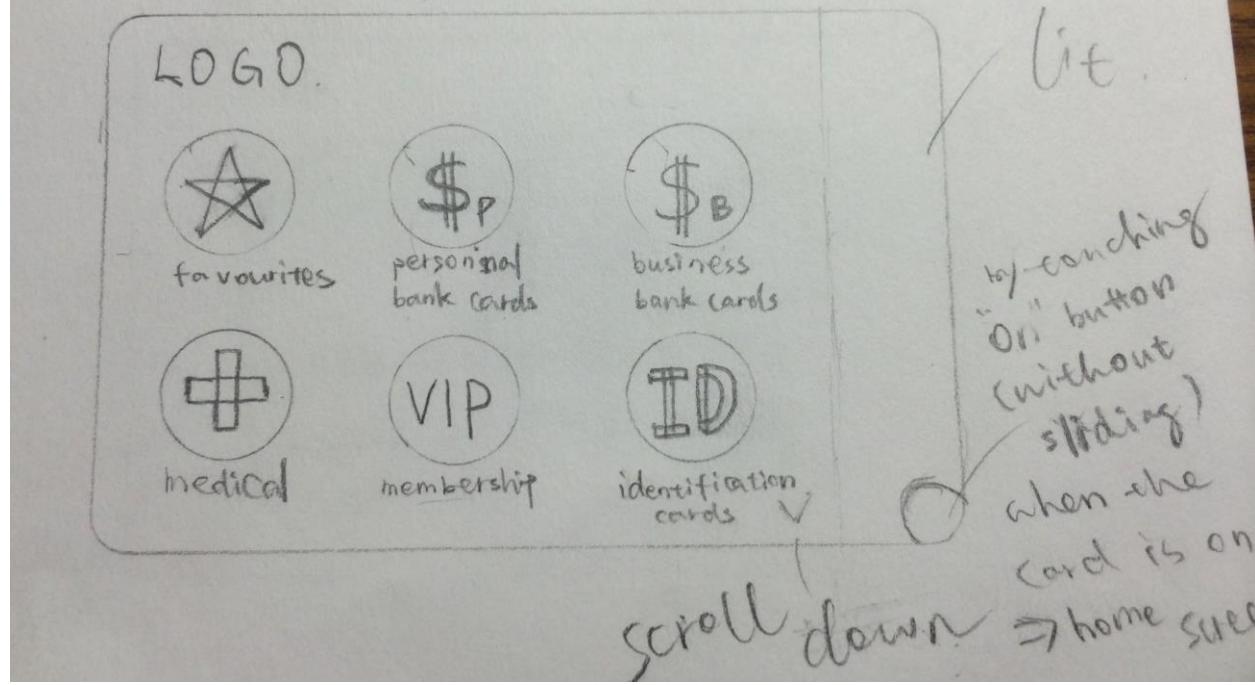
Home Screen



"cards"

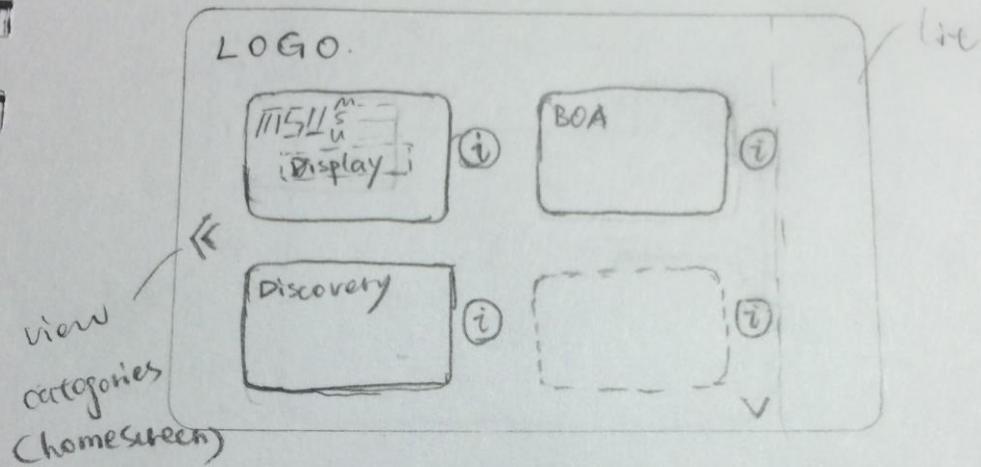
Homescreen

~~HOME SCREEN~~ Categories for reference



Category screen

- select a card. (after "★" or "Categories")



- note :
- ① Shows each card's outline
 - ② "Display" option shows on each card as dim color.
 - ③ click card → shows card ^{frontside} appearance
 - ④ click ① → check card's information.

Card selecting screen

□ "cards"

LOGO.		
<u>Macy's</u>	<input type="checkbox"/>	★
<u>LOFT</u>	<input type="checkbox"/>	★
<u>Discovery of Jacob</u>	<input type="checkbox"/>	★
<u>BOA of mom</u>	<input type="checkbox"/>	★
<u>MSU FCU</u>	<input type="checkbox"/>	★

A
B
C
D
E
F
G
H
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J
K
L
M
N
O
P
Q
R
S
T
U
V
W
X
Y
Z

Sorry, should be listed ~~by~~ alphabetically.

Cards scanning screen

□ "coupons" view liked coupons.

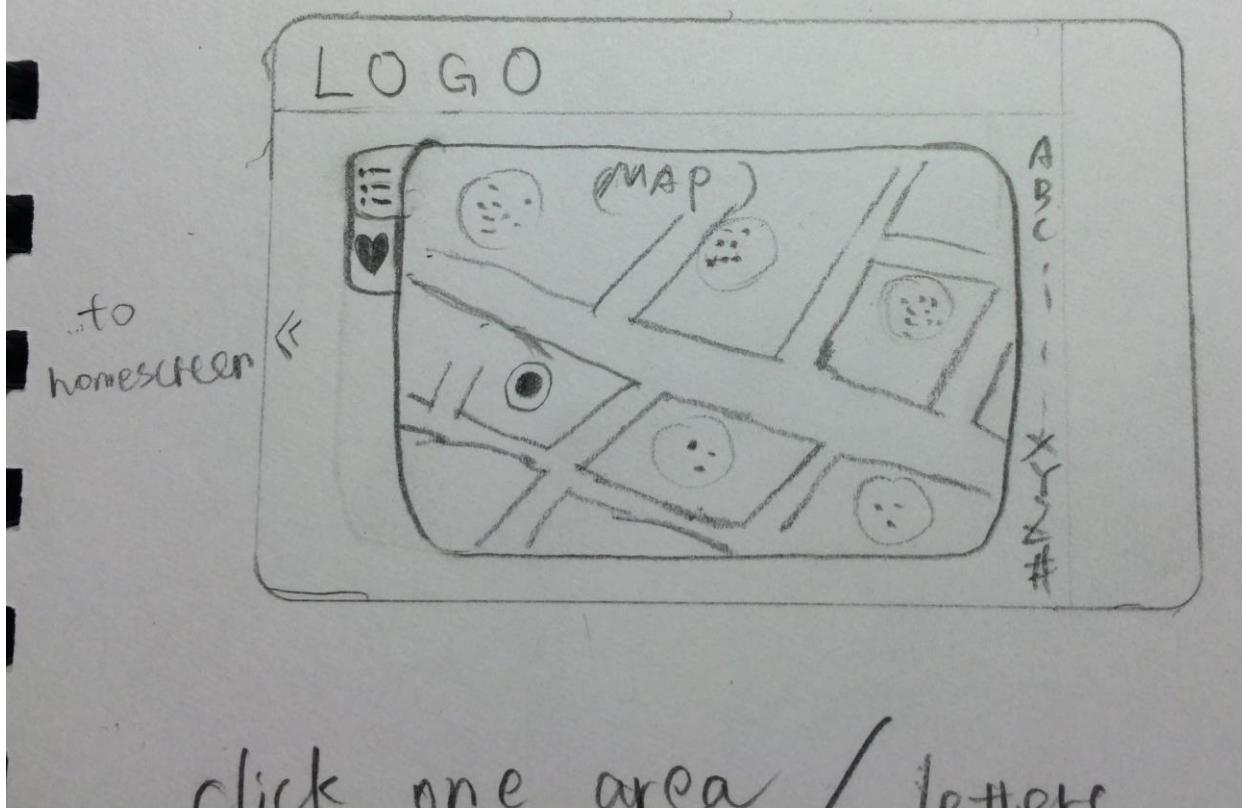


♥: liked one

☰: coupon list

Coupon display screen

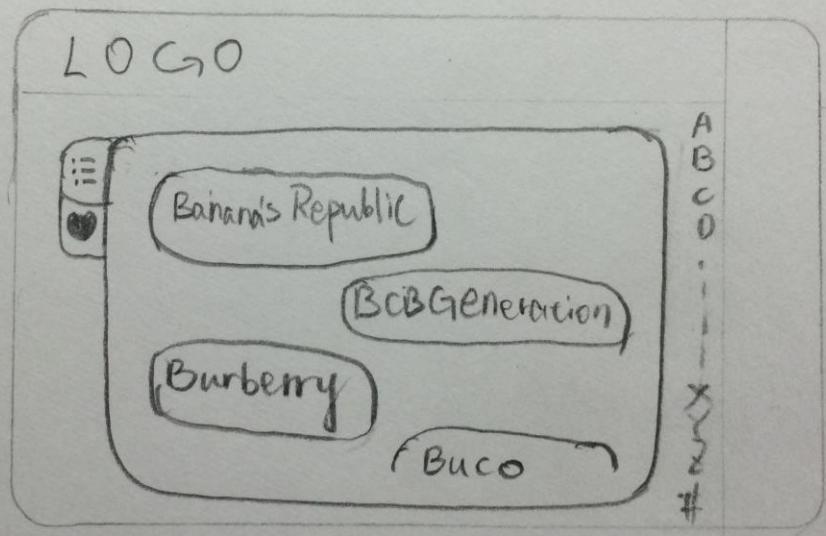
view coupon list



click one area / letter

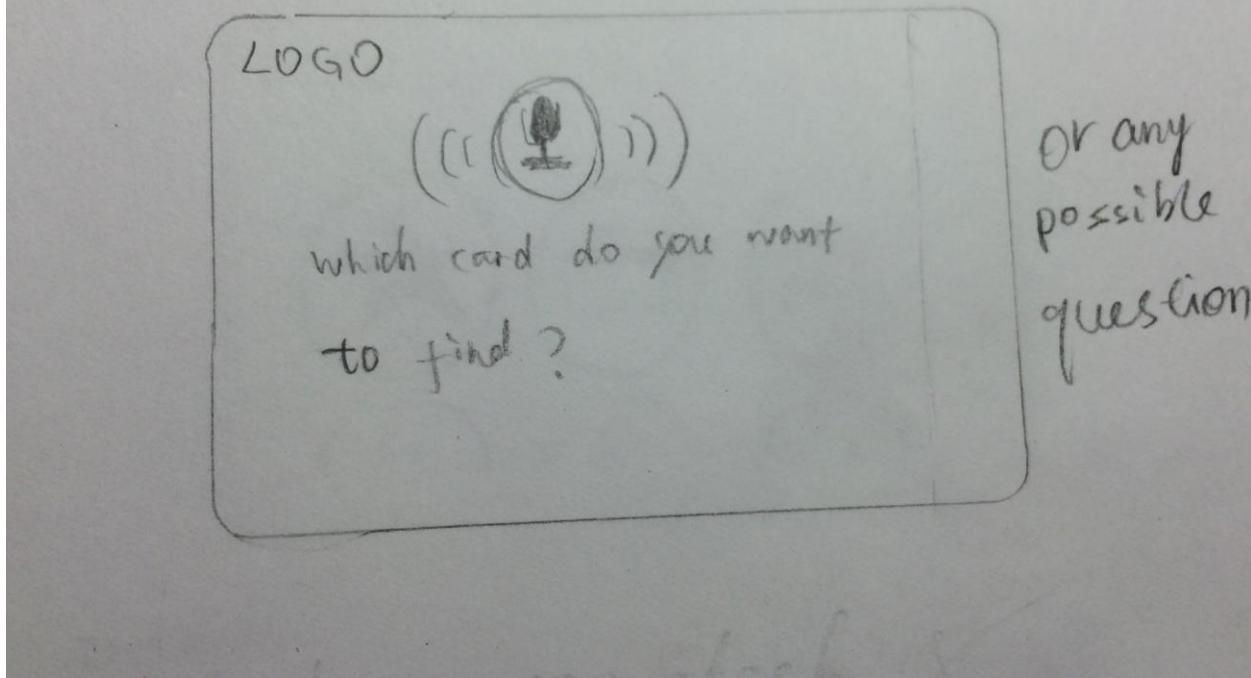
Location based coupon searching screen

click one area / letters



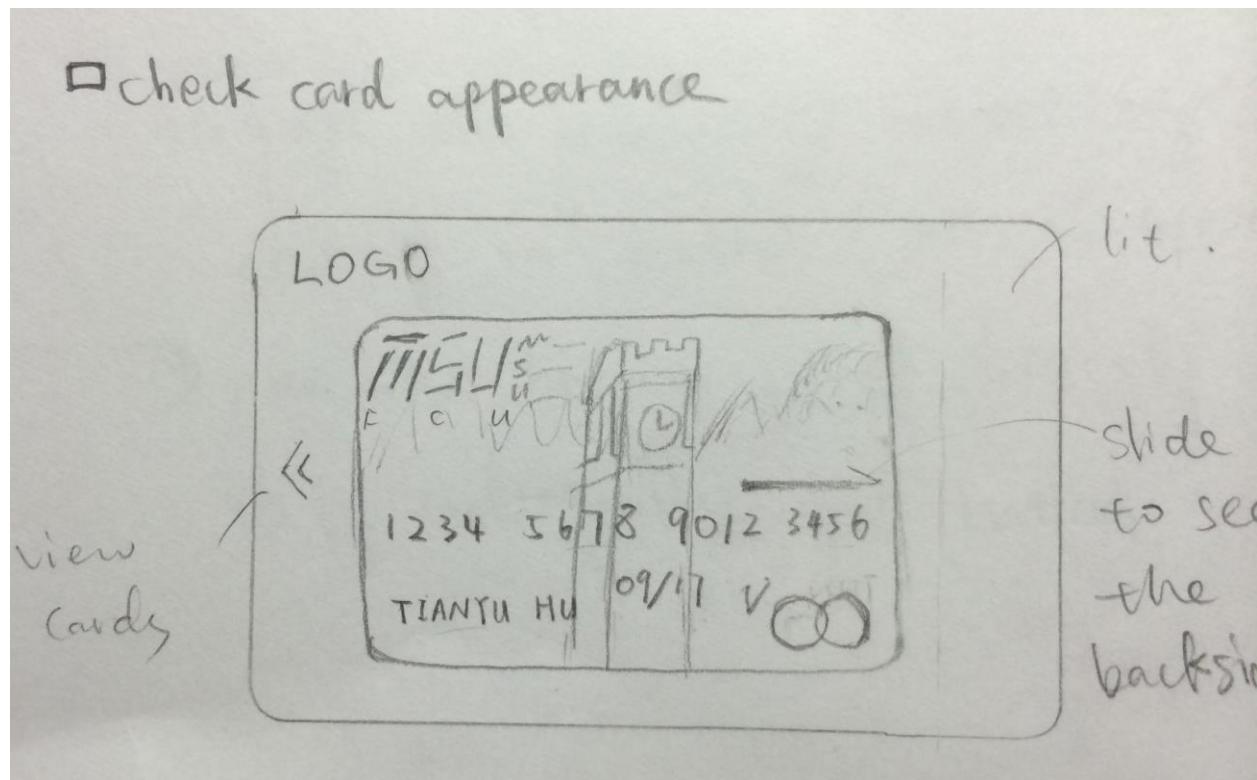
Coupon scanning screen

■ Voice control



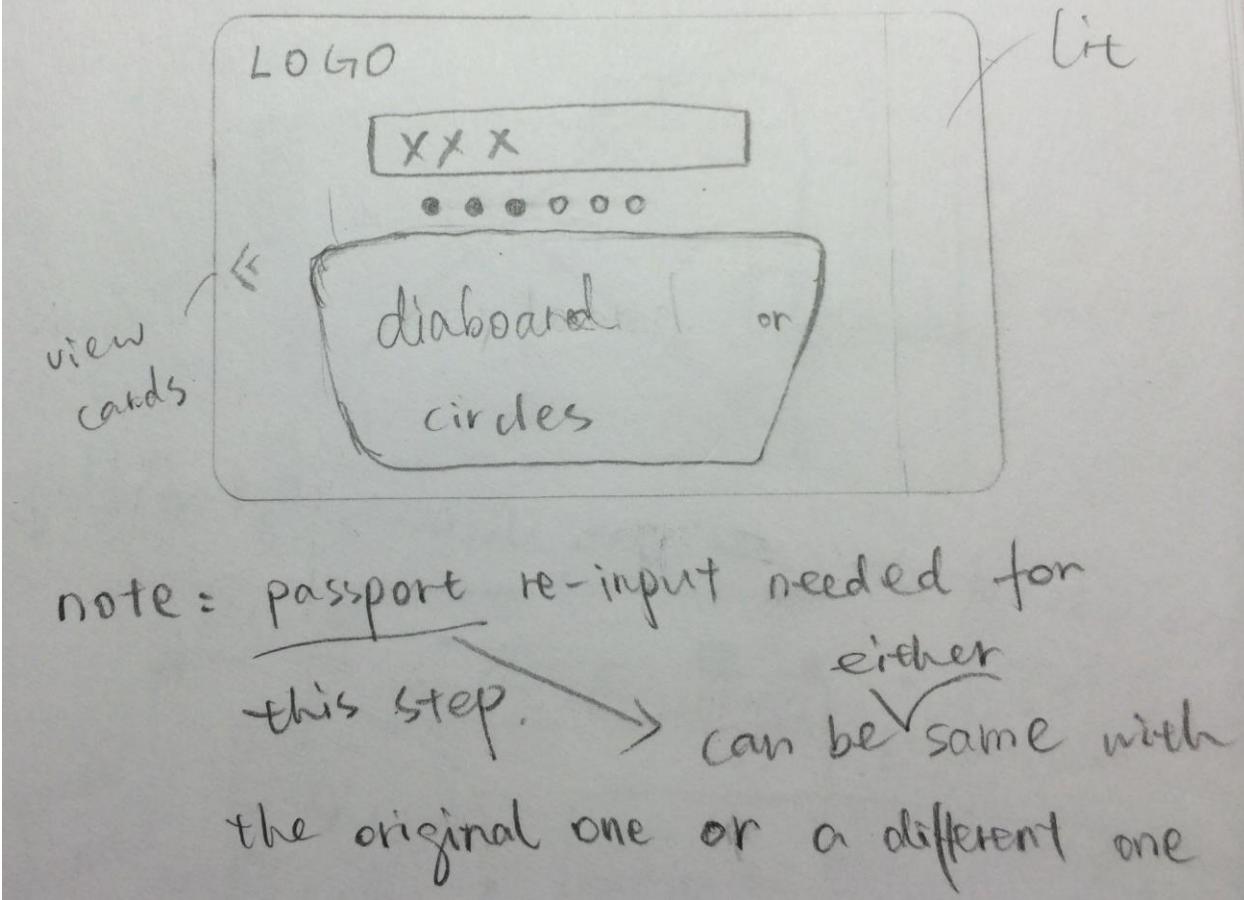
Voice control screen

□ check card appearance



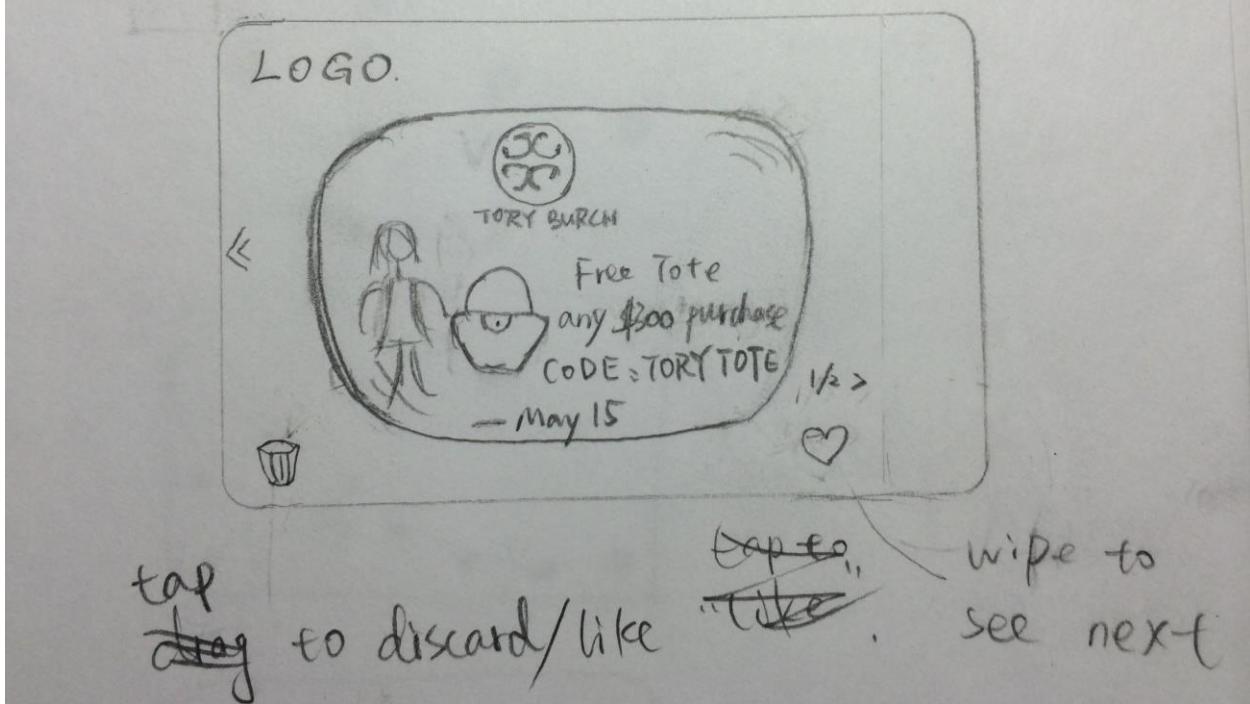
Card display screen

□ Card info checking (after tapping ⓘ)



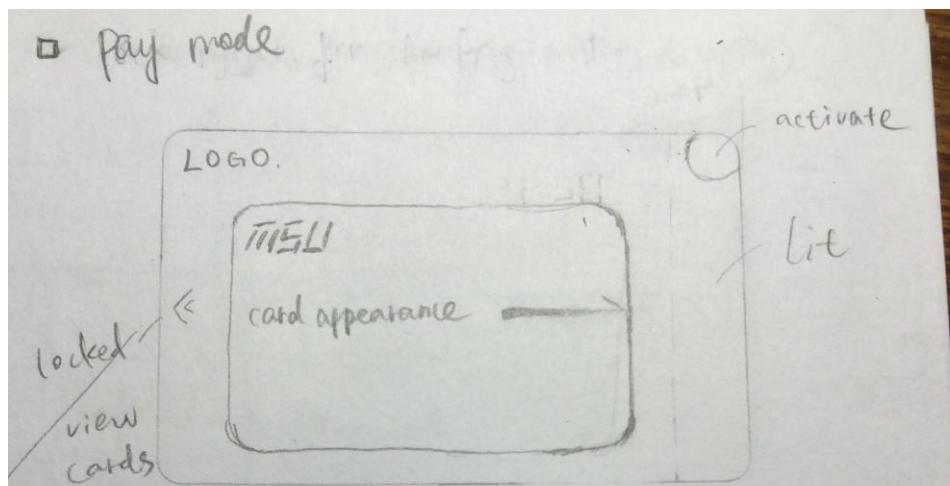
Card information checking screen

LBS coupon msg after tapping 



Coupon information checking screen

□ Pay mode



note: ① mode activate by touching "off" button for 3 seconds (without sliding it)

② In this mode, user can only see the card's appearance (both sides)

③ quit the mode by ~~touching~~ sliding "on" button (passcode required)

④ can also be turned off directly

⑤ by sliding the "off" button

Pay mode screen

1 check account info

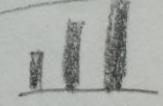


card #:
CVV:
Billing Holder:
Billing Add:

2 account info.



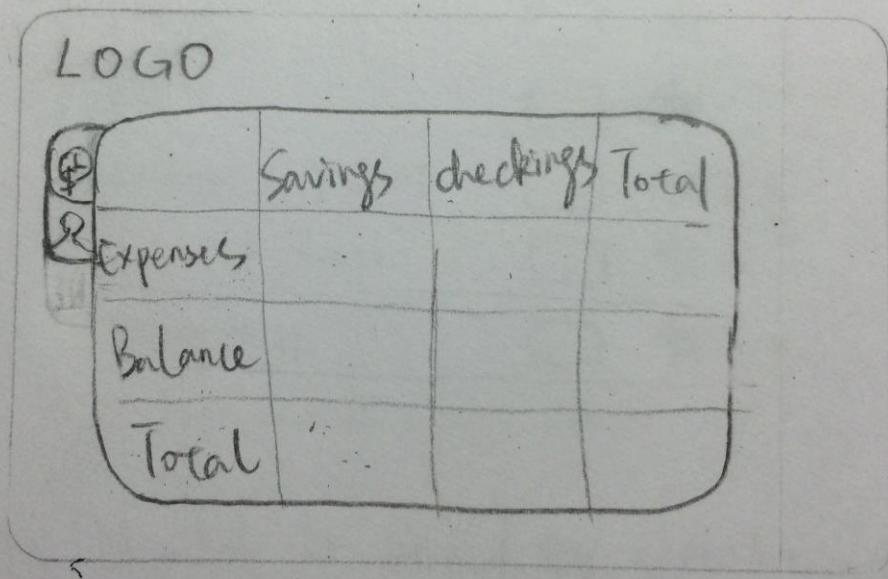
check balance



overall status

Cardholder information checking screen

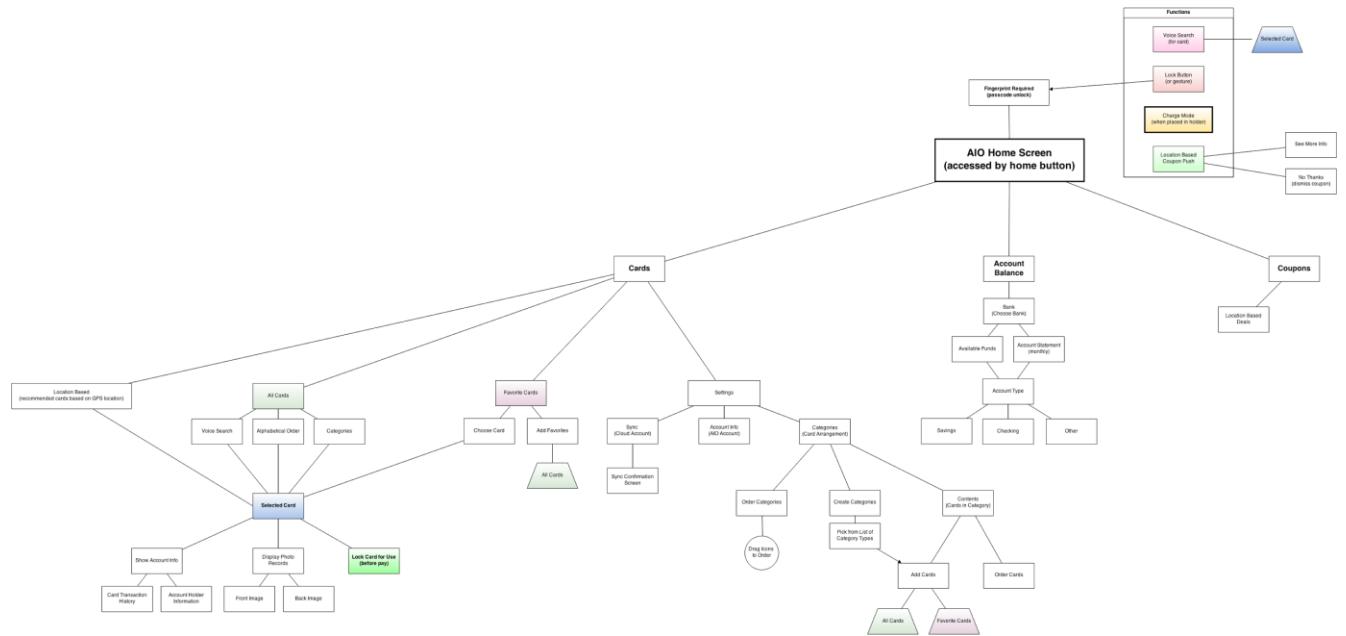
- check balance (available funds)
(for each card).



Card account balance checking screen

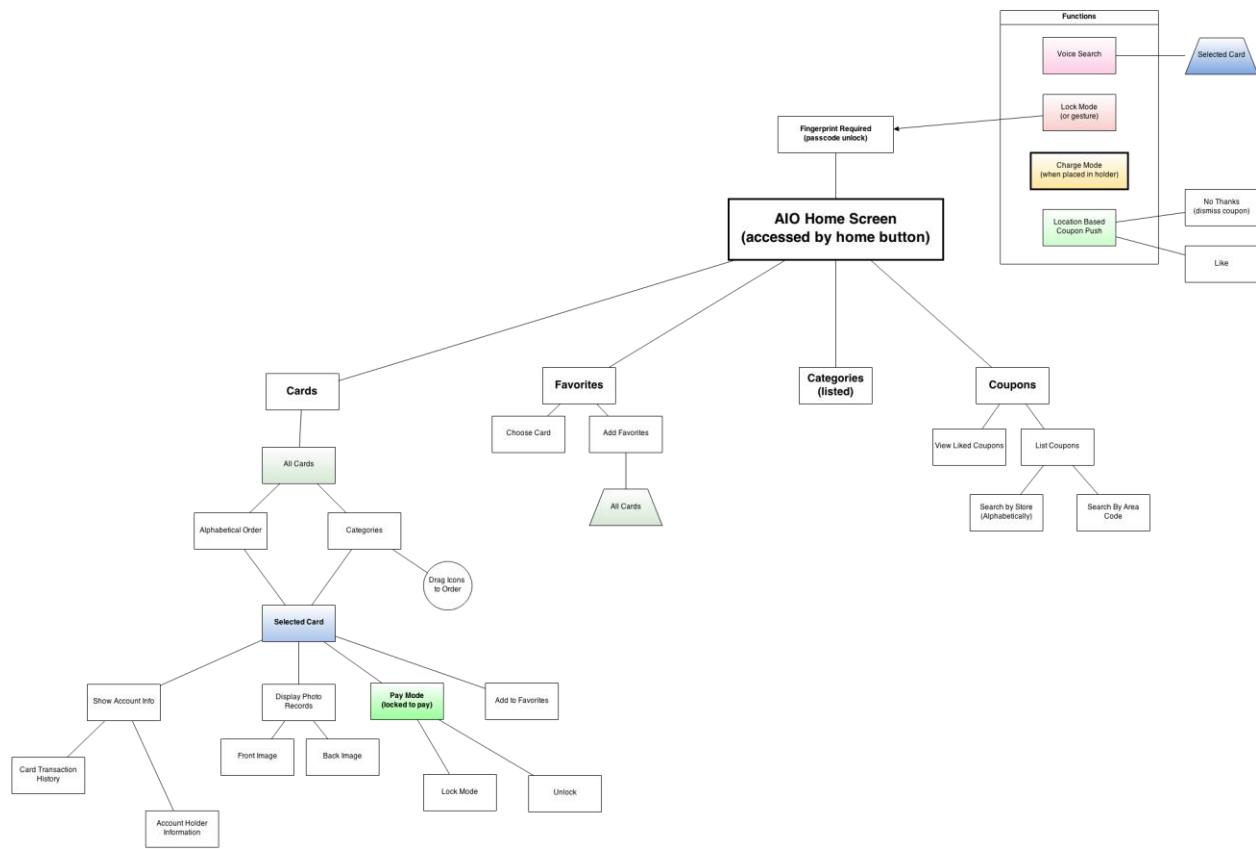
First Workflow Iteration:

Below are the Workflow Diagrams that we created over the course of this project. We used the website <http://draw.io> to create these diagrams. These ended up helping us immensely, as we could logically navigate through our menus using these diagrams, allowing us to pinpoint redundancies and over-complex areas in our design.



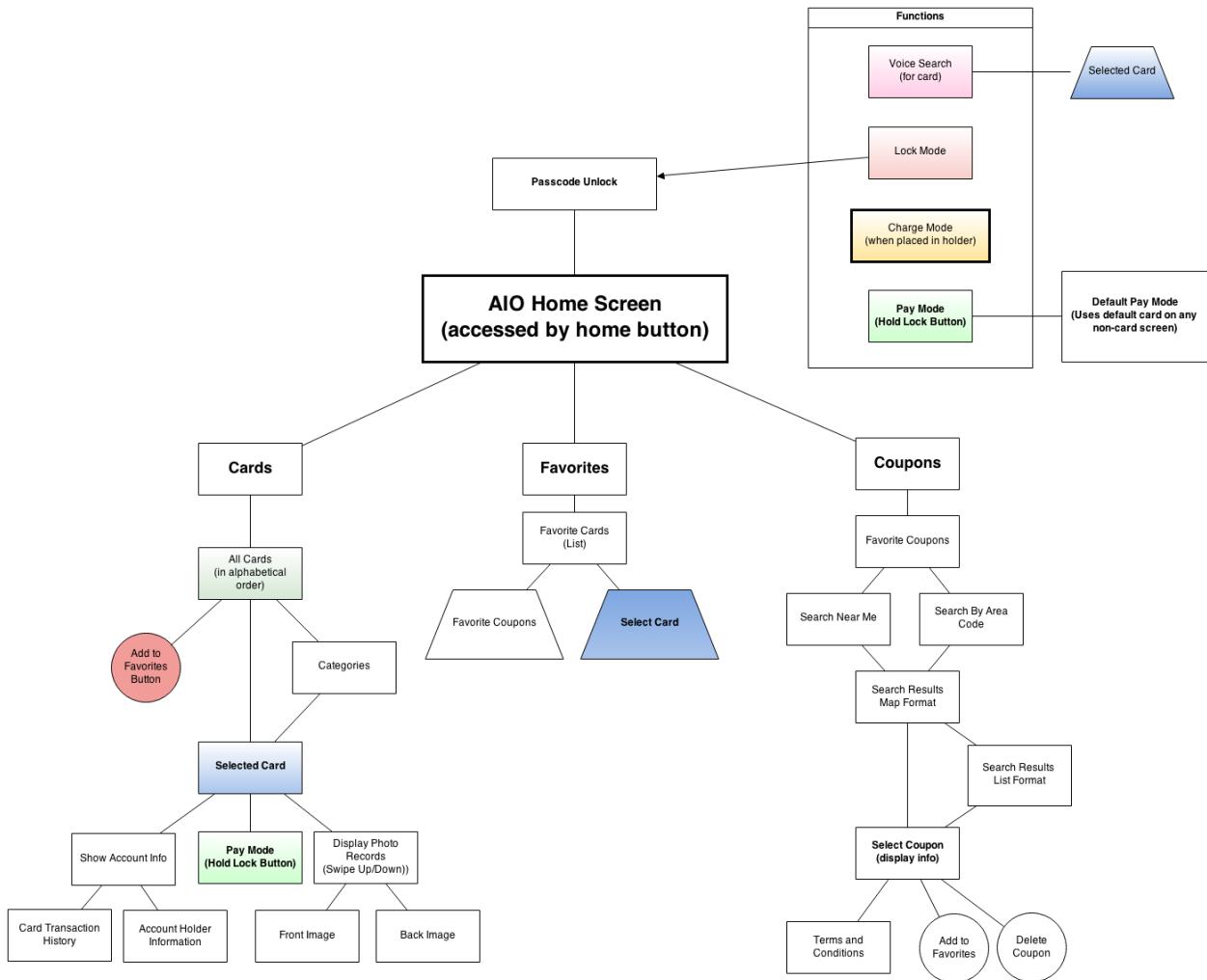
The first Workflow Diagram was overly complicated and showed some of the flaws in our original design. It was too feature heavy and difficult to navigate, which resulted in somewhat confusing buttons and screen placements. We were able to identify these complexities quickly and created an improved diagram.

Second Workflow Iteration:



This second workflow diagram was much more concise and logical. At this stage we had narrowed down our main features and user interface navigation, which allowed us to more easily create a workflow of how our buttons were laid out. There were still some areas that were a bit too complex. For example, being able to navigate to the same area from multiple pages, but not allowing certain information to be brought up unless you were in a very specific spot. This diagram was encouraging as it showed we were going in the right direction, but we still needed to simplify the design further.

Third (final) Workflow Iteration:



This became our final workflow diagram, our most simple and elegant solution so far. After multiple rounds of iteration and interviews, this workflow proved to work well with our testers. It was easy to navigate through, and users made logical connections between the buttons and screens they saw. Using this workflow in our prototype, our interviewees could easily navigate through the scenarios presented to them.

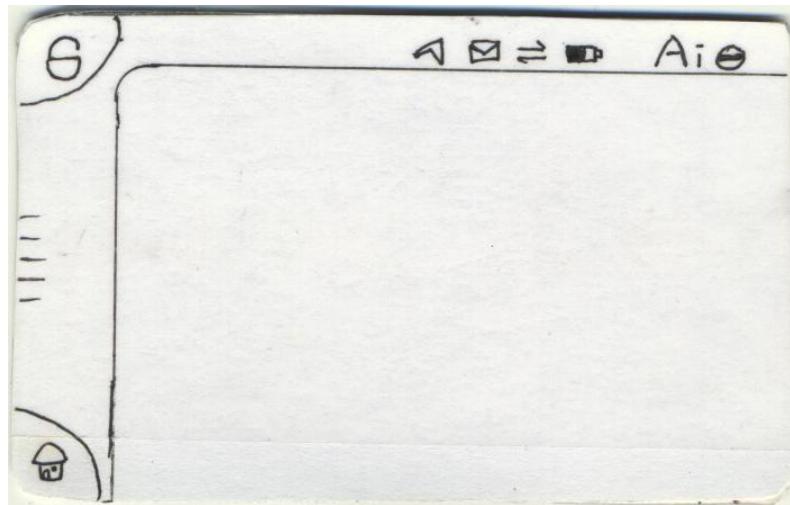
Final Prototype Cards

Below are the cards that were used in our final prototype. Because we were using small cards, we were able to quickly create and change them as often as we saw fit. This allowed us to continue using the same cards throughout the entire prototyping process, as they were updated and changed over time.

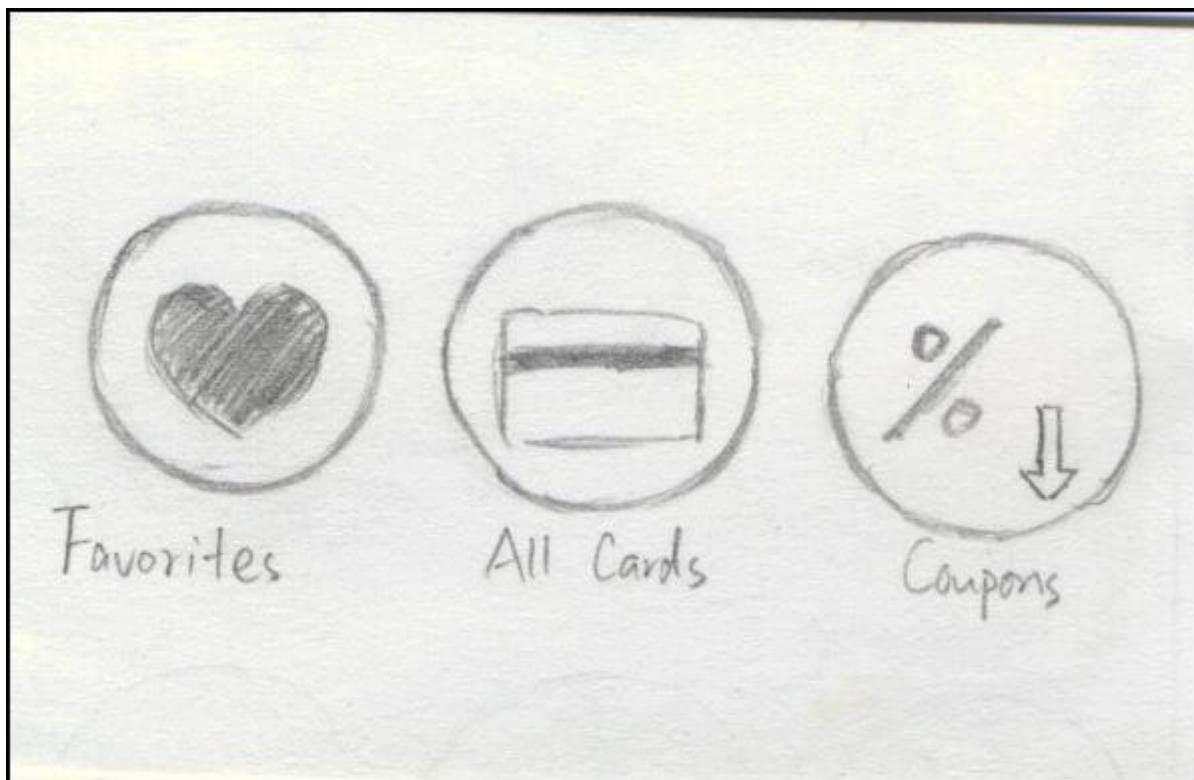
The first version of prototype was made based on our initial sketches and the workflow diagram. During the actual producing process, the designer went through each branch of the workflow to make sure every possible screen was drawn. Since the status bar, buttons, and the logo part will remain the same, and only the screen part is changing, a main card with a stable screen was made. (Pictured below)

There were almost 50 cards for the first version of prototype. After the second iteration, we decided to eliminate several cards and change the workflow based on users' comments. With this change, there were less than 40 cards left. Several redundant functions were deleted. Questions were repeated during the prototyping process, which included "what functions will users expect from this screen?" "Is the function obvious enough when using this icon rather than that one?" "Can this process go smoothly?" "Is there any missing screen that has a possibility to display?"

The final prototype was made after three rounds of iterations. As stated in the field notes, lots of changes were made. However, the main interface and ideas remained the same.



*Aio Card Design
(Screens were then placed on top of this card)*



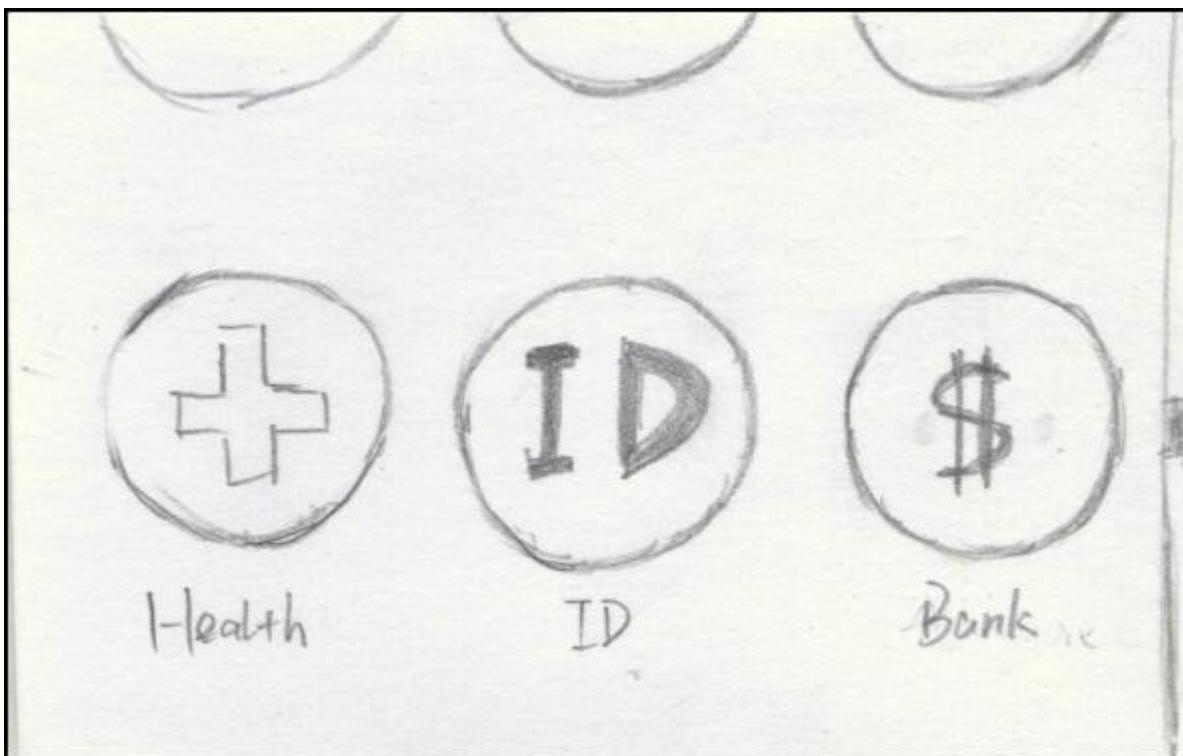
Homescreen

all cards		categories
Company's BOA debit	Heart	A B C
Discovery credit	Heart	D
Driver's license	Heart	-
Insurance (aetna)	Heart	X Y
Starbucks giftcard	Heart	Z

All Cards Display



Categories (First Page)



Categories (Second Page)



Bank

BOA
Visa

(i)

BOA
Master

(i)

Discovery

(i)

Bank Category



Business

Discovery

(i)

Business Category

«

Family

BOA

VISA

(i)

BOA

Master

(i)

Family Category

«

Gift Cards

Starbucks

Gift Cards Category

«

Health

Aetna

»

Health Care Category

«

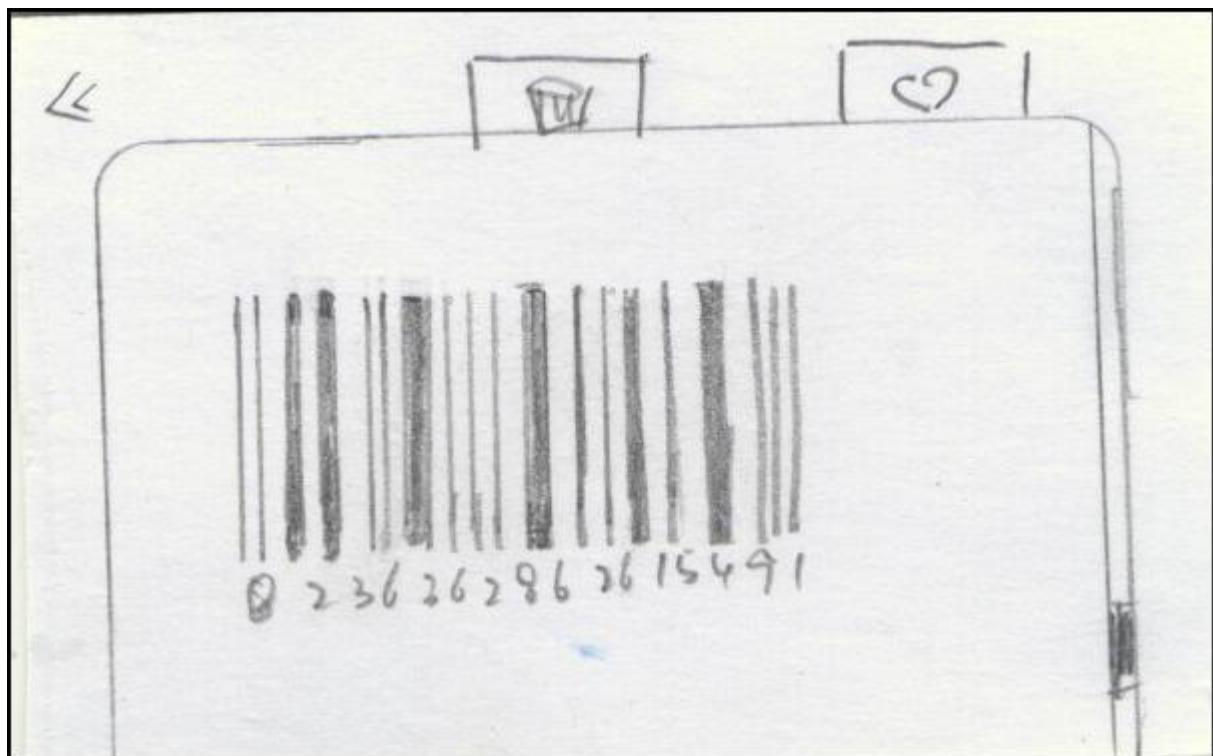
ID

ILLINOIS

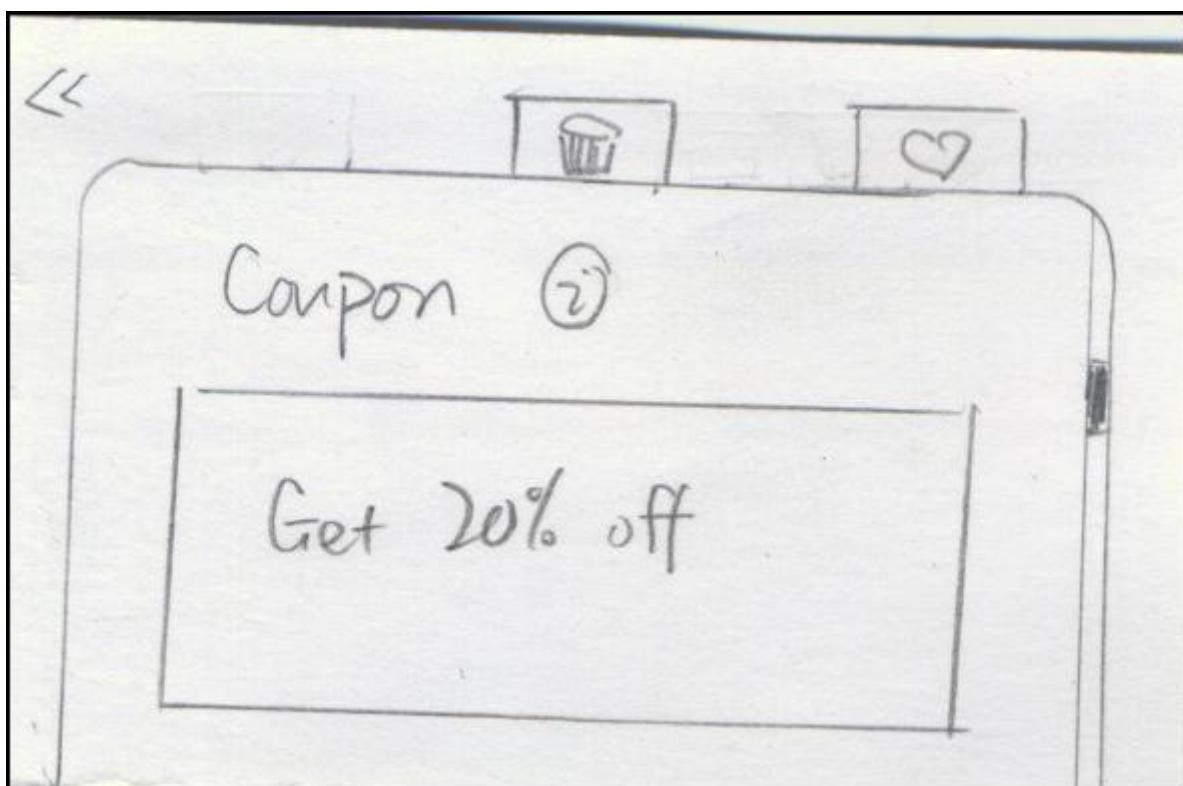
Driver's ID

»

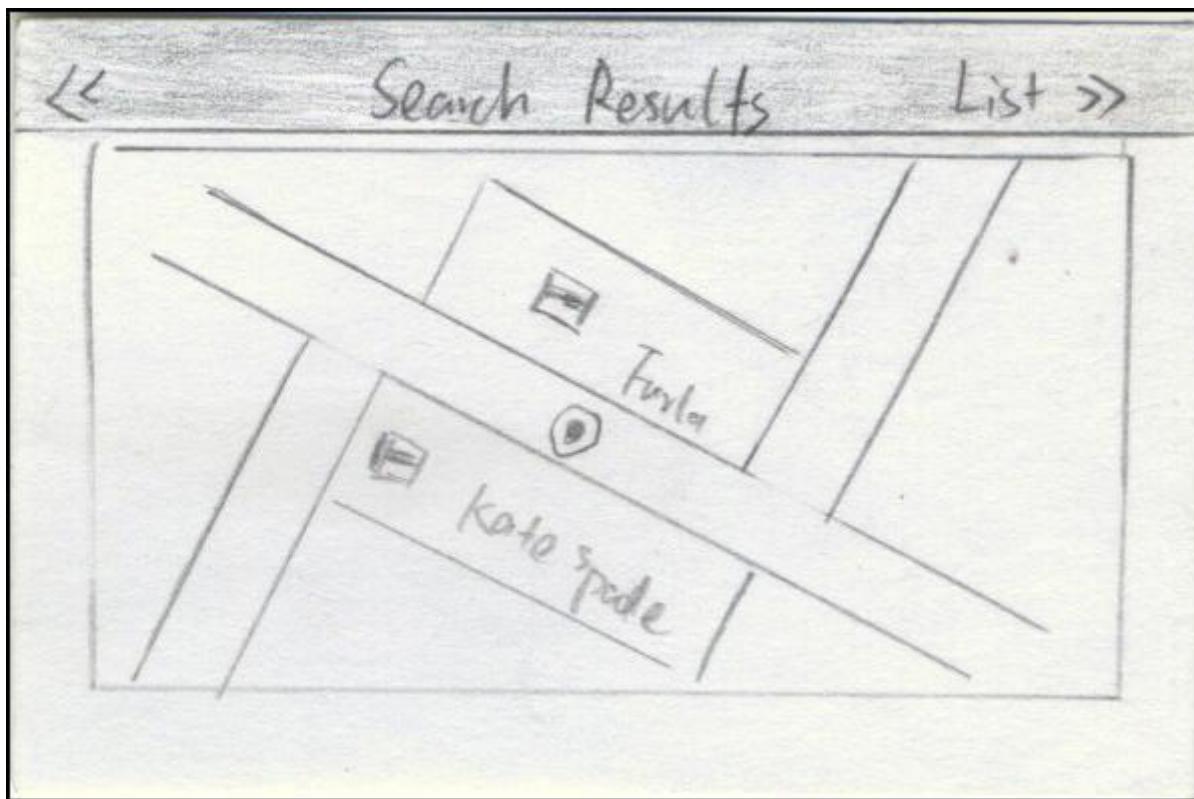
Personal Identification Category



Coupon Barcode (Page 1)



Coupon Basic Information (Page 2)



Coupon Search (Map Results)

Search Results		
<u>Burberry</u>	0.03 mile	⌚
<u>Clarins</u>	0.05 mile	❤️
<u>Starbucks</u>	0.10 mile	❤️

Coupon Search (List Results)

[«](#)

Search by Zip code

().

1	2	3
4	5	6
7	8	9
*	#	✖

Coupon Search (by Zip Code)

[«](#)



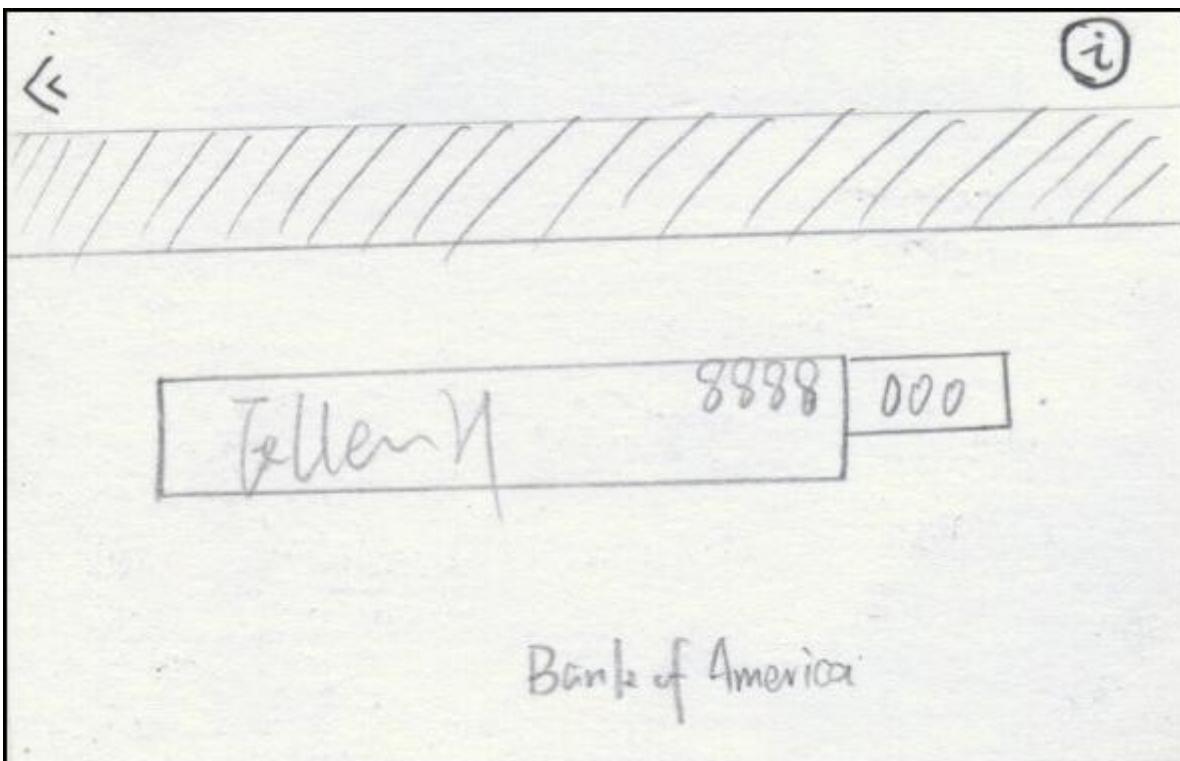
Ifor...

ExpireDate:

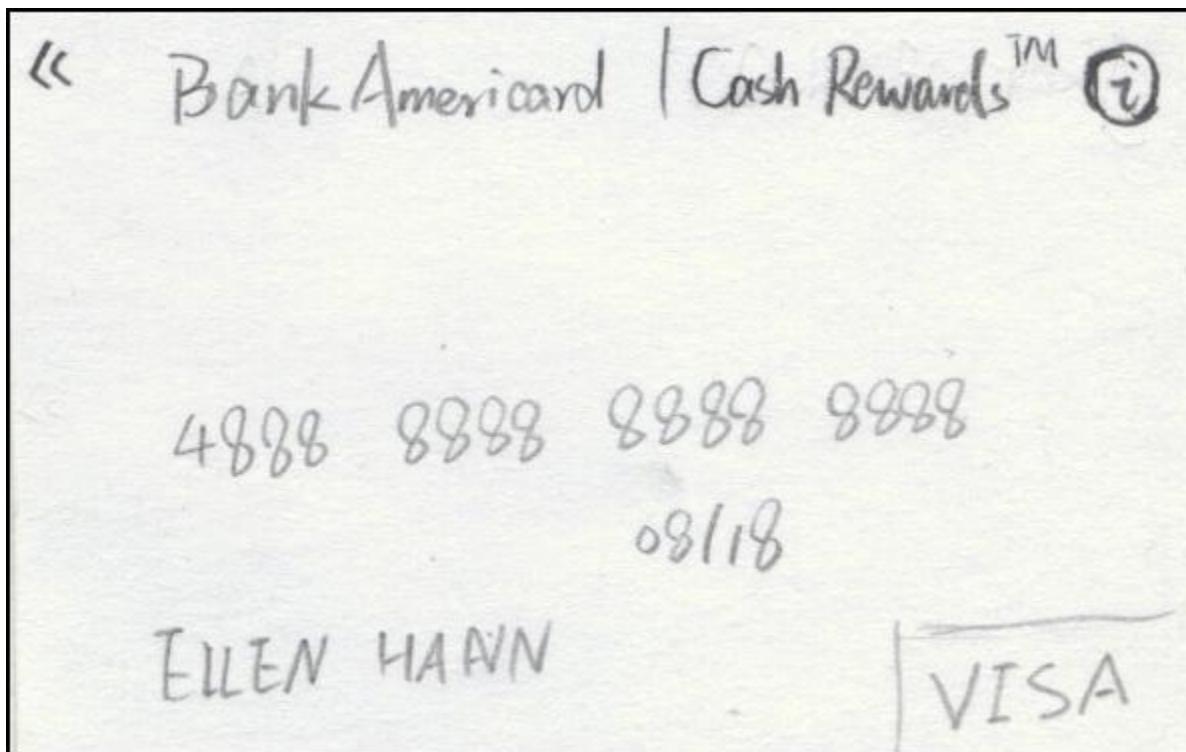
Info Info Info ...

xxx xxxx <<xx

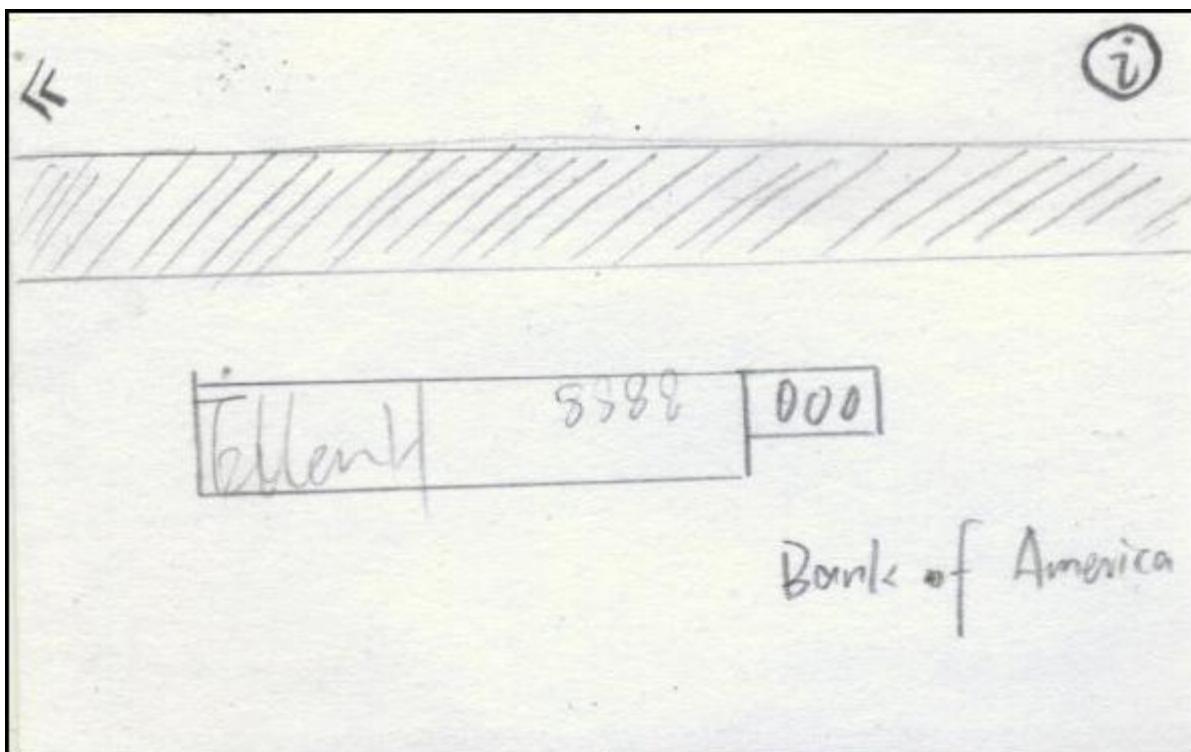
Coupon Terms and Conditions



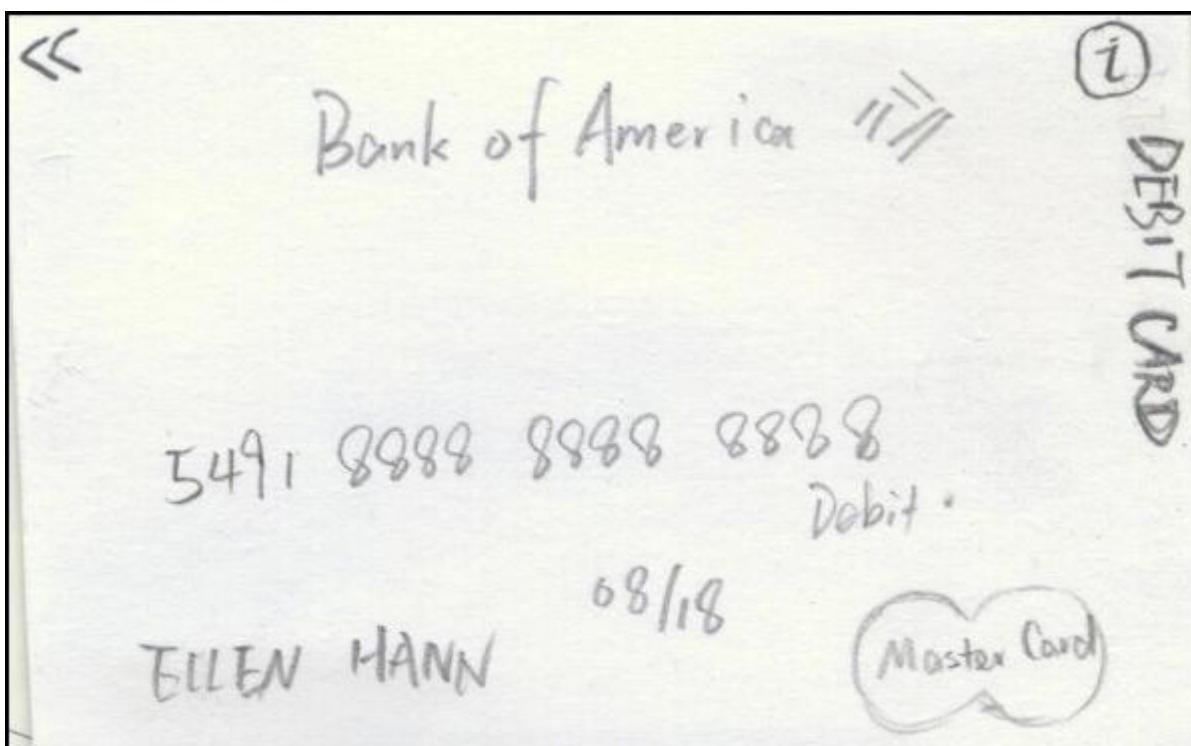
Bank of America Visa (Back Image)



Bank of America Visa (Front Image)



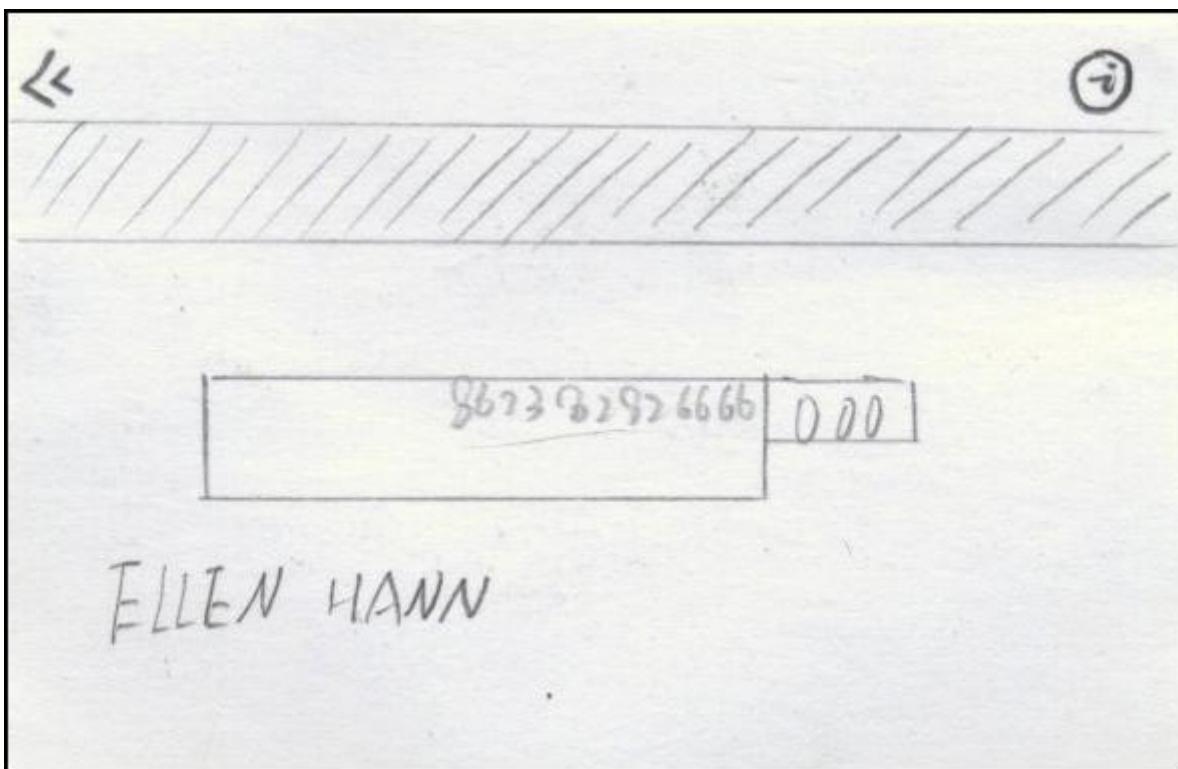
Bank of America Debit (Back Image)



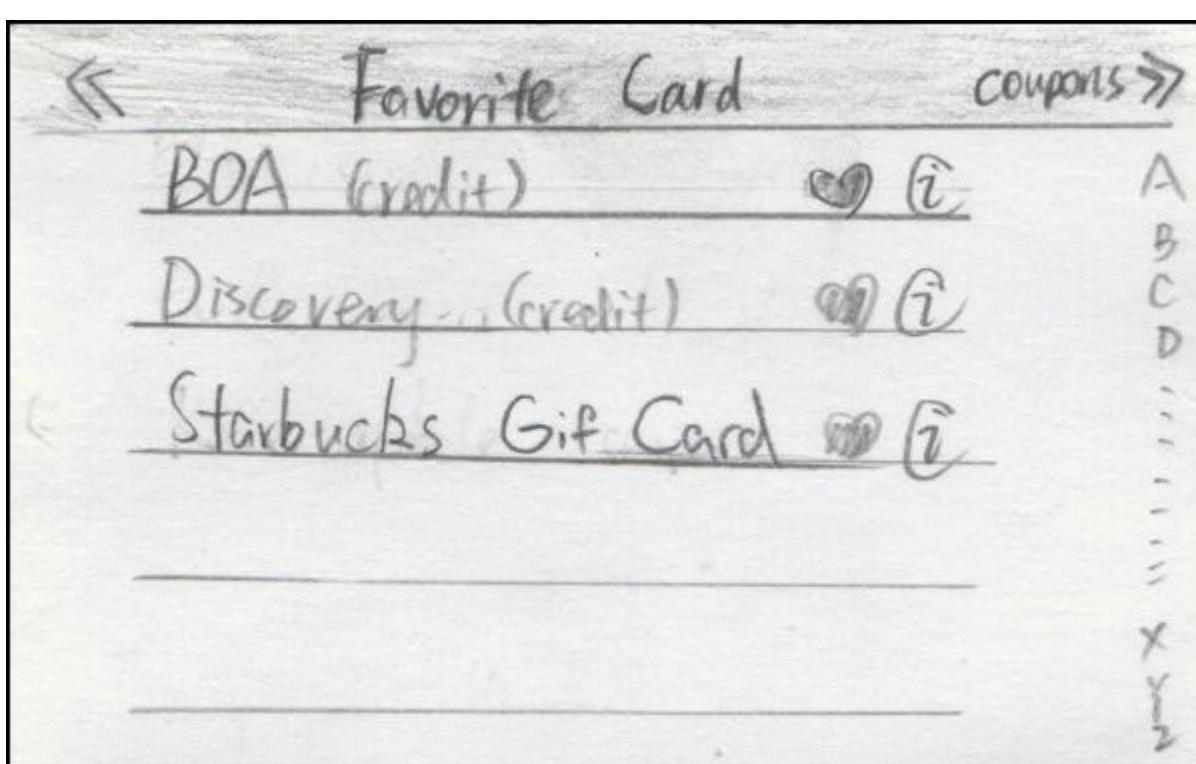
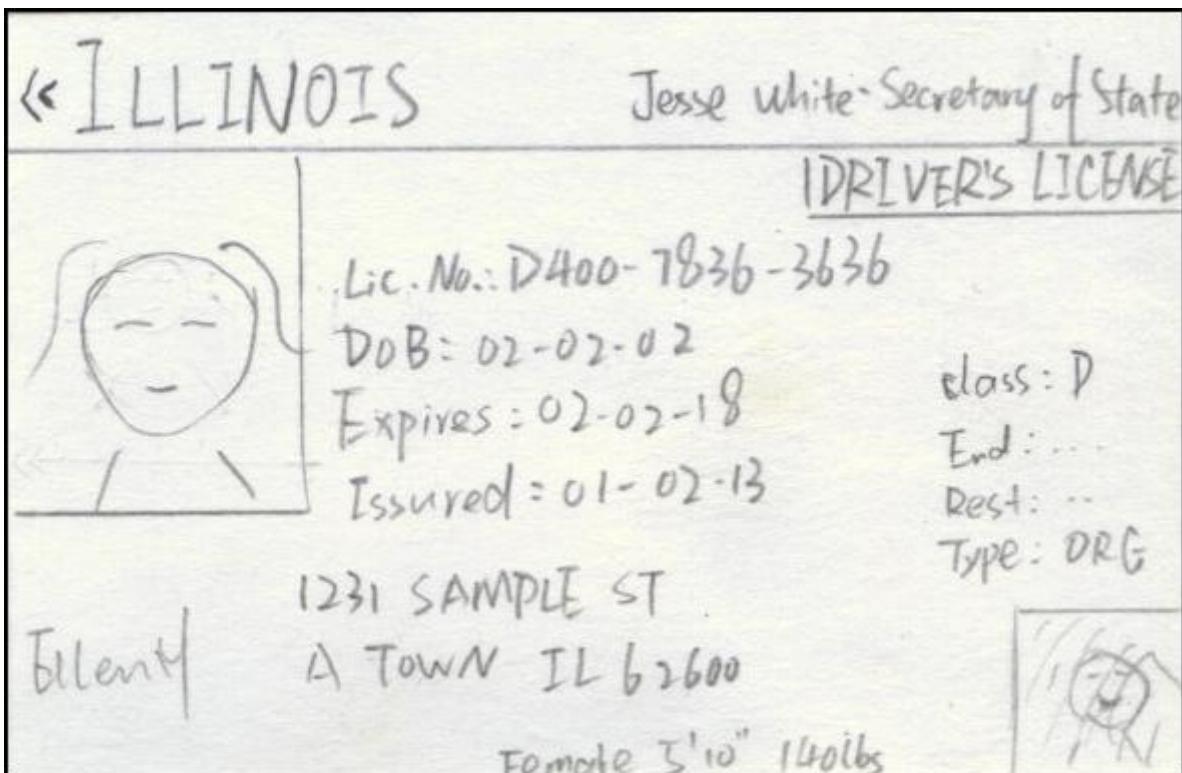
Bank of America Debit (Front Image)



Discover Card (Front Image)



Discover Card (Back Image)



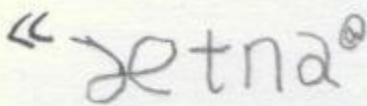
Favorite Cards Screen

« Favorite Coupons search »	
<u>Burberry</u>	♥
<u>Clarins</u>	♥
<u>Starbucks</u>	♥

Favorite Coupons Screen

«	Emergency: Call 911 or go to the nearest emergency facility.
	Aetna Life Insurance Company P O Box 981106.
	INFO OR FOR PRE-CERTIFICATION 1-800-859-8452

Health Care Card (Back Image)

 Aetna®

MultiPlan

ID. 0492 22222-01

NAME

 Ellen Hann

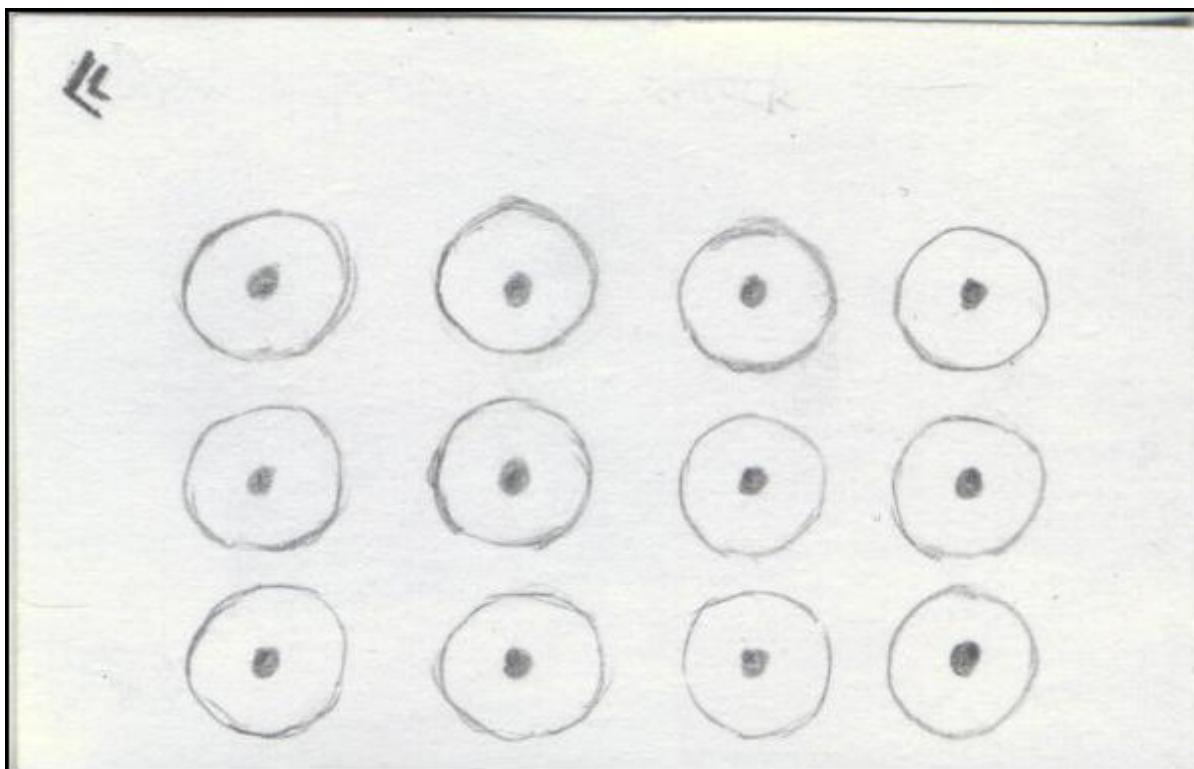
Health Plan (80840) 900000000

GPR: 71111-11-1111

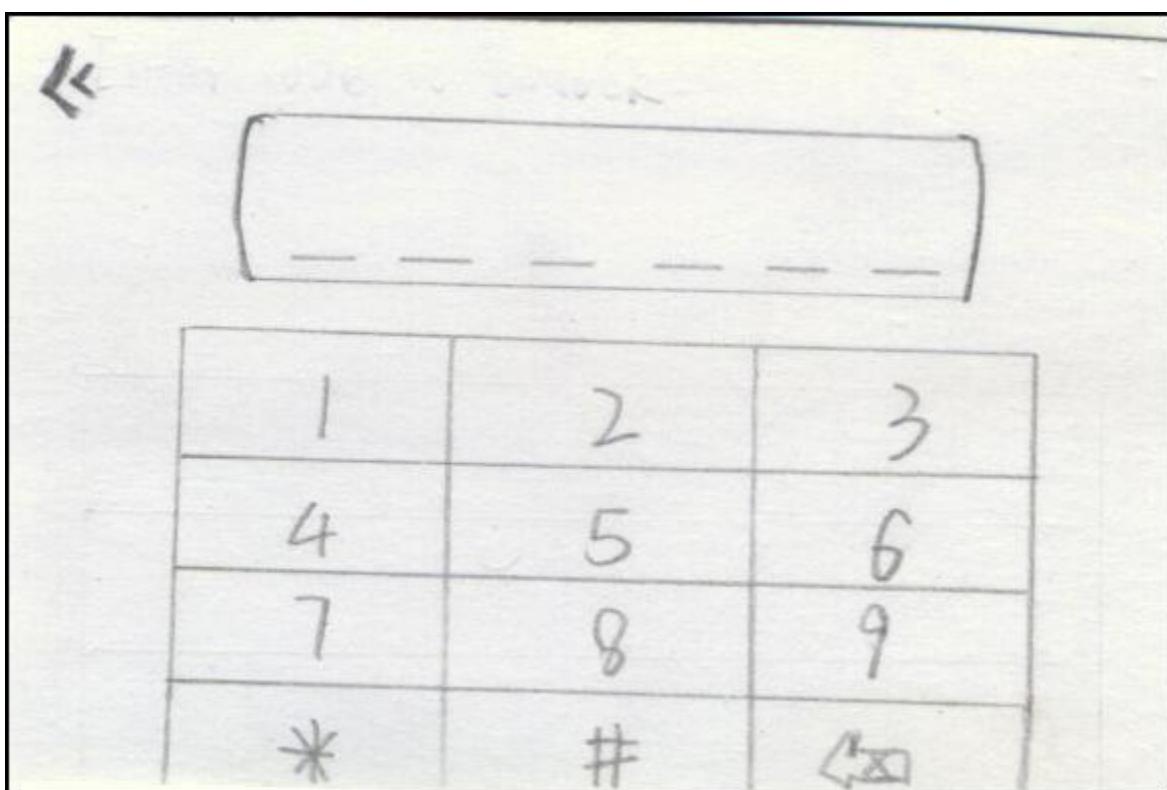
Health Care Card (Front Image)

Holder's Info	
R	Card No. 8888 8888 8888
\$	CCV. 828
Holder's Name: Ellen Hann	
Billing Add.: 123 SAMPLE ST, A TOWN IL 62600	

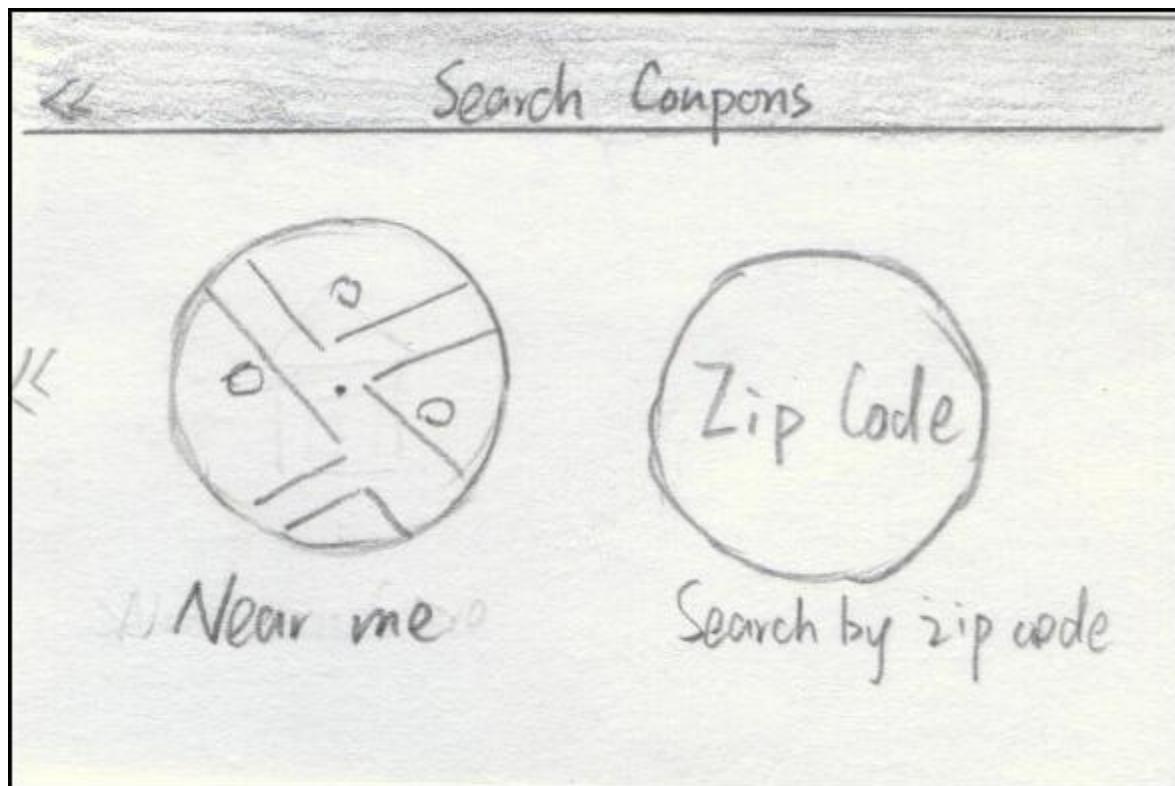
Credit Card Holder's Information



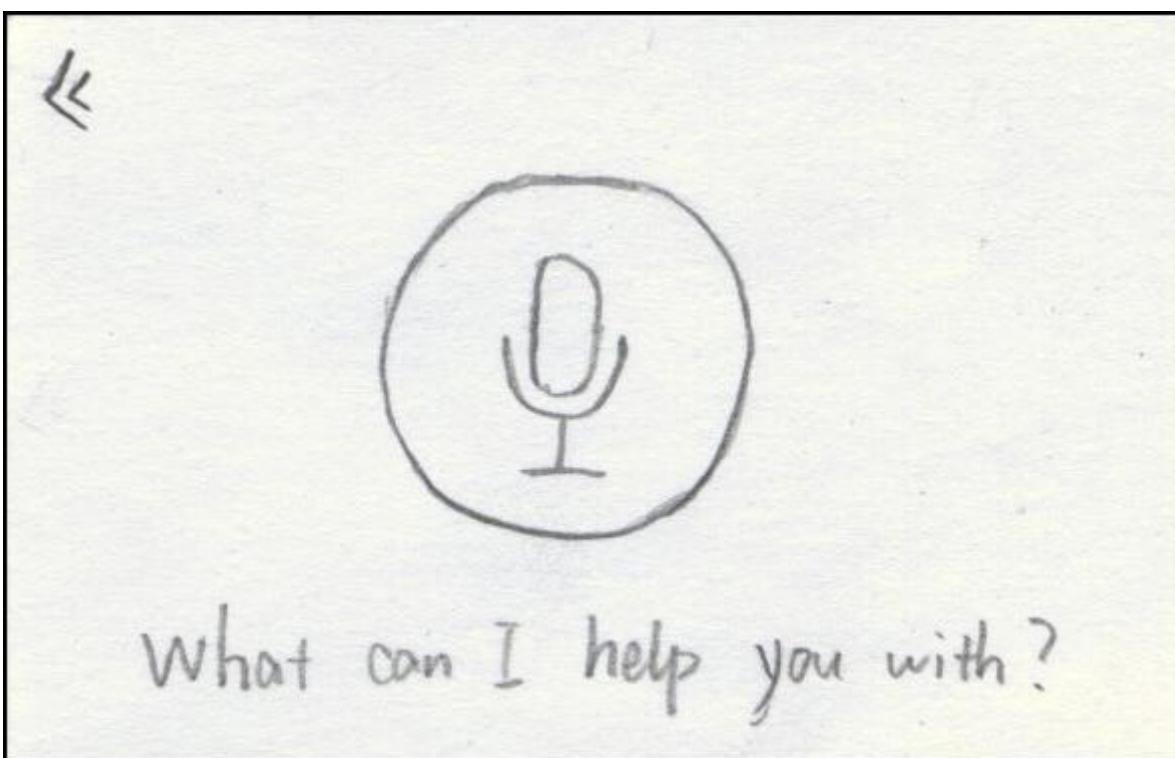
Lock Screen Type 1



Lock Screen Type 2



Coupon Search (Search Options)



Voice Activation Screen



Your Starbucks Card
number is

7890 1345 2765 3175

Treat this Card like Cash.

Starbucks Gift Card



Transactions

O	Saving	checking	Total
\$	Expens	0.00	600.00
	Balance	1000.00	6000.00
	Total	1000.00	7600.00

Credit Card Transactions Information

Persona

Below is the persona that we created based on our initial interviews. We felt that this persona best envisioned our target demographic:

Ellen Hahn, female, 45 years old.

Working as a secretary in an international company in Chicago. She has three children. One of them, a boy, has grown up and found a job in a company producing earphones. The other two girls are in high school. Ellen spends most of her time taking care of these teenagers, but she has a lot to juggle in her daily life.

One of Ellen's biggest problems in her daily life is keeping track of the cards in her wallet. She keeps around 20 cards in her wallet, including a driver's license, ID cards, bank-cards, health insurances card, coupons, and gift cards.

Ellen can never find the correct card when she wants to use it. Since it is unnecessary to carry all the cards with her all the time, she is used to keeping some coupon and gift cards in her car or at home. She occasionally needs to use the gift card, but they are never in her wallet.

Another thing that often makes her crazy is that she is required to change her appearance as a staff member in a large, important company. She has five wallets to match different clothing styles. When she changes her wallets, she sometimes leaves a few cards in another wallet and forgets about it.

Finally, the last problem she has is keeping track of banking cards. She has one credit card and one debit card for family use, and two credit cards for business use. All of these accounts are opened in Bank of America. She sometimes cannot distinguish these cards from their appearance alone, especially when in a rush. So it always confuses her when she's shopping for groceries, or about to pay for a business expense.

Scenario

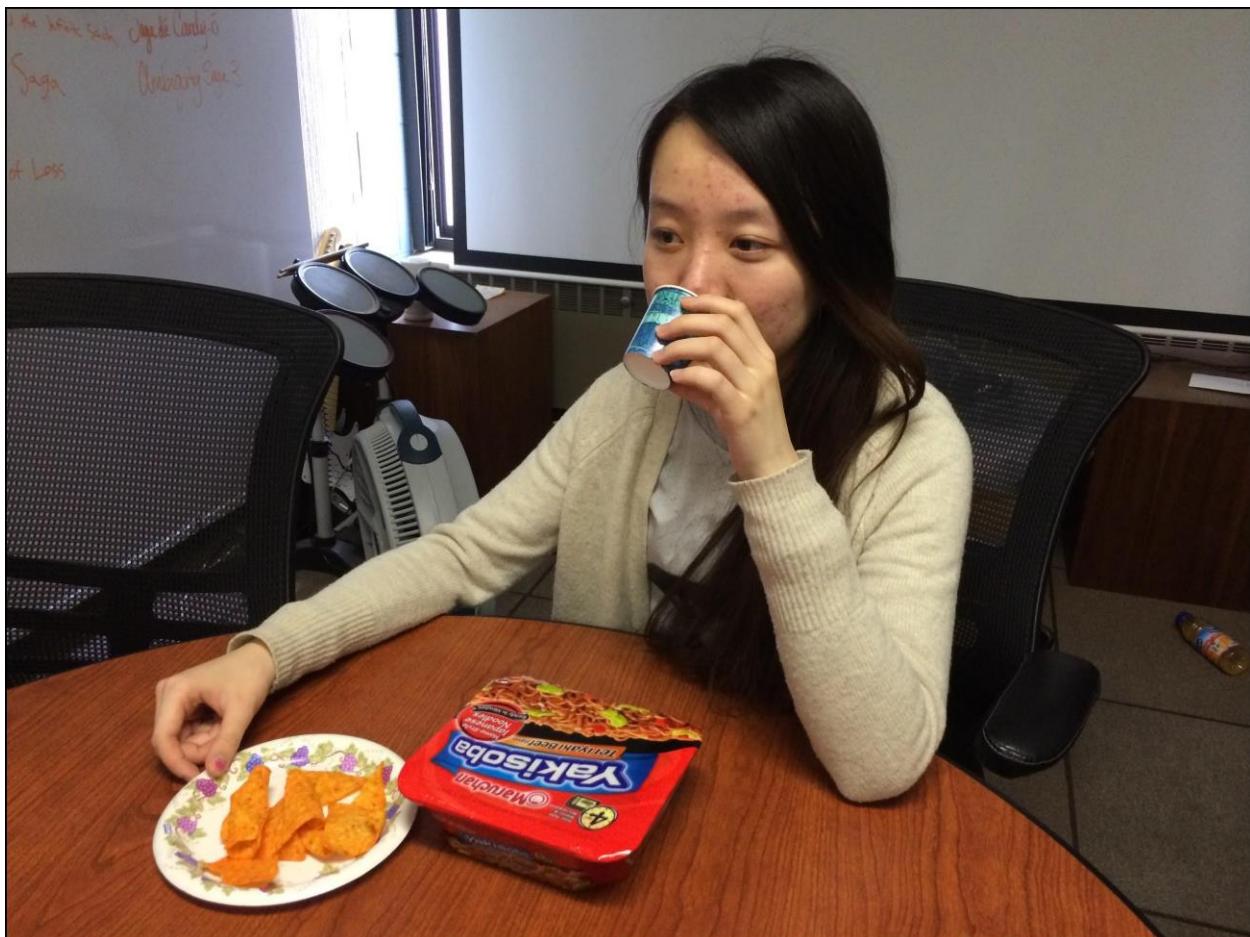
Ellen is having a frantic start to her morning. Between trying to get her two teenagers out the door on time for the bus and getting her business report ready for work, she is having trouble keeping it all together. Ellen has multiple purses, each containing a fashionable wallet that she brings along to her weekly business lunches. She often has to swap out the contents of these wallets, due to her multiple company credit cards. On this particular morning, Ellen forgot to grab a few of the cards that she needed from a different wallet because she was in such a rush.

Not wanting to be late, Ellen sped on her way to work. Unfortunately she was pulled over for speeding. The police officer asked for her license and registration, but to her dismay Ellen had forgotten her driver's license in her other wallet. This resulted in an extra fine for not having her driver's license along with the speeding ticket. Later on in the day at the business lunch, Ellen was finishing up a meeting with one of her new clients. When picking up the check, Ellen realized that she did not bring along her company credit cards, as these lunches are routinely put on the business account. Ellen was forced to pay for the meal on her personal credit card, meaning that she would need to fill out paperwork to amend the error later on.

On her way home, Ellen decided to stop at Macy's to purchase a gift for herself. She had a long a difficult day and thought this might cheer herself up. After picking out some new perfume, Ellen went to the cashier to finish her purchase. The cashier asked if Ellen had a 'Macy's rewards card', they were running a 35% off sale for all purchases put on the rewards card! Ellen knew that she had opened up a rewards account a few months ago, but could not find the Macy's card in her wallet. Unfortunately the rewards card was required for the discount, so Ellen had to pay full price for her purchase.

Scenario Graphic

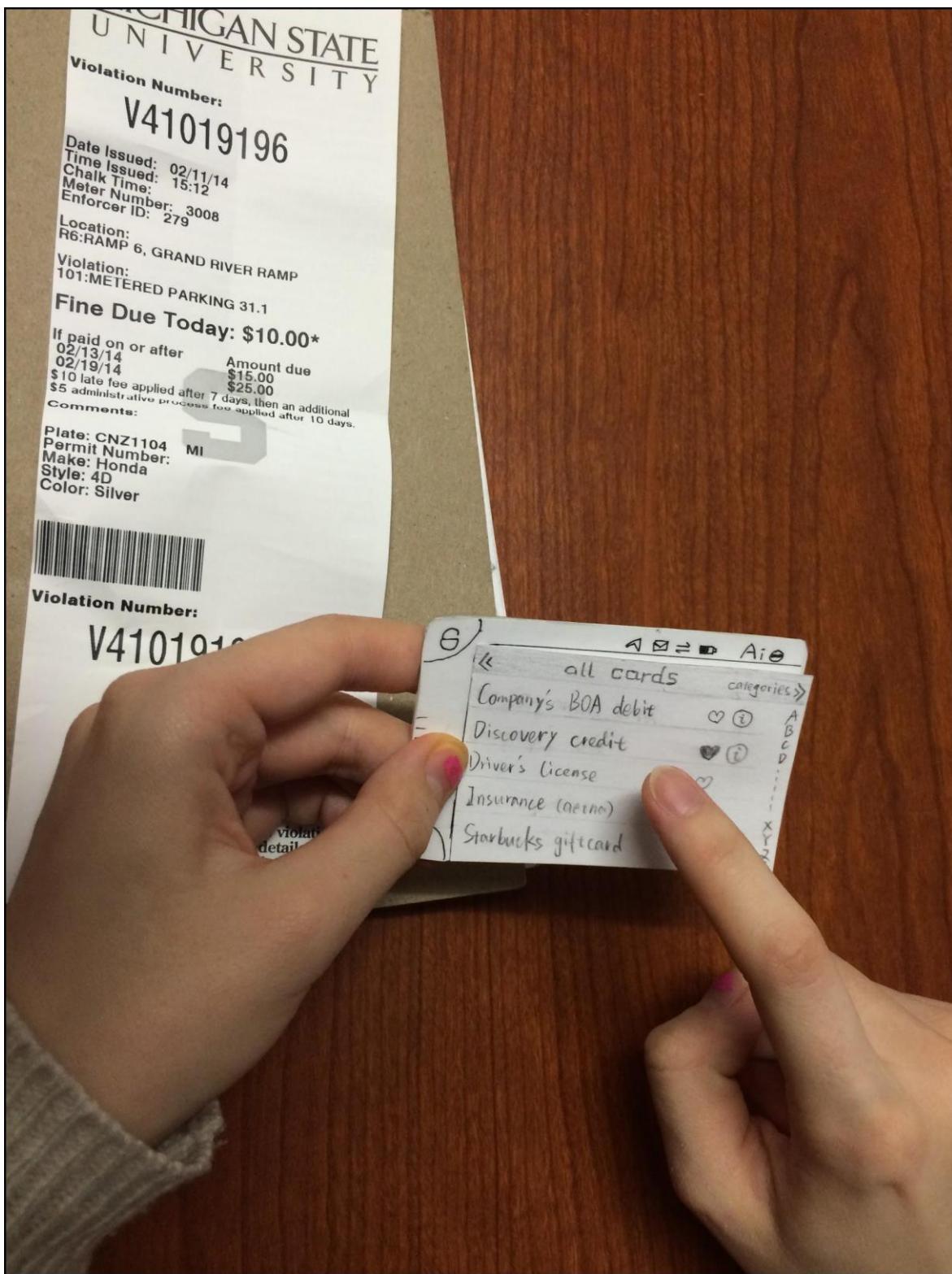
Pictured below is a scenario in which Ellen uses the Aio card to successfully pay for her meal. This helps demonstrate the ease of use of our card, and a situation that many other people would easily find themselves in.



Ellen is dining at her favorite sit down restaurant.



At the end of her meal, Ellen is handed the bill.



*Ellen uses her Aio and navigates to the “All Cards Screen”.
She then selects her Discover Card to pay for the meal.*



Once the card is in “Pay Mode” the cashier swipes the card to charge Ellen.

Lessons Learned

Below are a collection of the lessons that we learned throughout the design and prototyping process for the Aio.

1. When designing interfaces that have limited space like Aio card, it's better to stick with the actual size (size of a credit card) because it's very easy to overestimate the accessible space, thus resulting in an unrealistic design.
 2. Walkthroughs and diagrams should be produced before a prototype is created. These walkthroughs show a logical connection between buttons, screens, and features. Once these are all ironed out, creating a fully functional and logical prototype becomes much easier.
 3. It's easy to get distracted with new feature ideas during the whole design process. To avoid such cases, keeping the exact problems this product aims to solve in-mind, as well as the target audience, helps keep the task and team focused.
 4. For project management, an overview of all the tasks and a preset schedule table is very helpful. Weekly physical meetings are just as important as instant online communication. With this project, we met at least two times every week for six weeks. We also utilized a Facebook group and google drive, which allowed us to easily acquire new files and update the group on our individual progress.
 5. Having multiple people present during interviews and playtests was a great help. Having one person to guide the play-tester through scenarios and answer questions while another person took notes worked very well for us. No one felt overwhelmed and we were each able to focus on our individual tasks. This resulted in successful playtests with accurate and complete information and notes taken.
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